## MAD MAY 2014

#### ORDER OF SHEETS

Section No. 1 Section No. 2 Typical Sections and Details (includes Erosion Control Plans) Estimate of Quantities Section No. 3 Section No. 3 Miscellaneous Quantities -Section No. 4 Right of Way Plat-Section No. 5 Plan and Profile Section No. 6 Standard Detail Drawings Section No. 7 Sign Plates Section No. 8 Structure Plans

Section No. 9 Computer Earthwork Data

-Section No. 9 Cross Sections

TOTAL SHEETS = 224

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

## STOUGHTON - DEFOREST

PFLAUM ROAD INTERSECTION **USH 51** DANE COUNTY

**BUCKEYE ROAD INTERSECTION USH 51** DANE COUNTY

STATE PROJECT NUMBER 5410-02-71

STATE PROJECT NUMBER 5410-02-72

Burke



#### DESIGN DESIGNATION

= 49,600 A.A.D.T. 2014 50,200 A.A.D.T. 2034 = 54,300 59,000 D.H.V. = 5,539 6,018 = 59/41 D.D. 59/41 = 5.2% 5.2% DESIGN SPEED = 60 MPH 60 MPH ESALS 10,044,800

## PFLAUM BUCKEYE 10,548,500

#### CONVENTIONAL SYMBOLS

COMBUSTIBLE FLUIDS

WOODED OR SHRUB AREA

MARSH AREA

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)

--124-

MARSH OR ROCK PROFILE (To be noted as such) SPECIAL DITCH GRADE ELEVATION CULVERT (Profile View) UTILITIES ELECTRIC FIBER OPTIC SANITARY SEWER STORM SEWER TELEPHONE WATER

UTILITY PEDESTAL

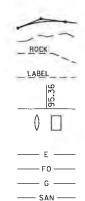
TELEPHONE POLE

POWER POLE

PROFILE

GRADE LINE

ORIGINAL GROUND



Д

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T-7-N

BLOOMING GROVE Lake Monona Monona Hope McFarland R-10-E LAYOUT "COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY." 5410-05-71 NET LENGTH OF CENTERLINE = 0.227 MI. 5410-05-72 NET LENGTH OF CENTERLINE = 0.229 MI.

END PROJECT 5410-02-72 STA, 706+39,50

BEGIN PROJECT 5410-02-72

STA. 694+28.97 N = 481,761.67E = 841,098.92

END PROJECT 5410-02-71 STA. 666+10.57

BEGIN PROJECT 5410-02-71

STA. 654+11.30 N = 477,746.11 E = 841,163.29



ORIGINAL PLANS PREPARED BY

FEDERAL PROJECT

CONTRACT

1

PROJECT

WISC 2014184

STATE PROJECT

5410-02-71

5410-02-72

FILE NAME : K:\Jobs2013\20135001\CAD\\isDOT\dgn\00\010101\_ti.dgn

PLOT DATE: 1/27/2014

TOTAL NET LENGTH OF CENTERLINE = 0.456 MI.

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME :

PLOT SCALE : \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 10

#### GENERAL NOTES

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

THE LOCATION OF EXISTING UTILITY AND PROPOSED INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE CONSTRUCTIONACTIVITIES WITH A CALL TO DIGGER'S HOTLINE AND/OR A DIRECT CALL TO THE INDIVIDUAL UTILITY COMPANIES, WHICH HAVE FACILITIES IN THE PROJECT AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGER'S HOTLINE.

EROSION CONTROL ITEMS AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATION OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. THE CONTRACTOR WILL REMOVE ALL TEMPORARY EROSION CONTROL ITEMS AT THE ENGINEER'S DIRECTION.

ALL SIGN, SIGNAL AND LIGHTING LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION. MISCELLANEOUS REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO ABUT AN EXISTING PAVED SURFACE.

ALL PLAN VIEW CURB RADII ARE SHOWN TO THE CURB FLANGE.

ALL CURB ELEVATIONS SHOWN ARE AT THE CURB FLANGE.

EXPANSION JOINTS ARE TO BE CONSTRUCTED AT ALL RADII POINTS ON THE CURB AND GUTTER.

TEMPORARY ASPHALT PAVEMENT SHALL BE PLACED IN A SINGLE 4" LAYER OVER 8 INCHES OD BASE AGGREGATE DENSE 11/4 INCH.

INLETS AND MANHOLES SHALL BE COVERED TO PREVENT CONSTRUCTION MATERIALS FROM FALLING INTO THE STRUCTURES UNTIL THE FRAME AND CASTING IS INSTALLED.

WHEN THE QUANTITY OF BASE AGGREGATE DENSE 11/4-INCH, ASPHALTIC SURFACE, OR ASPHALTIC SURFACE TEMPORARY IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL DEPTH MAY VARY DEPENDING ON THE ACTUAL DISTRIBUTION OF THE MATERIAL AS APPROVED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT OF WAY SHALL BE TOPSOILED, FERTILIZED, SEEDED AND EROSION MATTED.

ANY PROPOSED CHANGES BY THE CONTRACTOR TO TRAFFIC CONTROL DEVICES/STAGING SHALL BE PRESENTED TO THE ENGINEER IN WRITING A MINIMUM OF 72 HOURS PRIOR TO INSTALLATION FOR REVIEW & APPROVAL.

STORM SEWER PIPE ELEVATIONS, LENGTH, AND LOCATIONS AS SHOWN ON THE PLANS MAY BE ADJUSTED TO FIT FIELD CONDITIONS. EXISTING STORM SEWER SIZES SHOWN ON THE PLAN ARE APPROXIMATE AND THE CONTRACTOR WILL BASE IT'S BID ON THE ACTUAL

## UTILITIES

DOUG VOSBERG ATC MANAGEMENT, INC. - ELECTRICITY 2489 RINDEN RD. COTTAGE GROVE, WI 53527-9598 (608) 877-7650 (608) 438-7650 (MOBILE) DVOSBERG@ATCLLC.COM

JON MARSCHKE CHARTER COMMUNICATIONS - COMMUNICATION LINE 2701 DANIELS ST. MADISON, WI 53718 (608) 274-3822 X6734 (608) 225-2479 (MOBILE) JON.MARSCHKE@CHARTER.COM

JIM MARTINSON CITY OF MADISON - SANITARY/STORM SEWER 1600 EMIL STREET MADISON, WI 53713 (608) 267-1973 (608) 267-1181 RADIO #705388 JMARTINSON@CITYOFMADISON.COM

RICH PARKER MADISON GAS AND ELECTRIC COMPANY - ELECTRICITY 133 SOUTH BLAIR STREET MADISON, WI 53788 (608) 252-7379 (608) 444-9619 (MOBILE) RPARKER@MGE.COM

STEVE BEVERSDORF MADISON GAS AND ELECTRIC COMPANY - GAS 133 SOUTH BLAIR STREET MADISON, WI 53788 (608) 252-1552 (608) 444-9620 (MOBILE) SBEVERSDORF@MGE.COM

TOM ROSEMEYER MADISON WATER UTILITY - WATER 110 SOUTH PATTERSON STREET MADISON. WI 53703 (608) 266-5985 (608) 206-3643 (MOBILE) TROSEMEYER@MADISONWATER.ORG

MCLEOD USA TELECOMMUNICATION SERVICES INC - COMMUNICATIONS 13935 BISHOPS DRIVE BROOKFIELD, WI 53005 (262) 792-7938 JAMES.KOSTUCH@WINDSTREAM.COM

JIM KOSTUCH WINDSTREAM KDL, INC - COMMUNICATIONS 13935 BISHOPS DRIVE BROOKFIELD, WI 53005 (262) 792-7938 JAMES.KOSTUCH@WINDSTREAM.COM

CAROL ANASON AT&T WISCONSIN- COMMUNICATIONS 316 W WASHINGTON AVE MADISON WI 53703 (608) 252-2385 (608) 475-2799 (MOBILE) CA2624@ATT.COM

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

#### ORDER OF SECTION 2 SHEETS

GENERAL NOTES PROJECT OVERVIEW TYPICAL SECTIONS CONSTRUCTION DETAILS INTERSECTIONS PLAN DETAILS JOINTING DETAIL EROSION CONTROL PERMANENT SIGNING TRAFFIC SIGNALS PAVEMENT MARKING TRAFFIC CONTROL AND CONSTRUCTION STAGING ALIGNMENT

#### OTHER CONTACTS

DNR LIAISON

ERIC HEGGELUND WDNR - SOUTH CENTRAL REGION 3911 FISH HATCHERY ROAD FITCHBURG, WI 53711-5397 (608) 275-3301 ERIC.HEGGELUND@WISCONSIN.GOV

DESIGN CONTACT

GRAFF BILL BETZIG, P.E. 5126 WEST TERRACE DRIVE, STE 111 MADISON, WI 53718-8343 (608) 245-1966 BILL.BETZIG@GRAEF-USA.COM

Dial or (800) 242-8511

www.DiggersHotline.com

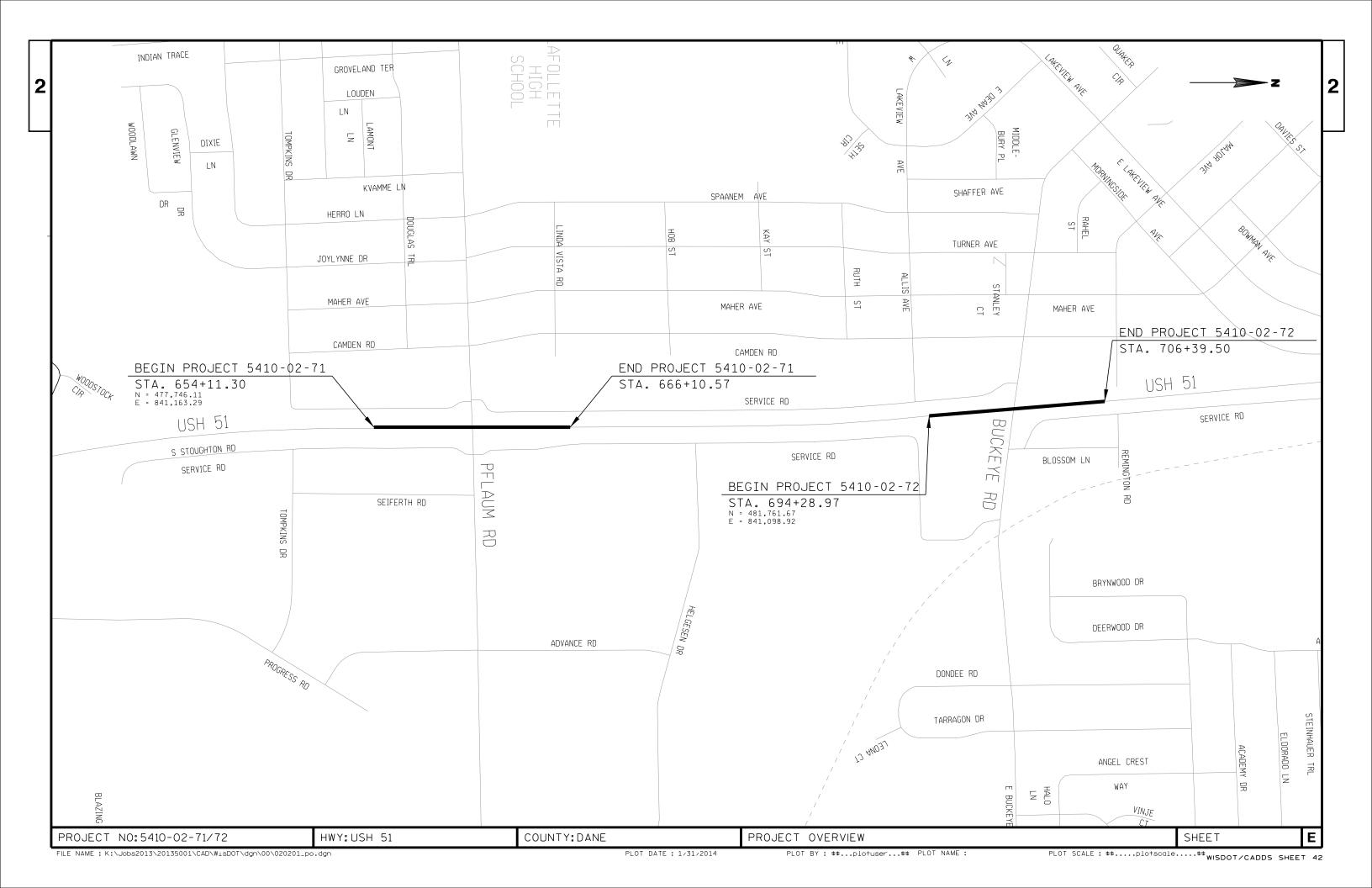
PROJECT NO:5410-02-71/72

HWY: USH 51

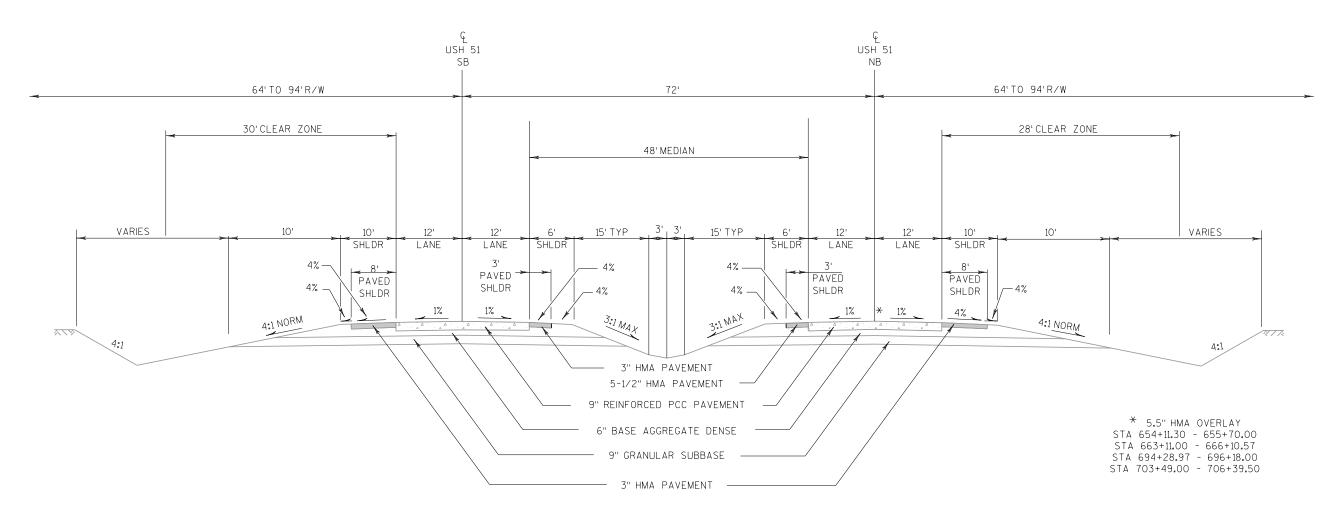
COUNTY: DANE

GENERAL NOTES

SHEET





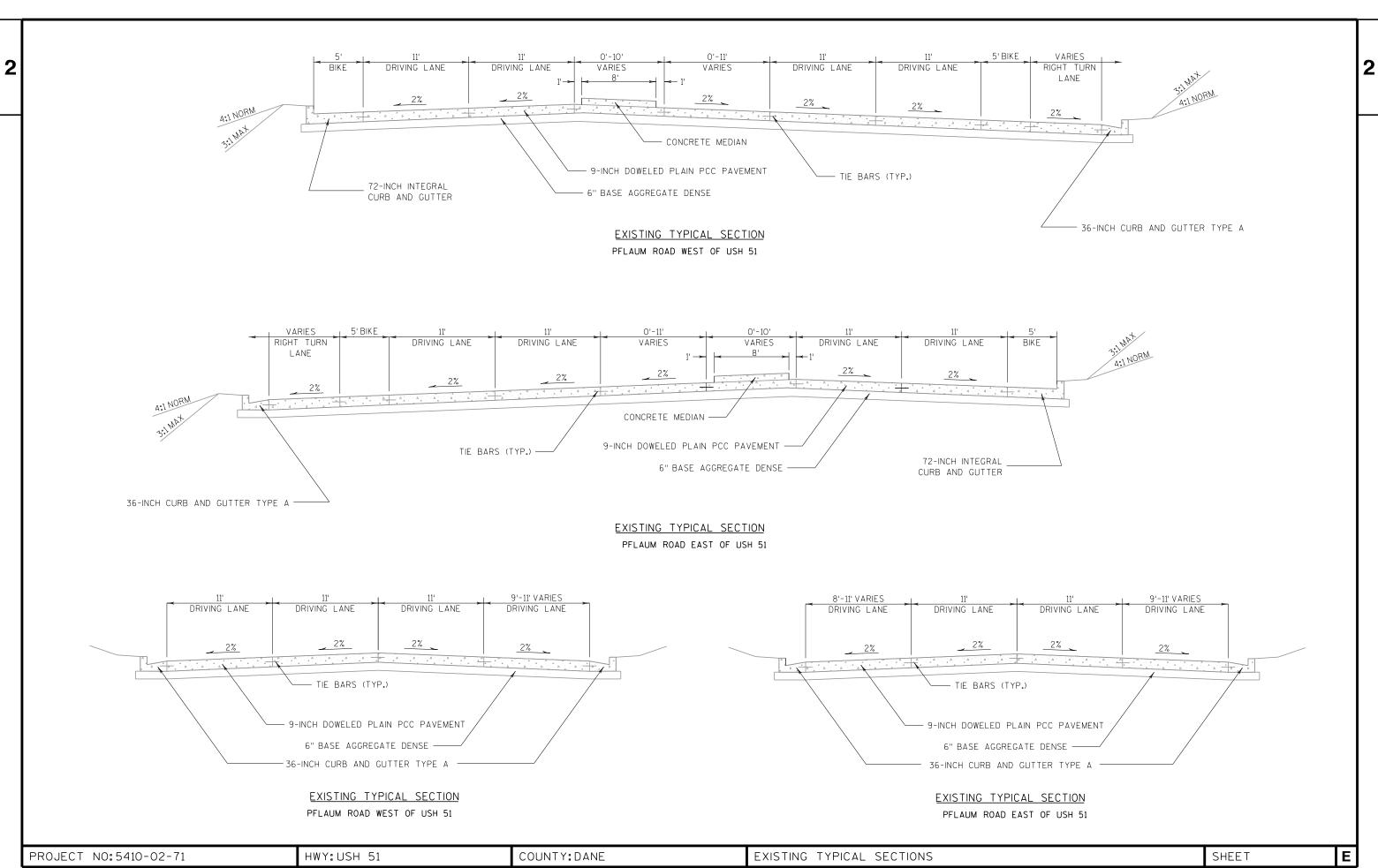


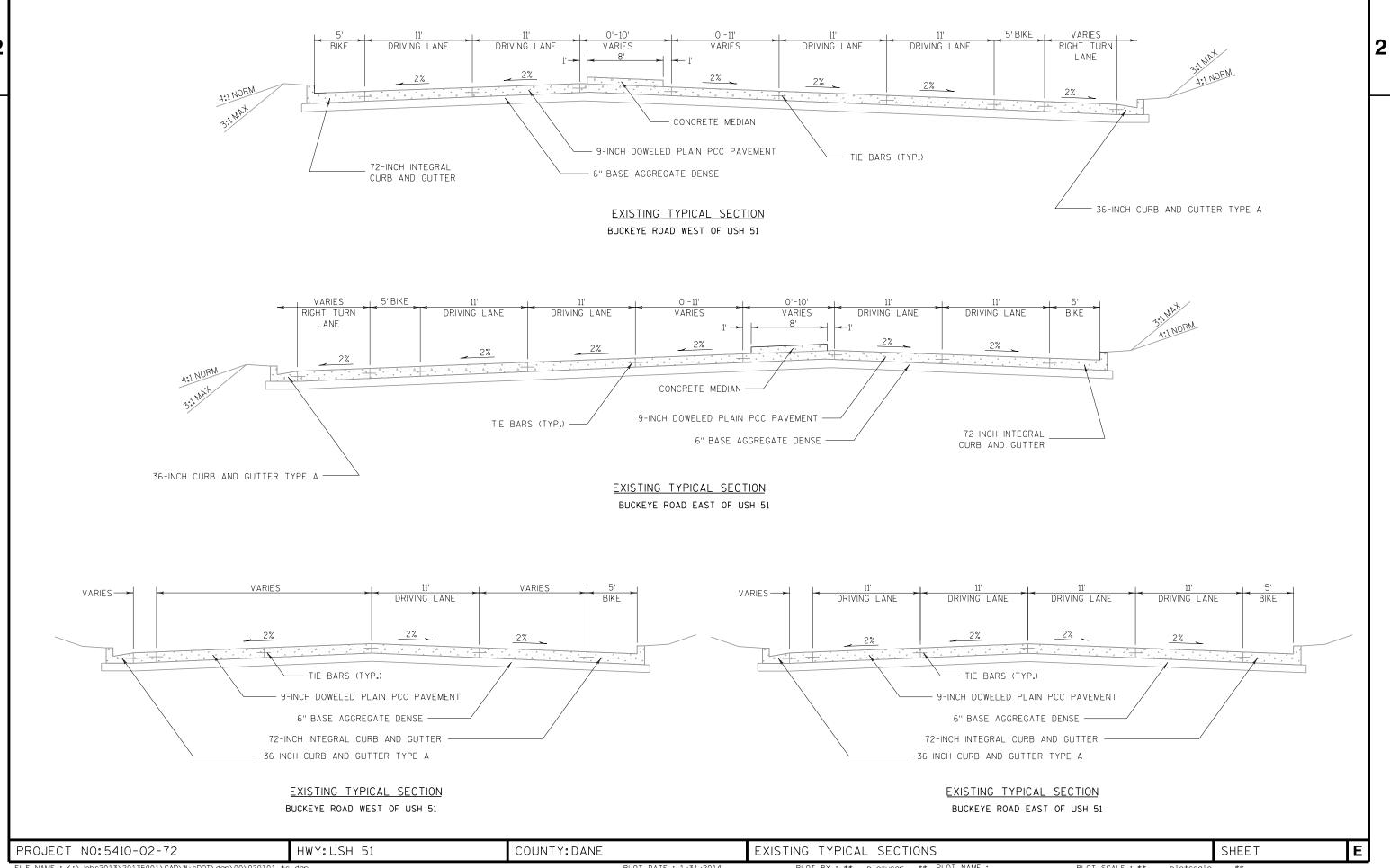
#### EXISTING TYPICAL SECTION

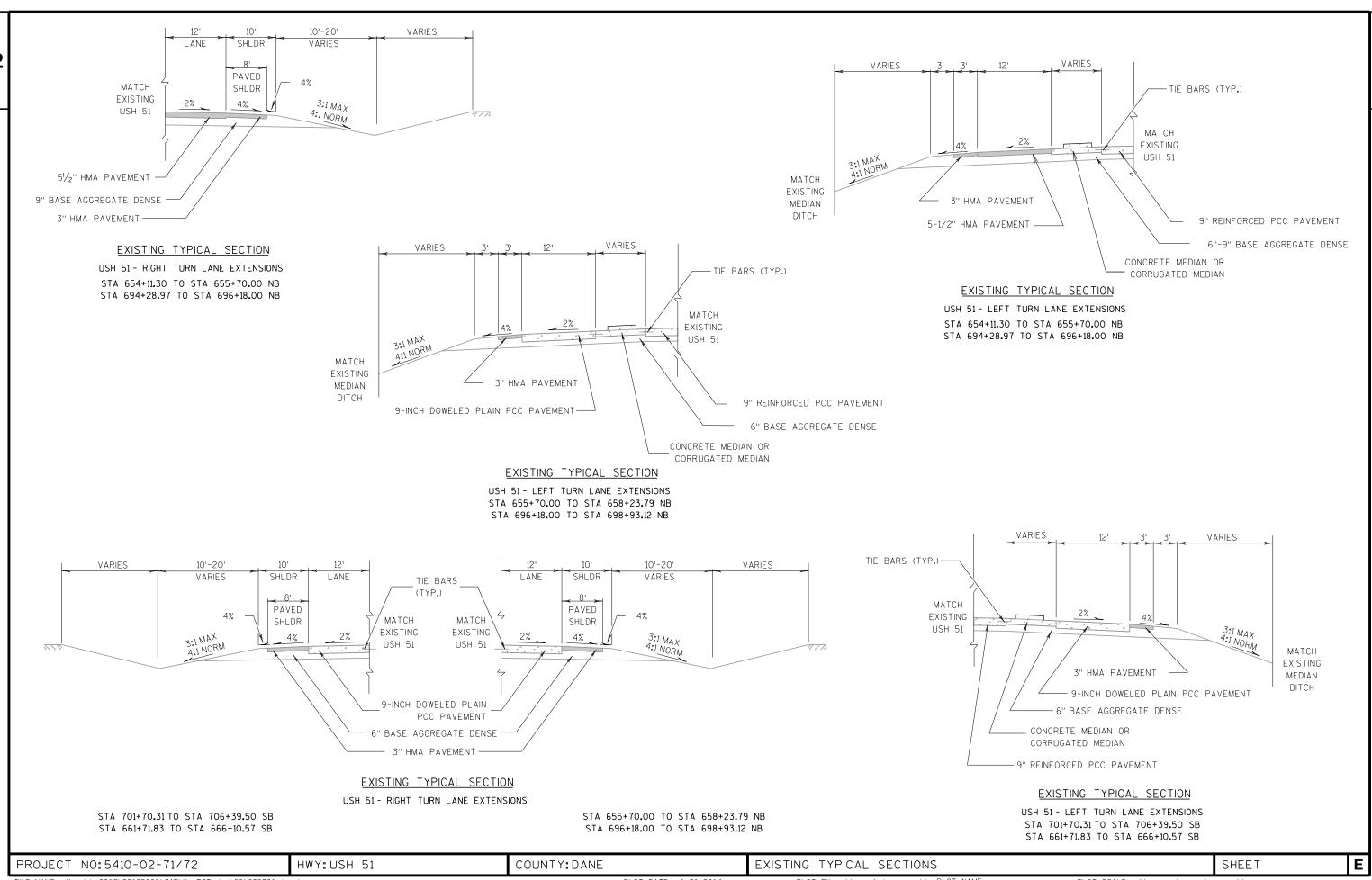
STA 694+28.97 TO STA 706+39.50

USH 51 STA 654+11.30 TO STA 666+10.57

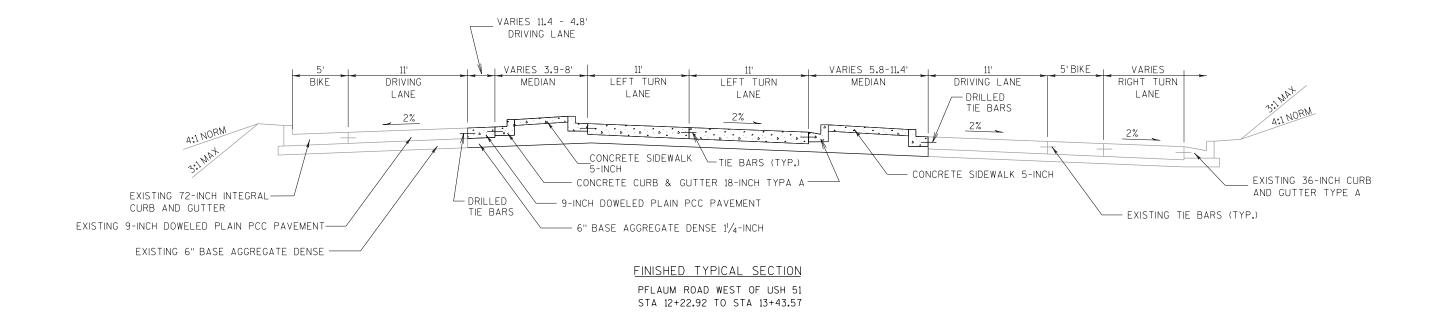
PROJECT NO:5410-02-71/72 HWY:USH 51 COUNTY:DANE EXISTING TYPICAL SECTIONS SHEET **E** 

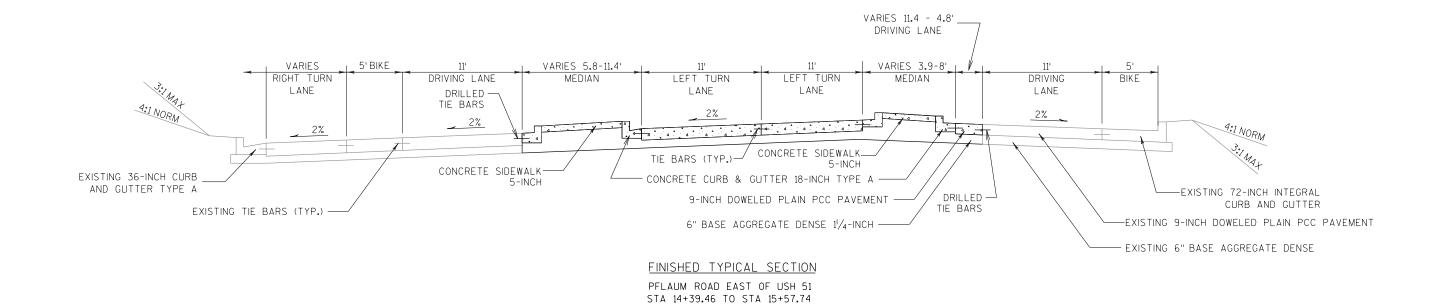












PROJECT NO:5410-02-71/72

2

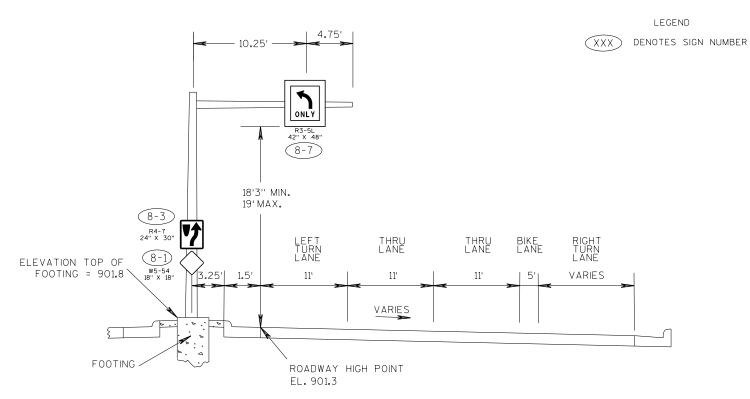
COUNTY: DANE

FINISHED TYPICAL SECTIONS

SHEET

E

HWY: USH 51



## OVERHEAD SIGN SUPPORT, S-13-429

STA 25+47.23, 11.25'RT

FOOTING NOTE:
CONTRACTOR TO USE STANDARD DETAIL DRAWING
24" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE.

NOTE, CONTRACTOR SHALL:

1.) SUBMIT SHOP DRAWINGS OF OVERHEAD

SIGN SUPPORT. FOOTING IS INCIDENTAL TO

OVERHEAD SIGN SUPPORT.

2.) PROVIDE DESIGN CALCULATIONS.

3.) SHOW SIGNS ON SHOP DRAWINGS.

4.) I.D. PLAQUE INCIDENTAL TO OVERHEAD SIGN SUPPORT

5.) 6 ANCHOR RODS MINIMUM PER STANDARD DETAIL DRAWING ARE REQUIRED

NOTE:

MOUNTING BRACKETS FOR SIGNS TO BE PER APPROVED PRODUCT LIST FOR TYPE II SIGNS

#### GERNERAL NOTES

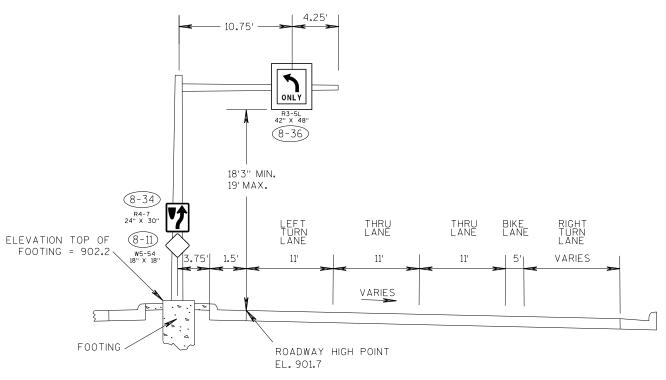
DRAWINGS NOT TO SCALE

DESIGN ACCORDING TO AASHTO "STANDARD SPECIFICATIONS FOR STRUCTUAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS".

THE SIGN STRUCTURES SHALL BE DESIGNED TO SUPPORT THE SIGN SHOWN.

WIND VELOCITY PER WISDOT STD SPECIFATIONS

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS DETAILED OTHERWISE.



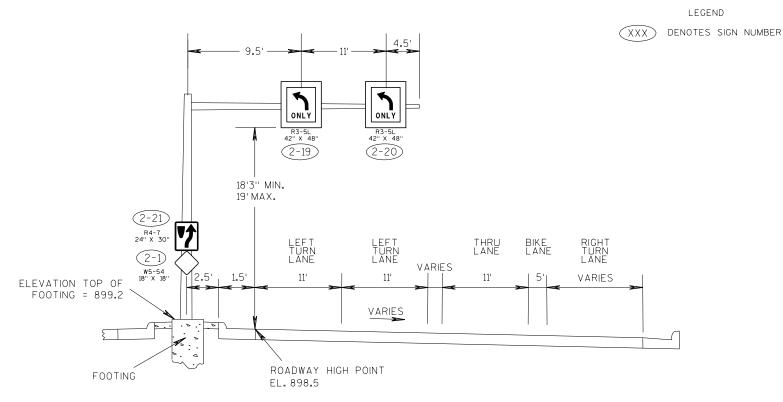
## OVERHEAD SIGN SUPPORT, S-13-430

STA 22+52.75, 0.75'RT

PROJECT NO:5410-02-72 HWY:USH 51 COUNTY:DANE CONSTRUCTION DETAILS

SHEET

2



## OVERHEAD SIGN SUPPORT, S-13-431

STA 15+33.43, 5.52'RT

FOOTING NOTE:

CONTRACTOR TO USE STANDARD DETAIL DRAWING 30" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE.

NOTE, CONTRACTOR SHALL:

1.) SUBMIT SHOP DRAWINGS OF OVERHEAD

SIGN SUPPORT. FOOTING IS INCIDENTAL TO

OVERHEAD SIGN SUPPORT.

2.) PROVIDE DESIGN CALCULATIONS.

3.) SHOW SIGNS ON SHOP DRAWINGS.

4.) I.D. PLAQUE INCIDENTAL TO OVERHEAD SIGN SUPPORT

5.) 6 ANCHOR RODS MINIMUM PER STANDARD DETAIL DRAWING ARE REQUIRED

NOTE:

MOUNTING BRACKETS FOR SIGNS TO BE PER APPROVED PRODUCT LIST FOR TYPE II SIGNS

#### GERNERAL NOTES

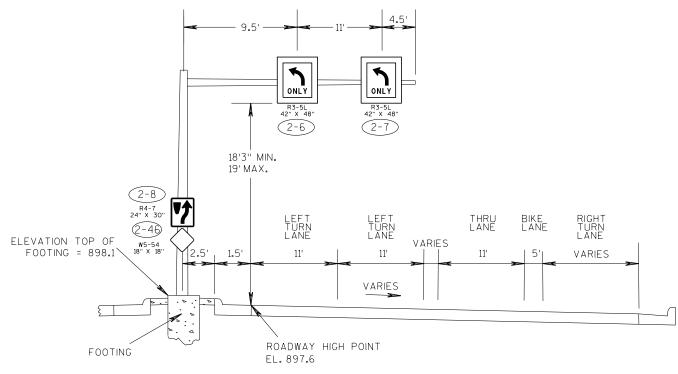
DRAWINGS NOT TO SCALE

DESIGN ACCORDING TO AASHTO "STANDARD SPECIFICATIONS FOR STRUCTUAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS".

THE SIGN STRUCTURES SHALL BE DESIGNED TO SUPPORT THE SIGN SHOWN.

WIND VELOCITY PER WISDOT STD SPECIFATIONS

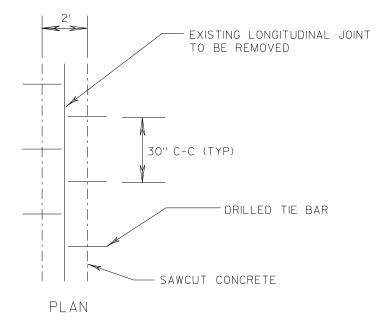
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS DETAILED OTHERWISE.

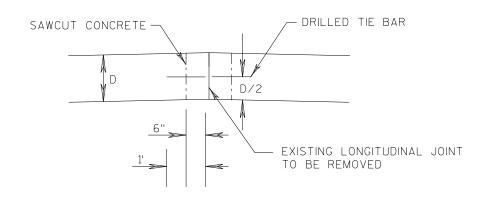


## OVERHEAD SIGN SUPPORT, S-13-432

STA 12+37.74, 5.15'LT

PROJECT NO:5410-02-71 HWY:USH 51 COUNTY:DANE CONSTRUCTION DETAILS

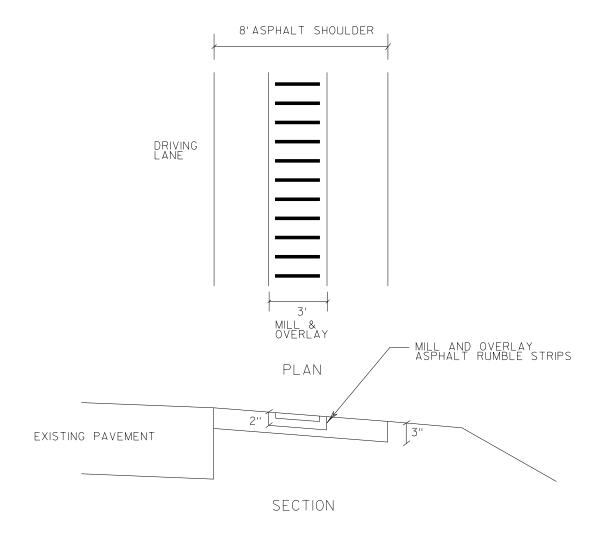




## **CONCRETE PAVEMENT REPAIR** LONGITUDINAL JOINT DETAIL

STA 655+74.09 - 659+28.71 STA 661+75.17 - 663+10.82 STA 696+19.15 - 699+73.85 STA 701+51.53 - 703+49.36

SECTION



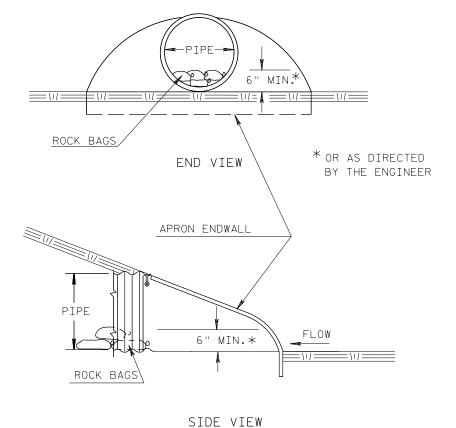
NOTES: DURING STAGE 1 - MILL OUT EXISTING RUMBLE STRIPS AND PLACE 2 INCHES OF ASPHALT SURFACE END OF STAGE 3 - MILL IN NEW RUMBLE STRIPS PRIOR TO OPENING TO TRAFFIC

## MILL AND OVERLAY RUMBLE STRIP DETAIL

STA 653+50 - 657+00 LT STA 662+20 - 665+70 RT STA 692+75 - 697+75 LT STA 702+90 - 705+50 RT

E

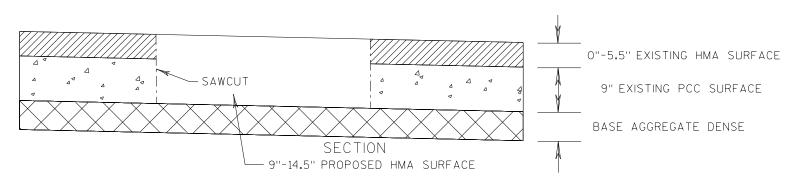




0.0625 '/'

CONCRETE CURB AND GUTTER 36-INCH TYPE A SPECIAL VERTICAL CURB

## **CULVERT PIPE CHECK**



## BASE PATCHING ASPHALTIC

STA 654+20 NB STA 655+70 NB STA 694+35 NB

PROJECT NO:5410-02-71/72

HWY: USH 51

COUNTY: DANE

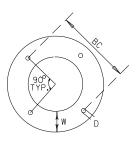
CONSTRUCTION DETAILS

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

E

#### SPREAD FOOTING DIMENSIONS STEEL AND CONCRETE QUANTITIES ARE APPROXIMATE

TYPE OF BASE	IF D =	THEN L=	401 HOOPS LBS.	402 VERTICAL	602 VERTICAL	403 HORIZ	TOTAL LBS. STEEL	CONCR YDS.
TYPE 1 TYPE 1 TYPE 1	2' 3' 4'	5′ 0" 4′ 6" 4′ 6′	8 12 8	BARS LBS. 7 13 18	BARS LBS. - - -	BARS LBS. 36 36 36	51 61 62	1.9 1.6 1.6



	TYPE 1
THICKNESS OF PLATE	1/2"
BOLT CIRCLE "BC"	12.75"
WIDTH "W"	3" +/-
HOLE DIAMETER "D"	1.125"
ANCHOR ROD	1" X 2'-3"

## GENERAL NOTES

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

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 FINTRANCE 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 1FOOT OR LESS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

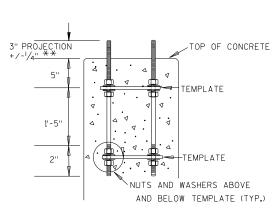
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL PER SECTION 5.17.6.3, AASHTO 2001 4TH EDITION STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS.

WELDING OF THE ANCHOR RODS TO THE CAGE OR TEMPLATE 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).

CONDUIT SHOWN FOR ILLUSTRATION ONLY AND VARIES BY "D" AN HOR ROD PATTERN SHALL BE PARALLEL TO THE ROADWAY

## ANCHOR ROD TEMPLATE



# ANCHOR ROD ASSEMBLY

ANCHOR ROD SHALL BE ASTM A449/AASHTO M314-90 GR55 THREADED 12-INCH AT TOP; 4-INCH AT BOTTOM, HOT-DIP GAVANIZED TO ASTM A153, GR C

#### REQUIRED:

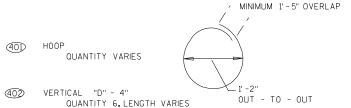
2 TEMPLATES

4 ANCHOR RODS

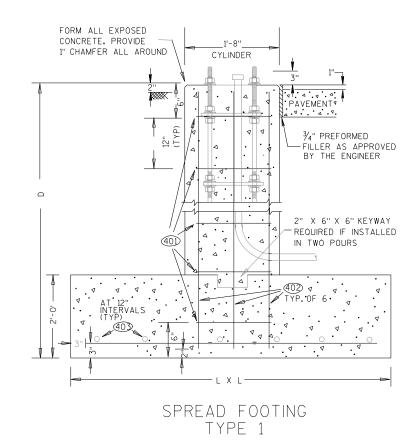
16 FLAT WASSHERS HOT-DIP GALVANIZED

16 HEAVY DUTY HEX NUTS\* HOT-DIP GALVANIZED

\*CHASE THREADS FOR HOT-DIP GALVANIZED ANCHOR RODS \*\* FAILURE TO MEET TOLERANCE CONDEMNS THE BASE



403 HORIZONTAL "L" - 6" QUANTITY AND LENGTH VARY



PROJECT NO:5410-02-71

HWY:USH 51

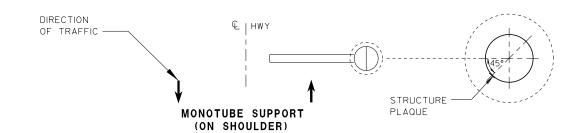
COUNTY: DANE

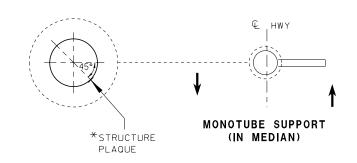
CONSTRUCTION DETAIL - SPREAD FOOTINGS

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

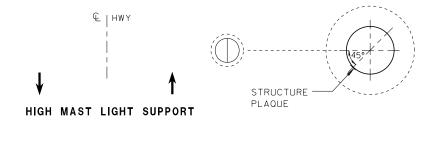
SHEET

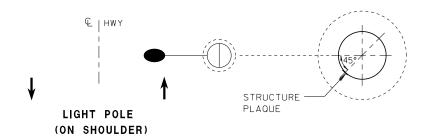
|E





\* WHEN MONOTUBES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN MONOTUBES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.





#### **GENERAL NOTES**

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

MOUNTING HEIGHT ON LIGHT POLES AND MONOTUBE POLES SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

SEE RAMP GATE DETAIL FOR PLACEMENT OF PLAQUE ON RAMP GATE POLE.

PLAQUE MATERIALS:

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK,  $\frac{1}{2}$ " WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

\*\*LETTER "L" UTILIZED FOR LIGHTING STRUCTURES. LETTER "S" UTILIZED FOR MONOTUBE STRUCTURES. LETTER "G" UTILIZED FOR RAMP GATE STRUCTURES.

> STRUCTURE IDENTIFICATION PLAQUES LIGHT, MONOTUBE & RAMP GATE POLES

> > SW REGION - MADISON

HWY: USH 51

COUNTY: DANE

SIGNAL POLE NUMBERING DETAIL

∟½" TYP.

TYP.

TYP.

└/<sub>2</sub>" TYP.

- 1/2" TYP.

STRUCTURE DESIGNATOR

LETTER

COUNTY

CODE

IDENTIFICATION -

REGION PROVIDED

LOCATION NUMBER

(LEADING ZEROS NOT REQUIRED)

REGION PROVIDED POLE NUMBER (LEADING ZEROS NOT REQUIRED)

SHEET

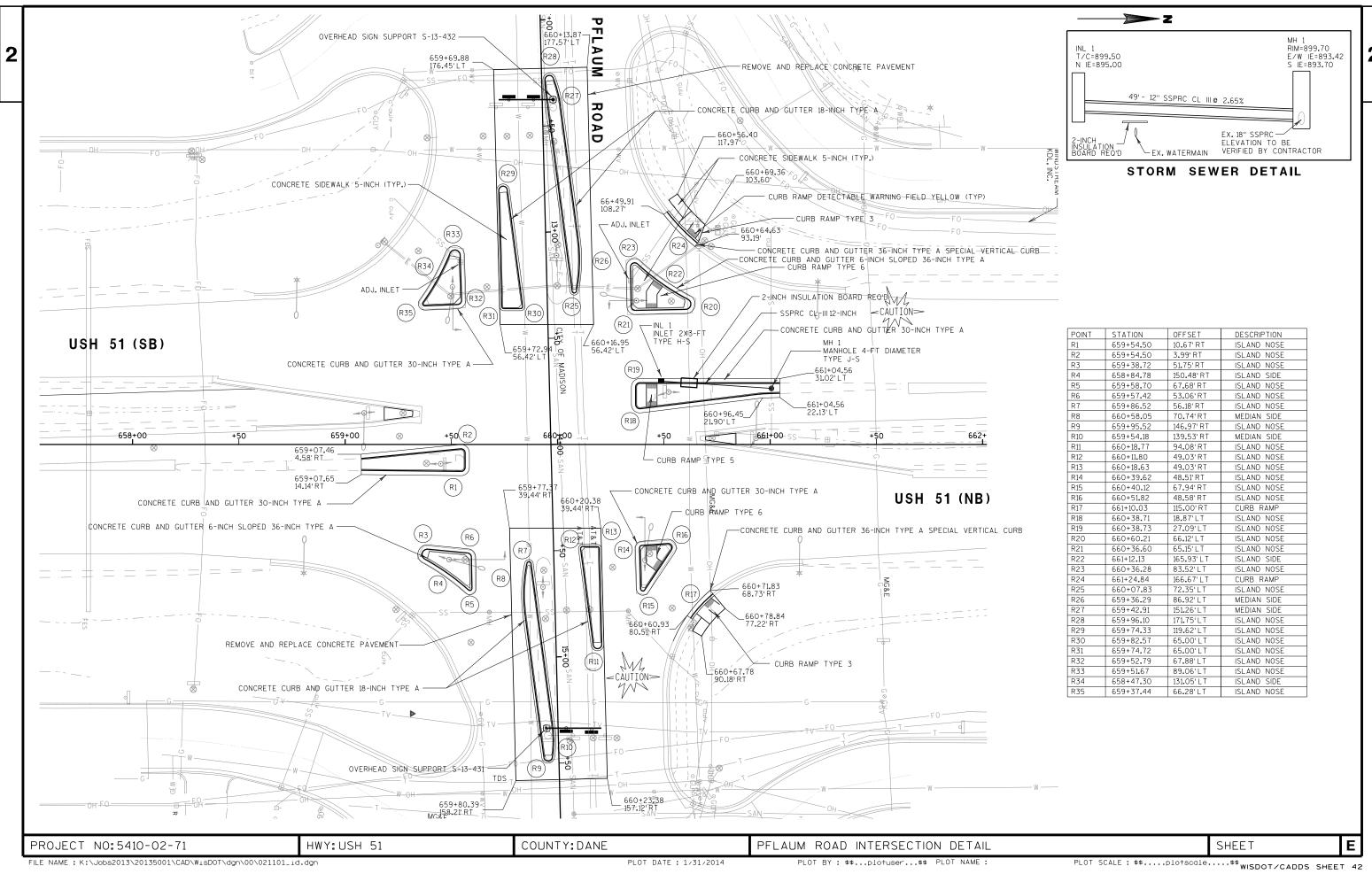
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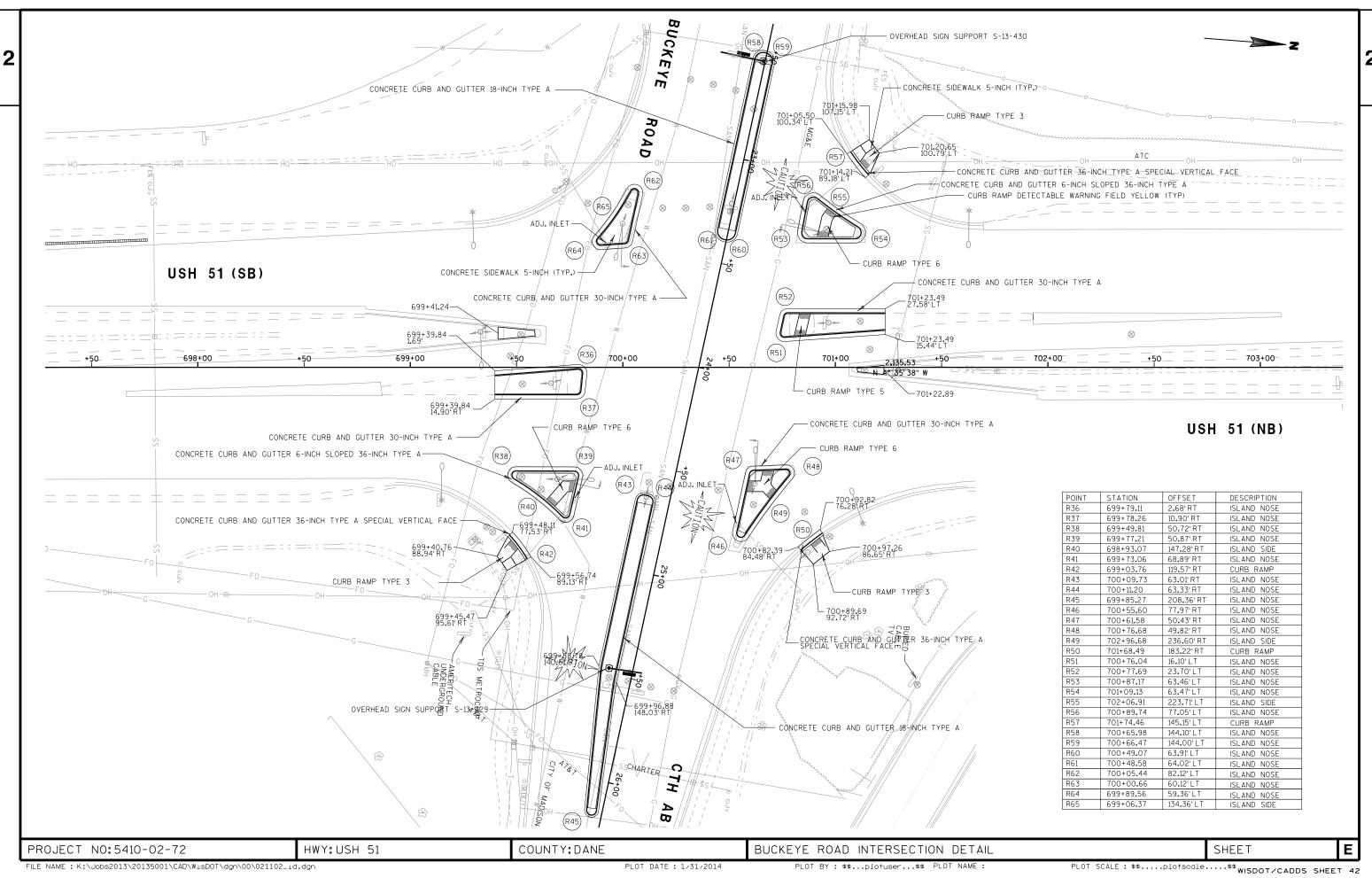
PROJECT NO:5410-02-71/72

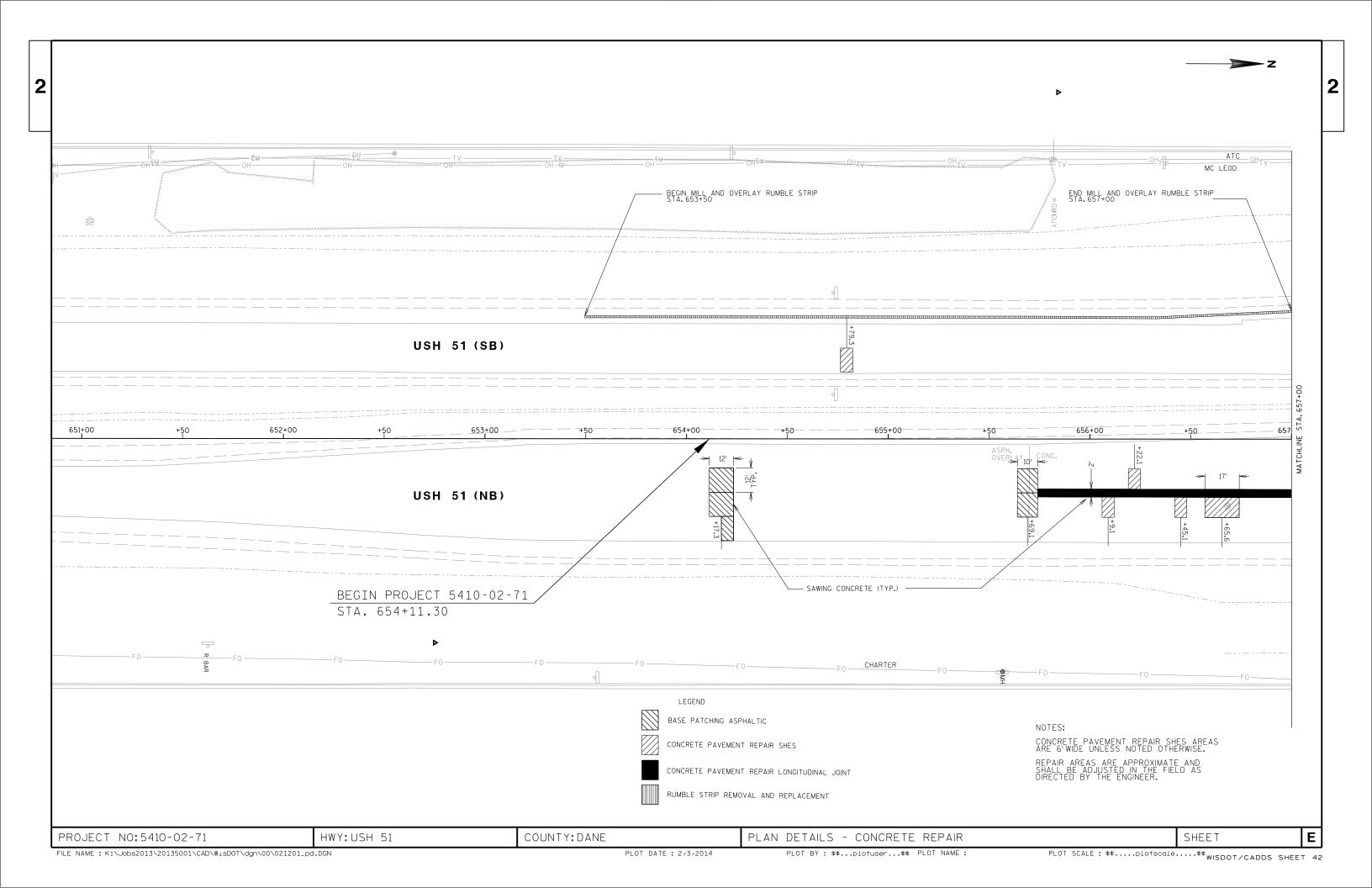
PLOT DATE: 1/31/2014

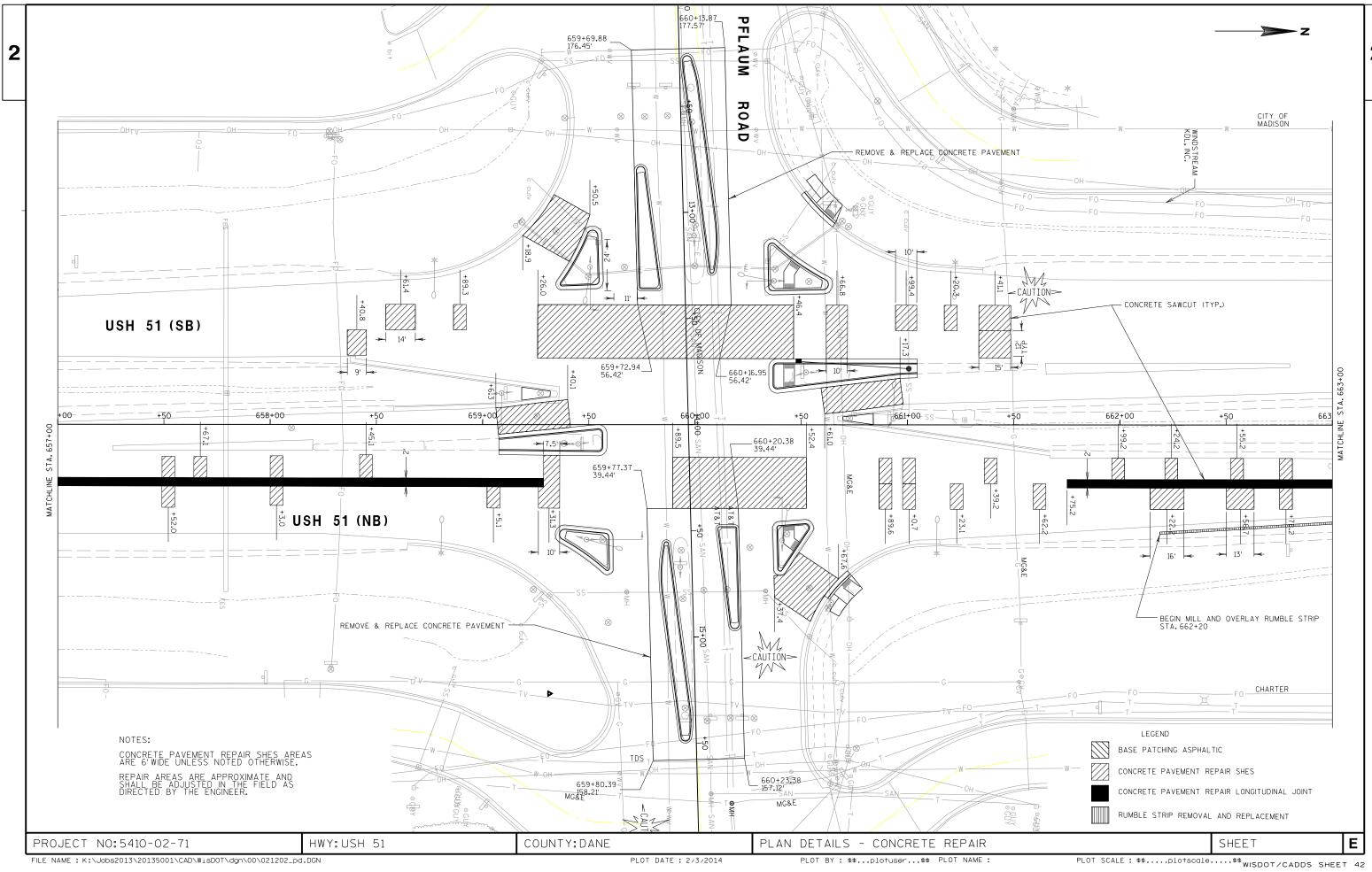
PLOT BY: \$\$...plotuser...\$\$ PLOT NAME: \_\_\_\_\_

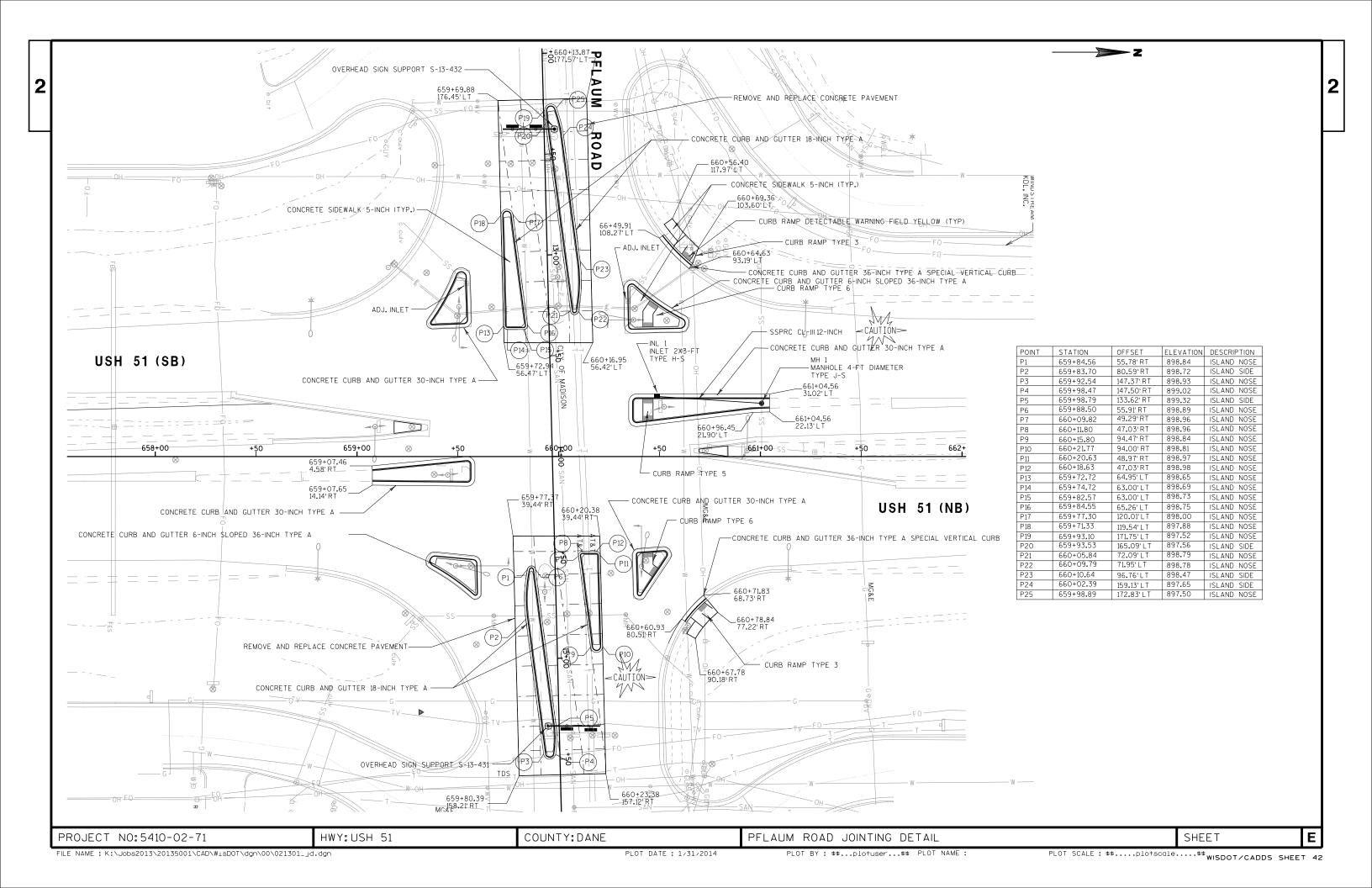
PLOT SCALE: \$\$.....plotscale.....\$\$wisDOT/CADDS SHEET 42

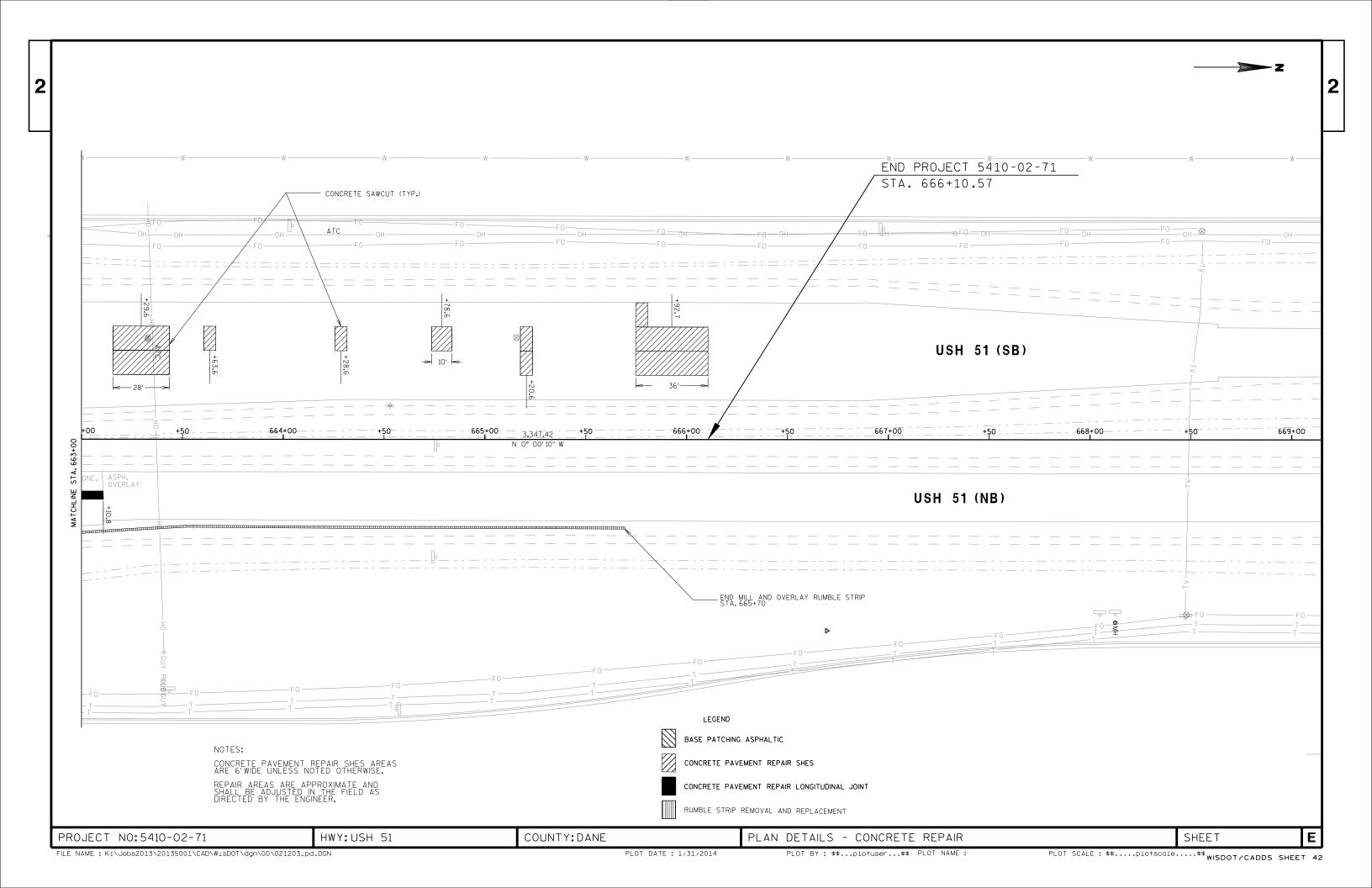


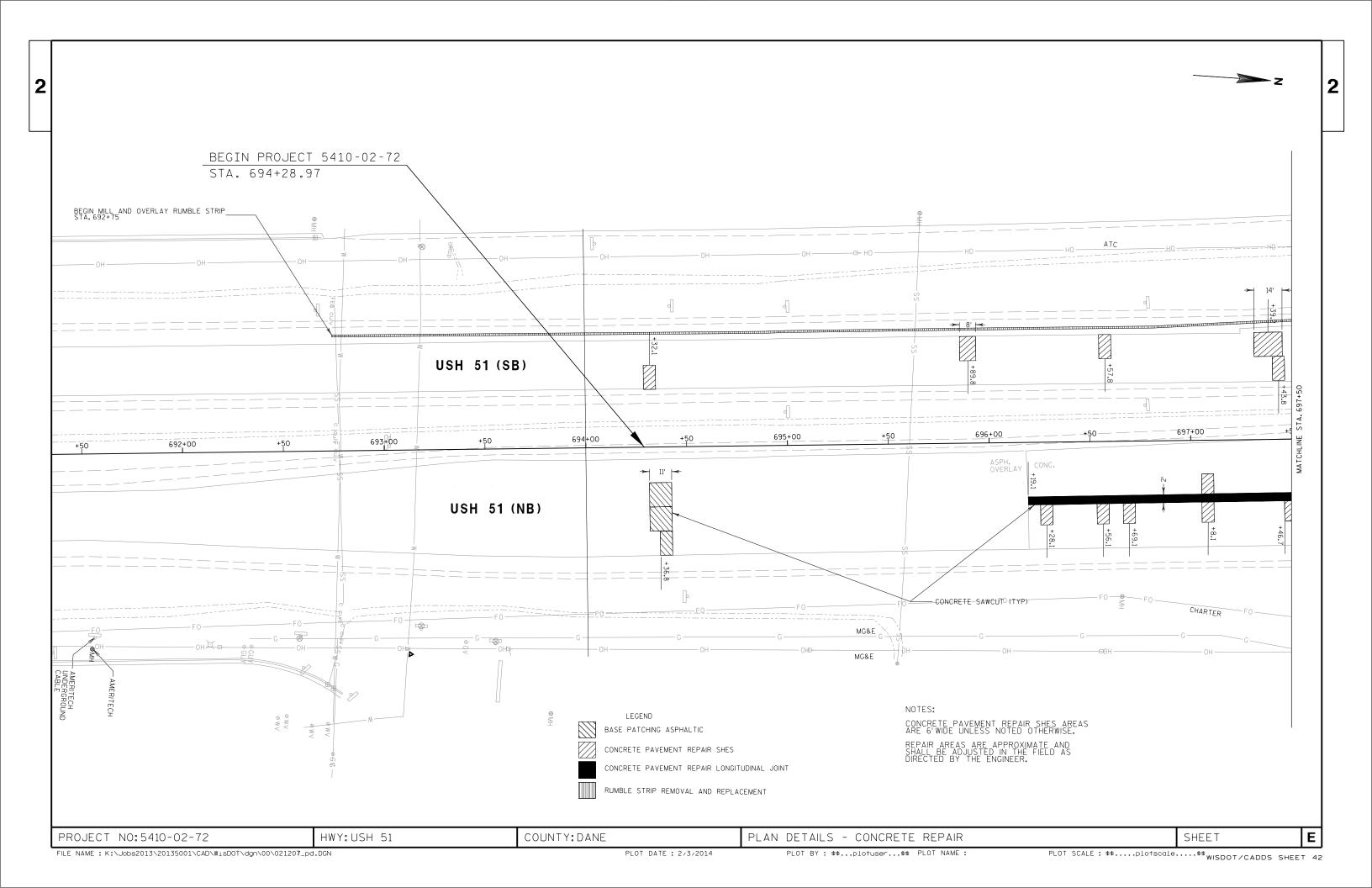


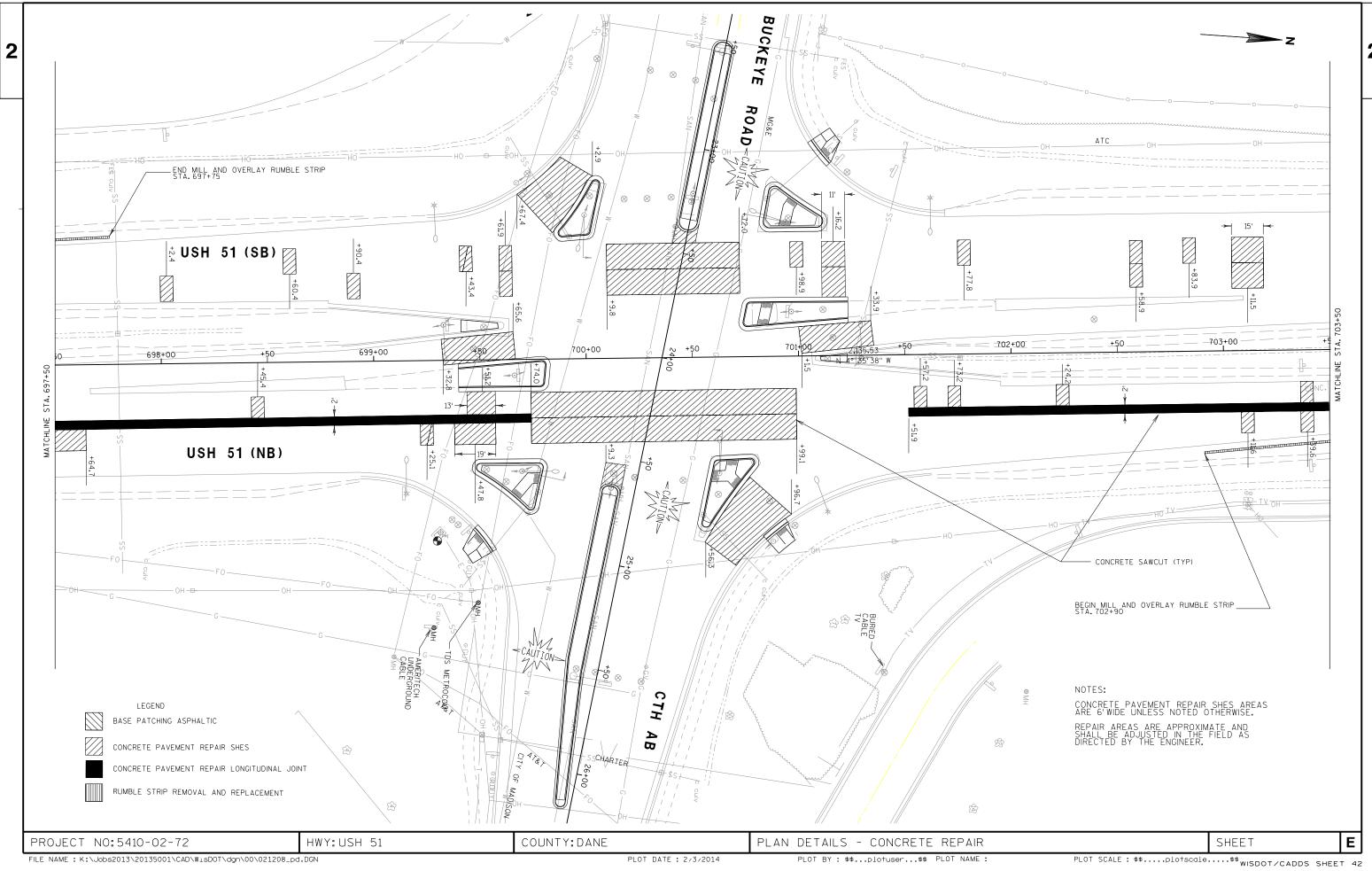




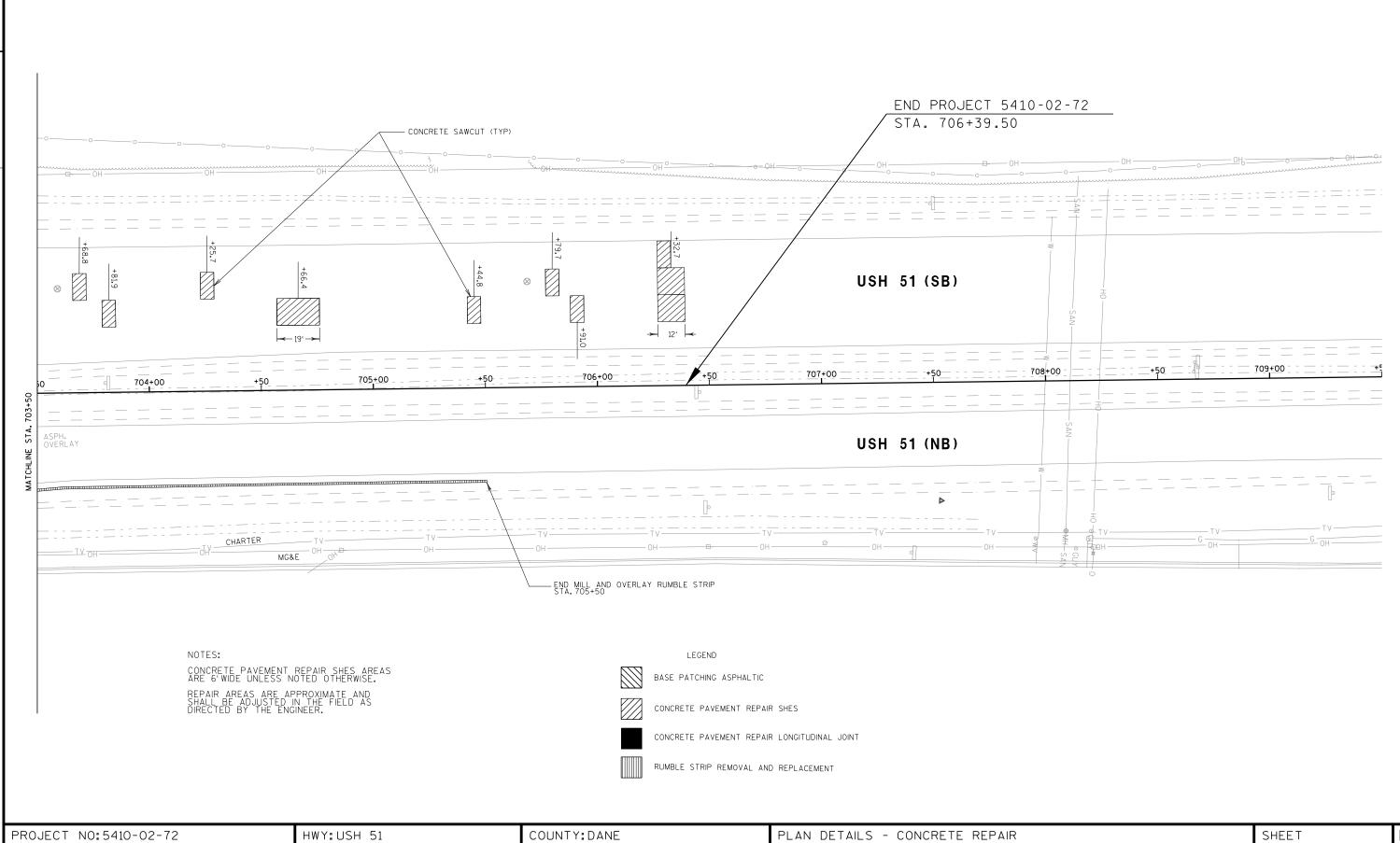






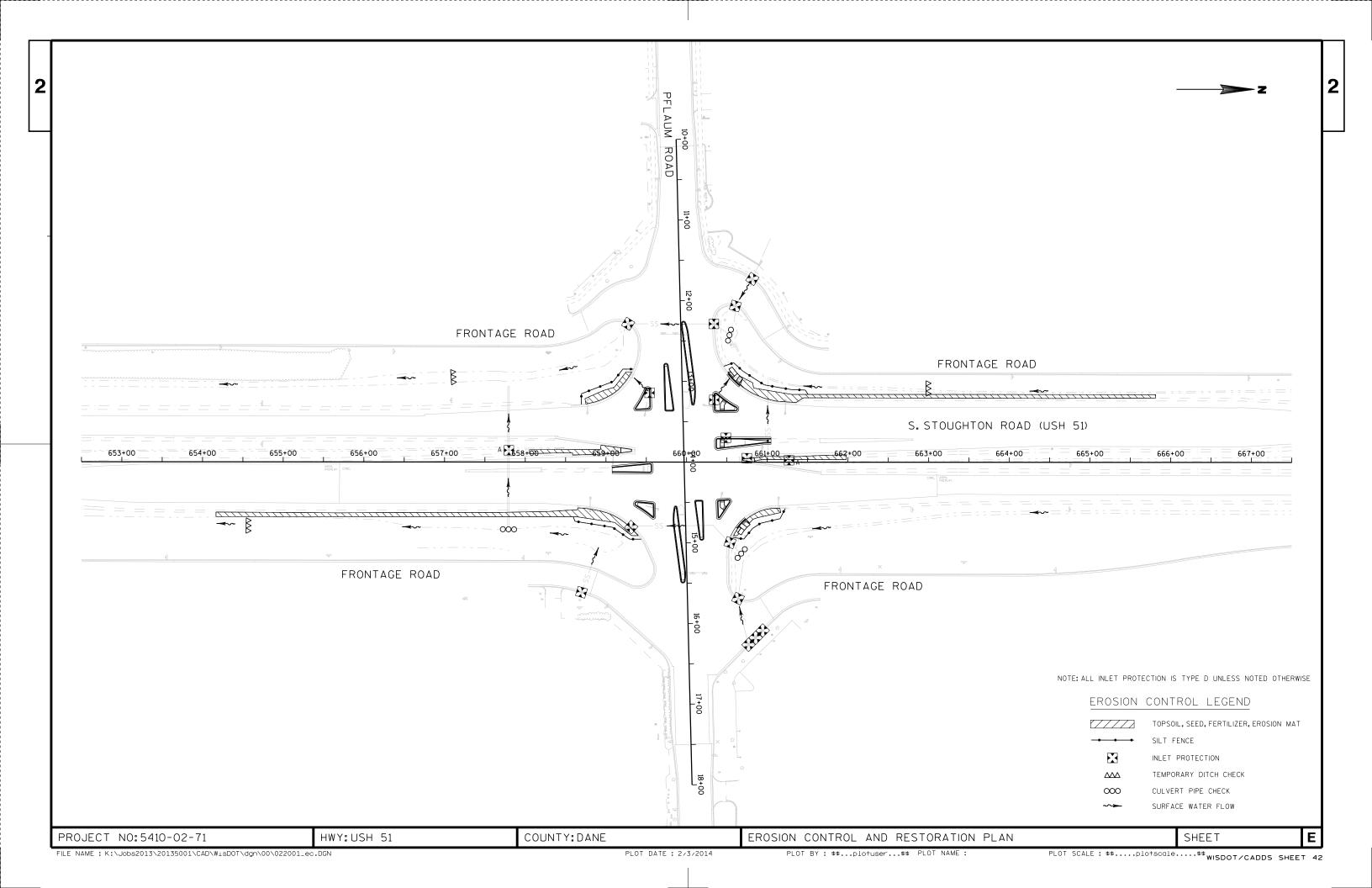


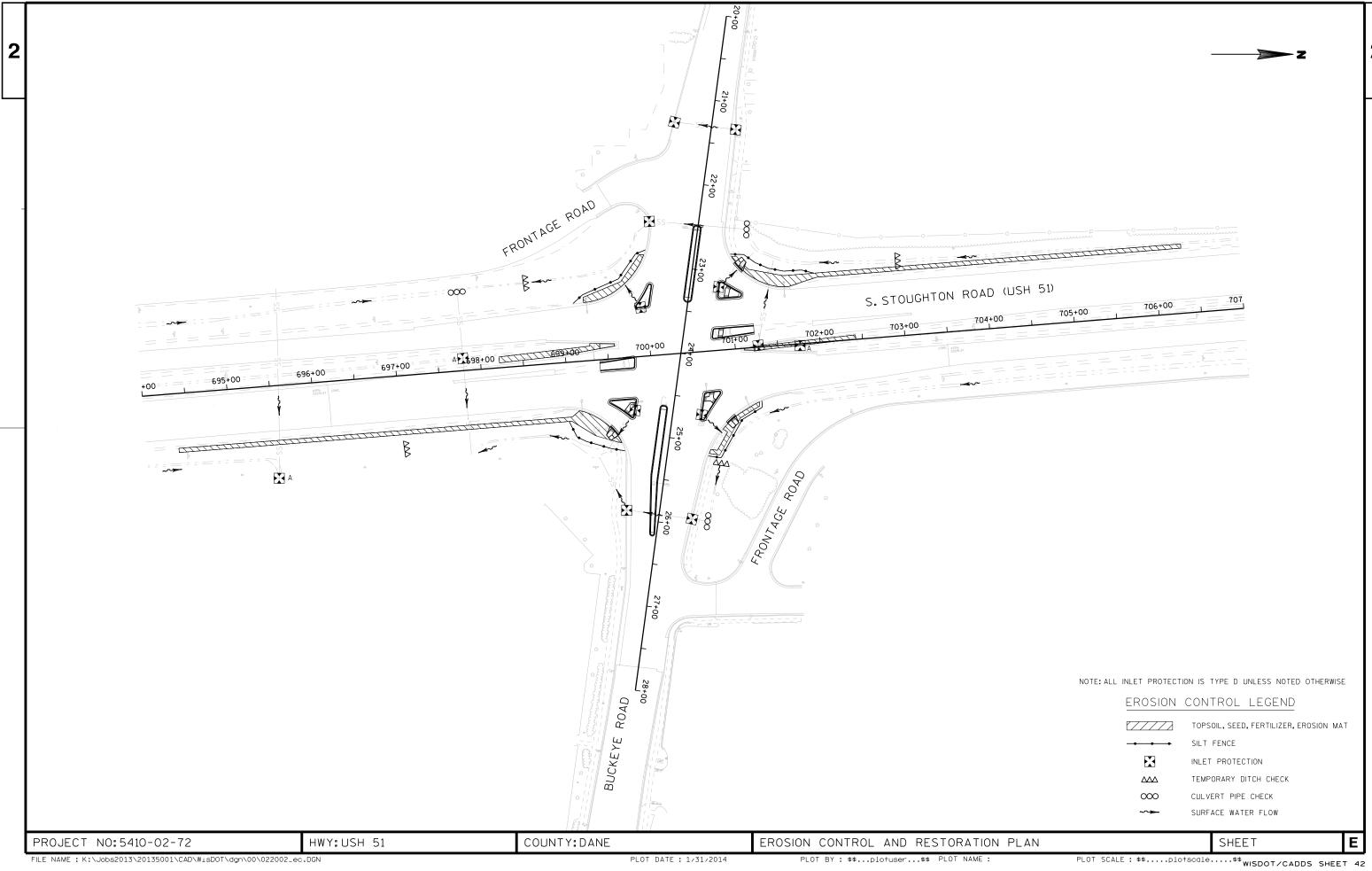


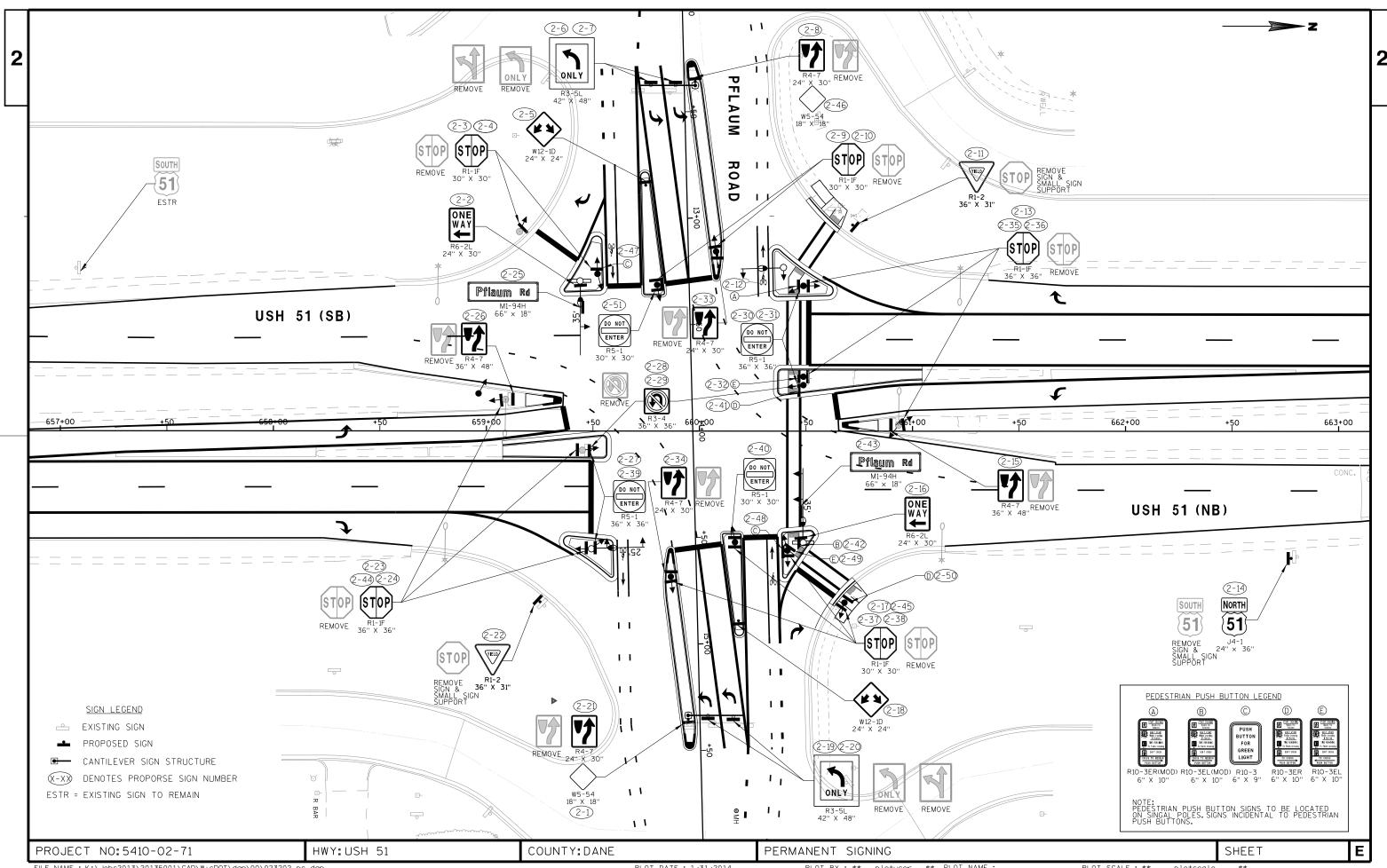


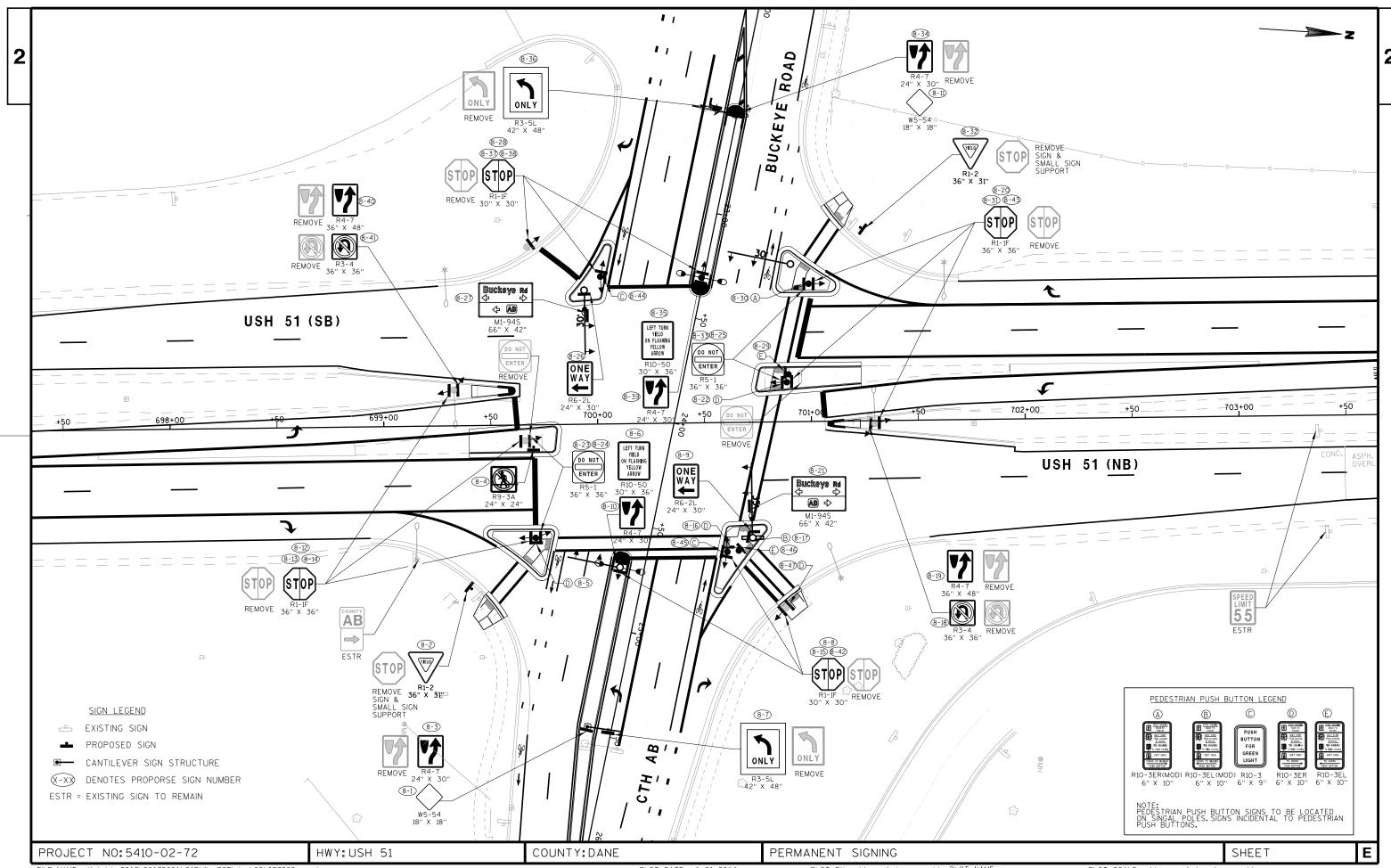
PROJECT NO:5410-02-72

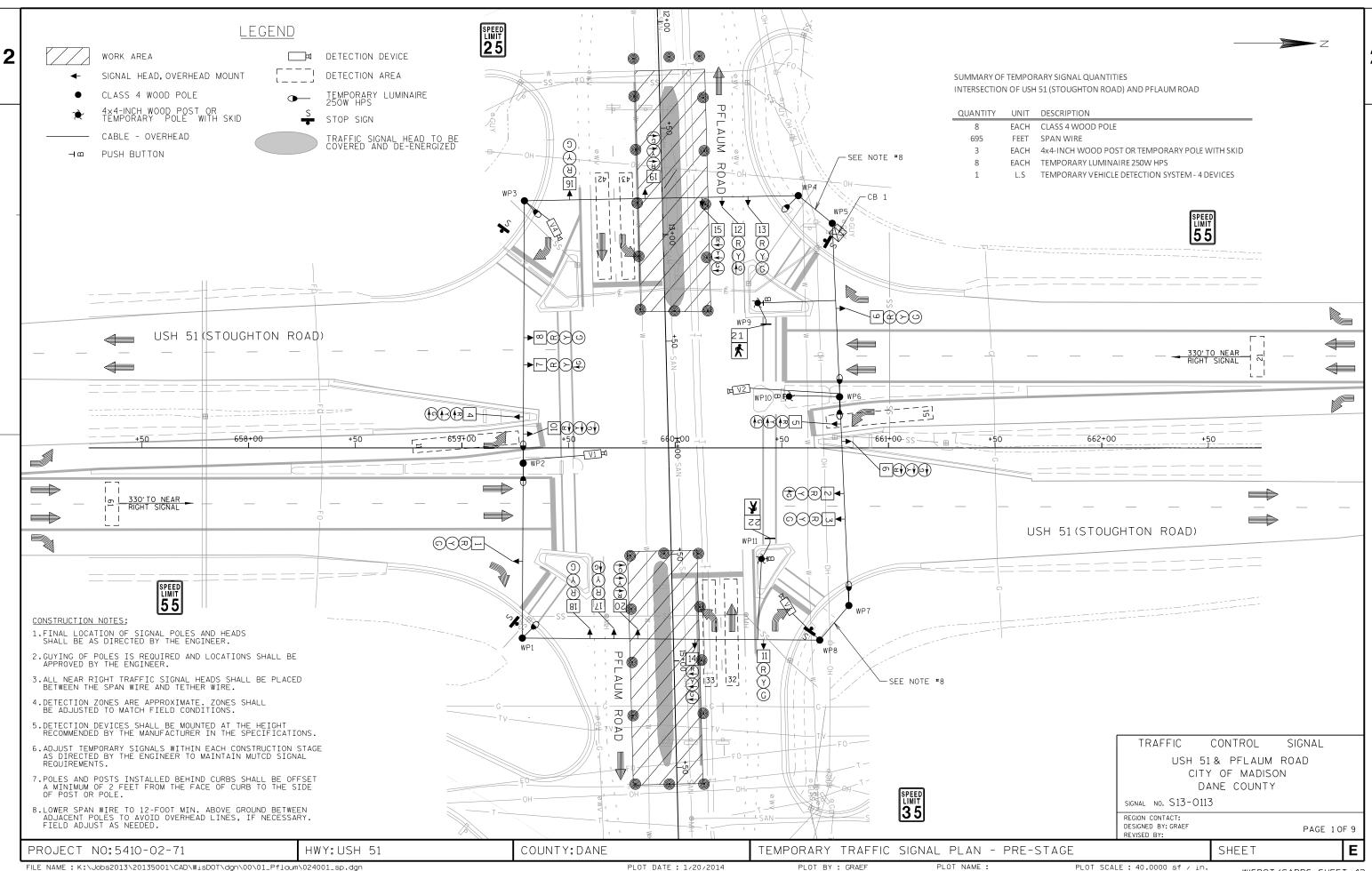
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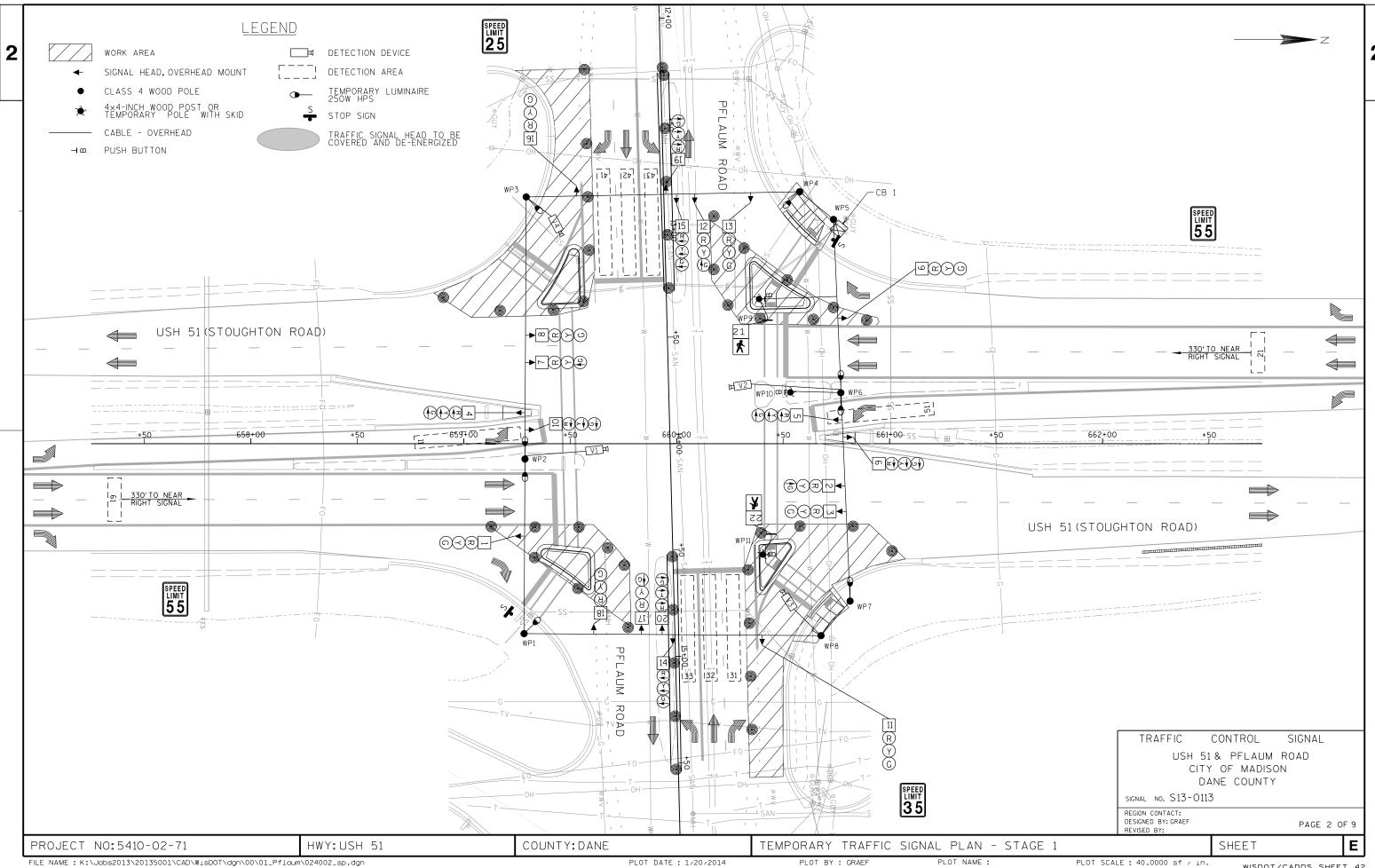


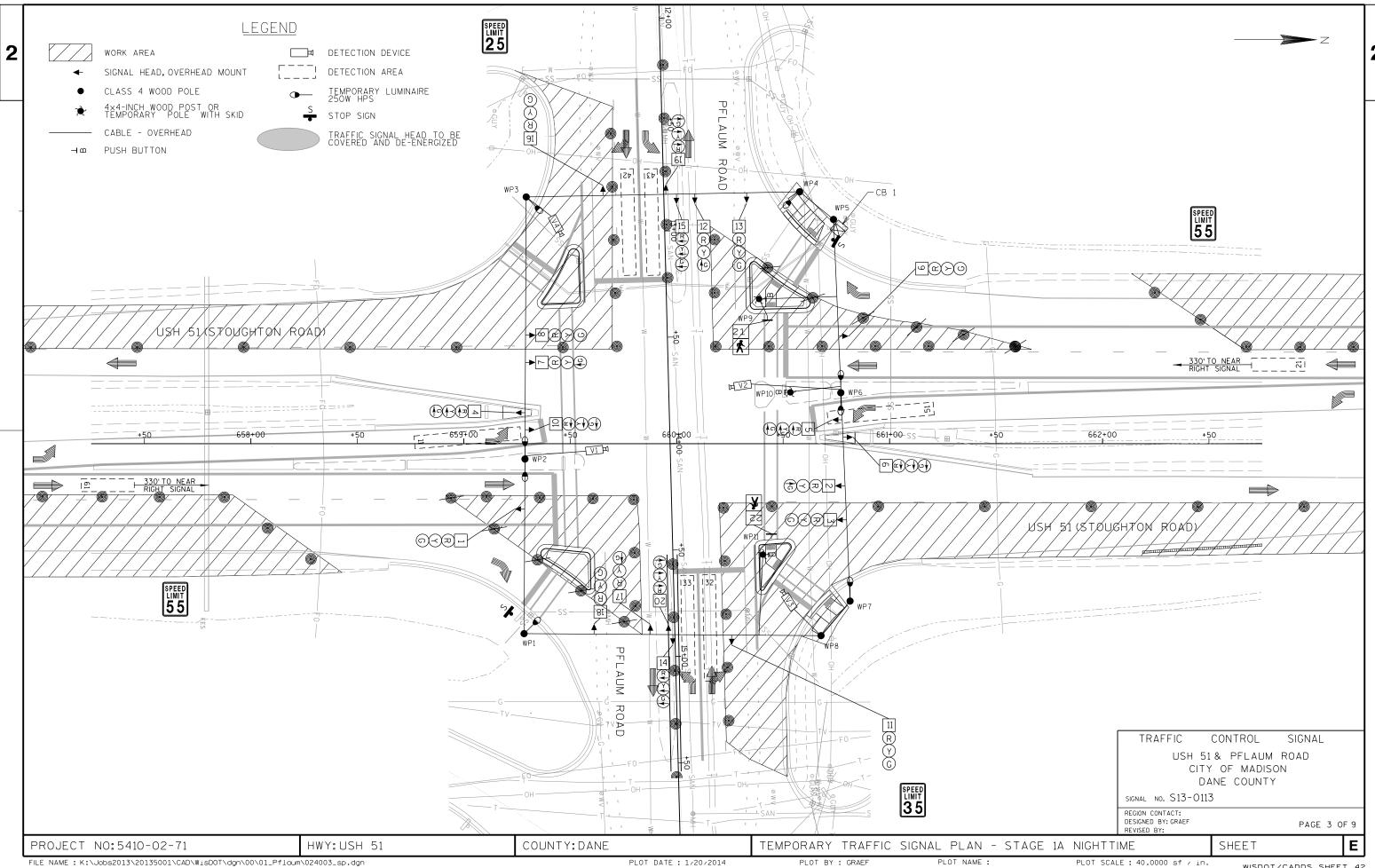


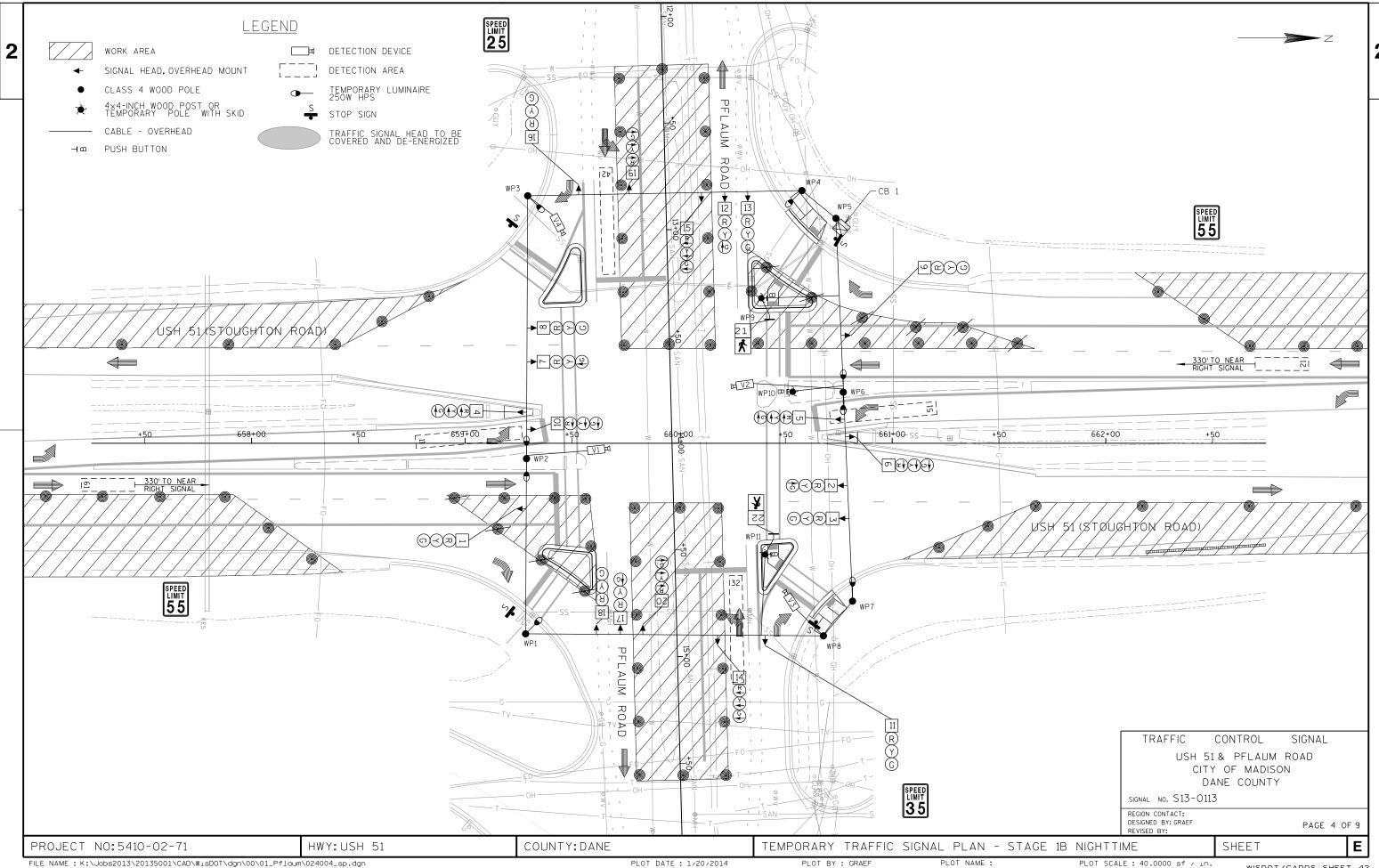


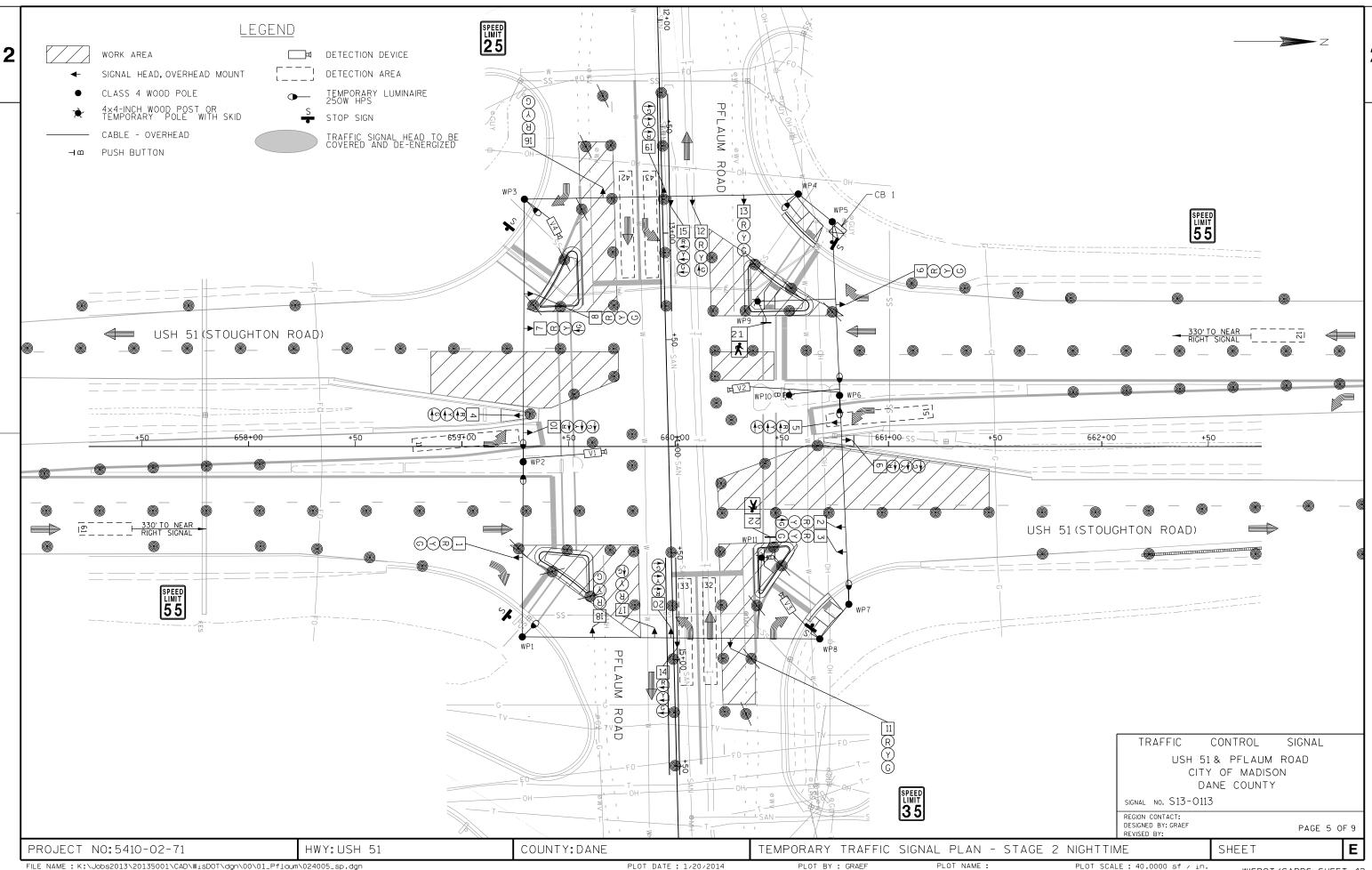


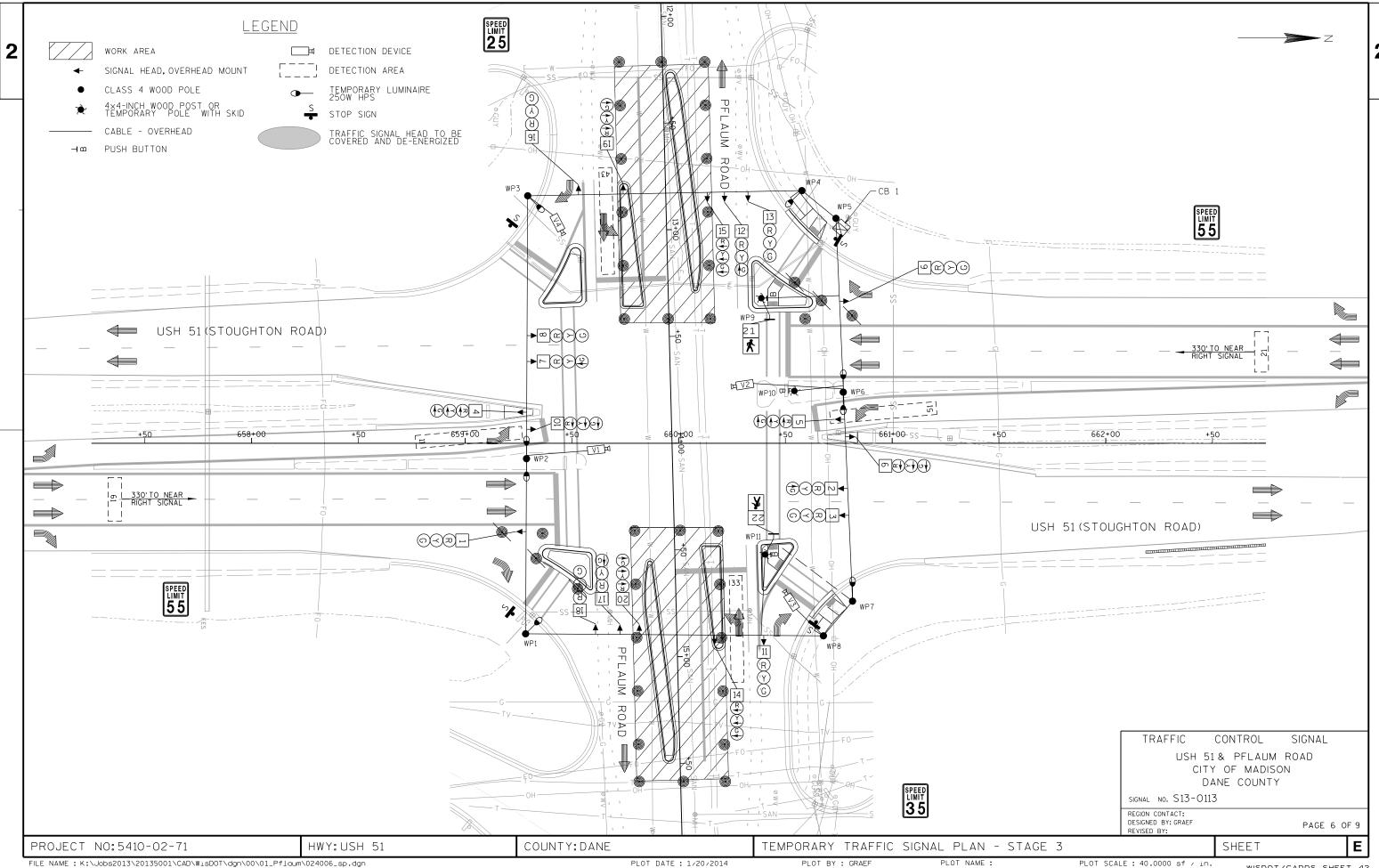


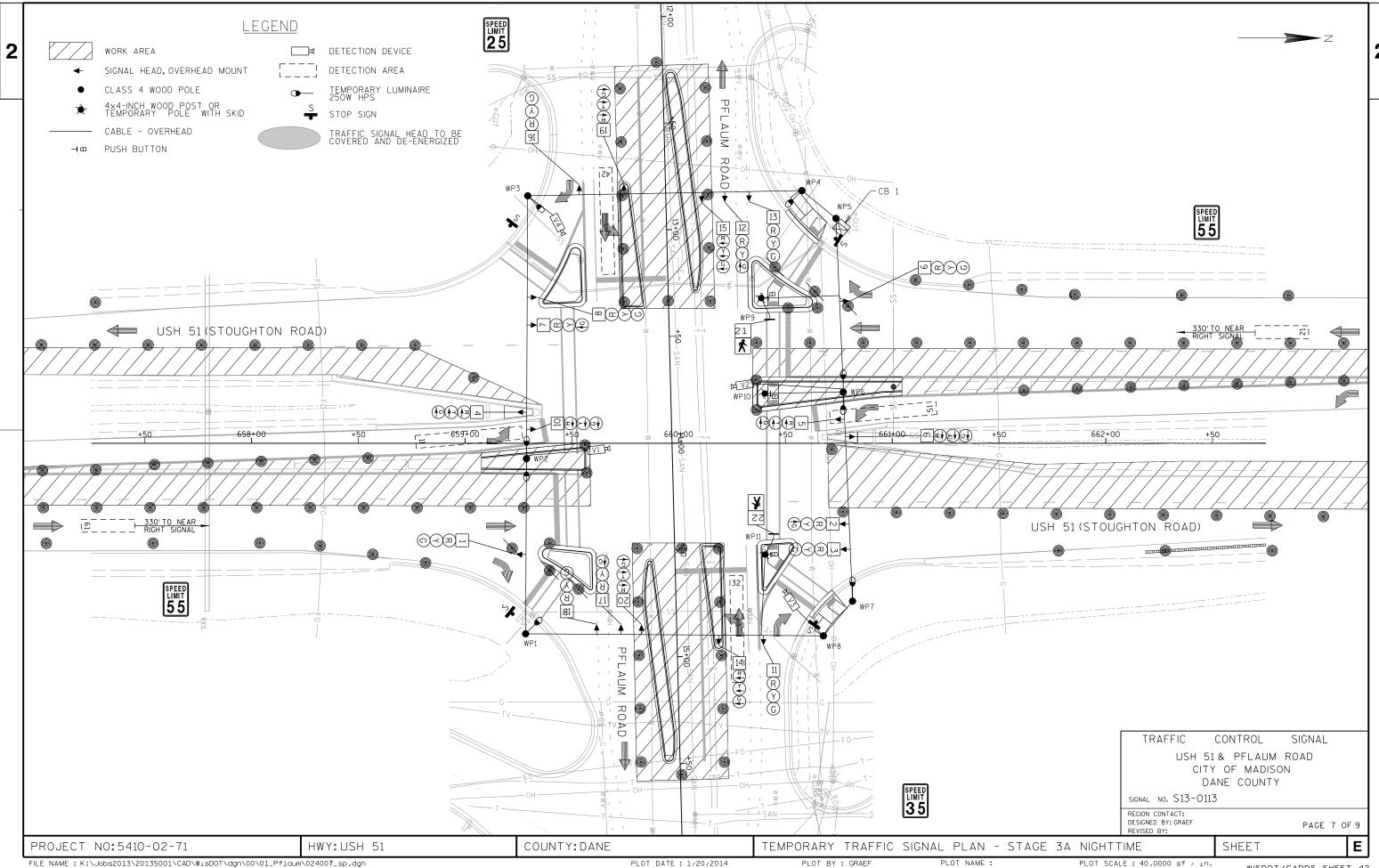


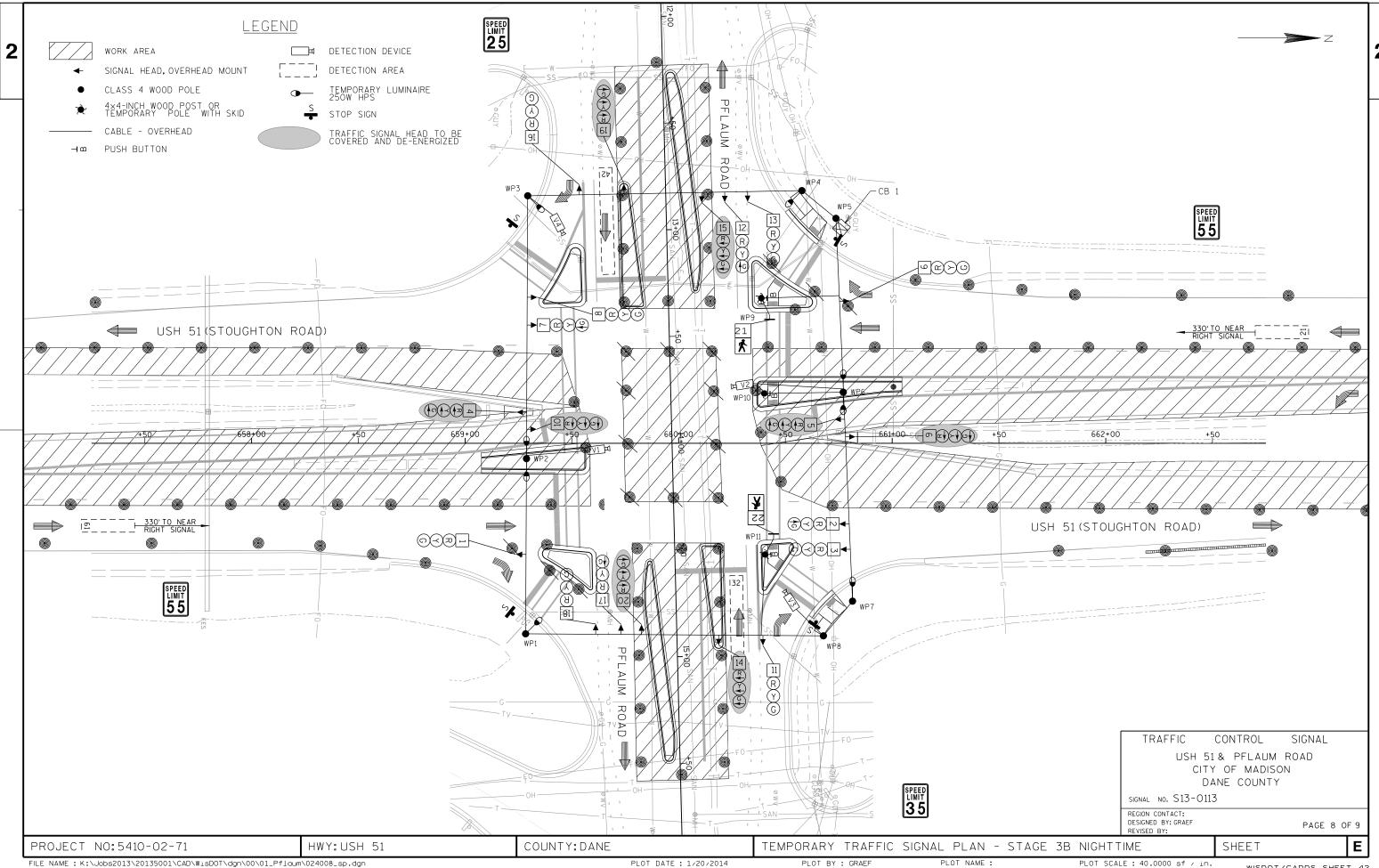


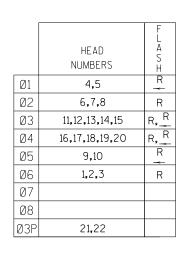












RING 1 Ø1 02

Ø4 ØЗ

05 Ø6

NOT NOT USED USED Ø7 Ø8

BARRIER

## CHART 1

RING 2

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1	5,6	2,3,4
2	5,6	1,3,4
3		1,2,4,5,6
4		1,2,3,5,6
5	1,2	3,4,6
6	1,2	3,4,5
7		
8		

#### GENERAL NOTES:

- 1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
- 2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1)

#### DETECTOR LOGIC

		DETEC	TOR OPER	RATION					
DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE		EXTENSION STRETCH (sec)
11	1	X			1	1			
21	2			Х		2			
31	3	X			3	3		5	
32	3	X			3	3			
33	4	X			3	3			
41	5	Х			4	4			
42	5	X			4	4			
43	6	X			4	4		5	
51	7	X			5	5			
61	8			Х		6			

TYPE OF INTERCONNECT COMMUNICA	TION
NONE	Х
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER	
CONTROLLER NO: S13-011	3
SIGNAL SYSTEM #: SS-13-0103	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	Х
IN SEPARATE DOT LIGHTING CABINET	

## CONTROLLER LOGIC

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

USH 51 & PFLAUM ROAD CITY OF MADISON

SIGNAL NO. S13-0013 CONTROLLER TYPE: TEMP

DANE COUNTY

1/14 DATE PAGE NO. 9 OF 9

PROJECT NO:5410-02-71 HWY: USH 51 COUNTY: DANE

TEMPORARY SEQUENCE OF OPERATIONS - ALL STAGES

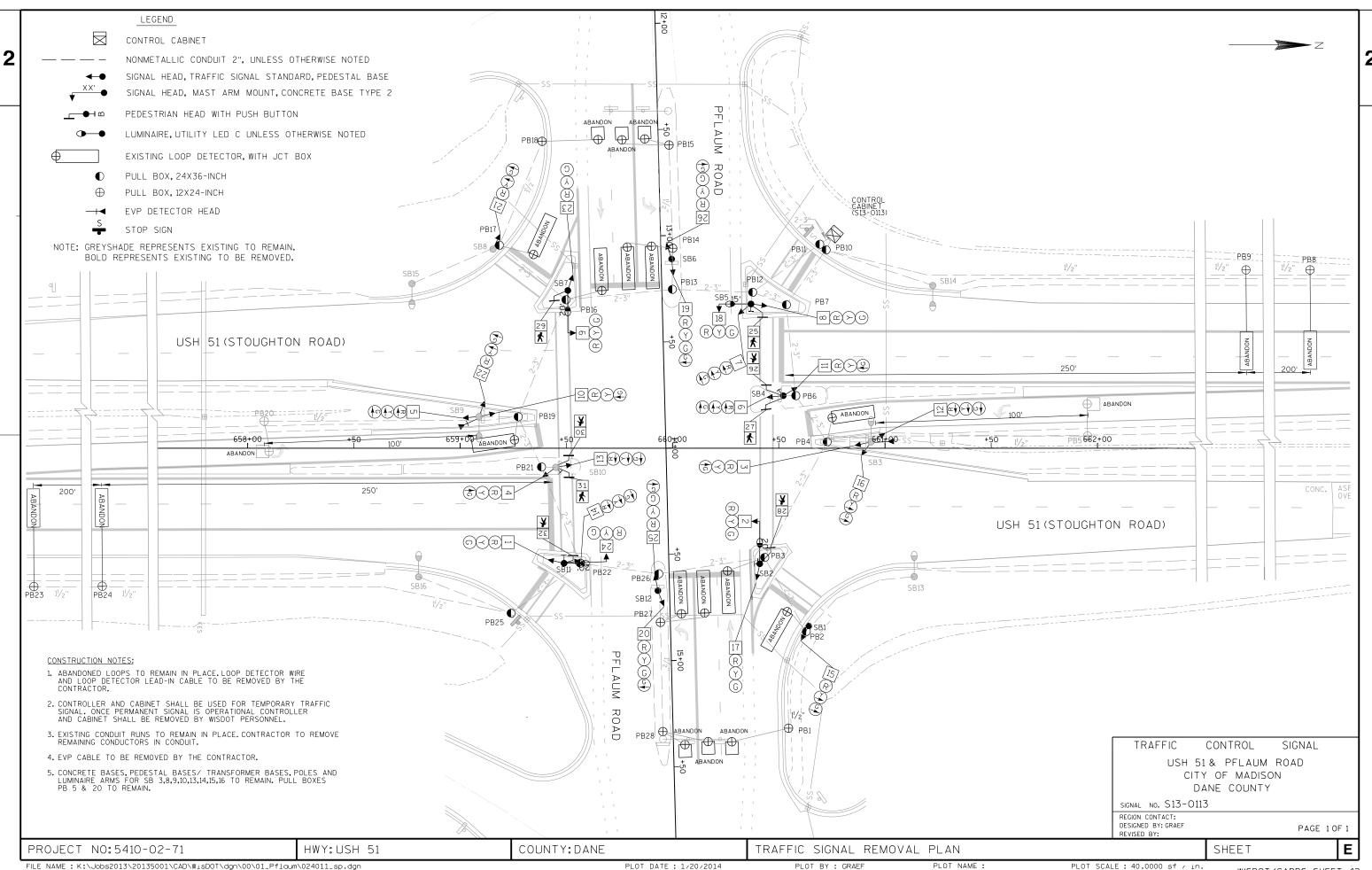
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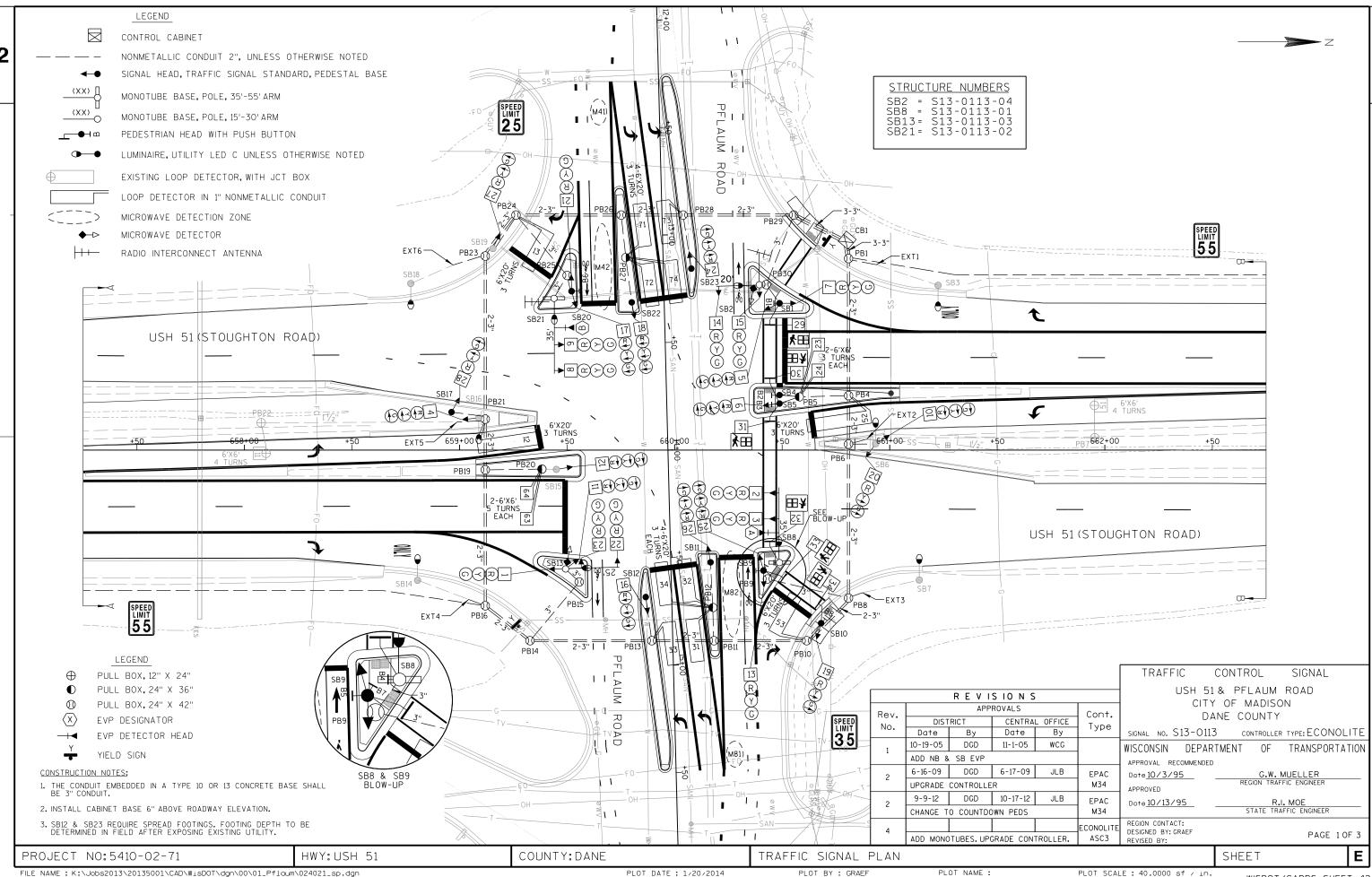
TYPE OF PRE-EMPT

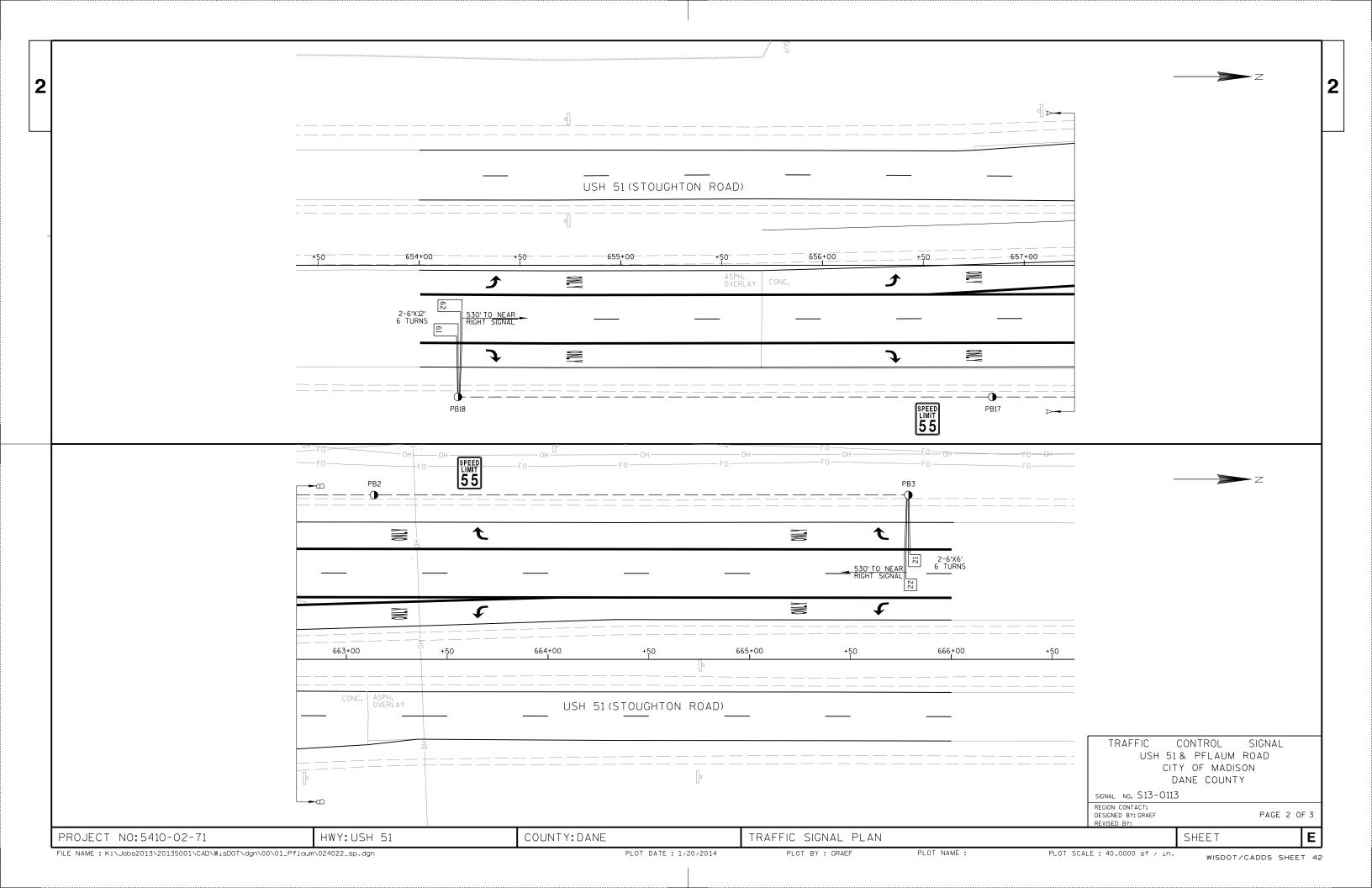
EMERGENCY VEHICLE GTT TOMAR HARDWIRE OTHER LIFT BRIDGE QUEUE DETECTOR

NONE RAILROAD

SHEET







HEAD NUMBERS

4,5,6

7,8,9

16,17,18

21,22,23

10,11,12

1,2,3

24,25,26

13,14,15

29,30

33,34

29,30

31,32

27,28

19,20

01

02

Ø3

04

05

Ø6

07

Ø8

Ø1P

Ø6P

Ø7P

Ø8P

OLB

## CONTROLLER LOGIC

#### PED/BIKE DETECTOR LOGIC

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

	0.	TECTOR EGGIC
PED/BIKE DETECTOR NUMBER	PHASE(S) CALLED	COMMENT
B1	φ7P-φ8P	SEE GENERAL NOTE 2
B2	φ1P	
В3	φ8P	
В4	φ8P-φ1P	SEE GENERAL NOTE 1
B5	VEH, φ8	SEE GENERAL NOTE 3
В6	VEH, φ4	SEE GENERAL NOTE 3
В7	φ6P	
В8	φ6P	

101
Х
-

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

X

# GENERAL NOTES:

- 1. CALLS FOR \$8 PED PLACED AT B4 ON SB8 SHALL ALSO PLACE A CALL OF \$1PED.LAGGING \$1PED CALLED BY AN ACTUATION AT B4 MAY NOT BE PLACED WHEN VEH \$8 IS ACTIVE, BUT SHALL BE SERVED DURING THE NEXT CYCLE & ONLY FOLLOWING \$8 PED.
- 2. CALLS FOR \$7 PED PLACED AT BION SBISHALL ALSO PLACE A CALL FOR \$8 PED. LAGGING \$8 PED CALLED BY AN ACTUATION AT BIMAY NOT BE PLACED WHEN VEH \$7 IS ACTIVE, BUT SHALL BE SERVED DURING THE NEXT CYCLE & ONLY FOLLOWING \$7 PED.
- 3. BICYCLE PUSH BUTTONS B5, B6 ACTIVATE THE ASSOCIATED VEHICLE PHASE.

# DETECTOR LOGIC

BARRIER

Ø3

07

02

Ø6

DETECTOR INPUT	3	1	7	5	11	9	15	13
DETECTOR #(S)	11		21	22	31	33	51	
PHASE CALLED			2	2				
PHASE EXTENDED	1		2	2	3	3	5	
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH	0.5						0.5	
LOOP FUNCTION			LOCKING	LOCKING				
l								

RING 1

RING 2

Ø1

( O.L. B

Ø5

DETECTOR INPUT	4	2	8	6	12	10	16	14
DETECTOR #(S)	12	13	23	24	32	34	52	53
PHASE CALLED	1	1	2	2	3	3	5	5
PHASE EXTENDED	1				3	3	5	
DISCONNECT TIME								
CALLING DELAY		10						10
EXTENSION STRETCH								
LOOP FUNCTION			DISCONNECT	DISCONNECT	LOCKING	LOCKING		

19	17	23	21	27	25	31	29	DETECTOR INPUT
61	62	71	73	M41	M81			DETECTOR *(S)
6	6							PHASE CALLED
6	6	7	7	4	8			PHASE EXTENDED
								DISCONNECT TIME
								CALLING DELAY
								EXTENSION STRETCH
LOCKING	LOCKING			EXTEND	EXTEND			LOOP FUNCTION

0.L.B

ΝE

Ø8

								_
20	18	24	22	28	26	32	30	DETECTOR INPUT
63	64	72	74	M42	M82			DETECTOR #(S)
6	6	7	7	4	8			PHASE CALLED
		7	7	4	8			PHASE EXTENDED
								DISCONNECT TIME
								CALLING DELAY
								EXTENSION STRETCH
DISCONNECT	DISCONNECT	LOCKING	LOCKING	LOCKING	LOCKING			LOOP FUNCTION

#### PREEMPTION ASSIGNMENTS

PREEMPTION	PREEMPTION	EVP	PHASE(S
DESIGNATION	TYPE	CHANNEL	CALLED
1	RESERVED		
2	RESERVED		
3	EVP	А	2&5
4	EVP	В	6&I
5	RESERVED		
6	RESERVED		
7	RESERVED		
8	RESERVED		
9	RESERVED		
10	RESERVED		

USH 51 & PFLAUM ROAD CITY OF MADISON DANE COUNTY

CABINET TYPE: TS2 SIGNAL NO.S13-0113 CONTROLLER TYPE: ECONOLITE

1/14 DATE PAGE NO. 3 OF 3 SHEET

HWY: USH 51 PROJECT NO:5410-02-71

COUNTY: DANE

PLOT BY : GRAEF

SEQUENCE OF OPERATIONS

PLOT NAME :

WISDOT/CADDS SHEET 42

Ε

	USH	51 & PFLAUN	/ ROAD		
		SIGNAL CABL	ING CHART		
CABLE RUN	CABLE	HEAD NO.	MOVEMENT	LENS	CONDUCTOR
CABINET TO SB1	12/C	5	NB LT	← R	R
	,			← Y	0
				← G	G
		7	SB	R	R/BK
				Υ	0/BK
				G	G/BK
		29	∞8 PED	DW	BK
			(NW LEG)	W	BU
			( == 4,	B-1	W/BK
CABINET TO SB2	7/C	14	WB	R	R
CABINET TO OBE	',"		"5	<u> </u>	0
			I	G	G
		15	WB	R	R
		15	WB	Y	0
CARTNET TO OR!	F / 0		>0 DED	G	G W/PK
CABINET TO SB4	5/C	-	⊗8 PED	B-2	W/BK
CARTHET TO CO.	10/0		(NW LEG)		-
CABINET TO SB5	12/C		NB LT	← R	R
		6			0
				← G	G
		30	∞8 PED	DW	BK/W
			(NW LEG)	W	BU/BK
		31	⊗8 PED	DW	BK
			(NE LEG)	W	BU
				B-3	W/BK
CABINET TO SB6	12/C	10	SB LT	← R	R
				← Y	0
				← G	G
		20	WB RT	R	R/BK
				Y →	0 / BK
				G →	G/BK
CABINET TO SB8	9/C	2	NB	R	R
				Υ	0
				G	G
		3	NB	R	R
				Υ	0
				G	G
		32	⊗8 PED	DW	BK
			(NE LEG)	W	BU
				B - 4	W/BK
CABINET TO SB9	12/C	13	WB	R	R/BK
				Υ	0 / BK
				G	G/BK
		25	EB LT	← R	R
				← Y	0
			l [	← G	G
		33	∞6 PED	DW	BK
			(E LEG)	W	BU
			`	B - 7	W/BK
		-	∞8 BIKE	B-5	BK/W
CABINET TO SB10	9/C	19	WB RT	R	R
	5,5	.0	"- "	Y →	0
				G →	G
		34	∞6 PED	DW	BK
			(E LEG)	W	BU
			(= ====)	B-8	W/BK
				D-0	N/ DIN

		51 & PFLAUN			
		NO.14 CABL			
					CONDUCTOR
CABLE RUN	CABLE	HEAD NO.	MOVEMENT	LENS	COLOR
CABINET TO SB11	7/C	26	EB LT	← R	R
	,				0
			1	← G	G
CABINET TO SB12	7/C	16	WB LT	← R	R
				← Y	0
				← G	G
CABINET TO SB13	15/C	1	NB	R	R
			1	Υ	0
				G	G
		11	SB LT	← R	R/BK
				← Y	O/BK
				← G	G/BK
		22	EB	R	R/W
				Υ	BU/W
				G	G/W
		23	EB	R	R/W
				Y	BU/W
			1	G	G/W
CABINET TO SB15	7/C	12	SB LT	← R	R
				← Y	0
				← G	G
CABINET TO SB16	7/C	4	NB LT	← R	R
	', '				0
				← G	G
CABINET TO SB17	7/C	28	EB RT	R	R
	', '			Y →	0
			1 1	. , , G →	G
CABINET TO SB19	7/C	27	EB RT	R	R
	','			Y →	0
				G →	G
CABINET TO SB20	12/C	17	WB LT	← R	R/BK
OADINI TO OBLO	1270		"" -	← Y	O/BK
				← G	G/BK
		21	EB	R	R
			"	Y	0
			l	G	G
		_	⊗4 BIKE	B-6	W/BK
CABINET TO SB21	7/C	8	SB	R	R
SADINE! TO ODE!	',"		"	Y	0
				G	G
		9	SB	R	R
			"	Y	0
				G	G
CABINET TO SB22	7/C	18	WB LT	← R	R
	',"		""	← Y	0
				— ← G	G
CABINET TO SB23	7/C	24	EB LT	<u> ← G</u> ← R	R
OMDINE! IN SD23	',	24	""	← Y	0
				← G	G
				- α	<u> </u>

USH 51 & PFLAUM ROAD				
LIGHTING CABLE TYPE UF				
2-10	AWG UF W/ G	GROUND		
FROM	TO	LOCATION		
SB1	SB3	NW QUADRANT		
SB3	SB6	N MEDIAN		
SB6	SB7	NE QUADRANT		
SB7	SB8	NE ISLAND		
CB1	SB2	NW ISLAND		
SB2	SB21	SW ISLAND		
SB21	SB18	SW QUADRANT		
SB18	SB16	S MEDIAN		
SB16	SB14	SE QUADRANT		
SB14	SB13	SE ISLAND		

USH 51 & PFLAUM ROAD EVP CABLE		
FROM	ТО	EVP CHANNEL
CB1	SB18	Α
CB1	SB7	В

USH	51 & PFLAUM	I ROAD
MICROWA	AVE DETECTION	ON CABLE
FROM	T0	
CB1	SB2	
CB1	SB13	

TRAFFIC CONTROL SIGNAL USH 51 & PFLAUM ROAD CITY OF MADISON DANE COUNTY

SIGNAL NO. S13-0113

REGION CONTACT: DESIGNED BY: GRAEF REVISED BY:

PAGE 1 OF 1

PROJECT NO:5410-02-71

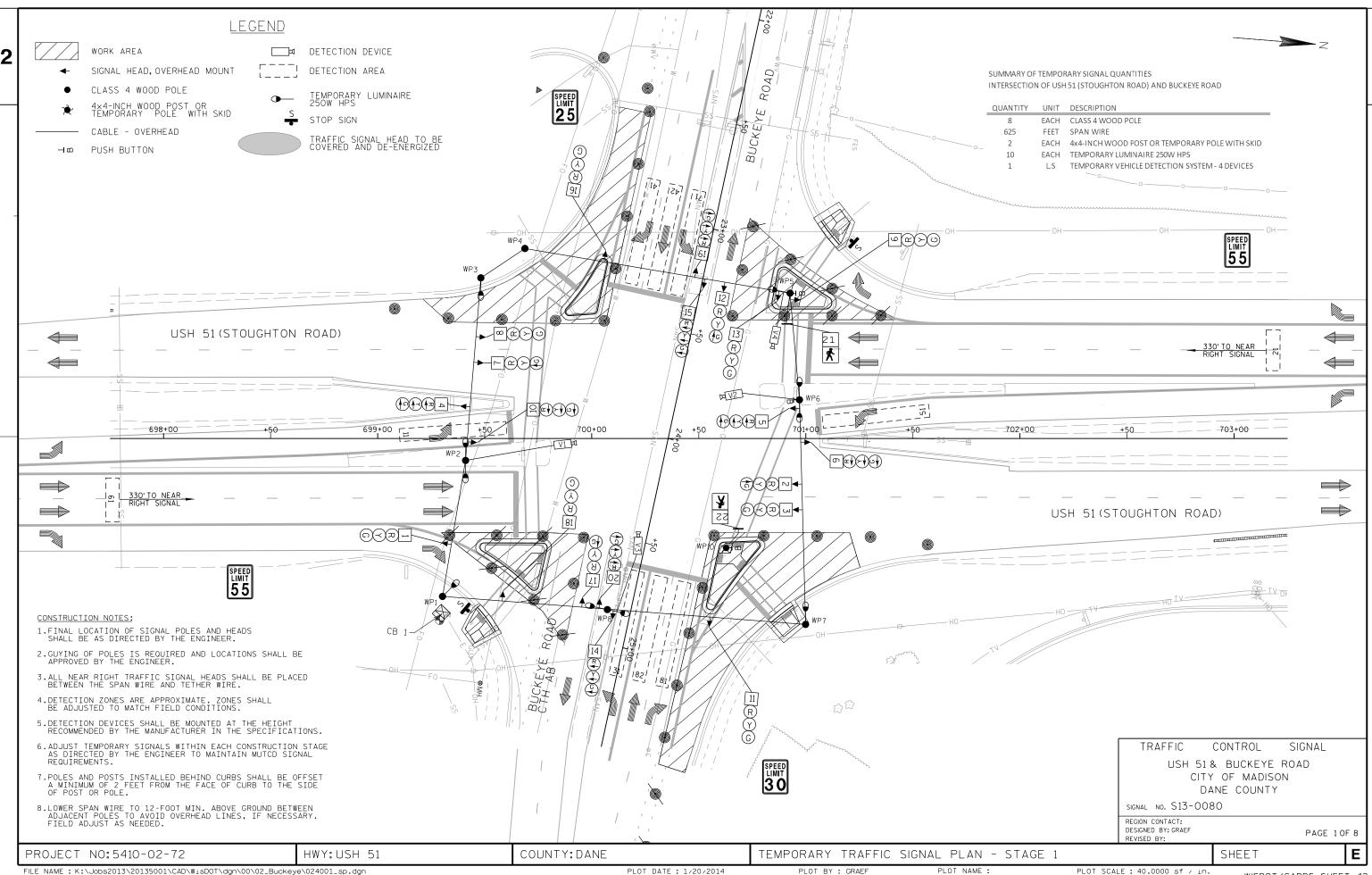
HWY:USH 51

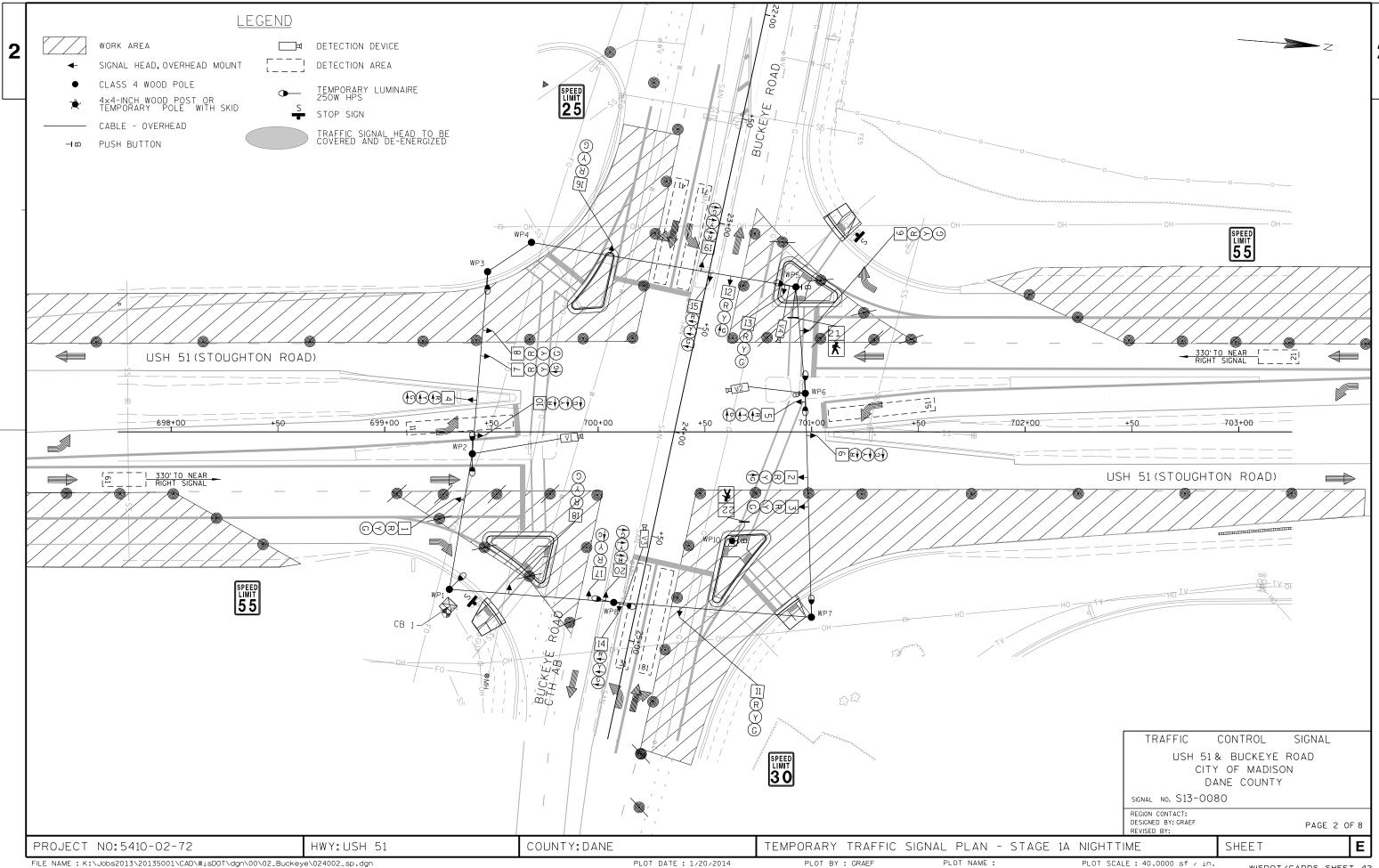
COUNTY: DANE

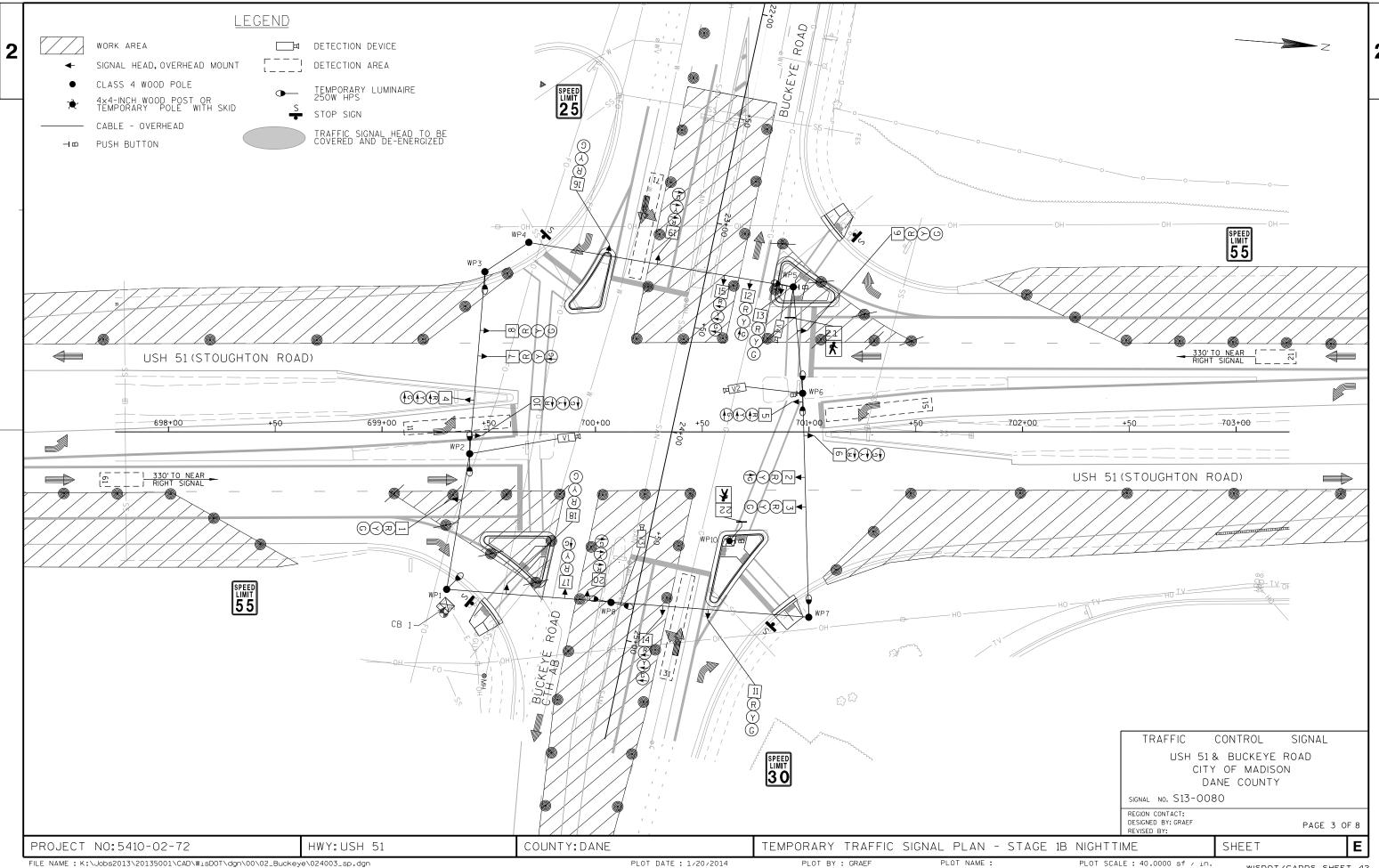
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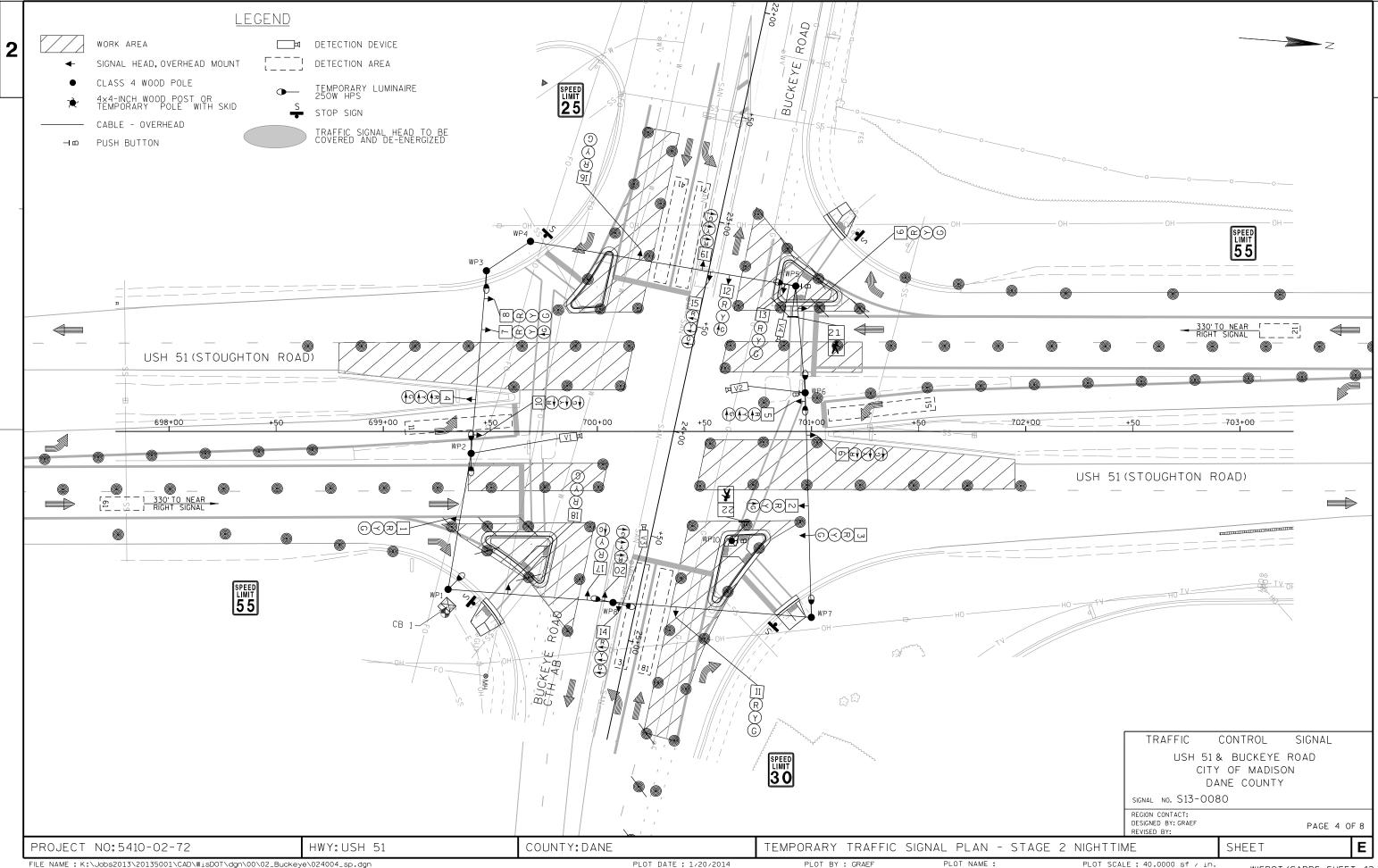
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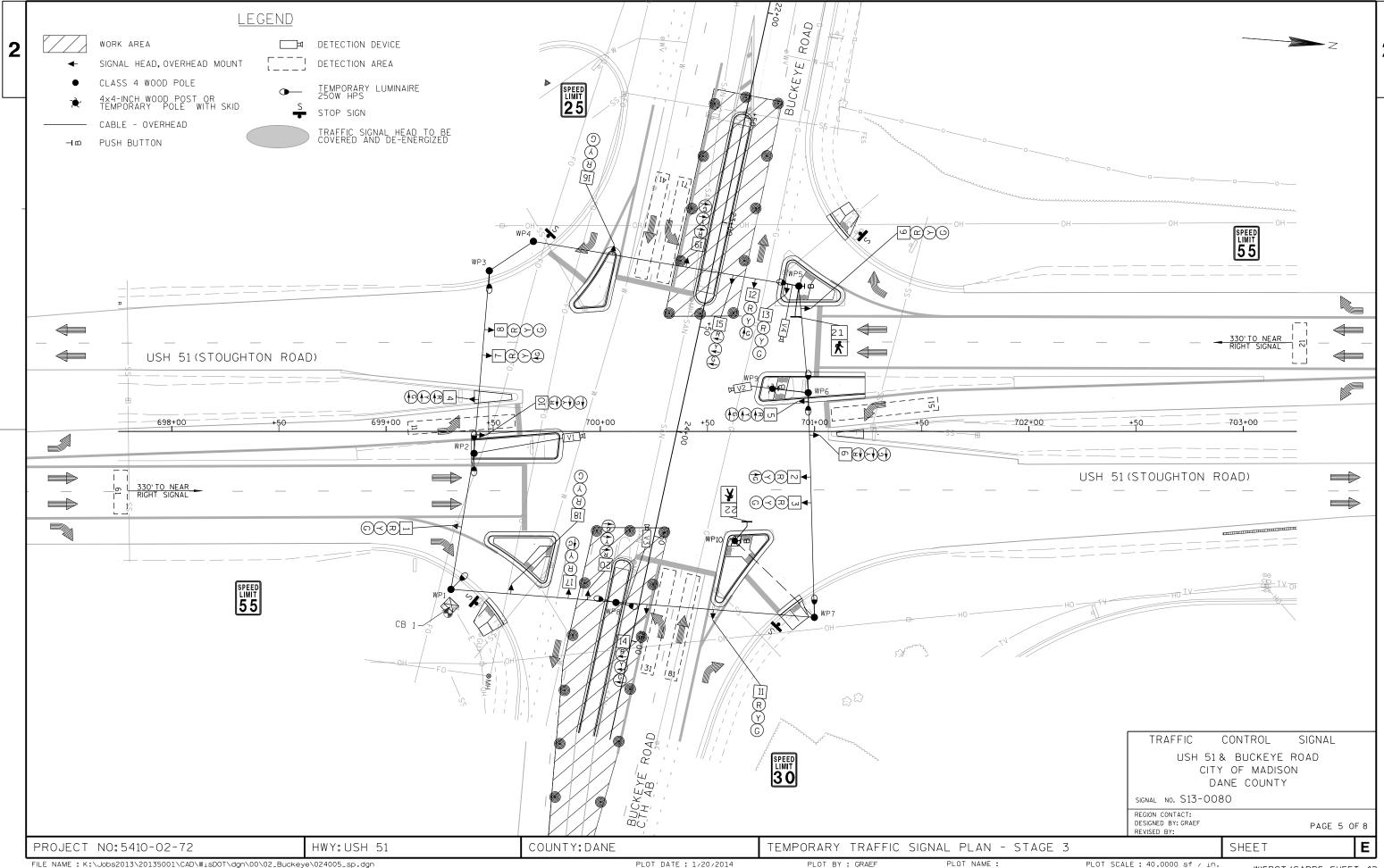
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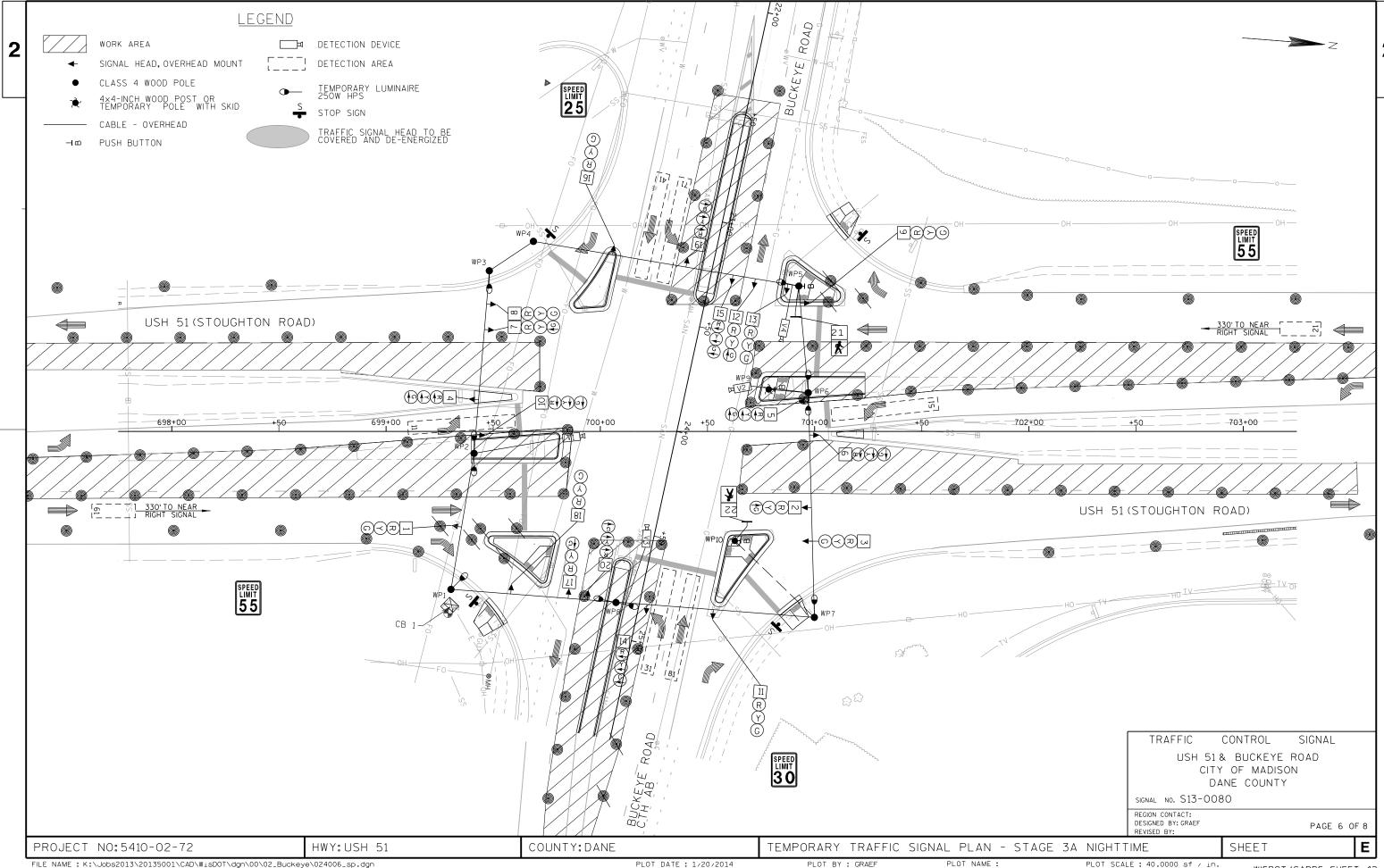


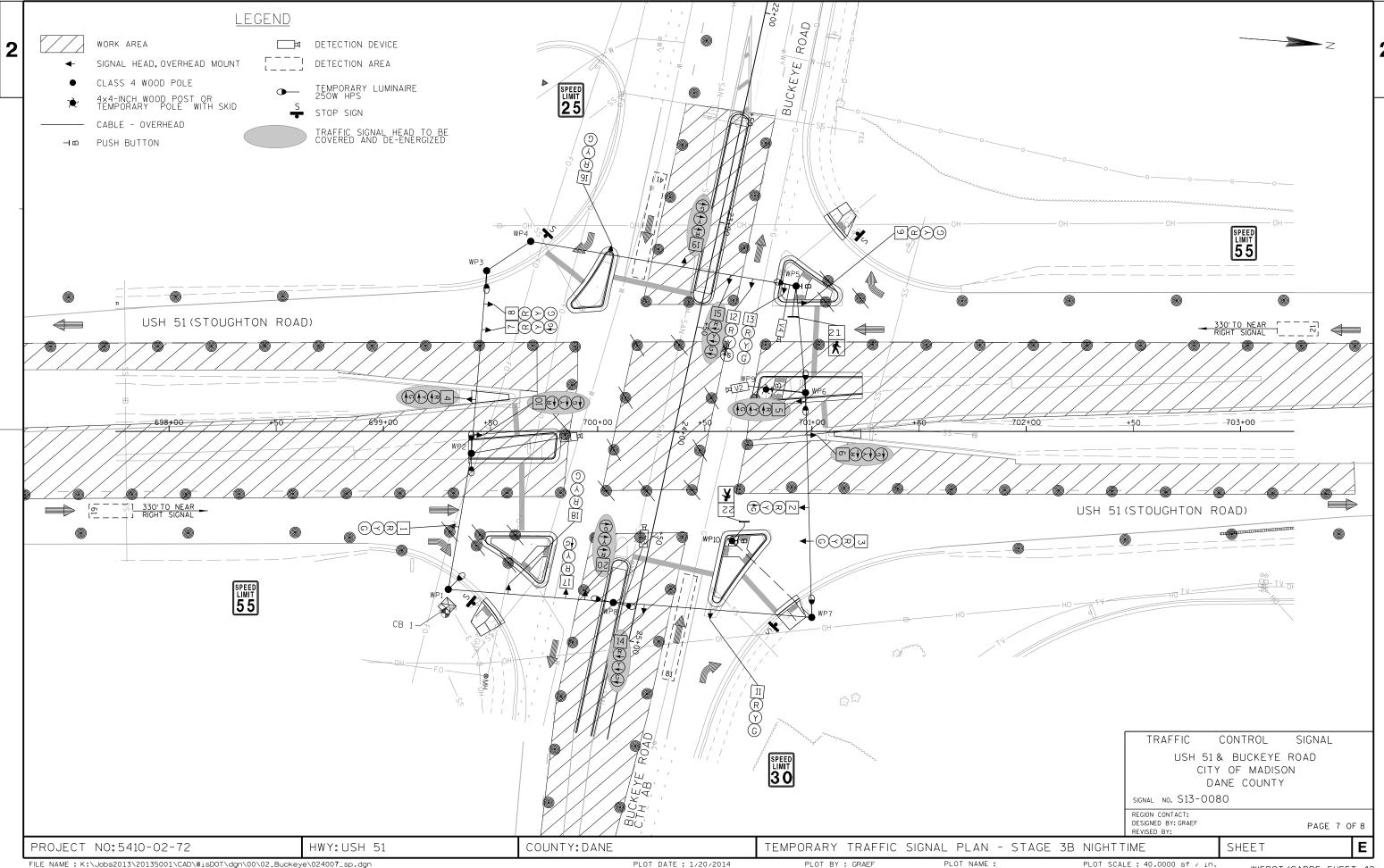


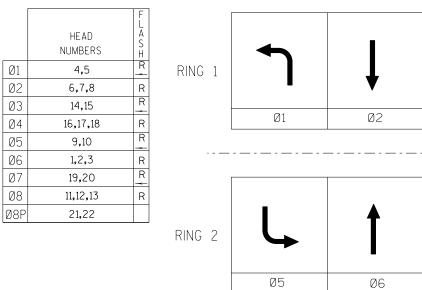




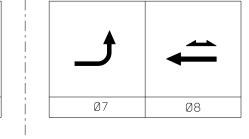








Ø4 Ø3



BARRIER

## CHART 1

	PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
	Ø1	5, 6	2, 3, 4, 7, 8
	02	5, 6	1, 3, 4, 7, 8
***	03	8	1, 2, 4, 5, 6,7
	04	7, 8	1, 2, 3, 5, 6
	Ø5	1, 2	3, 4, 6, 7, 8
	Ø6	1, 2	3, 4, 5, 7, 8
$\times \times \times$	07	4	1, 2, 3, 5, 6, 8
	Ø8	3, 4	1, 2, 5, 6, 7

#### GENERAL NOTES:

- 1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
- 2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1)
- \*\*\* PHASES 3 & 7 SHALL OPPERATE AS LEAD-LAG.

#### DETECTOR LOGIC

		DETECTOR OPERATION		RATION					
DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY (sec)	EXTENSION STRETCH (sec)
11	1	X			1	1			
21	2			Х		2			
31	3	X			3	3			
41	4	X			4	4		5	
42	4	X			4	4			
51	5	X			5	5			
61	6			X		6			
71	7	X			7	7			
81	8	X			8	8		5	
82	8	X			8	8			

TYPE OF INTERCONNECT COMMUNICA	TION
NONE	Х
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER	
CONTROLLER NO: S13-011	3
SIGNAL SYSTEM #: SS-13-0103	

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

CON	IROLLER	LOGIC

PHASE	PHASE	DUAL	PHASE
NUMBER	LOCKING	ENTRY	RECALL
		W / Ø	
1	Х		
2	х	6	MIN
3			
4	×	8	
5	Х		
6	×	2	MIN
7			
8	Х	4	

TYPE OF PRE-EMPT	
NONE	Х
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

USH 51 & BUCKEYE ROAD CITY OF MADISON DANE COUNTY

SIGNAL NO. S13-0080 CONTROLLER TYPE: TEMP

1/14 PAGE NO. 8 OF 8 DATE

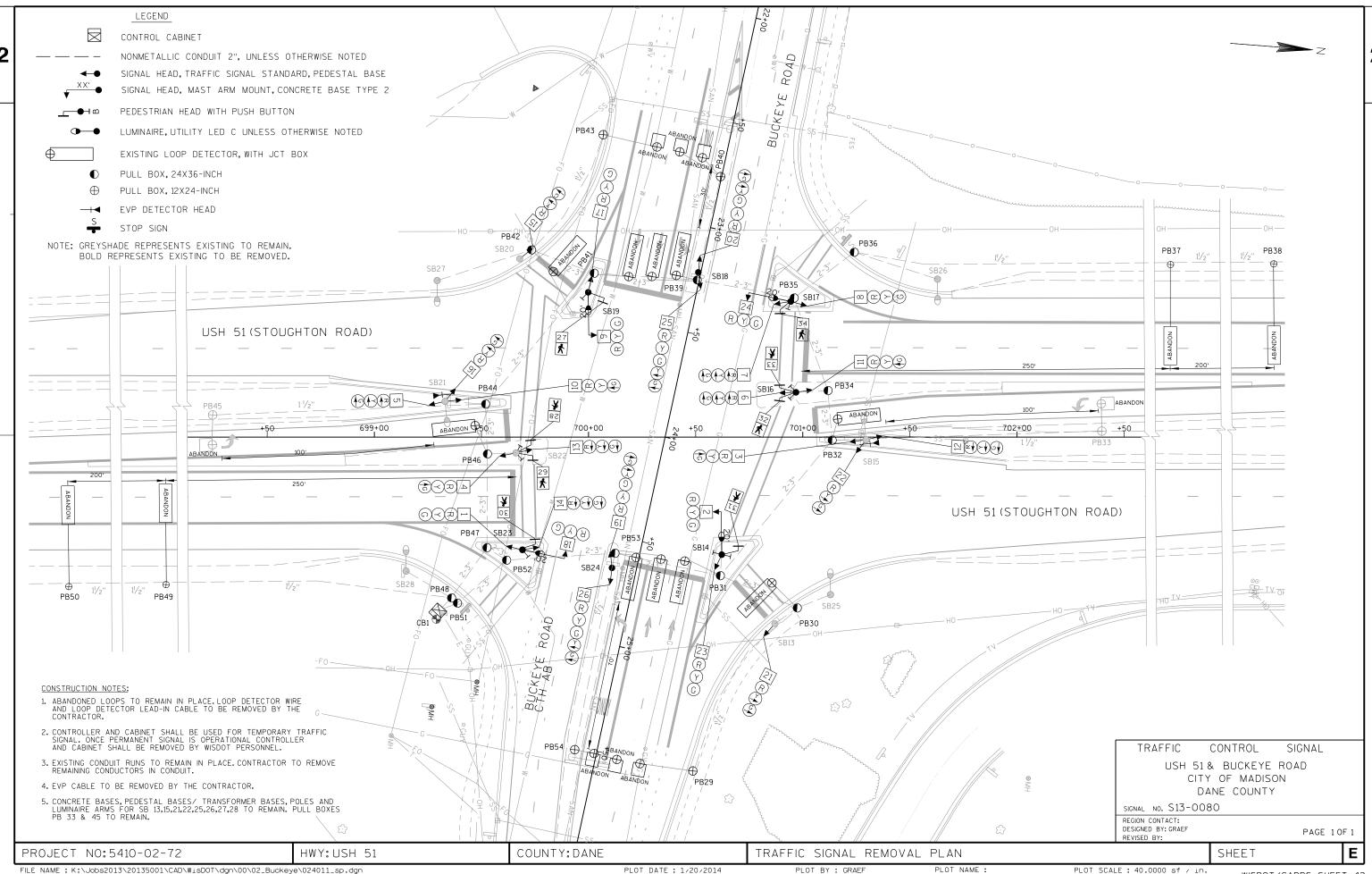
PROJECT NO:5410-02-72 HWY: USH 51 COUNTY: DANE

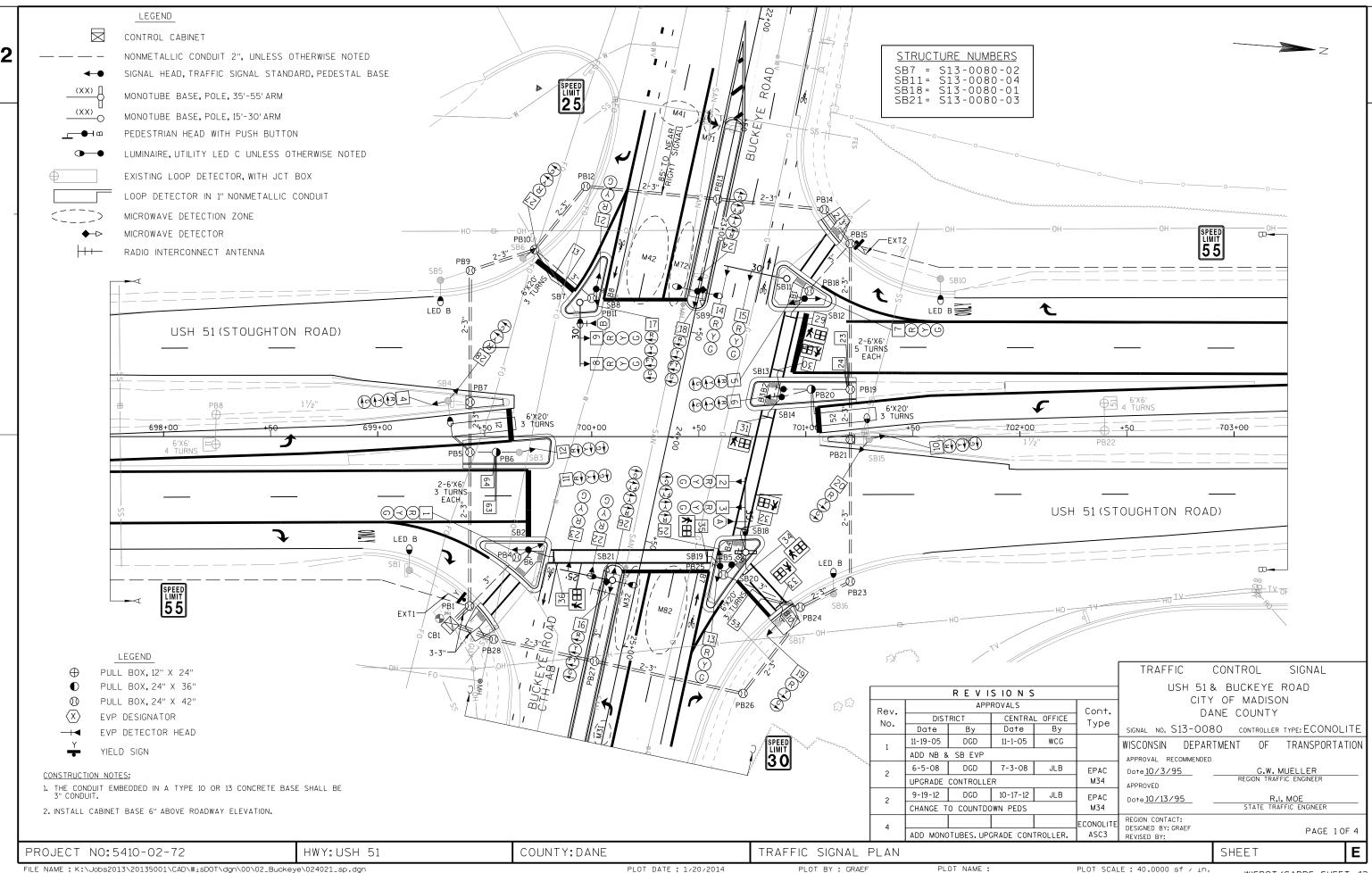
TEMPORARY SEQUENCE OF OPERATIONS - ALL STAGES

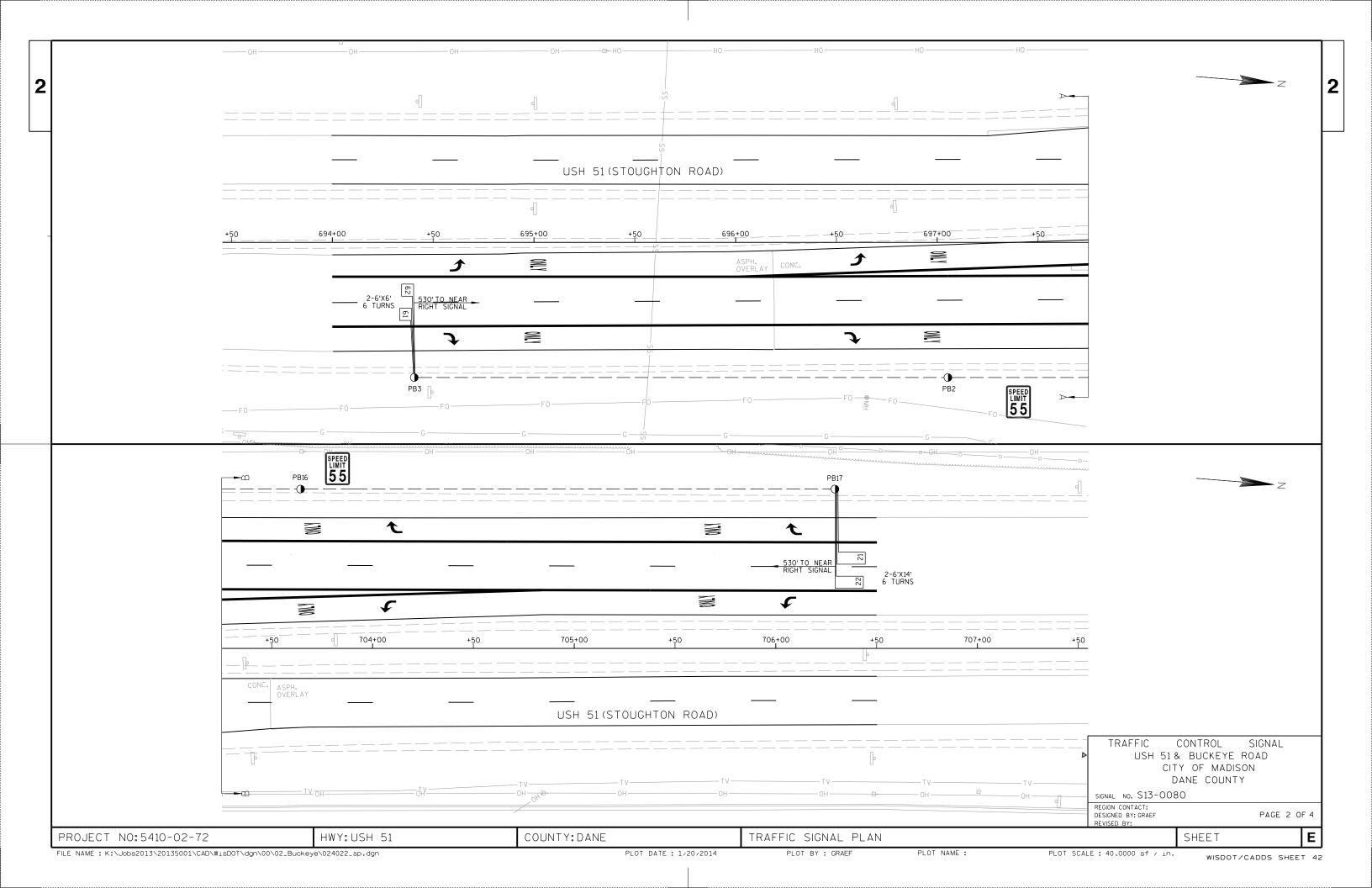
PLOT BY : GRAEF

PLOT NAME :

SHEET WISDOT/CADDS SHEET 42







SPEED LIMIT BUCKEYE ROAD BLOSSOM LANE Z8+00.00

> TRAFFIC CONTROL SIGNAL USH 51 & BUCKEYE ROAD CITY OF MADISON DANE COUNTY

> > SHEET

SIGNAL NO. S13-0080

REGION CONTACT: DESIGNED BY: GRAEF REVISED BY:

PAGE 3 OF 4

E

PROJECT NO:5410-02-72 HWY: USH 51

2

COUNTY: DANE

TRAFFIC SIGNAL PLAN

PLOT NAME :

WISDOT/CADDS SHEET 42

HEAD

NUMBERS

4,5,6

7,8,9

16,17,18

21,22,23

10,11,12

1,2,3

24,25,26

13,14,15

29,30

33,34,35,36

29,30

31,32

27,28

19,20

16,17,18

24,25,26

Ø1

02

Ø3

04

05

Ø6

Ø7

Ø8

Ø1P

Ø6P

Ø7P

Ø8P

OLA

OLB

RING 1

RING 2

Ø1

∖\_0.L.B

Ø5

# CONTROLLER LOGIC

## PED/BIKE DETECTOR LOGIC

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

PED/BIKE DETECTOR NUMBER	PHASE(S) CALLED	COMMENT
B1	φ7P-φ8P	SEE GENERAL NOTE 2
B2	φ1P	
В3	Ø8₽	
В4	φ8P-φ1P	SEE GENERAL NOTE 1
B5	Φ6	
В6	Φ6	
В7	VEH, φ8	SEE GENERAL NOTE 3
В8	VEH, φ4	SEE GENERAL NOTE 3
B9	Φ6	
B10	Φ6	

TYPE OF LIGHTING				
BY OTHER AGENCY				
IN TRAFFIC SIGNAL CABINET	Х			
IN SEPARATE DOT LIGHTING CABINET				

SIGNAL SYSTEM #: SS-13-0103

S13-0113

TYPE OF INTERCONNECT COMMUNICATION

CLOSED LOOP TWISTED PAIR\*

CLOSED LOOP FIBER OPTIC\*

\*LOCATION OF MASTER

CONTROLLER NO:

NONE TBC

RADIO

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

# **GENERAL NOTES:**

- 1. CALLS FOR \$\phi8\$ PED PLACED AT B4 ON SB17 SHALL ALSO PLACE A CALL OF \$\phi1\$PED.LAGGING \$\phi1\$PED CALLED BY AN ACTUATION AT B4 MAY NOT BE PLACED WHEN VEH \$\phi8\$ IS ACTIVE, BUT SHALL BE SERVED DURING THE NEXT CYCLE & ONLY FOLLOWING \$\phi8\$ PED.
- 2. CALLS FOR \$\phi7\$ PED PLACED AT BION SB12 SHALL ALSO PLACE A CALL FOR \$\phi8\$ PED. LAGGING \$\phi8\$ PED CALLED BY AN ACTUATION AT BIMAY NOT BE PLACED WHEN VEH \$\phi7\$ IS ACTIVE, BUT SHALL BE SERVED DURING THE NEXT CYCLE & ONLY FOLLOWING \$\phi7\$ PED.
- 3. BICYCLE PUSH BUTTONS B5, B6 ACTIVATE THE ASSOCIATED VEHICLE PHASE.

DETECTOR	LOGIC

BARRIER

02

Ø6

DETECTOR INPUT	3	1	7	5	11	9	15	13
DETECTOR *(S)	11		21	22	51		61	62
PHASE CALLED			2	2			6	6
PHASE EXTENDED	1		2	2	5		6	6
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH	0.5				0.5			
LOOP FUNCTION			LOCKING	LOCKING			LOCKING	LOCKING

DETECTOR INPUT	4	2	8	6	12	10	16	14
DETECTOR *(S)	12	13	23	24	52	53	63	64
PHASE CALLED	1	1	2	2	5	5	6	6
PHASE EXTENDED	1				5			
DISCONNECT TIME								
CALLING DELAY		10				10		
EXTENSION STRETCH								
LOOP FUNCTION			DISCONNECT	DISCONNECT			DISCONNECT	DISCONNECT

HWY: USH 51

								_
19	17	23	21	27	25	31	29	DETECTOR INPUT
M31	M41	M71	M81					DETECTOR #(S)
								PHASE CALLED
3	4	7	8					PHASE EXTENDED
								DISCONNECT TIME
								CALLING DELAY
								EXTENSION STRETCH
								LOOP FUNCTION
1	l						l	

04

0.L. H

Ø8

0.L.B

ØЗ

Ø7

								_
20	18	24	22	28	26	32	30	DETECTOR INPUT
М32	M42	M72	M82					DETECTOR *(S)
3	4	7	8					PHASE CALLED
3	4	7	8					PHASE EXTENDED
								DISCONNECT TIME
								CALLING DELAY
								EXTENSION STRETCH
LOCKING	LOCKING	LOCKING	LOCKING					LOOP FUNCTION
								]

#### PREEMPTION ASSIGNMENTS

PREEMPTION	EVP	PHASE(S)
		1 11435(3)
TYPE	CHANNEL	CALLED
RESERVED		
RESERVED		
EVP	Α	2&5
EVP	В	6&1
RESERVED		
	RESERVED EVP RESERVED RESERVED RESERVED RESERVED RESERVED RESERVED	RESERVED  EVP A  EVP B  RESERVED  RESERVED  RESERVED  RESERVED  RESERVED  RESERVED

USH 51 & BUCKEYE ROAD CITY OF MADISON DANE COUNTY

CABINET TYPE: TS2 SIGNAL NO. S13-0080 CONTROLLER TYPE: ECONOLITE

1/14 DATE PAGE NO. 4 OF 4

COUNTY: DANE

SEQUENCE OF OPERATIONS PLOT BY : GRAEF

PLOT SCALE: 40.0000 sf / in.

Ε SHEET

PROJECT NO:5410-02-72

		51 & BUCKEY SIGNAL CABL NO.14 CABL	ING CHART		
CABLE RUN	CABLE	HEAD NO.	MOVEMENT	LENS	CONDUCTOR
CABINET TO SB2	12/C	1	NB	R	R
				Υ	0
				G	G
		11	SB LT	← R	R/BK
				← Y	0 / BK
				← G	G/BK
		36	∞6 PED	DW	BK
			(E LEG)	W B-6	BU
CABINET TO SB3	7/C	12	SB LT	ь-о ← R	W/BK R
CABINET TO 3B3	7,0	12	35 1	← Y	0
				← G	G
CABINET TO SB4	12/C	4	NB LT	← R	R
	, 0		""		0
				← G	G
		28	EB RT	R	R/BK
				Y →	0 / BK
				G →	G/BK
CABINET TO SB6	7/C	27	EB RT	R	R
				Y →	0
				G →	G
CABINET TO SB7	7/C	8	SB	R	RED
				Y	ORG
			0.0	G	GRN
		9	SB	R	RED
			-	Y G	ORG GRN
CABINET TO SB8	12/C	17	WB LT	— G — R	R/BK
CABINET TO SEC	12/0	17	""	← Y	O/BK
				← FY	BK/W
				← G	G/BK
		21	EB	← R	R
				← Y	0
			Ī	← G	G
		-	⊗4 BIKE	B-8	BU
CABINET TO SB9	12/C	18	WB LT	← R	R/BK
				← Y	0 / BK
				← FY	BK/W
				← G	G/BK
		24	EB LT	← R	R
				← Y ← FY	BK
				<del></del>	DK
AARTHET TO COLC	7.10		W-	← G	G
CABINET TO SB11	7/C	14	WB	R	R
				Y	0
		15	WB	G R	G R
		15	WP	Y	0 R
				G Y	G
CABINET TO SB12	12/C	5	NB LT	— G R	R
AND ENEL IN ADIA	12,0		""	← Y	0
				← G	G
		7	SB	R	R/BK
				Y	O/BK
				G	G/BK
		29	∞8 PED	DW	BK
			(NW LEG)	W	BU
				B-1	W/BK
CABINET TO SB13	5/C	-	∞8 PED	B-2	W/BK
			(NW LEG)		

CABLE RUN	CABLE	NO.14 CABL	MOVEMENT	LENS	CONDUCTO
					COLOR
CABINET TO SB14	12/C	6	NB LT	← R	R
			-	← Y	0
		20	№8 PED	<u></u> ← G	G BK/W
		30	(NW LEG)	DW W	BK/W BU/BK
		31	₩ EEG)	DW	BK
		0.	(NE LEG)	W	BU
			("= == ",	B-3	W/BK
CABINET TO SB15	12/C	10	SB LT	← R	R
				← Y	0
				← G	G
		20	WB RT	R	R/BK
				Y →	0 / BK
	- 10	- 10		G →	G/BK
CABINET TO SB17	9/C	19	WB RT	R	R
				Y →	0 G
		34	∞6 PED	G → DW	BK
		34	(E LEG)	W	BU
			()	B-10	W/BK
CABINET TO SB18	12/C	2	NB	R	R
				Υ	0
				G	G
		3	NB	R	R
				Υ	0
				G	G
		32	∞8 PED	DW	BK
			(NE LEG)	W	BU
		22	we DED	B - 4	W/BK
		33	©6 PED (E LEG)	DW W	BK/W BU/BK
CABINET TO SB19	15/C	13	(E EEG)		R/BK
CADINET TO OBTO	10,0	10	"5	Y	0/BK
				G	G/BK
		25	EB LT	← R	R
					0
				← FY	BK/W
				← G	G
		35	∞6 PED	DW	BK
			(E LEG)	W	BU
			∞8 BIKE	B-5 B-7	W/BK BU/W
CABINET TO SB20	5/C	-	№6 PED	B-7	W/BK
J., DZINET 10 0020	0,0		(NW LEG)	5-0	17,510
CABINET TO SB21	15/C	16	WB LT	← R	R/W
	., -				BU
				← FY	BU/W
				← G	G/W
		22	EB	R	R
				Υ	0
				G	G
		23	EB	R	R
				Υ	0
			FD :-	G	G CPK
		26	EB LT	← R	R/BK
				← Y	0/BK
				← FY ← G	BK/W G/BK

USH 51 & BUCKEYE ROAD								
LIGHTING CABLE TYPE UF 2-10 AWG UF W/ GROUND								
Z-10 Alla of 11/ altoons								
FROM	ТО	LOCATION						
CB1	SB1	SE QUADRANT						
SB1	SB4	S MEDIAN						
SB4	SB5	SW QUADRANT						
SB5	SB7	SW ISLAND						
SB7	SB9	W MEDIAN						
CB1	SB21	E MEDIAN						
SB21	SB18	NE ISLAND						
SB18	SB16	NE QUADRANT						
SB16	SB15	N MEDIAN						
SB18	SB10	NW QUADRANT						

USH 5	ROAD		
FROM	TO	EVP CHANNEL	
CB1	SB18	Α	
CB1	SB7	В	

USH 51 & BUCKEYE ROAD		
MICROWAVE DETECTION CABLE		
FROM	TO	
CB1	SB9	
CB1	SB21	

TRAFFIC CONTROL SIGNAL
USH 51 & BUCKEYE ROAD
CITY OF MADISON
DANE COUNTY

SIGNAL NO. S13-0080

REGION CONTACT:
DESIGNED BY: GRAEF
REVISED BY:

PAGE 1 OF 1

PROJECT NO:5410-02-72

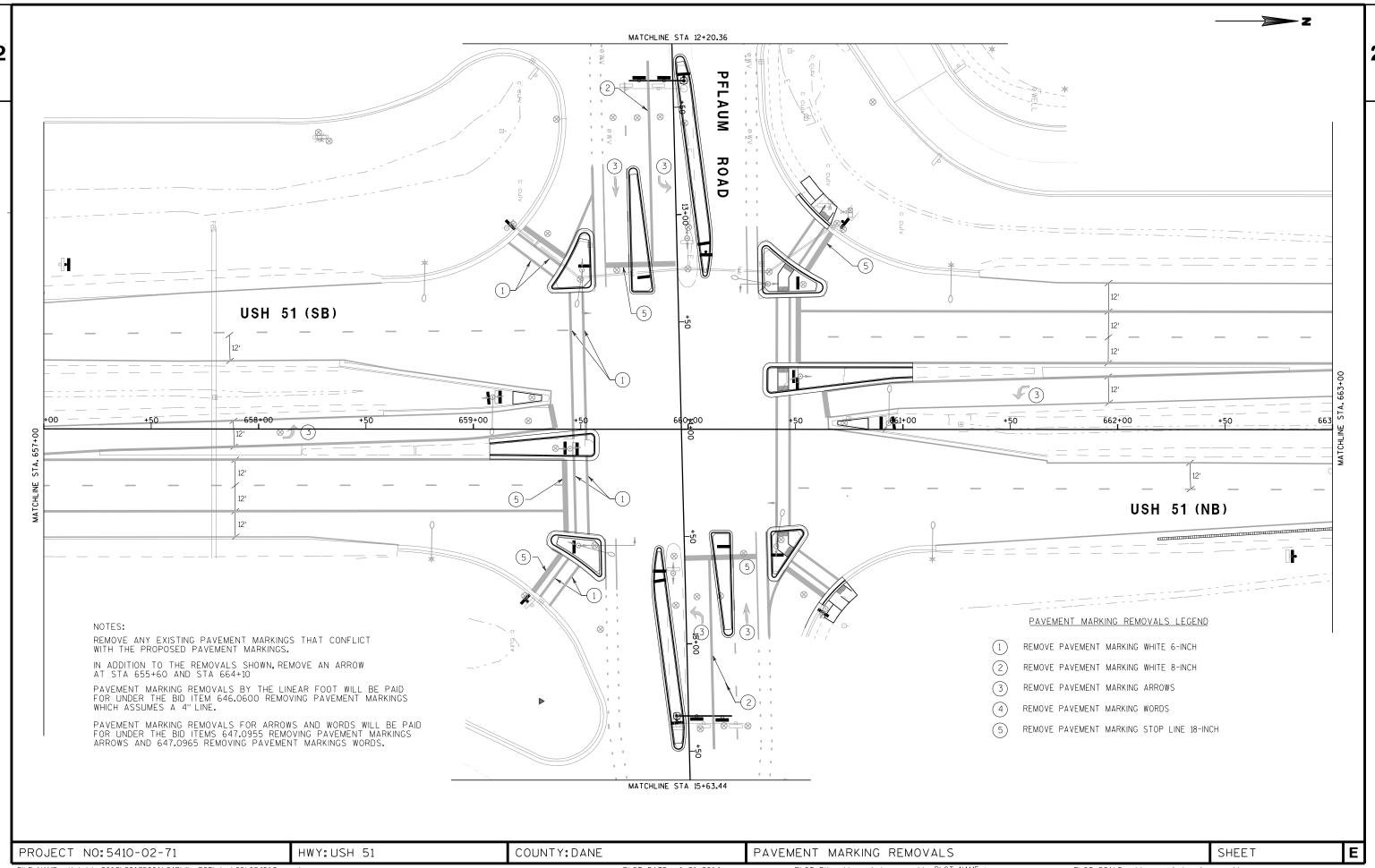
HWY:USH 51

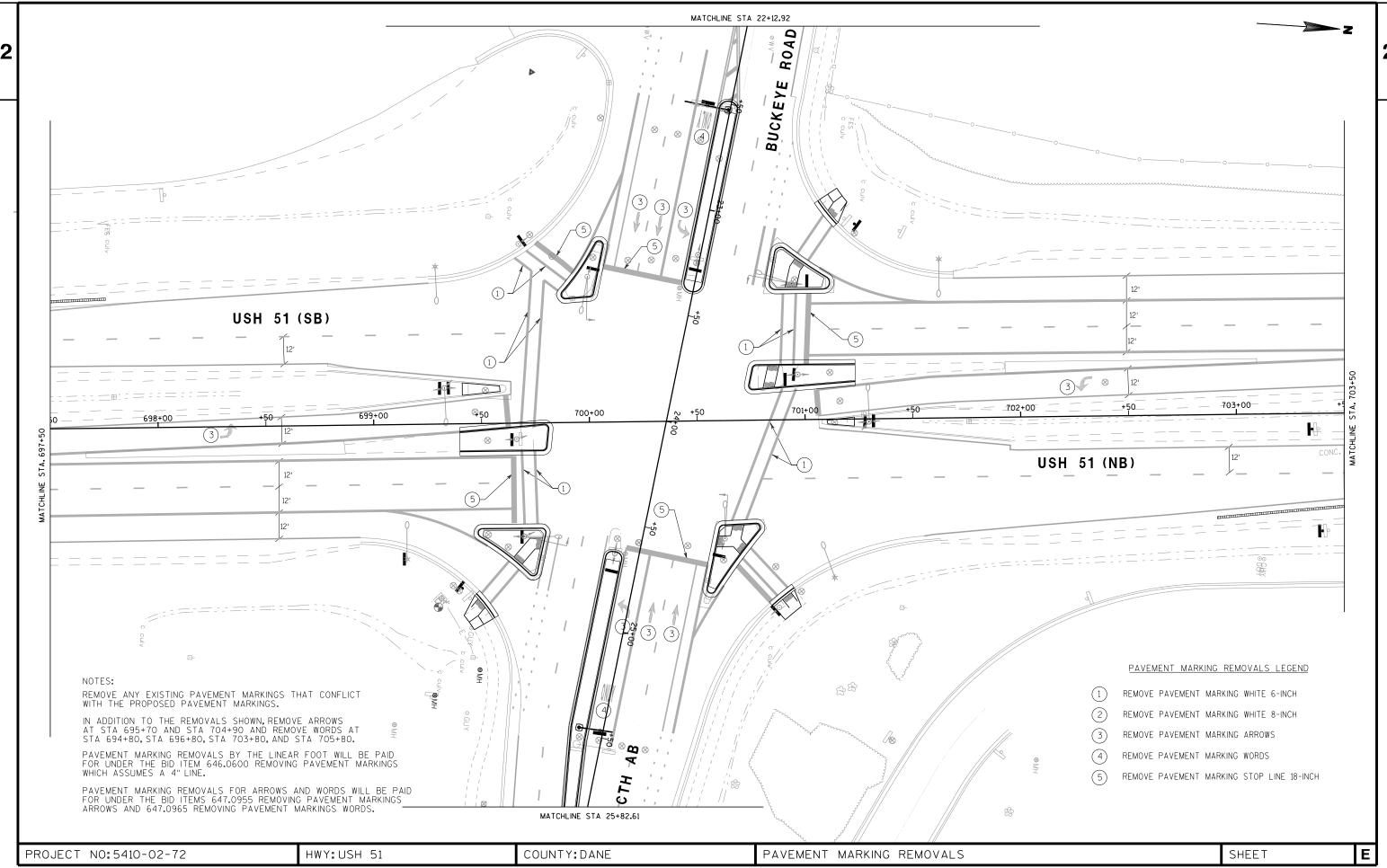
COUNTY: DANE

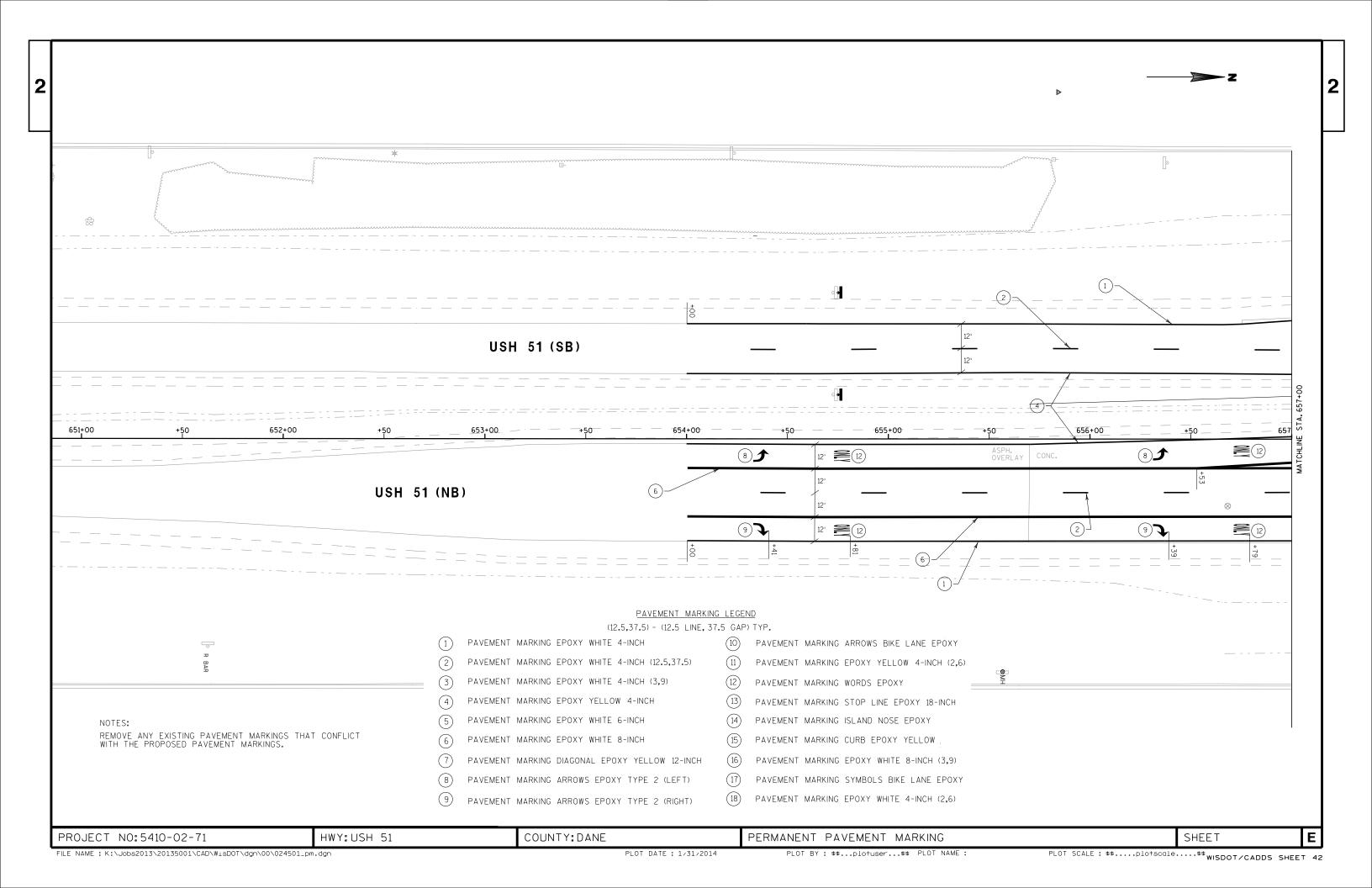
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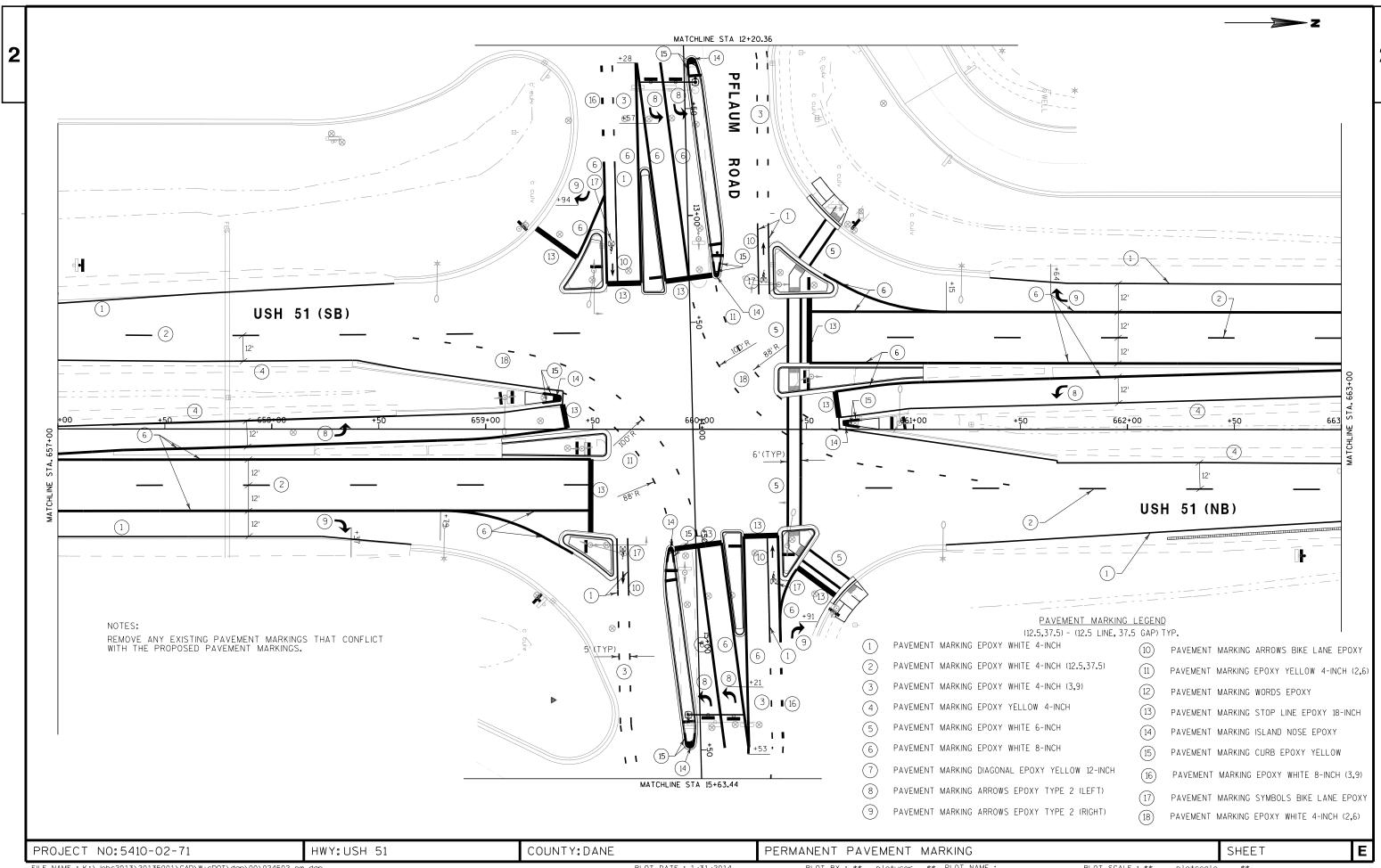
PLOT BY : GRAEF

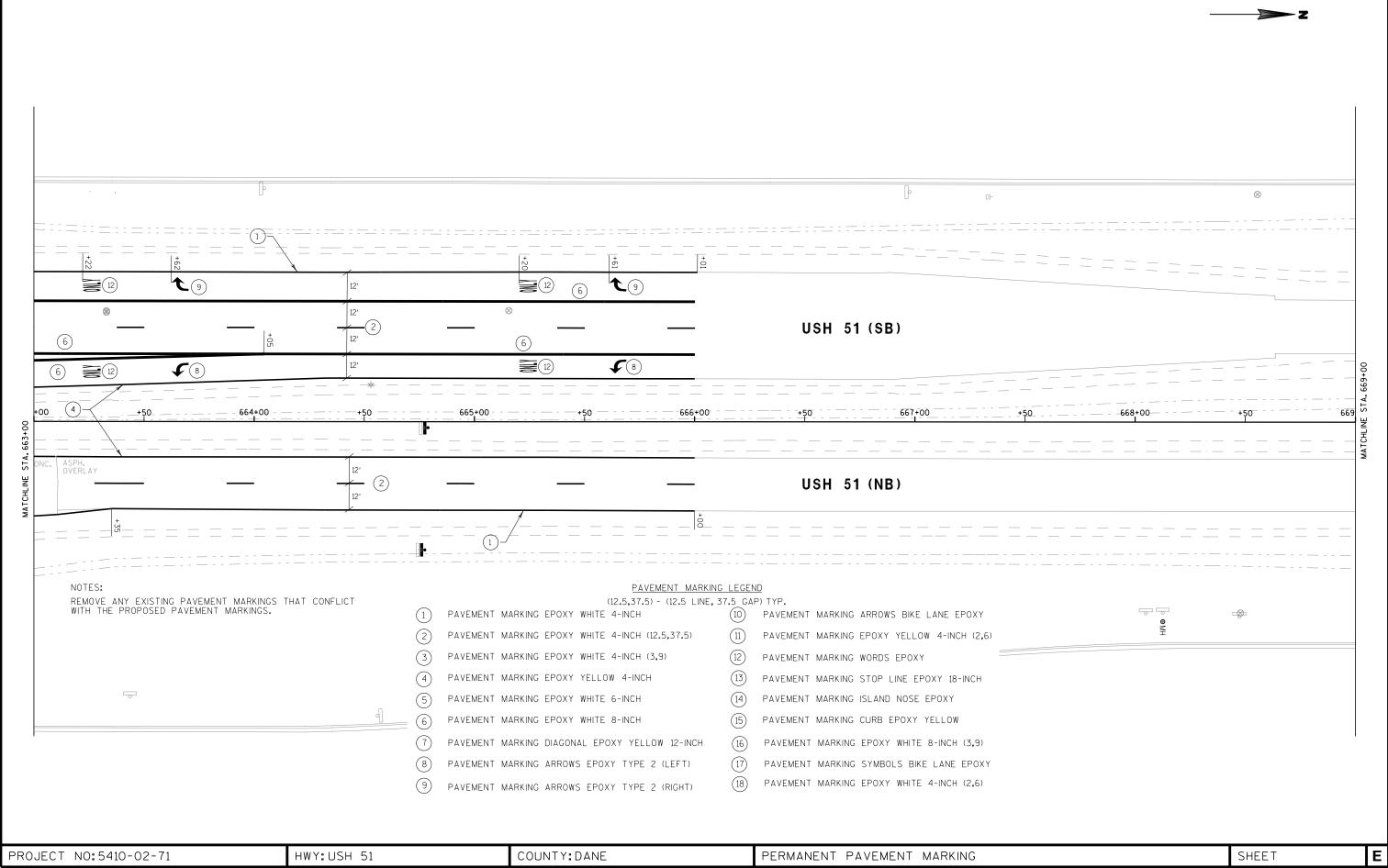
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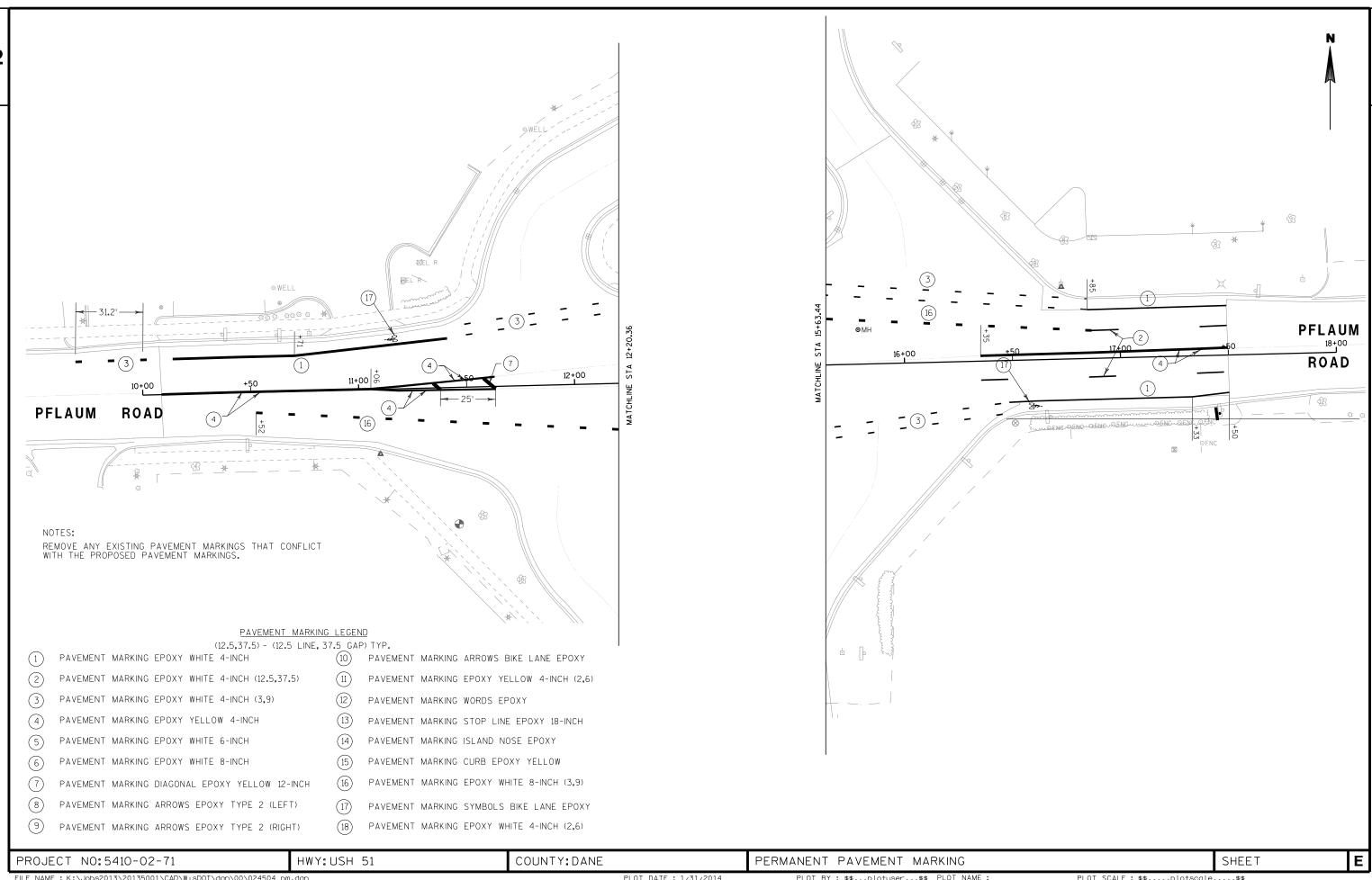


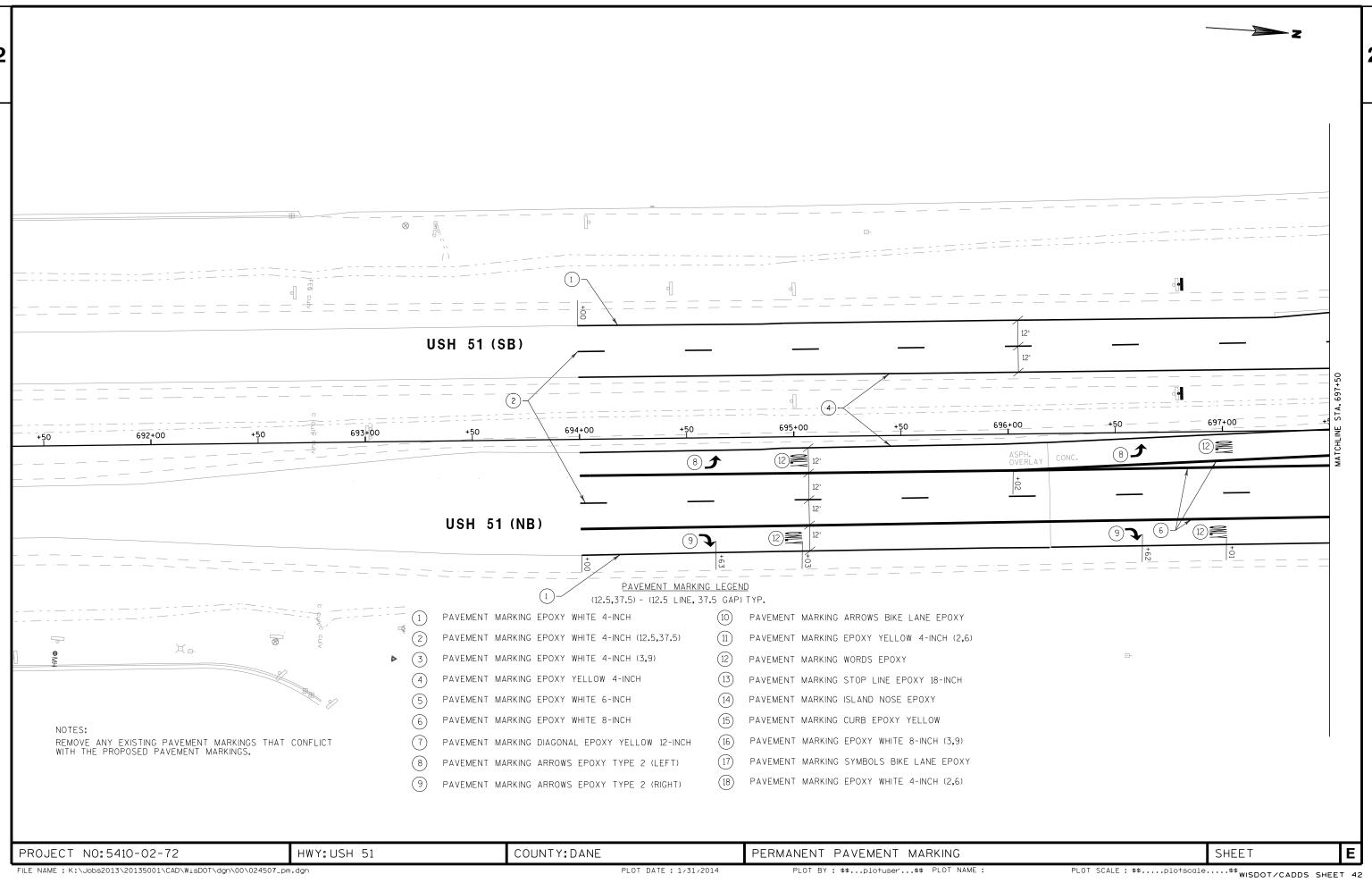


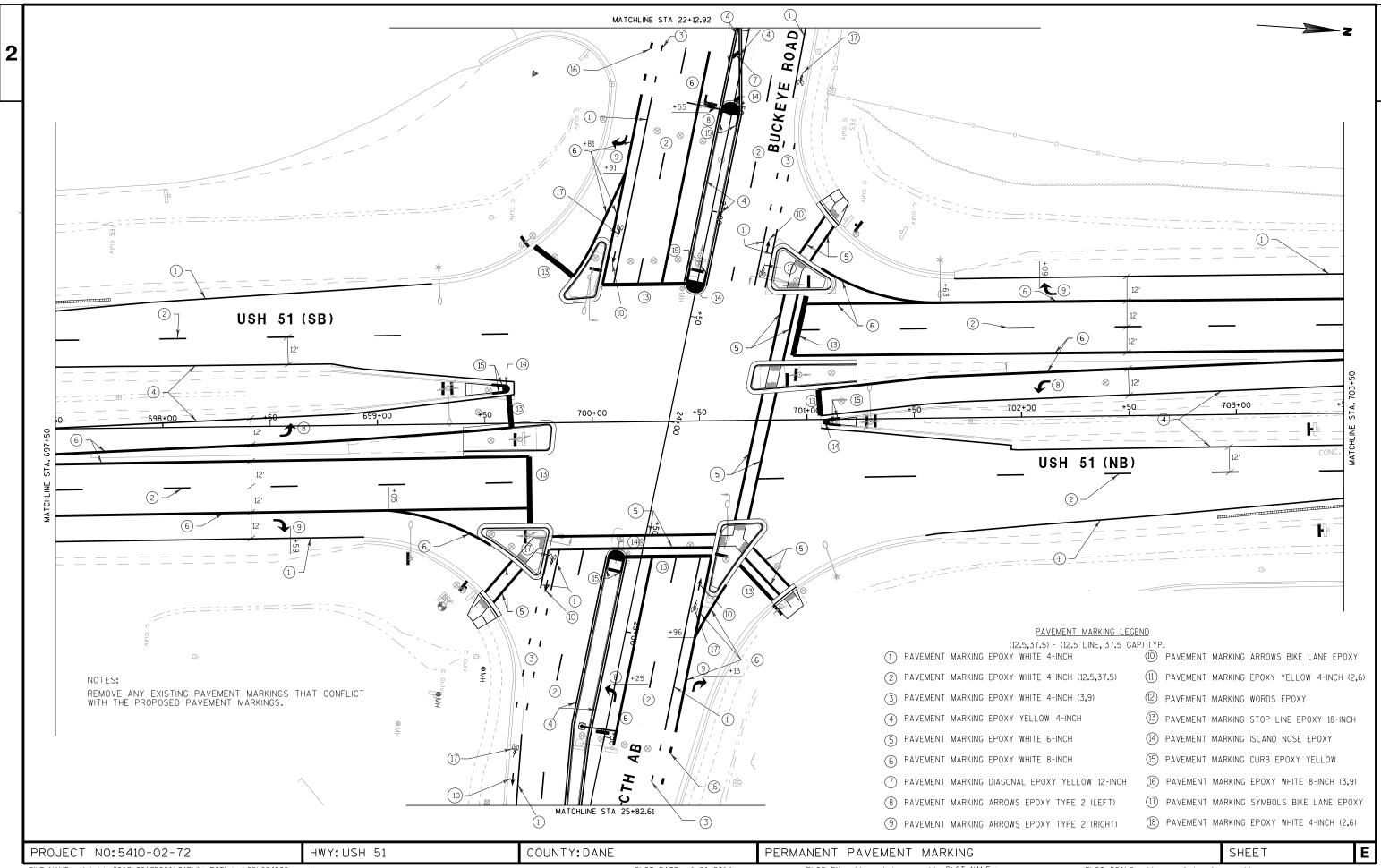


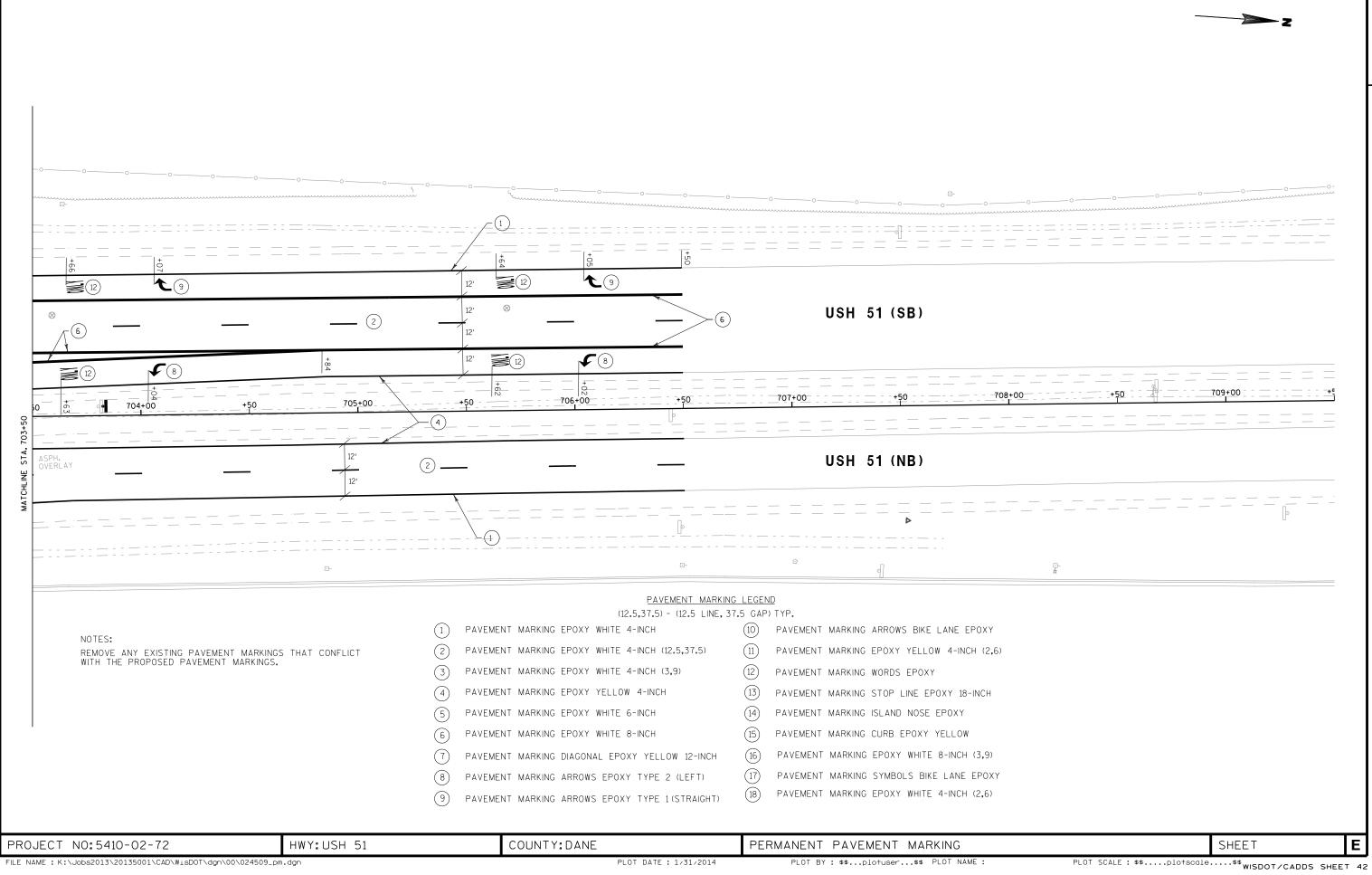


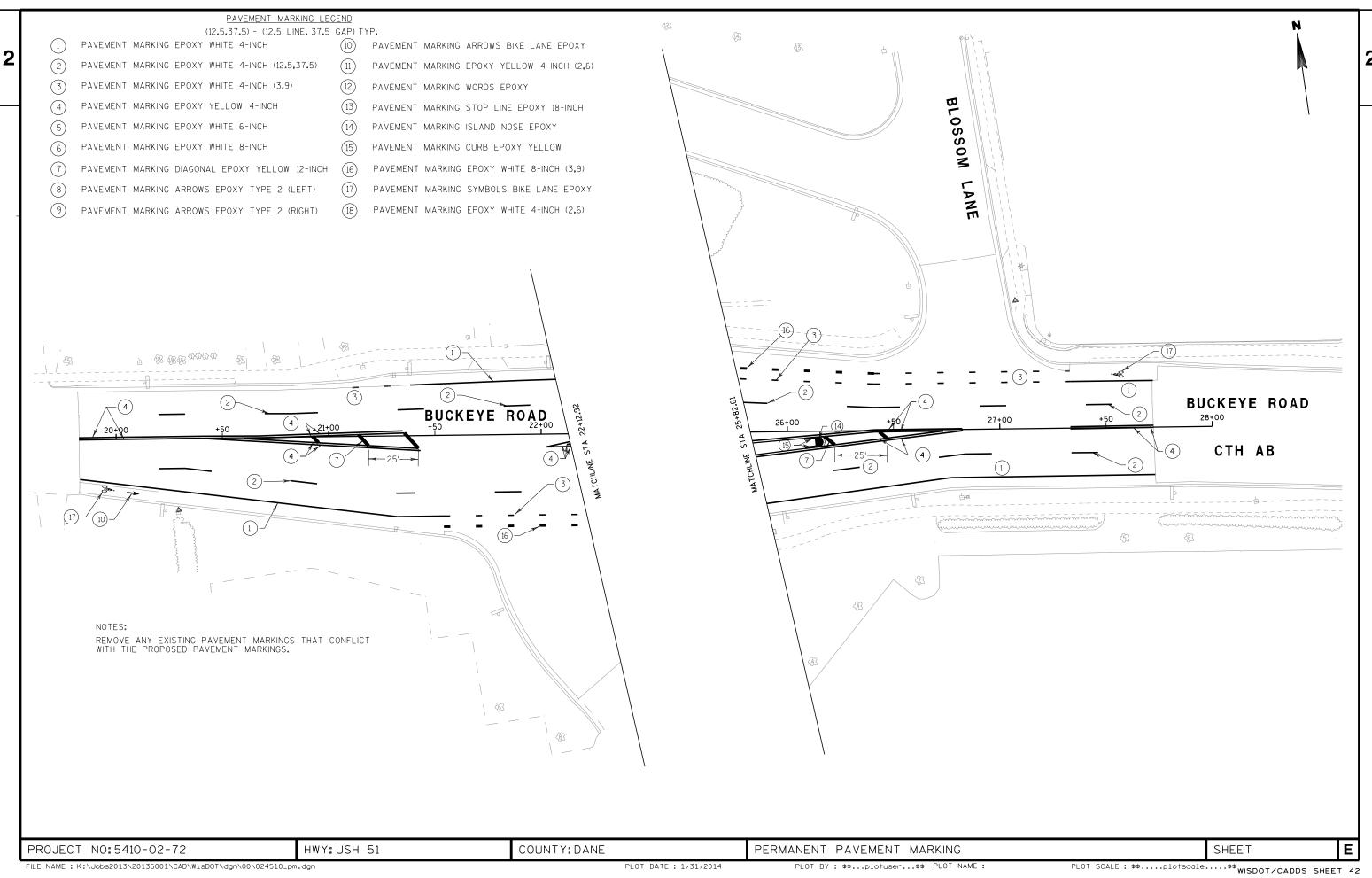






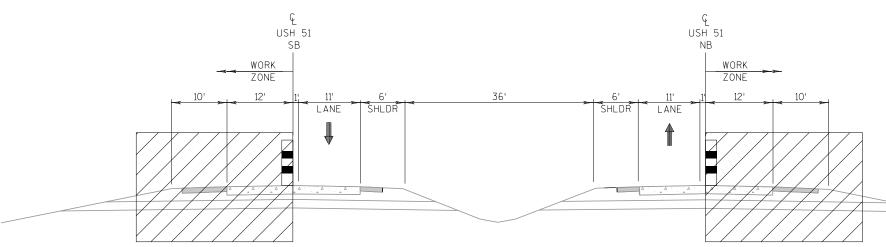






#### CONSTRUCTION STAGING NOTES: FOR ALL STAGES

- 1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- 2. CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.
- 3. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- 4. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- 5. FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE "C" STEADY BURN WARNING LIGHT.
- 6. ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

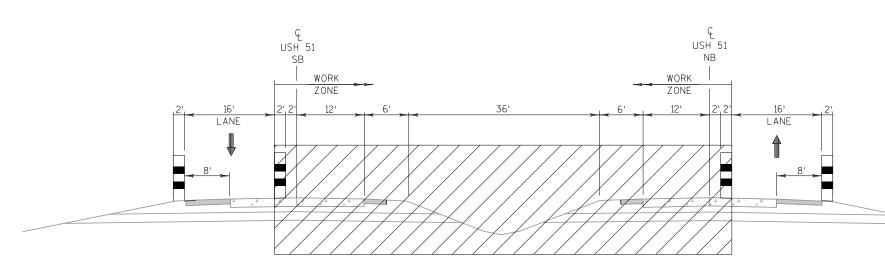


## STAGE 1 & 2 NIGHTTIME ACTIVITIES:

- 1. CONCRETE PAVEMENT REPAIR SHES ON OUTSIDE LANES.
- 2. MILL & PAVE RUMBLE STRIPS FOR STAGE 3 TRAFFIC CONTROL.

# STAGE 1 & 2 - NIGHTTIME TYPICAL SECTION

USH 51



# STAGE 3 NIGHTTIME ACTIVITIES:

- 1. CONCRETE PAVEMENT REPAIR SHES ON INSIDE LANES
- 2. LONGITUDNIAL JOINT REPAIR

STAGE 3 - NIGHTTIME TYPICAL SECTION

USH 51

HWY:USH 51 PROJECT NO:5410-02-71/72

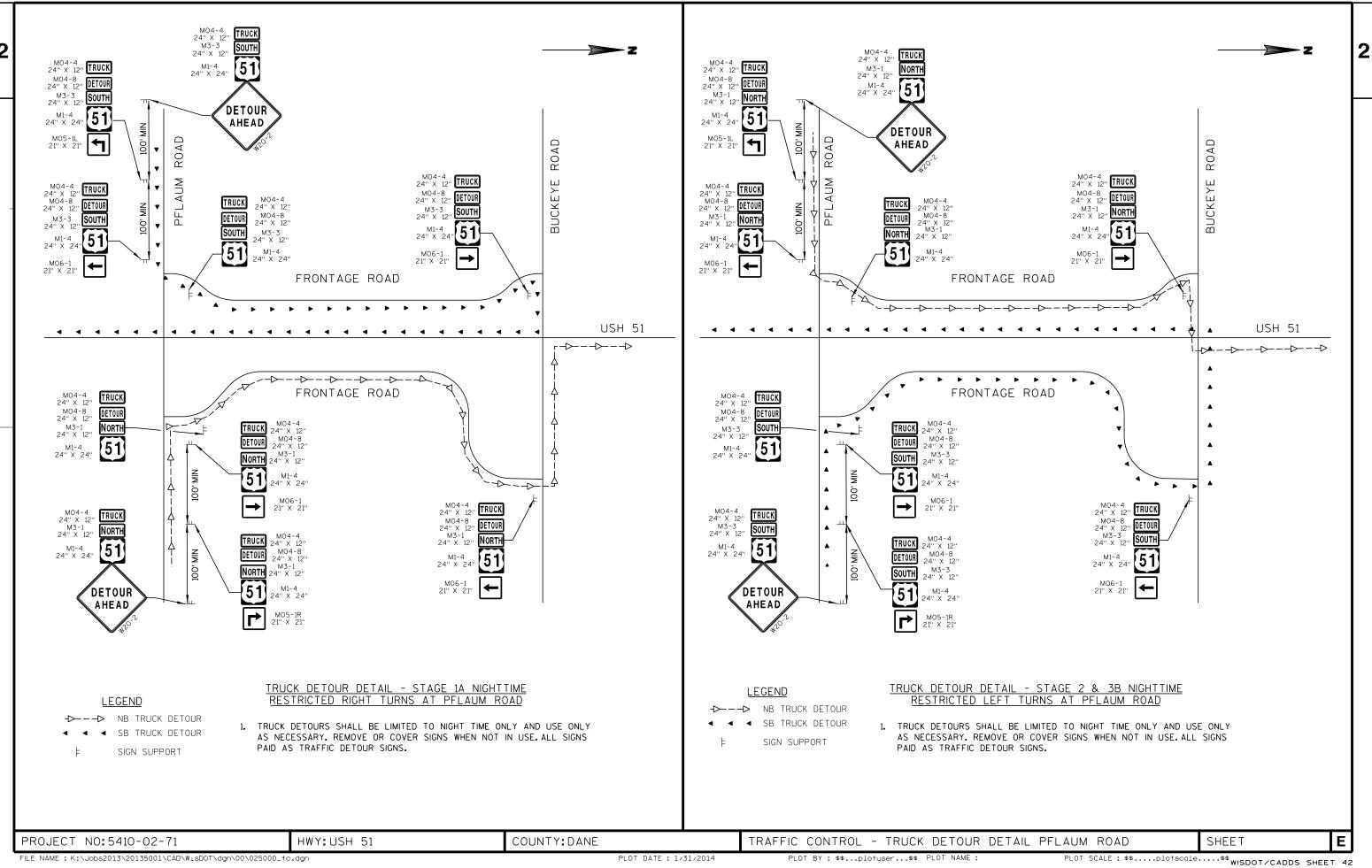
COUNTY: DANE

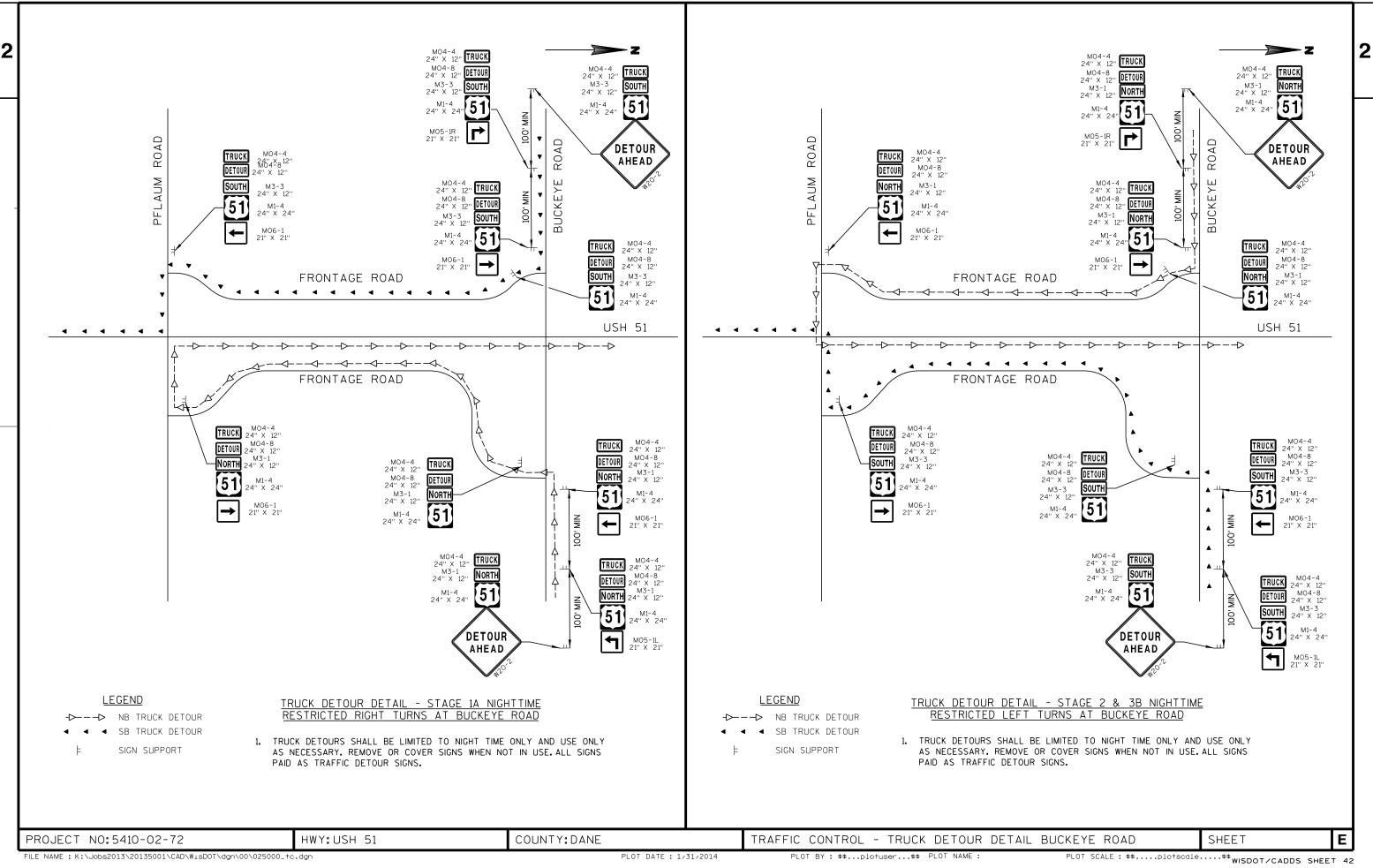
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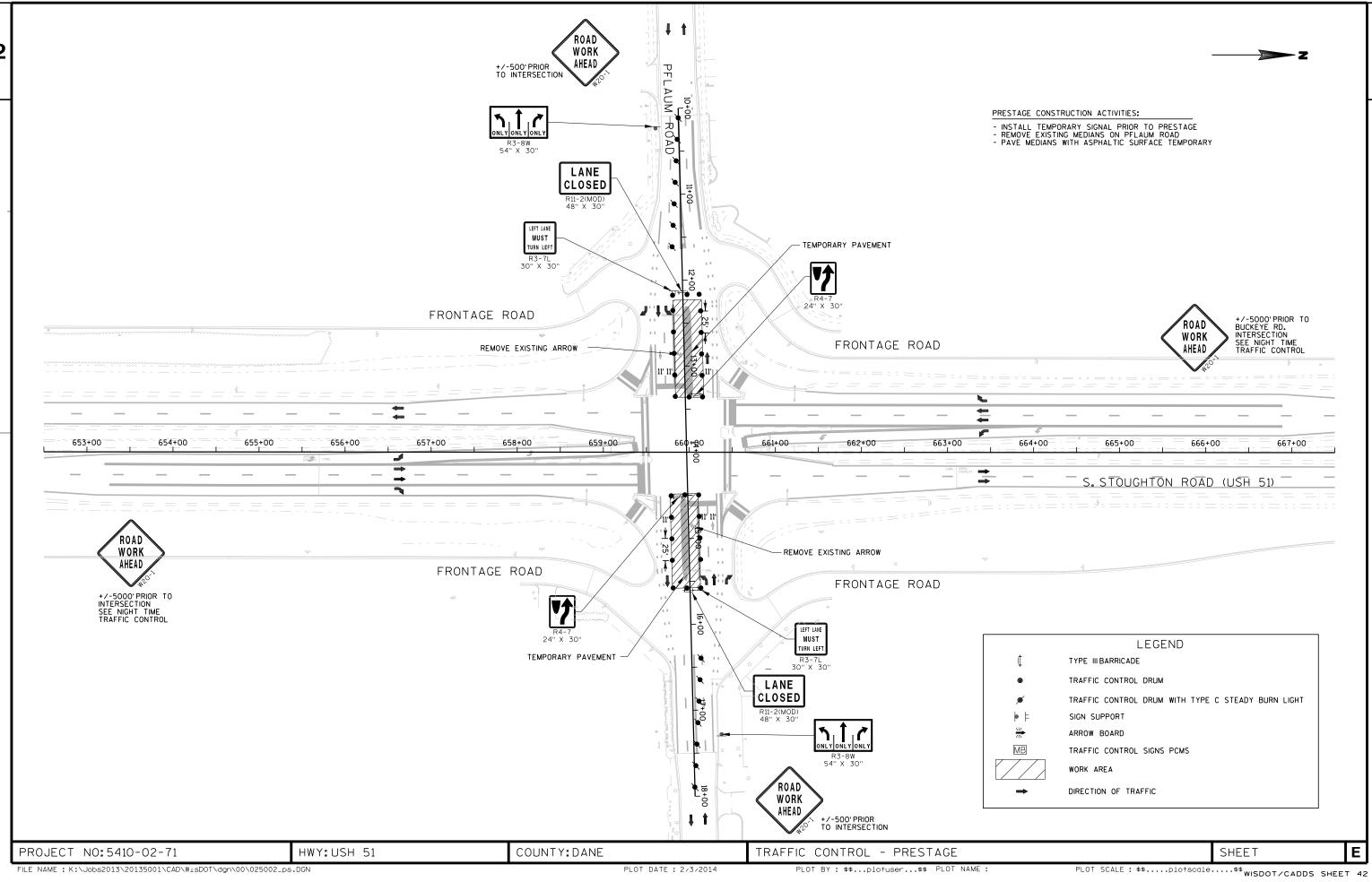
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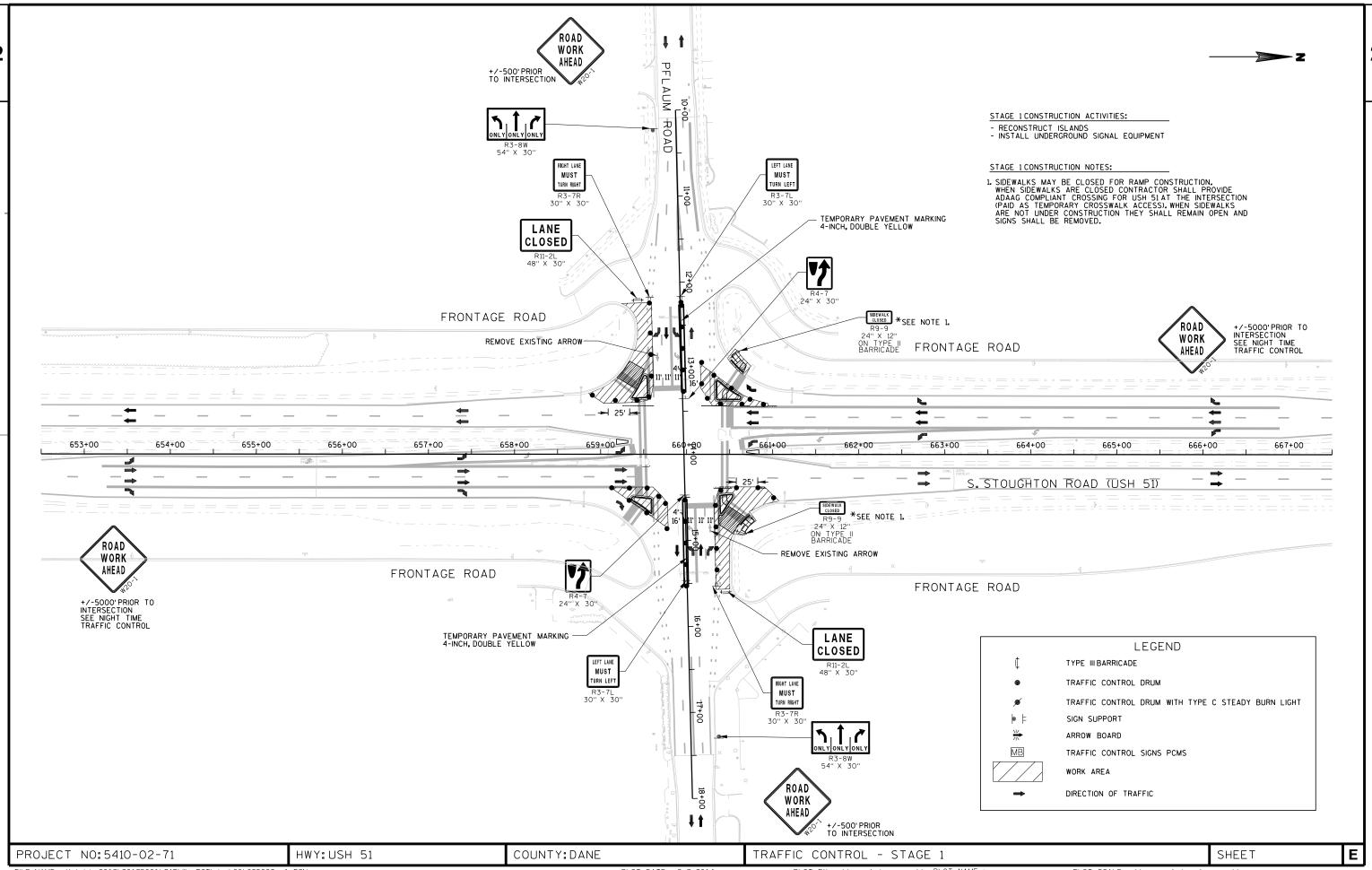
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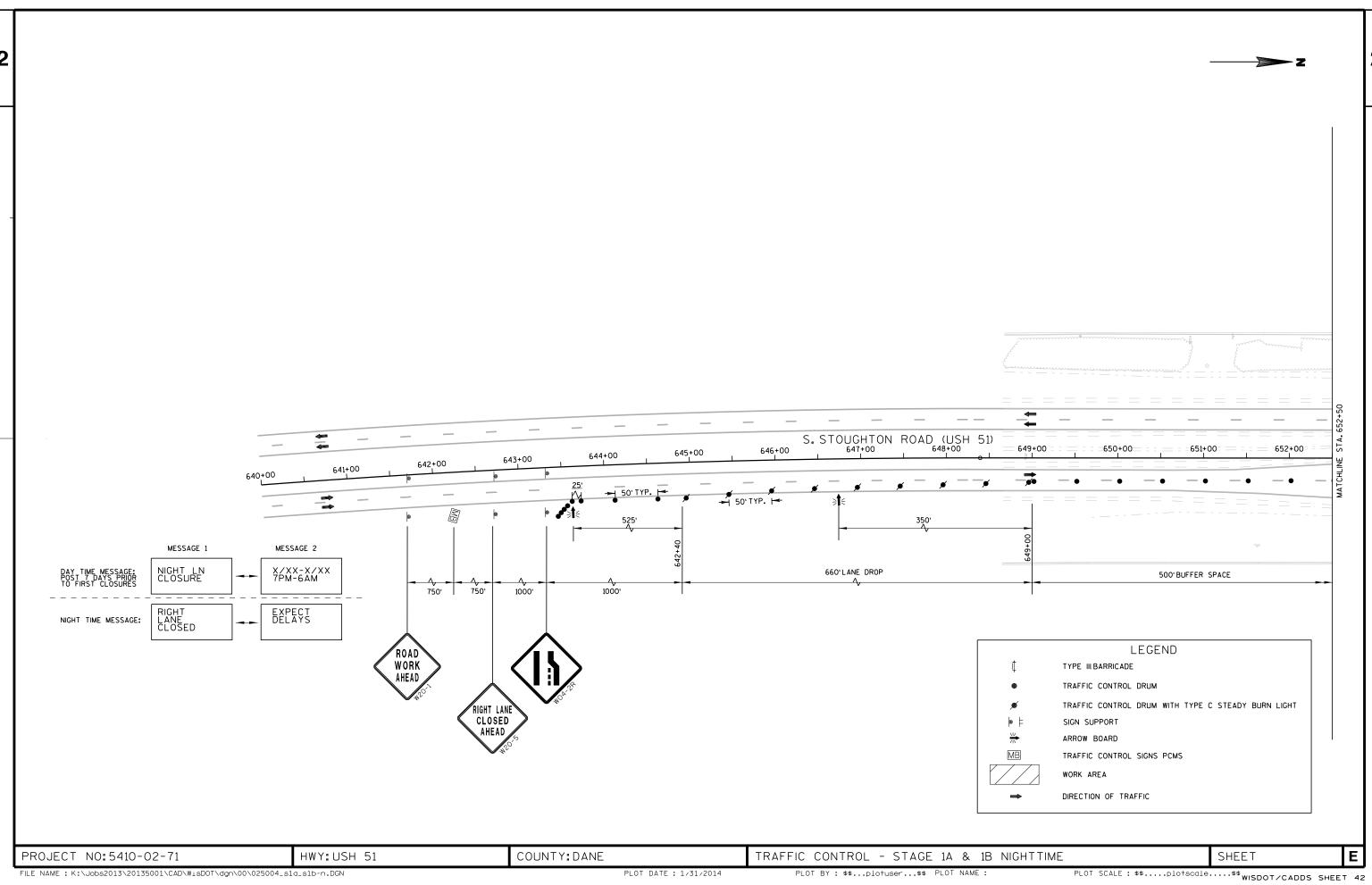
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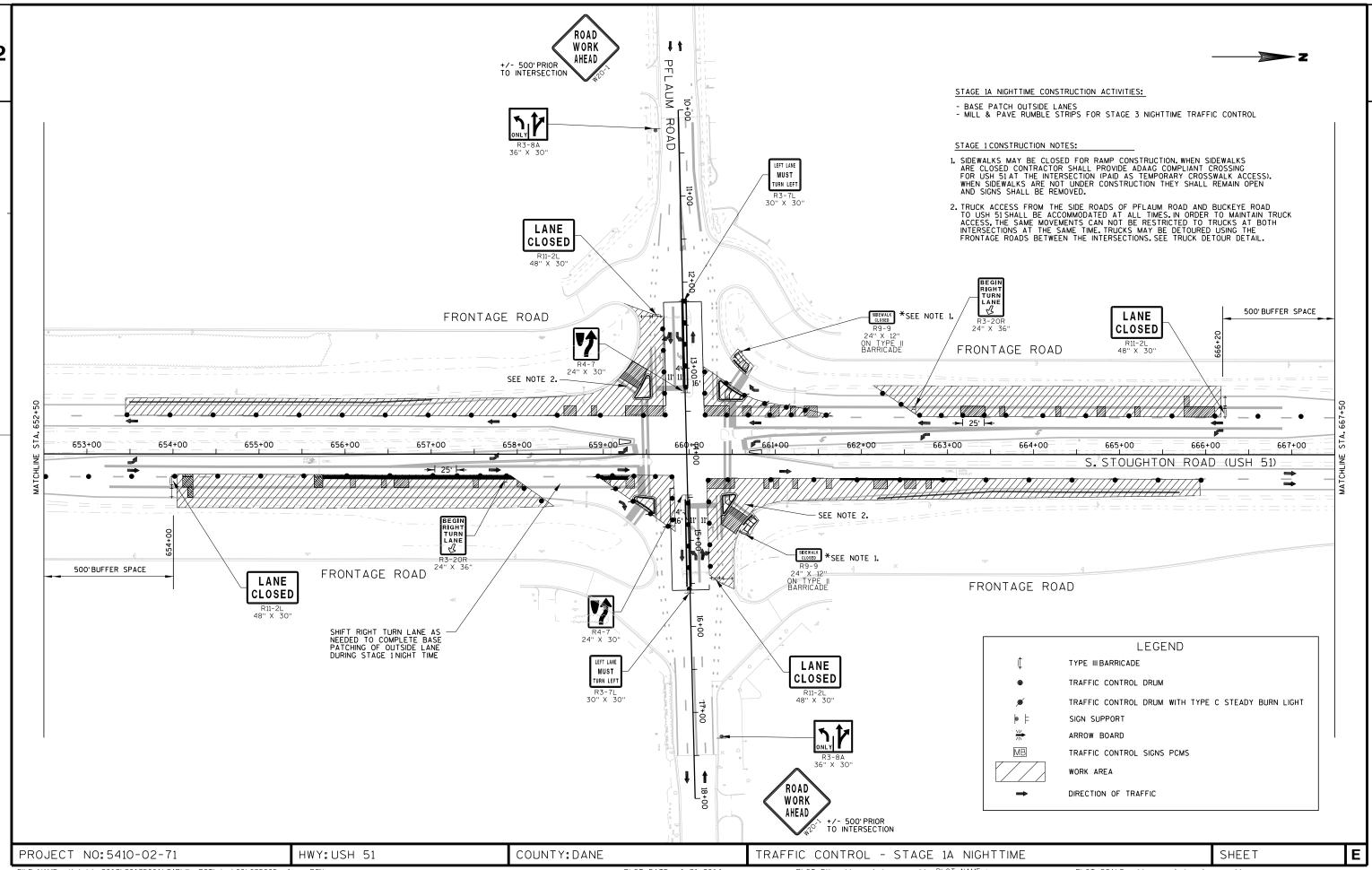


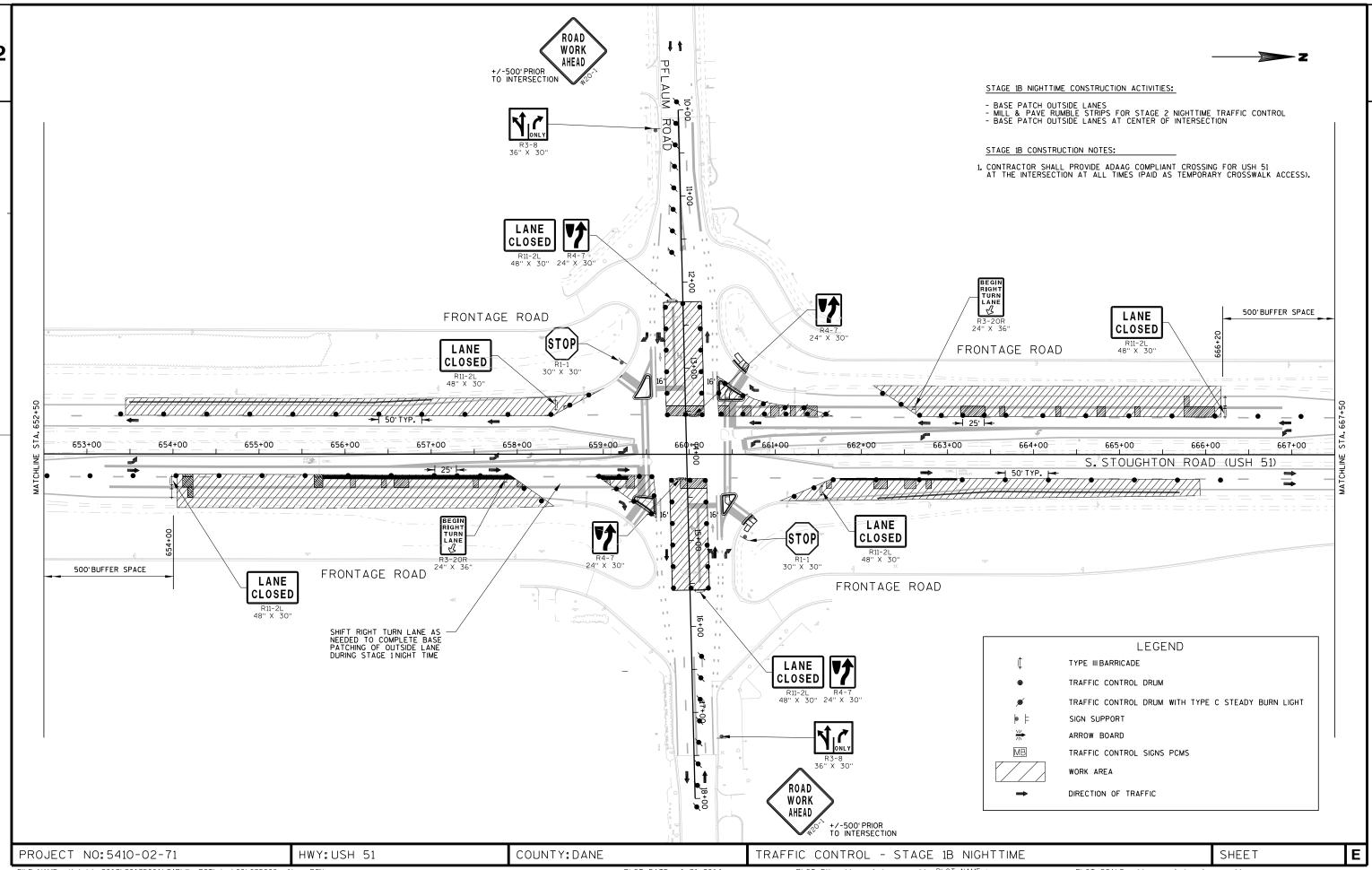


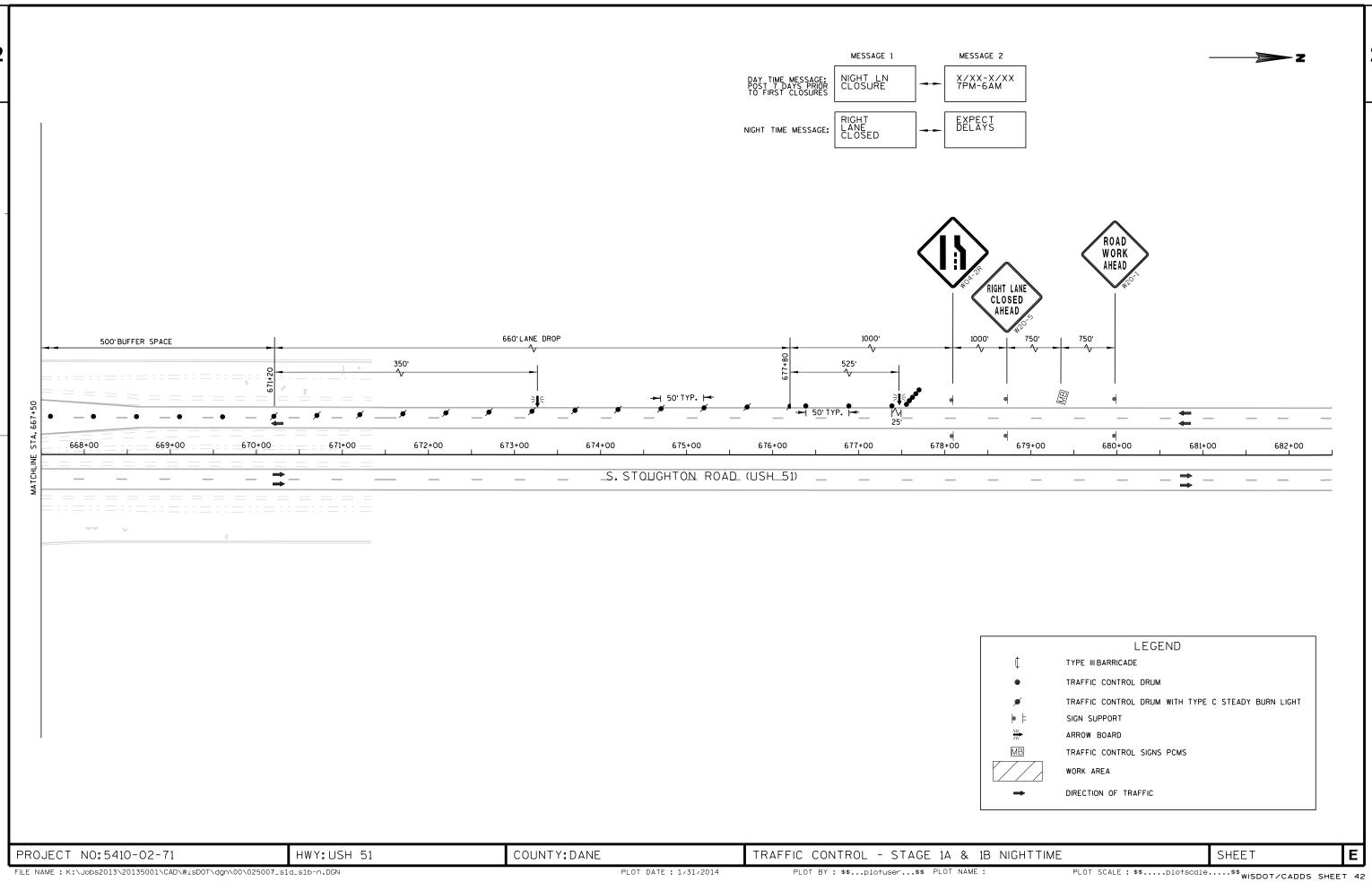


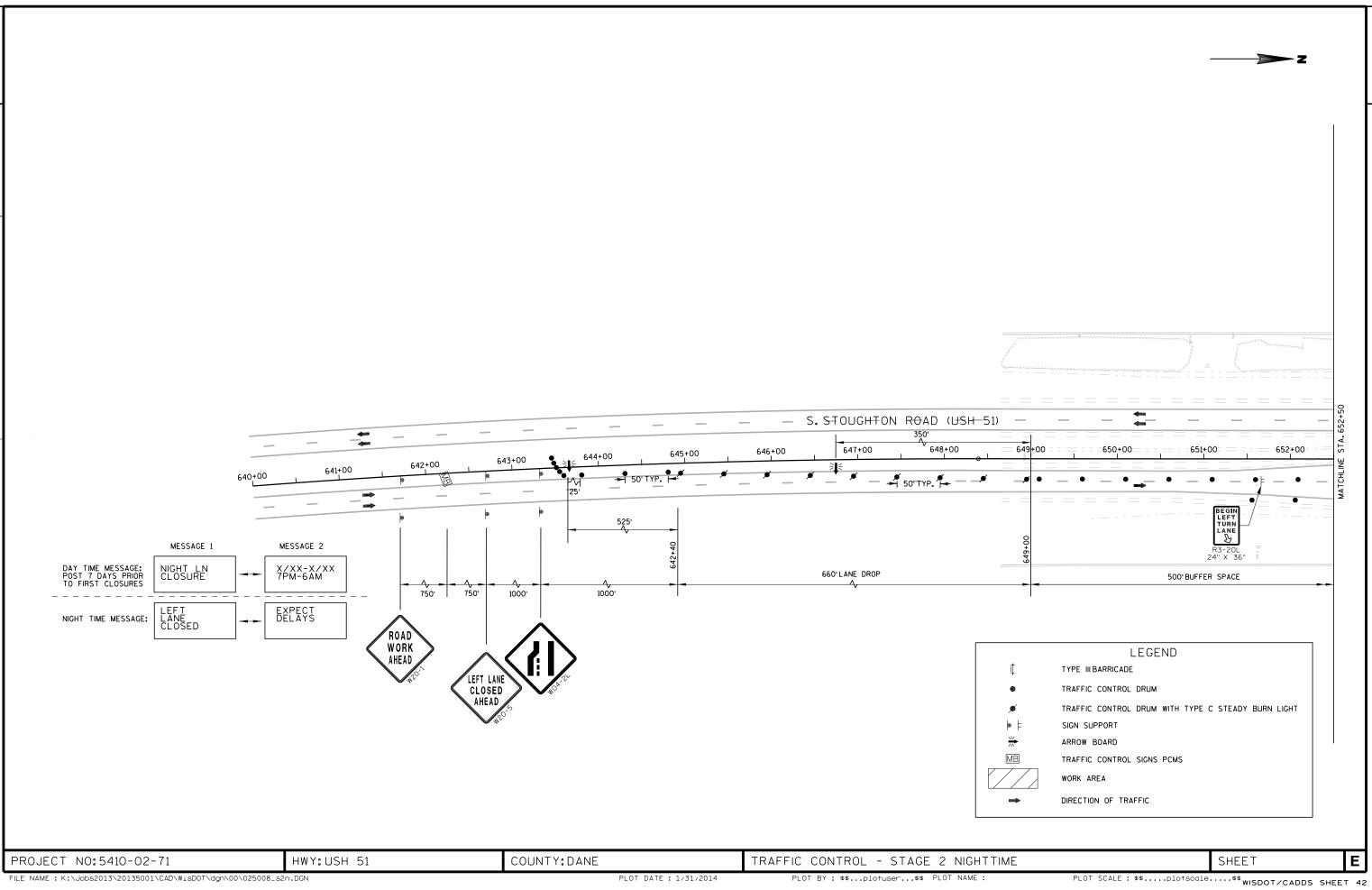


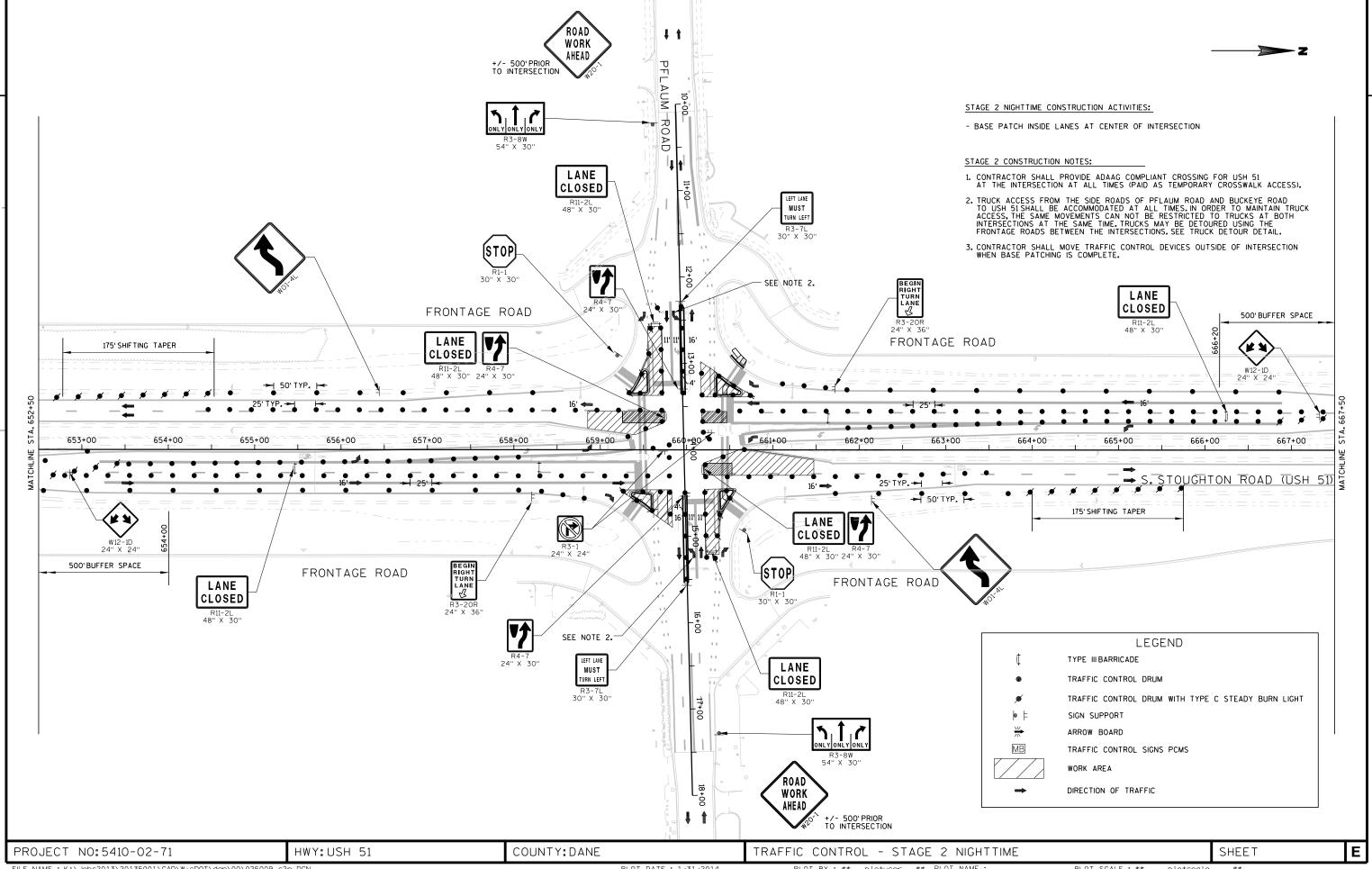


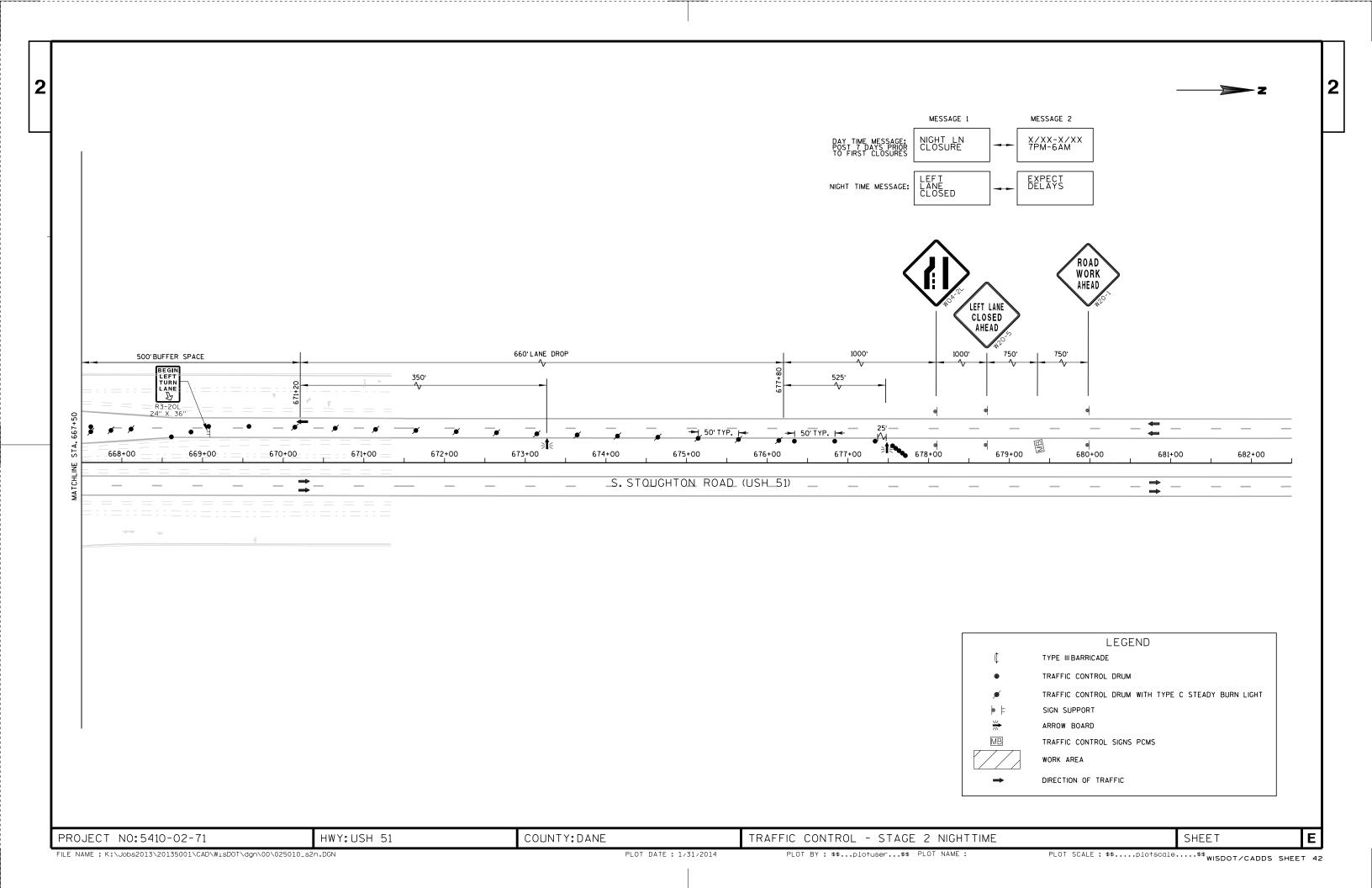


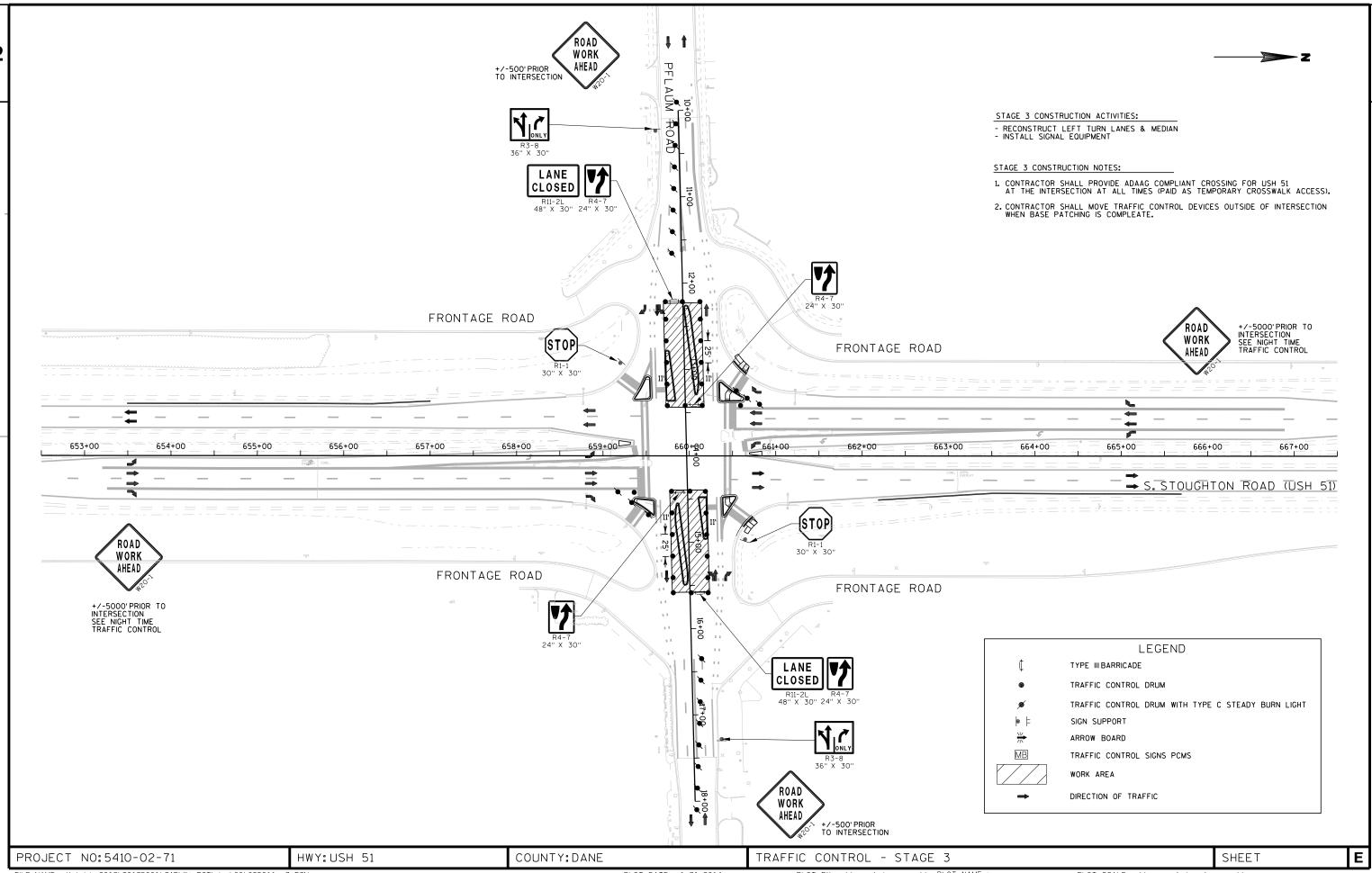


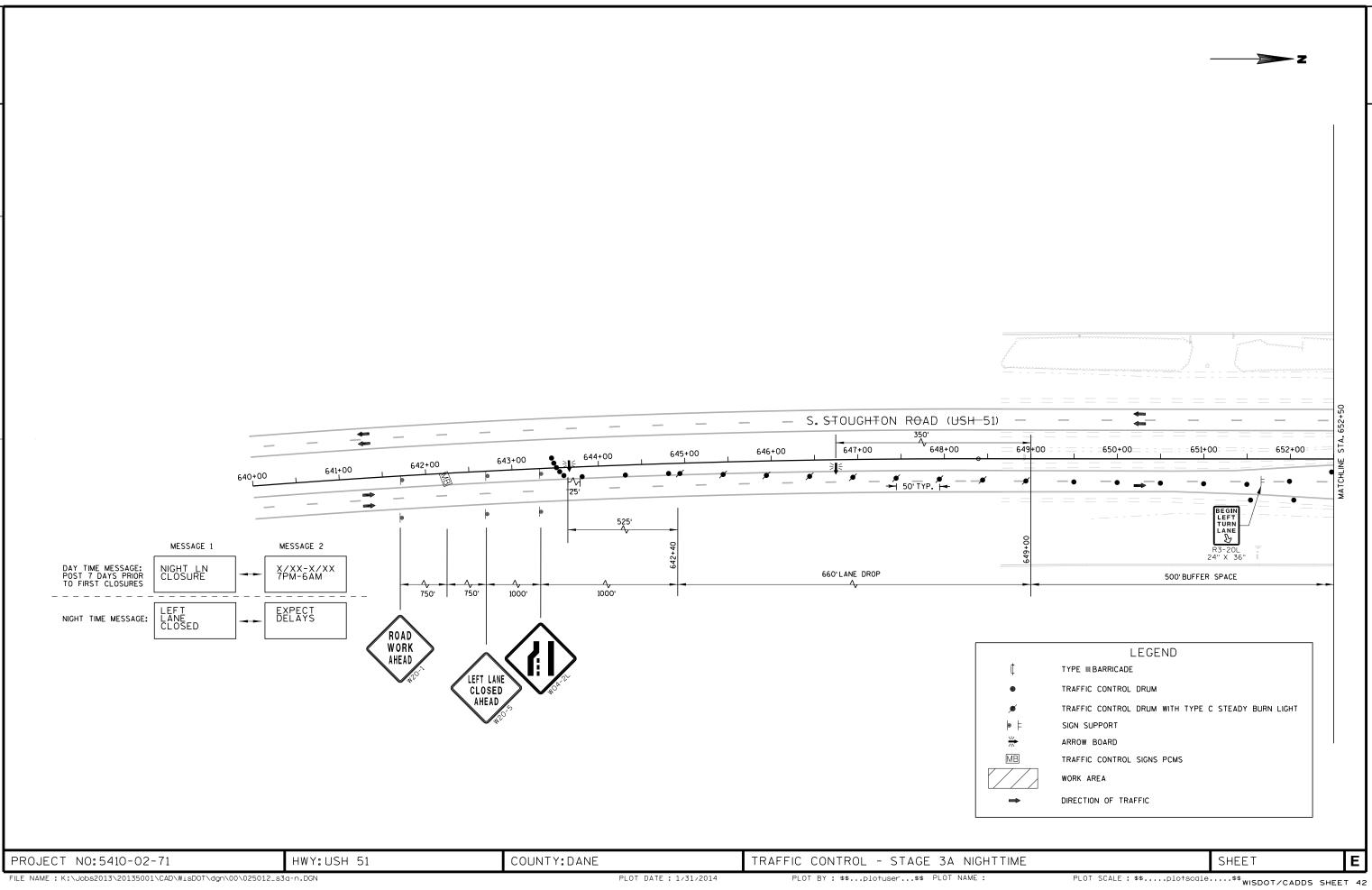


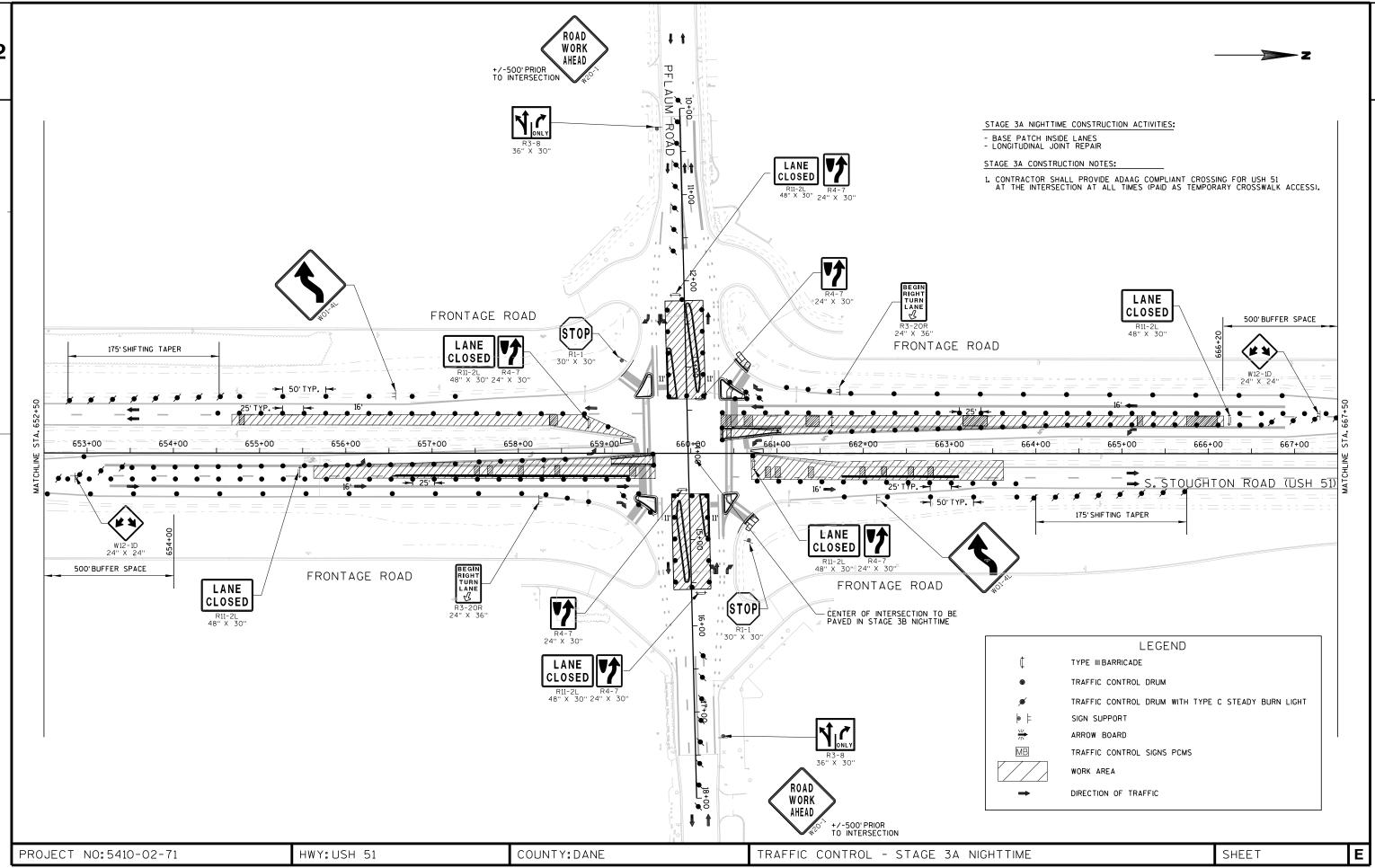


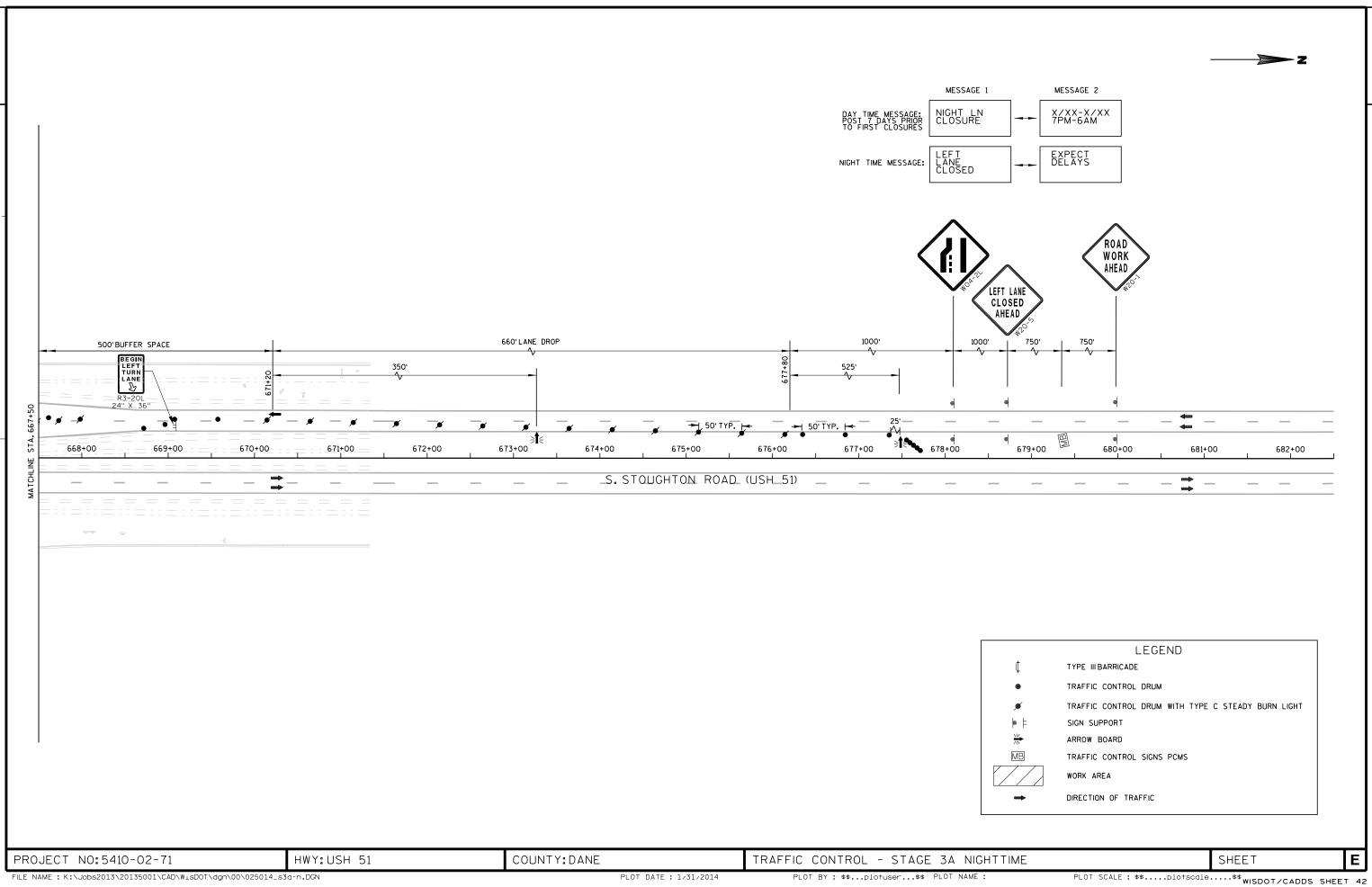


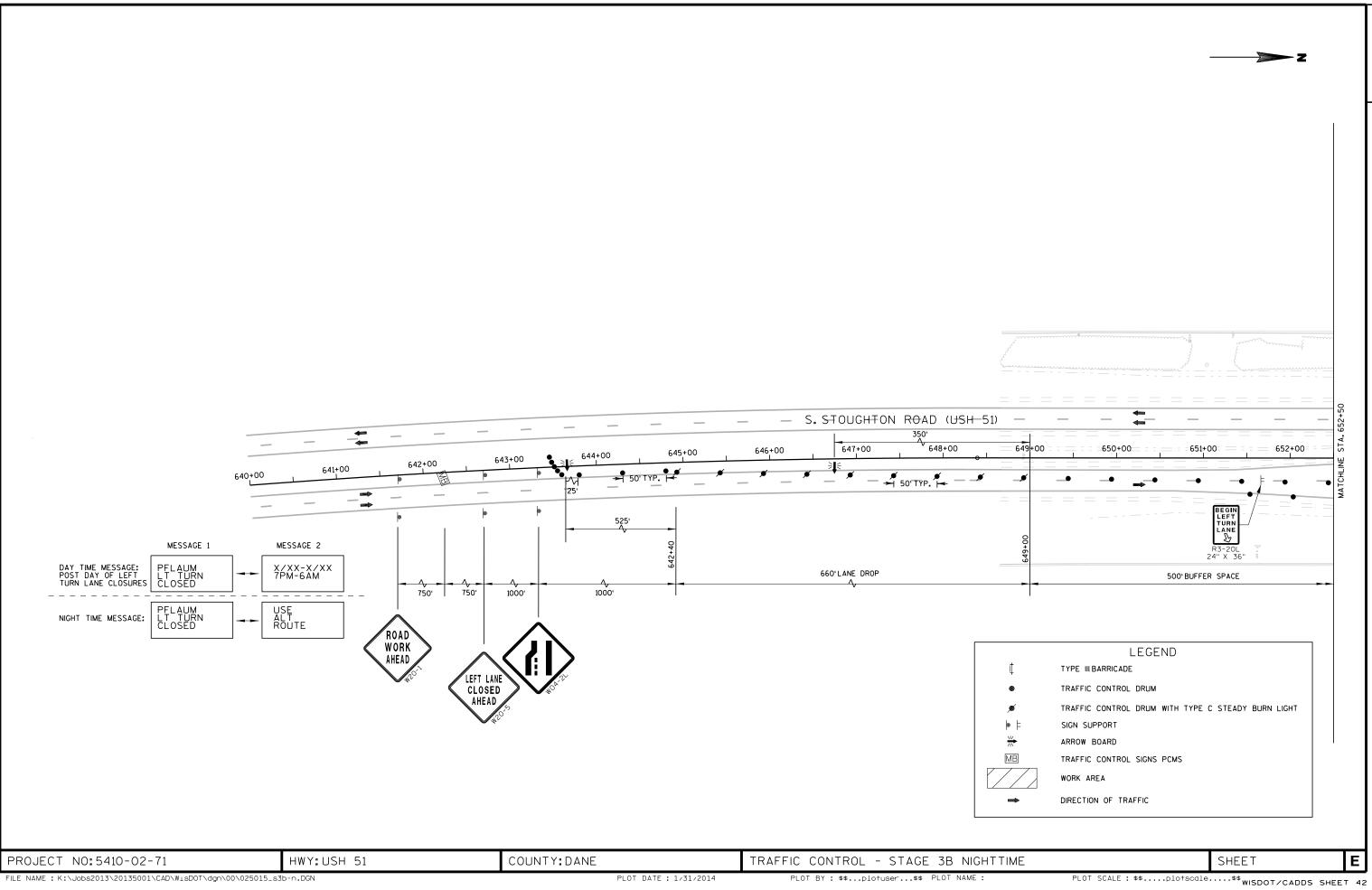


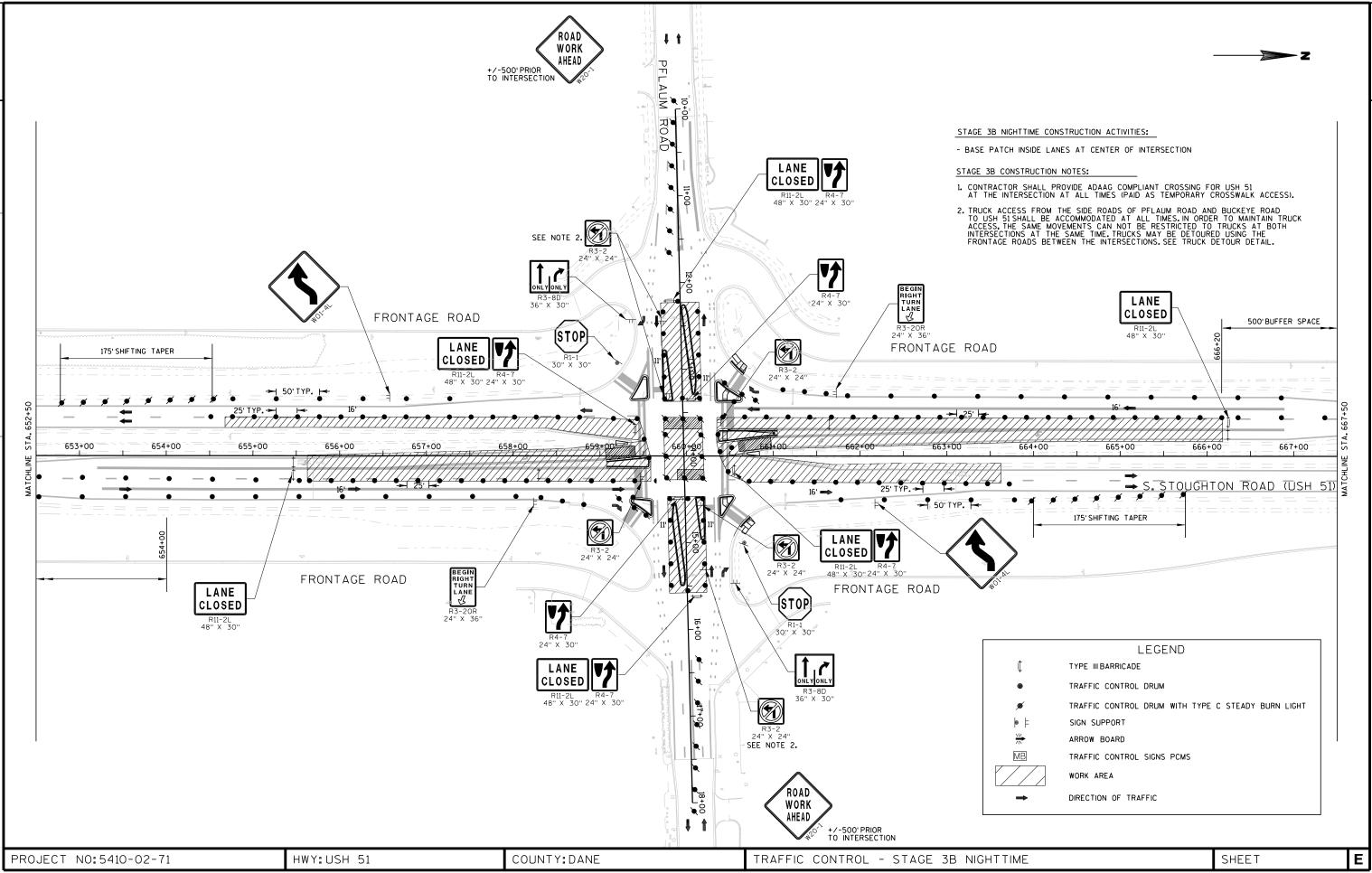


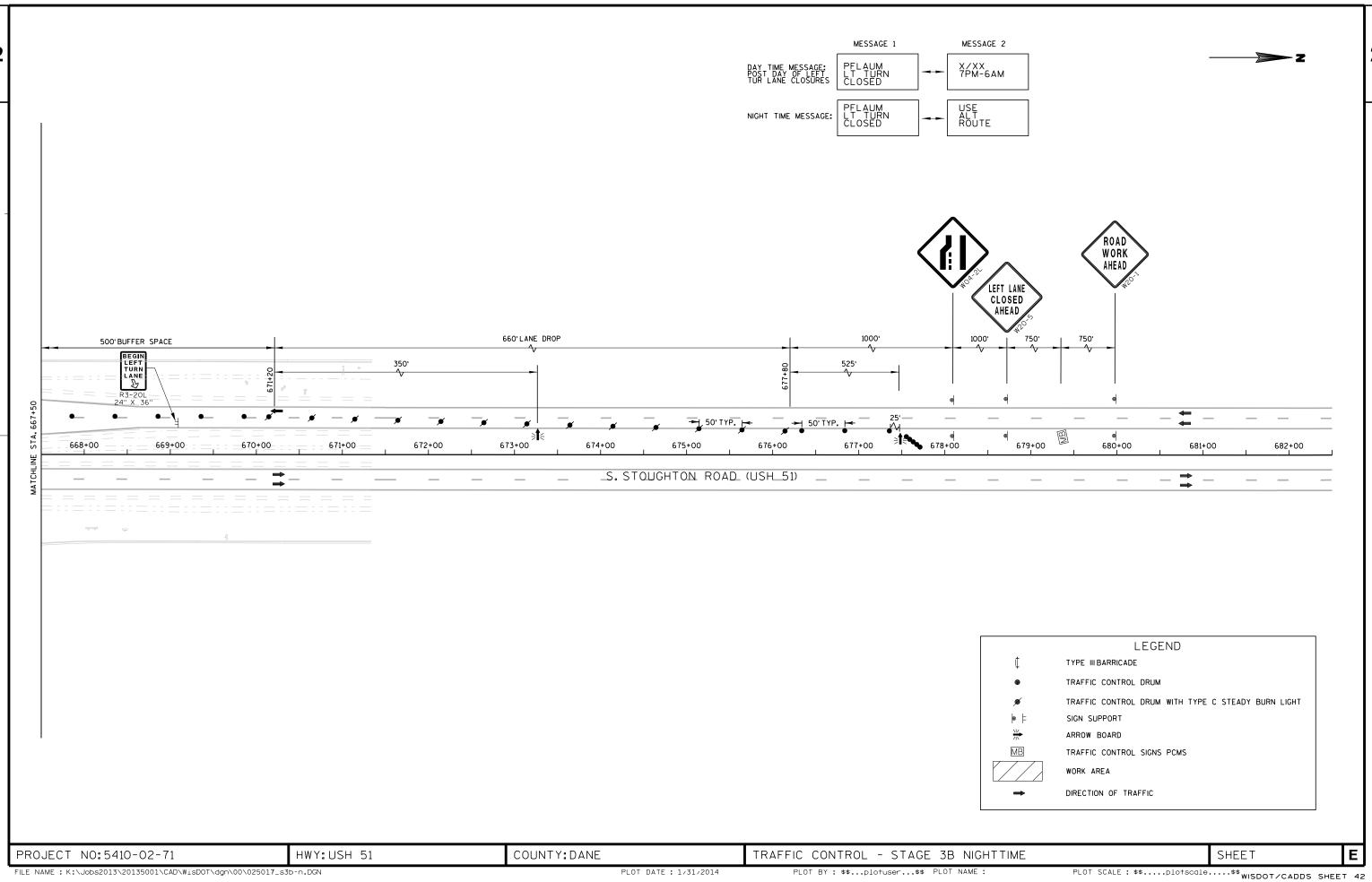


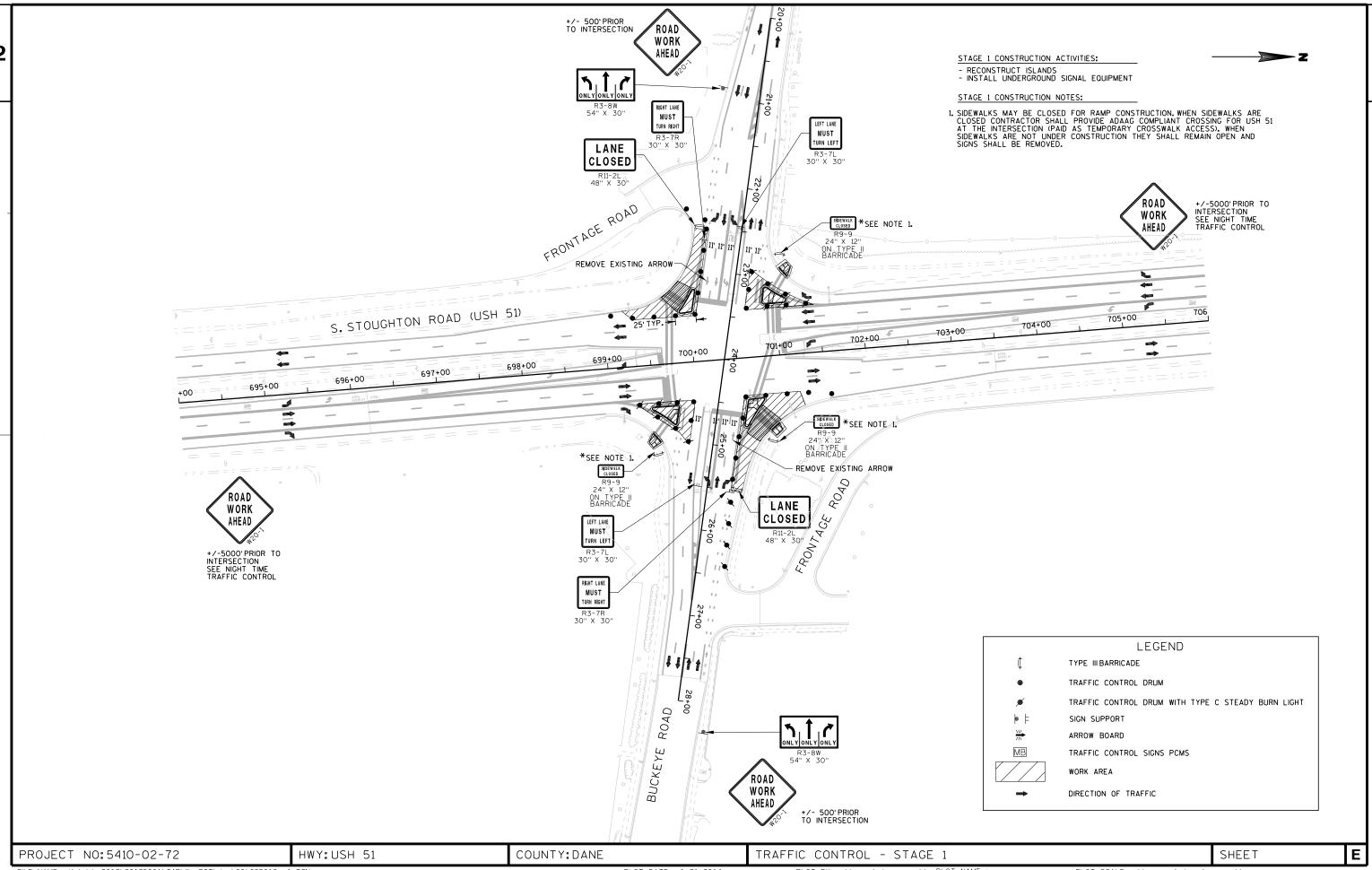


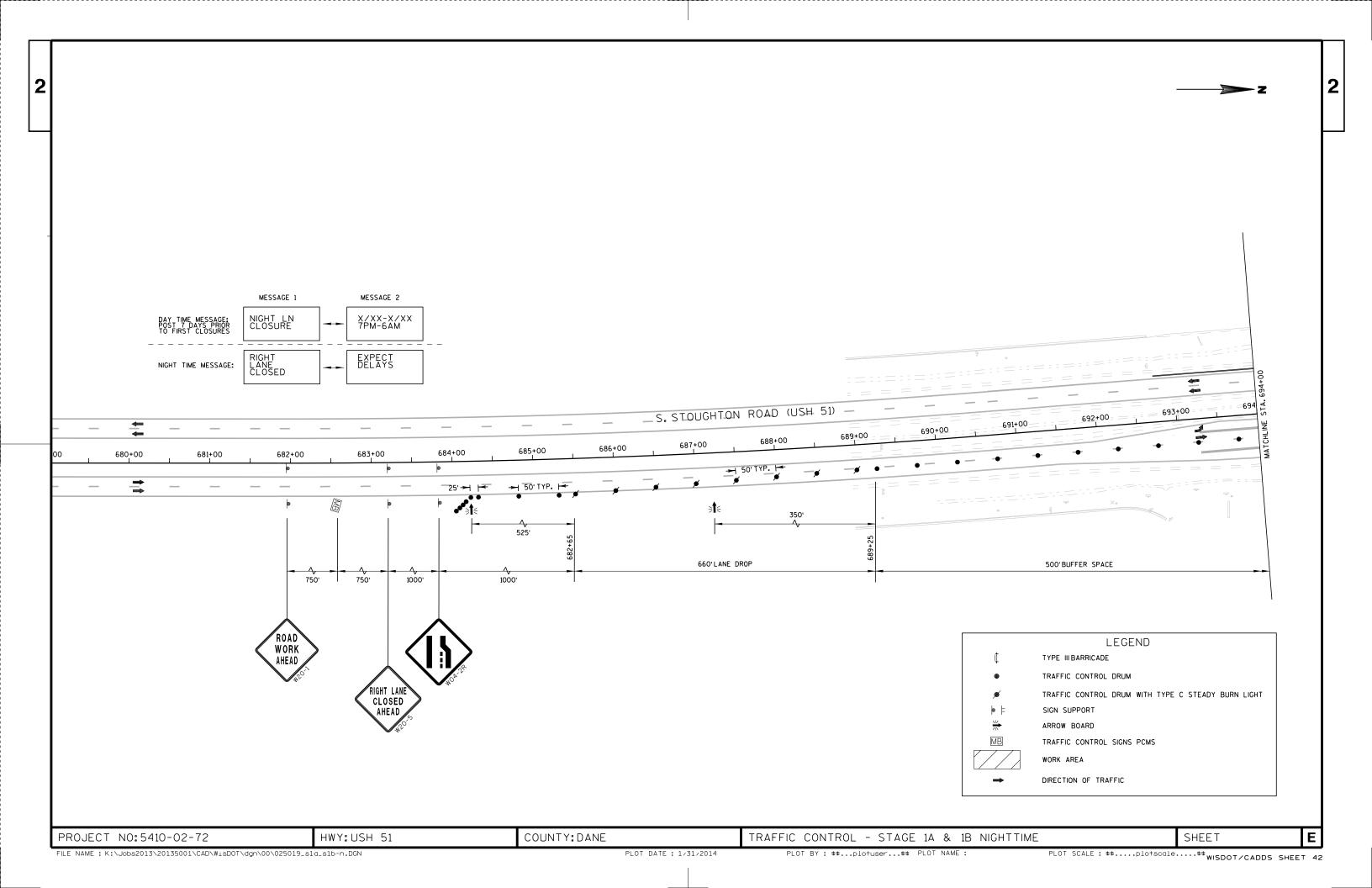


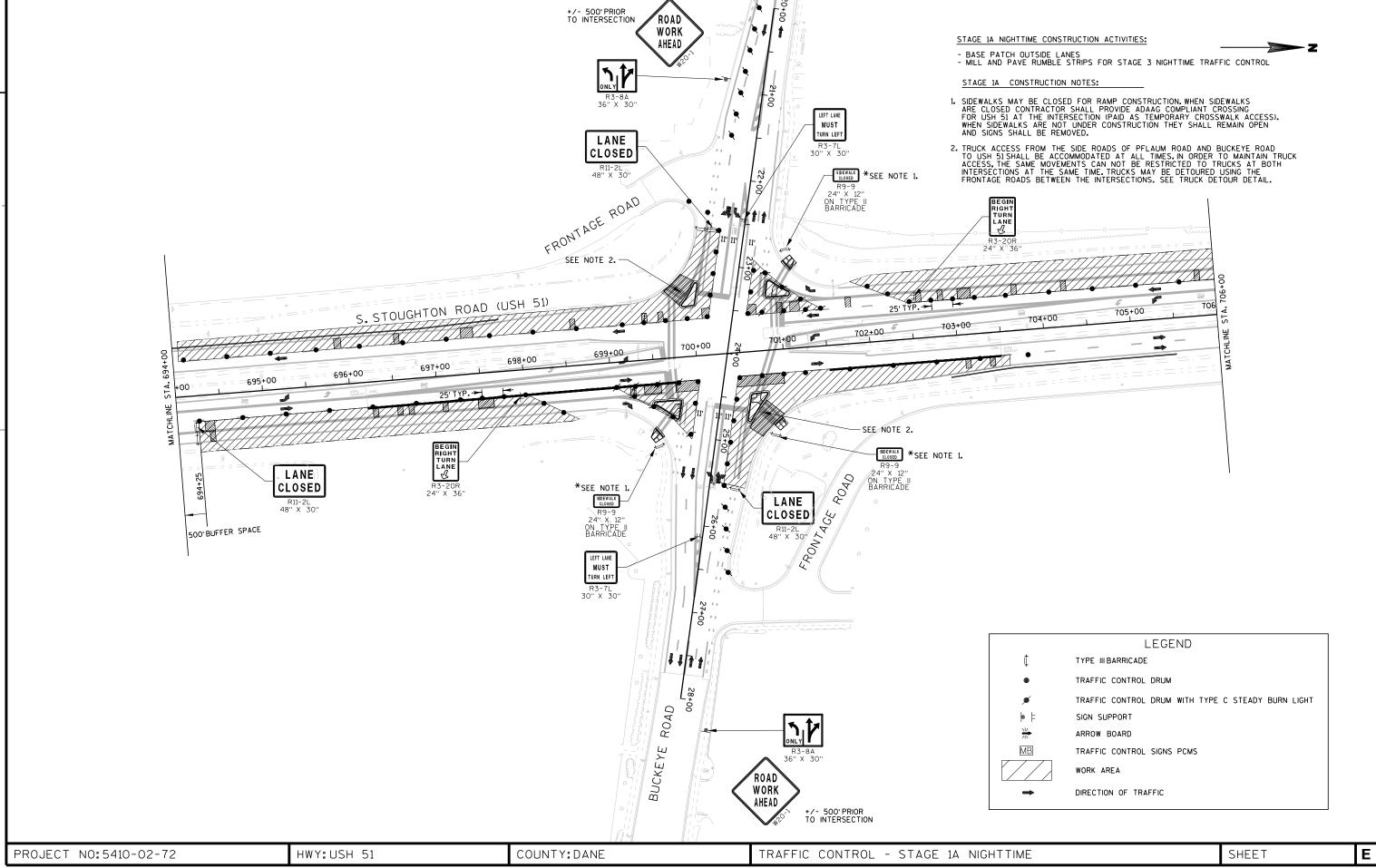


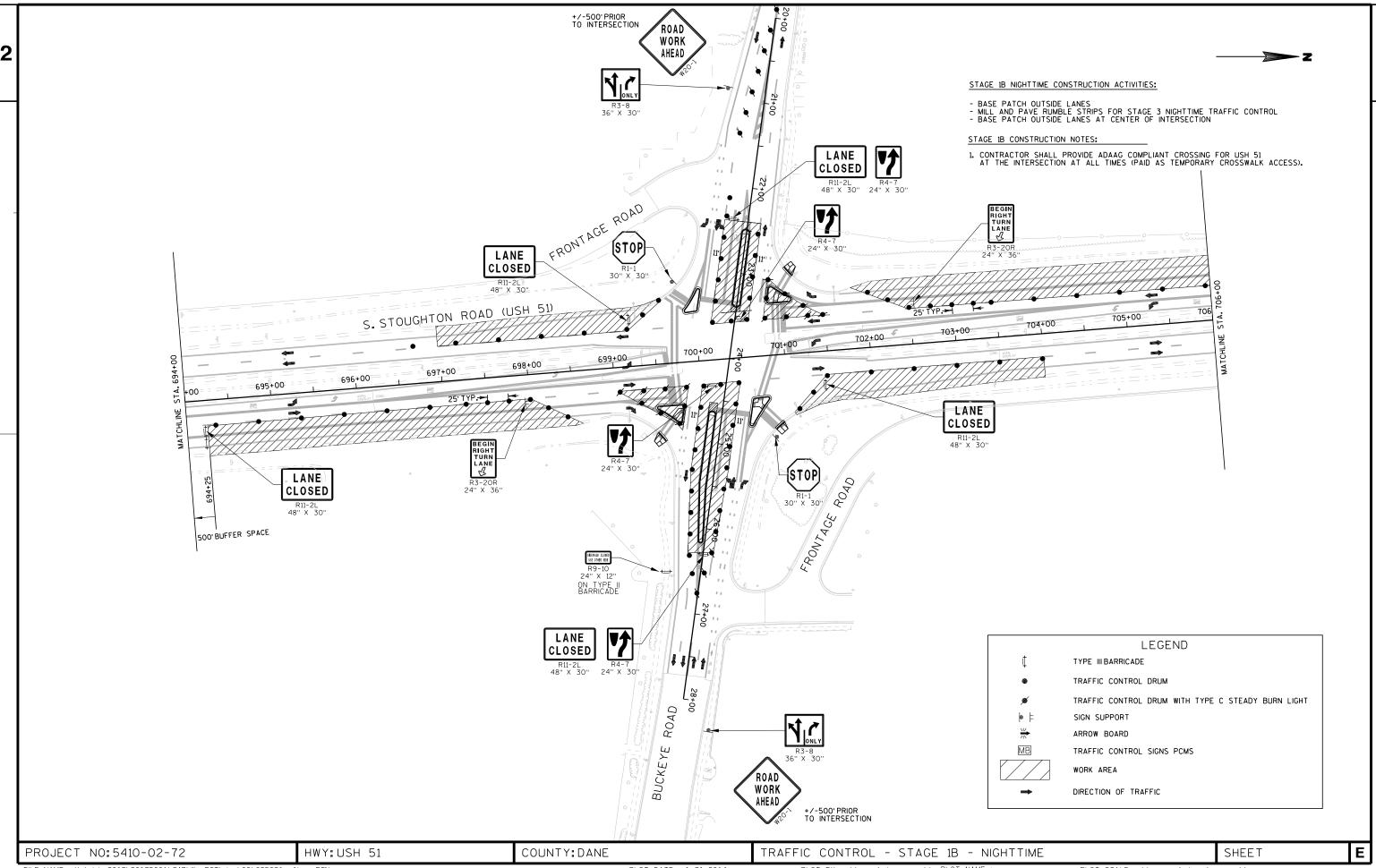


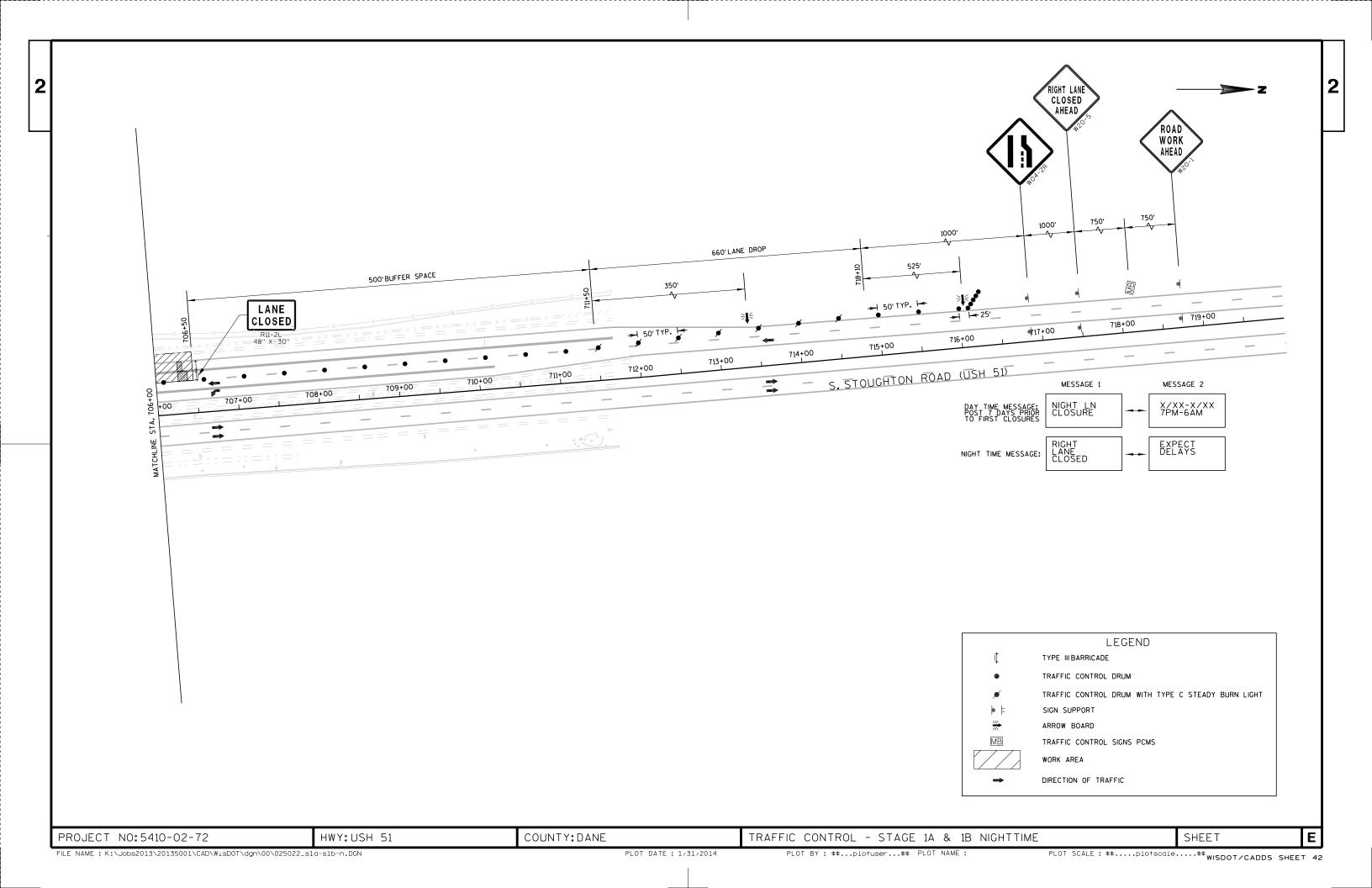


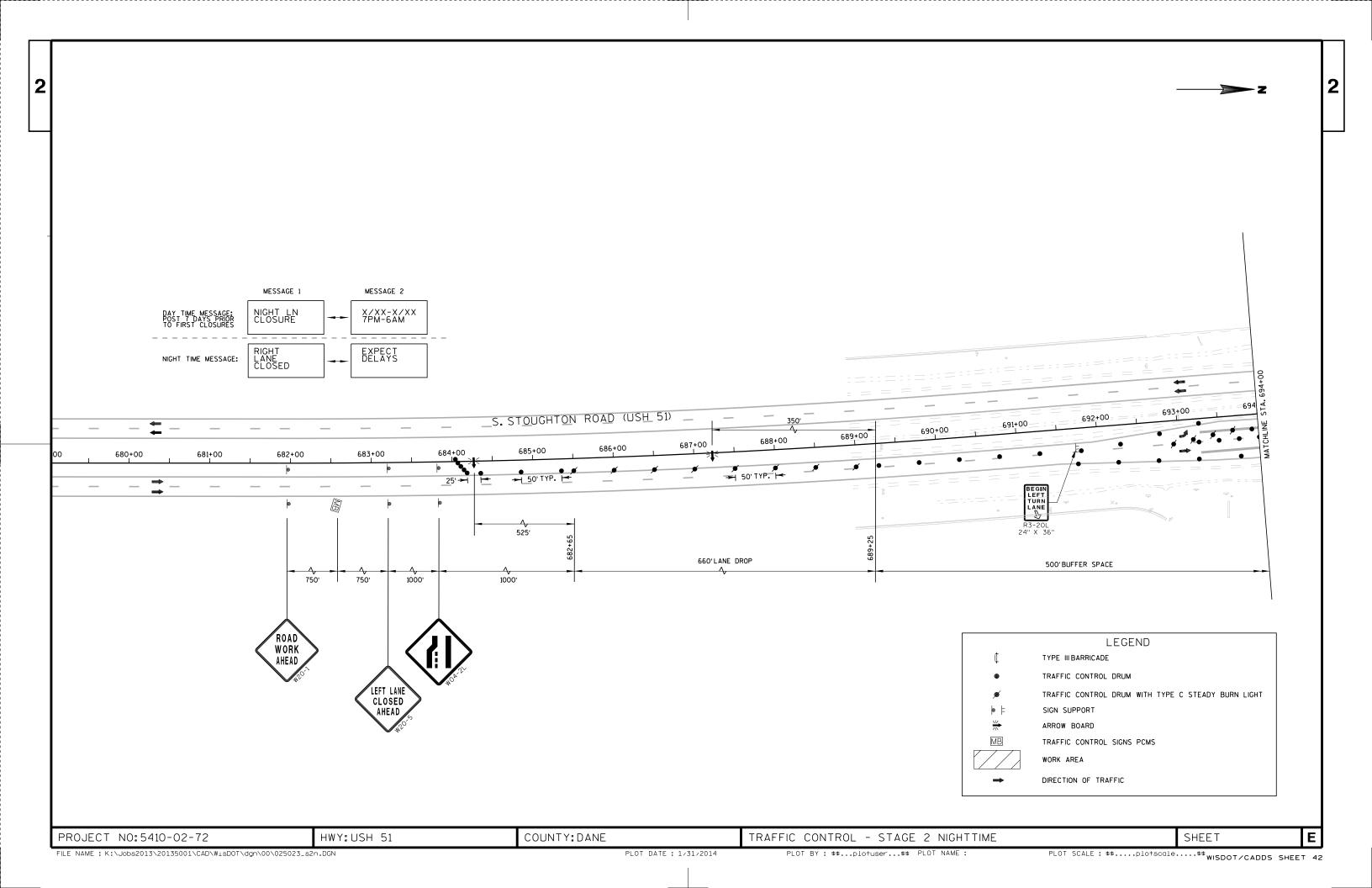


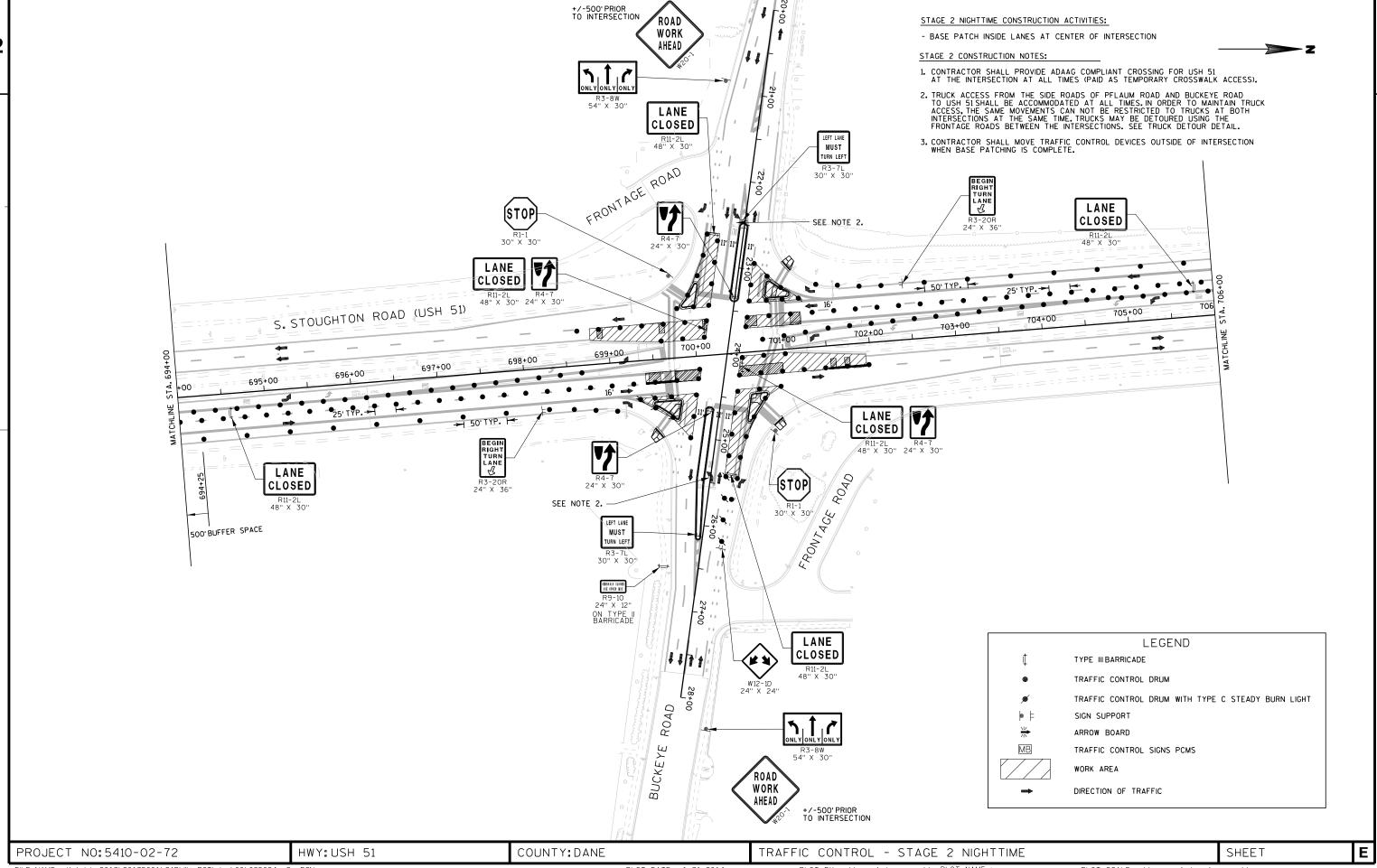


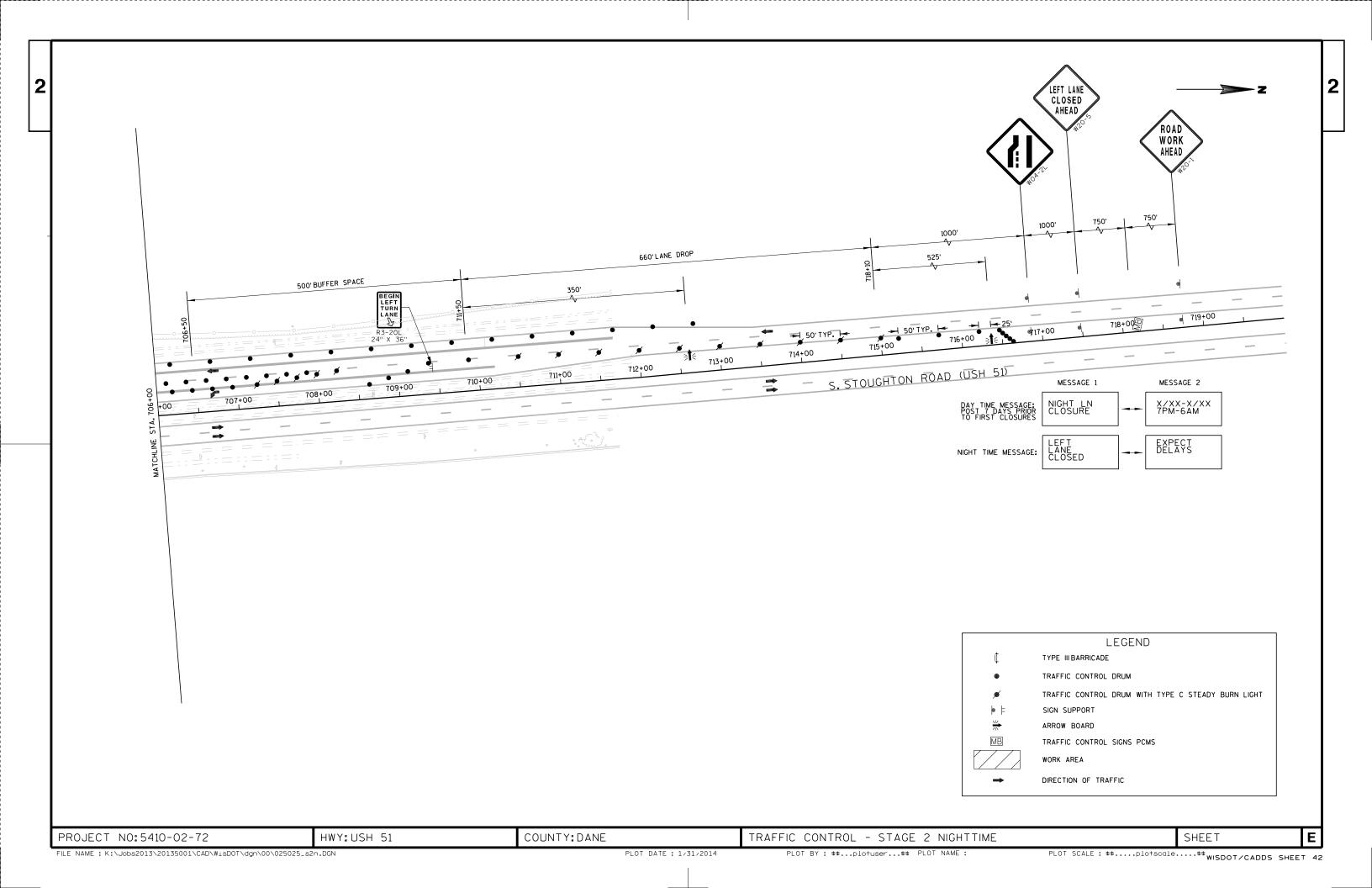


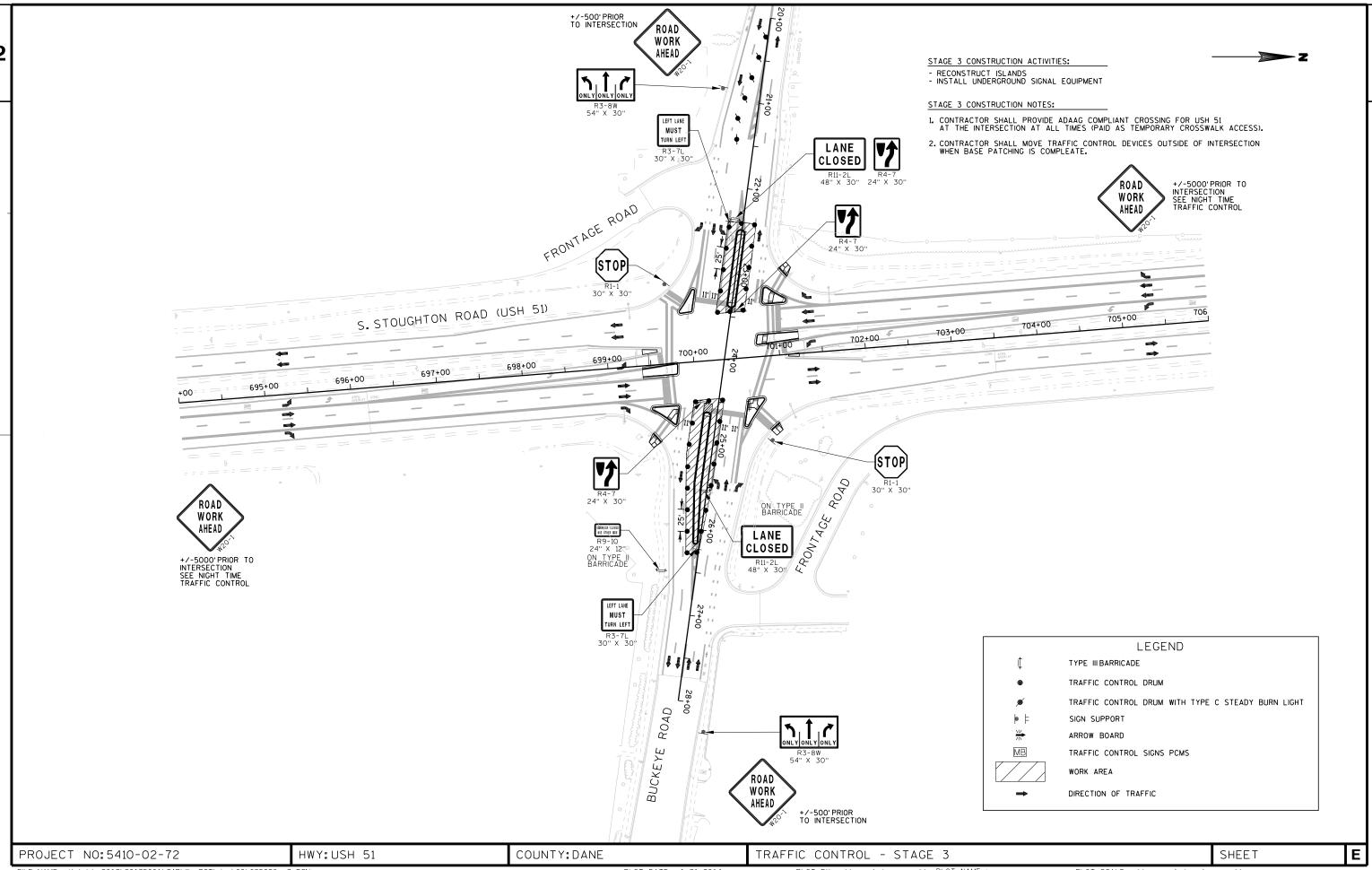


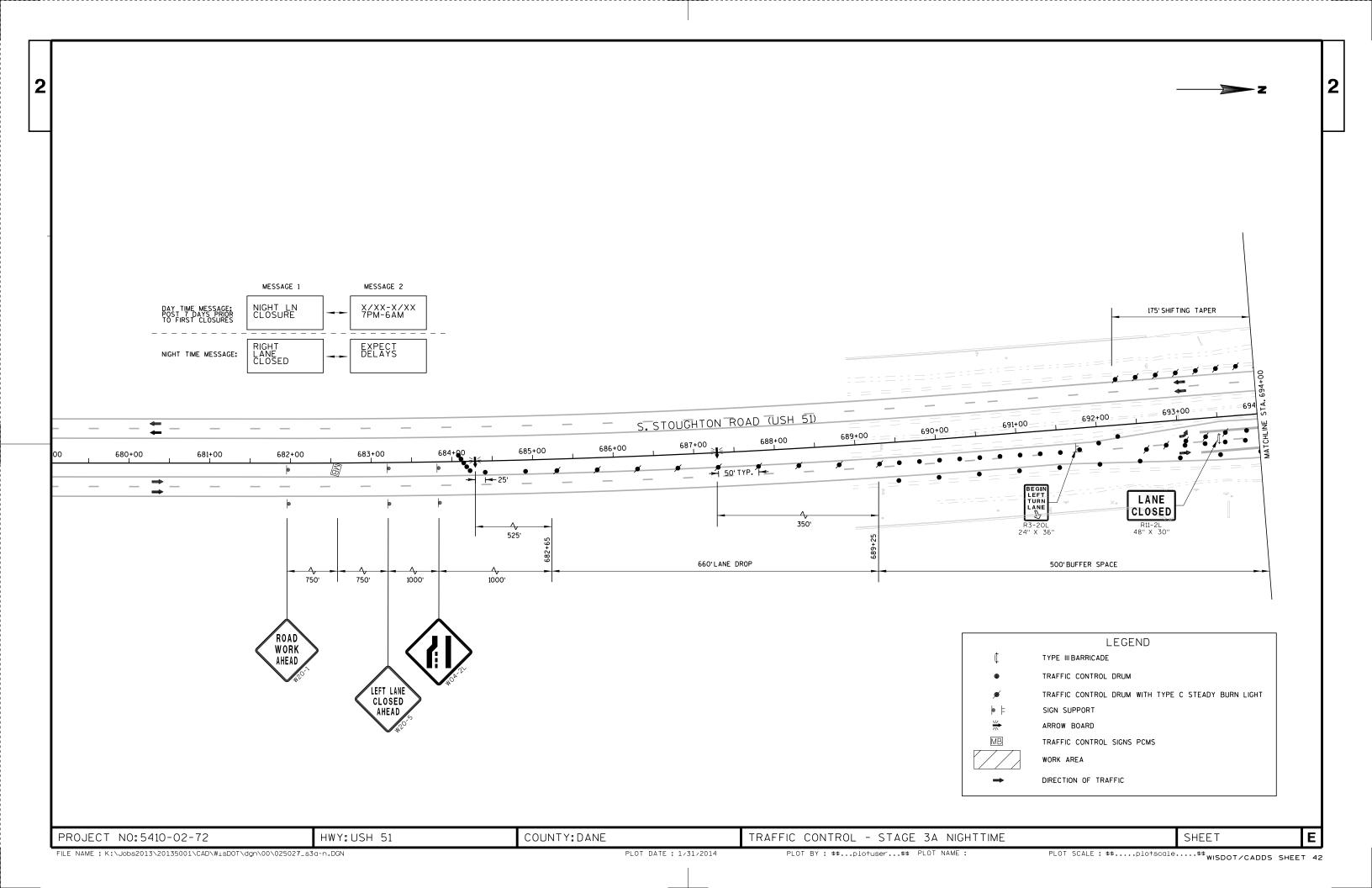


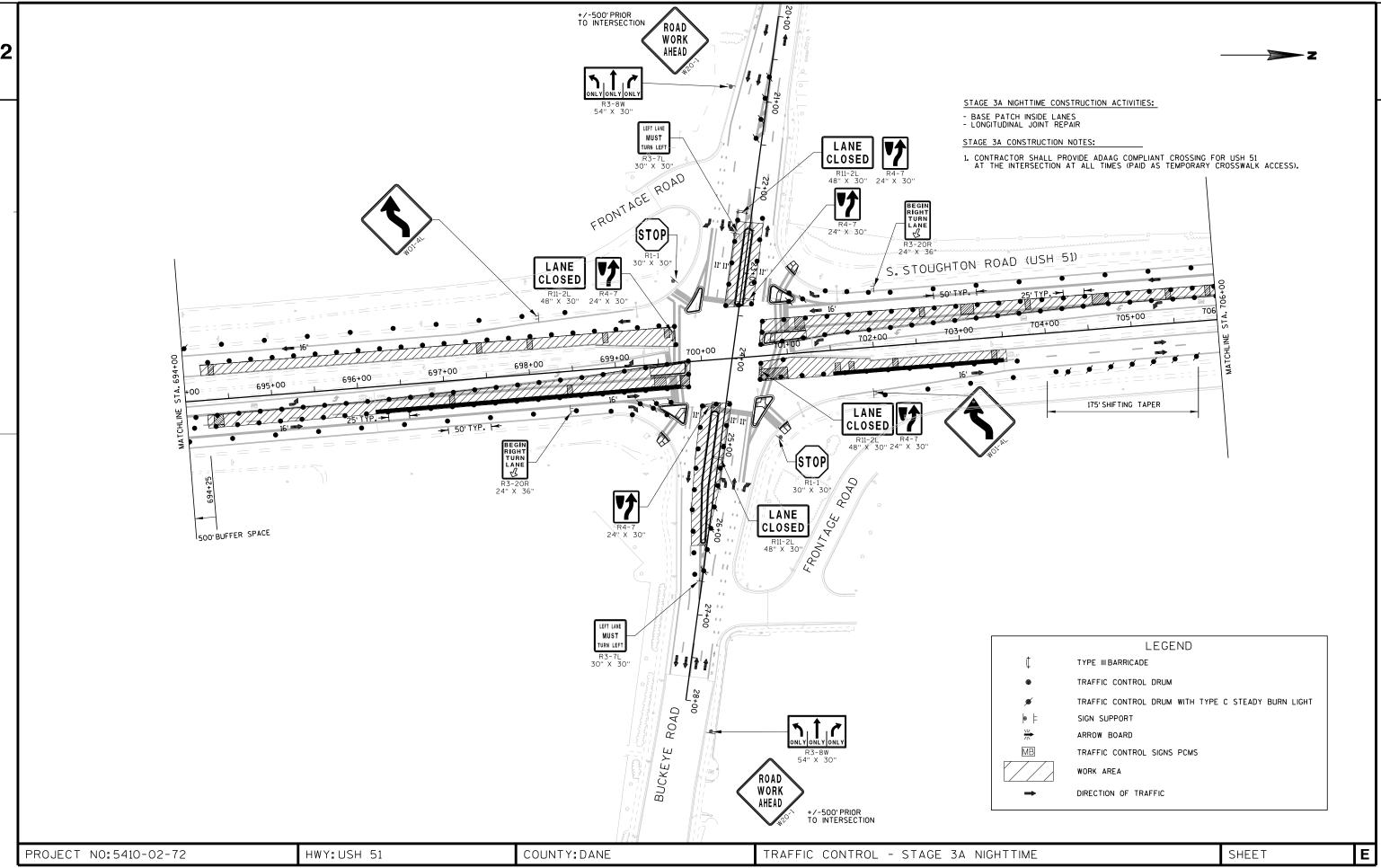


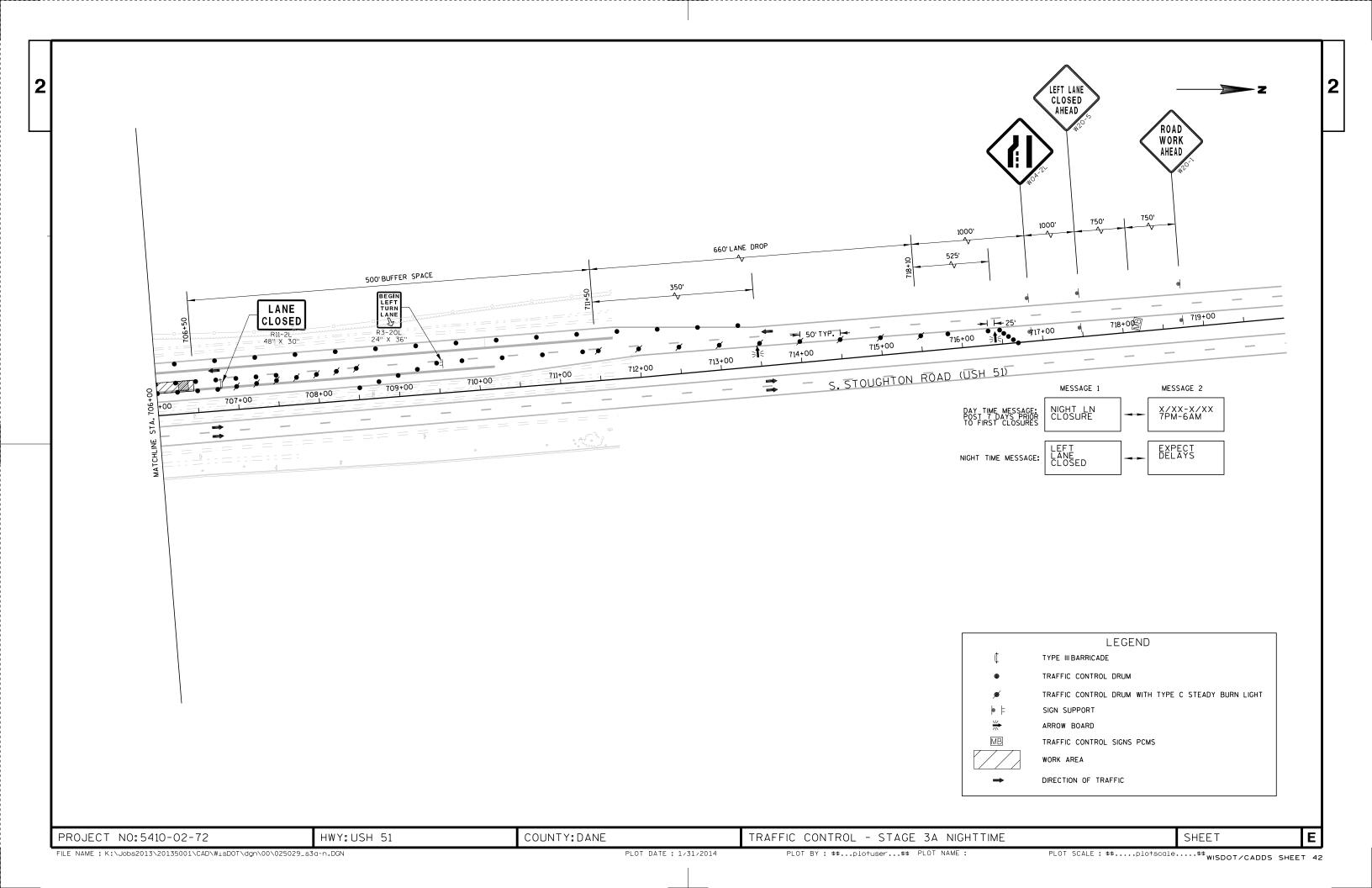


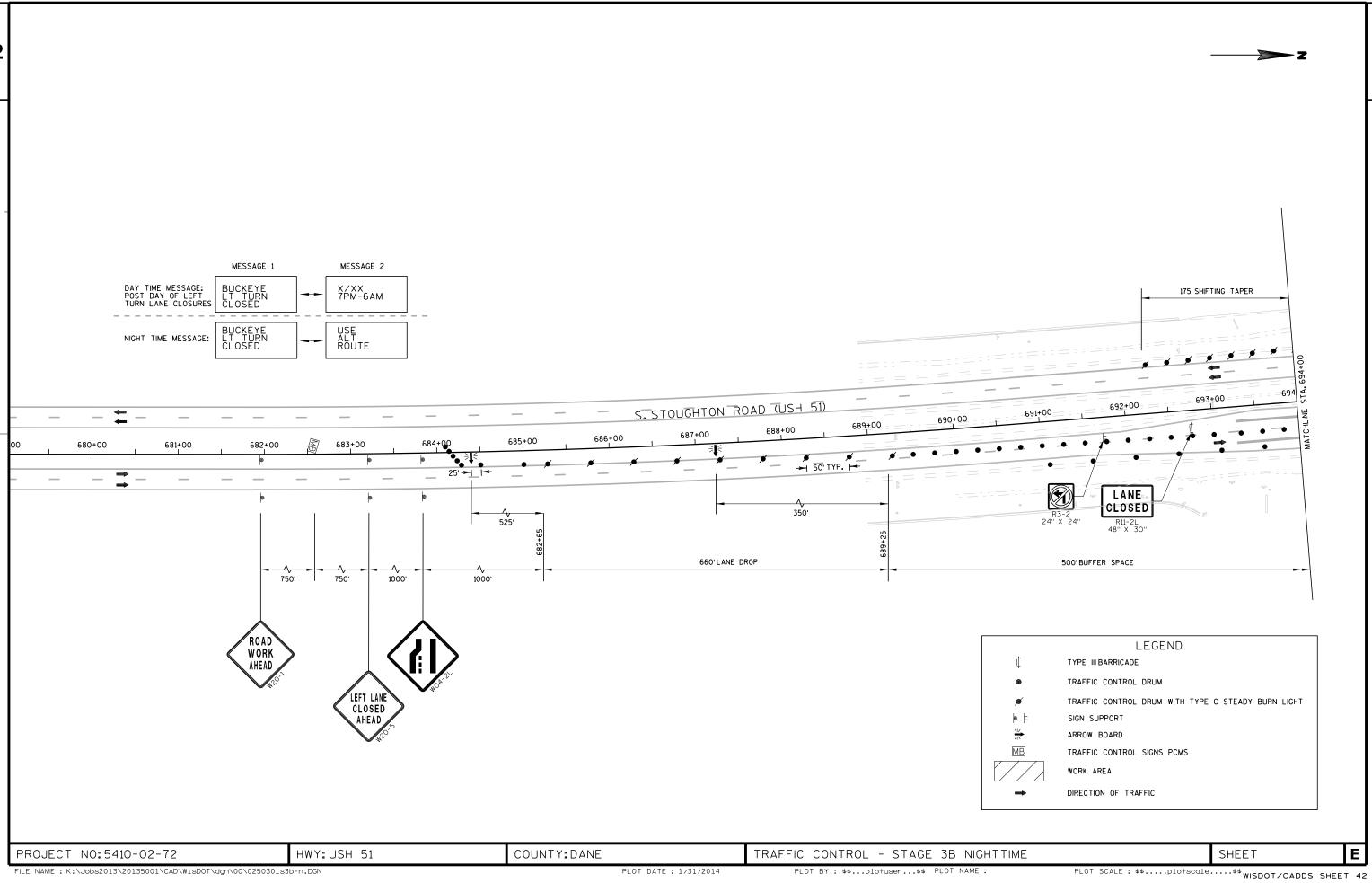


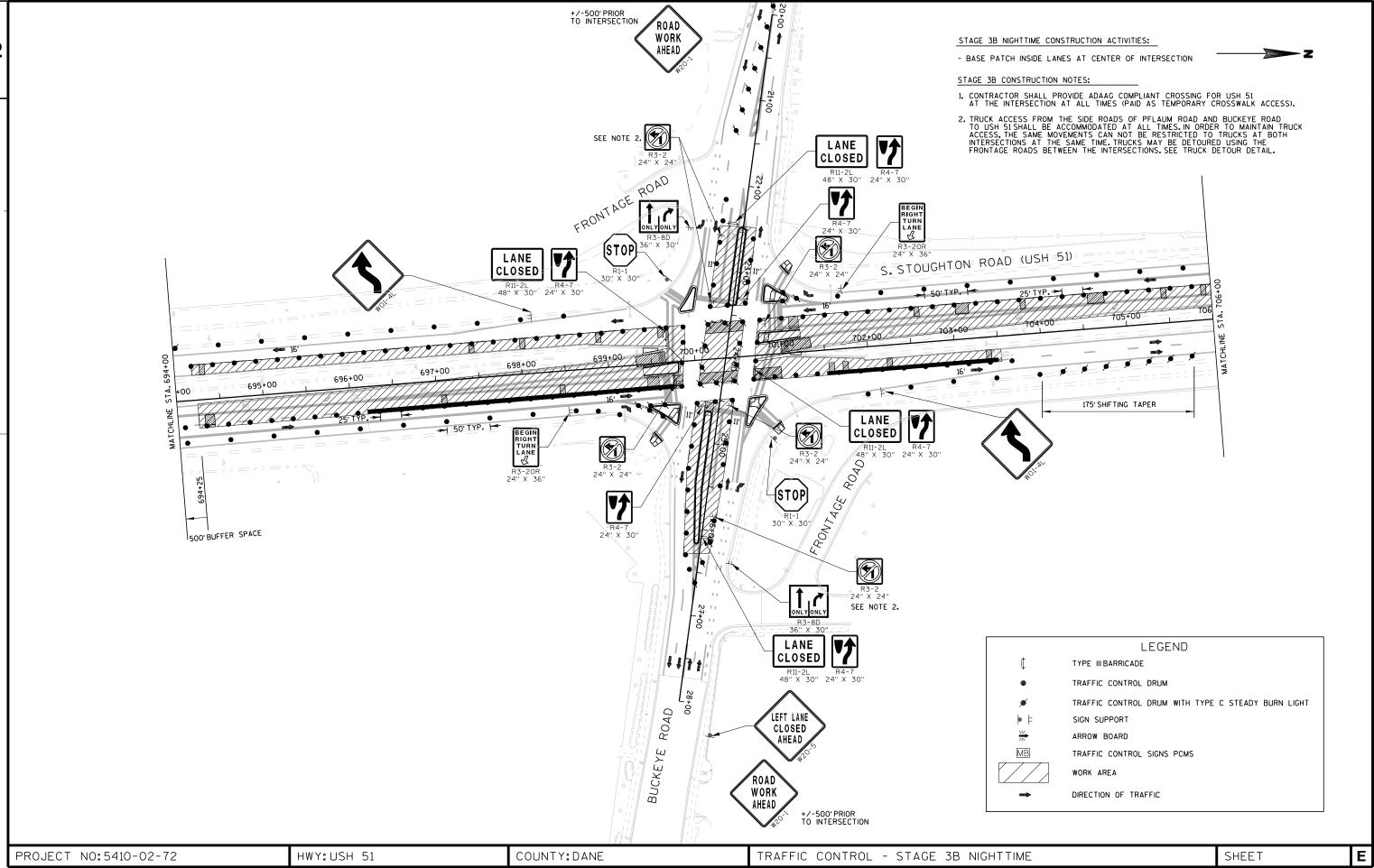


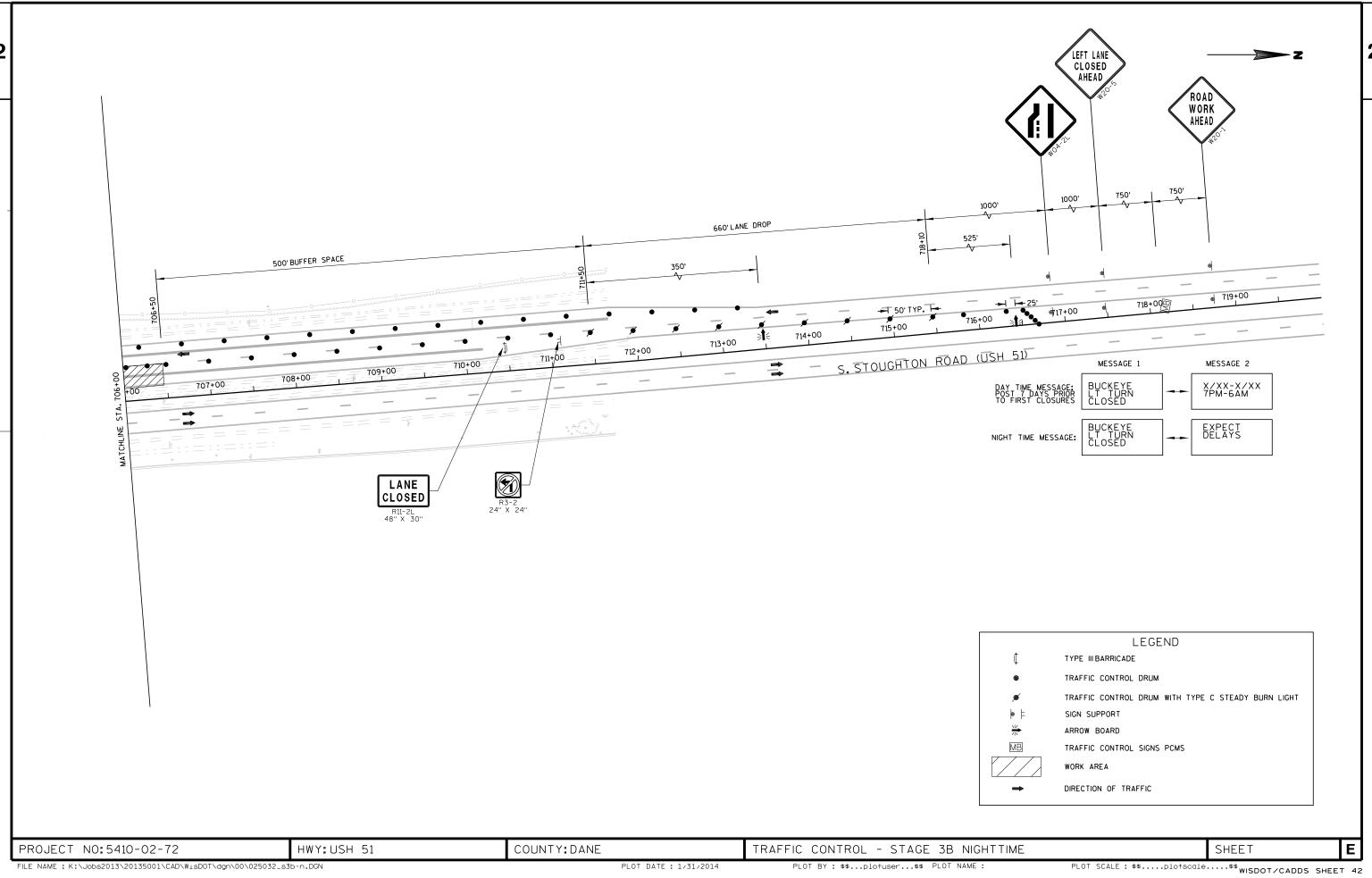


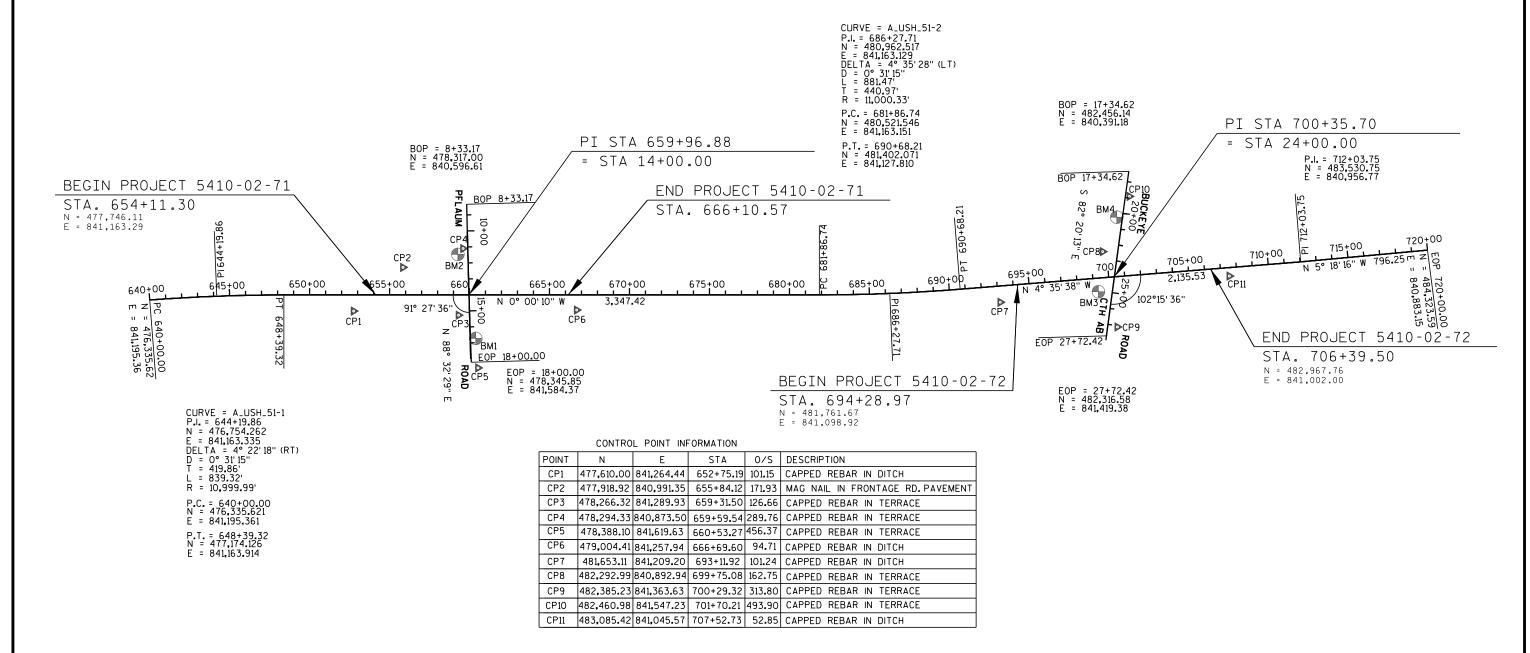












PFLAUM RD. AND S. STOUGHTON RD. BENCHMARK TABLE												
BM-1	899.88	Railroad spike in SW. face of power pole# str #4 at NE. corner of Pflaum Rd. and S. Stoughton service Rd., East side of USH 51.										
BM-2	M-2 898.42 Chiseled cross top S. flange tag bolt of fire hydrant at SW. corner Pflaum Rd. and S. Stoughton service Rd., West side of USH 51.											

		E. BUCI	KEYE RD.	AND S.	STOUGH	ITON RD	. BENCH	MARKT	ABLE			
BM-3	900.80	Chiseled	hiseled square on top East corner of concrete pad for control cabinet at the SE. corner of S. Stoughton Rd. and E. Buckeye Rd.									
BM-4	902.09	Railroad s	tailroad spike in North face of power pole# 27HI-52. South side of E. Buckeye Rd. in front of house #5003 West of S. Stoughton Rd.									

PROJECT NO:5410-02-71/72 HWY:USH 51 COUNTY:DANE ALIGNMENT DATA SHEET **E** 

DATE 13	BMAR14	E S	TIMATE	OF QUAN		F410 02 72	
LI NE NUMBER	ITEM	ITEM DESCRIPTION	UNI T	TOTAL	5410-02-71 QUANTI TY	5410-02-72 QUANTI TY	
0010	204. 0100	REMOVING PAVEMENT	SY	885.000	885.000	054 000	
0020 0030	204. 0120 204. 0150	REMOVING ASPHALTIC SURFACE MILLING REMOVING CURB & GUTTER	SY LF	490. 000 2, 134. 000	236. 000 1, 048. 000	254. 000 1, 086. 000	
0040	204. 0155	REMOVING CONCRETE SIDEWALK	SY	852. 000	402. 000	450. 000	
0050	204. 0195	REMOVING CONCRETE BASES	EACH	21. 000	11. 000	10.000	
0060	205. 0100	EXCAVATION COMMON	CY	447. 000	287. 000	160. 000	
0070	213. 0100	FINISHING ROADWAY (PROJECT) 01. 5410-02-71	EACH	1. 000	1. 000		
0800	213. 0100	FINI SHING ROADWAY (PROJECT) 02. 5410-02-72	EACH	1.000		1.000	
0090	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	978. 000	654.000	324.000	
0100	390. 0203	BASE PATCHING ASPHALTIC	SY	104. 000	67. 000	37. 000	
0110	415. 0090	CONCRETE PAVEMENT 9-INCH	SY	885. 000	885. 000		
0120	416. 0610	DRILLED TIE BARS	EACH	1, 653. 000	797. 000	856.000	
0130	416. 0620	DRILLED DOWEL BARS CONCRETE PAVEMENT REPAIR SHES	EACH SY	2, 112. 000	1, 054. 000	1, 058. 000	
0140 0150	416. 1715 455. 0605	TACK COAT	GAL	2, 600. 000 12. 000	1, 364. 000 6. 000	1, 236. 000 6. 000	
0160	465. 0105	ASPHALTIC SURFACE TEMPODARY	TON	54.000	26.000	28. 000	
0170 0180	465. 0125 465. 0400	ASPHALTIC SURFACE TEMPORARY ASPHALTIC SHOULDER RUMBLE STRIP	TON LF	38. 000 1, 464. 000	38. 000 702. 000	762. 000	
0190	601. 0405	CONCRETE CURB & GUTTER 18-INCH TYPE A	LF	1, 128. 000	637. 000	491. 000	
0200	601. 0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	785. 000	413. 000	372.000	
0210	601. 0555	CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A	LF	327. 000	155. 000	172. 000	
0220	602. 0410	CONCRETE SIDEWALK 5-INCH	SF	7, 410. 000	3, 589. 000	3, 821. 000	
0230	602. 0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	160. 000	64. 000	96.000	
0240	608. 0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	50.000	50.000		
0250	611. 0535	MANHOLE COVERS TYPE J-SPECIAL	EACH	1. 000	1. 000		
0260	611. 0639	INLET COVERS TYPE H-S	EACH	1. 000	1. 000		
0270	611. 2004	MANHOLES 4-FT DIAMETER	EACH	1. 000	1.000		
0280	611. 3230	INLETS 2X3-FT	EACH	1.000	1.000	F 000	
0290 0300	611.8115	ADJUSTING INLET COVERS  S INSULATION BOARD POLYSTYRENE (INCH) 01.	EACH SY	7. 000 4. 000	2. 000 4. 000	5. 000	
0300	012.0902.3	2-I NCH	31	4.000	4.000		
0310	619. 1000	MOBI LI ZATI ON	EACH	1. 000	0. 500	0. 500	
0320	620. 0300	CONCRETE MEDIAN SLOPED NOSE	SF	308.000	109. 000	199. 000	
0330	624. 0100	WATER	MGAL	14. 700	9. 800	4. 900	
0340	625. 0100	TOPSOIL SILT FENCE	SY LF	1, 860. 000 774. 000	897. 000 380. 000	963. 000 304. 000	
0350	628. 1504				380. 000	394. 000	
0360	628. 1520	SILT FENCE MAINTENANCE	LF	774. 000	380.000	394.000	
0370 0380	628. 1905 628. 1910	MOBILIZATIONS EROSION CONTROL MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH EACH	2. 000 6. 000	1. 000 3. 000	1. 000 3. 000	
0390	628. 2008	EROSION MAT URBAN CLASS I TYPE B	SY	1, 860. 000	897. 000	963. 000	
0400	628. 7005	INLET PROTECTION TYPE A	EACH	5. 000	2. 000	3. 000	
0410	628. 7020	INLET PROTECTION TYPE D	EACH	25. 000	15. 000	10.000	
0410	628. 7504	TEMPORARY DITCH CHECKS	LF	70. 000	30. 000	40. 000	
0430	628. 7555	CULVERT PIPE CHECKS	EACH	42.000	21.000	21. 000	
0440	629. 0210	FERTILIZER TYPE B	CWT	1. 170	0.560	0. 610	
0450	630. 0120	SEEDI NG MI XTURE NO. 20	LB 	50. 000	24. 000	26. 000	
0460	634. 0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	2.000	2.000	0.000	
0470	634. 0614 634. 0616	POSTS WOOD 4X6-INCH X 14-FT POSTS WOOD 4X6-INCH X 16-FT	EACH EACH	6. 000 5. 000	3. 000 3. 000	3. 000 2. 000	
0480 0490	637. 2210	SIGNS TYPE II REFLECTIVE H	SF	408. 000	206. 750	201. 250	
			-				

DATE 13 LINE	BMAR14	E S 1	ГІМАТ	E O F Q U A N	T I T I E S 5410-02-71	5410-02-72	
NUMBER 0500	ITEM 637.2215	ITEM DESCRIPTION SIGNS TYPE II REFLECTIVE H FOLDING	UNI T SF	TOTAL 164. 320	QUANTI TY 86. 200	QUANTI TY 78. 120	
0510	637. 2230	SIGNS TYPE II REFLECTIVE F REMOVING SIGNS TYPE II	SF	17. 000	12.500	4. 500	
0520 0530	638. 2602 638. 3000	REMOVING SIGNS TYPE IT REMOVING SMALL SIGN SUPPORTS	EACH EACH	61. 000 5. 000	31. 000 3. 000	30. 000 2. 000	
0540	641. 8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 01.	LS	1. 000	1. 000	2.000	
0550	641. 8100	(S-13-431) OVERHEAD SIGN SUPPORT (STRUCTURE) 02. (S-13-432)	LS	1.000	1. 000		
0560	641. 8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 03. (S-13-429)	LS	1. 000		1. 000	<del></del>
0570	641. 8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 04. (S-13-430)	LS	1. 000		1.000	
0580	642. 5201	FIELD OFFÍCE TYPE C	EACH	1. 000	1. 000		
0590	643. 0200	TRAFFIC CONTROL SURVEILLANCE AND	DAY	84. 000	84. 000		
0600	643. 0200	MAINTENANCE (PROJECT) 01. 5410-02-71 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 02. 5410-02-72	DAY	83. 000		83.000	
0610	643. 0300	TRAFFIC CONTROL DRUMS	DAY	43, 692. 000	22, 224. 000	21, 468. 000	
0620	643. 0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	216. 000	82. 000	134. 000	
0630	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	1, 454. 000	730. 000	724. 000	
0640	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	3, 042. 000	1, 542. 000	1, 500. 000	
0650	643. 0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	10, 845. 000	5, 777. 000	5, 068. 000	
0660	643. 0800	TRAFFIC CONTROL ARROW BOARDS	DAY	664.000	332.000	332.000	
0670	643. 0900	TRAFFIC CONTROL SIGNS	DAY	5, 902. 000	2, 984. 000	2, 918. 000	
0680	643. 1050	TRAFFIC CONTROL SIGNS PCMS	DAY	166.000	83.000	83.000	
0690	643. 2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 5410-02-71	EACH	1. 000	1. 000		
0700	643. 2000	TRAFFIC CONTROL DETOUR (PROJECT) 02. 5410-02-72	EACH	1.000		1.000	
0710	643. 3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	460. 000	230. 000	230. 000	
0720	646. 0106	PAVEMENT MARKING EPOXY 4-INCH	LF	13, 611. 000	6, 133. 000	7, 478. 000	
0730	646. 0126	PAVEMENT MARKING EPOXY 8-INCH	LF	6, 857. 000	3, 580. 000	3, 277. 000	
0740	646.0600	REMOVING PAVEMENT MARKINGS	LF	2, 873. 000	1, 473. 000	1, 400. 000	
0750	647. 0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	34. 000	18. 000	16. 000	
0760	647. 0206	PAVEMENT MARKING ARROWS BIKE LANE EPOXY	EACH	10. 000	4. 000	6. 000	
0770	647. 0306	PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY	EACH	14.000	6. 000	8.000	
0780	647. 0356	PAVEMENT MARKING WORDS EPOXY	EACH	16.000	8. 000	8.000	
0790	647. 0456	PAVEMENT MARKING CURB EPOXY	LF	120. 000	60.000	60.000	
0800	647. 0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	427. 000	211. 000	216. 000	
0810	647. 0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	12. 000	6. 000	6. 000	
0820	647. 0726	PAVEMENT MARKING DI AGONAL EPOXY 12-I NCH	LF	51. 000	12.000	39.000	
0830	647. 0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	751. 000	271. 000	480.000	
0840	647. 0955	REMOVING PAVEMENT MARKINGS ARROWS	EACH	20.000	10.000	10.000	
0850	647. 0965	REMOVING PAVEMENT MARKINGS WORDS	EACH	8. 000	2. 000	6. 000	
0860	649. 0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	409. 000	409. 000	<del></del>	
0870	650. 4000	CONSTRUCTION STAKING STORM SEWER	EACH	2.000	2.000	1 045 000	
0880	650. 5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF 	2, 337. 000	1, 272. 000	1, 065. 000	
0890	650. 7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	239. 000	239. 000		
0900	650. 8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 5410-02-71	LS	1. 000	1. 000		
0910	650. 8500	CONSTRUCTION STAKING ELECTRICAL	LS	1.000		1.000	
0920	650. 9910	INSTALLATIONS (PROJECT) 02. 5410-02-72 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5410-02-71	LS	1. 000	1. 000		

DATE 13 LINE	3MAR14	EST	IMATE	0 F Q U A N	T I T I E S 5410-02-71	5410-02-72	
NUMBER 0930	I TEM 650. 9910	ITEM DESCRIPTION CONSTRUCTION STAKING SUPPLEMENTAL	UNI T LS	TOTAL 1. 000	QUANTI TY	QUANTI TY 1. 000	
0940	652. 0220	CONTROL (PROJECT) 02. 5410-02-72 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1	LF	22. 000	22. 000		
0950	652. 0225	1/2-INCH CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	2, 499. 000	1, 340. 000	1, 159. 000	
0960	652. 0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40	LF	806.000	295. 000	511.000	
0970	652. 0615	3-INCH CONDUIT SPECIAL 3-INCH	LF	2, 534. 000	1, 309. 000	1, 225. 000	
0980	652. 0800	CONDUIT LOOP DETECTOR	LF	2, 483. 000	1, 523. 000	960.000	
0990	652. 0900	LOOP DETECTOR SLOTS	LF	80. 000	40. 000	40.000	
1000	653. 0135	PULL BOXES STEEL 24X36-INCH	EACH	14. 000	8. 000	6. 000	
1010	653. 0140	PULL BOXES STEEL 24X42-INCH	EACH	40.000	20.000	20.000	
1020	653. 0905	REMOVING PULL BOXES	EACH	50. 000	26. 000	24. 000	
1030	654. 0102	CONCRETE BASES TYPE 2	EACH	17. 000	9. 000	8.000	
1040	654. 0110	CONCRETE BASES TYPE 10 CONCRETE BASES TYPE 13	EACH	3.000	2.000	1. 000 3. 000	
1050	654. 0113	CUNCRETE BASES TYPE 13	EACH	5. 000	2. 000	3.000	
1060	654. 0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	2. 000	1. 000	1. 000	
1070	655. 0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	2, 583. 000	975. 000	1, 608. 000	
1080	655. 0240	CABLE TRAFFIC SIGNAL 7-14 AWG	LF	3, 682. 000	2, 531. 000	1, 151. 000	
1090	655. 0250 655. 0260	CABLE TRAFFIC SIGNAL 9-14 AWG	LF LF	735. 000 3, 247. 000	499.000	236.000	
1100	655. 0260	CABLE TRAFFIC SIGNAL 12-14 AWG	LF	3, 247. 000	861. 000	2, 386. 000	
1110	655. 0270	CABLE TRAFFIC SIGNAL 15-14 AWG	LF	968. 000	434.000	534.000	
1120	655. 0315	CABLE TYPE UF 2-10 AWG	LF	2, 808. 000	1, 365. 000	1, 443. 000	
1130	655. 0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	5, 708. 000	2, 959. 000	2, 749. 000	
1140	655. 0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	2, 742. 000	1, 218. 000	1, 524. 000	
1150	655. 0700	LOOP DETECTOR LEAD IN CABLE	LF	11, 818. 000	6, 573. 000	5, 245. 000	
1160	655. 0800	LOOP DETECTOR WIRE	LF	11, 244. 000	6, 407. 000	4, 837. 000	
1170	655. 0900	TRAFFIC SIGNAL EVP DETECTOR CABLE	LF	1, 224. 000	578. 000	646. 000	
1180	657. 0100	PEDESTAL BASES	EACH	18. 000	11. 000	7.000	
1190	657. 0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	1. 000		1. 000	
1200	657. 0315	POLES TYPE 4	EACH	1.000		1. 000	
1210	657. 0405	TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT	EVCH	2 000	1 000	2.000	
1210 1220	657. 0405 657. 0420	TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FI	EACH EACH	3. 000 13. 000	1. 000 10. 000	3. 000	
1230	657. 0425	TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	EACH	2. 000	10.000	2. 000	
1240	657. 0609	LUMINAIRE ARMS SINGLE MEMBER 4-INCH	EACH	4. 000		4. 000	
		CLAMP 6-FT		300		555	
1250	657. 1345	INSTALL POLES TYPE 9	EACH	1. 000		1. 000	
1260	657. 1350	INSTALL POLES TYPE 10	EACH	4. 000	2. 000	2. 000	
1270	657. 1360	INSTALL POLES TYPE 13	EACH	3.000	2.000	1.000	
1280	657. 1520	INSTALL MONOTUBE ARMS 20-FT	EACH	1.000	1.000		
1290	657. 1525	INSTALL MONOTUBE ARMS 25-FT	EACH	2. 000	1. 000	1.000	
1300	657. 1530	INSTALL MONOTUBE ARMS 30-FT	EACH	2. 000		2. 000	
1310	657. 1535	INSTALL MONOTUBE ARMS 35-FT	EACH	3. 000	2. 000	1. 000	
1320	657. 1806	INSTALL LUMINAIRE ARMS STEEL 6-FT	EACH	4. 000		4. 000	
1330	657. 1808	INSTALL LUMINAIRE ARMS STEEL 8-FT	EACH	2. 000		2.000	
1340	657. 1810	INSTALL LUMINAIRE ARMS STEEL 10-FT	EACH	4.000	4. 000	22 000	
1350	658. 0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	50. 000	28. 000	22. 000	
1360	658. 0115	TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	EACH	6. 000		6. 000	
1370	658. 0215	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	EACH	50. 000	28. 000	22.000	
1380	658. 0220	BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	EACH	6. 000	/ 000	6.000	
1390	658. 0416 658. 0500	PEDESTRIAN SIGNAL FACE 16-INCH PEDESTRIAN PUSH BUTTONS	EACH EACH	14. 000 18. 000	6. 000 8. 000	8. 000 10. 000	
1400	000. 0000	FLULSINIAN FUSA DUTIONS	EACH	10.000	0. 000	10.000	

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IUMBER	ITEM	ITEM DESCRIPTION	UNI T	TOTAL	QUANTI TY	QUANTI TY	
1410	658. 0600	LED MODULES 12-INCH RED BALL	EACH	32.000	16. 000	16.000	
1420	658. 0605	LED MODULES 12-INCH YELLOW BALL	EACH	24. 000	12. 000	12.000	
1430	658.0610	LED MODULES 12-INCH GREEN BALL	EACH	24.000	12.000	12.000	
1440	658. 0615	LED MODULES 12-INCH RED ARROW	EACH	24.000	12.000	12.000	
1450	658. 0620	LED MODULES 12-INCH YELLOW ARROW	EACH	38. 000	16. 000	22. 000	
1460	658. 0625	LED MODULES 12-INCH GREEN ARROW	EACH	32. 000	16. 000	16. 000	
1470	658. 0635	LED MODULES PEDESTRIAN COUNTDOWN TIMER	EACH	14.000	6. 000	8.000	
		16-I NCH					
1480	658. 5069	SIGNAL MOUNTING HARDWARE (LOCATION) 01. PFLAUM	LS	1. 000	1. 000		
1490	658. 5069	SIGNAL MOUNTING HARDWARE (LOCATION) 02.	LS	1.000		1.000	
1500	659. 1120	BUCKEYE LUMINAIRES UTILITY LED B	EACH	4. 000		4. 000	
1510	/FO 110F	LUMINAL DEC LITELLETY LED C		10,000	10.000	0.000	
1510	659. 1125	LUMINAIRES UTILITY LED C	EACH	18.000	10.000	8. 000	
1520	661. 0200	TEMPORARY TRAFFIC SIGNALS FOR	LS	1. 000	1. 000		
	//4 0000	INTERSECTIONS (LOCATION) 01. PFLAUM					
1530	661. 0200	TEMPORARY TRAFFIC SIGNALS FOR	LS	1. 000		1. 000	
		INTERSECTIONS (LOCATION) 02. BUCKEYE					
1540	690. 0250	SAWING CONCRETE	LF	8, 944. 000	4, 517. 000	4, 427. 000	
1550	715. 0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	500.000	500.000		
1560	ASP. 1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.	HRS	500.000	500. 000		
1570	ASP. 1TOG	OO/HR ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	375. 000	375. 000		
1580	SPV. 0060	SPECIAL 01. SPREAD FOOTINGS TYPE 1	EACH	2. 000	2. 000		
1590	SPV. 0060	SPECIAL 02. CONTRACTOR PROVIDED	EACH	5. 000	2. 000	3. 000	
1070	31 V. 0000	FASTENER COMPONENTS FOR TYPE 9 OR 10 POLES	LHOH	3. 000	2.000	3. 000	
1400	SPV. 0060	SPECIAL 03. CONTRACTOR PROVIDED	EACH	2 000	2 000	1. 000	
1600	3PV. 0000	FASTENER COMPONENTS FOR TYPE 12 OR 13 POLES	EACH	3. 000	2. 000	1.000	
1610	SPV. 0090	SPECIAL 01. CONCRETE CURB & GUTTER	LF	97. 000	67. 000	30.000	
		36-INCH TYPE A SPECIAL VERTICAL CURB					
1610	SPV. 0090 SPV. 0090	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR	LF LF	97. 000 1, 044. 000	67. 000 491. 000	30. 000 553. 000	
1620	SPV. 0090	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT	LF	1, 044. 000	491. 000		
		36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS					
1620 1630	SPV. 0090 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD	LF LS	1, 044. 000 1. 000	491. 000	553. 000	
1620	SPV. 0090	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS	LF	1, 044. 000	491. 000		
1620 1630 1640	SPV. 0090 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD	LF LS LS	1, 044. 000 1. 000 1. 000	491. 000 1. 000	553. 000	
1620 1630	SPV. 0090 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING	LF LS	1, 044. 000 1. 000	491. 000	553. 000	
1620 1630 1640	SPV. 0090 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD	LF LS LS	1, 044. 000 1. 000 1. 000	491. 000 1. 000	553. 000	
1620 1630 1640 1650	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD	LF LS LS	1, 044. 000 1. 000 1. 000 1. 000	491. 000 1. 000	553. 000 1. 000	
1620 1630 1640	SPV. 0090 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING	LF LS LS	1, 044. 000 1. 000 1. 000	491. 000 1. 000	553. 000	
1620 1630 1640 1650	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD	LF LS LS LS	1, 044. 000 1. 000 1. 000 1. 000	491. 000 1. 000	553. 000 1. 000	
1620 1630 1640 1650	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING	LF LS LS LS	1, 044. 000 1. 000 1. 000 1. 000	491. 000 1. 000	553. 000 1. 000	
1620 1630 1640 1650	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 &	LF LS LS LS	1, 044. 000 1. 000 1. 000 1. 000	491. 000 1. 000	553. 000 1. 000	
1620 1630 1640 1650	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD	LF LS LS LS	1, 044. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000	553. 000 1. 000	
1620 1630 1640 1650	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL 05. EVP DETECTOR HEAD	LF LS LS LS	1, 044. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000	553. 000 1. 000	
1620 1630 1640 1650	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL 05. EVP DETECTOR HEAD INSTALLATION USH 51 & PFLAUM ROAD SPECIAL 06. EVP DETECTOR HEAD	LF LS LS LS	1, 044. 000 1. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000	553. 000 1. 000	
1620 1630 1640 1650	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL 05. EVP DETECTOR HEAD INSTALLATION USH 51 & PFLAUM ROAD SPECIAL 06. EVP DETECTOR HEAD INSTALLATION USH 51 & BUCKEYE ROAD SPECIAL 07. TEMPORARY VEHICLE DETECTION	LF LS LS LS	1, 044. 000 1. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000	553. 000 1. 000	
1620 1630 1640 1650 1660	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL 05. EVP DETECTOR HEAD INSTALLATION USH 51 & PFLAUM ROAD SPECIAL 06. EVP DETECTOR HEAD INSTALLATION USH 51 & BUCKEYE ROAD INSTALLATION USH 51 & BUCKEYE ROAD	LF LS LS LS LS LS	1, 044. 000 1. 000 1. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000	553. 000 1. 000	
1620 1630 1640 1650 1660	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL 05. EVP DETECTOR HEAD INSTALLATION USH 51 & PFLAUM ROAD SPECIAL 06. EVP DETECTOR HEAD INSTALLATION USH 51 & BUCKEYE ROAD SPECIAL 07. TEMPORARY VEHICLE DETECTION	LF LS LS LS LS LS	1, 044. 000 1. 000 1. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000	553. 000 1. 000	
1620 1630 1640 1650 1660 1670 1680	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL 02. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL 01. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL 02. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL 03. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL 04. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL 05. EVP DETECTOR HEAD INSTALLATION USH 51 & PFLAUM ROAD SPECIAL 06. EVP DETECTOR HEAD INSTALLATION USH 51 & BUCKEYE ROAD SPECIAL 07. TEMPORARY VEHICLE DETECTION SYSTEM USH 51 & PFLAUM ROAD	LF LS LS LS LS LS LS LS	1, 044. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000	553.000 1.000 1.000	
1620 1630 1640 1650 1660 1670 1680	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL O2. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL O1. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL O2. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL O3. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL O4. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL O5. EVP DETECTOR HEAD INSTALLATION USH 51 & PFLAUM ROAD SPECIAL O6. EVP DETECTOR HEAD INSTALLATION USH 51 & BUCKEYE ROAD SPECIAL O7. TEMPORARY VEHICLE DETECTION SYSTEM USH 51 & PFLAUM ROAD SPECIAL O8. TEMPORARY VEHICLE DETECTION	LF LS LS LS LS LS LS LS	1, 044. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000	553.000 1.000 1.000	
1620 1630 1640 1650 1660 1670 1680	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL O2. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL O1. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL O2. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL O3. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL O4. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL O5. EVP DETECTOR HEAD INSTALLATION USH 51 & PFLAUM ROAD SPECIAL O6. EVP DETECTOR HEAD INSTALLATION USH 51 & BUCKEYE ROAD SPECIAL O7. TEMPORARY VEHICLE DETECTION SYSTEM USH 51 & PFLAUM ROAD SPECIAL O8. TEMPORARY VEHICLE DETECTION	LF LS LS LS LS LS LS LS	1, 044. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000	553.000 1.000 1.000	
1620 1630 1640 1650 1660 1670 1680 1690	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL O2. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL O1. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL O2. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL O3. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL O4. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL O5. EVP DETECTOR HEAD INSTALLATION USH 51 & PFLAUM ROAD SPECIAL O6. EVP DETECTOR HEAD INSTALLATION USH 51 & BUCKEYE ROAD SPECIAL O7. TEMPORARY VEHICLE DETECTION SYSTEM USH 51 & PFLAUM ROAD SPECIAL O8. TEMPORARY VEHICLE DETECTION SYSTEM USH 51 & BUCKEYE ROAD	LF LS LS LS LS LS LS LS LS	1, 044. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000 1. 000	553.000 1.000 1.000	
1620 1630 1640 1650 1660 1670 1680 1690	SPV. 0090 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105 SPV. 0105	36-INCH TYPE A SPECIAL VERTICAL CURB SPECIAL O2. CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT SPECIAL O1. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & PFLAUM ROAD SPECIAL O2. REMOVE TRAFFIC SIGNALS INTERSECTION OF USH 51 & BUCKEYE ROAD SPECIAL O3. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & PFLAUM ROAD  SPECIAL O4. TRANSPORTING AND INSTALLING MICROWAV E DETECTION CABLE USH 51 & BUCKEYE ROAD SPECIAL O5. EVP DETECTOR HEAD INSTALLATION USH 51 & PFLAUM ROAD SPECIAL O6. EVP DETECTOR HEAD INSTALLATION USH 51 & BUCKEYE ROAD SPECIAL O7. TEMPORARY VEHICLE DETECTION SYSTEM USH 51 & PFLAUM ROAD SPECIAL O8. TEMPORARY VEHICLE DETECTION SYSTEM USH 51 & BUCKEYE ROAD SPECIAL O8. TEMPORARY VEHICLE DETECTION SYSTEM USH 51 & BUCKEYE ROAD	LF LS LS LS LS LS LS LS LS	1, 044. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000 1. 000	491. 000 1. 000 1. 000 1. 000	553.000 1.000 1.000	

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### REMOVING ASPHALTIC SURFACE MILLING

#### REMOVING PAVEMENT 204.0100 REMOVING PAVEMENT STREET FROM T0 USH 51 654+11 659+00 USH 51 659+00 661+00 885 USH 51 661+00 666+10 PROJECT TOTAL 885

					204.0120
					REMOVING
					ASPHALTIC SURFACE
					MILLING
 PROJECT	STREET	FROM		T0	SY
5410-02-71	USH 51	654+00	-	659+00	117
	USH 51	659+00	-	661+00	-
	USH 51	661+00	-	666+00	119
				PROJECT TOTAL	236
5410-02-72	USH 51	694+00	-	699+25	169
	USH 51	699+25	-	701+25	-
	USH 51	701+25	-	706+50	85
				PROJECT TOTAL	254
				TOTAL	489

### REMOVING CURB AND GUTTER

					204.0150
					REMOVING CURB AND
					GUTTER
PROJECT	STREET	FROM		T0	LF
5410-02-71	USH 51	654+11	-	659+00	-
	USH 51	659+00	-	661+00	1048
	USH 51	661+00	-	666+10	-
				PROJECT TOTAL	1048
5410-02-72	USH 51	694+29	-	699+25	-
	USH 51	699+25	-	701+25	1086
	USH 51	701+25	-	706+40	-
				PROJECT TOTAL	1086
				TOTAL	2134

HWY: USH 51

### REMOVING CONCRETE SIDEWALK

					204.0155
					REMOVING CONCRETE SIDEWALK
PROJECT	STREET	FROM		T0	SY
5410-02-71	USH 51	654+11	-	659+00	-
	USH 51	659+00	-	661+00	402
	USH 51	661+00	-	666+10	-
				PROJECT TOTAL	402
5410-02-72	USH 51	694+29	-	699+25	-
	USH 51	699+25	-	701+25	450
	USH 51	701+25	-	706+40	-
				PROJECT TOTAL	450
				TOTAL	852

### REMOVING CONCRETE BASES

PROJECT	STREET	SIGN NUMBER	STA	OFFSET	204.0195 REMOVING CONCRETE BASES EACH
5410-02-71	USH 51	S-13-431	659+94.74	133.5' RT	1
31.5 52 11	USH 51	S-13-432	659+97.90	162.3' LT	1
				PROJECT TOTAL	2
5410-02-72	USH 51	S-13-429	699+93.45	141.5' RT	1
	USH 51	S-13-430	700+66.22	144.0' LT	1
				PROJECT TOTAL	2
				TOTAL	4

\* ADDITIONAL QUANTITIES FOR REMOVING CONCRETE BASES ARE LOCATED ON PFLAUM & BUCKEYE TRAFFIC SIGNAL QUANTITIES SHEETS

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

FILE NAME : K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\030201\_mq.dgn

PROJECT NO: 5410-02-71/72

**PROJECT** 

5410-02-71

COUNTY: DANE

PLOT DATE: 2/3/2014

MISCELLANEOUS QUANTITIES

SHEET

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PLOT SCALE: \$\$.....plo†scale.....\$\$ wisdot/cadds sheet 43

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# EXCAVATION COMMON

							205.0100
							EXCAVATION COMMON
PROJECT	STREET	FROM		TO	LOCATION	DESCRIPTION	CY
5410-02-71	PFLAUM RD	12+23	-	13+44	MEDIAN	CONCRETE PAVEMENT REPLACEMENT	98
	PFLAUM RD	14+39	_	15+58	MEDIAN	CONCRETE PAVEMENT REPLACEMENT	94
	USH 51	659+28	_	659+59	LT	ISLAND RECONSTRUCTION	12
	USH 51	660+31	_	660+67	LT	ISLAND RECONSTRUCTION	14
	USH 51	659+06	-	659+60	MEDIAN	ISLAND RECONSTRUCTION	16
	USH 51	660+33	-	661+06	MEDIAN	ISLAND RECONSTRUCTION	22
	USH 51	659+29	-	659+60	RT	ISLAND RECONSTRUCTION	11
	USH 51	660+32	-	660+56	RT	ISLAND RECONSTRUCTION	9
	USH 51	660+48	-	660+73	LT	SIDEWALK RECONSTRUCTION	5
	USH 51	660+53	-	660+78	RT	SIDEWALK RECONSTRUCTION	5
						PROJECT TOTAL	287
5410-02-72	USH 51	699+81	-	700+15	LT	ISLAND RECONSTRUCTION	11
	BUCKEYE RD	22+46	-	23+42	MEDIAN	ISLAND RECONSTRUCTION	25
	USH 51	700+83	-	701+15	LT	ISLAND RECONSTRUCTION	13
	USH 51	699+38	-	699+85	MEDIAN	ISLAND RECONSTRUCTION	16
	USH 51	700+70	-	701+26	MEDIAN	ISLAND RECONSTRUCTION	18
•	USH 51	699+44	_	699+84	RT	ISLAND RECONSTRUCTION	15
	BUCKEYE RD	24+61	-	26+19	MEDIAN	ISLAND RECONSTRUCTION	37
	USH 51	700+44	-	700+77	RT	ISLAND RECONSTRUCTION	14
	USH 51	701+03	-	701+23	LT	SIDEWALK RECONSTRUCTION	4
	USH 51	699+37	-	699+60	RT	SIDEWALK RECONSTRUCTION	4
	USH 51	700+76	-	700+98	RT	SIDEWALK RECONSTRUCTION	4
•						PROJECT TOTAL	160
						TOTAL	 447

### FINISHING ROADWAY

		213.0100
PROJECT	STREET	FINISHING ROADWAY
5410-02-71	USH 51	1
	PROJECT TOTAL	1
5410-02-72	USH 51	1
	PROJECT TOTAL	1
	TOTAL	2

# BASE AGGREGATE DENSE 1 1/4-INCH

							305.0120	624.0100
							BASE AGGREGATE	
							DENSE 1 1/4-INCH	WATER
PROJECT	STREET	FROM		Т0	LOCATION	DESCRIPTION	TON	MGAL
5410-02-71	PFLAUM RD	12+23	-	13+44	MEDIAN	CONCRETE PAVEMENT REPLACEMENT	197	2.9
	PFLAUM RD	14+39	-	15+58	MEDIAN	CONCRETE PAVEMENT REPLACEMENT	188	2.8
	PFLAUM RD	12+30	-	13+34	MEDIAN	TEMPORARY PAVEMENT	44	0.7
	PFLAUM RD	14+53	-	15+49	MEDIAN	TEMPORARY PAVEMENT	33	0.5
	USH 51	659+28	-	659+59	LT	ISLAND RECONSTRUCTION	23	0.4
	USH 51	660+31	-	660+67	LT	ISLAND RECONSTRUCTION	28	0.4
	USH 51	659+06	-	659+60	MEDIAN	ISLAND RECONSTRUCTION	33	0.5
	USH 51	660+33	-	661+06	MEDIAN	ISLAND RECONSTRUCTION	44	0.7
	USH 51	659+29	-	659+60	RT	ISLAND RECONSTRUCTION	21	0.3
	USH 51	660+32	-	660+56	RT	ISLAND RECONSTRUCTION	18	0.3
	USH 51	660+48	-	660+73	LT	SIDEWALK RECONSTRUCTION	13	0.2
	USH 51	660+53	-	660+78	RT	SIDEWALK RECONSTRUCTION	11	0.2
						PROJECT TOTAL	654	9.8
5410-02-72	USH 51	699+81	-	700+15	LT	ISLAND RECONSTRUCTION	22	0.3
	BUCKEYE RD	22+46	-	23+42	MEDIAN	ISLAND RECONSTRUCTION	50	0.7
	USH 51	700+83	-	701+15	LT	ISLAND RECONSTRUCTION	26	0.4
	USH 51	699+38	-	699+85	MEDIAN	ISLAND RECONSTRUCTION	32	0.5
	USH 51	700+70	-	701+26	MEDIAN	ISLAND RECONSTRUCTION	36	0.5
	USH 51	699+44	-	699+84	RT	ISLAND RECONSTRUCTION	29	0.4
	BUCKEYE RD	24+61	-	26+19	MEDIAN	ISLAND RECONSTRUCTION	74	1.1
	USH 51	700+44	-	700+77	RT	ISLAND RECONSTRUCTION	29	0.4
	USH 51	701+03	-	701+23	LT	SIDEWALK RECONSTRUCTION	9	0.1
	USH 51	699+37	-	699+60	RT	SIDEWALK RECONSTRUCTION	9	0.1
	USH 51	700+76	-	700+98	RT	SIDEWALK RECONSTRUCTION	8	0.1
						PROJECT TOTAL	324	4.9
						TOTAL	   978	14.7

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

HWY: USH 51 PROJECT NO: 5410-02-71/72

COUNTY: DANE PLOT DATE: 2/3/2014

MISCELLANEOUS QUANTITIES

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# CONCRETE PAVEMENT

					415.0090 CONCRETE PAVEMENT 9-INCH
PROJECT	STREET	FROM		T0	SY
5410-02-71	USH 51	654+11	-	659+00	-
	USH 51	659+00	-	661+00	885
	USH 51	661+00	-	666+10	-
				PROJECT TOTAL	885

### CONCRETE PAVEMENT REPAIR SHES

					OUNDREIL	AVENERI REFAIR SHE	•					
				CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020
				390.0203	416.0610	416.0610	416.0620	416.0620	416.1715	416.1715	SPV.0090.02	SPV.0090.02
				BASE PATCHING			DRILLED DOWEL	DRILLED DOWEL	CONCRETE PAVEMENT REPAIR SHES	CONCRETE PAVEMENT REPAIR SHES	CONCRETE PAVEMENT REPAIR LONGITUDINAL	CONCRETE PAVEMENT REPAIR LONGITUDINAL
				ASPHALTIC	DRILLED TIE BARS	DRILLED TIE BARS	BARS	BARS			JOINT	JOINT
PROJECT	STREET	FROM	то	SY	EACH	EACH	EACH	EACH	SY	SY	LF	LF
5410-02-71	USH 51	654+11	- 659+00	67	-	287	-	240	-	126	-	323
	USH 51	659+00	- 661+00	-	284	-	329	-	846	-	32	-
	USH 51	661+00	- 666+10	0	-	226	-	485	-	392	-	136
			PROJECT TOTAL	67	284	513	329	725	846	518	32	459
5410-02-72	USH 51	694+29	- 699+25	37	-	291	-	286	-	146	-	308
	USH 51	699+25	- 701+25	-	327	-	366	-	866	-	47	-
	USH 51	701+25	- 706+40	0	-	238	-	406	-	224	-	198
			PROJECT TOTAL	37	327	529	366	692	866	370	47	506
			TOTAL	104	611	1042	695	1417	1712	888	79	965

# TEMPORARY PAVEMENT

					465.0125 ASPHALTIC SURFACE TEMPORARY
PROJECT	STREET	FROM		T0	TON
5410-02-71	PFLAUM RD	12+30	-	13+34	22
	PFLAUM RD	14+53	-	15+49	16
				PROJECT TOTAL	38

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

HWY: USH 51 PROJECT NO: 5410-02-71/72

COUNTY: DANE

MISCELLANEOUS QUANTITIES

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

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RUMBLI	E STR	IIP A	ND A	SPHAL	T

		110111011		AND AUTHAET			
					455.0605	465.0105	465.0400 ASPHALTIC SHOULDER RUMBLI
					TACK COAT	ASPHALTIC SURFACE	STRIP
PROJECT	STREET	FROM		T0	GAL	TON	LF
5410-02-71	USH 51	654+00	-	659+00	3	13	351
	USH 51	659+00	-	661+00	-	-	-
	USH 51	661+00	-	666+00	3	13	351
				PROJECT TOTAL	6	26	702
5410-02-72	USH 51	694+00	-	699+25	4	19	502
	USH 51	699+25	-	701+25	-	-	-
	USH 51	701+25	-	706+50	2	9	260
				PROJECT TOTAL	6	28	762
				TOTAL	12	54	1463

## CONCRETE CURB AND GUTTER

				601.0405	601.0409	601.0555	620.0300	SPV.0090.01
						CONCRETE CURB		
				CONCRETE CURB	CONCRETE CURB	AND GUTTER		CONCRETE CURB AND
				AND GUTTER	AND GUTTER	6" SLOPED	CONCRETE MEDIAN	GUTTER 36" TYPE A
				18" TYPE A	30" TYPE A	36" TYPE A	SLOPED NOSE	SPECIAL VERTICAL CURB
PROJECT	STREET	FROM	то	LF	LF	LF	SF	LF
5410-02-71	USH 51	654+11	- 659+00	-	-	-	-	-
	USH 51	659+00	- 661+00	637	413	155	109	67
	USH 51	661+00	- 666+10	-	-	-	-	- 1
			PROJECT TOTAL	637	413	155	109	67
5410-02-72	USH 51	694+29	- 699+25	-	-	-	-	-
	USH 51	699+25	- 701+25	491	372	172	199	30
	USH 51	701+25	- 706+40	-	-	-	-	-
			PROJECT TOTAL	491	372	172	199	30
			TOTAL	1128	785	327	308	97

# CONCRETE SIDEWALK

				•		
					602.0410	602.0505 CURB RAMP
					CONCRETE SIDEWALK	DETECTABLE WARNING
					5-INCH	FIELD YELLOW
PROJECT	STREET	FROM		T0	SF	SF
5410-02-71	USH 51	654+11	-	659+00	-	-
	USH 51	659+00	-	661+00	3589	64
	USH 51	661+00	-	666+10	-	-
				PROJECT TOTAL	3589	64
5410-02-72	USH 51	694+29	-	699+25	-	-
	USH 51	699+25	-	701+25	3821	96
	USH 51	701+25	-	706+40	-	-
				PROJECT TOTAL	3821	96
				TOTAL	7410	160

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

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PROJECT NO: 5410-02-71/72 HWY: USH 51

FILE NAME: K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\030201\_mq.dgn

COUNTY: DANE

PLOT DATE: 2/3/2014

MISCELLANEOUS QUANTITIES

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

SHEET

PLOT SCALE: \$\$.....plotscale.....\$\$ wisdot/cadds sheet 43

#### STORM SEWER

PROJECT	STREET	FROM	то	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	611.0535  MANHOLE COVERS TYPE J-SPECIAL EACH	611.0639  INLET COVERS TYPE H-S EACH	611.2004  MANHOLES 4-FT  DIAMETER  EACH	611.3230 INLETS 2X3-FT EACH	ADJUSTING INLET COVERS EACH	612.0902.S  INSULATION BOARD POLYSTYRENE 2-INC
5410-02-71	USH 51	654+11	- 659+00							
	USH 51	659+00	- 661+00	50	1	1	1	1	2	4
	USH 51	661+00	- 666+10		5.	12				
			PROJECT TOTAL	50	1	1	1	1	2	4
5410-02-72	USH 51	694+29	- 699+25		-	2 1	1	1	-	
	USH 51	699+25	- 701+25						5	
	USH 51	701+25	- 706+40							
			PROJECT TOTAL	0	0	0	0	0	5	0
			TOTAL	50	1	1	1	1	7	4

#### EROSION CONTROL

				1		T.	Litotto	I CONTINUE					The second second	ri e
PROJECT	STREET	FROM		то	625.0100 TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE	628,2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7005 INLET PROTECTION TYPE A EACH	628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTUR NO. 20 LB
							104		LAUII	LAUII		7		
5410-02-71	USH 51	654+11		659+00	480	181	181	480	1		20	1	0.30	13
	USH 51	659+00		661+00	0.0					15			0.00	
	USH 51	661+00	4.	666+10	417	199	199	417	1		10	14	0.26	11
				PROJECT TOTAL	897	380	380	897	2	15	30	21	0.56	24
5410-02-72	USH 51	694+29	(4)	699+25	504	188	188	504	2		20	7	0.32	14
	USH 51	699+25	- 6	701+25	140	14		* · ·		10			71.	1.0
	USH 51	701+25		706+40	459	205	205	459	1	1	20	14	0.29	12
				PROJECT TOTAL	963	394	394	963	3	10	40	21	0.61	26
				TOTAL	1860	774	774	1860	5	25	70	42	1.17	50

#### OVERHEAD SIGN SUPPORT

PROJECT	STREET	SIGN NUMBER	STA	OFFSET	641.8100 OVERHEAD SIG SUPPORT LS
5410-02-71	USH 51	S-13-431	659+94.74	133.5' RT	1
	USH 51	S-13-432	659+97.90	162.3' LT	1
				PROJECT TOTAL	2
5410-02-72	USH 51	S-13-429	699+93.45	141.5' RT	1
	USH 51	S-13-430	700+66.22	144.0' LT	1
			7	PROJECT TOTAL	2
				TOTAL	4

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

PROJECT NO: 5410-02-71/72

HWY: USH 51

COUNTY: DANE

MISCELLANEOUS QUANTITIES

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

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2-13	SIGN	SIGN		WIDTH		нт.	634.0612 POSTS WOOD 4X6X12	634.0614 POSTS WOOD 4X6X14	634.0616 POSTS WOOD 4X6X16	637.2210 SIGNS TYPE II REFLECTIVE H	637.2215 SIGNS TYPE II REFLECTIVE H	637.2230 SIGNS TYPE II REFLECTIVE F	638.2602 REMOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS	
2-1	NO.	CODE	SIGN MESSAGE	(IN.)		(IN.)	EACH	EACH	EACH	S.F.		SF	EACH	EACH	REMARKS
2-1 81-1F		W5-54			х						ı		<u> </u>		
2-1	2-2	R6-2L		24	X				1	5.00					
2-5 W12-10	l l				х								1		
2-0 83-5.											5.18		1		
2-7 83-84							1			14.00		4.00	4		
2-8   84-7   24   x 30   5.00   1													1		
2-10													1		OVERHEAD STOR
2-11   R1-1F											5.18		1		
2-11													1		
2-14 Js1				36	х	31		1		3.88			1	1	
2-15	2-12		CROSS TO MEDIAN (RIGHT)		X					**			1		SEE SIGN DETAIL
2-15 R4-7											7.46		1		
2-19 R8-2L			NORTH 51					1					1	1	
2-17   R1-1F   30													1		
2-19   W12-10									<u>I</u>	5.00	5 10		4		
2-19							1				5.16	4 00	'		2' MOUNTING HGT
2-20							'			14.00		4100	1		
2-21													1		
2-23 R1-IF	2-21	R4-7		24	х	30							1		
2-24	2-22	R1-2		36	X	31		1		3.88			1	1	
Principle   Prin					X								1		
2-26											7.46		1		
2-27			P†laum Rd												SEE SIGN DETAIL
2-28													'		
2-29   R3-4   36   x   36   9.00   1   2-30   R5-1   36   x   36   9.00   1   2-31   R5-1   36   x   36   9.00   1   2-32   R10-3EL   6   x   10   8-1   2-33   R4-7   24   x   30   5.00   1   2-34   R4-7   24   x   30   1   5.00   1   2-35   R1-1F   36   x   36   7.46   1   2-36   R1-1F   36   x   36   7.46   1   2-37   R1-1F   30   x   30   5.18   1   2-38   R1-1F   30   x   30   5.18   1   2-39   R5-1   30   x   30   5.18   1   2-40   R5-1   30   x   30   8-1   2-41   R10-3ER   CROSS TO MEDIAN (LEFT)   6   x   10   8-25   2-41   R10-3ER   CROSS TO MEDIAN (LEFT)   68   x   10   8-25   2-44   R11-F   30   x   36   8-25   2-45   R1-1F   30   x   36   8-25   2-46   R1-1F   30   x   36   8-25   2-47   R10-3   9   x   9   8-10   2-48   R10-3   9   x   9   8-10   2-49   R10-3   9   x   9   8-10   2-49   R10-3   9   x   9   9   8-10   2-49   R10-3   9   x   9   8-10   2-49   R10-3   9   x   9   8-10   2-49   R10-3   9   x   9   8-10   2-49   R10-3   8-10   8-25   2-41   R10-3   9   x   9   8-10   2-42   R10-3   9   x   9   8-10   2-43   R10-3   9   x   9   8-10   2-44   R10-3   9   x   9   8-10   2-45   R10-3   9   x   9   8-10   2-46   R10-3   9   x   9   8-10   2-47   R10-3   9   x   9   8-10   2-48   R10-3   9   x   9   8-10   2-49   R10-3   8-10   8-10   2-50   R10-3   8-10   8-10   2-51   R5-1   8-10   30   x   30   30   8-10   8-10   30   8													1		
2-30													1		
2-31 R5-1													·		
2-33 R4-7															
2-34 R4-7	2-32	R10-3EL		6	X	10				**					
2-35					X								1		
2-36									1	5.00			1		
2-37													1		
2-38													1		
2-39													1		
2-40   R5-1   R10-3ER										9.00	0110		'		
R10-3ER															
2-43     M1-94     Pflaum Rd     66     x     18       2-44     R1-1F     36     x     36     x       2-45     R1-1F     30     x     30     x       2-46     W5-54     18     x     18       2-47     R10-3     9     x     9       2-48     R10-3     9     x     9       2-49     R10-3ER     6     x     10       2-50     R10-3EL     6     x     10       2-51     R5-1     30     x     30	2-41	R10-3ER		6									1		
2-44     R1-1F     36     x     36     x     36     x     36     x     30	2-42	R10-3EL (MOD)		6	X	10							1		SEE SIGN DETAIL
2-45     R1-1F     30 x 30     5.18     1       2-46     W5-54     18 x 18     2.25       2-47     R10-3     9 x 9     **       2-48     R10-3     9 x 9     **       2-49     R10-3ER     6 x 10     **       2-50     R10-3EL     6 x 10     **       2-51     R5-1     30 x 30     6.25			Pflaum Rd		X					8.25					SEE SIGN DETAIL
2-46     W5-54     18     x     18															
2-47     R10-3     9 x 9     **       2-48     R10-3     9 x 9     **       2-49     R10-3ER     6 x 10     **       2-50     R10-3EL     6 x 10     **       2-51     R5-1     30 x 30     6.25											5.18		1		
2-48 R10-3 9 x 9 ** 2-49 R10-3ER 6 x 10 ** 2-50 R10-3EL 6 x 10 ** 2-51 R5-1 30 x 30 6.25										**		2.25			
2-49 R10-3ER 6 x 10 ** 2-50 R10-3EL 6 x 10 ** 2-51 R5-1 30 x 30 6.25				_											
2-50         R10-3EL         6 x 10         **           2-51         R5-1         30 x 30         6.25				•											
2-51 R5-1 30 x 30 6.25				_											
				30						6.25					
			*5410-0				. 2	3	3		86.20	12.50	31	3	

<sup>\*</sup> ADDITIONAL SIGNING QUANTITIES ARE CONTINUED ON THE NEXT PAGE

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

PROJECT NO: 5410-02-71/72

HWY: USH 51

COUNTY: DANE

MISCELLANEOUS QUANTITIES

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SHEET

<sup>\*\*</sup> PEDESTRIAN PUSH BUTTON SIGNS ARE INCIDENTAL TO PEDESTRIAN PUSH BUTTONS (658.0500)

SIGN	SIGN		WIDTH		нт.	634.0612 POSTS WOOD 4X6X12	634.0614 POSTS WOOD 4X6X14	634.0616 POSTS WOOD 4X6X16	637.2210 SIGNS TYPE II REFLECTIVE H	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING	637.2230 SIGNS TYPE II REFLECTIVE F	638.2602 REMOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS	
NO.	CODE	SIGN MESSAGE	(IN.)		(IN.)	EACH	EACH	EACH	S.F.	SF	SF	EACH	EACH	REMARKS
8 - 1	W5-54		18	х	18		I .				2.25			
8-2	R1-2		36	x	31		1		3.88			1	1	
8-3	R4-7		24	X	30				5.00			1		
8-4	R9-3A		24	X	24		1		4.00					
8-5	R10-3ER		6	x	10				**			1		
8-6	R10-50		30	Х	36				7.50					ABOVE SIGNAL
8-7	R3-5L		42	X	48				14.00			1		OVERHEAD SIGN
8-8	R1-1F		30	X	30					5.18		1		
8-9	R6-2L		24	X	30				5.00					
8-10	R4-7		24	X	30			1	5.00					
8-11	W5-54		18	х	18						2.25			
8-12	R1-1F		36	X	36					7.46		1		
8-13	R1-1F		36	X	36					7.46		1		
8-14	R1-1F		36	X	36					7.46		1		
8-15	R1-1F		30	X	30					5.18		1		
8-16	R10-3ER		6	X	10				**					
8-17	R10-3EL (MOD)	CROSS TO MEDIAN (LEFT)	6	X	10				**			1		
8-18	R3-4		36	X	36				9.00			1		
8-19	R4-7		36	X	48				12.00			1		
8-20	R1-1F		36	X	36					7.46				
8-21	M1-94S	Buckeye Rd / CTH AB	66	Х	42				19.25					SEE SIGN DETAIL
8-22	R10-3ER		6	X	10							1		
8-23	R5 - 1		36	X	36				9.00			1		
8-24	R5 - 1		36	X	36				9.00			1		
8-25	R5 - 1		36	X	36				9.00			1		
8-26	R6-2L		24	X	30				5.00			1		
8-27	M1-94S	Buckeye Rd / CTH AB	66	X	42				19.25					SEE SIGN DETAIL
8-28	R1-1F		36	х	36					7.46		1		
8-29	R10-3EL		6	X	10				**			1		
		CROSS TO MEDIAN (RIGHT)		X	10				**			1		
8-31	R1-1F		36	X	36					7.46		1		
8-32	R1-2		36	X	31		1		3.88			1	1	
8-33	R5-1		36	X	36				9.00			1		
8-34	R4-7		24	X	30				5.00			1		
8-35	R10-50		30	Х	36				7.50					ABOVE SIGNAL
8-36	R3-5L		42	X	48				14.00			1		OVERHEAD SIGN
8-37	R1-1F		30	Х	30					5.18		1		
8-38	R1-1F		30	X	30					5.18		1		
8-39	R4-7		24	Х	30			1	5.00					
8-40	R4-7		36	Х	48				12.00			1		
8-41			36	X	36				9.00	<b>.</b>		1		
8-42	R1-1F		30	X	30					5.18		1		
8-43	R1-1F		36	Х	36				an an	7.46				
8-44	R10-3		6	Х	9				**					
8-45	R10-3		6	Х	9				**					+
8-46	R10-3EL		6	X	10				**					
8-47	R10-3ER		6	X	10									
		*5410-0	2-72 PR	UJEC1	I TOTAL	0	3	2	201.25	78.12	4.50	30	2	
					T0741			_	400.00	404.00	47.00	0.4	_	
					TOTAL	2	6	5	408.00	164.32	17.00	61	5	

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

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COUNTY: DANE HWY: USH 51 PROJECT NO: 5410-02-71/72 MISCELLANEOUS QUANTITIES

FILE NAME : K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\030201\_mq.dgn

PLOT DATE: 2/3/2014

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

PLOT SCALE: \$\$.....plo†scale.....\$\$ WISDOT/CADDS SHEET 43

<sup>\*</sup> ADDITIONAL SIGNING QUANTITIES SHOWN ON THE PREVIOUS PAGE
\*\* PEDESTRIAN PUSH BUTTON SIGNS ARE INCIDENTAL TO PEDESTRIAN PUSH BUTTONS (658.0500)

#### TRAFFIC CONTROL

			TRA CON	.0300 FFIC Trol Ums	TRAFFIC Barri	.0410 CONTROL ICADES E II	TRAFFIC BARR	.0420 CONTROL ICADES E III	TRAFFIC WARNING	.0705 CONTROL G Lights Pe A	TRAFFIC WARNIN	.0715 CONTROL G LIGHTS PE C	TRAFFIC	0800 Control Boards	TRA CON	0900 FFIC TROL GNS	643. TRAFFIC Sic PC	SNS	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE
PROJECT	LOCATION	DAYS	DRUM	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAY	DAY
	PRE-STAGE	1	40	40	0	0	4	4	8	8	14	14	0	0	12	12	0	0	1
PFLAUM INTERSECTION	STAGE 1	41	195	7995	2	82	8	328	18	738	54	2214	4	164	30	1230	2	41	41
5410-02-71	STAGE 2	11	343	3773	0	0	8	88	16	176	69	759	4	44	40	440	2	11	11
	STAGE 3	31	336	10416	0	0	10	310	20	620	90	2790	4	124	42	1302	2	31	31
	SUBTOTAL	84	914	22224	2	82	30	730	62	1542	227	5777	12	332	124	2984	6	83	84
	STAGE 1	41	171	7,011	3	123	10	410	21	861	57	2,337	4	164	29	1,189	2	41	41
BUCKEYE INTERSECTION	STAGE 2	11	311	3,421	1	11	6	66	13	143	51	561	4	44	36	396	2	11	11
5410-02-72	STAGE 3	31	356	11,036	0	0	8	248	16	496	70	2,170	4	124	43	1,333	2	31	31
	SUBTOTAL	83	838	21468	4	134	24	724	50	1500	178	5068	12	332	108	2918	6	83	83
	TOTAL	167	1,752	43,692	6	216	54	1,454	112	3,042	405	10,845	24	664	232	5,902	12	166	167

643.2000 643.3000

TRAFFIC CONTROL TRAFFIC CONTROL DETOUR DETOUR SIGNS

PROJECT	LOCATION	DAYS	EACH	EACH	DAYS
	STAGE 1A	2		46	92
PFLAUM INTERSECTION	STAGE 2	2	-	46	92
5410-02-71	STAGE 3B	1	-	46	46
	SUBTOTAL	5	1	138	230
	STAGE 1A	2		46	92
BUCKEYE INTERSECTION	STAGE 2	2	_	46	92
5410-02-72	STAGE 3B	- 1	-	46	46
	SUBTOTAL	5	1	138	230
	TOTAL		2		460

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

PROJECT NO: 5410-02-71/72

HWY: USH 51

COUNTY: DANE

MISCELLANEOUS QUANTITIES

Е SHEET

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

			_																
					646	.0106		646	.0126	646	.0600	647	.0166	647.	0206	647.	0306	647.	0356
												PAVEMENT	T MARKING						
								PAVEMENT M	ARKING EPOXY	REMOVING	PAVEMENT	ARROWS	S EPOXY	PAVEMENT MAR	RKING ARROWS	PAVEMENT	MARKING	PAVEMENT	MARKING
				PA	VEMENT MARKIN	NG EPOXY 4	1-INCH	8-:	INCH	MARI	KINGS	TYF	PE 2	BIKE LAN	NE EPOXY	SYMBOLS BIK	LANE EPOXY	WORDS	EPOXY
						LF			LF		LF	E.A	ACH	EA	СН	EA	СН	EA	СН
				CAT	T 0010	CAT	0020												
PROJECT	STREET	FROM	то	WHITE	YELLOW	WHITE	YELLOW	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020
5410-02-71	USH 51	654+11 -	659+00	-	-	1196	1214	-	1228	-	-	-	6	-	-	-	-	-	4
	USH 51	659+00 -	661+00	702	692	-	-	912	-	1473	-	6	-	4	-	6	-	-	-
	USH 51	661+00 -	666+10	-	_	1252	1077	_	1440	-	-	_	6	_	-	_	-	-	4
			COLOR TOTAL	702	692	2448	2291	-	-	-	-	-	-	-	-	-	-	-	-
			CATEGORY TOTAL	-	1394	4	739	912	2668	1473	0	6	12	4	0	6	0	0	8
			PROJECT TOTAL			133			580		473		18	4	1		5		3
															-				
5410-02-72	USH 51	694+29 -	699+25	-	-	1302	1135	_	1402	_	-	_	6	_	-	_	-	-	4
	USH 51	699+25 -	701+25	1248	1448	-	-	465	-	1400	-	4	-	6	-	8	-	-	-
	USH 51	701+25 -	706+40	-	-	1257	1090	_	1410	-	-	-	6	-	-	-	-	-	4
			COLOR TOTAL	1248	1448	2559	2224	-	-	-	-	-	-	-	-	-	-	-	-
			CATEGORY TOTAL	2	2695	4	783	465	2812	1400	0	4	12	6	0	8	0	0	8
			PROJECT TOTAL		74	179		33	277	14	400	1	16	6	3		3	8	3
								Ì				İ				İ			
			TOTAL		13	612		68	857	28	873	:	34	1	0	1	4	1	6

				647	. 0456	647. PAVEMENT		647	.0606		0726 MARKING		0766 Γ MARKING	647.	0955	647.	0965	649.	0100
				DAVEMENT	Γ MARKING	STOP LI		DAVEMENT MA	RKING ISLAND		L EPOXY		LK EPOXY	REMOVING	DAVEMENT	REMOVING	DAVEMENT	TEMPORARY	DAVEMENT
				CURB	EPOXY	18-1	INCH	NOSE	EPOXY	12-	INCH	6-1	NCH	MARKINGS	ARROWS	MARKING	S WORDS	MARKING	4-INCH
				ı	_F	L	F	E/	/CH		LF		LF	EA	СН	EA	СН	L	F
PROJECT	STREET	FROM	T0	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020	CAT 0010	CAT 0020
5410-02-71	USH 51	00+00 -	659+00	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
	USH 51	659+00 -	661+00	60	-	211	-	6	-	12	-	271	-	6	-	2	-	409	-
	USH 51	661+00 -	666+10	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
			CATEGORY TOTAL	60	0	211	0	6	0	12	0	271	0	6	4	2	0	409	0
			PROJECT TOTAL	(	30	2.	11		6	1	2	2	71	1	0	2	2	40	9
5410-02-72	USH 51	694+29 -	699+25	-	-	-	-	-	-	-	-	-	-	-	2	-	2	-	-
	USH 51	699+25 -	701+25	60	-	216	-	6	-	39	-	480	-	6	-	2	-	-	-
	USH 51	701+25 -	706+40	-	-	-	-	-	-	-	-	-	-	-	2	-	2	-	-
			CATEGORY TOTAL	60	0	216	0	6	0	39	0	480	0	6	4	2	4	0	0
			PROJECT TOTAL	(	30	2.	16		6	3	19	4	30	1	0	6	3	C	)
			TOTAL	1	20	42	27	-	12	5	51	7:	51	2	0	ε	3	40	9

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

PROJECT NO: 5410-02-71/72

3

HWY: USH 51

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

Е

FILE NAME : K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\030201\_mq.dgn

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

PLOT SCALE: \$\$.....plo†scale.....\$\$ WISDOT/CADDS SHEET 43

#### MOBILIZATION

		619.1000
PROJECT	STREET	MOBILIZATION EACH
5410-02-71	USH 51	0.5
	PROJECT TOTAL	0.5
5410-02-72	USH 51	0.5
	PROJECT TOTAL	0.5
	TOTAL	1.0

#### EROSION CONTROL MOBILIZATION

		628.1905	628.1910
			MOBILIZATIONS
		MOBILIZATIONS	EMERGENCY
		EROSION CONTROL	EROSION CONTROL
PROJECT	STREET	EACH	EACH
5410-02-71	USH 51	1	3
	PROJECT TOTAL	1	3
5410-02-72	USH 51	1	3
	PROJECT TOTAL	1	3
	TOTAL	2	6

#### FIELD OFFICE

PROJECT	STREET	642.5201 FIELD OFFICE TYPE C EACH
5410-02-71	USH 51	1.0
	PROJECT TOTAL	1.0
•	TOTAL	1.0

#### CONSTRUCTION STAKING

					650.4000	650.5500	650.7000	650.8500	650.9910
PROJECT	STREET	FROM		то	CONSTRUCTION STAKING STORM SEWER EACH	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	CONSTRUCTION STAKING CONCRETE PAVEMENT LF		CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS
5410-02-71	USH 51	654+11	-	659+00	-	-	-	-	-
	USH 51	659+00	-	661+00	2	1272	239	1	1
	USH 51	661+00	-	666+10	-	-	-	-	-
	_			PROJECT TOTAL	2	1272	239	1	1
5410-02-72	USH 51	694+29	-	699+25	-	-	-	-	-
	USH 51	699+25	-	701+25	-	1065	-	1	1
	USH 51	701+25	-	706+40	-	-	-	-	-
				PROJECT TOTAL	0	1065	0	1	1
	_			TOTAL	2	2337	239	2	2

#### SAWING CONCRETE

					CAT 0010	CAT 0020
					690.0250	690.0250
					SAWING CONCRETE	SAWING CONCRETE
PROJECT	STREET	FROM		T0	LF	LF
5410-02-71	USH 51	654+11	-	659+00	-	1197
	USH 51	659+00	-	661+00	2160	-
	USH 51	661+00	-	666+10	-	1160
				PROJECT TOTAL	2160	2357
5410-02-72	USH 51	694+29	-	699+25	-	1183
	USH 51	699+25	-	701+25	1808	-
	USH 51	701+25	-	706+40	-	1436
				PROJECT TOTAL	1808	2619
				TOTAL	3968	4976

#### TEMPORARY CROSSWALK ACCESS

			SPV.0105.09 TEMPORARY CROSSWALK ACCESS
_	PROJECT	STREET	LS
_	5410-02-71	USH 51	1
		PROJECT TOTAL	1

#### TEMPORARY CROSSWALK ACCESS

		SPV.0105.10 TEMPORARY CROSSWALK ACCESS
PROJECT	STREET	LS
5410-02-72	USH 51	1
_	PROJECT TOTAL	1

QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

PROJECT NO: 5410-02-71/72

HWY: USH 51

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

Е

TRAFFIC SIGNAL QUANTITIES

USH 51 & PFLAUM ROAD

PB23

PB24

PB25

PB26

PB28

NO.	STATION	LOCATION	EACH
LL BOX			BOXES
			PULL
			REMOVING
			653.0905

PULL BOX			BOXES
NO.	STATION	LOCATION	EACH
PB1	660+54.6	131.8' RT	1
PB2	660+62.9	86.3' RT	1
PB3	660+43.3	51.4' RT	1
PB4	660+72.7	3.0' LT	1
PB6	660+58.0	24.7' LT	1
PB7	660+53.5	67.5' LT	1
PB8	665+15.6	81.5' LT	1
550	000.00.0	0.4 511 7	

663+33.0 PB10 660+72.2 93.3' LT 660+69 2 96.0' L 73.4' LT PB12 660+37.7 PB13 659+99.8 74.7' LT 659+98.3 142.7' LT 659+49.7 69.9' LT PB17 659+18.5 95 4' I T PR18 659+38.6 144 4' I T PB19 659+27.3 14.8' LT PB22 659+56.5

65.3' RT

65.3' RT

77 6' RT

59.1' RT

133.4' RT

\*\*\* TOTAL

654+68.3

656+68.3

659+24 0

659+93.5

659+94.3

659+95.4

PULL BOXES STEEL 24X36-INCH PULL BOXES STEEL 24X42-INCH

PULL BOX			653.0135 PULL BOXES STEEL 24X36-INCH	653.0140 PULL BOXES STEEL 24X42-INCH
NO.	STATION	LOCATION	EA CH	EACH
PB1	660+80.9	89.0' LT		1
PB2	663+13.8	81.5' LT	1	
PB3	665+78.8	81.5' LT	1	
PB4	660+80.9	25.3' LT		1
PB5	660+57.9	24.7' LT	1	
PB6	660+80.9	2.8' LT		1
PB8	660+80.9	68.9' RT		1
PB9	660+43.2	59.9' RT		1
PB10	660+61.4	88.7' RT		1
PB11	660+18.3	88.6' RT		1
PB12	660+17.7	73.2' RT	1	
PB13	659+89.4	88.6' RT		1
PB14	659+32.8	88.6' RT		1
PB15	659+55.8	61.3' RT		1
PB16	659+12.0	72.4' RT		1
PB17	656+84.3	65.3' RT	1	
PB18	654+19.3	65.3' RT	1	
PB19	659+12.0	9.2' RT		1
PB20	659+38.4	8.9' RT	1	
PB21	659+38.4	8.9' RT		1
PB23	659+12.0	90.2' LT		1
PB24	659+26.3	109.2' LT		1
PB25	659+50.0	81.2' LT		1
PB26	659+75.1	109.2' LT		1
PB27	659+77.3	89.5' LT	1	
PB28	660+03.9	109.2' LT		1
PB29	660+55.4	109.2' LT		1
PB30	660+42.6	76.9' LT		1

<sup>\*</sup> FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD \*\*\* A DDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEY E ROAD

\*\*\* TOTALS

CONDUIT LOOP DETECTOR LOOP DETECTOR LEAD IN CABLE LOOP DETECTOR WIRE LOOP DETECTOR SLOTS

							652.0800 CONDUIT LOOP	655.0700 LOOP DETECTOR LEAD IN	655.0800 LOOP DETECTOR	652.0900 LOOP DETECTOR
LOOP	HOME				NO. OF	SDDINSTALLATION	DETECTOR	CABLE	WIRE	SLOTS
NO.	RUN PB	STATION	LOCATION	SIZE	TURNS	REFERENCE	L.F.	L.F.	L.F.	L.F.
11	PB22	658+10.1	1.6' RT	6'X6'	4	EXISTING LOOP W/ JUNCTION BOX	-	372	106	
12	PB21	659+38.2	5.8' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	74	274	232	
13	PB24	13+14.1	63.2' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	80	174	250	
21	PB3	668+78.8	49.0' LT	6'X6'	6	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	82	513	502	10
22	PB3	666+76.8	37.0' LT	6'X6'	6	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	106	513	646	10
23	PB5	660+63.8	49.0' LT	6'X6'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68	112	214	
24	PB5	660+63.8	37.0' LT	6'X6'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	46	112	148	
31	PB12	14+78.8	9.3' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68	270	214	
32	PB12	14+50.9	6.3' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68	270	214	
33	PB13	14+80.0	1.7' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	284	226	
34	PB12	14+52.1	4.6' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	90	270	280	
51	PB7	661+95.2	20.8' LT	6'X6'	4	EXISTING LOOP W/ JUNCTION BOX	-	221	106	
52	PB4	660+61.6	11.2' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	76	89	238	
53	PB10	14+69.1	57.6' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	77	212	241	
61	PB18	654+19.3	32.0' RT	6'X12'	6	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	96	854	586	10
62	PB18	654+21.3	20.0' RT	6'X12'	6	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	120	854	730	10
63	PB20	659+34.3	32.0' RT	6'X6'	5	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	65	324	335	
64	PB20	659+34.3	20.0' RT	6'X6'	5	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	42	324	220	
71	PB27	13+05.1	8.3' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	67	145	211	
72	PB27	13+32.9	5.3' RT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	67	145	211	
73	PB28	13+03.9	2.7' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	71	96	223	
74	PB27	13+31.7	5.6' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	88	145	274	
NOTE: LOOD D		ro 4 000000 01 101	II DED I CODTO D		L EVICTINO DA	*** TOTALS	1523	6573	6407	40

NOTE: LOOP DETECTOR SLOTS ACROSS SHOULDER LOOP TO BE INSTALLED IN EXISTING BASE.

\* STATION AND LOCATION IS TO FRONT CENTER OF DETECTION LOOP \*\* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

\*\*\* A DDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEY E ROAD

REMOVING CONCRETE BASES

STATION

660+75.6

660+60.1

660+41.1

660+52

660+36.9

659+99.6

659+50.7

659+93.1

CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/2-INCH CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH

CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH

PB1

PB2

PB3

PB4

PB5

PB8

PB7

PB9

PB10

PB11

PB14

PB15

PB16

PB17

PB18

PB19

PB20

PB21

PB22

PB23

PB24

PR27

PB28 PB29

PB30

EXT1

SB2

EXT2

SB8 SB9

SB13

FXT3

SB17

EXT4

SB20

SB21

SB22

SB23

\*\*\* TOTALS

PROJECT NO:5410-02-71

LOCATION

100.0' LT

83.6' RT

54.4' RT

67.9' LT

89.0' LT 74.2' LT

67.1' RT \*\*\* TOTAL

\*\*\* A DDITIONAL QUANTITIES LISTED AT INTERSECTION OF USH 51 & BUCKEYE ROAD

652.0220 CONDUIT RIGID NONMETALLIC

SCHEDULE 40

1 1/2-INCH

EXISTING

BASE

NO.

CB1

SB2

SB4

SB5

SB6

CONDUIT SPECIAL 3-INCH

FROM

CB1

PB1

PB2

PB4

PB6

PB6

PB8

PB8

PB10

PB13

PB14

PB14

PB16

PB16

PB19

PB19

PB21

PB21

PB23

PB24 PB26

PB26

PB28

PB29 PB30

PB30

PB1

PB8

PB9

PB9

PB15

PR16

PB21

PB23

PB25

PB25

PB27

PB28

3

204.0195

REMOVING

CONCRETE

BASES

EA CH

652.0225

CONDUIT

RIGID NONMETALLIC

SCHEDULE 40

2-INCH

233

23

228

26

652.0235

CONDUIT

RIGID NONMETALLIC

SCHEDULE 40

3-INCH

24

10

HWY: USH 51

652.0615

CONDUIT

SPECIAL

3-INCH

128

86

114

152

104

COUNTY: DANE

MISCELLANEOUS QUANTITIES

Ε SHEET

PAGE 1 OF 4

FILE NAME : K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\01\_Pflaum\030201\_mq.dgn

PLOT DATE: 1/22/2014

PLOT BY : GRAEF PLOT NAME :

<sup>\*\*\*</sup> ADDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEYE ROAD

<sup>\*\*\*</sup> ADDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEYE ROAD

TRAFFIC SIGNAL QUANTITIES USH 51& PFLAUM ROAD

CONCRETE BASES TY PE 2 CONCRETE BASES TY PE 10 CONCRETE BASES TY PE 13 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL SPREAD FOOTINGS TYPE 1

BASE NO.	STATION	LOCATION	654.0102 CONCRETE BASES TY PE 2 EACH	654.0110 CONCRETE BASES TY PE 10 EACH	654.0113 CONCRETE BASES TY PE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASES TY PE 9 SPECIAL EACH	SPV.0060.01 SPREAD FOOTINGS TY PE 1 EACH
CB1	660+79.6	96.8 LT				1	
			4			ı	
SB1	660+48.8	68.3' LT	1				
SB2	660+39.4	76.8' LT		1			
SB4	660+48.8	25.6' LT	1				
SB5	660+48.8	21.6' LT	1				
SB8	660+48.8	52.3' RT			1		
SB9	660+41.3	56.0' RT	1				
SB10	660+68.1	80.5' RT	1				
SB11	660+16.7	52.2' RT	1				
SB12	659+86.6	68.4' RT					1
SB13	659+49.3	55.3' RT		1			
SB17	658+96.3	17.6' LT	1				
SB20	659+52.1	73.8' LT	1				
SB21	659+43.9	70.5' LT			1		
SB22	659+80.1	68.7' LT	1				
SB23	660+07.7	84.4' LT					1
		***TOTALS	9	2	2	1	2

<sup>\*</sup> FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

CABLE TYPE UF 2-10 AWG ELECTRICAL WIRE LIGHTING 12 AWG

3

ELECTRICAL	L WIRE LIGHTING	ZAVVG	
		655.0315	655.0610
		CABLE TYPE UF	ELECTRICAL
		2-10 AWG	WIRE LIGHTING
		(W/ GROUND)	12 AWG
FROM	ТО	L.F.	L.F.
TOW	10	L.I .	E.I.
OB1	SB3	70	
SB3	LUMIN	70	117
,00	LOIVIII		1117
3	SB6	172	
6	LUMIN		117
	LOIVIII		***
B6	SB7	139	
B7	LUMIN	100	117
	20111111		
B7	SB8	103	
B8	LUMIN		129
CB1	SB2	82	
SB2	LUMIN		129
B2	SB21	252	
B21	LUMIN		129
21	SB18	130	
318	LUMIN		117
318	SB16	136	
316	LUMIN		117
B16	SB14	150	
SB14	LUMIN	.50	117
	_ 3111		
SB14	SB13	131	
SB13	LUMIN	.51	129
0	_ 3,,,,,,		.20
	*** TOTALS	1365	1218
DDITIO	NA L QUANTITIES S	SHOWN AT INTERSECT	ION OF USH 51 &
KEY E F			

\*\*\* TOTAL \*\*\* A DDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEY E ROAD

SB2

PB30

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM CB1

655.0515

133

CABLE TRAFFIC SIGNAL 5-14 AWG CABLE TRAFFIC SIGNAL 7-14 AWG CABLE TRAFFIC SIGNAL 9-14 AWG CABLE TRAFFIC SIGNAL 12-14 AWG CABLE TRAFFIC SIGNAL 15-14 AWG

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG	655.025 CABLE TRAFFIC SIGNAL 9-14 AWG	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0270 CABLE TRAFFIC SIGNA 15-14 AWG
FRUIVI	10	L.F.	L.F.	L.F.	L.F.	L.F.
CB1	SB1				96	
SB1	HEAD 5	19			30	
SB1	HEAD 7	19				
SB1	HEAD 29	18				
CB1	SB2	10	88			
SB2	HEAD 14	44	00			
SB2	HEAD 15	22				
CB1	SB4	133				
CB1	SB5	100			134	
SB5	HEAD 6	19			104	
SB5	HEAD 30	18				
SB5	HEAD 31	18				
CB1	SB6	10			137	
SB6	HEAD 10	19			101	
SB6	HEAD 10 HEAD 20	19				
CB1	SB8	19		257		
SB8	HEAD 2	58		201		
SB8	HEAD 3	46				
SB8	HEAD 32	18				
CB1	SB9	10			251	
SB9	HEAD 13	19			201	
SB9	HEAD 25	19				
SB9	HEAD 33	18				
CB1	SB10	10		242		
SB10	HEAD 19	19		242		
SB10	HEAD 34	18				
CB1	SB11	10	333			
SB11	HEAD 26	19	303			
CB1	SB12	10	341			
SB12	HEAD 16	19	041			
CB1	SB13					434
SB13	HEAD 1	19				
SB13	HEAD 11	19				
SB13	HEAD 22	48				
SB13	HEAD 23	32				
CB1	SB15		373			
SB15	HEAD 12	19				
CB1	SB16		307			
SB4	HEAD 4	19				
CB1	SB17		320			
SB17	HEAD 28	19				
CB1	SB19		211			
SB19	HEAD 27	19				
CB1	SB20				243	
SB20	HEAD 17	19				
SB20	HEAD 21	19				
CB1	SB21		247			
SB21	HEAD 8	58				
SB21	HEAD 9	46				
CB1	SB22		184			
SB18	HEAD 18	19				
CB1	SB23		127		_	
SB24	HEAD 24	19				
	_					
	TOTALS***	975	2531	499	861	434

ADDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEY E ROAD

PAGE 2 OF 4

PROJECT NO:5410-02-71 HWY: USH 51 COUNTY: DANE

2959

MISCELLANEOUS QUANTITIES

PLOT NAME :

Ε SHEET

FILE NAME : K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\01\_Pflaum\030201\_mq.dgn

PLOT DATE: 1/22/2014 PLOT BY : GRAEF

<sup>\*\*\*</sup> A DDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEY E ROAD

TRAFFIC SIGNAL QUANTITIES USH 51& PFLAUM ROAD ALL ITEMS CATEGORY 0010

TRAFFIC SIGNAL EVP DETECTOR CABLE

655.0900 FROM SB8 (HEAD A) 294 CB1 SB21 (HEADB) 284 \*\*\* TOTAL

\*\*\* ADDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEYE ROAD

SIGNAL MOUNTING HARDWARE
INTERSECTION OF USH 51 & PFLAUM ROAD

658.5069.01 LOCATION USH 51 & PFLAUM ROAD TOTAL

SPV.0060.02 SPV.0060.03

PEDESTAL BASES TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT INSTALL POLES TYPE 10 INSTALL POLES TYPE 13 INSTALL MONOTUBE ARMS 20-FT INSTALL MONOTUBE ARMS 25-FT INSTALL MONOTUBE ARMS 35-FT INSTALL LUMINAIRE ARMS STEEL 10-FT PEDESTRIAN PUSH BUTTONS LUMINAIRES UTILITY LED C CONTRACTOR SUPPLIED FASTENER COMPONENTS FOR TY PE 9 OR 10 POLES CONTRACTOR SUPPLIED FASTENER COMPONENTS FOR TYPE 12 OR 13 POLES

SIGNAL BASE NO.	657.0100 PEDESTAL BASES EACH	657.0405 TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.1350 INSTALL POLES TY PE 10 EACH	657.1360 INSTALL POLES TY PE 13 EA CH	657.1520 INSTALL MONOTUBE ARMS 20-FT EACH	657.1525 INSTALL MONOTUBE ARMS 25-FT EACH	657.1535 INSTALL MONOTUBE ARMS 35-FT EACH	657.1810 INSTALL LUMINAIRE ARMS STEEL 10-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	659.1125 LUMINA IRES UTILITY LED C EACH	CONTRACTOR PROVIDED FASTENER COMPONENTS FOR TY PE 9 OR 10 POLES EACH	CONTRACTOR PROVIDED FASTENER COMPONENTS FOR TY PE 12 OR 13 POLES EACH
SB1	1		1							1			
SB2	'		'	1		1			1	'	1	1	
SB3				'		'			'		1	'	
SB4	1	1								1			
SB5	1		1							1			
SB6											1		
SB7											1		
SB8					1			1	1	1	1		1
SB9	1		1							2			
SB10	1		1							1			
SB11	1		1										
SB12	1		1										
SB13				1			1		1		1	1	
SB14											1		
SB16											1		
SB17	1		1										
SB18											1		
SB20	1		1							1			
SB21					1			1	1		1		1
SB22	1		1										
SB23	1		1										
*** TOTALS -	11	1	10	2	2	1	1	2	4	8	10	2	2

\*\*\* ADDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEYE ROAD

PAGE 3 OF 4

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PROJECT NO:5410-02-71 HWY: USH 51 COUNTY: DANE

PLOT BY : GRAEF

MISCELLANEOUS QUANTITIES

PLOT SCALE: 40.0000 sf / in.

PLOT DATE: 1/22/2014

PLOT NAME :

TRAFFIC SIGNAL QUANTITIES
USH 51 & PFLAUM ROAD
ALL ITEMS CATEGORY 0010

3

TRA FFIC SIGNAL FACE 3-12 INCH VERTICAL
BACKPLATES SIGNAL FACE 3 SECTION 12-INCH
PEDESTRIAN SIGNAL FACE 16-INCH
LED MODULES 12-INCH RED BALL
LED MODULES 12-INCH GREEN BALL
LED MODULES 12-INCH GREEN BALL
LED MODULES 12-INCH RED ARROW
LED MODULES 12-INCH SPEEN ARROW
LED MODULES 12-INCH GREEN ARROW

3

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INOH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH Y ELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED A RROW EA CH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0625 LED MODULES 12-INCH GREEN ARROW EACH	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB13	1	1		1	1	1				
2	SB8	1	1		1	1	1				
3	SB8	1	1		1	1	1	4	4	4	
4	SB16	1	1					1	1	1	
5	SB1	1	1					1	1	1	
6	SB5 SB1	1	1					1	1	1	
, 8	SB1 SB21	1	1		1	1	1				
9	SB21	1	1		1	1	1				
10	SB21	1	1		1	1	1	1	1	- 1	
11	SB13	1	1					1	1	1	
12	SB15	1	1					1	1	1	
13	SB9	1	1		1	1	1	ı	'	'	
14	SB2	1	1		1	1	1				
15	SB2	1	1		1	1	1				
16	SB12	1	1		ı	ı	'	1	1	1	
17	SB20	1	1					1	1	1	
18	SB22	1	1					1	1	1	
19	SB10	1	1		1				1	1	
20	SB6	1	1		1				1	1	
21	SB20	i 1	1		1	1	1				
22	SB13	1	1		1	1	1				
23	SB13	1	1		1	1	1				
24	SB23	1	1					1	1	1	
25	SB9	1	1					1	1	1	
26	SB11	1	1					1	1	1	
27	SB19	1	1		1				1	1	
28	SB17	1	1		1				1	1	
29	SB1			1							1
30	SB4			1							1
31	SB5			1							1
32	SB8			1							1
33	SB9			1							1
34	SB10			1							1
	*** TOTALS	28	28	6	16	12	12	12	16	16	6

\*\*\* A DDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & BUCKEYE ROAD

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS TEMPORARY VEHICLE DETECTION SYSTEM

LOCATION	661.0200.01 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS L.S.	SPV.0105.07 TEMPORARY VEHICLE DETECTION SY STEM L.S.
USH 51 & PFLAUM ROAD	1	1
TOTALS	1	1

INTERSECTION	SPV.0105.01 REMOVE TRAFFIC SIGNALS L.S.	SPV.0105.03 TRA NSPORTING AND INSTALLING MICROWAVE DETECTION CABLE L.S.	SPV.0105.05 EVP DETECTOR HEAD INSTALLATION L.S.
USH 51 & PFLA UM ROAD	1	1	1
TOTAL	1	1	1

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
2	EACH	POLES TYPE 10
2	EACH	POLES TYPE 13
1	EACH	MONOTUBE ARMS 20-FT
1	EACH	MONOTUBE ARMS 25-FT
2	EACH	MONOTUBE ARMS 35-FT
4	EACH	LUMINAIRE ARMS STEEL 10-FT
1	LS	MICROWAVE DETECTION CABLE
1	LS	EVP DETECTOR HEADS

PAGE 4 OF 4

PROJECT NO:5410-02-71

HWY:USH 51

COUNTY: DANE

MISCELLANEOUS QUANTITIES

PLOT BY : GRAEF

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SIILLI

HEET

FILE NAME : K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\01\_Pflaum\030201\_mq.dgn

PLOT DATE : 1/22/2014

PLOT NAME :

3

				204.0195
				REMOVING
	EXISTING			CONCRETE
	BASE			BASES
_	NO.	STATION	LOCATION	EA CH
	CB1	699+30.3	80.8' RT	1
	SB14	700+62.2	54.8' RT	1
	SB16	700+96.8	20.9' LT	1
_	SB17	700+94.4	63.3' LT	1
	SB18	700+51.2	76.9' LT	1
	SB19	699+99.8	67.6' LT	1
_	SB23	699+69.1	52.6' RT	1
	SB24	700+10.9	61.0' RT	1
			*** TOTAL	8

\*\*\* A DDITIONAL QUANTITIES SHOW AT USH 51 & PFLAUM ROAD

CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH CONDUIT SPECIAL 3-INCH

		652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	652.0615 CONDUIT SPECIAL 3-INCH
FROM	ТО	L.F.	L.F.	L.F.
CB1	PB1		36	
PB1	PB2	240		
PB2	PB3	265		
PB1	PB4			32
PB1	PB5			144
PB5	PB6		12	
PB5	PB7			46
PB7	PB9			124
PB9	PB10		64	
PB10	PB11			35
PB10	PB12		76	
PB12	PB13			124
PB13	PB14			100
PB14	PB15		40	
PB15	PB16	245		
PB16	PB17	265		
PB15	PB18			29
PB15	PB19			136
PB19	PB20	18		
PB19	PB21			46
PB21	PB23			132
PB23	PB24		52	
PB24	PB25			39
PB24	PB26		96	
PB26	PB27			142
PB27	PB28			96
PB28	CB1		63	
PB1	EXT1	10		
PB4	SB2	7		
PB6	SB3	11		
PB11	SB7		6	
PB11	SB8	5		
PB6	SB9	44		
PB15	EXT3	8		
PB18	SB11	-	12	
PB18	SB12	4	· <del>-</del>	
PB20	SB13	13		
PB20	SB14	14		
PB25	SB18	17	15	
PB25	SB19	4	10	
PB25	SB20	6		
PB27	SB21	U	39	
1021	0021		55	
	*** TOTALS -	1159	511	1225
	*** TOTALS	1159	511	1225

\*\*\* A DDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & PFLAUM ROAD

PULL BOXES STEEL 24X36-INCH PULL BOXES STEEL 24X42-INCH

PULL BOX NO.	STA TION	LOCATION	653.0135 PULL BOXES STEEL 24X36-INCH EACH	653.0140 PULL BOXES STEEL 24X42-INCH EACH
PB1	699+43.0	79.1' RT		1
PB2	697+05.4	67.0' RT	1	
PB3	694+40.7	67.0' RT	1	
PB4	699+65.0	56.4' RT		1
PB5	699+43.1	7.3' RT		1
PB6	699+55.4	7.3' RT	1	
PB7	699+43.2	16.1' LT		1
PB9	699+43.3	77.6' LT		1
PB10	699+73.4	87.4' LT		1
PB11	700+00.0	64.6' LT		1
PB12	699+97.1	116.9' LT		1
PB13	700+58.8	110.9' LT		1
PB14	701+08.6	106.1' LT		1
PB15	701+20.8	90.1' LT		1
PB16	703+64.4	79.0' LT	1	
PB17	706+29.4	79.0' LT	1	
PB18	701+01.6	68.0' LT		1
PB19	701+20.8	22.1' LT		11
PB20	701+02.6	22.1' LT	1	
PB21	701+20.8	1.3' RT		1
PB23	701+20.8	67.7' RT		11
PB24	700+97.4	79.7' RT		1
PB25	700+61.5	64.7' RT		1
PB26	700+70.7	120.0' RT		1
PB27	700+01.4	104.9' RT		1
PB28	699+54.2	94.7' RT		1
		*** TOTALS	6	20

\* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD \*\*\* A DDITIONAL QUANTITIES SHOWN AT USH 51 & PFLAUM ROAD

TRAFFIC SIGNAL QUANTITIES USH 51 & BUCKEYE ROAD ALL ITEMS CATEGORY 0010

REMOVING PULL BOXES

			653.0905
			REMOVING
			PULL
PULL BOX			BOXES
NO.	STATION	LOCATION	EACH
PB29	700+48.7	155.8' RT	1
PB30	700+97.4	79.7' RT	1
PB31	700+61.4	64.6' RT	1
PB32	701+13.6	1.4' RT	1
PB34	701+11.7	21.7' LT	1
PB35	700+95.9	65.0' LT	1
PB36	701+23.9	86.3' LT	1
PB37	703+62.6	82.0' LT	1
PB38	705+71.9	83.4' LT	1
PB39	700+50.7	73.3' LT	1
PB40	700+61.6	121.5' LT	1
PB41	700+02.6	76.5' LT	1
PB42	699+73.4	87.4' LT	1
PB43	700+06.9	141.1' LT	1
PB44	699+51.9	15.4' LT	1
PB46	699+52.7	7.9' RT	1
PB47	699+52.5	51.6' RT	1
PB48	699+36.0	75.0' RT	1
PB49	697+16.3	68.6' RT	1
PB50	695+16.3	70.6' RT	1
PB51	699+38.8	77.4' RT	1
PB52	699+61.7	57.4' RT	1
PB53	700+12.3	54.2' RT	1
PB54	699+93.5	145.8' RT	1
		*** TOTAL -	24

\*\*\* A DDITIONAL QUANTITIES SHOWN AT USH 51 & PFLAUM ROAD

CONDUIT LOOP DETECTOR LOOP DETECTOR LEAD IN CABLE LOOP DETECTOR WIRE LOOP DETECTOR SLOTS

LOOP NO.	HOME RUN PB	STATION	LOCATION	SIZE	NO. OF TURNS	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR L.F.	655.0700 LOOP DETECTOR LEAD IN CABLE L.F.	655.0800 LOOP DETECTOR WIRE L.F.	652.0900 LOOP DETECTOR SLOTS L.F.
44	DDO	000.04.4	2.01.07	CIVCI	4	EVICTINIC LOOP W/ HINGTION POV		0.40	404	
11 12	PB8 PB5	698+24.4 699+64.3	3.6' RT 6.2' LT	6'X6' 6'X20'	4	EXISTING LOOP W/ JUNCTION BOX LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	74	243 101	194 232	
13	PB10	24+40.9	66.2' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	84	218	262	
21	PB17	706+30.4	44.8' LT	6'X14'	6	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	102	898	622	10
22	PB17	706+29.4	32.8' LT	6'X14'	6	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	126	898	766	10
23	PB19	701+13.4	46.0' LT	6'X6'	5	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	66	320	340	
24	PB19	701+12.4	34.0'LT	6'X6'	5	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	43	320	225	
51	PB22	702+39.3	15.6' LT	6'X6'	4	EXISTING LOOP W/ JUNCTION BOX	-	410	186	
52	PB20	701+02.9	7.6' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	76	338	238	
53	PB12	24+62.4	56.2' LT	6'X20'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	88	205	274	
61	PB3	694+39.4	35.7' RT	6'X6'	6	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	80	534	490	10
62	PB3	694+40.4	23.7' RT	6'X6'	6	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	105	534	640	10
63	PB6	699+55.4	33.0' RT	6'X6'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	70	113	220	
64	PB6	699+54.5	21.0' RT	6'X6'	3	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	46	113	148	
						*** TOTALS	960	5245	4837	40

NOTE: LOOP DETECTOR SLOTS ACROSS SHOULDER LOOP TO BE INSTALLED IN EXISTING BASE.

\* STATION AND LOCATION IS TO FRONT CENTER OF DETECTION LOOP

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

\*\*\* ADDITIONAL QUANTITIES SHOWN AT USH 51 & PFLAUM ROAD

PAGE 1 OF 4

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PROJECT NO:5410-02-72 HWY: USH 51 COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

PLOT BY : GRAEF PLOT NAME:

TRAFFIC SIGNAL QUANTITIES

CONCRETE BASES TY PE 2 CONCRETE BASES TY PE 10 CONCRETE BASES TY PE 13 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL

BASE NO.	STATION	LOCATION	654.0102 CONCRETE BASES TY PE 2 EACH	654.0110 CONCRETE BASES TY PE 10 EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASES TY PE 9 SPECIAL EACH
CB1	699+34.6	87.4' RT				1
SB2	699+70.4	52.8' RT	1			·
SB7	699+94.4	62.7' LT			1	
SB8	700+02.1	69.0' LT	1			
SB9	700+49.4	67.9' LT	1			
SB11	700+91.1	73.8' LT			1	
SB12	700+99.4	64.5' LT	1			
SB13	700+89.6	22.2' LT	1			
SB14	700+88.7	18.5' LT	1			
SB18	700+71.9	54.0' RT			1	
SB19	700+59.9	60.5' RT	1			
SB20	700+65.3	60.2' RT	1			
SB21	700+09.6	67.1' RT		1		
			8	1	3	1

<sup>\*</sup> FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD \*\*\* A DDITIONAL QUANTITIES SHOWN AT USH 51 & PFLAUM ROAD

CABLE TYPE UF 2-10 AWG ELECTRICAL WIRE LIGHTING 12 AWG

3

FROM	TO	655.0315 CABLE TYPE UF 2-10 AWG (W/ GROUND) L.F.	655.0610 ELECTRICAL WIRE LIGHTING 12 A WG L.F.
CB1 SB1	SB1 LUMIN	62	117
SB1 SB4	SB4 LUMIN	164	117
SB4 SB5	SB5 LUMIN	107	117
SB5 SB7	SB7 LUMIN	114	123
SB7 SB9	SB9 LUMIN	217	288
CB1 SB21	SB21 LUMIN	131	288
SB21 SB18	SB18 LUMIN	244	123
SB18 SB16	SB16 LUMIN	91	117
SB16 SB15	SB15 LUMIN	142	117
SB15 SB10	SB10 LUMIN	171	117
	*** TOTALS	1443	1524

<sup>\*\*\*</sup> A DDITIONAL QUANTITIES SHOWNAT USH 51 & PFLAUM ROAD

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

		655.0515
FROM	TO	L.F.
CB1	SB2	74
SB2	SB3	172
SB3	SB4	82
SB4	SB6	137
SB6	SB7	67
SB7	SB8	25
SB8	SB9	217
SB9	SB11	187
SB11	SB12	30
SB12	SB13	164
SB13	SB14	41
SB14	SB15	76
SB15	SB17	157
SB17	SB18	87
SB18	SB19	33
SB19	SB20	24
SB20	SB21	233
SB21	CB1	131
PB1	SB1	43
PB4	SB2	17
PB5	SB3	33
PB6	SB3	21
PB7	SB4	20
PB9	SB6	55
PB10	SB6	17
PB11	SB8	15
PB12	SB6	61
PB13	SB9	54
PB14	SB12	75
PB15	SB12	49
PB18	SB12	14
PB19	SB13	47
PB20	SB13	23
PB21	SB15	19
PB23	SB17	55
PB24	SB17	23
PB25	SB19	14
PB26	SB17	77
PB27	SB21	49
PB28	CB1	31
1 020		

<sup>\*\*\*</sup> A DDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & PFLAUM ROAD

CABLE TRAFFIC SIGNAL 5-14 AWG CABLE TRAFFIC SIGNAL 7-14 AWG CABLE TRAFFIC SIGNAL 9-14 AWG CABLE TRAFFIC SIGNAL 12-14 AWG CABLE TRAFFIC SIGNAL 15-14 AWG

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.025 CABLE TRAFFIC SIGNAL 9-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG L.F.
CB1	SB2				74	
SB2	HEAD 1	19				
SB2	HEAD 11	19				
SB2	HEAD 36	18				
CB1	SB3		136			
SB3	HEAD 12	19	100			
CB1	SB4				144	
SB4	HEAD 4	19				
SB4	HEAD 23	19				
CB1	SB6	10	249			
SB6	HEAD 27	19	2.10			
CB1	SB7	10	289			
SB7	HEAD 8	54	200			
SB7	HEAD 9	42				
CB1	SB8	74			288	
SB8	HEAD 17	21			200	
SB8	HEAD 21	22				
CB1	SB9				398	
SB9	HEAD 13	22			390	
SB9	HEAD 24	22				
	SB11	22	477			
CB1 SB11		54	411			
	HEAD 14					
SB11	HEAD 15	43			400	
CB1	SB12	40			469	
SB12	HEAD 5	19				
SB12	HEAD 7	19				
SB12	HEAD 29	18				
CB1	SB13	393				
CB1	SB14	40			394	
SB14	HEAD 6	19				
SB14	HEAD 30	18				
SB14	HEAD 31	18				
CB1	SB15	4.0			336	
SB15	HEAD 10	19				
SB15	HEAD 20	19		200		
CB1	SB17			236		
SB17	HEAD 17	19				
SB17	HEAD 34	18				
CB1	SB18				283	
SB18	HEAD 2	59				
SB18	HEAD 3	47				
SB18	HEAD 32	18				
SB18	HEAD 33	18				
CB1	SB19					272
SB19	HEAD 13	21				
SB19	HEAD 25	22				
SB19	HEAD 35	18				
CB1	SB20	283				
CB1	SB21					262
SB21	HEAD 16	22				
SB21	HEAD 22	49				
SB21	HEAD 23	38				
SB21	HEAD 26	22				
	TOTALS***	1608	1151	236	2386	534

<sup>\*\*\*</sup> A DDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & PFLAUM ROAD

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PROJECT NO:5410-02-72

COUNTY: DANE

MISCELLANEOUS QUANTITIES PLOT BY : GRAEF

Ε SHEET

FILE NAME : K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\02\_Buckeye\030201\_mq.dgn

HWY: USH 51

PLOT DATE: 1/22/2014

PLOT NAME:

PLOT SCALE: 40.0000 sf / in.

WISDOT/CADDS SHEET 43

TRAFFIC SIGNAL QUANTITIES USH 51 & BUCKEYE ROAD ALL ITEMS CATEGORY 0010

TRAFFIC SIGNAL EVP DETECTOR CABLE

SB18 (HEADA) 320 SB7 (HEAD B) 326 \*\*\* TOTAL 646

HWY: USH 51

\*\*\* A DDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & PFLAUM ROAD

SIGNAL MOUNTING HARDWARE INTERSECTION OF USH 51 & BUCKEYE ROAD

658.5069.02 LOCATION USH 51 & BUCKEY E ROAD TOTAL

TRANSFORMER BASES BREAKAWAY 11 1/2 INCH BOLT CIRCLE POLES TYPE 4
TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT
TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT INSTALL POLES TY PE 9 INSTALL POLES TY PE 10 INSTALL POLES TY PE 13 INSTALL MONOTUBE ARMS 25-FT INSTALL MONOTUBE ARMS 30-FT INSTALL MONOTUBE ARMS 35-FT INSTALL LUMINAIRE ARMS STEEL 6-FT INSTALL LUMINAIRE ARMS STEEL 8-FT PEDESTRIAN PUSH BUTTONS LUMINAIRES UTILITY LED B LUMINAIRES UTILITY LED C CONTRACTOR PROVIDED FASTENER COMPONENTS FOR TY PE 9 OR 10 POLES CONTRACTOR PROVIDED FASTENER COMPONENTS FOR TY PE 12 CR 13 POLES

SIGNAL BASE NO.	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 111/2 INCH BOLT CIRCLE EACH	657.0315 POLES TYPE 4 EACH	657.0405 TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT EACH	657.1345 INSTALL POLES TY PE 9 EACH	657.1350 INSTALL POLES TY PE 10 EACH	657.1360 INSTALL POLES TY PE 13 EA CH	657.1525 INSTALL MONOTUBE ARMS 25-FT EACH	657.1530 INSTALL MONOTUBE ARMS 30-FT EACH	657.1535 INSTALL MONOTUBE ARMS 35-FT EACH	657.1806 INSTALL LUMNA IRE ARMS STEEL 6-FT EA CH	657.1808 INSTALL LUMINA IRE ARMS STEEL 8-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	659.1120 LUMINA IRES UTILITY LED B EACH	659.1125 LUMINAIRES UTILITY LED C EA CH	SPV.0060.02 CONTRACTOR PROVIDED FASTENER COMPONENTS FOR TY PE 9 OR 10 POLES EACH	SPV.0060.03 CONTRACTOR PROVIDED FASTENER COMPONENTS FOR TY PE 12 OR 13 POLES EACH
SB1																	1			
SB2	1				1											1				
SB4																		1		
SB5																	1			
SB7									1			1			1			1	1	
SB8	1					1										1				
SB9		1	1				2							2				2		
SB10																	1			
SB11 SB12	4				4			1				1				1			1	
SB12 SB13	1			1	1											1				
SB14	1			1	1											1				
SB15																· · · · · · · · · · · · · · · · · · ·		1		
SB15 SB16																	1			
SB17																1				
SB18										1			1		1	1		1		1
SB19	1					1										2				
SB20	1			1												1				
SB21							2		1		1			2				2	1	
*** TOTALS —	7	1	1	2	3	2	4	1	2	1	1	2	1	4	2	10	4	8	3	1

\*\*\* ADDITIONAL QUANTITIES SHOWN AT INTERSECTION OF USH 51 & PFLAUM ROAD

PROJECT NO:5410-02-72

PAGE 3 OF 4

COUNTY: DANE

MISCELLANEOUS QUANTITIES PLOT BY : GRAEF

PLOT NAME :

WISDOT/CADDS SHEET 43

TRAFFIC SIGNAL QUANTITIES USH 51 & BUCKEYE ROAD ALL ITEMS CATEGORY 0010

LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH 658.0110 658.0115 658.0215 658.0220 658.0416 658.0600 658.0605 658.0610 658.0615 658.0620 658.0625 658.0635 TRAFFIC SIGNAL TRAFFIC SIGNAL BACKPLATES BACKPLATES PEDESTRIA N LED MODULES LED MODULES LED MODULES LED MODULES LED MODULES LED MODULES LED MODULES FACE 3-12 INCH FACE 4-12 INCH SIGNAL FACE SIGNAL FACE SIGNAL FACE 12-INCH 12-INCH 12-INCH 12-INCH 12-INCH PEDESTRIAN COUNTDOWN SIGNAL VERTICAL VERTICAL 3 SECTION 12-INCH 4 SECTION 12-INCH 16-INCH RED BALL YELLOW BALL GREEN BALL RED A RROW YELLOW ARROW GREEN ARROW TIMER 16-INCH HEAD NO. BASE NO. EA CH EACH EACH EACH EA CH EA CH EA CH EA CH EACH EA CH SB18 SB18 SB14 SB7 SB19 SB11 SB15 SB8 SB20 SB19 SB20 SB6 32 SB18 SB17 35 SB19 SB2

SPV.0105.04 TRAINSPORTING SPV.0105.06 SPV.0105.02 AND INSTALLING EVP DETECTOR REMOVE TRAFFIC MICROWAVE DETECTION HEAD SIGNALS CABLE INSTALLATION INTERSECTION L.S. USH 51 & BUCKEY E ROAD TOTAL

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

	QUA NTITY	UNIT	DESCRIPTION
-			
	1	EACH	POLES TYPE 9
	2	EACH	POLES TYPE 10
	1	EACH	POLES TYPE 13
-	1	EACH	MONOTUBE A RMS 25-FT
	2	EACH	MONOTUBE A RMS 30-FT
	1	EACH	MONOTUBE ARMS 35-FT
-	2	EACH	LUMINAIRE ARMS STEEL 6-FT
	2	EACH	LUMINAIRE ARMS STEEL 8-FT
	1	LS	MICROWAVE DETECTION CABLE
_	1	LS	EVP DETECTOR HEADS

PAGE 4 OF 4

PROJECT NO:5410-02-72

\*\*\* TOTALS

\*\*\* ADDITIONAL QUANTITIES SHOWN AT USH 51 & PFLAUM ROAD

TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL BACKPLATES SIGNAL FACE 3 SECTION 12-INCH BACKPLATES SIGNAL FACE 4 SECTION 12-INCH PEDESTRIAN SIGNAL FACE 16-INCH LED MODULES 12-INCH RED BALL LED MODULES 12-INCH YELLOW BALL LED MODULES 12-INCH GREEN BALL LED MODULES 12-INCH RED ARROW LED MODULES 12-INCH YELLOW ARROW LED MODULES 12-INCH GREEN ARROW

HWY: USH 51

661.0200.02

TEMPORARY TRAFFIC SIGNALS

FOR INTERSECTIONS

SPV.0105.08 TEMPORARY

VEHICLE DETECTION

SYSTEM

COUNTY: DANE

MISCELLANEOUS QUANTITIES

FILE NAME : K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\02\_Buckeye\030201\_mq.dgn

PLOT DATE: 1/22/2014

PLOT NAME :

PLOT SCALE: 40.0000 sf / in.

WISDOT/CADDS SHEET 43

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS TEMPORARY VEHICLE DETECTION SYSTEM

> LOCATION USH 51 & BUCKEY E ROAD TOTALS

# 6

# Standard Detail Drawing List

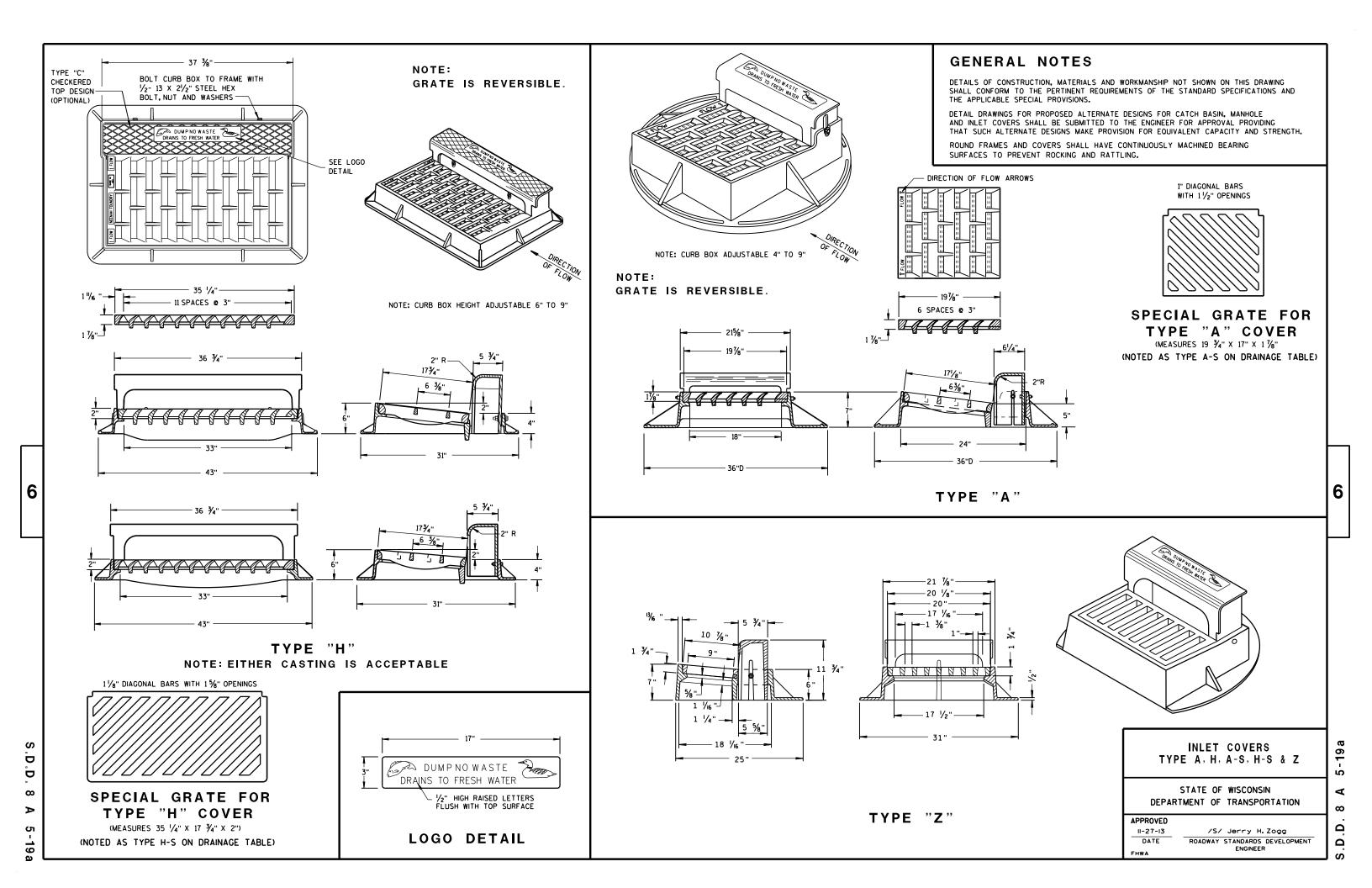
```
08A05-19A
              INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D
               INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01
               MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01
               INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17
               CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A
               CURB RAMPS TYPES 1 AND 1-A
08D05-15B
              CURB RAMPS TYPES 2 AND 3
08D05-15C
              CURB RAMPS TYPES 4A AND 4A1
08D05-15D
              CURB RAMPS TYPE 4B AND 4B1
08D05-15E
               CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03
               TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06
               SILT FENCE
08E10-02
               INLET PROTECTION TYPE A, B, C AND D
09B02-07
               CONDUIT
09B04-10
               PULL BOX
09C02-06
               CONCRETE BASES, TYPES 1, 2 & 5
               TRANSFORMER/PEDESTAL BASES
09C03-03
09006-06
               CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-04
               CONCRETE BASE TYPE 10
09C12-04A
               CONCRETE BASE TYPE 13
09C12-04B
               CONCRETE BASE TYPE 13
09C13-02
               CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-04
               CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02
               SIGNAL OR LIGHTING CONTROL CABINET
09E01-12C
               POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4
09E01-12G
              HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-04
               NON-FREEWAY LIGHTING UNIT POLE WIRING
               TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E06-05
09E08-04A
               TYPE 9 POLE 15' -30' MONOTUBE ARM
09E08-04B
               TYPE 10 POLE 15' - 30' MONOTUBE ARM
09E08-04D
               TYPE 13 POLE 35' -55' MONOTBE ARM
09E08-04E
               GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-03A
               LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-03B
               LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
               SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03A
09G01-03B
               SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03C
               SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03D
               SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03E
               SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03F
               SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03G
               SPAN WIRE TEMPORARY TRAFFIC SIGNAL
10A01-02
               ELECTRICAL HANDHOLE WIRING
10A02-02
               IDENTIFICATION PLAQUES LIGHT POLES
11B02-02
               CONCRETE MEDIAN NOSE
12A04-03
               STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13A05-05A
               SHOULDER RUMBLE STRIP, MILLING
13A05-05B
               SHOULDER RUMBLE STRIP, MILLING
13C09-11A
               CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B
               CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C
               CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C13-08
               URBAN DOWELED CONCRETE PAVEMENT
13C18-02A
               CONCRETE PAVEMENT JOINTING
13C18-02B
               CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C
               CONCRETE PAVEMENT JOINT TIES
13C18-02D
               CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C07-12B
               PAVEMENT MARKING WORDS
15C07-12C
               PAVEMENT MARKING ARROWS
15C08-16A
               PAVEMENT MARKING (MAINLINE)
15C08-16B
               PAVEMENT MARKING (INTERSECTIONS)
15C08-16E
               PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F
               PAVEMENT MARKING (ISLANDS)
15C18-03
               MEDIAN ISLAND MARKING
               MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C19-02C
15C22-02
              24" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE
15C23-02
               30" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE
15C27-01
              DOUBLE ARROW WARNING SIGN PLACEMENT
15C29-03A
               BICYCLE LANE MARKING
15C29-03B
               BICYCLE LANE MARKING
```

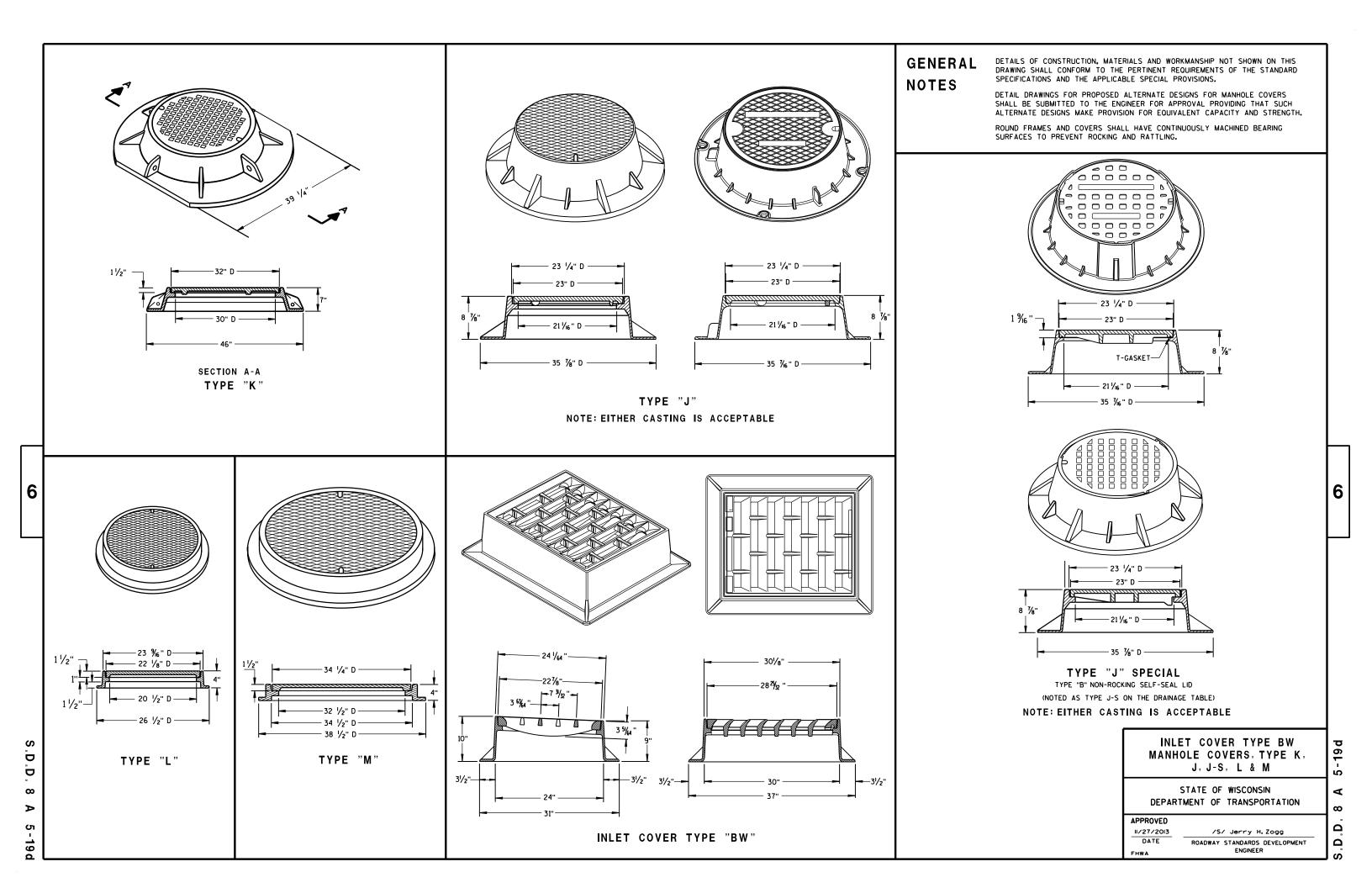
# Standard Detail Drawing List

15C29-03C	URBAN BICYCLE LANE MARKING
15C29-03D	URBAN BICYCLE LANE MARKING
15C29-03E	PAVEMENT MARKING FOR BIKE LANES
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

6

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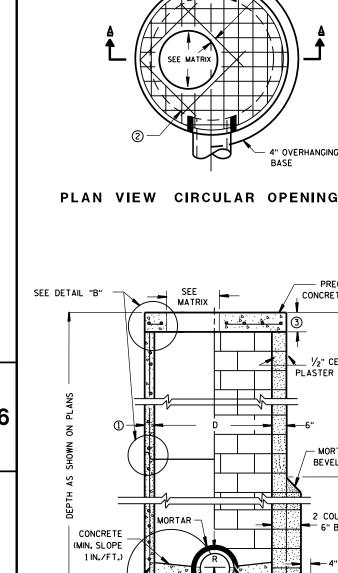






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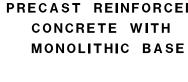
SEE

MORTAR -

MATRIX

• 4° • •

PRECAST REINFORCED — CONCRETE FLAT SLAB TOP



②-

CONTRACTOR TO PROVIDE DRAWING(S)

STAMPED BY A PROFESSIONAL ENGINEER

SEE DETAIL "A"

(I)·

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

2" (TYP)

" OVERHANGING

- PRECAST REINFORCED

CONCRETE FLAT SLAB TOP

1/2" CEMENT

- MORTAR

BEVEL 45°

2 COURSES 으는

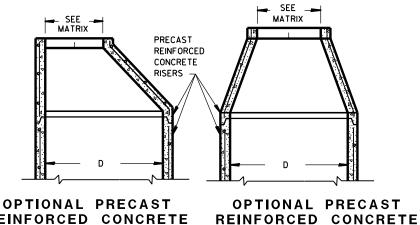
12'. EPT

6" BLOCK

4" MIN

SPLIT PIPE OR FORM CONCRETE TO FIT

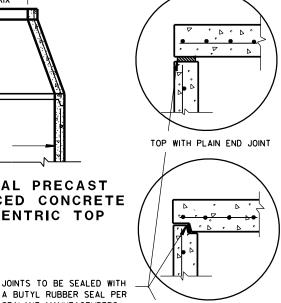
PLASTER COAT



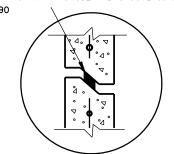
REINFORCED CONCRETE **ECCENTRIC TOP** CONCENTRIC TOP

**PRECAST** 

WALL

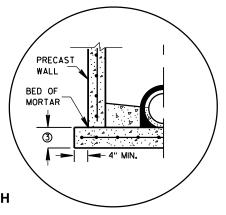


A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS TOP WITH TONGUE AND GROOVE JOINT RECOMMENDATIONS CONFORMING TO ASTM C990



RISER WITH TONGUE AND GROOVE JOINT

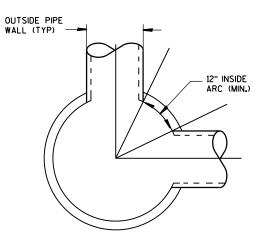
**DETAIL** "B"



PRECAST REINFORCED

CONCRETE WITH INTEGRAL BASE OPTION

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION DETAIL "A"



DETAIL "C"

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

#### **GENERAL NOTES**

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

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

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

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

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

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

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

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

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

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

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

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

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

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

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

### MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	С	ALL J'S	К	L	M
OPENING SIZE (FT)					
2 DIA.	х	х		х	
3 DIA.			×		Х

#### PIPE MATRIX

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

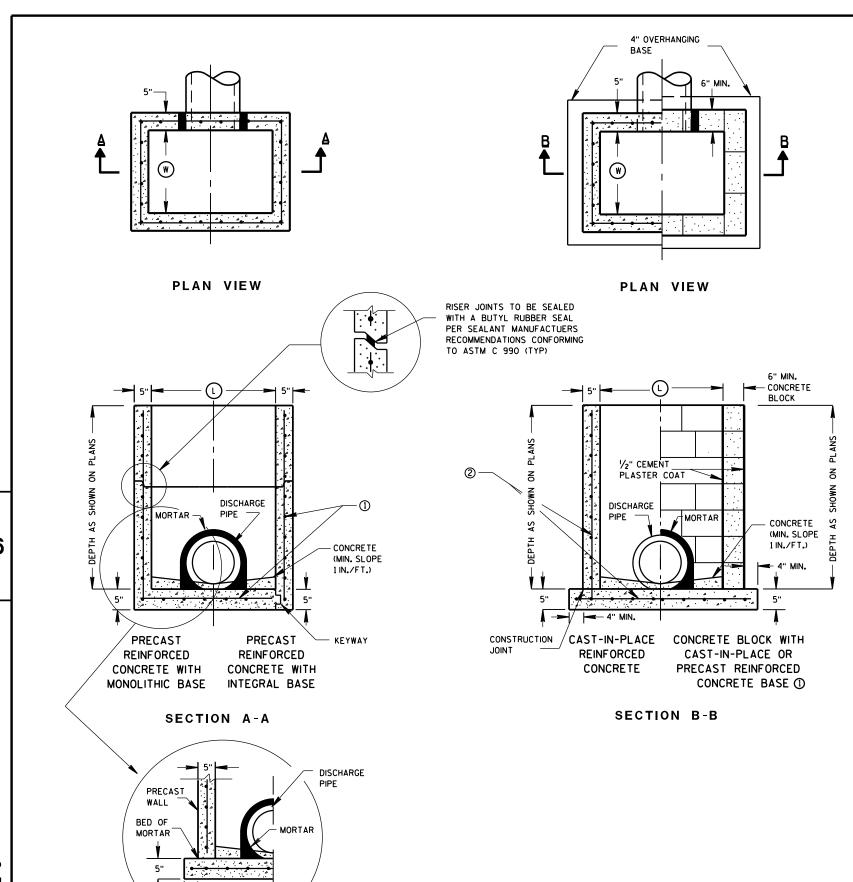
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

> STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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

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#### **GENERAL NOTES**

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

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

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

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

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

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

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

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

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

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

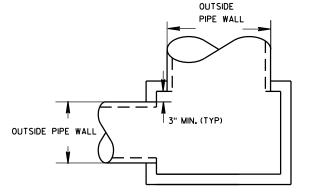
- 1) FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- (2) CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

#### INLET COVER MATRIX

	INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	s	т	v	WM
		WIDTH (W) (FT)	LENGTH (L) (FT)									
	2X2-FT	2	2	X	х				Х		Х	
ſ	2X2.5-FT	2	2.5			Х			Х	Х	Х	Х
[	2X3-FT	2	3					Х				
	2.5X3-FT	2.5	3				Х					

#### PIPE MATRIX

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



DETAIL "A"

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**APPROVED** 6/5/2012 DATE

FHWA

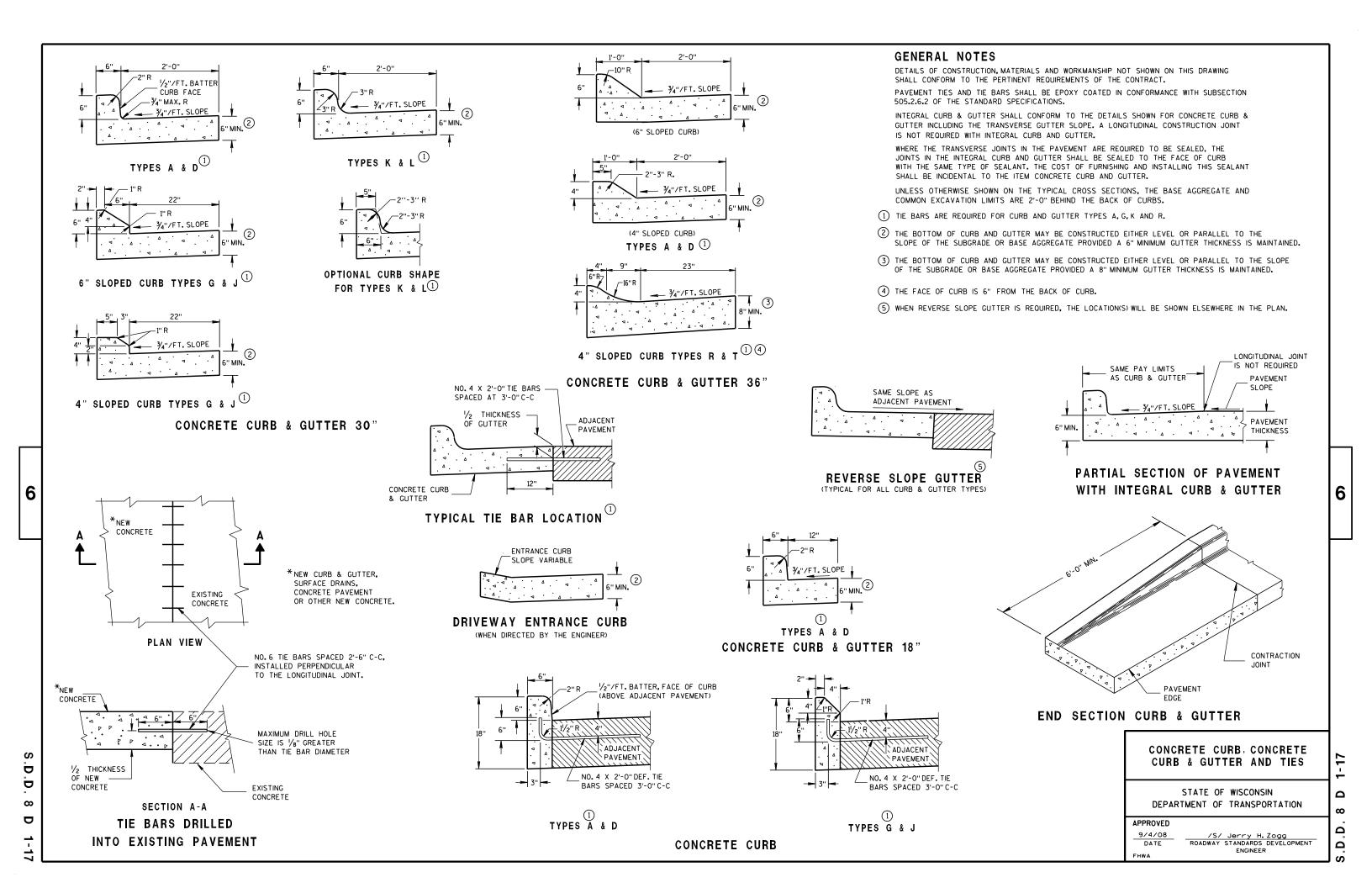
/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT

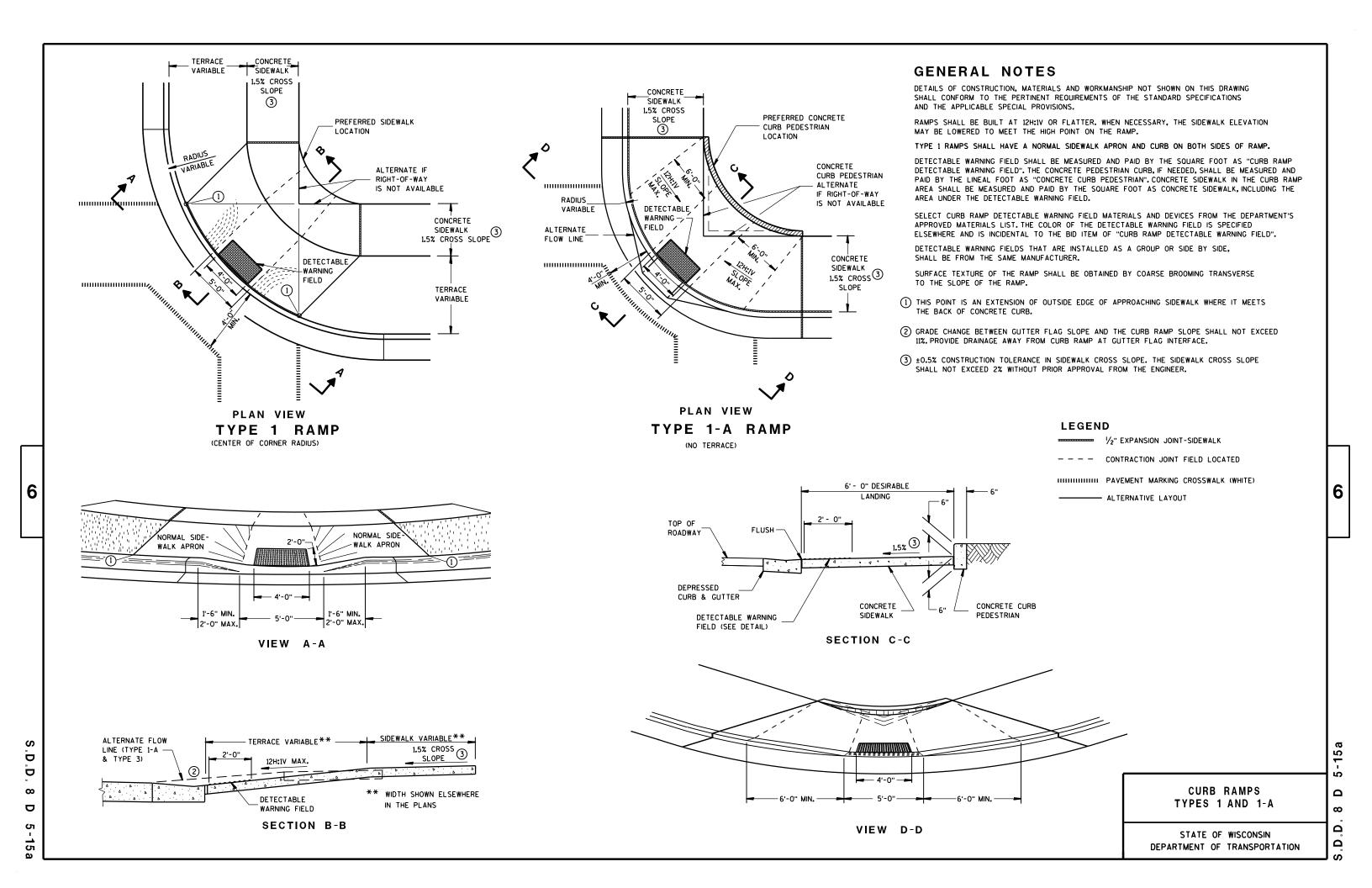
ENGINEER

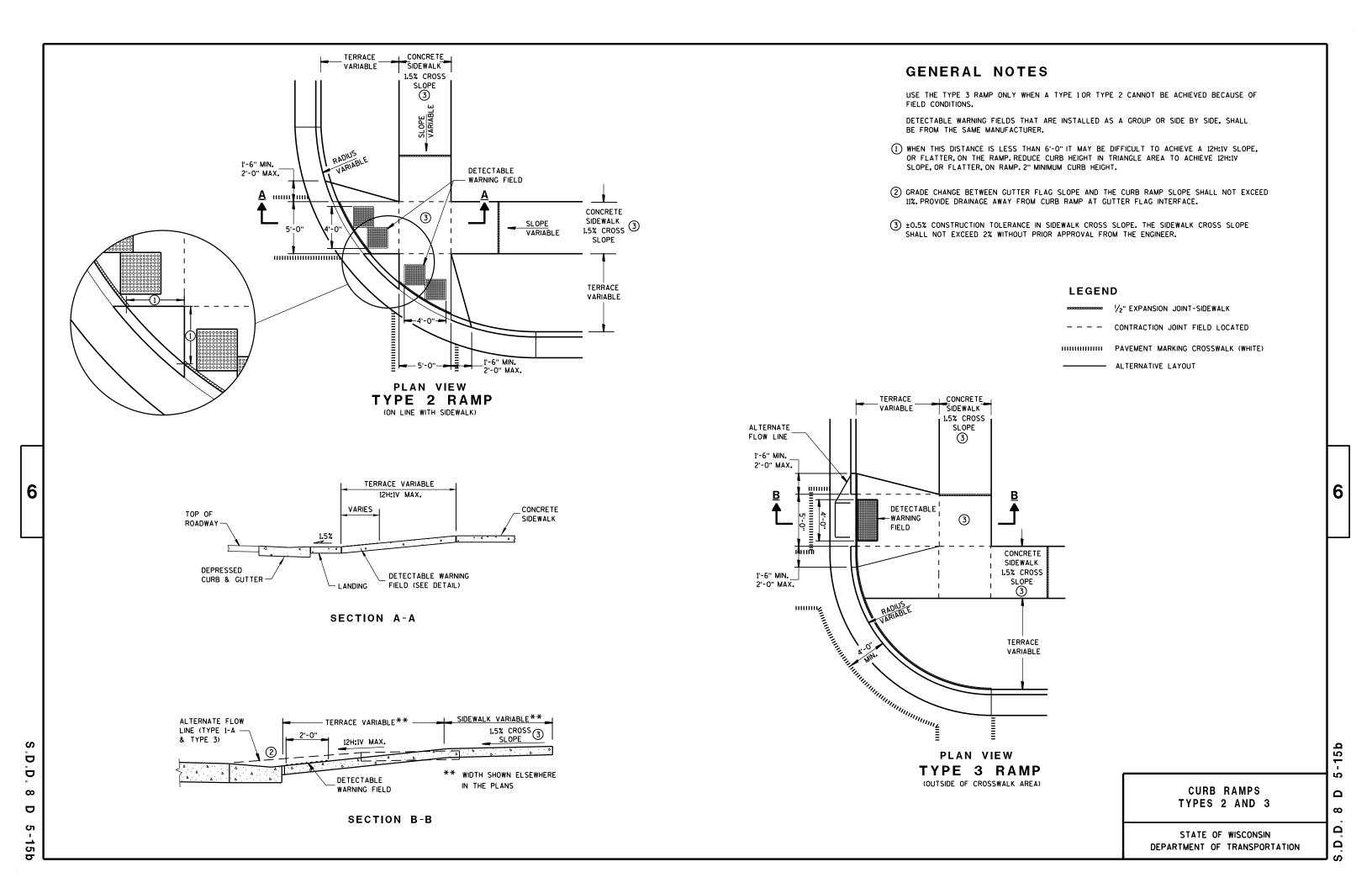
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

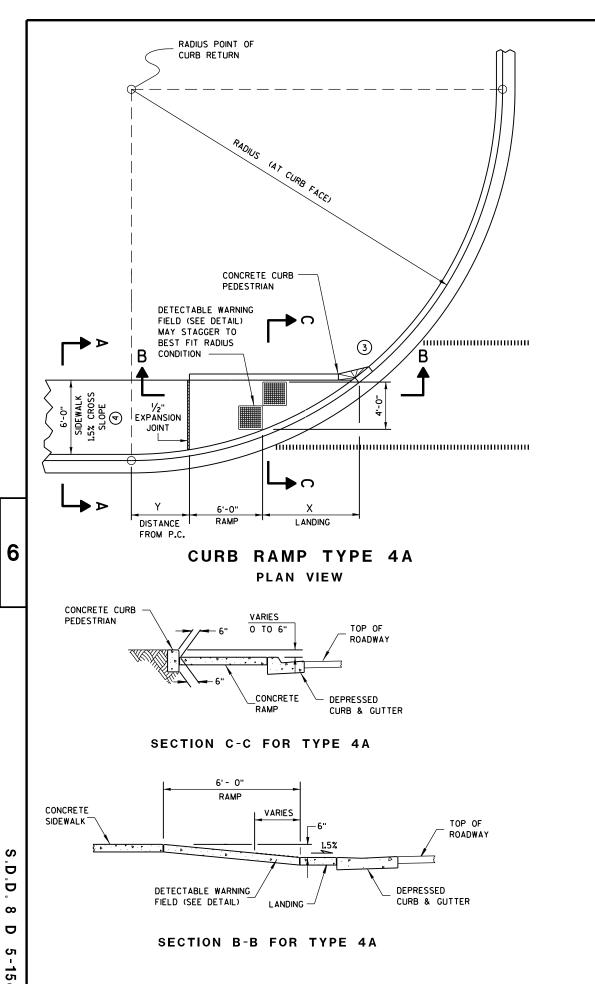
SEPARATE PRECAST REINFORCED

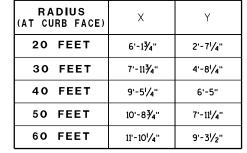
CONCRETE BASE OPTION











**GENERAL NOTES** 

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER

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

4 ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS

SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

ISOMETRIC VIEW FOR TYPE 4A

ISOMETRIC VIEW FOR TYPE 4A1

₩ 1/2" EXPANSION JOINT-SIDEWALK

HIHIHIHIH PAVEMENT MARKING CROSSWALK (WHITE)

CONTRACTION JOINT FIELD LOCATED

CURB RAMPS

TYPES 4A AND 4A1

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

**LEGEND** 

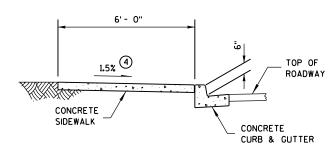
OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

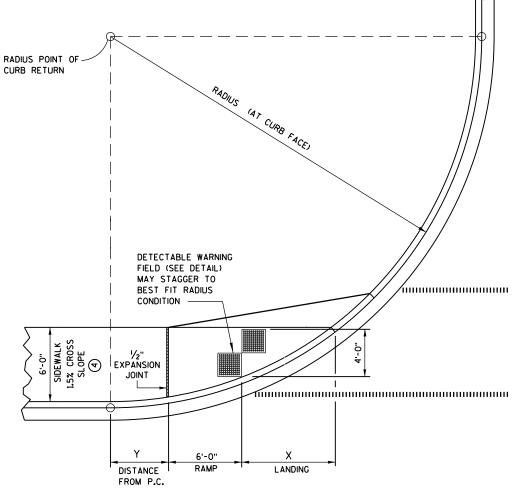
(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

SHALL BE FROM THE SAME MANUFACTURER.

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

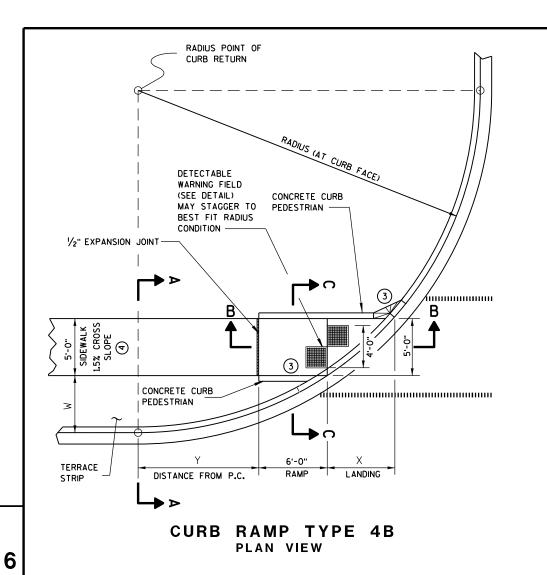


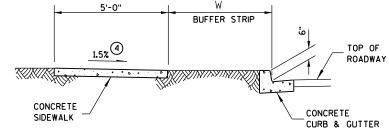
CURB RAMP TYPE 4A1
PLAN VIEW

15c

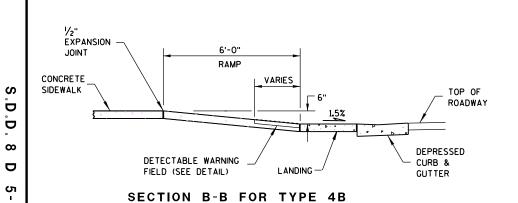
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D.D. 8 D 5





SECTION A-A FOR TYPE 4B



#### LEGEND

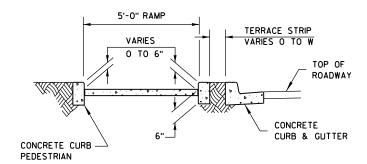
/2" EXPANSION JOINT-SIDEWALK

---- CONTRACTION JOINT FIELD LOCATED

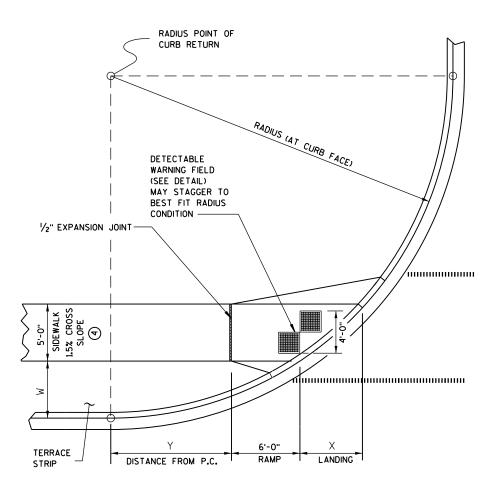
HIHIHIHIH PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS	W = 3' - Ø"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
(AT CURB FACE)	X	Y	X	Υ	X	Y	X	Y	X	Y
20 FEET	5'-51/2"	4'-61/2"	4'-81/2"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-31/2"	3'-11/2"	9'-21/2"
30 FEET	7'-3¾"	7'-1"	6'-51/2"	8'-11'/2"	5'-91/4"	10'-7"	5'-21/2"	12'-0"	4'-8¾"	13'-3'/4"
40 FEET	8'-91/2"	9'-21/2"	7'-10"	11'-5'/4"	7'-1"	13'-41/2"	6'-5¾"	15'-¾"	5'-111/2"	16'-7'/4"
50 FEET	10'-¾"	11'-3⁄4''	9'-1/4"	13'-7'/4"	8'-21/2"	15'-91/2"	7'-61/2"	17'-9"	6'-11¾"	19'-6'/4"
60 FEET	11'-21/2"	12'-8¾"	10'-¾"	15'-61/2"	9'-21/4"	17'-11¾"	8'-5¾"	20'-1¾"	7'-101/2"	22'-11/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B



CURB RAMP TYPE 4B1
PLAN VIEW

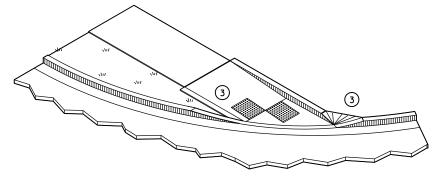
#### **GENERAL NOTES**

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

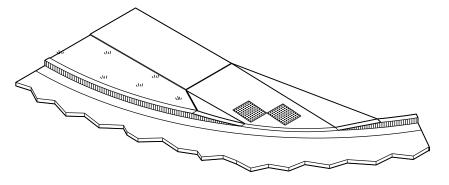
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

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

- (3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- (4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4B



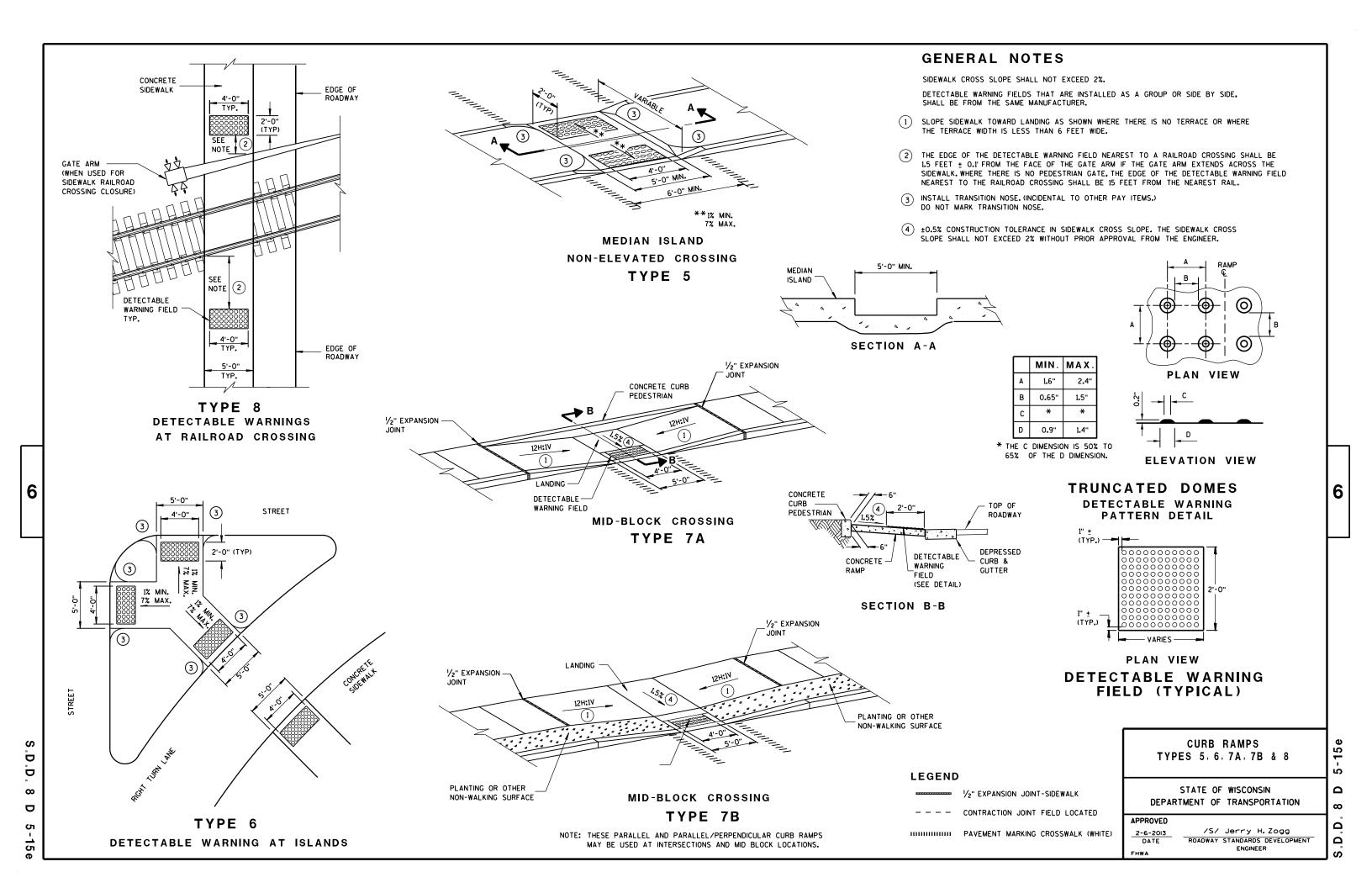
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS Type 4B and 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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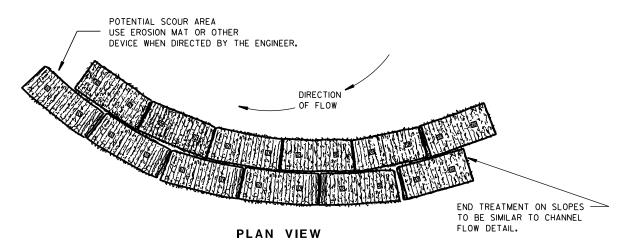
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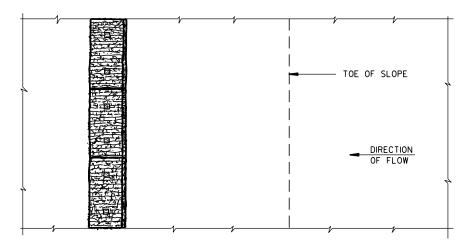
#### **GENERAL NOTES**

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.

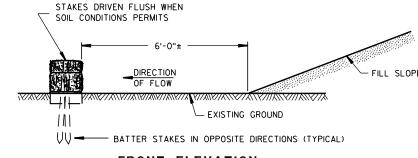
TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.



WHEN ALTERING THE DIRECTION OF FLOW



#### **PLAN VIEW**



#### FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

**EROSION BALES FOR SHEET FLOW** 

#### TYPICAL INSTALLATIONS OF **EROSION BALES / TEMPORARY** DITCH CHECKS

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 /S/ Beth Connestro
CHIEF ROADWAY DEVELOPMENT ENGINEER

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# TYPICAL APPLICATION OF SILT FENCE

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# PLAN VIEW SILT FENCE AT MEDIAN SURFACE DRAINS



#### **GENERAL NOTES**

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- 2 FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- 3 WOOD POSTS SHALL BE A MINIMUM SIZE OF 11/8" X 11/8" OF OAK OR HICKORY.
- 4) SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- (5) CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)



SILT FENCE

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INLET PROTECTION, TYPE A

#### **GENERAL NOTES**

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

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

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

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



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

#### **INSTALLATION NOTES**

#### TYPE B & C

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

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

#### TYPE D

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

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

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

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02

/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER 6

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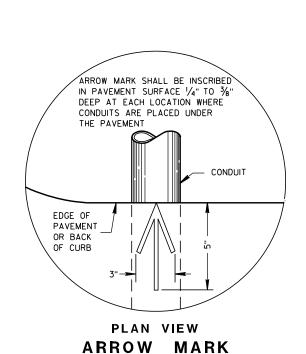
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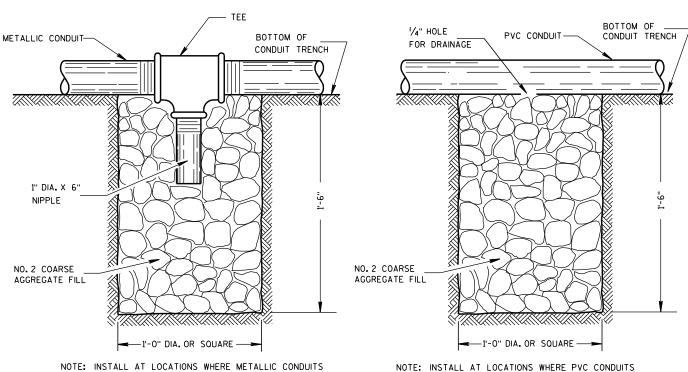
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DRAIN SUMP FOR METALLIC CONDUIT

CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

# ARROW MARK INSCRIBED IN PAVEMENT SURFACE OVER ← OF CONDUIT (BOTH ENDS) NORMAL EDGE ÒF PAVEMENT PAVEMENT **PAVEMENT** OR BACK OF CURB BASE COURSE BACKFILL SLOPE 1/8"/FT. EITHER DIRECTION \*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES CONDUIT, PITCH TO DRAIN 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

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 REIN-STALLED 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.).

POLY ROPE OR A PULL 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

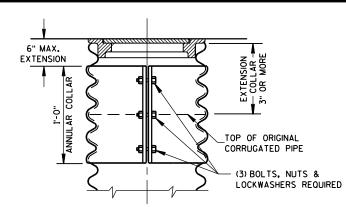
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**APPROVED** 

/S/ Balu Ananthanarayanan 10/23/03 STATE ELECTRICAL ENGINEER FOR HWYS

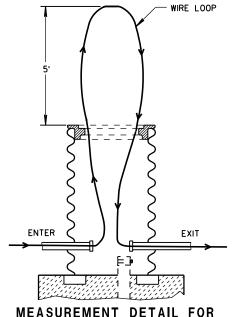
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- \* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.
- NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL



CORRUGATED PIPE EXTENDER

HEAVY DUTY FRAME -

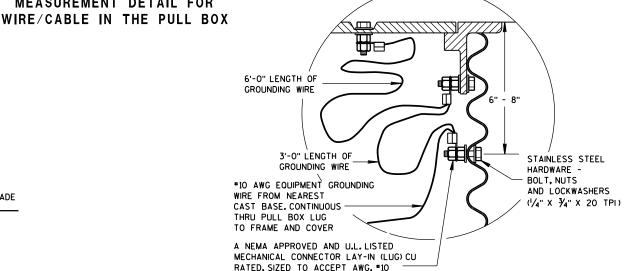


ALTERNATE COVER (LOCKING)

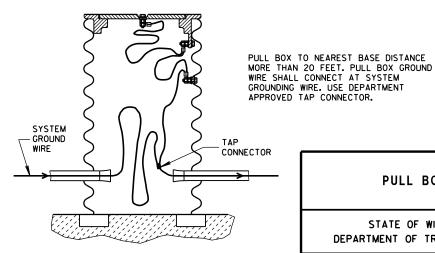
SECTION

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TIGHTENING BAR TYPE



# **EQUIPMENT GROUNDING LUG AND** LOCATION IN STEEL PULL BOXES



**EQUIPMENT GROUNDING LUG AND** 

LOCATION IN STEEL PULL BOXES

TO #4 COPPER STRANDED WIRE

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**APPROVED** 

FHWA

2-7-2013 /S/ Ahmet Demirbilek DATE STATE ELECTRICAL ENGINEER

PULL BOX

TO THE PULL BOX BID PRICE.

#### **GENERAL NOTES**

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

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

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

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

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

S.D.D. 9B2. "CONDUIT". APPLIES TO THIS DRAWING.

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.

AND COVER ELECTRIC 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 FINAL GRADE ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED CUT OPENINGS AS REQUIRED IN THE FIELD 6" MIN. ALL CONDUIT PITCHED (TYP.) TO DRAIN TO PULL BOXES 4 TO 8 BRICKS **EQUALLY SPACED** 2" DRAIN DUCT TO DITCH OR SEWER NO. 2 COARSE WHEN SPECIFIED AGGREGATE 2" PVC PIPE CAP ON BOTH ENDS (SEE SECTION 501 WITH 7,8 1/4" HOLES DRILLED OF THE STANDARD IN EACH END. SPECIFICATIONS) INSTALL END BELLS (U.L. LISTED FOR ELECTRICAL USE) ON ALL NONMETALLIC CONDUIT BEFORE INSTALLATION OF WIRE AND/OR CABLE.

PULL BOX

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CONDUIT WITHIN

6" DIA.

ANCHOR RODS SHALL BE

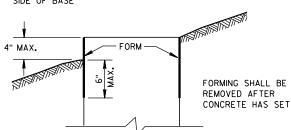
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QUANTITY	CONCRETE BASE TYP						
REQUIREMENTS	1	2	5				
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40				
LBS. OF HOOP BAR STEEL	NONE	23	16				
LBS. OF VERTICAL BAR STEEL	NONE	60	18				

### FORMING DETAIL

1'-8"

-CONDUIT

123/4" BOLT

CIRCLE

### **GENERAL NOTES**

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

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.

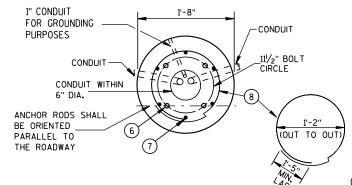
THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

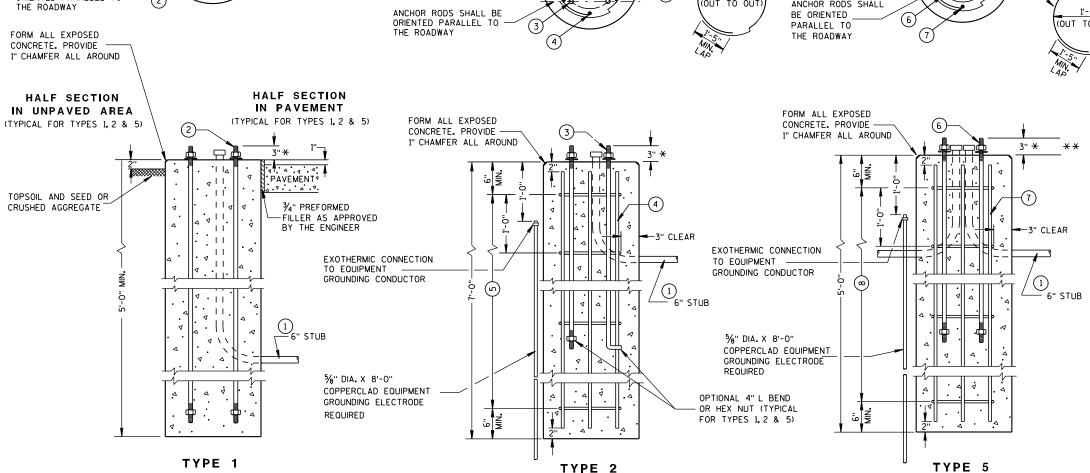
MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

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.

# 1" CONDUIT FOR GROUNDING -CONDUIT PURPOSES 111/2" BOLT CIRCLE CONDUIT WITHIN 6" DIA. THE ROADWAY





#### **CONCRETE BASES**

#### **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 USFD.

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 1FOOT OR LESS.

A NO. 4 AWG. STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 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 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

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, TYPES 1, 2 & 5

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

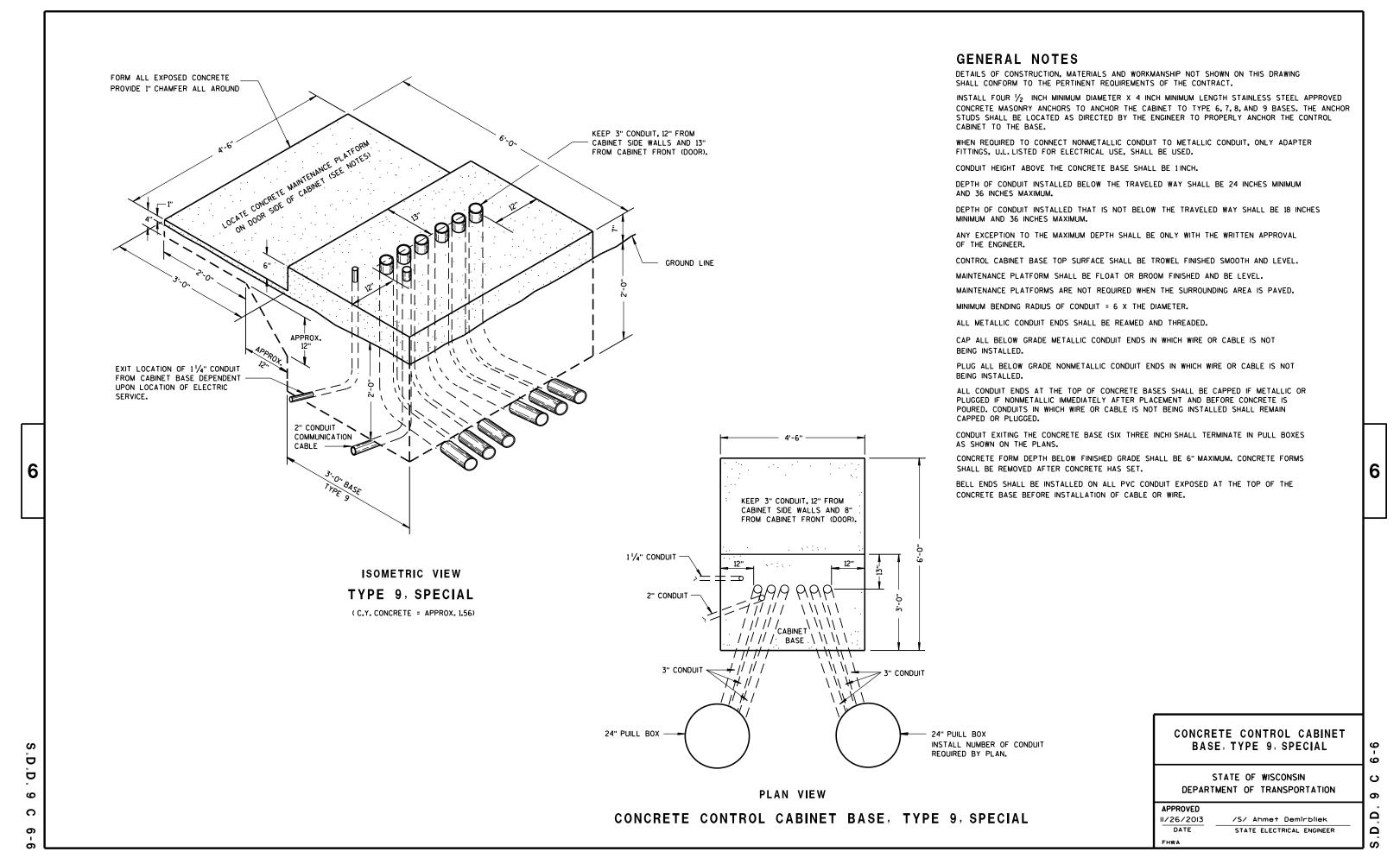
APPROVED 3/3/10 /S/ Joanna L. Bush

STATE ELECTRICAL ENGINEER FOR HWYS

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<sup>\*</sup> ANY ANCHOR ROD PROJECTION SHORTER THAN 23/4" OR LONGER THAN 31/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

 $<sup>^{\</sup>star\star}$  for nonbreakaway installations, 4 $^{\prime}\!\!/_2$ "  $^{\star}$  anchor rod projection with the USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.



BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED AND

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.

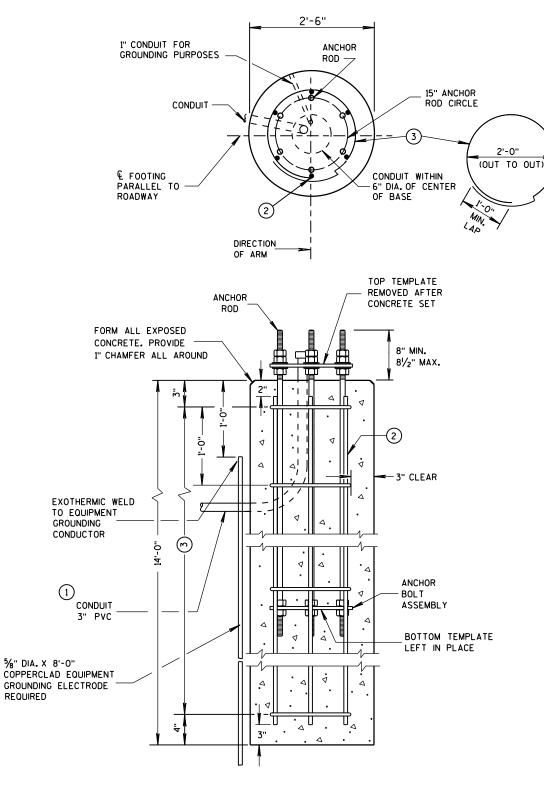
WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS

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) (15) NO. 4 X 7'-4" 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.



# **CONCRETE BASE TYPE 10** (FOR TYPE 9 & 10 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.

#### DIRECTION TOP AND BOTTOM TEMPLATES TOP TEMPLATE REMOVED AFTER CONCRETE SET 8" MIN 81/2" MAX. TOP OF CONCRETE THREAD TOP 81/2" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 51/2" FOR 2 NUTS PER ANCHOR ROD. HOT-DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR RODS (AASHTO M111) AND HOT-DIP NUTS AND WASHERS (AASHTO M232). USE ZINC COATED NUTS MANUFACTURED WITH (6) - 1<sup>1</sup>/<sub>2</sub>" X 50" SUFFICIENT ALLOWANCE TO ALLOW NUTS ANCHOR RODS TO RUN FREELY ON THE THREADS. BOTTOM TEMPLATE LEFT IN PLACE THREAD BOTTOM OF ANCHOR ROD 51/2" ANCHOR BOLT ASSEMBLY DETAIL

**CONCRETE BASE TYPE 10** 

QUANTITY REQUIREMENTS

2.5

69

122

APPROX. CUBIC

LBS. OF HOOP

LBS. OF VERTICAL

BAR STEEL

BAR STEEL

YARDS OF CONCRETE

**ANCHOR ASSEMBLY** 

NO MORE THAN 4" BELOW

GRADE ON THE LOWER

SIDE OF BASE

4" MAX.

ANCHOR ROD CIRCLE

DIAMETER = 15"

€ FOOTING

ROADWAY

PARALLEL TO-

11/2" ANCHOR RODS

**CONCRETE BASE TYPE 10** 

TROWEL FINISH

OF CONCRETE

2" MAX.-

- FORM

4" MAX.

FORMING DETAIL

1/2" THICK TEMPLATES

AND LEVEL TOP

FORMING SHALL BE REMOVED AFTER

CONCRETE HAS SET

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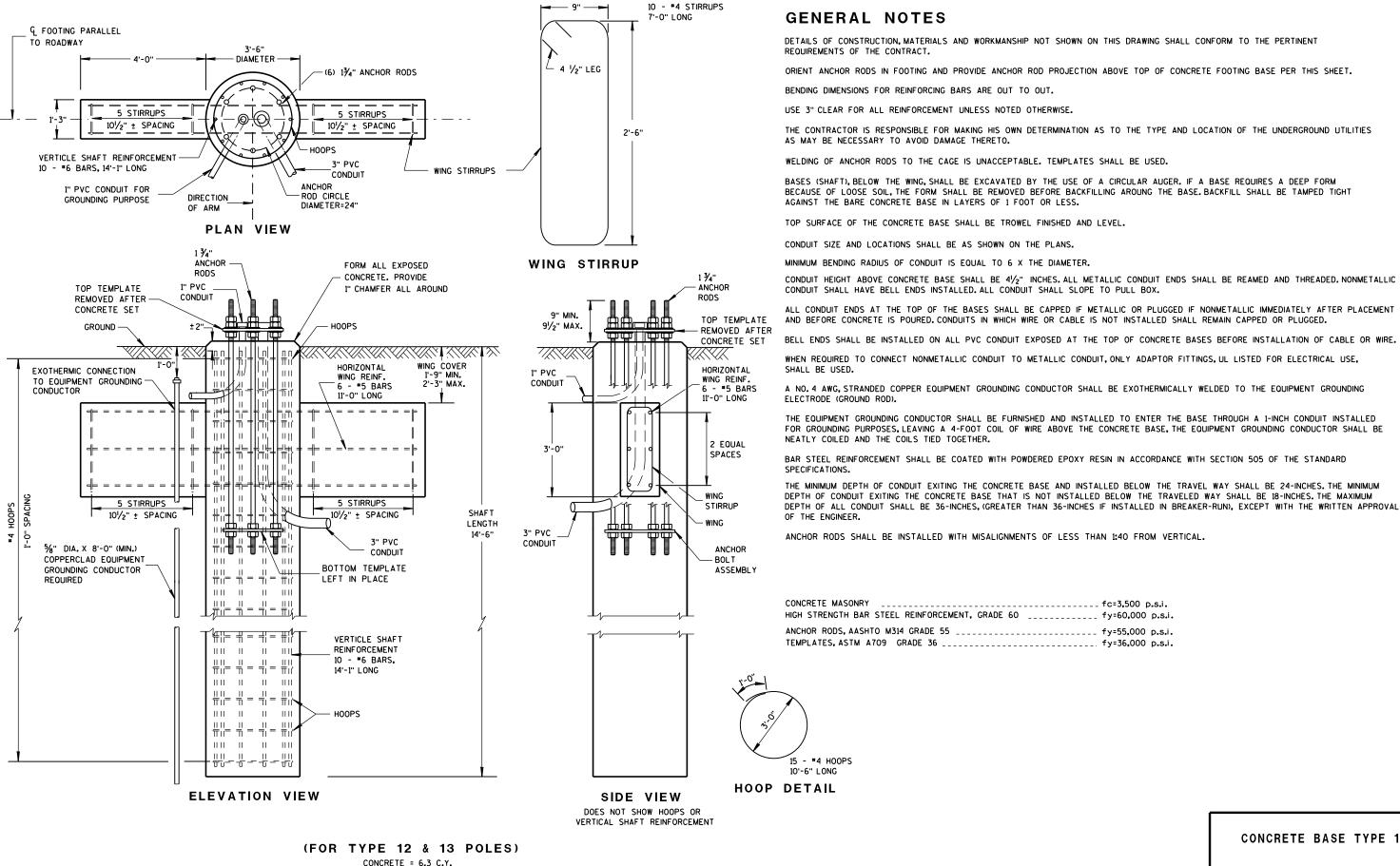
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H.S. REINFORCEMENT = 433 LBS.

SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.

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**CONCRETE BASE TYPE 13** 

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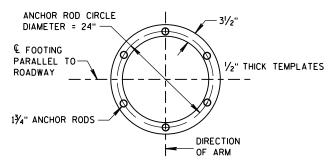
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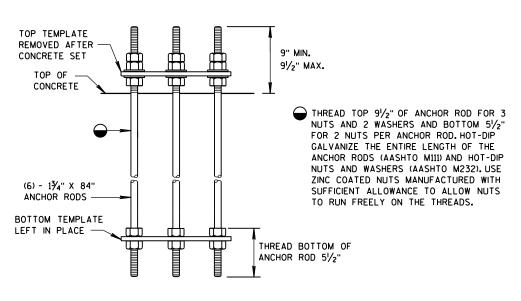






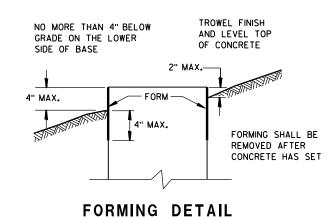


#### TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

#### CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



CONCRETE BASE TYPE 13

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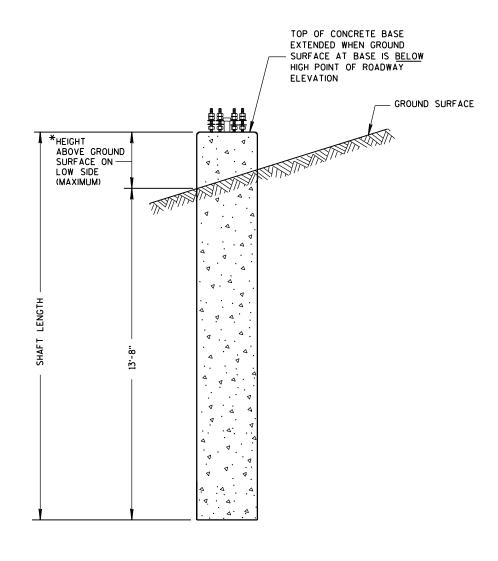
#### REINFORCEMENT AND CONCRETE QUANTITIES ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF *6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS.OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141

#### REINFORCEMENT AND CONCRETE QUANTITIES ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF *6 VERTICAL REINF.	NO.OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476

TOP OF CONCRETE BASE EXTENDED WHEN GROUND SURFACE AT BASE IS BELOW



CONCRETE BASE TYPE 10 (EXTENDED)

6

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13

HIGH POINT OF ROADWAY ELEVATION GROUND SURFACE \*HEIGHT ABOVE GROUND SURFACE ON-LOW SIDE (MAXIMUM) 1'-9" MIN. & & FOOTING TYPE 10 & TYPE 13 EXTENSION

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CONCRETE BASE

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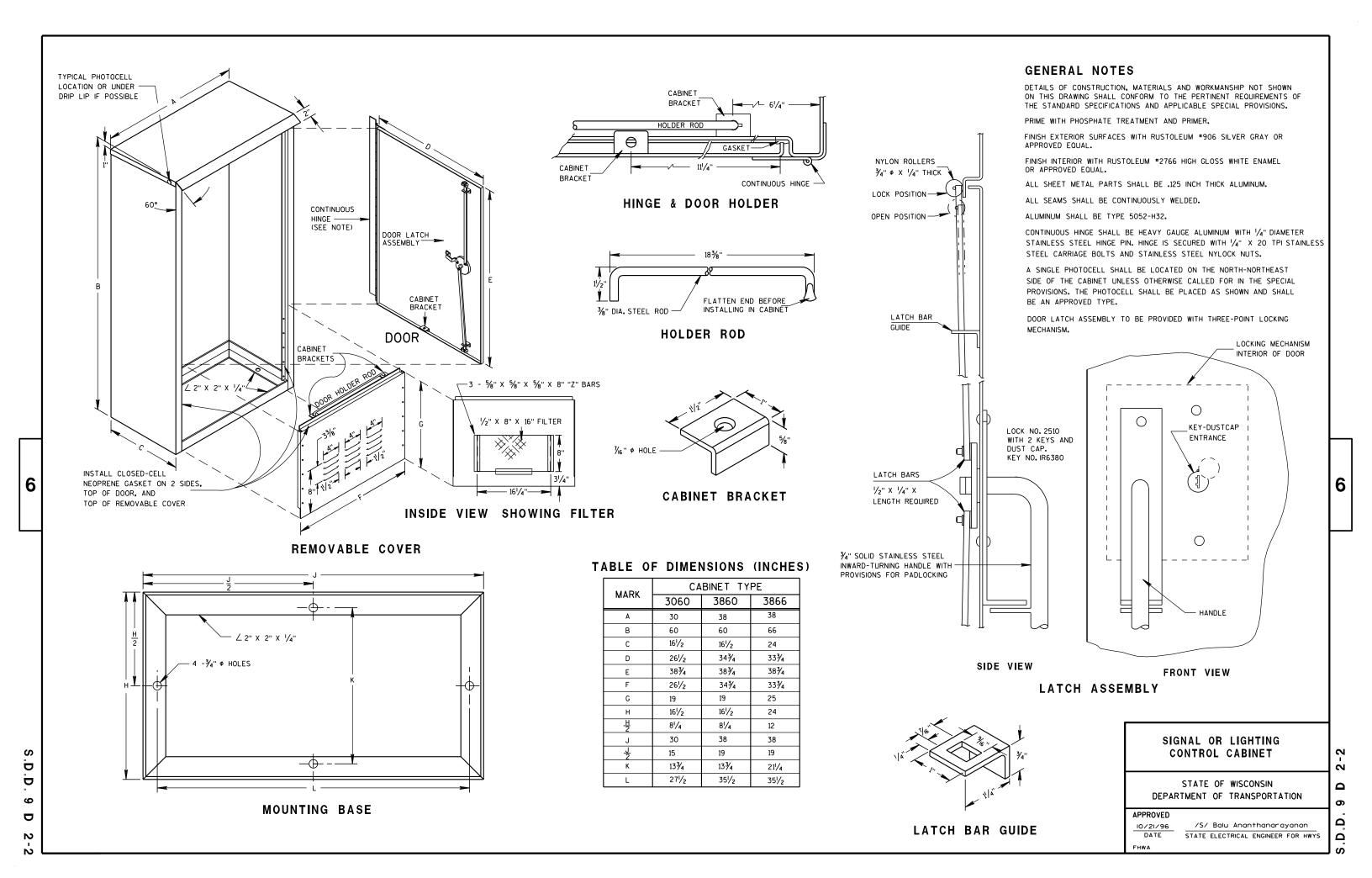
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**CONCRETE BASE TYPE 13 (EXTENDED)** 



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#### **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.

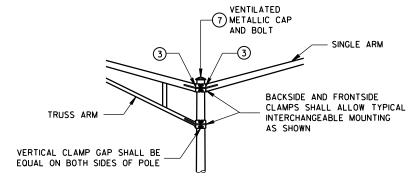
POLES SHALL BE GALVANIZED STEEL WITH A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

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

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2% 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.

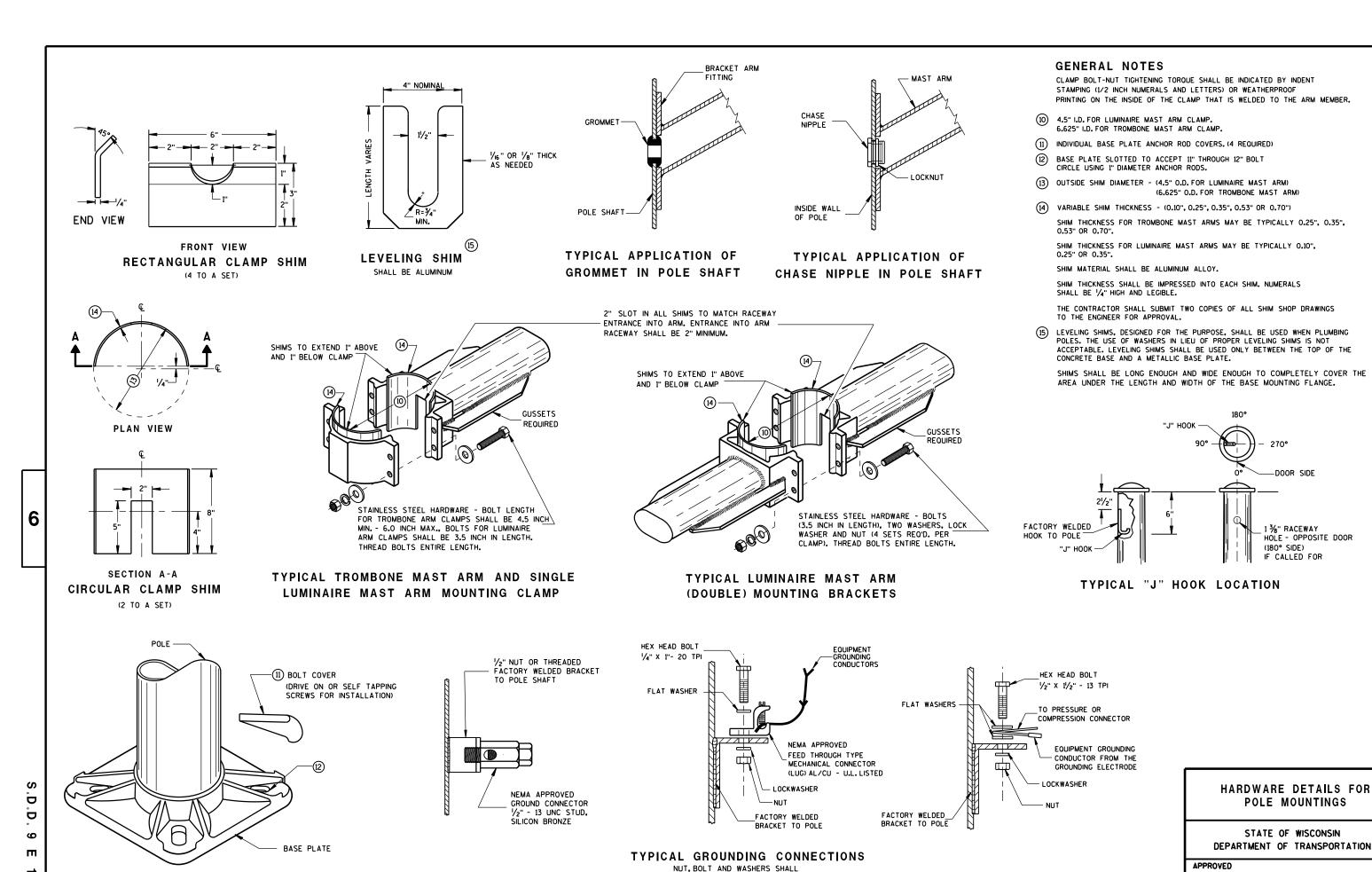
- 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" X 3/4" 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- (2) SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS SEC. 658).
- GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1%" 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.
- FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" x 3/4" 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- 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

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BE STAINLESS STEEL

BASE PLATE

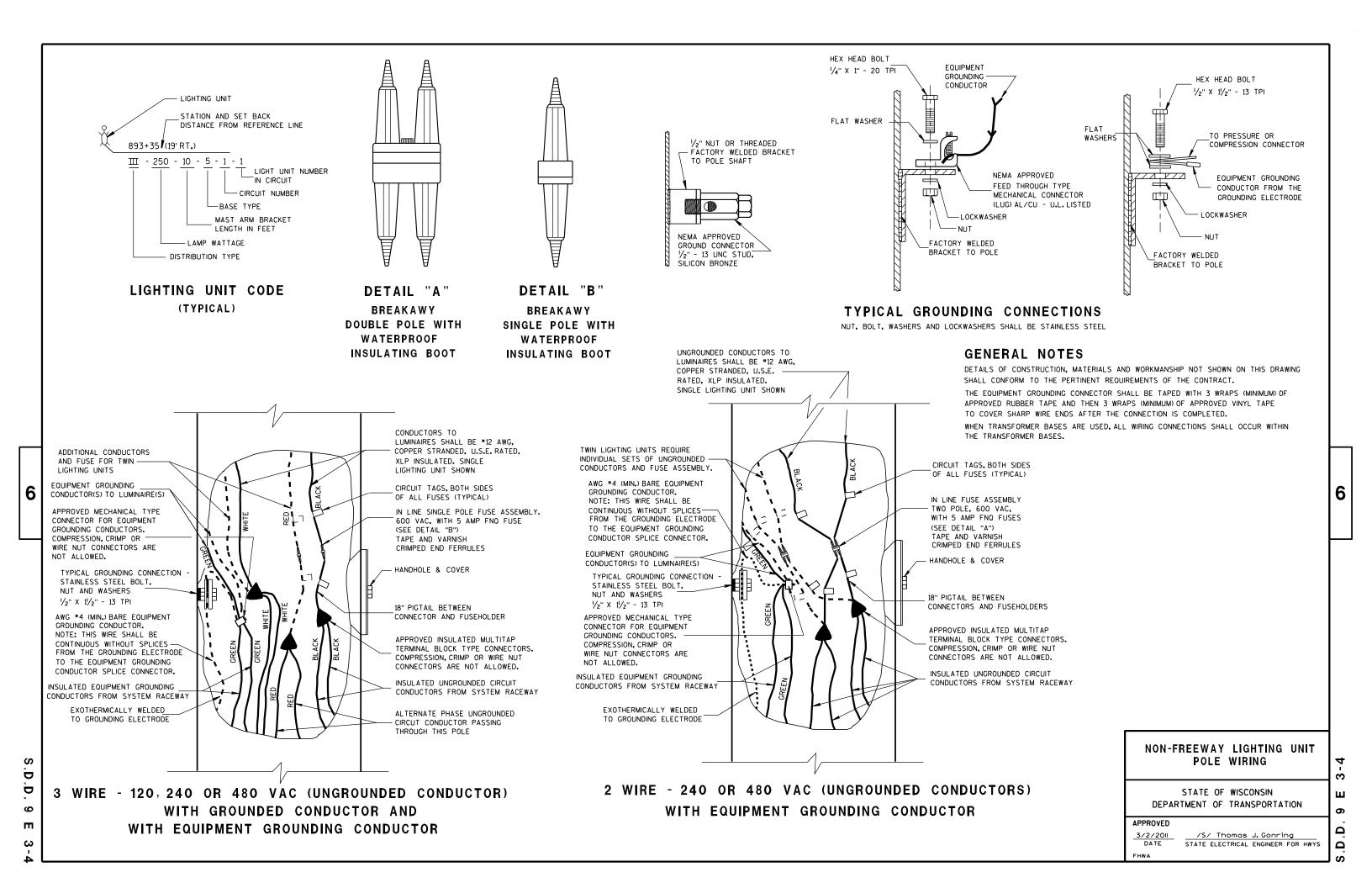
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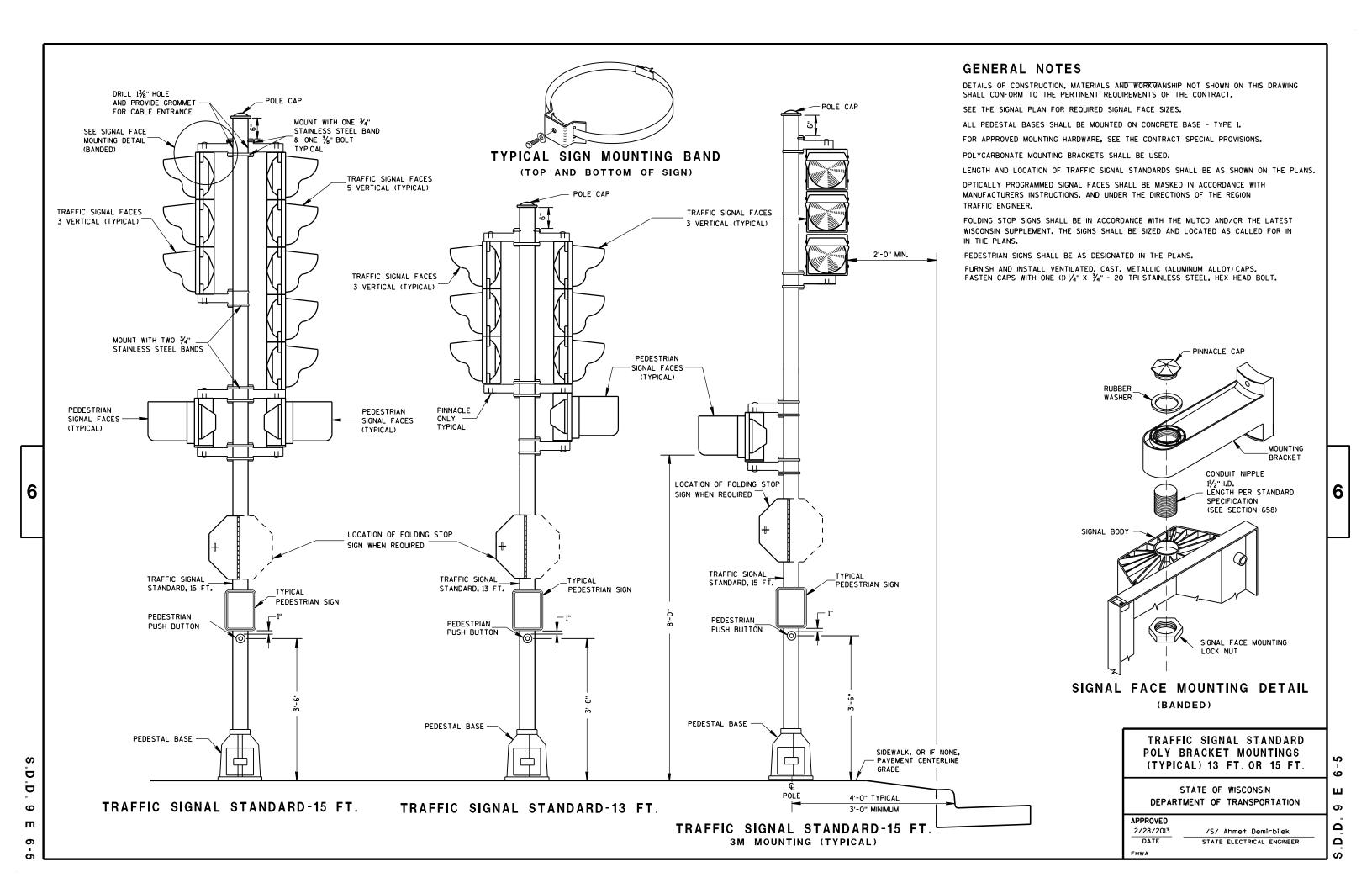
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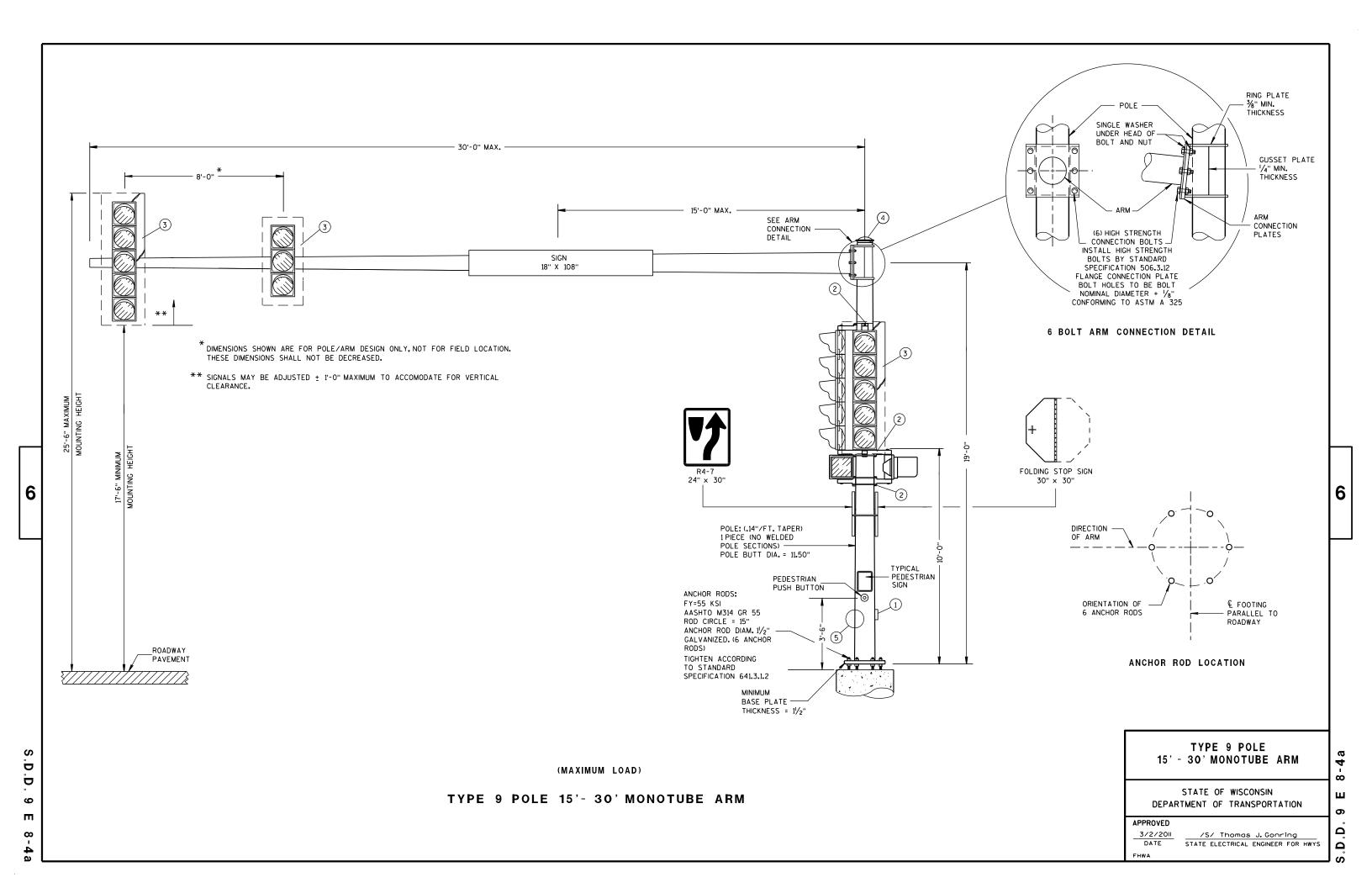
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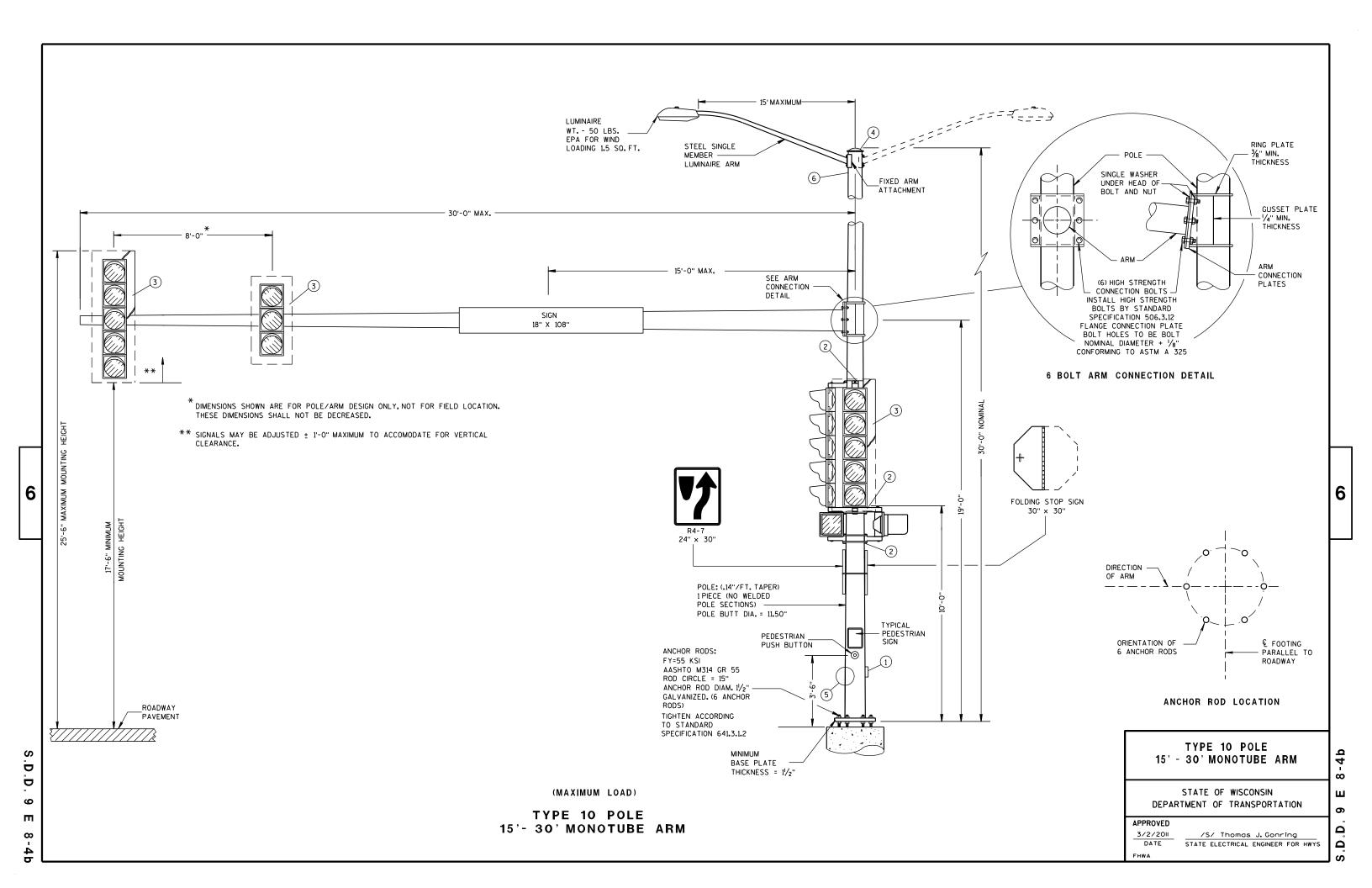
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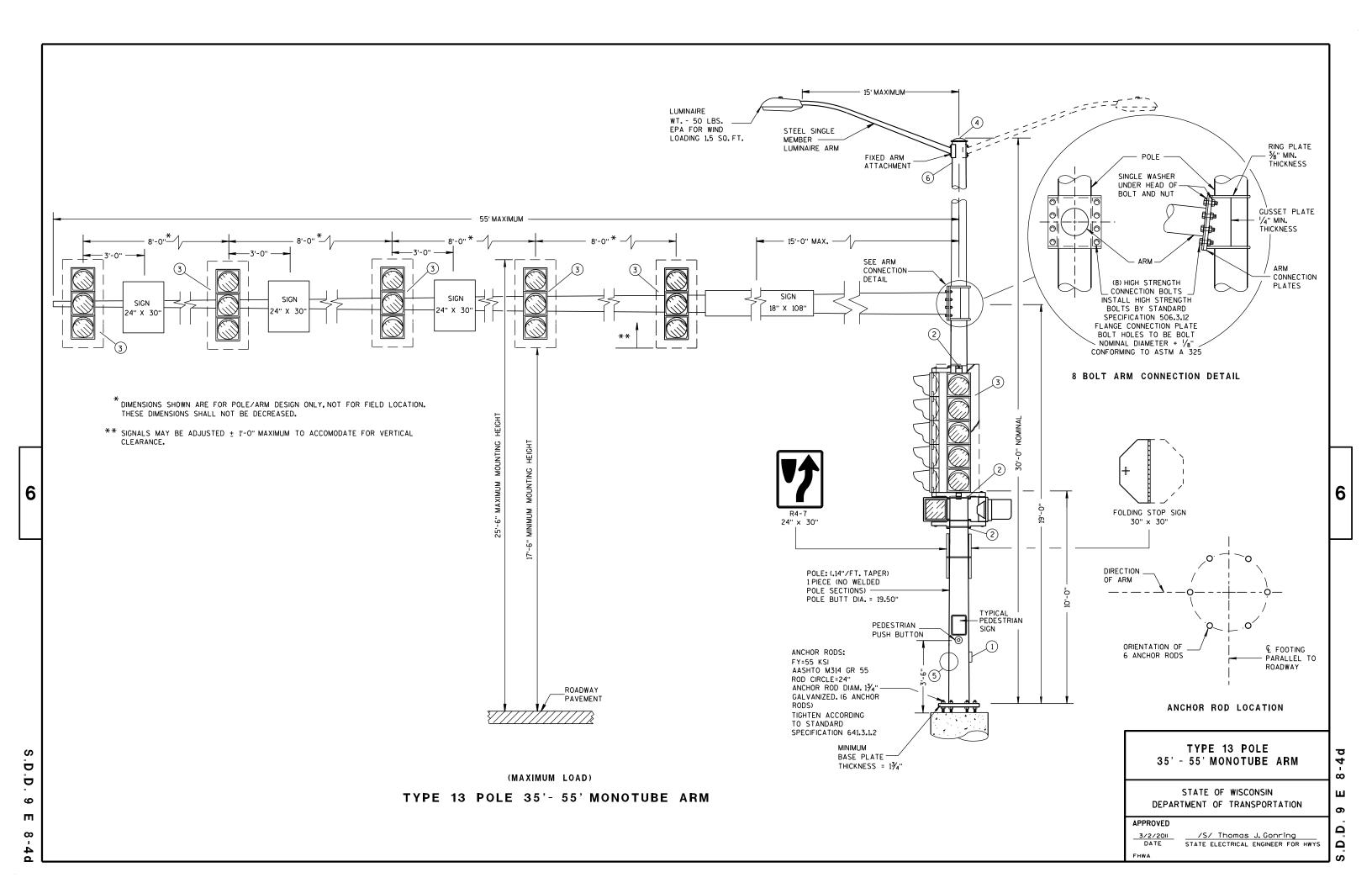
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POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

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 LATEST AASHTO AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY II 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 I 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 34" S.S. BANDING AROUND THE LEVELING NUTS.

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

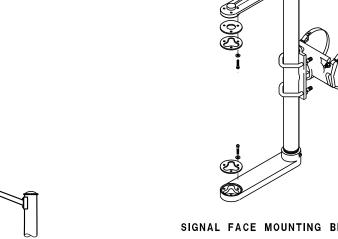
SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

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 1/4" X 3/4" 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- (2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).
- 3 SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- (4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.
- (5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM) PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.
- (6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- (7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

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

MOUNTING HEIGHT SHALL BE 5'-O" ABOVE THE CURB OR SHOULDER .ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.



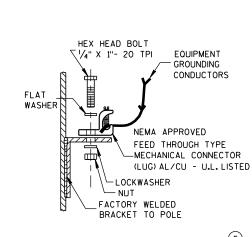
5'-0"

STRUCTURAL IDENTIFICATION

PLAQUE PLACEMENT

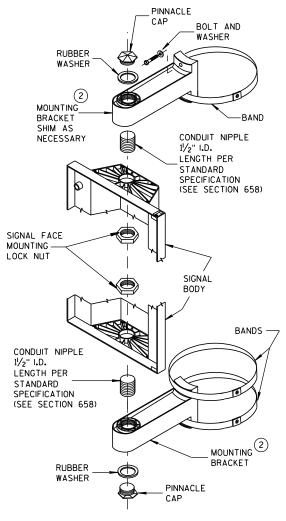
SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

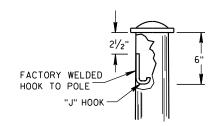


TYPICAL GROUNDING CONNECTIONS

NUT. BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT

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

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APPROVED

3/2/2011 /S/ Thomas J. Gonring STATE ELECTRICAL ENGINEER FOR HWYS

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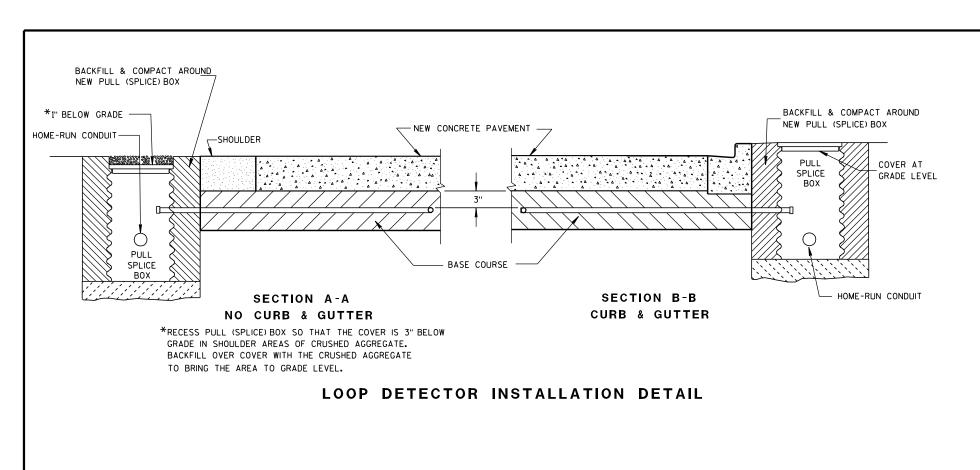
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#### GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT \*12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

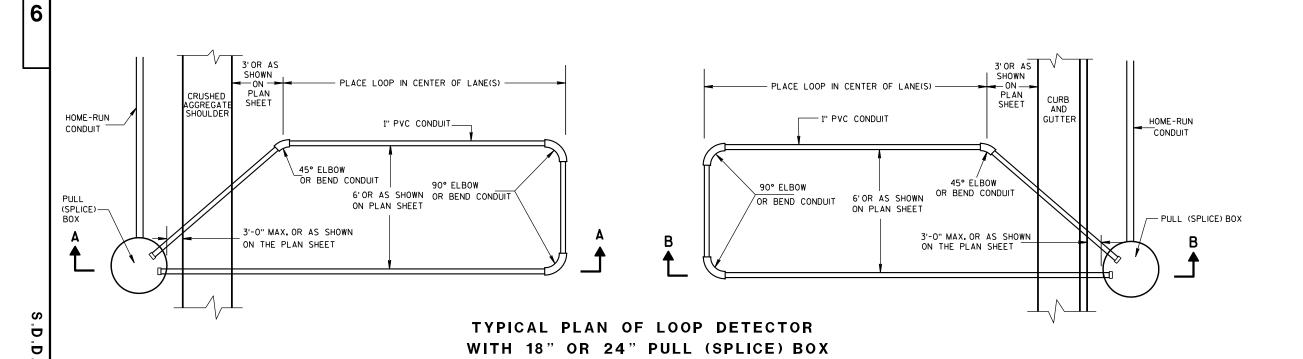
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

THE \*12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICE CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE, SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

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APPROVED

6/7/06

/S/ Balu Ananthanarayanan

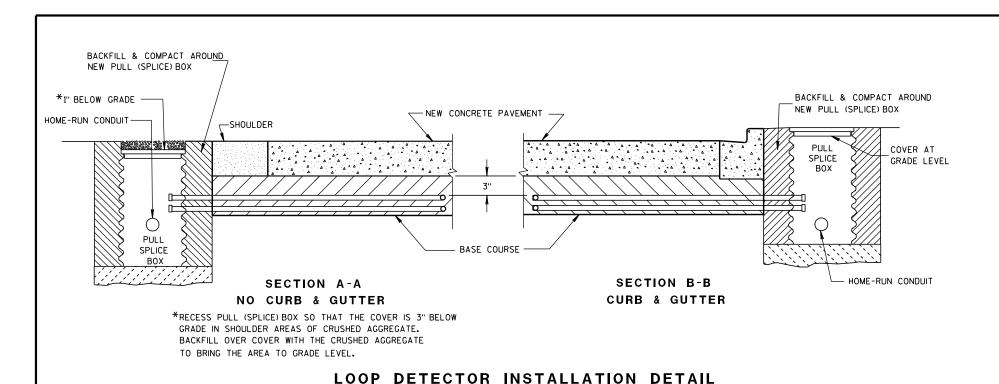
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#### **GENERAL NOTES**

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT \*12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

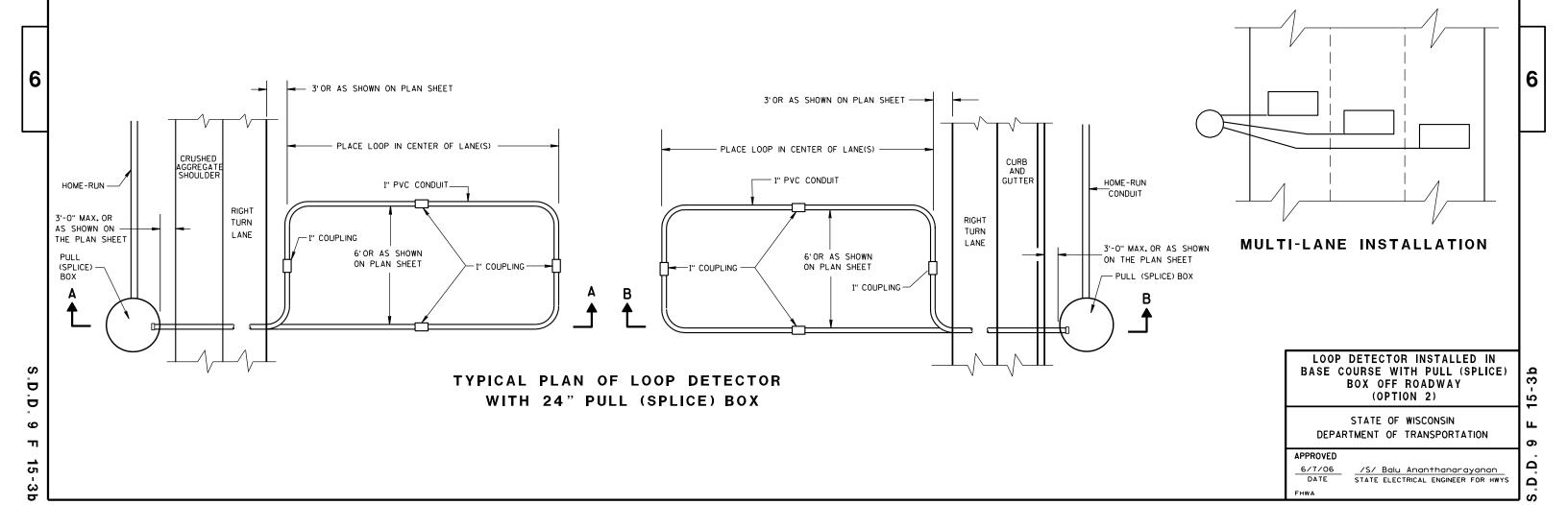
THE #12 AWG.LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

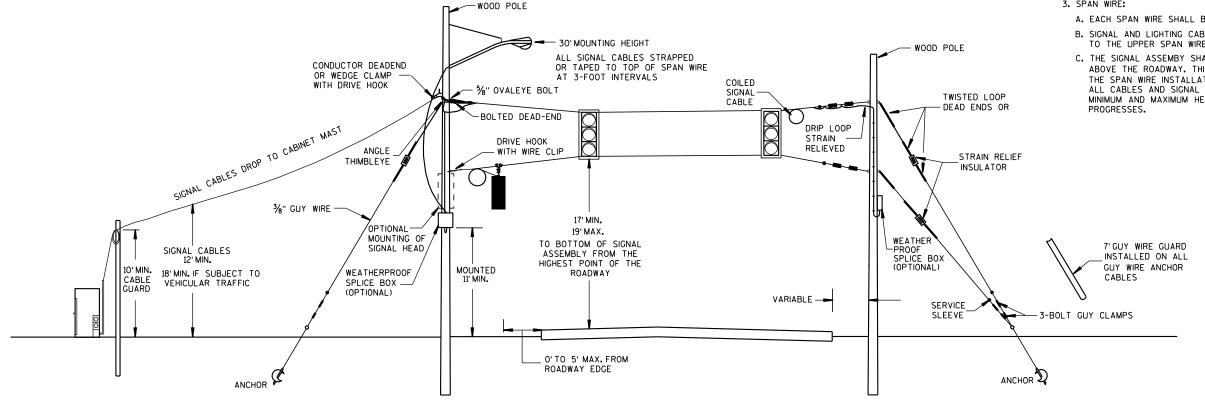
PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



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.
- 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



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

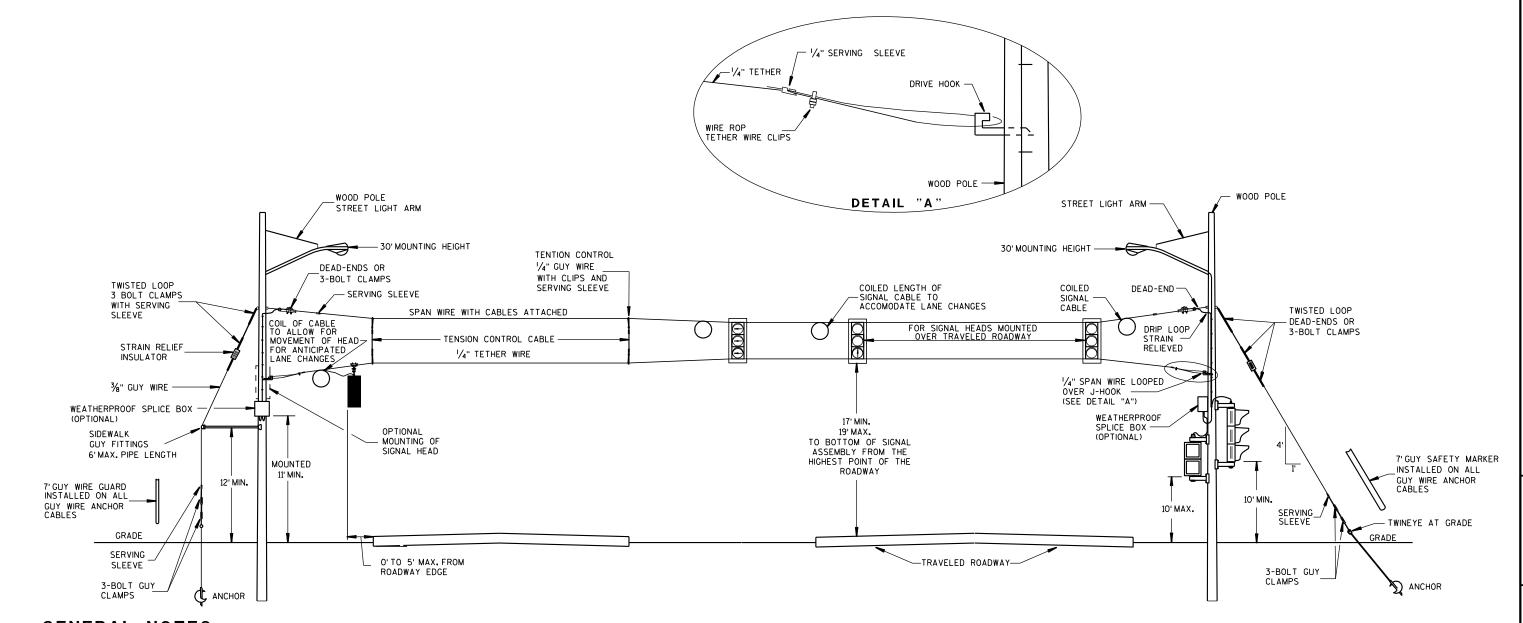
7-14-08 /S/ Balu Ananthanarayanan STATE ELECTRICAL ENGINEER FOR HWYS DATE

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#### **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:

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- 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'	¥	5'
30'	$\mathbf{x}$	6'
35'	TV.	7'
40'	IV.	8'
45'	IV.	9'

## SPAN WIRE TEMPORARY TRAFFIC SIGNAL

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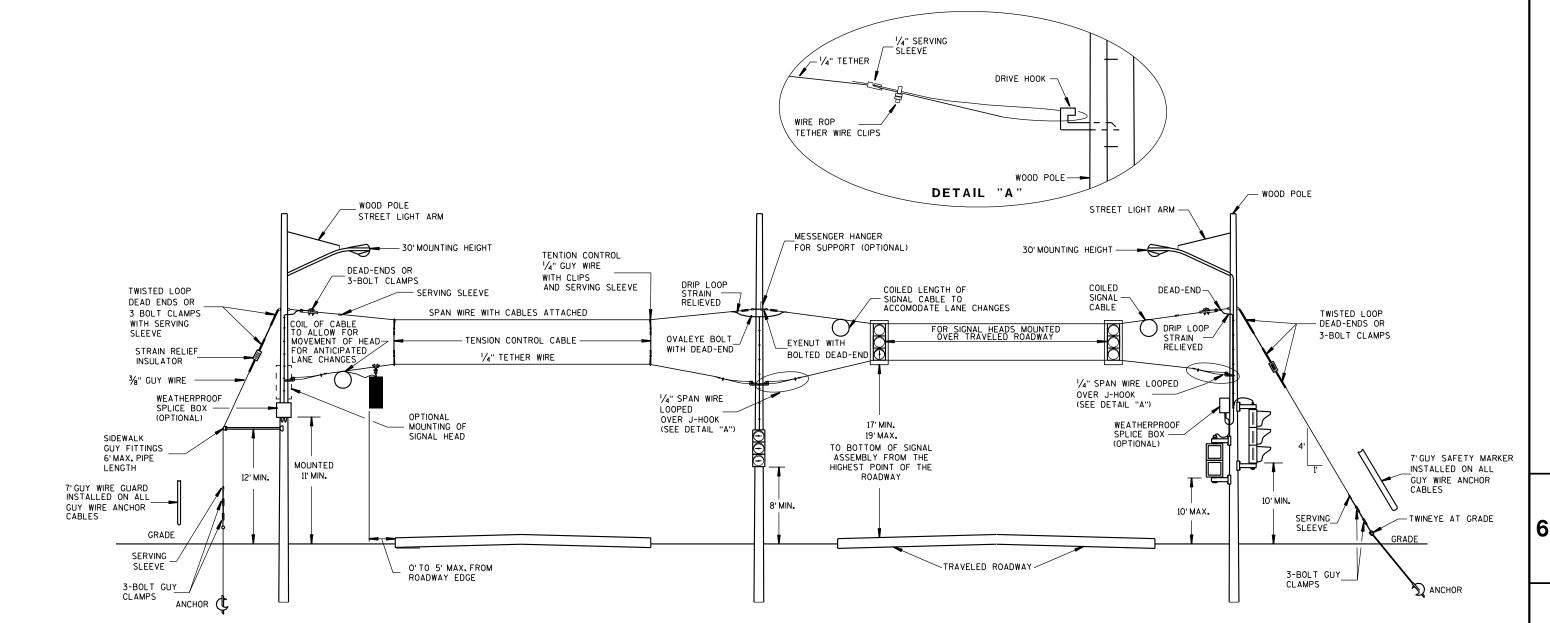
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE
STATE ELECTRICAL ENGINEER FOR HWYS



#### 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.
- 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

MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
25'	¥	5'
30'	$\mathbf{\Sigma}$	6'
35'	$\mathbf{I}\!\mathbf{V}$	7'
40'	IV	8'
45'	IV	9'

#### SPAN WIRE TEMPORARY TRAFFIC SIGNAL

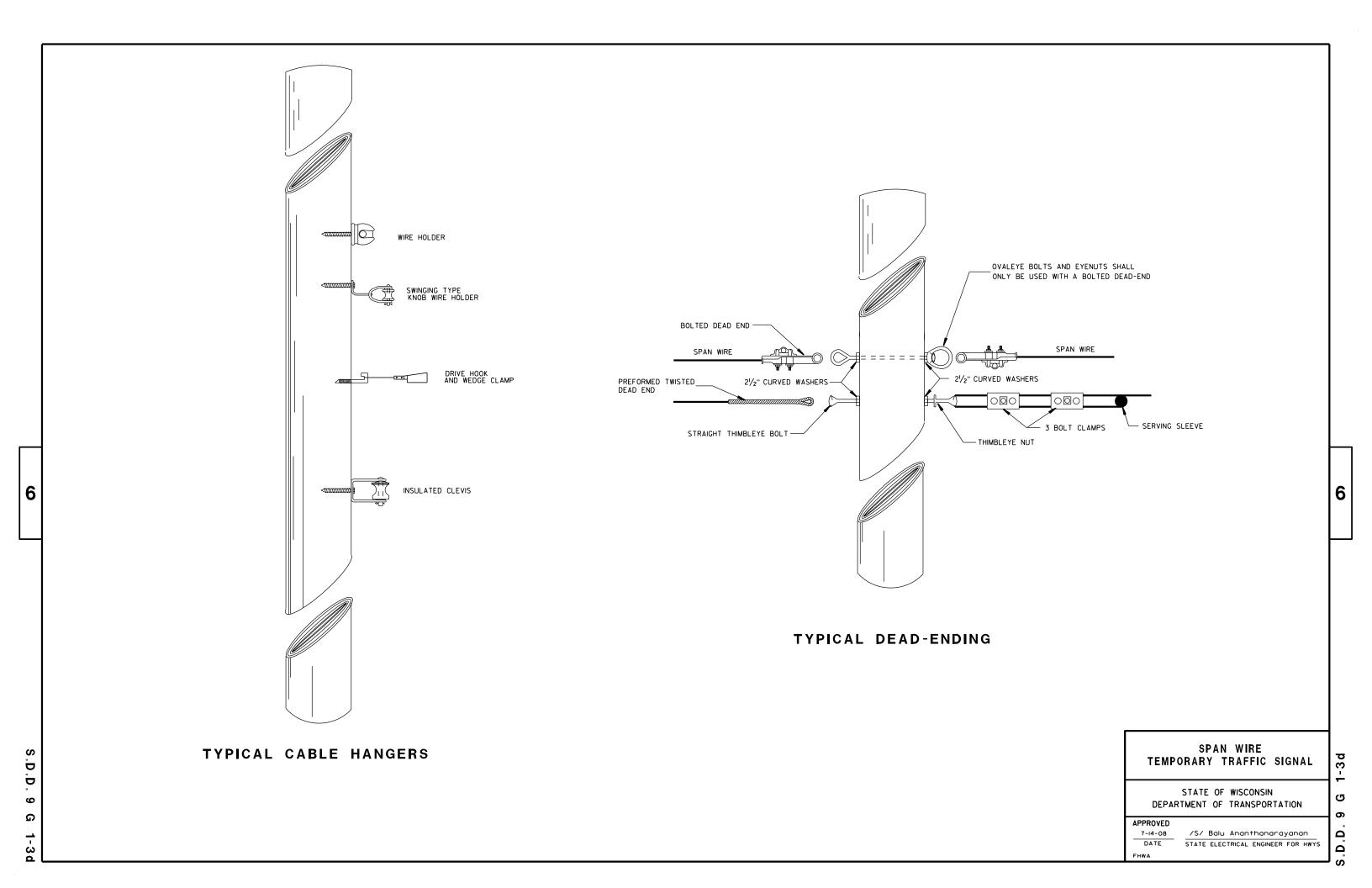
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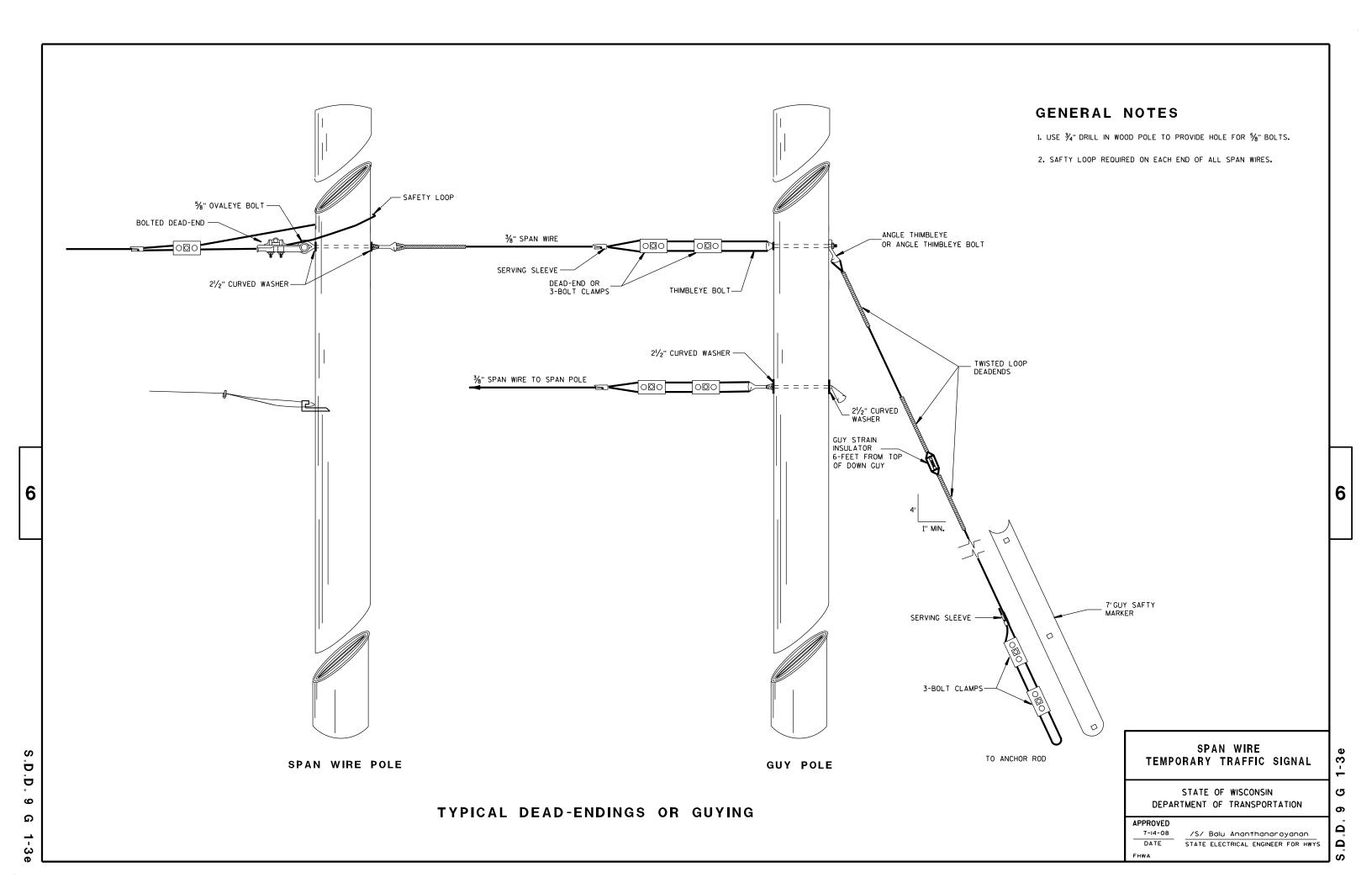
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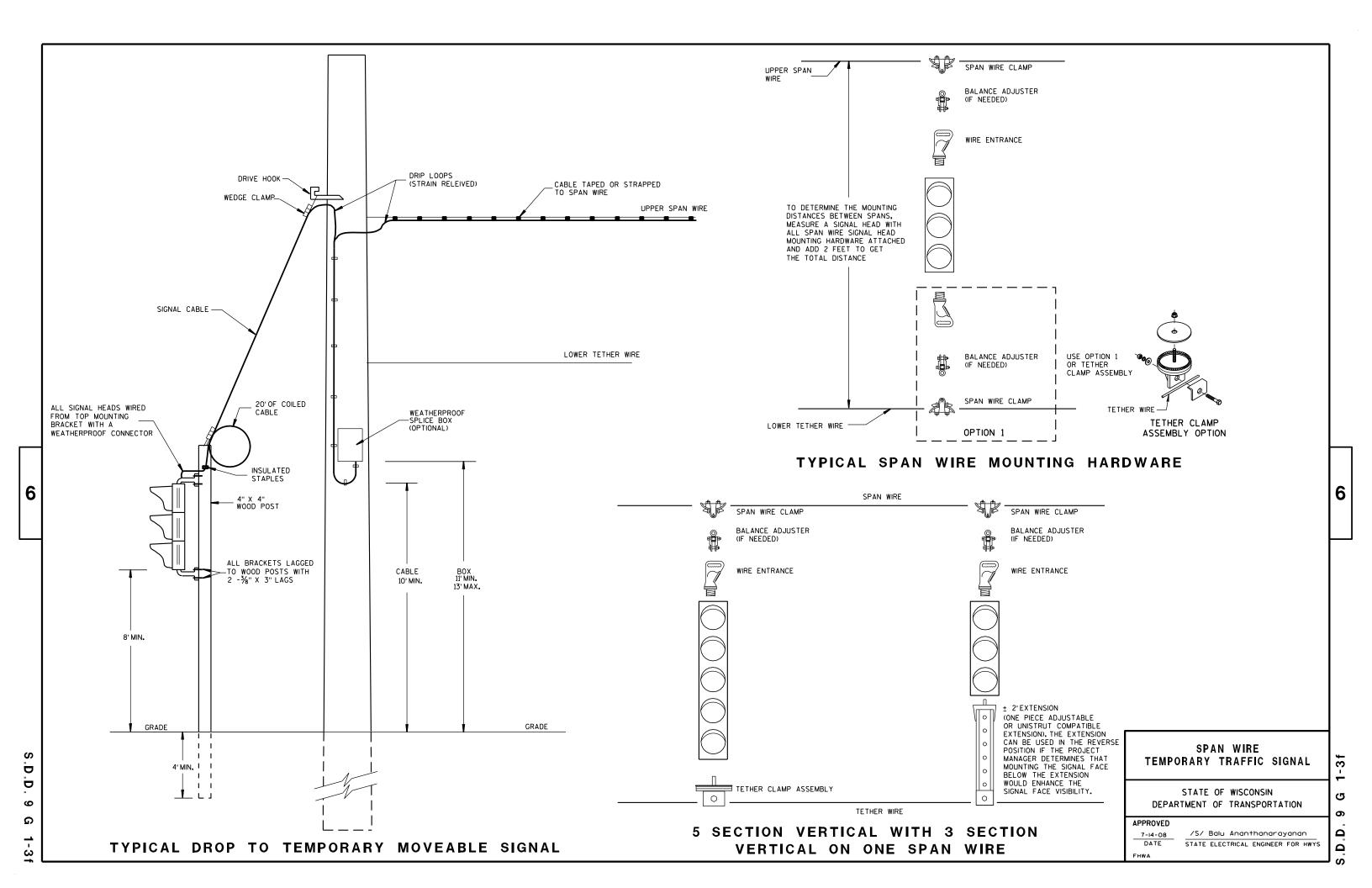
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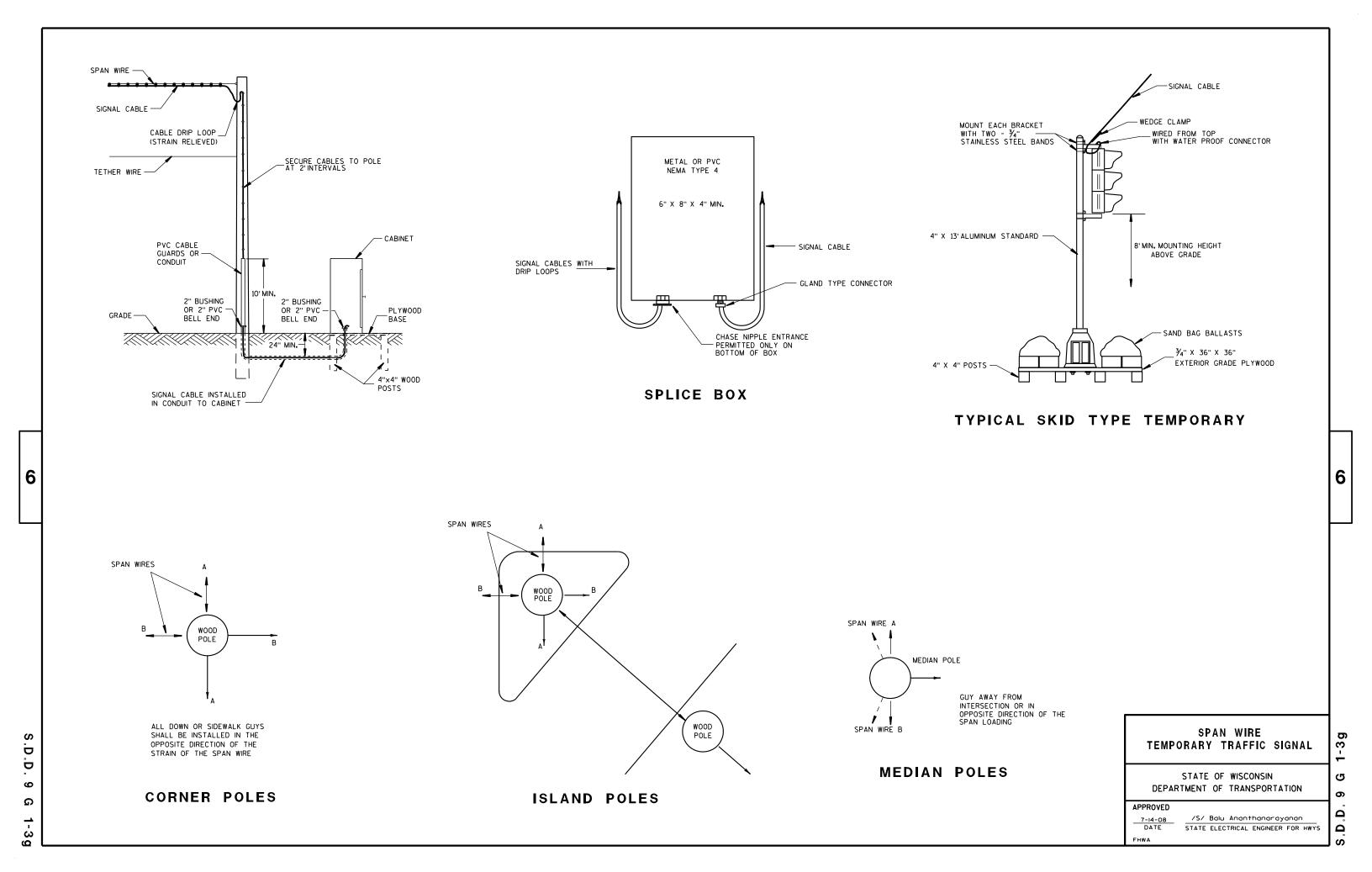
APPROVED	
7-14-08	/S/ Balu Ananthanarayanan
DATE	STATE ELECTRICAL ENGINEER FOR HWYS

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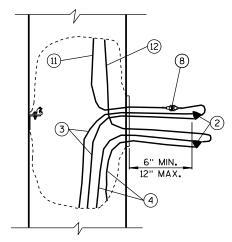








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UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

#### HEX HEAD BOLT - $M6 \times 1 \times 25 \text{ mm}$ FLAT WASHER (6) SEE GENERAL NOTE NEMA APPROVED "FEED THRU" TYPE MECHANICAL CONNECTOR (LUG) - AL/CU, U.L. LISTED - ALLEN HEAD SET SCREW REQUIRED -FLAT WASHER BRACKET FACTORY WELDED TO LIGHT LOCKWASHER POLE OR STRUCTURE COLUMN

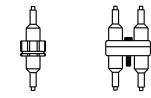
#### HANDHOLE GROUNDING LUG

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

#### CONDUCTOR COLOR CODES

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

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



2 POLE (2P) 1 POLE (1P)

**FUSE ASSEMBLIES** 

#### **GENERAL NOTES**

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

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

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

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

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

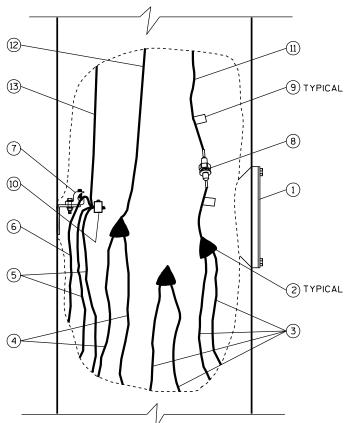
CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL

# (9) TYPICAL 2) TYPICAL

TYPICAL CONDUCTOR SLACK

AT HANDHOLES

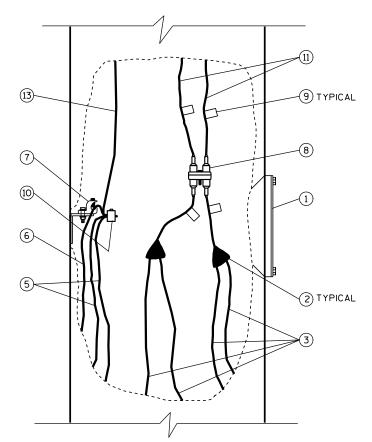
CUTAWAY HANDHOLE DETAIL GROUNDED NEUTRAL SYSTEMS



CUTAWAY HANDHOLE DETAIL

ISOLATED NEUTRAL SYSTEMS 1-φ SHOWN: 3-φ WYE SIMILAR (SEE GENERAL NOTE)

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



#### CUTAWAY HANDHOLE DETAIL

PHASE-TO-PHASE SYSTEMS 1-φ SHOWN: 3-φ DELTA SIMILAR (SEE GENERAL NOTE)

- 1 HANDHOLE AND COVER
- (2) INSULATED SPLICE
- (3) UNGROUNDED LINE WIRE
- (4) GROUNDED LINE WIRE
- (5) SYSTEM GROUNDING LINE WIRE
- (6) GROUNDING ELECTRODE CONDUCTOR
- (7) HANDHOLE GROUNDING LUG
- (8) FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
- (9) CIRCUIT TAG (SEE GENERAL NOTE)
- (10) REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
- (11) UNGROUNDED POLE WIRE
- (12) GROUNDED POLE WIRE
- (13) EQUIPMENT GROUNDING POLE WIRE

#### **ELECTRICAL HANDHOLE** WIRING

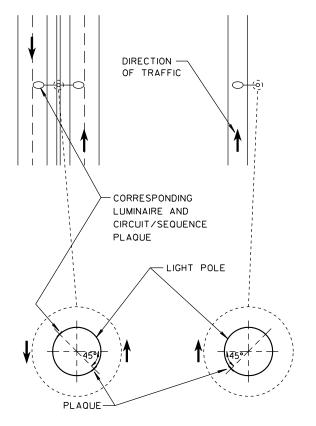
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED	
0.435.43010	

/S/ John Corbin STATE ELECTRICAL ENGINEER FOR HWYS

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**MEDIAN POLE** 

SINGLE ARM POLE

LOCATION OF LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

#### **GENERAL NOTES**

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETRORFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM POLES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

COLOR PATCH CODE FOR HPS LUMINAIRES

1000 WATT - NO PATCH

400 WATT - ORANGE

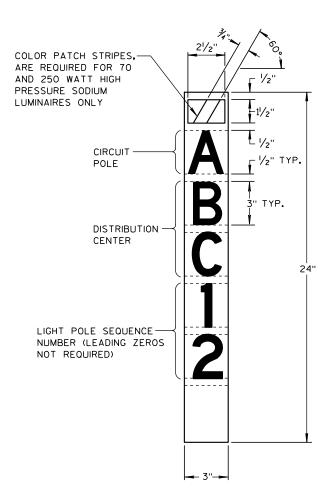
310 WATT - BLUE

250 WATT - ORANGE WITH WHITE STRIPE

200 WATT - RED 150 WATT - GREEN

100 WATT - BROWN

70 WATT - BROWN WITH WHITE STRIPE



#### LIGHT POLE CIRCUIT/SEQUENCE **PLAQUE**

#### IDENTIFICATION PLAQUES LIGHT POLES

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

10/25/2010 /S/ John Corbin DATE STATE ELECTRICAL ENGINEER FOR HWYS

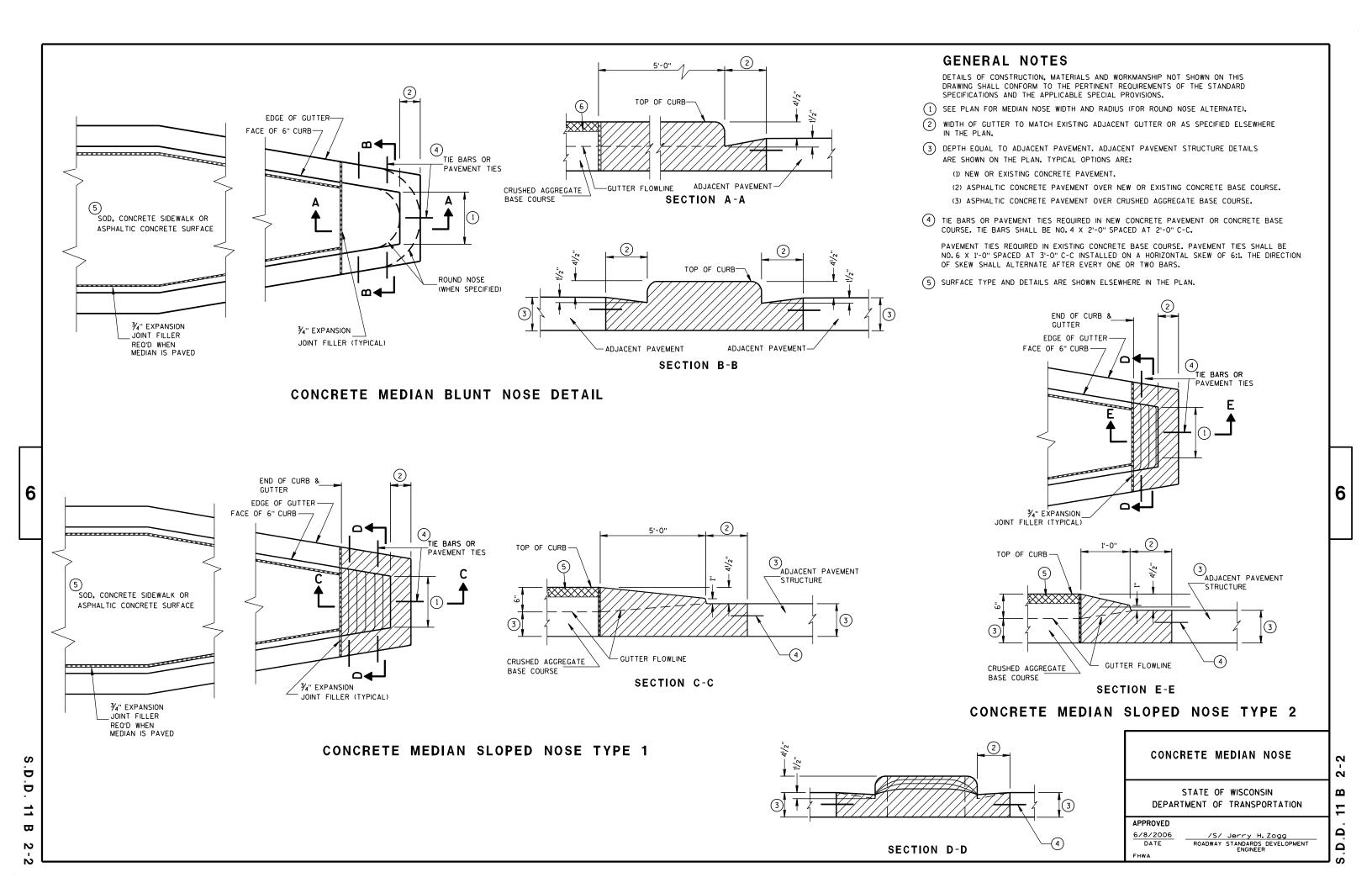
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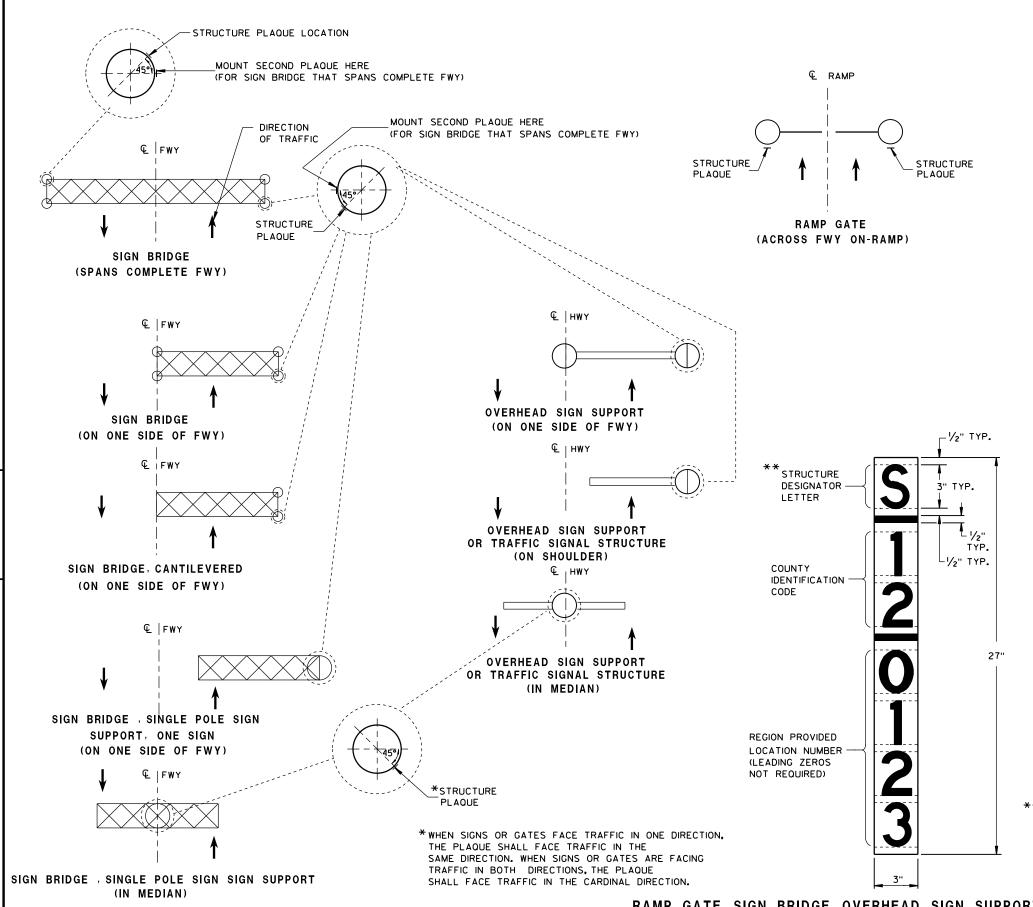
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LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD

SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES

#### GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

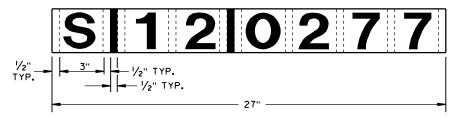
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



## IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

\*\* LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

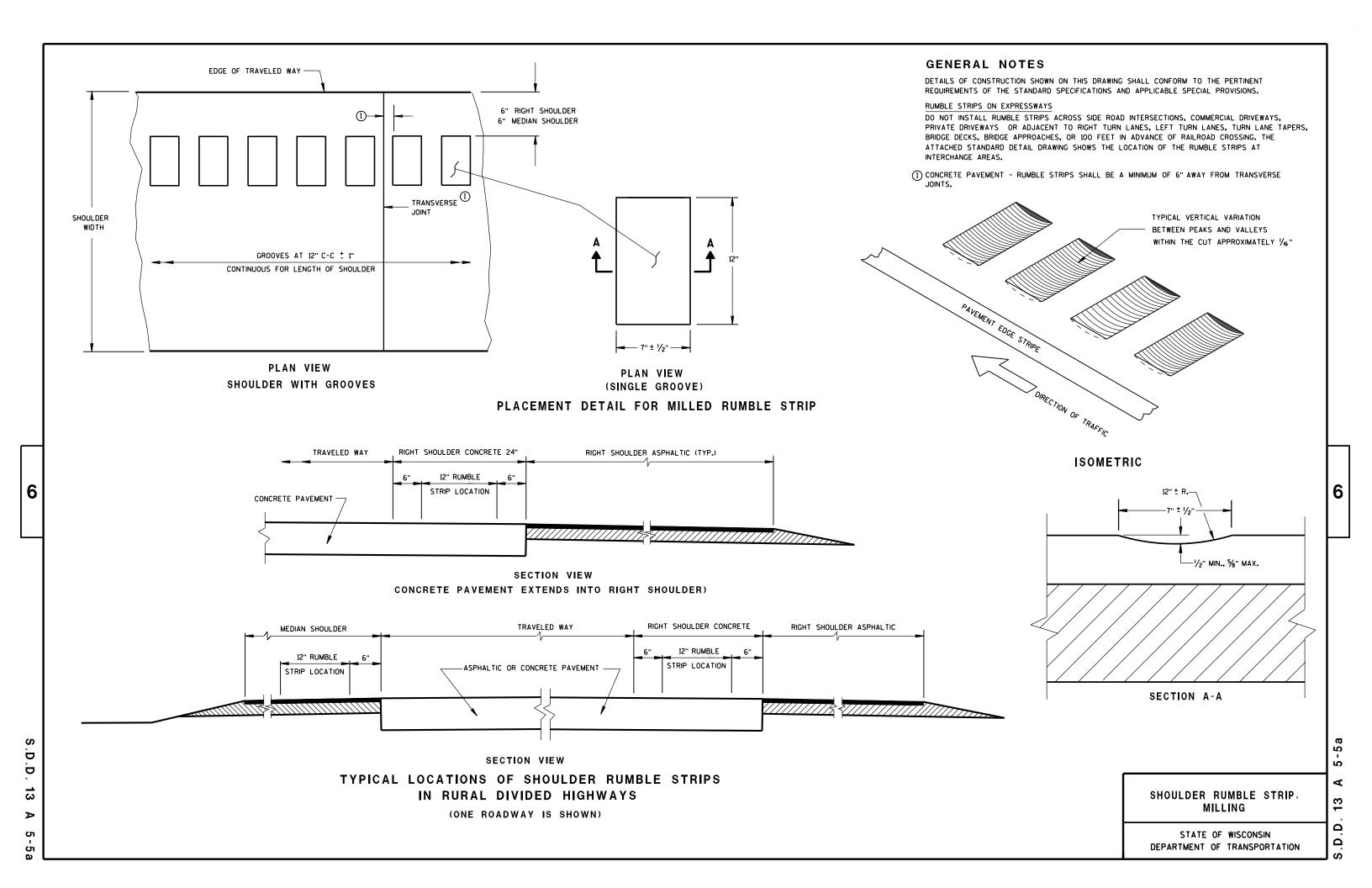
STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

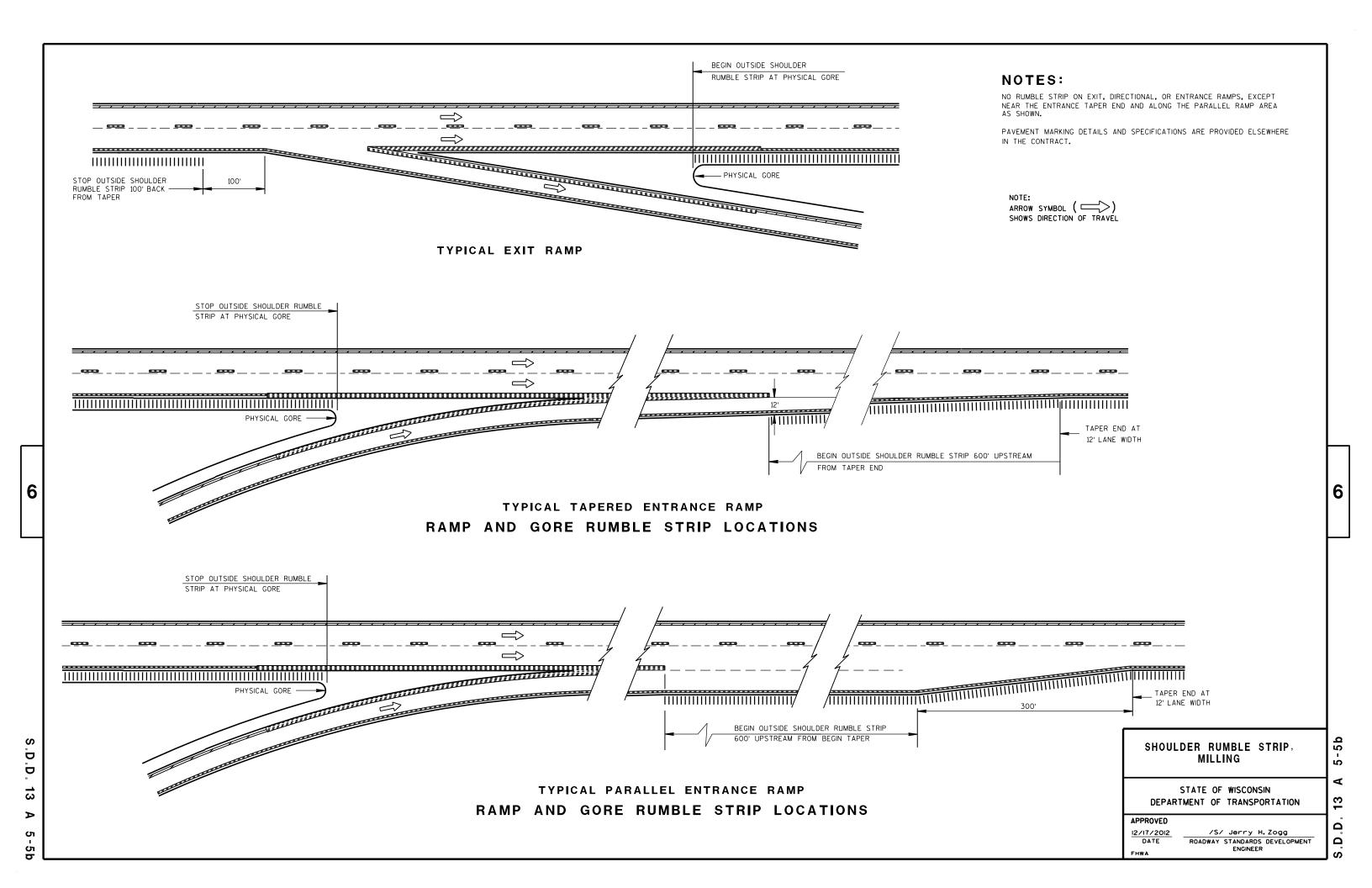
STATE OF WISCONSIN
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APPROVED

DATE STATE TRAFFIC ENGINEER OF DESIGN

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

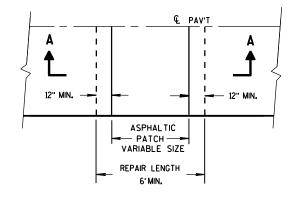




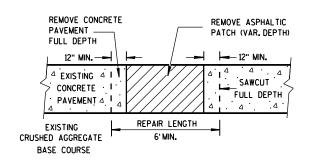
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

1) DOWEL BARS MIGHT NOT EXIST.

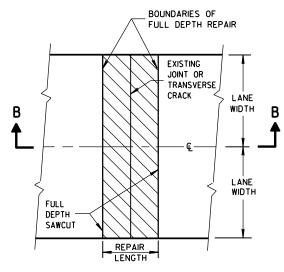


PLAN VIEW

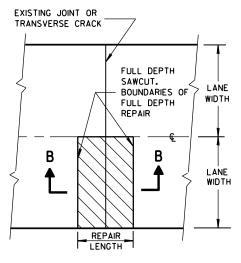


SECTION A-A

HMA PATCH REMOVAL



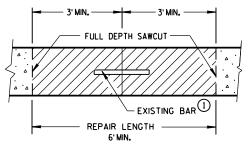
PLAN VIEW (DOUBLE LANE REPAIR)



PLAN VIEW (SINGLE LANE REPAIR)

#### FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION B-B
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR
AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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#### MAXIMUM TIE BAR PAVEMENT CLEAR COVER SPACING "S" DEPTH PAVEMENT WIDTH "D" 24' OR 26' ≥30' 42" 3"±1/2" 48" 6,6 1/2" 3 1/4"±1" 36" 7, 7 1/2" 3 ¾"±1" 39" 30" 8, 8 1/2" 9,9 1/2" 4 1/4"±1" 33" 27" 10, 10 1/2" 4 3/4"±1" 30" 24" 11, 11 1/2" 5 1/4"±1" 27" 21" 12" 5 ¾"±1" 21" 24"

1/4" RAD.

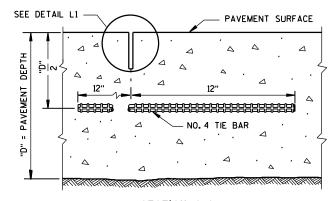
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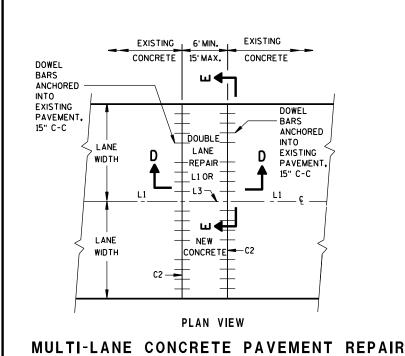
TIE BAR TABLE

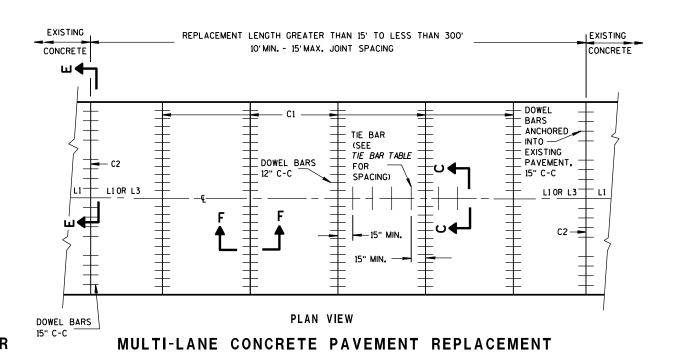


SECTION C-C SAWED LONGITUDINAL JOINT

# SEE DETAIL C1 DOWEL BARS @ 12" C-C 12" FROM PAVEMENT EDGE (SEE SIZE TABLE)

SECTION F-F **CONTRACTION JOINT** 





#### **GENERAL NOTES**

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

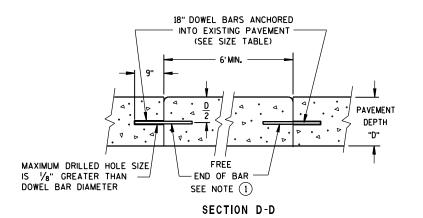
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT

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



(FOR 11'LANE WIDTH REDUCE CENTER SPACE TO 1'-O") 1'-3",1'-3" | 1'-3",1'-3",1'-3", 2'-0",1'-3",1'-3",1'-3" **PAVEMENT** DEPTH 0.0.0 "D" 18" DOWEL BARS (SEE SIZE TABLE)

DRILLED DOWEL BAR CONSTRUCTION JOINT

SECTION E-E

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

AILD COIN	· OI AGIN	G INDEL
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

**CONCRETE PAVEMENT** REPAIR AND REPLACEMENT

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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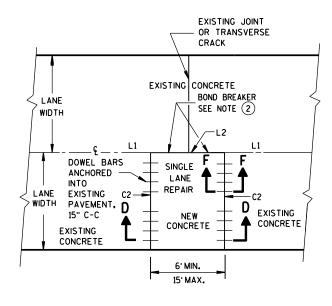
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#### SECTION G-G

# TIE BARS ANCHORED INTO EXISTING PAVEMENT



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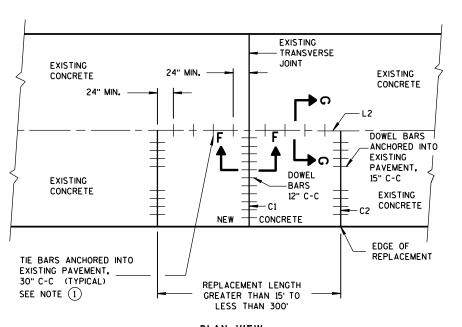
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PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPAIR



PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPLACEMENT

#### GENERAL NOTES

- (1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- 2 USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

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CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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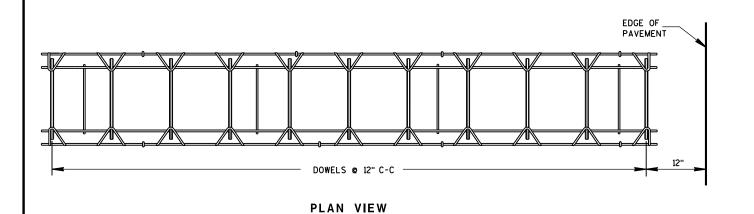
12-2013
DATE

APPROVED

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER

FHWA

S/ Deb Bischoff T POLICY & DESIGN ENGINEER



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

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8"•8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

#### **GENERAL NOTES**

#### **CONTRACTION JOINTS**

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

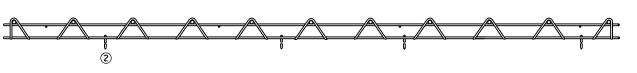
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

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

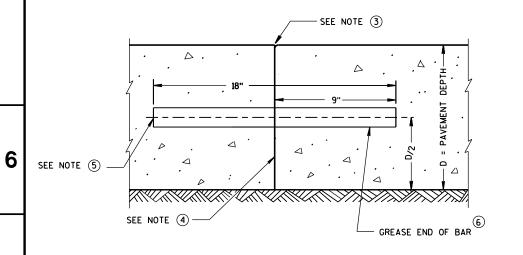
#### CONSTRUCTION JOINTS

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

- (1) OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- 2) SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- (3) FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.
- 4 PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- 5 INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO DRILLED DOWEL BAR CONSTRUCTION JOINT DETAIL.
- 6 APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- (7) ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER. 9 INCHES IN LENGTH.



SIDE VIEW CONTRACTION JOINT DOWEL ASSEMBLY



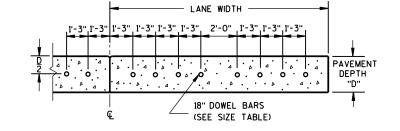
TRANSVERSE CONSTRUCTION JOINT

△ DOWEL BARS © 12" C-C 12" FROM PAVEMENT EDGE-

**DOWELED CONTRACTION JOINT** 

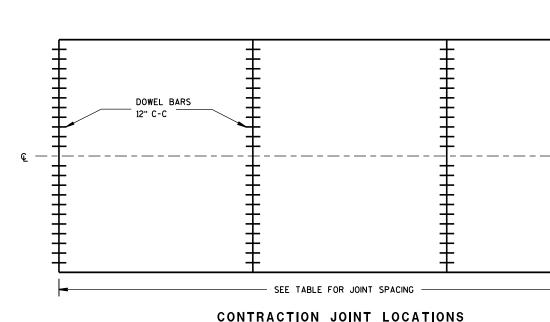
(SEE SIZE TABLE)

SEE JOINT DETAIL



(FOR 11' LANE WIDTH REDUCE CENTER SPACE TO 1'-O")

## DRILLED DOWEL BAR CONSTRUCTION JOINT $^{\scriptsize \bigcirc}$



JOINT DETAIL

#### **URBAN DOWELED CONCRETE PAVEMENT**

- ¼" MAX.

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**APPROVED** 5/3/2013

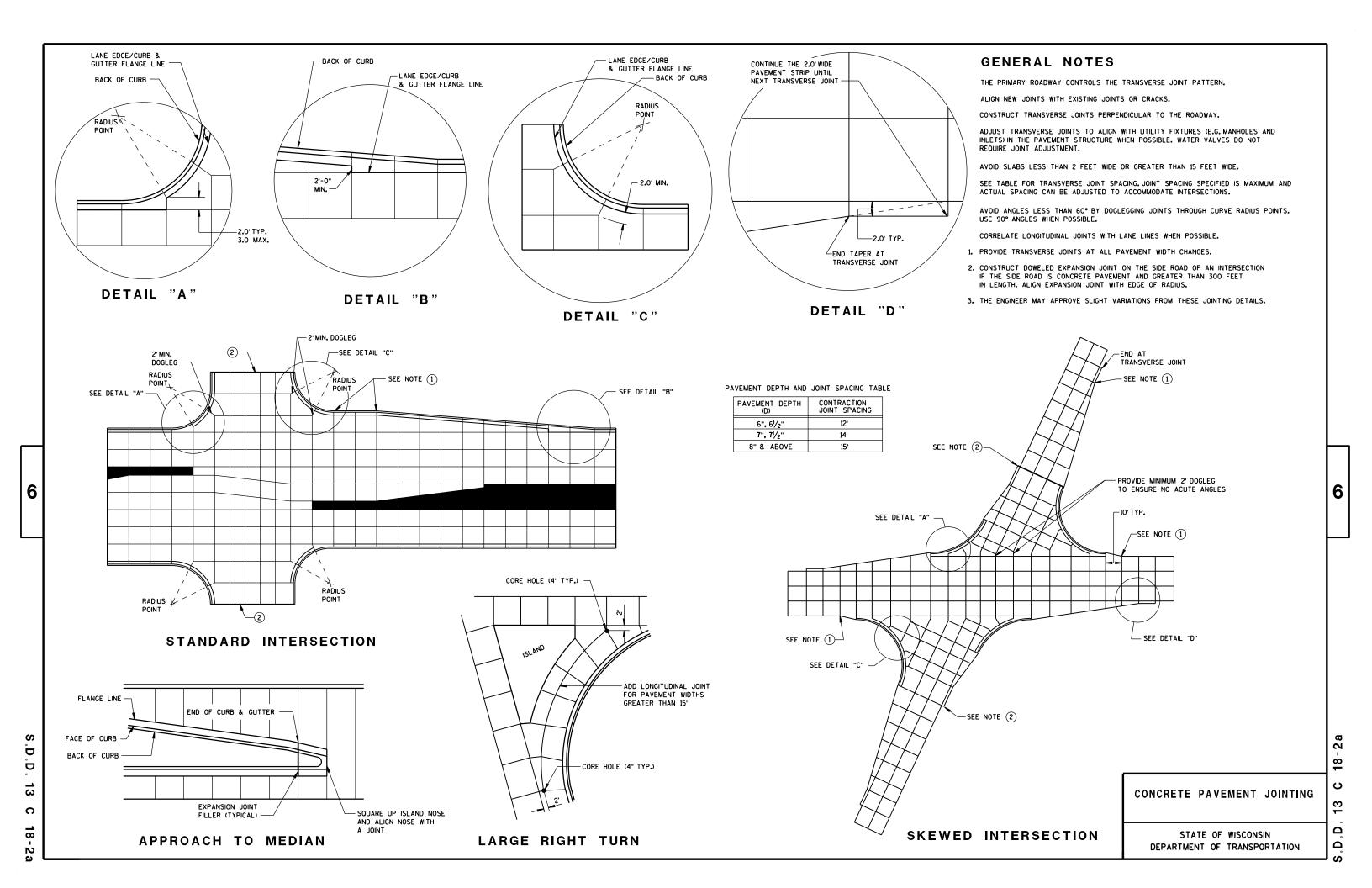
FHWA

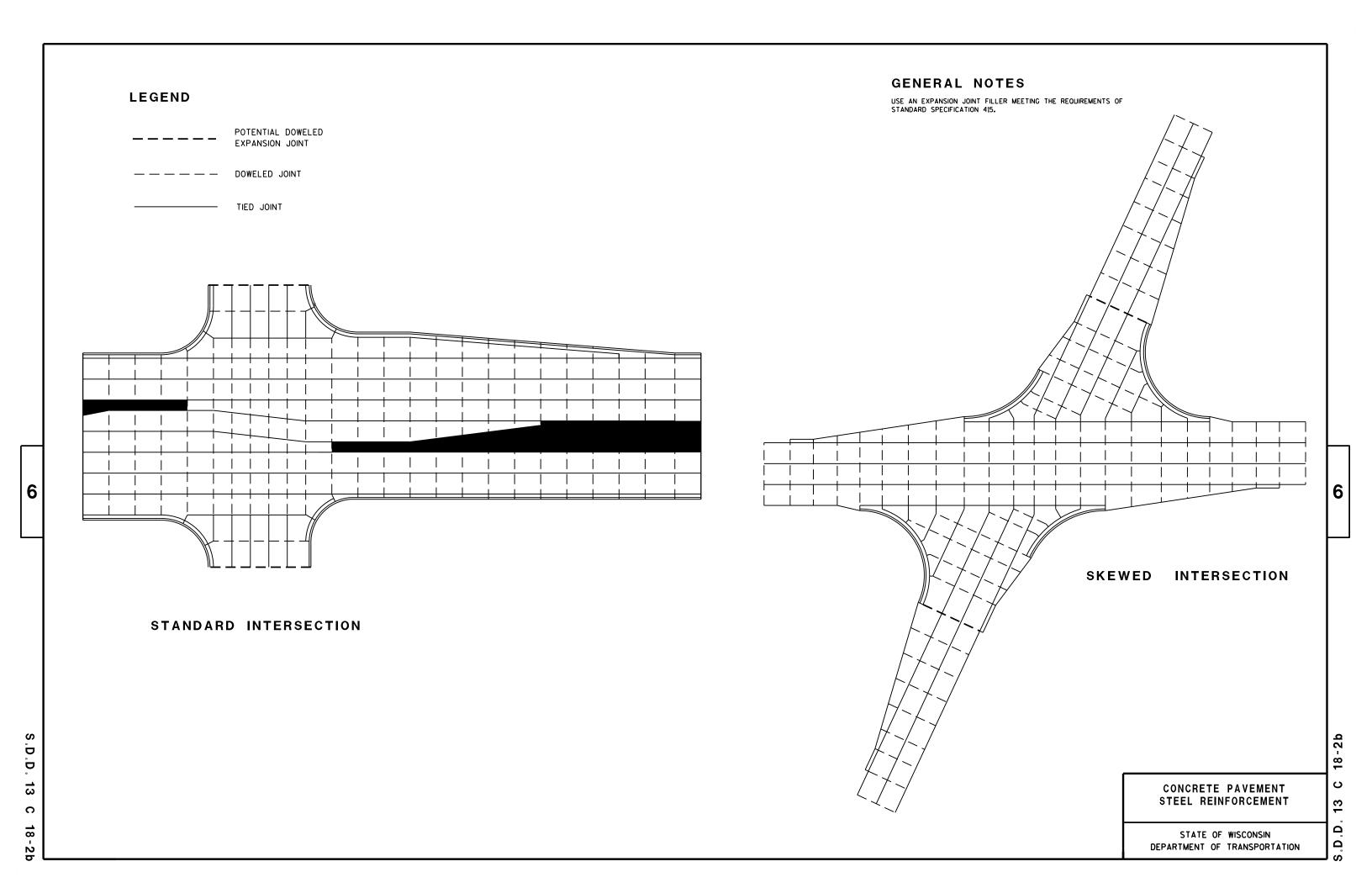
/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER

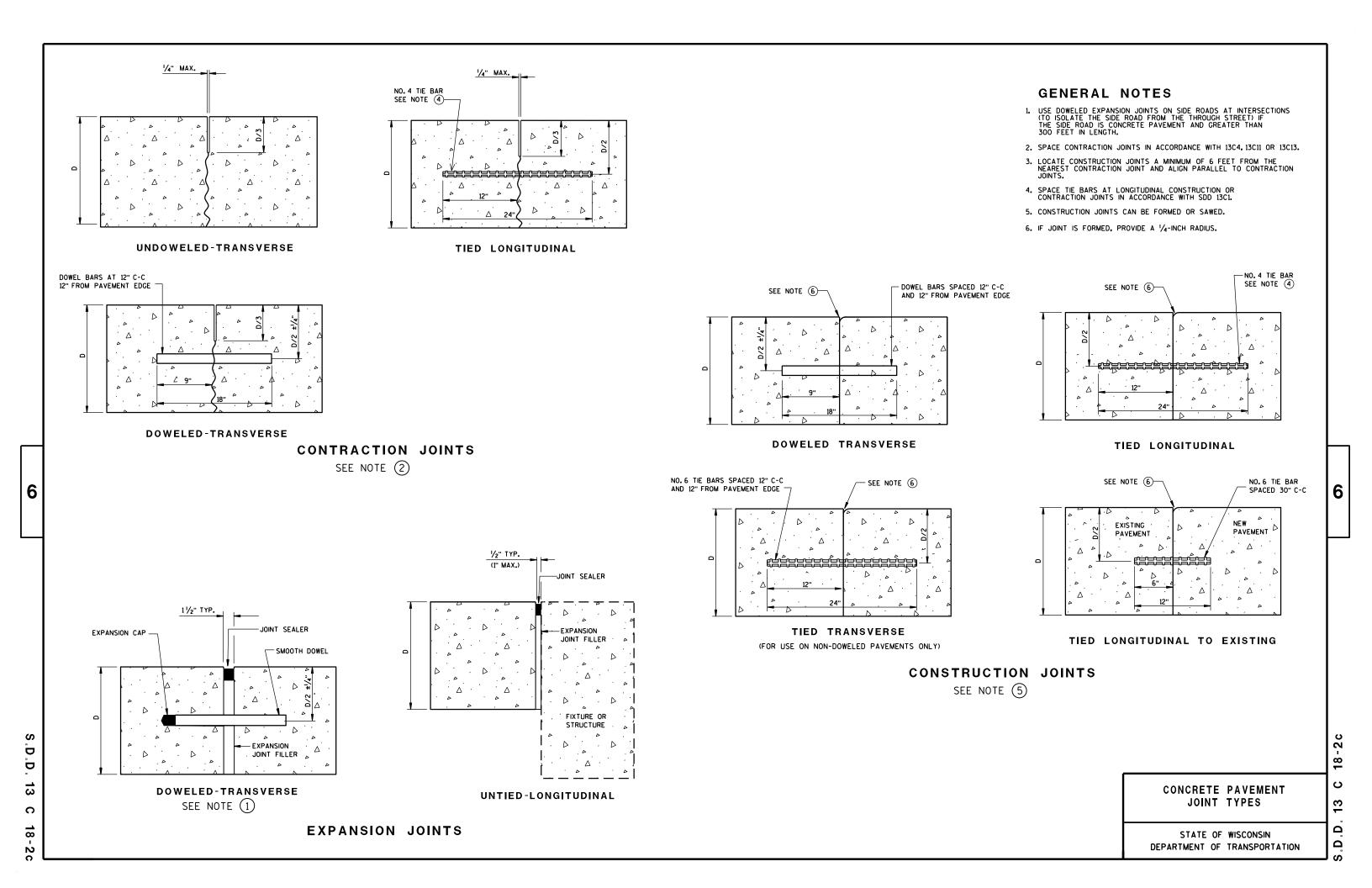
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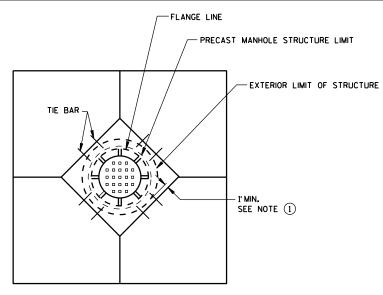
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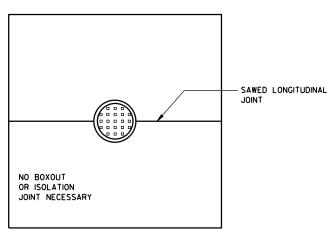




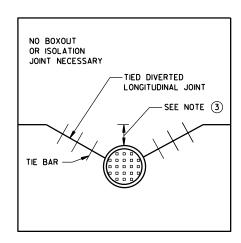




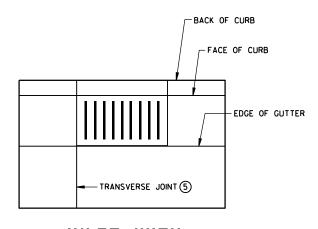
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



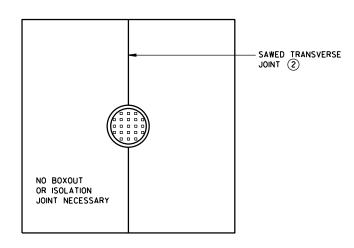
MANHOLE WITH LONGITUDINAL JOINT



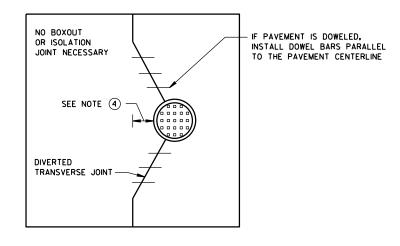
MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



INLET WITH TRANSVERSE JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

#### **GENERAL NOTES**

- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- 2 ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- (3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.
- (4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.
- (5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT
JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER

S.D

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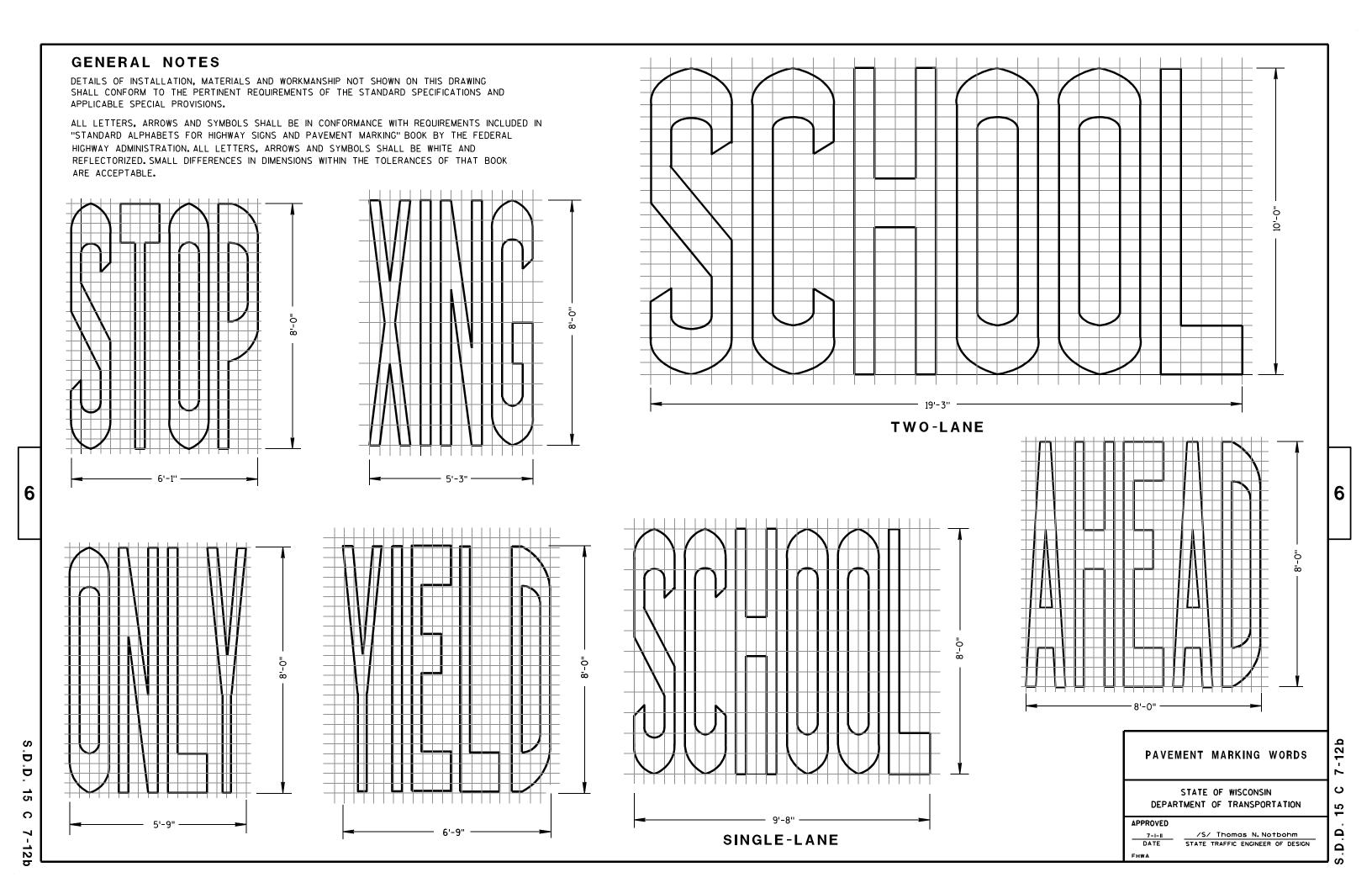
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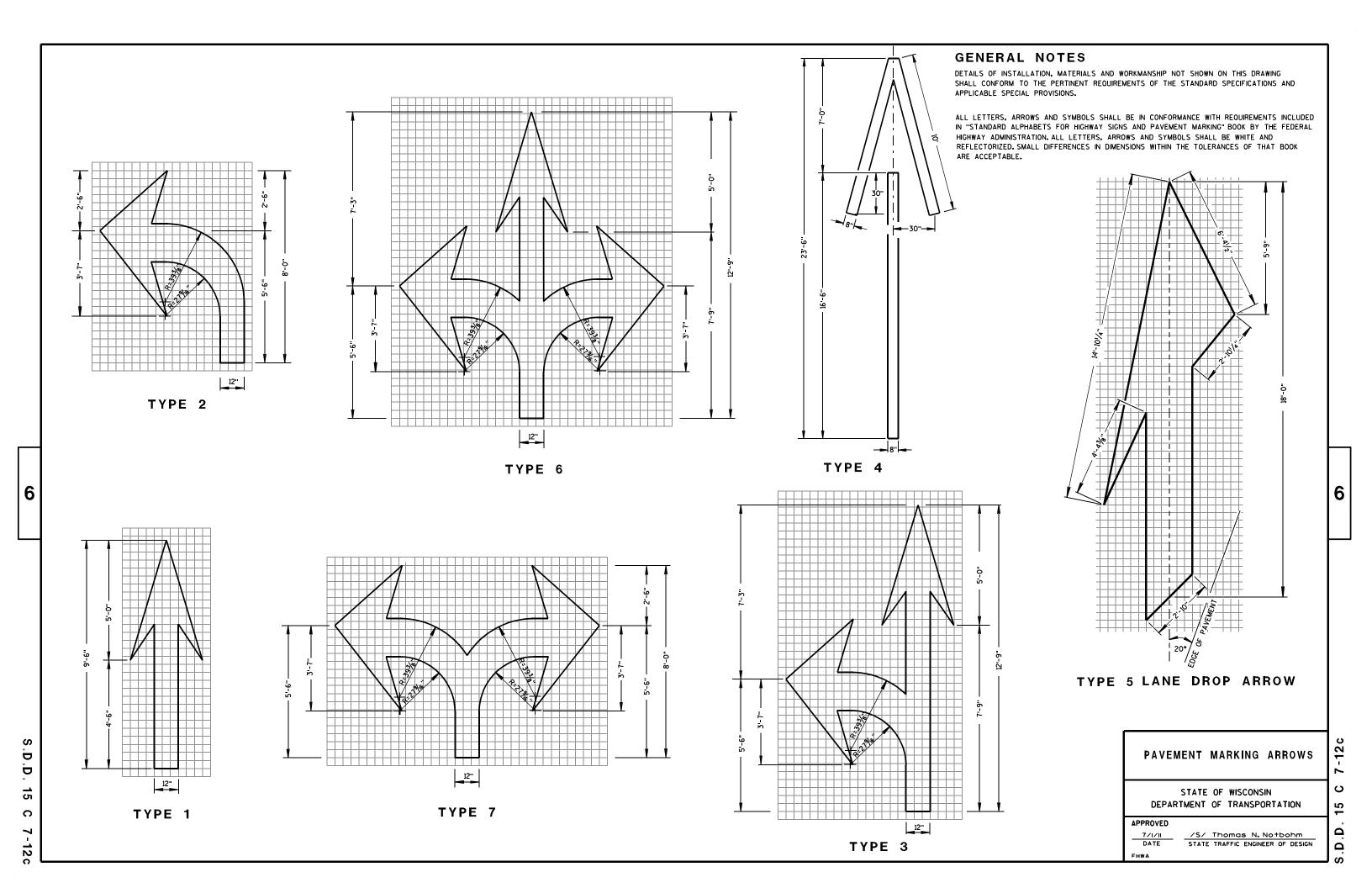
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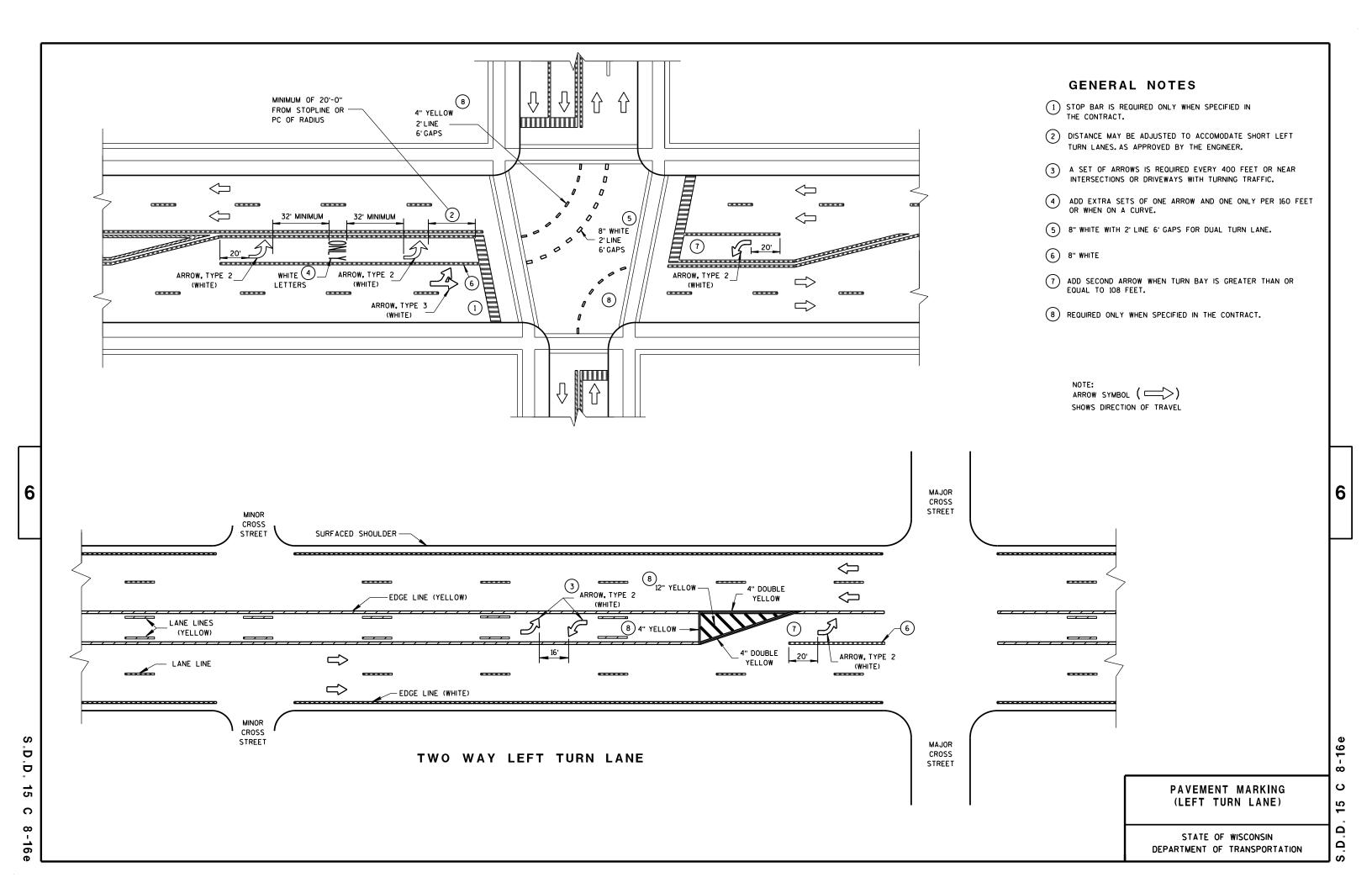
S.D.D. 13 C

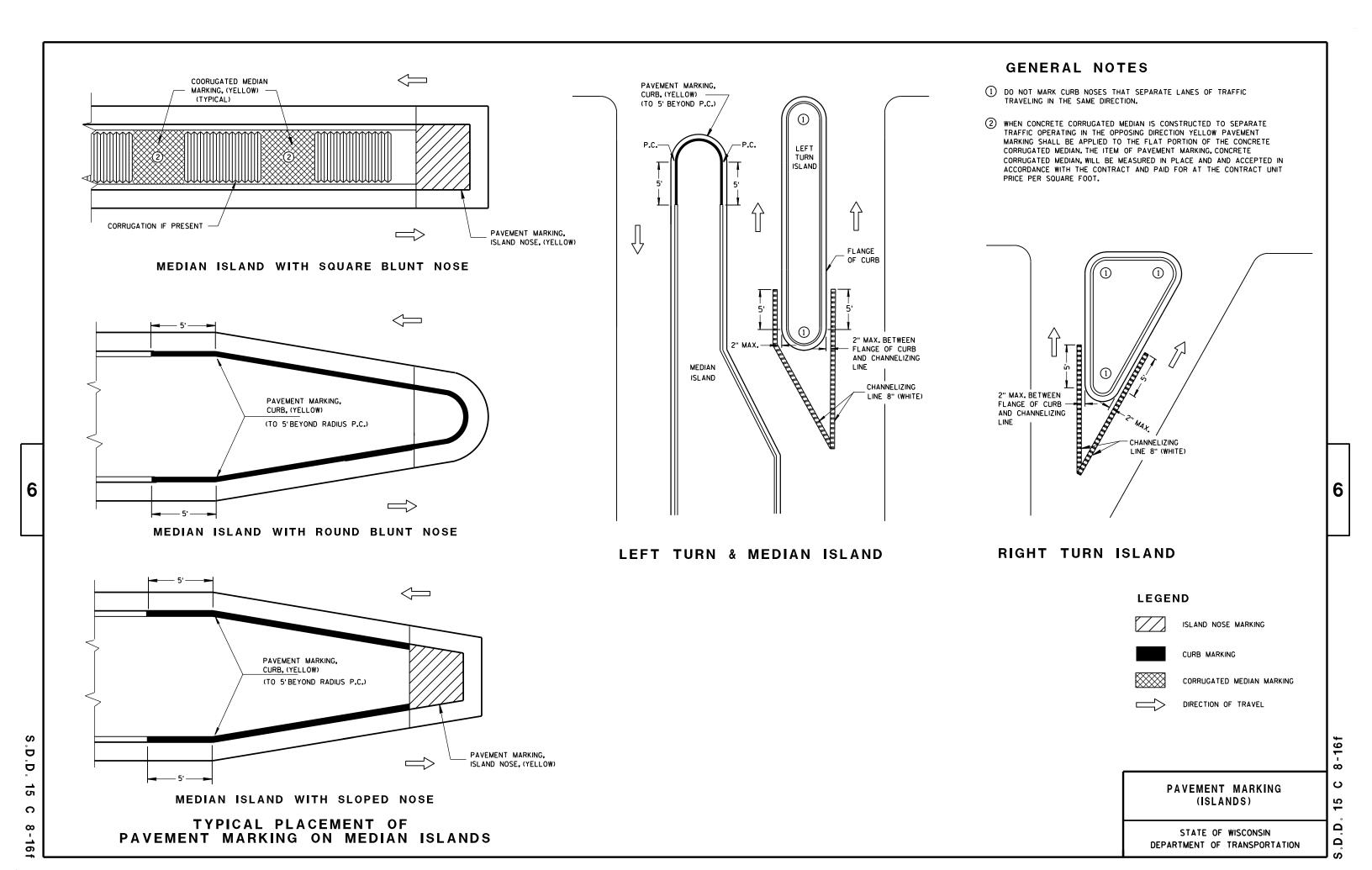


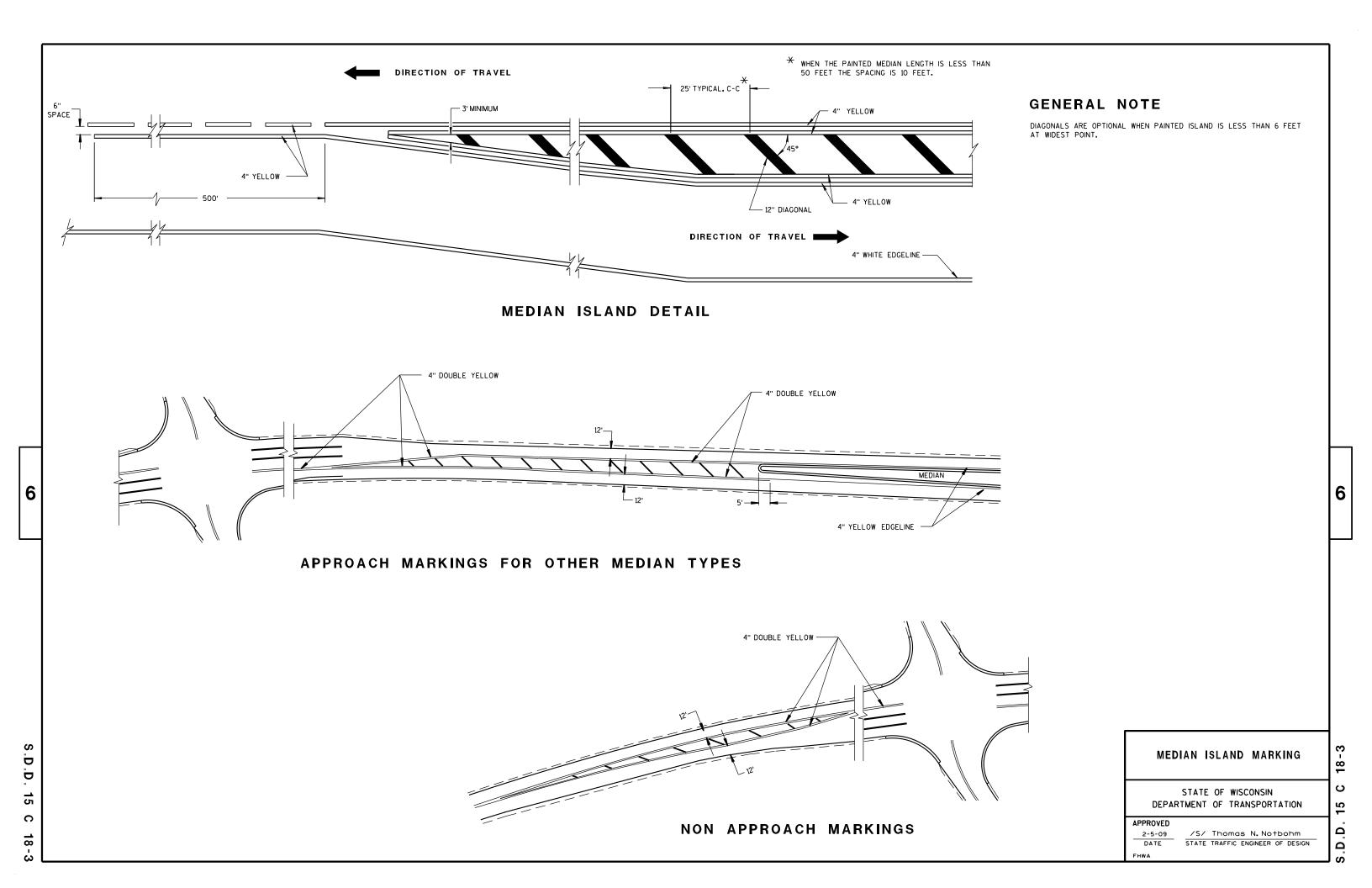


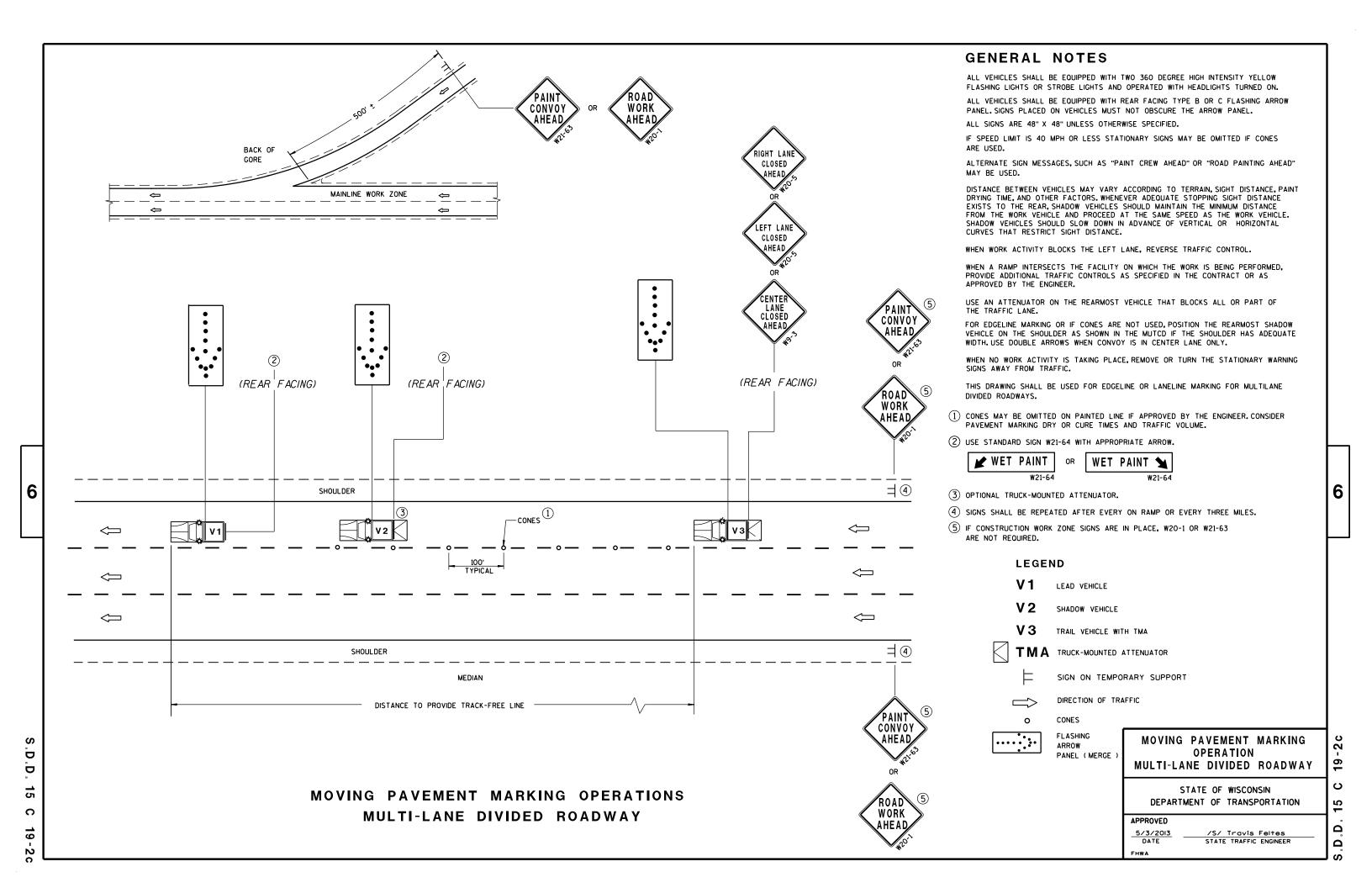












BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

SIGN SUPPORTS SHALL BE LOCATED NORMAL TO ROADWAY.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

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

BAR CAGE TO BE ASSEMBLED USING TIE WIRES ONLY, NO WELDING.

BASES (SHAFT) 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 BACK FILLING AROUND THE BASE. ANY REQUIRED BACKFILL SHALL BE WELL COMPACTED IN LAYERS OF 1 FOOT OR LESS. COMPACTION SHALL BE BY MECHANICAL MEANS. CARE SHALL BE TAKEN SO NO DAMAGE OCCURS TO THE CONCRETE BASE DURING COMPACTION.

EXCAVATION OF MATERIALS NOT OCCUPIED BY CONCRETE SHALL BE MINIMIZED TO REDUCE DISTURBANCE OF THE SURROUNDING SOILS.

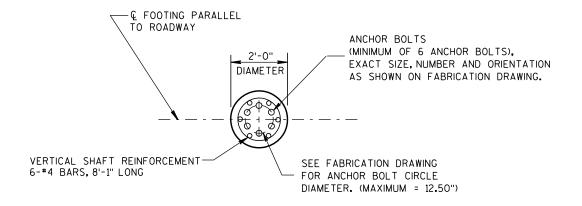
THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

THE REINFORCEMENT AND ANCHOR BOLTS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

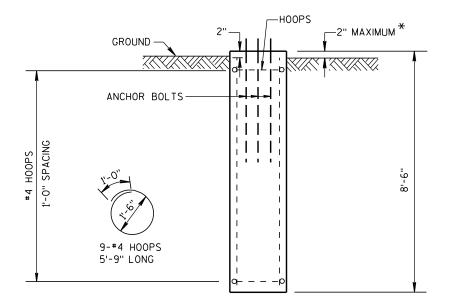
ANY DAMAGE TO THE CONCRETE BASE DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

THIS FOOTING HAS BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 20 DEGREES (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 350 PSF (COHESIVE SOILS).



#### PLAN VIEW

\* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.



#### **ELEVATION VIEW**

CONCRETE - 1.0 C.Y. PER FOOTING
H.S. REINFORCEMENT - 67 LBS. PER FOOTING

# 24" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

A-17-09
DATE

A-17-09
STATE TRAFFIC ENGINEER OF DESIGN

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

SIGN SUPPORTS SHALL BE LOCATED NORMAL TO ROADWAY.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

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EXCAVATION OF MATERIALS NOT OCCUPIED BY CONCRETE SHALL BE MINIMIZED TO REDUCE DISTURBANCE OF THE SURROUNDING SOILS.

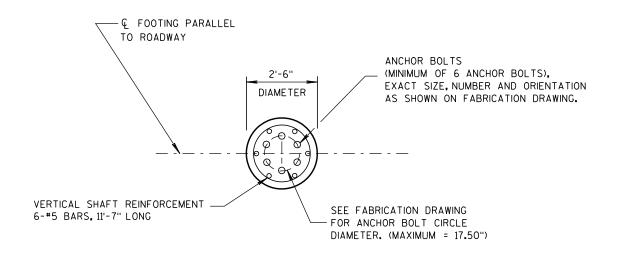
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IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

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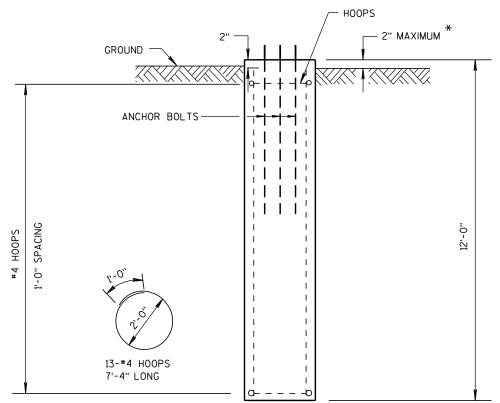
ANY DAMAGE TO THE CONCRETE BASE DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

THIS FOOTING HAS BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 20 DEGREES (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 350 PSF (COHESIVE SOILS).



#### PLAN VIEW

\* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.



#### **ELEVATION VIEW**

CONCRETE - 2.2 C.Y. PER FOOTING H.S. REINFORCEMENT - 136 LBS. PER FOOTING 30" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

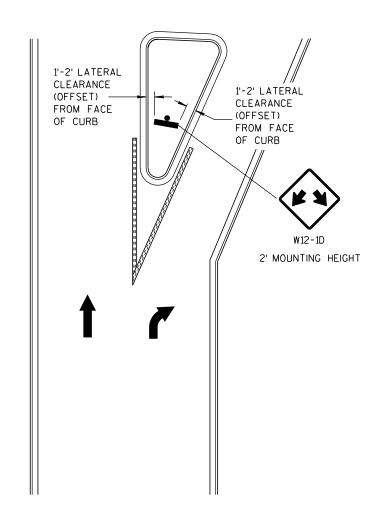
**APPROVED** 4/17/2009

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

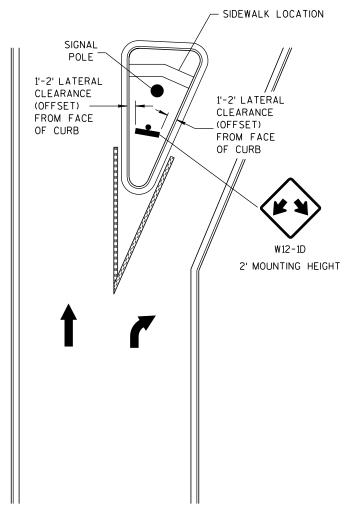
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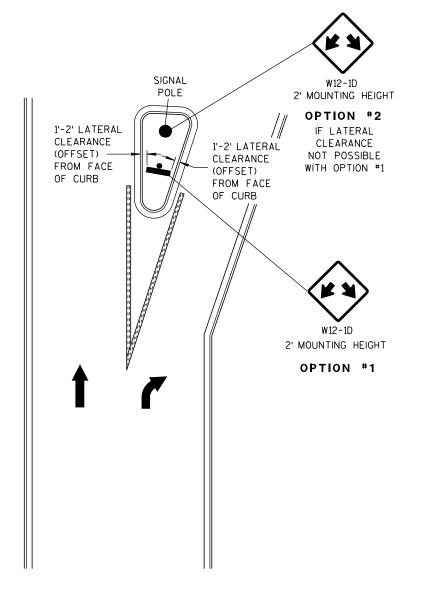
S.D.D. 15 C



LARGE RIGHT TURN ISLAND



LARGE RIGHT TURN ISLAND WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

DOUBLE ARROW WARNING SIGN PLACEMENT

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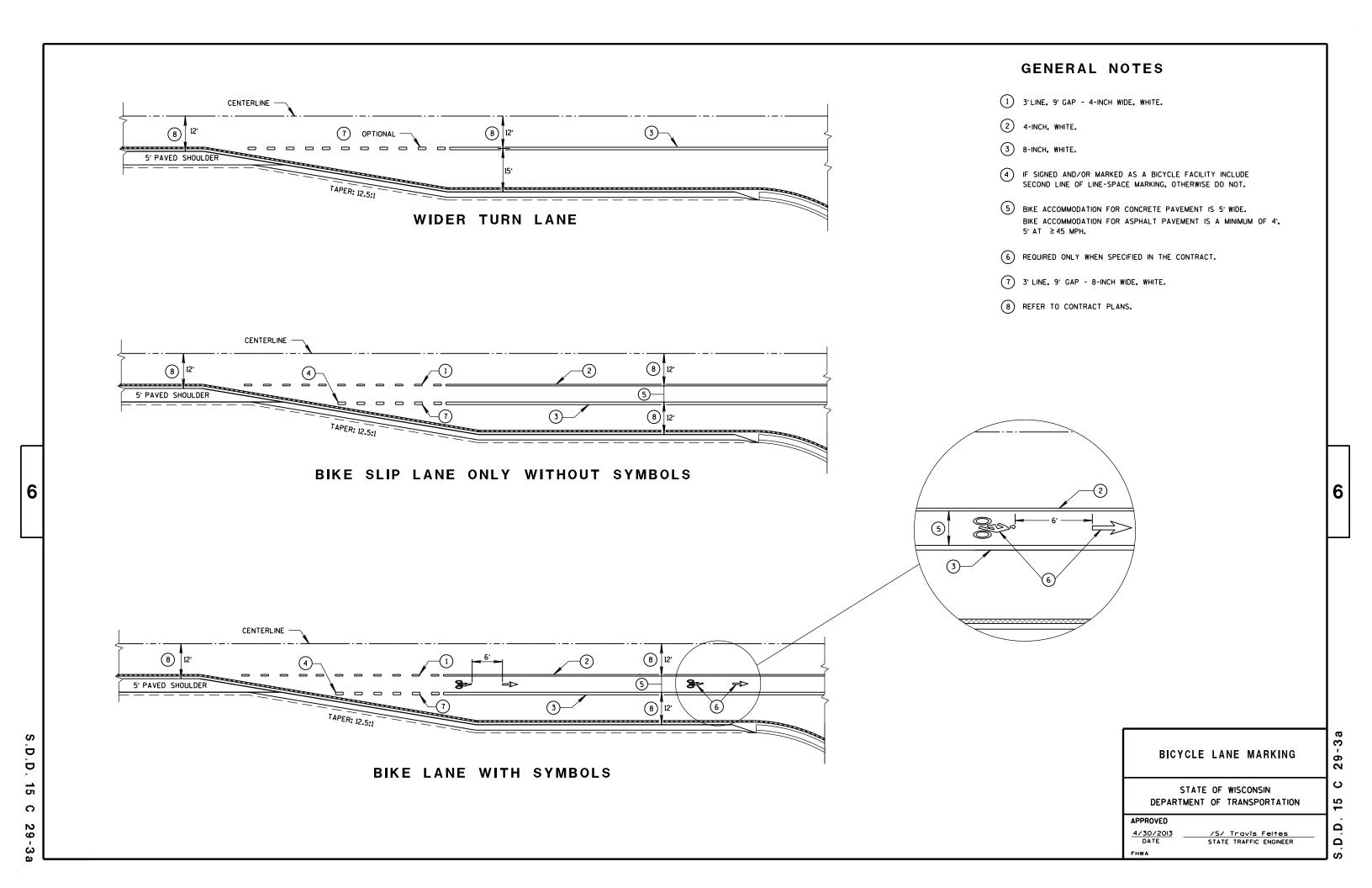
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

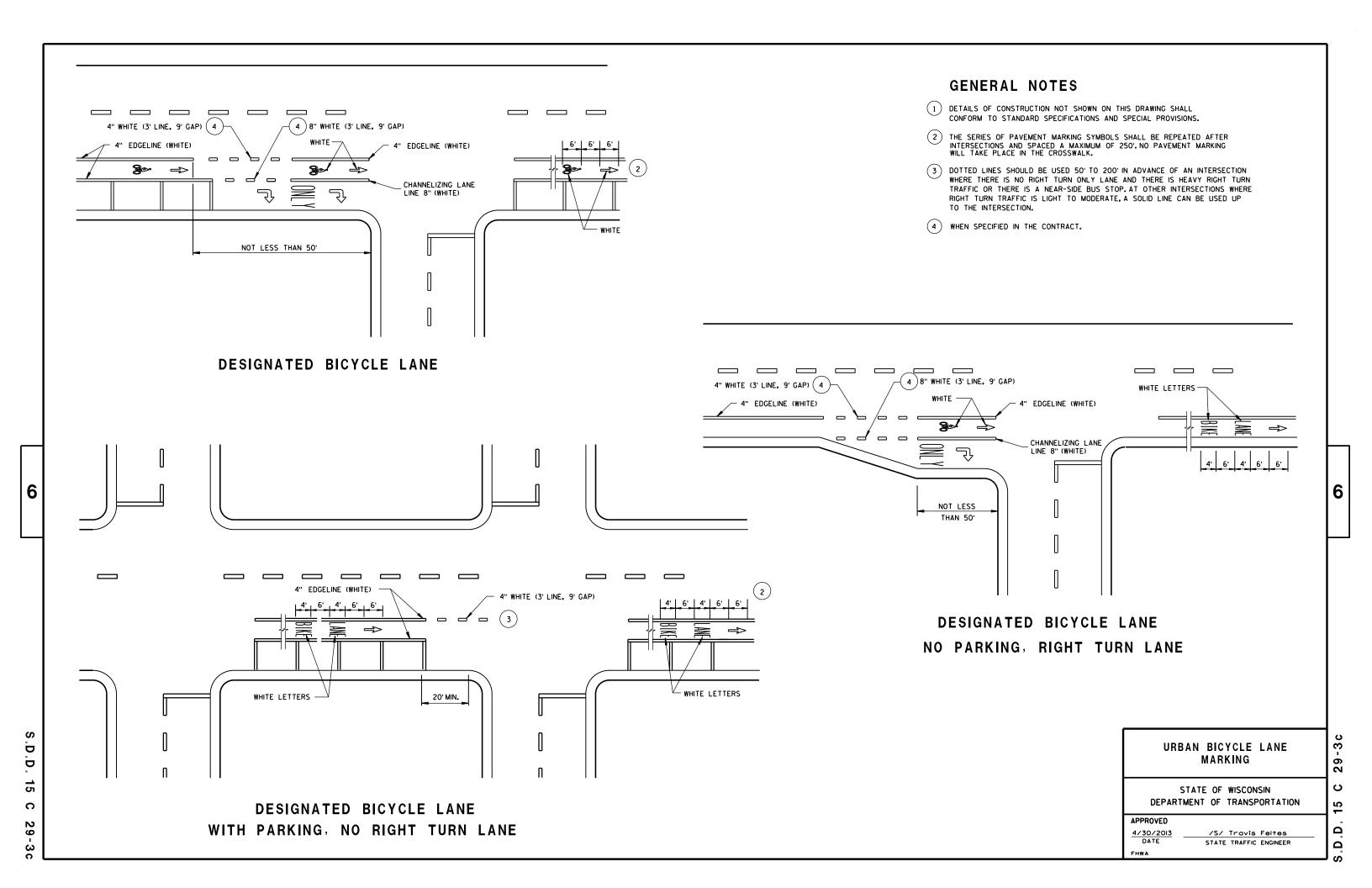
APPROVED

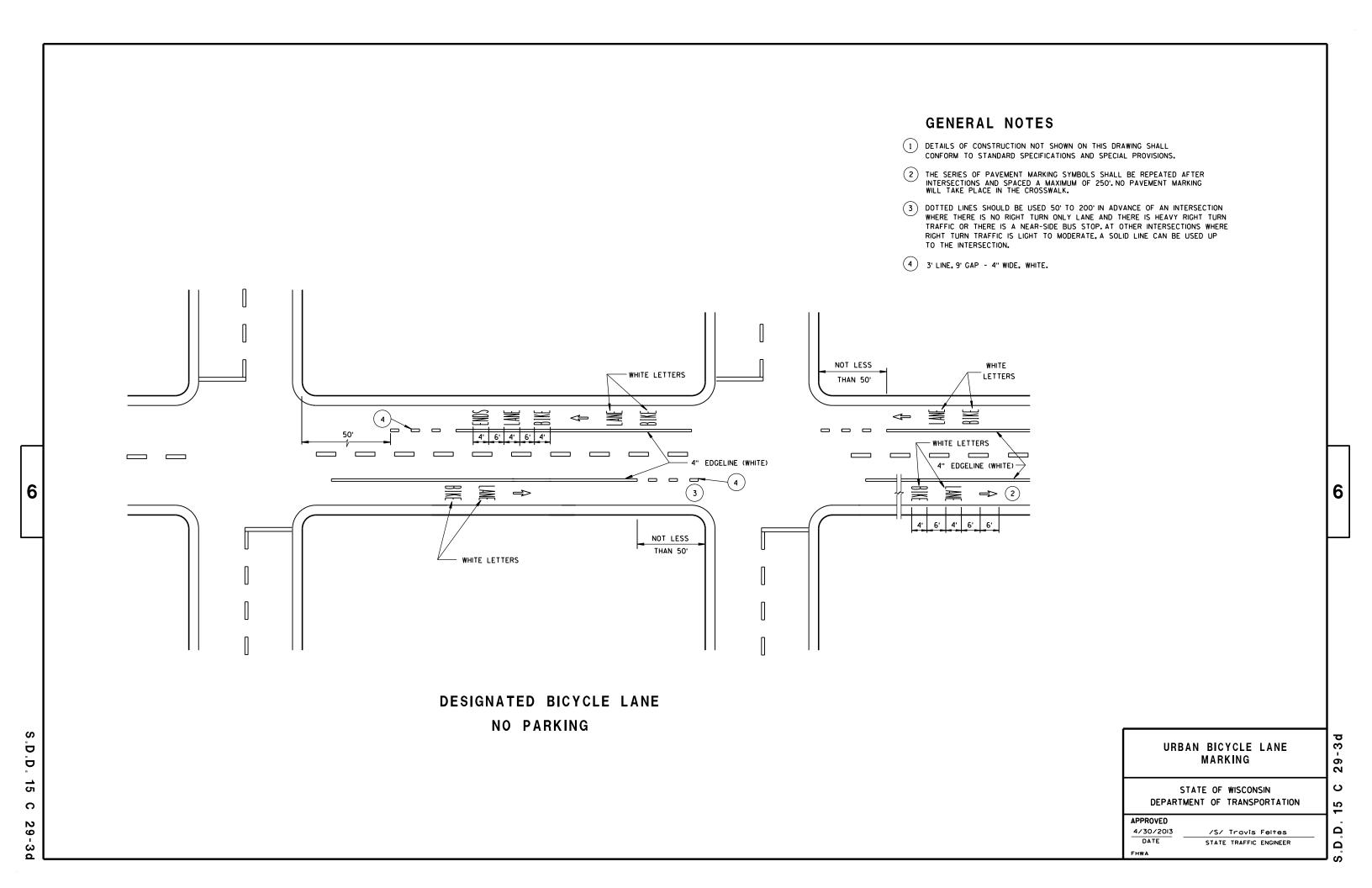
/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN 10-22-08

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# **GENERAL NOTES** 5 5' TYPICAL. 1 3'LINE, 9' GAP - 4-INCH WIDE, WHITE. 2 4-INCH, WHITE. 6) REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT. 3 8-INCH, WHITE. 7) 3' LINE, 9' GAP - 8-INCH WIDE, WHITE. 4) IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE (8) REFER TO CONTRACT PLANS. SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT. STOP BAR IF APPLICABLE TAPER: 12.5:1 6 6 BIKE LANE - 4-LANE DIVIDED WITH RIGHT TURN LANE D BICYCLE LANE MARKING Ď 15 STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION C 4 LANE DIVIDED WITH ISLAND 4 LANE DIVIDED WITHOUT ISLAND APPROVED Ω 4/30/2013 DATE /S/ Travis Feltes STATE TRAFFIC ENGINEER ۵ FHWA

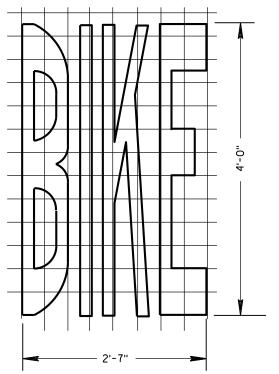




#### **GENERAL NOTES**

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.

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



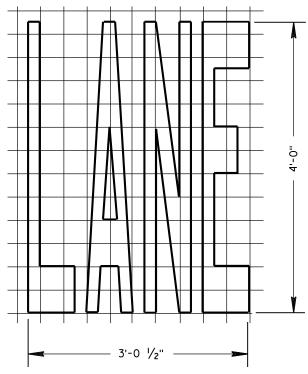
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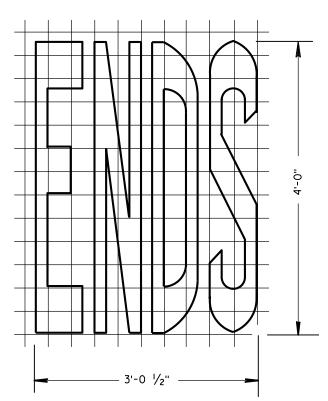
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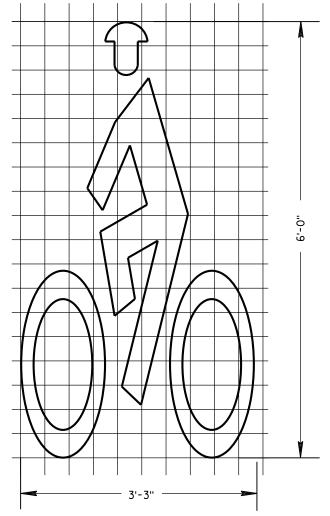
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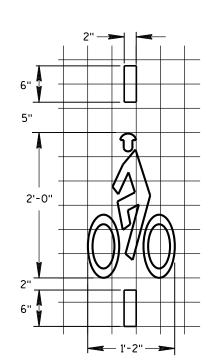




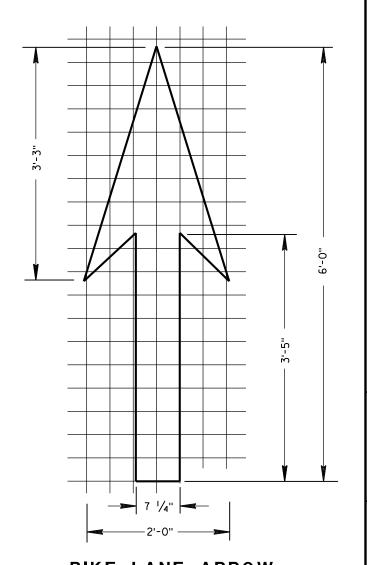
BIKE LANE WORDS



**BIKE LANE SYMBOL** 



BICYCLE DETECTOR PAVEMENT MARKING



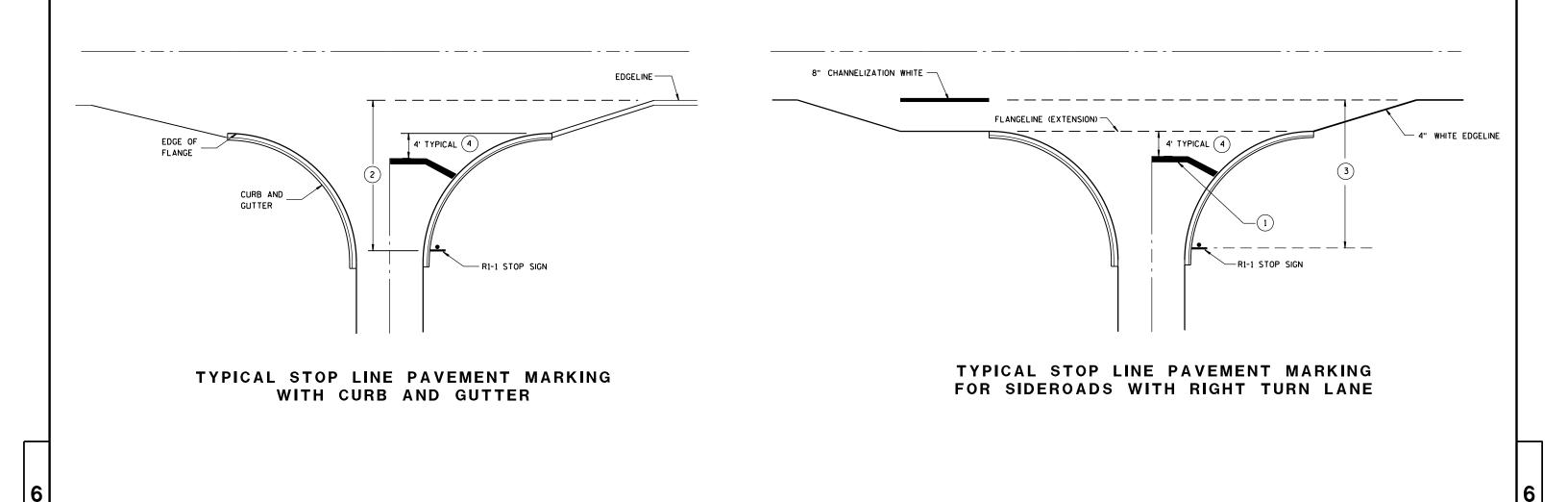
**BIKE LANE ARROW** 

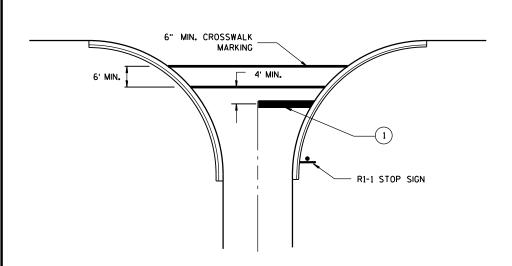
PAVEMENT	MARKING	FOR	
BIKE	LANES		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

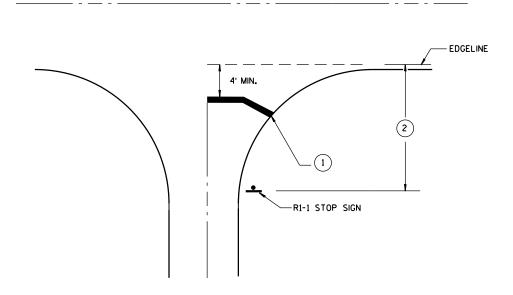
APPROVED	
4-30-2013	/S/ Travis Feltes
DATE	STATE TRAFFIC ENGINEER

S.D.D. 15 C 2





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.
- MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

# STOP LINE AND CROSSWALK PAVEMENT MARKING

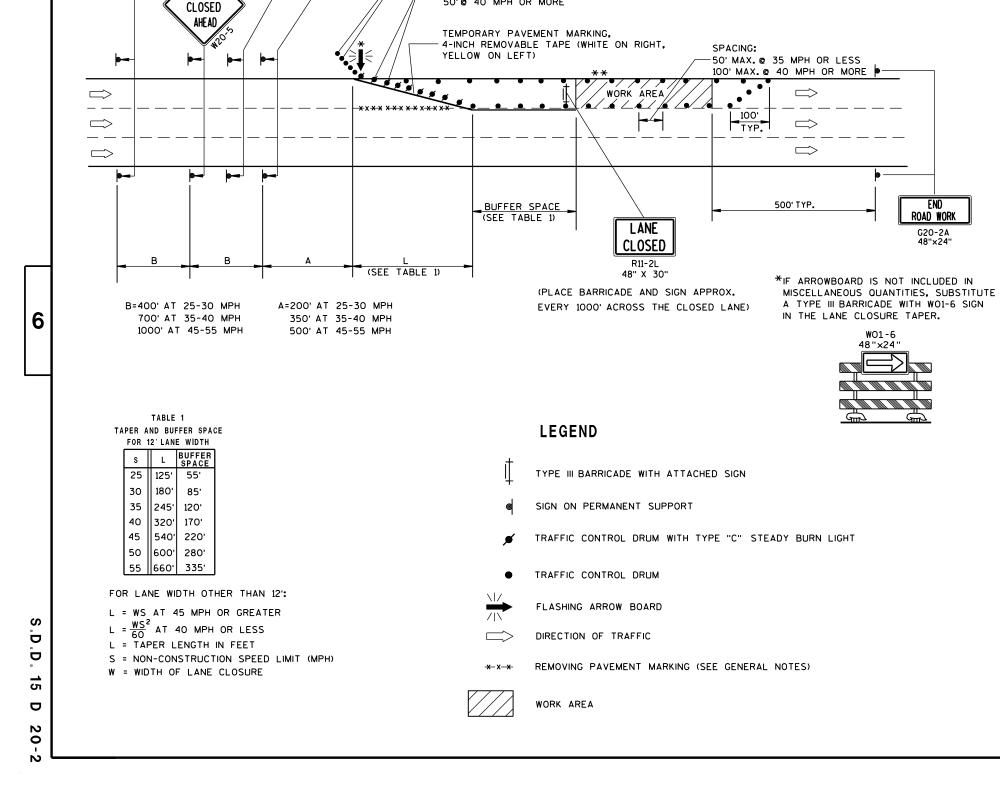
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED	
4/30/2013	/S/ Travis Feltes
DATE	STATE TRAFFIC ENGINEER
FHWA	

.D.D. 15 C 33-1

S.D.D.





(5) DRUMS SPACED @ 10'

INTERVALS AS NEEDED IN

FRONT OF ARROW BOARD

25' @ 35 MPH OR LESS 50' @ 40 MPH OR MORE

SPACING:

ROAD WORK

NEXT\_\_\_MILES

G20-1

60" X 24"

AHEAD

#### **GENERAL NOTES**

\*\*THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE

ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL

W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF

IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC

TRAFFIC. IN ADVANCE OF THE WORK AREA.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE, FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

ALL SIGNS ARE 48"×48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W2O-1, G2O-1 AND G2O-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

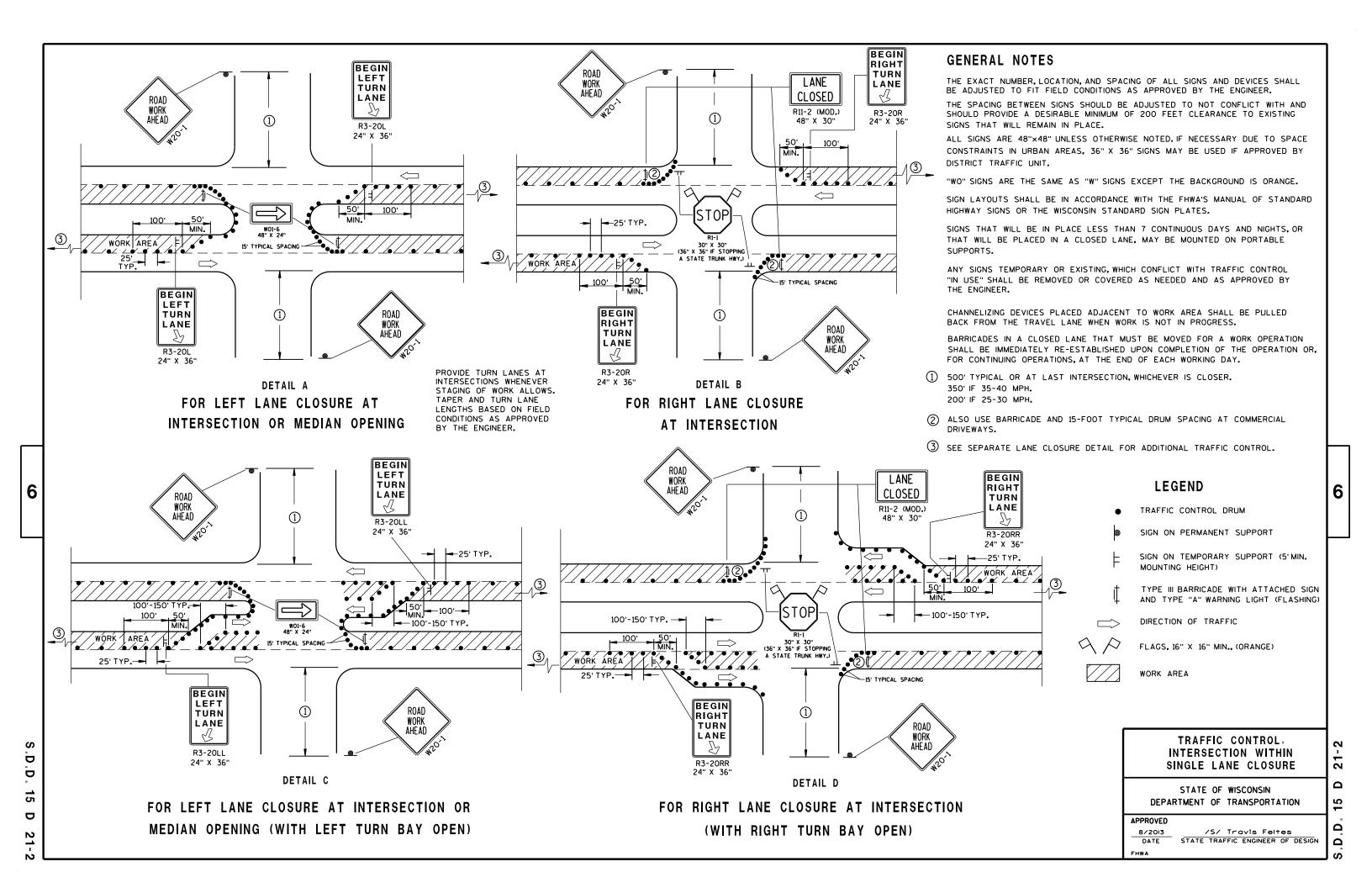
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

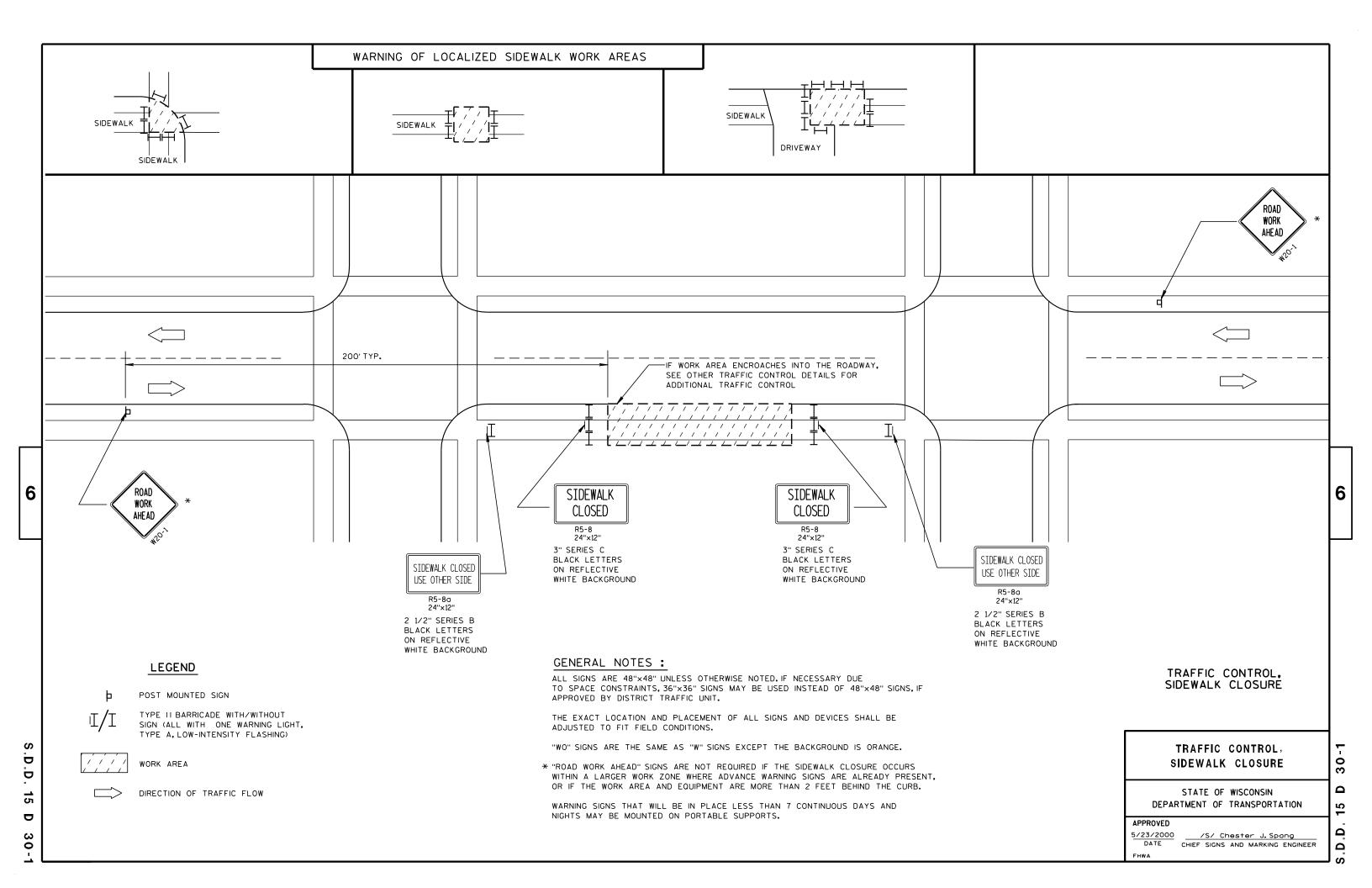
APPROVED

8/2013 /S/ Travis Feites

DATE TRAFFIC ENGINEER OF DESIGN

S.D.D. 15 D 2



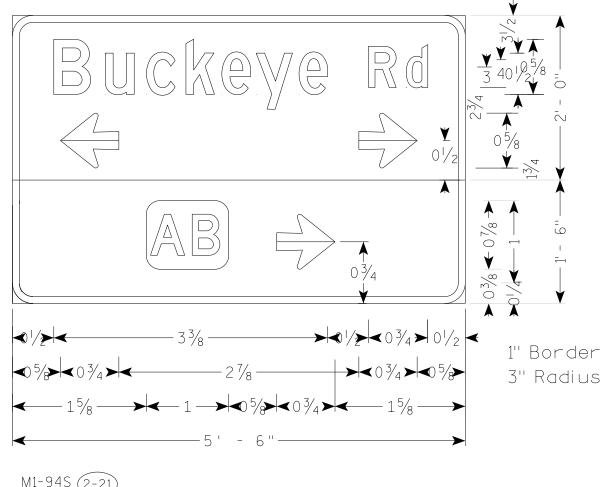




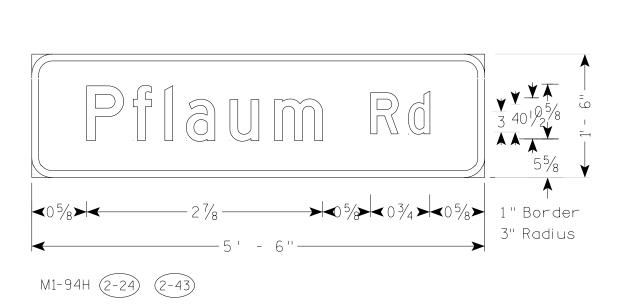
- 1. All Signs Type II Type H Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - GREEN Message - WHITE

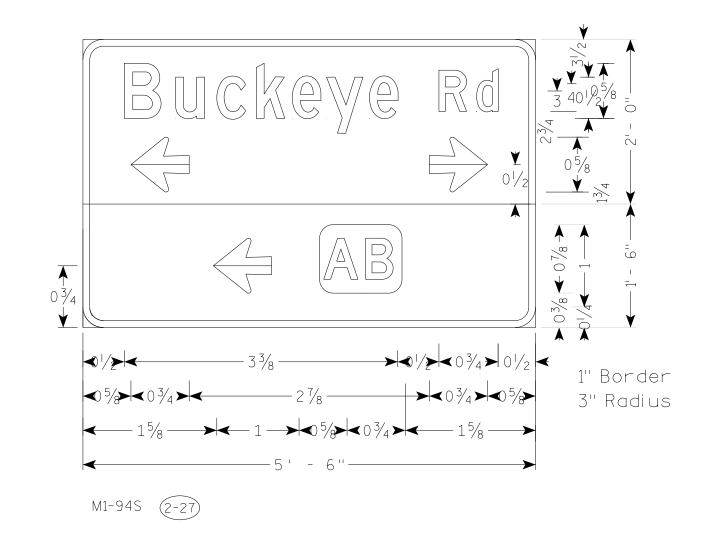
3. Message Series - D



M1-94S (2-21)



HWY: USH 51



FILE NAME : K:\Jobs2013\20135001\CAD\WisDOT\dgn\00\070001\_sd.dgn

PROJECT NO: 5410-02-71/72

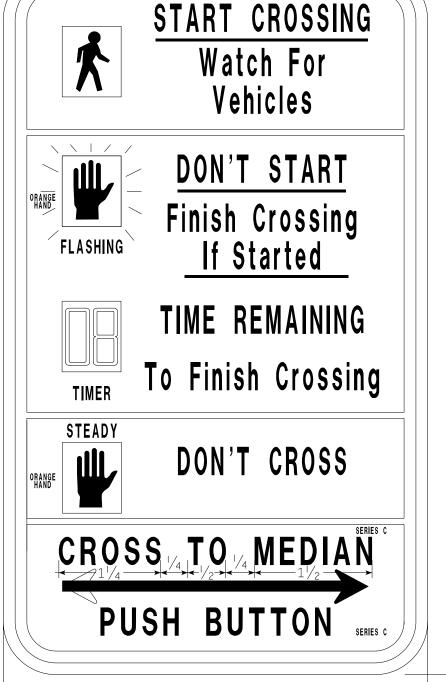
COUNTY: DANE PLOT DATE: 1/31/2014

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

SIGN DETAIL - TYPE 2 SIGNS

PLOT SCALE: \$\$.....plotscale.....\$\$ wisdot/cadds Sheet 42

SHEET NO:



- 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 except Hand Symbolis Orange with Black background

- 3. Message Series B except as noted
- 4. Dimensions should be taken from R10-3E except "Cross to Median" as shown

R10-3ER (MOD)

R10-3EL (MOD)

R10-3EL (MOD)

R10-3ER (MOD)

PROJECT NO: 5410-02-71/72

HWY: USH 51

COUNTY: DANE

SIGN DETAIL - TYPE 2 SIGNS

SHEET NO:

PLOT DATE: 1/31/2014

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard

areater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.



PROJECT NO:

J32-1

J22-1

J23-1

J33-1

PLOT BY: mscsja

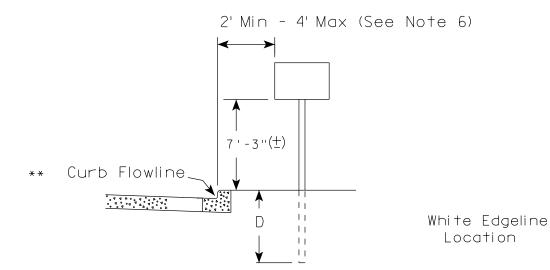
PLATE NO. \_\_A2-15.8

DATE 2/06/14

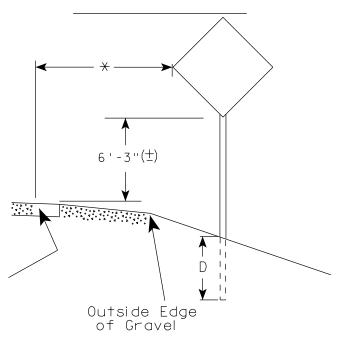
SHEET NO:



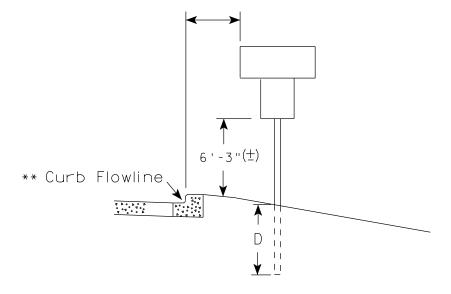
### urban area



RURAL AREA (See Note 2)



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



White Edgeline
Location

Outside Edge
of Gravel

\*\* 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.

HWY:

\* 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.

PLOT BY : mscj9h

### GENERAL NOTES

- 1. Signs wider than 4 feet, 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 (A4-5) is 7'-3'' ( $\pm$ ) or 6'-3'' ( $\pm$ ) per urban or rural detail respectively.
- 5. Minimum mounting height for signs mounted on traffic signal poles is  $5'-3''(\underline{+})$ .
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. The  $(\pm)$  tolerance for mounting height is 3 inches.
- 8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3"  $(\pm)$  or as directed by the Engineer.
- 9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

#### POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther & Rauh
For State Traffic Engineer

DATE 9/30/13

\_\_\_\_

SHEET NO:

COUNTY:

JN I Y:

PLOT DATE: 30-SEP-2013 13:25

PLOT NAME :

PLOT SCALE: 99.237937:1.000000

WISDOT/CADDS SHEET 42

PROJECT NO:



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



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

HWY:



#### PLAN VIEW

COUNTY:

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer

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

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A43B.DGN

PROJECT NO:

PLOT DATE: 27-JAN-2014 09:48

PLOT NAME :

PLOT BY: mscsja

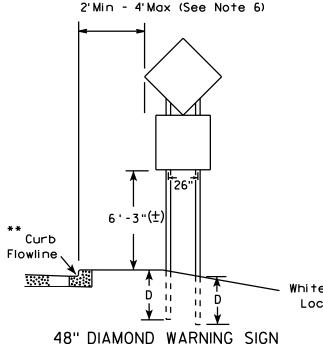
PLOT SCALE: 13.659812:1.000000

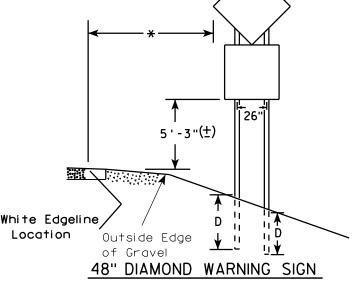
APPROVED

### GENERAL NOTES

- 1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- 2. See tables below for required number of posts.
- 3. For expressways and freeways, mounting height is 7'-3'' (±) or 6'-3'' (±) depending upon existence of sub-sign.
- 4. The (±) tolerance for mounting height is 3 inches.
- 5. Minimum mounting height for J assemblies (A4-5) is 7'-3" ( $\pm$ ) or 6'-3" ( $\pm$ ) per urban or rural detail respectively.
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
- 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B). Clearance Markers (W5-52). Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" ( $\pm$ ).
- \* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.
- \*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.
- \*\* See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

#### URBAN AREA RURAL AREA (See Note 3) 2'Min - 4'Max (See Note 6) ₩E# FF# 6'-3"(±) 6'-3"(±) 7'-3"(±) \*\* Curb **\*\*\*\***\ Flowline D 700 M White Edgeline D 11 White Edgeline, Location Outside Edae Location Outside Edge of Gravel





COUNTY:

of Gravel

	SIGN SHAPE OTHER THAN (TWO POSTS REQUIRED	
	L	E
<del>* * *</del>	Greater than 48" Less than 60"	12"
	60" to 120"	L/5

SIGN SHAPE OTHER THAN (THREE POSTS REQUIR	
L	E
Greater than 120" less than 168"	12"

HWY:

SIGN SHAPE OTHER THAN (FOUR POSTS REQUIRE	
L	E
168" and greater	12"

### POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

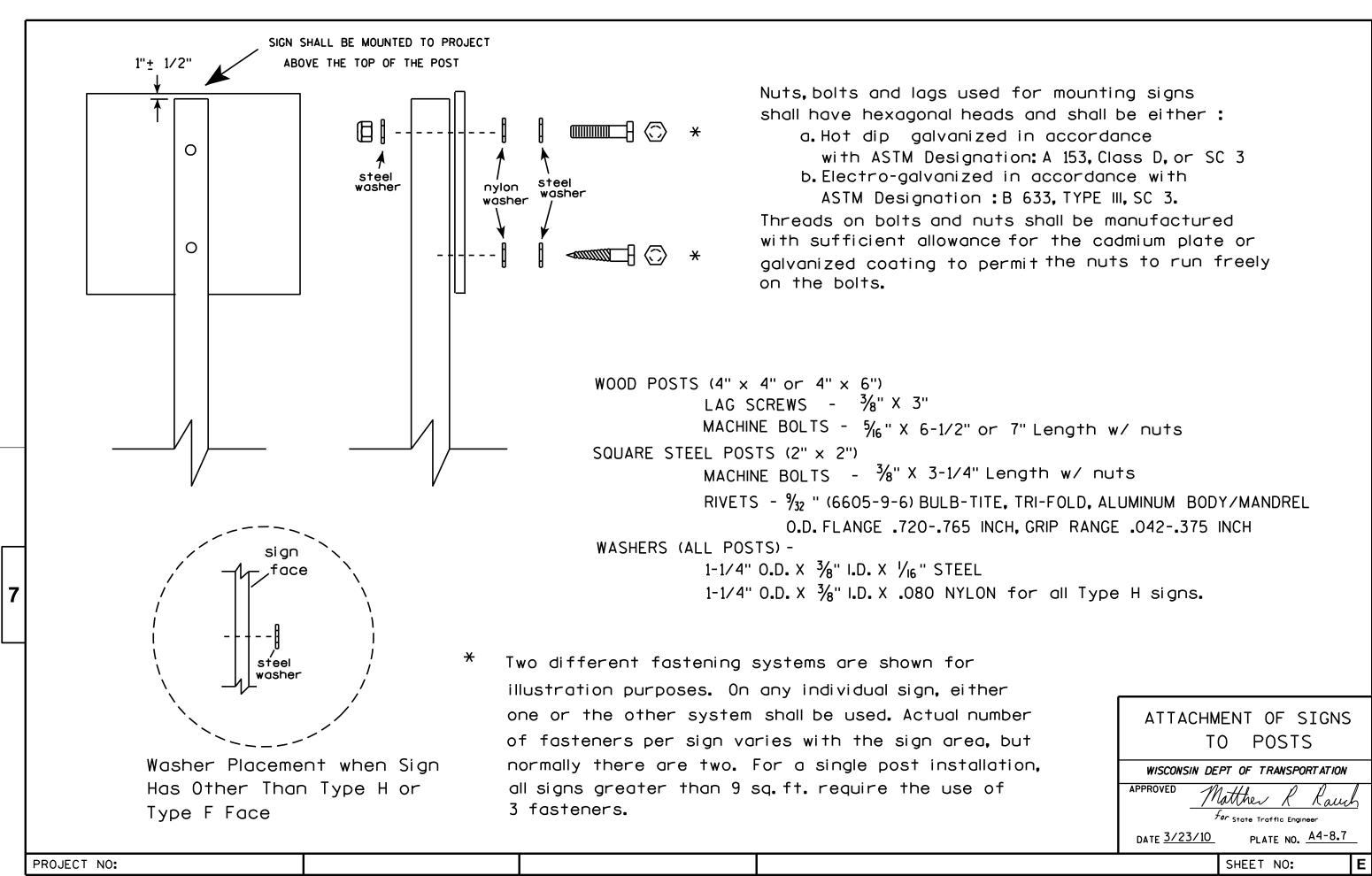
WISCONSIN DEPT OF TRANSPORTATION

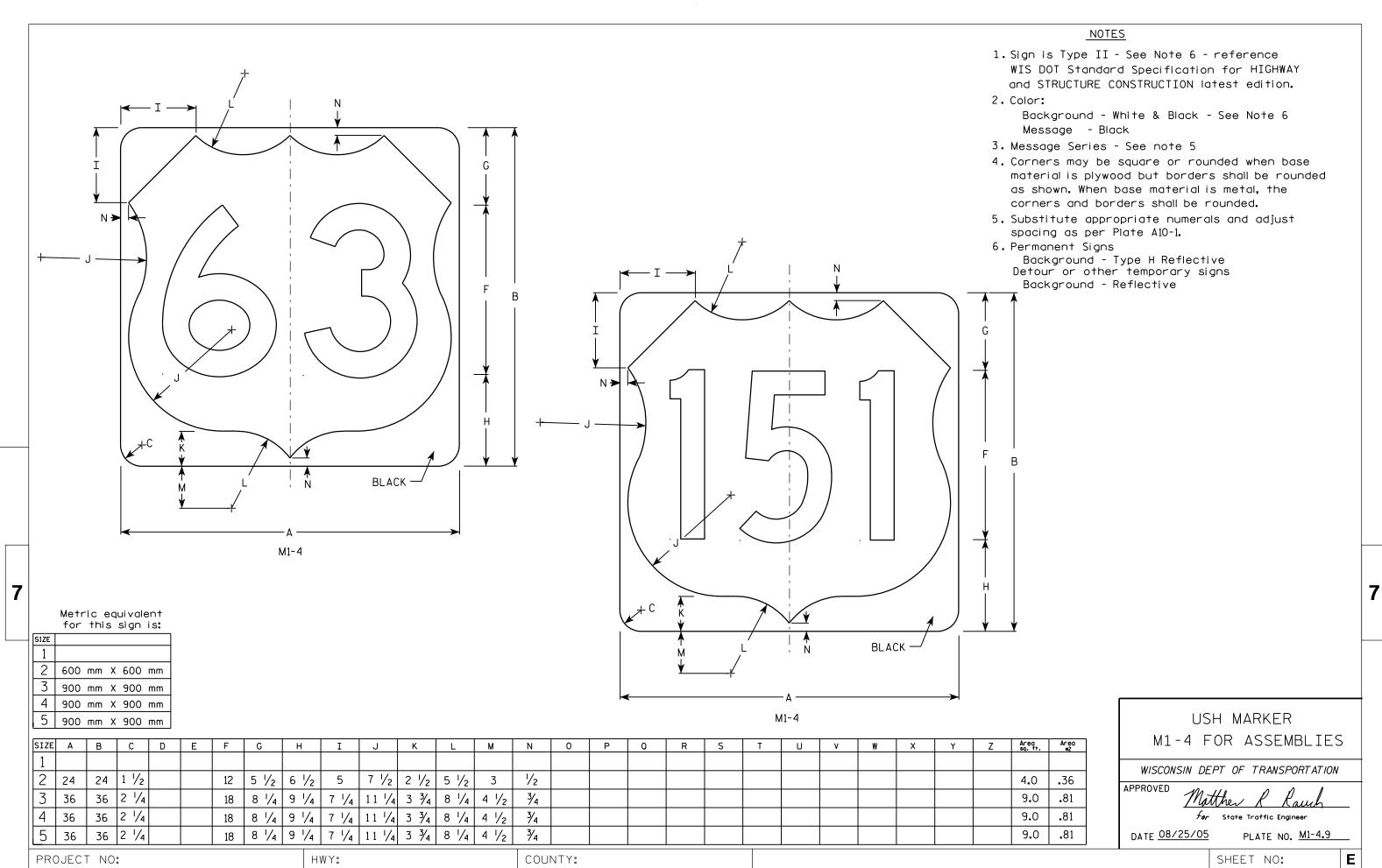
APPROVED Matther For State Traffic Engineer

PLATE NO. A4-4.12 DATE 9/30/13

SHEET NO: PLOT BY: mscj9h

PROJECT NO:





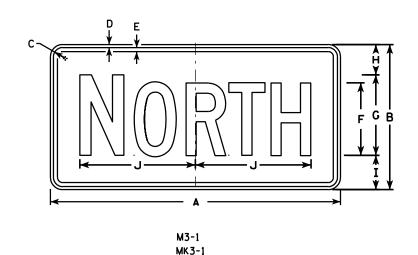
FILE NAME : C:\Users\Projects\tr\_stdplate\M14.DGN

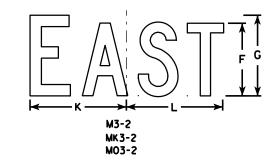
PLOT DATE: 13-OCT-2005 14:52

PLOT NAME :

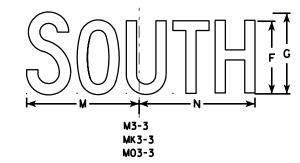
PLOT BY : DITJPH

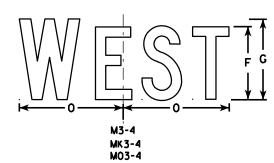
PLOT SCALE: 5.960833:1.000000



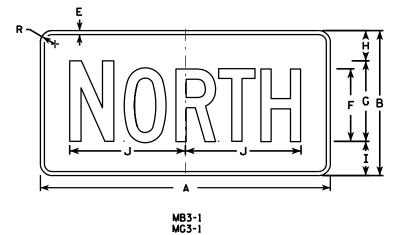


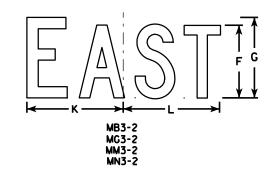
MO3-1





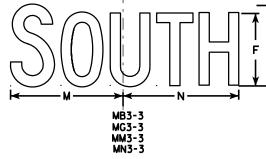
HWY:

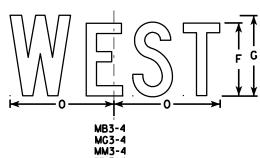




MM3-1

MN3-1





### <u>NOTES</u>

- 1. All Signs Type II See Note 5 reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 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 Type H Reflective (Detour or temporary signs Reflective) Message Black
  - MB3-1 thru MB3-4 Background Blue Message - White - Type H Reflective (Detour or temporary signs - Reflective)
  - MG3-1 thru MG3-4 Background Green

    Message White Type H Reflective
  - MK3-1 thru MK3-4 Background Green

    Message White Type H Reflective
  - MM3-1 thru MM3-4 Background White Type H Reflective Message Green
  - MN3-1 thru MN3-4 Background Brown
    Message White Type H Reflective
  - M03-1 thru M03-4 Background Orange Reflective Message Black
- 6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	Т	כ	٧	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 1/8	8 3/8	10 1/4	9 3/4	8 ¾			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

COUNTY:

STANDARD SIGNS M3-1 thur M3-4 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

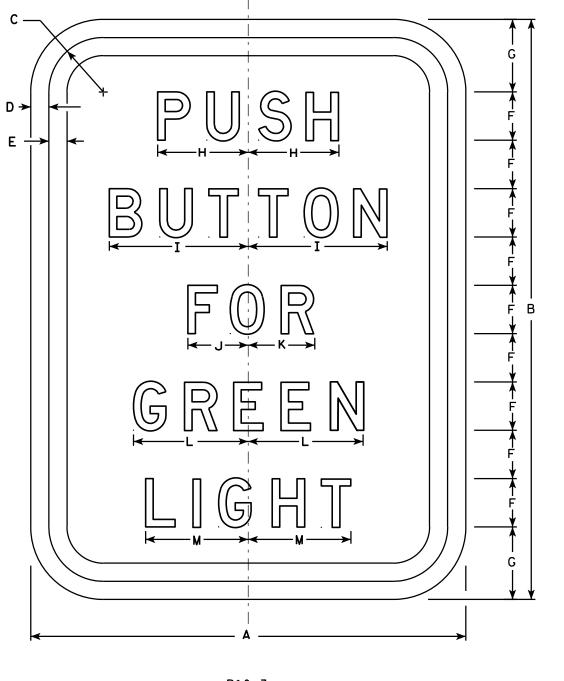
For State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

SHEET NO: E

PROJECT NO:

PLOT NAME :



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

Background - White Message - Black

3. Message Series - D

PLOT NAME :

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.

R10-3

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	T	U	٧	W	X	Y	Z	Area sq. ft.
1	6	9	<b>7</b> /8	1/4	1/4	3/4	1 1/8	1 1/4	2	<i>7</i> ⁄8	1	1 %	1 1/2														0.38
2S	9	12	1 1/8	3/8	3/8	1	1 1/2	1 1/8	2 1/8	1 1/4	1 3/8	2 3/8	2 1/8														0.75
2M	9	12	1 1/8	3/8	3/8	1	1 1/2	1 1/8	2 1/8	1 1/4	1 3/8	2 3/8	2 1/8														0.75
3																											
4																											
5																											
PRO	JECT	NO:					Тну	VY:					coul	NTY:													

STANDARD SIGN R10-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther R Lauch

For State Traffic Engineer

DATE 11/29/2011

9/2011 PLATE NO. R10-3.7

SHEET NO:

- All Signs Type II Type H Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - WHITE

Message - BLACK except Hand Symbol which is

Orange with black background.

- 3. Message Series B or as noted on the slgn.
- 4. R10-3ER (right arrow)
  R10-3EL (left arrow)
  R10-3ED (double arrow)

START CROSSING
Watch For
Wehicles
DON'T START
Finish Crossing
Lif. Started

R	→ BB		FF 3	ASHING TEADY TEADY			tch hich TS LCR Sta CR ST ST ST ST ST ST ST ST ST ST ST ST ST	TAR OSS rted AIN Cros OSS ON	ING SSING SERIES C		# C # T T T T T T T T T T T T T T T T T	y G ↑	В	B
	F	G 3/	H L/	I	J	K	L 3/	M I/	N 11/	0	P I/	0	R 7/	S

SIZE	Α	В	С	D	Е	F	G	Н	I	J	K	L	M	N	0	Р	Q	R	S	Т	U	٧	W	Х	Υ	Z	Area sq. fl.
1	6	10	1/2	1/8	1/8	4	3/8	1/4	4 1/8	1/4	2 1/8	3/4	1/8	11/8	1/2	1/2	2 1/4	<b>⅓</b> 8	1	3	3/4	1 3/4	1 %	1 3/8	1 1/2	5/8	0.42
2S	9	15	7∕8	1/4	1/4	6 1/8	5/8	3/8	5 ½	1/2	3 1/4	1	1/8	1 3/4	7∕8	3∕4	3	1 1/4	1 1/2	4 5/8	1 1/8	2 %	2 1/8	2	2 3/8	1 3/8	0.94
2M	9	15	1/8	1/4	1/4	6 1/8	5/8	3/8	5 ½	1/2	3 1/4	1	1/8	1 3/4	7∕8	3/4	3	1 1/4	1 1/2	4 5/8	1 1/8	2 5/8	2 1/8	2	2 3/8	1 3/8	0.94
3																											
4																											
SIZE	AA	ВВ	СС	DD	EE	FF	GG	НН	II	JJ	KK	LL	ММ	NN	00	PP	00	RR	SS	TT	UU	٧٧	ww	XX	YY	ZZ	Area sq. ft.
1	1 3/8	1/4	2 1/4	1/2	<b>7</b> ⁄8	7/8	1 1/8	3/8	1	1/2	1 1/8	1 1/8	1 1/8														
2S	2	3/8	3 1/4	1	1 1/4	1 3/8	1 %	5/8	1 1/8	3/4	1 3/4	2 1/8	1 %														
2M	2	3/8	3 1/4	1	1 1/4	1 3/8	1 1/8	5/8	1 1/8	3/4	1 3/4	2 1/8	1 1/8														
3																											
4																											

STANDARD SIGN R10-3EL,R,D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R Rauch

For State Traffic Engineer

DATE 4/12/2011 PLATE NO. R10-3E.2

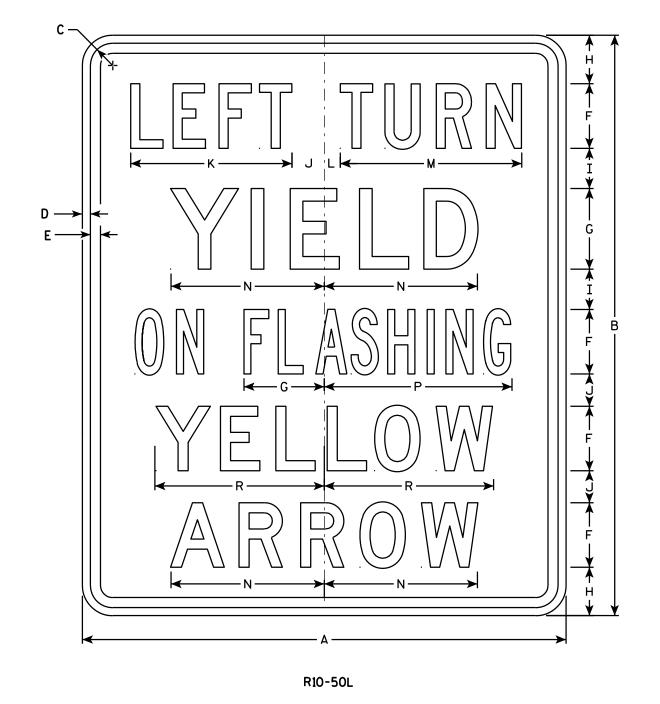
SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\R103E.DGN

PROJECT NO:

PLOT DATE: 12-APR-2011 15:26

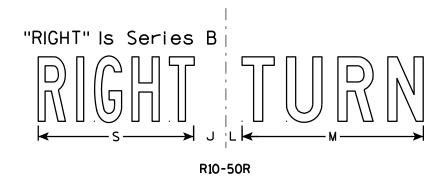
PLOT BY: mscsja



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

Background - White Message - Black

- 3. Message Series see note 5
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Line 1 is Series C. Lines 2, 4 and 5 are Series D. Line 3 is Series B.



SIZE	Α	В	С	D	E	F	G	н	I	J	K	L	М	N	0	Р	0	R	S	T	د	٧	W	X	Y	Z	Areo sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 %		10 1/2	9 %								7.5
2M	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 %		10 1/2	9 %								7.5
3																											
4																											
5																											

COUNTY:

STANDARD SIGN R10-50

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer

DATE 4/11/13

PLATE NO. R10-50.2

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\R1050.DGN

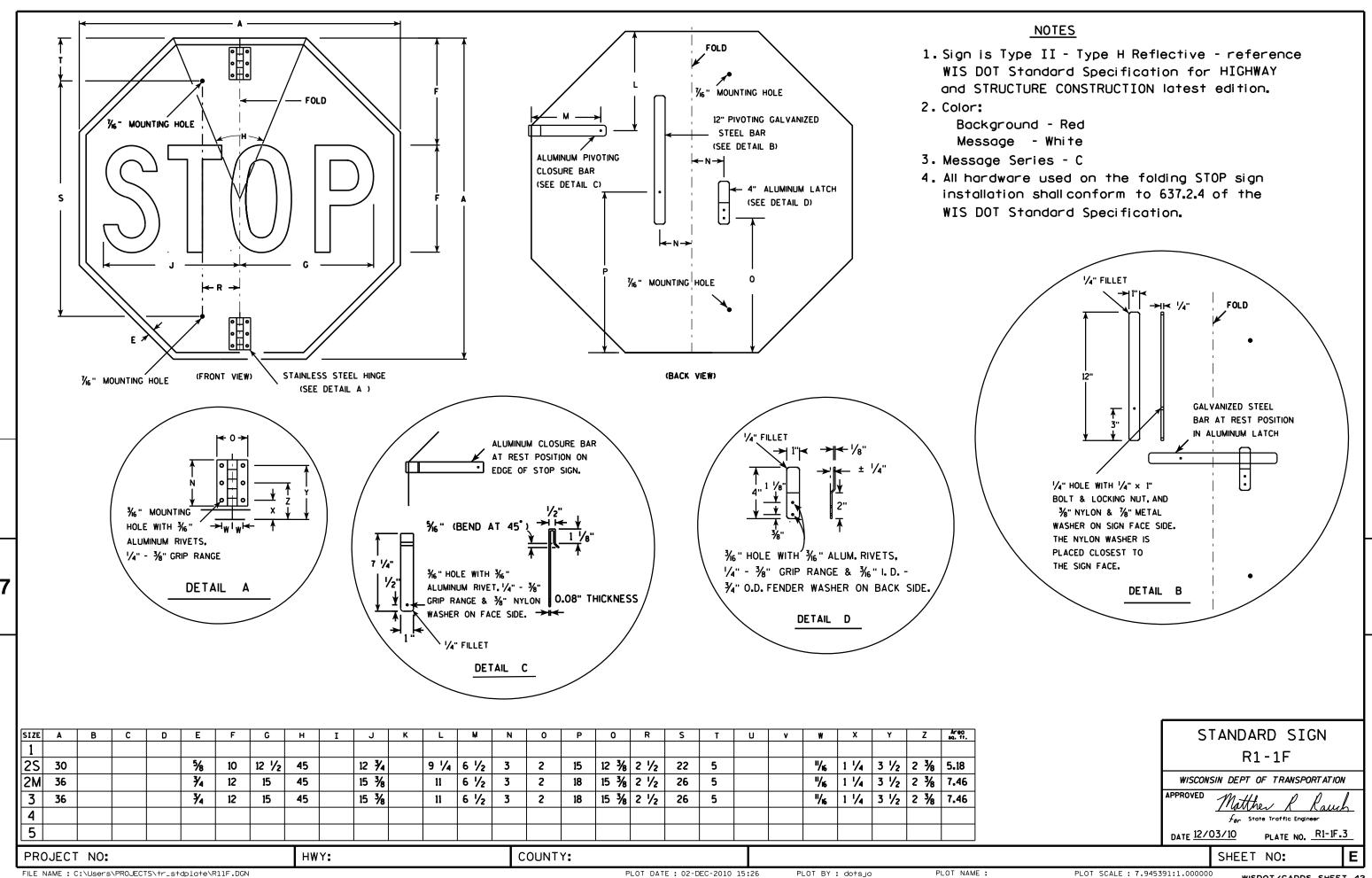
PROJECT NO:

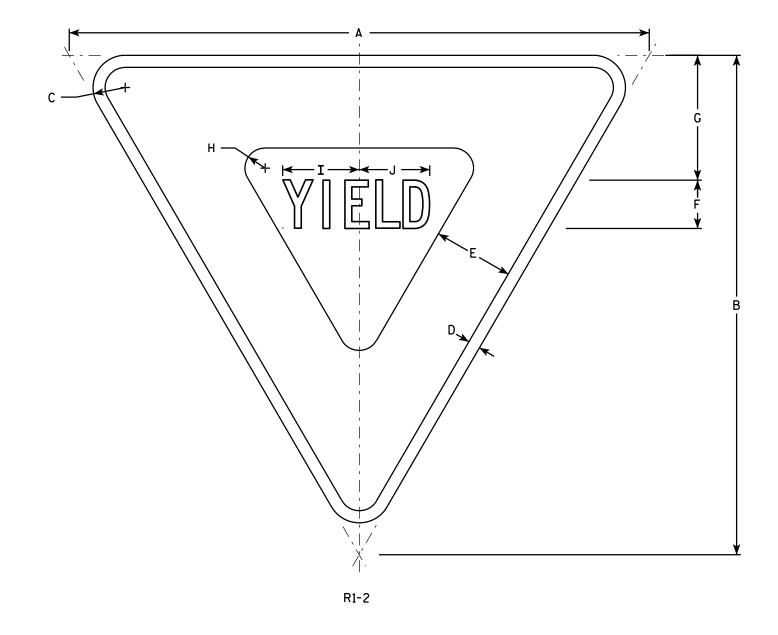
HWY:

PLOT DATE: 11-APR-2013 11:17

PLOT BY: mscsja

PLOT SCALE: 5.954276:1.000000





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

Background - White Message - See note 5

- 3. Message Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. The border strip and word message are reflectorized red.

SIZE A 1 1/2 2 1/2 6 3/8 3 % 5⁄8 30 26 4 4 2.71 7 3/4 1 1/4 4 3/4 4 3/8 36 31 ₹4 3.88 9 3/4 48 42 6 1/4 5 1/8 7.00 2 3 9 3/4 7.00 48 42 3 6 2 6 1/4 5 1/8 9 3/4 4 48 42 3 2 6 1/4 5 1/8 7.00 5 60 52 3 1 1/2 8 13 2 1/2 7 7/8 7 1/4 10.83 6 4 3/4 24 1 1/2 % 3 1/4 3 1.75 21 3 % 2 1/2 1 1/2 5∕8 2 3/8 2 1/4 18 15 1/2 0.97

COUNTY:

STANDARD SIGN R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthe

 $f_{\it or}$  State Traffic Engineer

DATE 11/02/10

SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\R12.DGN

HWY:

PROJECT NO:

PLOT DATE: 02-NOV-2010 10:38

PLOT BY : dotsja

PLOT NAME :

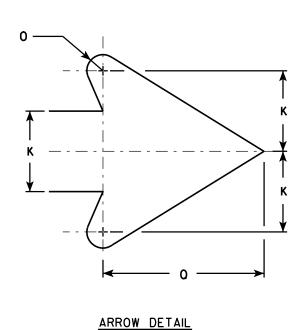
PLOT SCALE: 5.959043:1.000000

### <u>NOTES</u>

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

Background - White Message - See note 4

- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



G	

SIZE	Α	В	С	D	E	F	G	н	I	J	К	L	M	N	0	Р	0	R	S	Т	U	l v	w	х	Y	Z	Areo sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 %	5/8	3/4		7 1/8	19 1/8	9	3	3 3/4	7 1/8	15 ¾	45°	3/4		7										9.0
3	36		1 %	5/8	3/4		7 1/8	19 %	9	3	3 3/4	7 1/8	15 ¾	45°	3/4		7 5/8										9.0
4	36		1 %	5/8	3/4		7 1/8	19 %	9	3	3 3/4	7 1/8	15 ¾	45°	3/4		7 5/8										9.0
5	36		1 %	5∕8	3/4		7 1/8	19 1/8	9	3	3 3/4	7 1/8	15 ¾	45°	3/4		7 %										9.0

COUNTY:

R3-4

STANDARD SIGN R3-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer

8/10 PLATE NO. R3-4.11

DATE12/08/10

SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\R34.DGN

PROJECT NO:

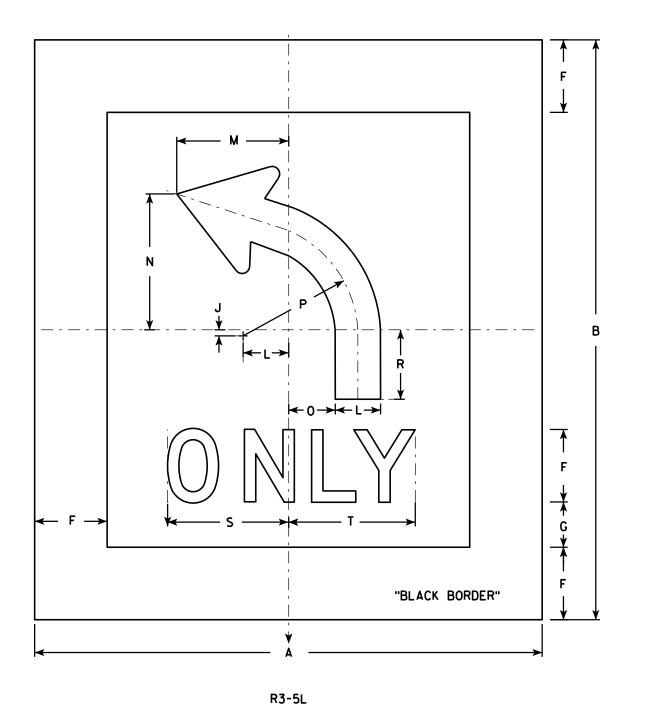
HWY:

PLOT DATE: 08-DEC-2010 15:34

PLOT NAME :

PLOT BY: dotsja

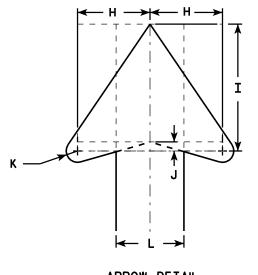
PLOT SCALE: 5.959043:1.000000



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

Background - White Message - Black

- 3. Message Series D
- 4. Corners may be square or rounded when base material is plywood. When base material is metal, the corners shall be rounded.
- 5. R3-5R is the same as R3-5L except curved portion of arrow points right.
- 6. The 6" border is non-reflective black.



ARROW DETAIL

SIZE	Α	В	С	D	Ε	F	G	Н	I	J	К	L	М	N	0	Р	0	R	S	Т	U	V	W	Х	Y	Z	Areo sq. ft.
1																											
2S	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 1/8	9 1/2		5 3/4	10	10 1/2							1.26
2M	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 1/8	9 1/2		5 3/4	10	10 1/2							1.26
3																											
4																											
5																											

COUNTY:

STANDARD SIGN R3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Ma

For State Traffic Engineer

DATE 2/24/11

11 PLATE NO. R3-5.6
SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\R35.DGN

HWY:

PROJECT NO:

PLOT DATE: 24-FEB-2011 14:53

PLOT BY: mscsja

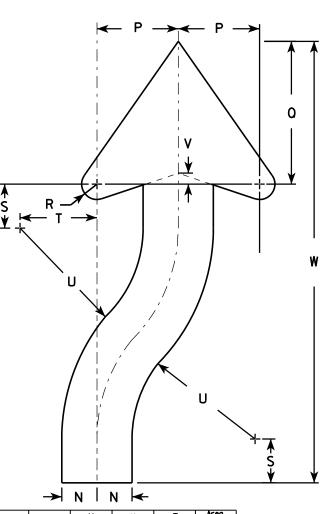
PLOT NAME : PLOT SC

PLOT SCALE: 7.945391:1.000000

- 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.



PLOT NAME :

ARROW DETAIL

																							<b>→</b>	N I	N <del> </del>		
SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	T	U	٧	W	X	Y	Z	Areo sq. ft
1	18	24	1 1/8	3∕8	1/2	3 %	4 3/4	5 ½	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 %	3 1/4	6 3/4	1/2	20 ¾				3.0
2S	24	30	1 1/8	3∕8	1/2	4 1/2	6 1/4	7 3/8	1 %	3	8	4	12 1/2	2	30	4 %	8 1/8	<b>1</b> /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 1/8	3	8	4	12 1/2	2	30	4 %	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 1/8	4 1/2	12	6	18 ¾	3	45	6 %	12 1/4	1 1/4	3 3/4	6 %	13 1/2	1	40 ¾				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 1/8	4 1/2	12	6	18 ¾	3	45	6 %	12 1/4	1 1/4	3 3/4	6 %	13 ½	1	40 ¾				12.0
5	48	60	2 1/4	₹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 3/4	18	1 1/4	50 1/4				20.0

COUNTY:

R4-7

STANDARD SIGN R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer

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

SHEET NO:

PROJECT NO:

D→

HWY:

## <u>NOTES</u>

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

Background - See detail Message - White - Type H Reflective

- 3. Message Series D
- 4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shall be rounded.

Whi te Red White R5-1

SIZE	Α	В	С	D	Е	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	Т	U	٧	W	Х	Y	Z	Area sq. ft.
1																											
2S	30		1 1/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 %	14 1/2	12 1/2	8 1/2	8 %											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 %	10 ¾											9.0
3	36		2 1/4		6	5	7 1/2	2 ½	1/2	8 1/8	3	12 1/8	17 1/2	15	10 %	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 %	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 %	14 1/2	23 1/2	20	12 3/4	12 1/8											16.0

COUNTY:

STANDARD SIGN R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer

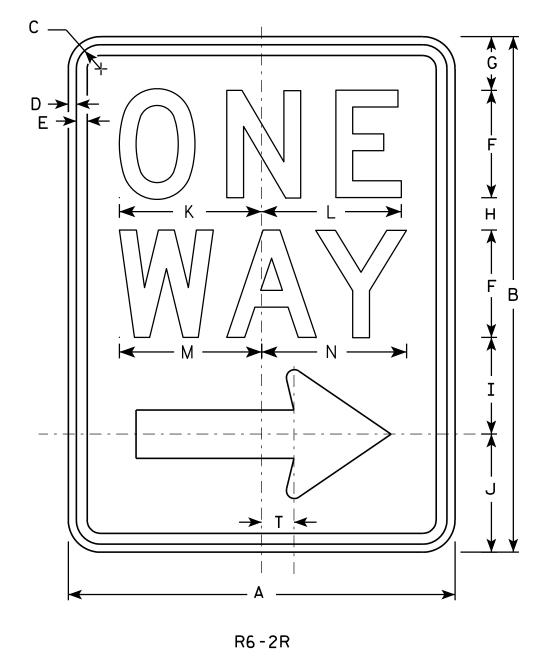
DATE 12/17/10 PLATE NO. R5-1.15

SHEET NO:

PROJECT NO:

HWY:

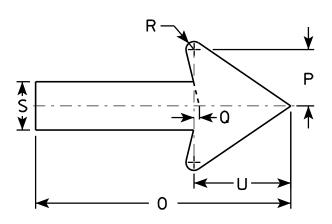
PLOT NAME :



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

Background - White Message - Black

- 3. Message Series D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. R6-2L same as R6-2R except arrow points to the left.



SIZE	Α	В	С	D	Е	F	G	Η	I	J	K	L	М	N	0	Р	0	R	S	Т	J	٧	W	Х	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 ½	6 %	6 1/2	6 %	6 ¾	11 %	2 %	1/4	3⁄8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 ½	7	8 1/8	8 1/8	8 1/2	8 %	16	3 ½	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 %	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 %	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 %	1/2	3/4	4 3/4	3	9					
4	36	48	1 %	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 ½	24	5 %	1/2	3/4	4 3/4	3	9					
5	·																			·		·		·		
1																										

COUNTY:

STANDARD SIGN R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthe R Rauch

For State Traffic Engineer

DATE 11/2/10

PLATE NO. R6-2.8

SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\R62.DGN

HWY:

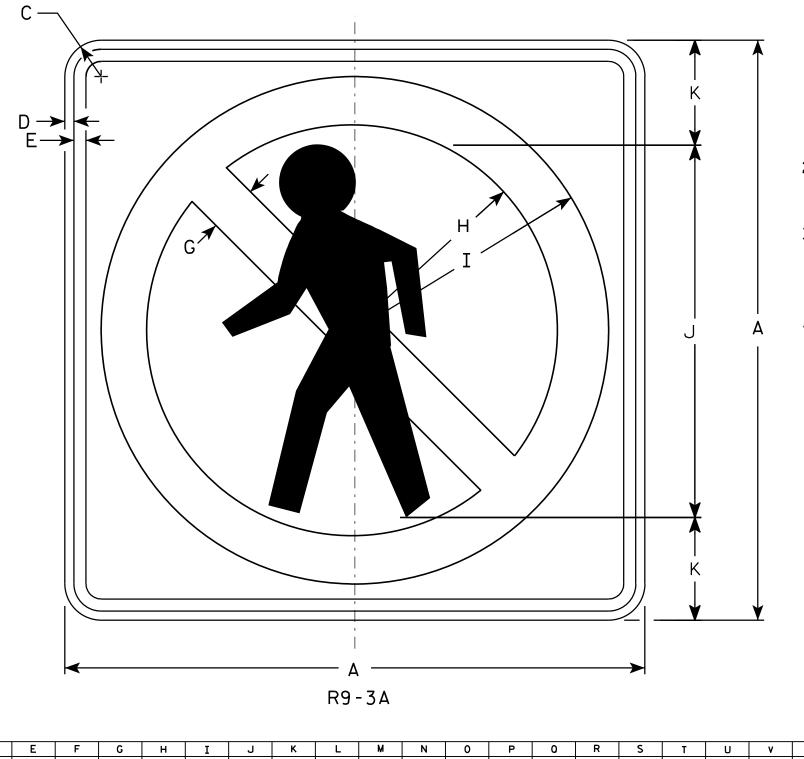
PROJECT NO:

PLOT DATE: 02-NOV-2010 15:25

PLOT NAME :

PLOT BY: ditjph

PLOT SCALE: 4.469282:1.000000



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

Background - White Message - See note 4

- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. Border & Pedistrian are non-reflective black. Circle with diagonal bar is reflective red.

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	Т	U	٧	W	Х	Y	Z	Areo sq. ft.
1																											
2S	18		1 1/8	3/8	3%		1 1/2	6 1/4	7 %	12	3																2.25
2M	18		1 1/8	3/8	3/8		1 1/2	6 1/4	7 1/8	12	3																2.25
3																											
4	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	15	4																4.00
5																											

COUNTY:

STANDARD SIGN R9-3A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer

DATE 6/4/10 PLATE NO. R9-3A.2

SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\R93A.DGN

HWY:

PROJECT NO:

PLOT DATE: 04-JUN-2010 14:02

PLOT BY: ditjph

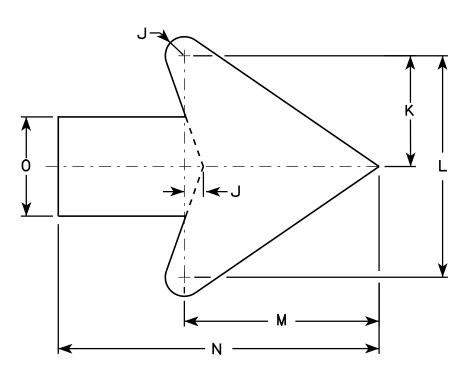
PLOT NAME :

PLOT SCALE: 3.972696:1.000000

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

Background - Yellow Message - Black

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



Arrow Detail

SIZE	Α	В	С	D	E	F	G	H	I	J	K	L	М	N	0	Р	0	R	S	T	U	٧	W	X	Y	Z	Areo
1																											
25	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 %	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 1/8	3/4	4 1/2	9	7 1/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 ½	10 1/8	9 %	15 ¾	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

COUNTY:

W12-1D

STANDARD SIGN W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Fer State Traffic Engineer

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

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\W121D.DGN

HWY:

PROJECT NO:

PLOT DATE: 13-MAR-2013 13:26

PLOT NAME :

PLOT BY: mscj9h

PLOT SCALE: 4.713802:1.000000

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

Background - Yellow

3. Corners may be square or rounded when base material is plywood. When base material is metal the corners shall be rounded.

W5-54	

SIZE	Α	В	С	D	Е	F	G	Н	I	J	K	L	М	Ν	0	Р	0	R	S	T	U	٧	W	X	Y	Z	Area sq. ft.
1	12								1																		1.0
2S	18								1 1/2																		2.25
2M	18								1 1/2																		2.25
3																											
4																											
5															·												

COUNTY:

STANDARD SIGN W5-54

WISCONSIN DEPT OF TRANSPORTATION

Matthew R Rauch *for* State Traffic Engineer DATE 11/3/10 PLATE NO. W5-54.8

APPROVED

SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\W554.DGN

PROJECT NO:

HWY:

PLOT DATE: 03-NOV-2010 09:54

PLOT BY: ditjph

PLOT NAME :

PLOT SCALE: 4.965871:1.000000

WISDOT/CADDS SHEET 42

Ε

Notes



# Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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