MAD JUL 2013

PROJECT ID: 1010-02-70

COUNTY: DANE

02

ORDER OF SHEETS

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

TOTAL SHEETS = 52

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - PORTAGE

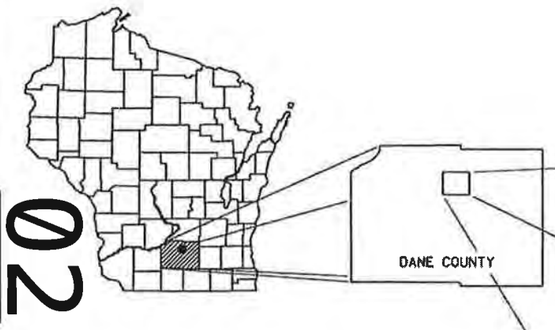
(USH 151 INTERCHANGE AREA)

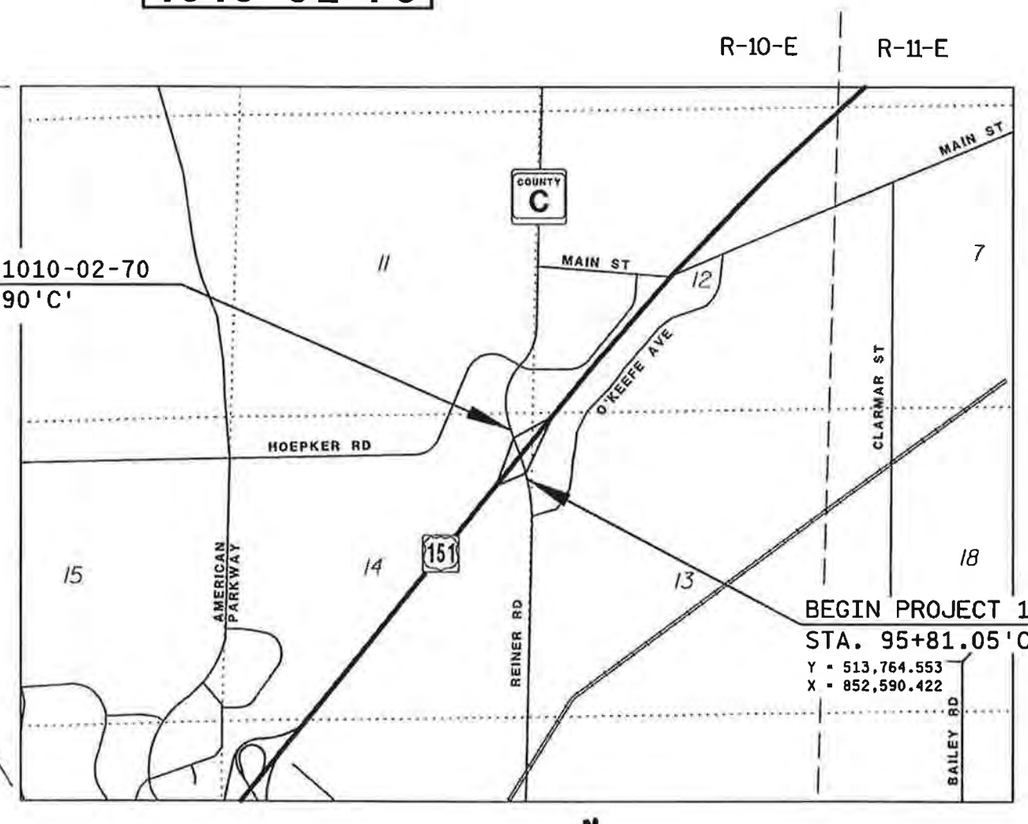
IH 39

DANE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1010-02-70	WISC 2013329	1

STATE PROJECT NUMBER
1010-02-70





DESIGN DESIGNATION

A.A.D.T. (2009)	=	6,400
A.A.D.T. (2033)	=	NA
D.H.V.	=	NA
D.D.	=	NA
T.	=	NA
DESIGN SPEED	=	50 mph
ESALS	=	NA

CONVENTIONAL SYMBOLS

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

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

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

SCALE 0 1/2 MI. 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.309 MI.

N

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY, NAD83(2007) ADJUSTMENT.

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES
Engineers/Photogrammetrists
Scientists/Surveyors
1802 Pankratz Street
Madison, Wisconsin

WISCONSIN
CHRISTOPHER M. URCHELL
41666-6
MADISON
WI
PROFESSIONAL ENGINEER

1/28/2013 (Date) Christopher M. Urchell (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	Ayres Associates
Designer	Ayres Associates
Project Manager	Bob Lax
Regional Examiner	
Regional Supervisor	Chris Hodges
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 1/30/13 (Signature)

E

GENERAL NOTES

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THEY ARE BASED UPON SURVEY AS STAKED IN THE FIELD BY THE RESPECTIVE UTILITIES, AND ARE SUPPLEMENTED WITH UTILITY MAPS. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

COORDINATES AND BEARINGS ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY, NAD83/2007 ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE USED AS GRID OR GROUND VALUES.

PLAN ELEVATIONS ARE REFERENCED TO NGVD88 (2007).

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

CONTRACTOR SHALL VERIFY ALL UTILITY DEPTHS AT ALL PROPOSED CONNECTION POINTS TO EXISTING SYSTEMS.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY AND WASTE AREAS SHALL BE FERTILIZED & SEEDED WITH THE ADDITION OF EROSION MAT AS DIRECTED BY THE ENGINEER.

NOMINAL QUANTITIES FOR VEGETATED OR LANDSCAPED AREAS DISTURBED DURING CONSTRUCTION HAVE BEEN INCLUDED IN THE MISCELLANEOUS QUANTITIES. AT A MINIMUM, THESE AREAS MUST BE RETURNED TO THEIR ORIGINAL STATE.

CONTRACTOR SHOULD NOT OPERATE BEYOND BOTTOM OF EXISTING SLOPE WHEN ADJACENT TO WETLANDS OR ENVIRONMENTALLY SENSITIVE AREAS.

THE QUANTITY OF THE ITEMS FOR EROSION PROTECTION INCLUDE AN UNDISTRIBUTED AMOUNT FOR CONTROL OF SEDIMENT AND SHALL BE REMOVED AS AREAS ARE STABILIZED OR AT THE DIRECTION OF THE ENGINEER. THE DISTRIBUTION AND LOCATION OF THESE MATERIALS ARE TO BE DETERMINED BY THE ENGINEER.

PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLANS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING OR TURNING LANE.

LIMITS FOR CONCRETE PANEL REPAIRS SHOWN IN THE PLANS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.

UNLESS INDICATED OTHERWISE, PAVEMENT MARKINGS INDICATED IN THIS PLAN SET ARE BASED ON STANDARD DETAIL DRAWINGS. PAVEMENT MARKING LOCATIONS ARE APPROXIMATE AND ARE TO BE FIELD VERIFIED BY THE ENGINEER PRIOR TO PLACEMENT. UNLESS INDICATED OTHERWISE, MOUNT SIGNS IN ACCORDANCE WITH SIGN PLATES.

INSTALLATION OF INLET PROTECTION NEAR PAVEMENT OR CURB AND GUTTER REMOVAL WILL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.

LOCATIONS OF CONCRETE PAVEMENT REPAIR SHES, CONCRETE PAVEMENT REPLACEMENT SHES, AND CURB AND GUTTER REMOVAL WILL BE MARKED BY THE ENGINEER IN THE FIELD.

ABBREVIATIONS

A.D.T.	AVERAGE DAILY TRAFFIC
ATMS	ARTERIAL TRAFFIC MANAGEMENT SYSTEM
BM	BENCHMARK
BOC	BACK OF CURB
BTWN	BETWEEN
C&G	CURB AND GUTTER
C.E.	COMMERCIAL ENTRANCE
CONST.	CONSTRUCTION
CP	CONTROL POINT
CTR.	CENTER
D.D.	DIRECTIONAL DISTIBUTION
D.H.V.	DESIGN HOURLY VOLUME
DMS	DYNAMIC MESSAGE SIGN
EB	EASTBOUND
EXIST	EXISTING
GALV.	GALVANIZE
HMA	HOT MIX ASPHALT
H.S.	HIGH STRENGTH
ITS	INTELLIGENT TRAFFIC SYSTEM
MAX	MAXIMUM
MIN	MINIMUM
MMSD	MADISON METROPOLITAN SEWERAGE DISTRICT
NB	NORTHBOUND
NOR	NORMAL
PC	POINT OF CURVATURE
PCC	POINT OF COMMON CURVATURE
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVT	PAVEMENT
R/L	REFERENCE LINE
R/W	RIGHT-OF-WAY
REQ'D	REQUIRED
SB	SOUTHBOUND
SYM	SYMMETRICAL
T.	PERCENT TRUCKS
TCC	TRAFFIC CONDITION CAMERA
TE	TRAFFIC ENGINEERING, CITY OF MADISON
TYP.	TYPICAL
VAR.	VARIABLE
WB	WESTBOUND
Wt.	WEIGHT
X-WALK	CROSS WALK

CONTACTS

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DE PERE, WI 54115-6113
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MOLSEN@ATCLLC.COM

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(608) 266-4252
(608) 267-1540 FAX
FRICK@CO.DANE.WI.US

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JOHNNY.GERBITZ@DOT.GOV

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RWICKLUND@SUNPRAIRIEUTILITIES.COM

WDNR LIASON

AMANDA CUSHMAN
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MADISON, WI 53711
(608) 275-3481
AMANDA.CUSHMAN@WISCONSIN.GOV

WE ENERGIES

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MILWAUKEE, WI 53203
(414) 221-4578
DAN.SANDE@WE-ENERGIES.COM

WISDOT - PROJECT MANAGER

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ROBERT.LEX@ DOT.WI.GOV

WISDOT - COMMUNICATION

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433 W. ST. PAUL AVE.
MILWAUKEE, WI 53203-3007
(414) 225-3723
JEFFREY.MADSON@DOT.WI.GOV

WISDOT - ITS

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WISDOT - TRAFFIC

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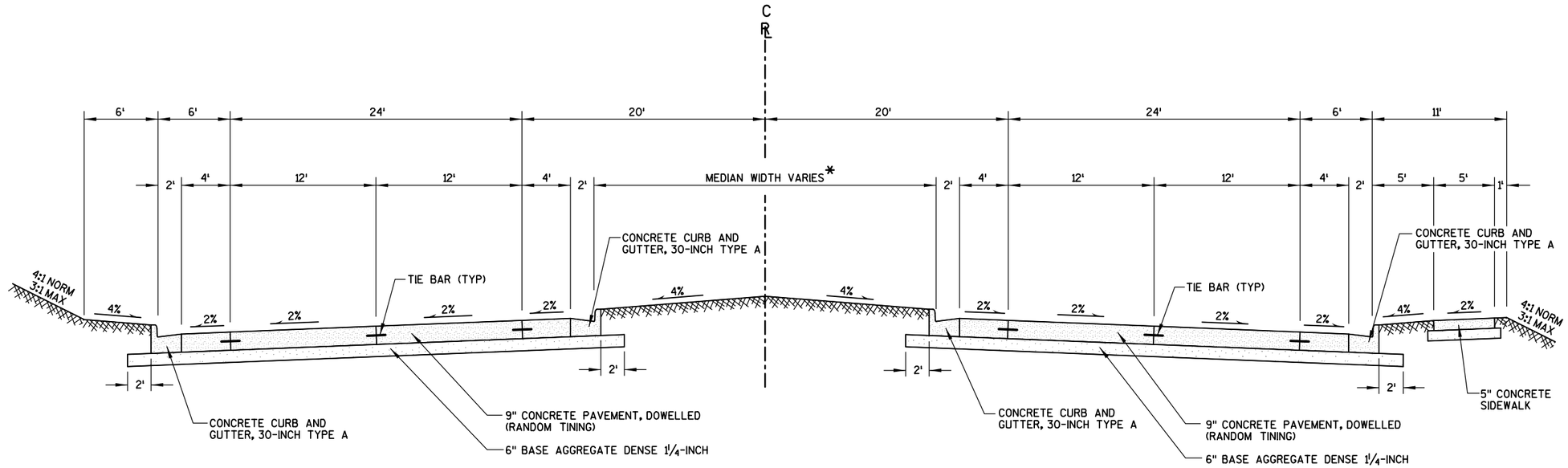
ORDER OF SECTION 2 SHEETS

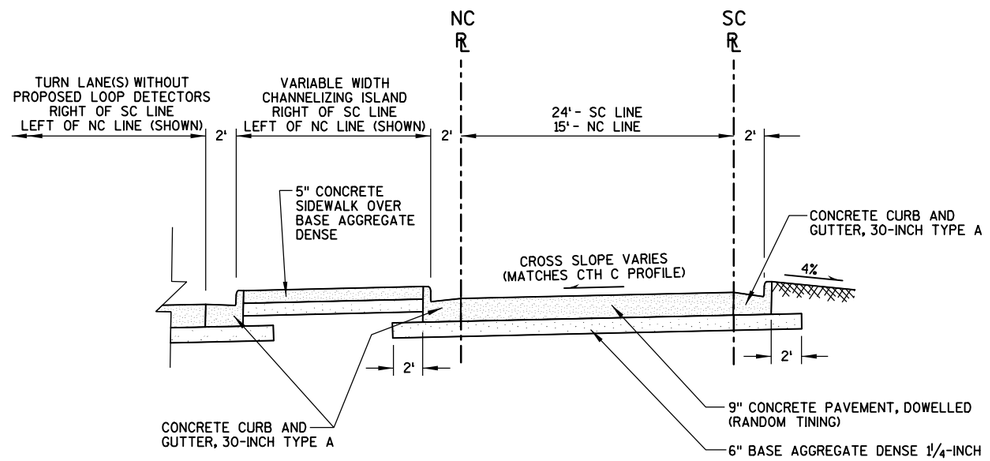
GENERAL NOTES & CONTACTS
TYPICAL SECTIONS
CONTROL POINT DIAGRAMS
CONSTRUCTION DETAILS
PAVING DETAILS & PAVEMENT MARKING
PERMANENT SIGNING
LIGHTING & SIGNALS
FTMS PLAN
CONSTRUCTION STAGING
ALIGNMENT DIAGRAM



TYPICAL EXISTING SECTION - CTH C

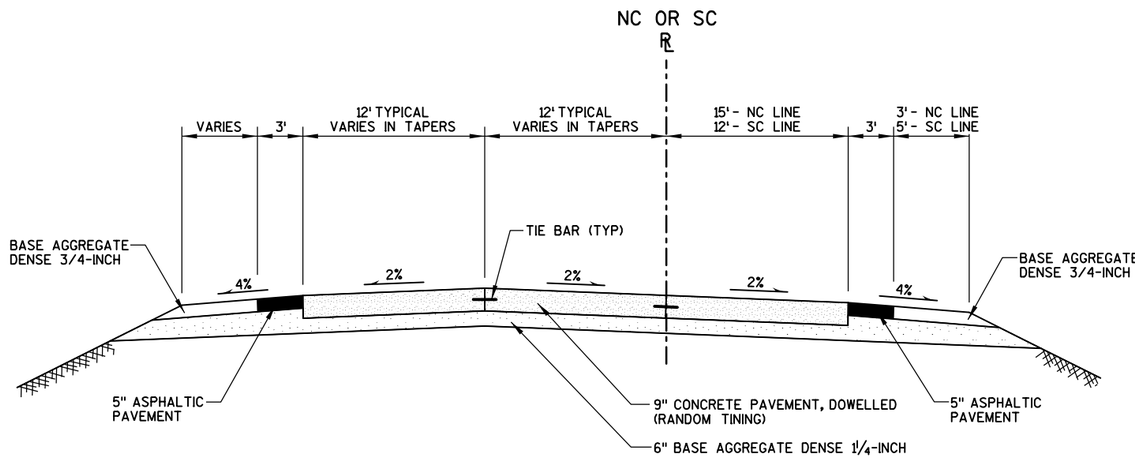
STA. 95+00 C TO STA. 113+00 C

*STA.100+00 C TO STA. 108+00 C - MEDIAN TURN LANES FOR USH 151 ENTRANCE RAMPS



TYPICAL EXISTING OFF-RAMP SECTION AT PROPOSED LOOP DETECTORS - CURB AND GUTTER

STA. 68+85± SC TO STA. 69+35± SC
STA. 90+75± NC TO STA. 91+25± NC
(SEE OTHER SHEETS FOR EXACT LOOP DETECTOR SIZES AND LOCATIONS)

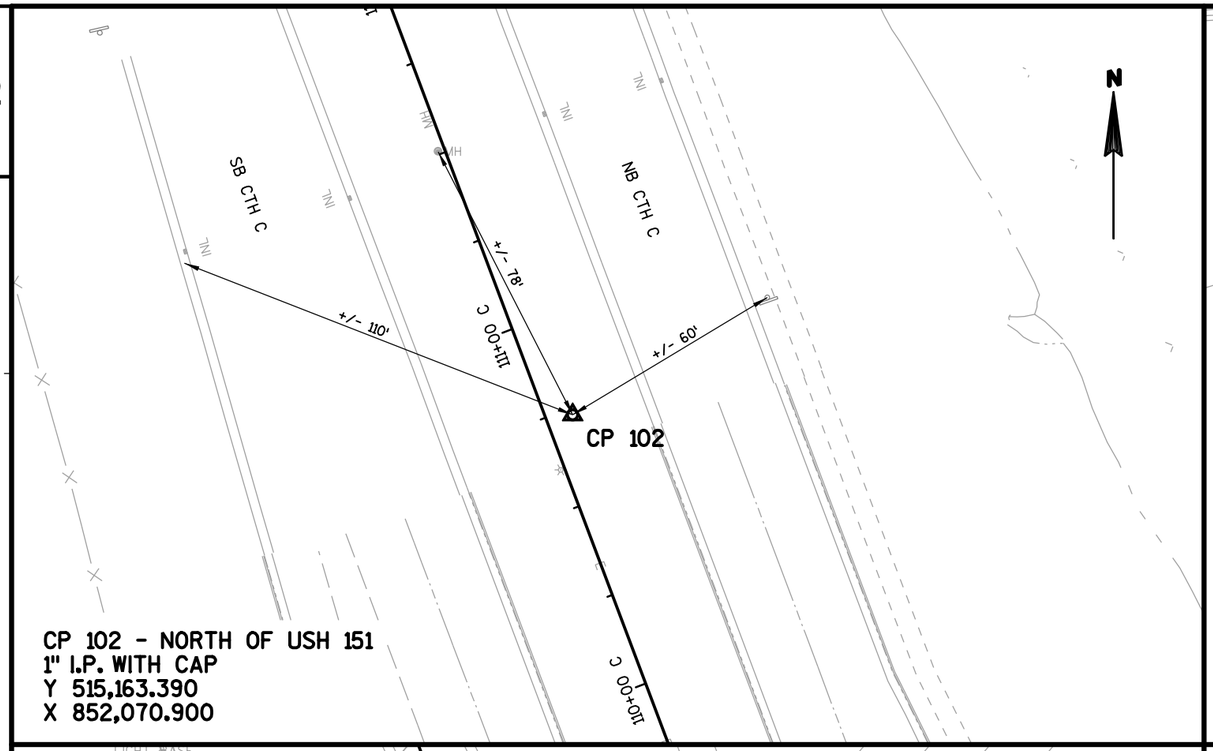


TYPICAL EXISTING RAMP SECTION AT PROPOSED LOOP DETECTORS - NO CURB AND GUTTER

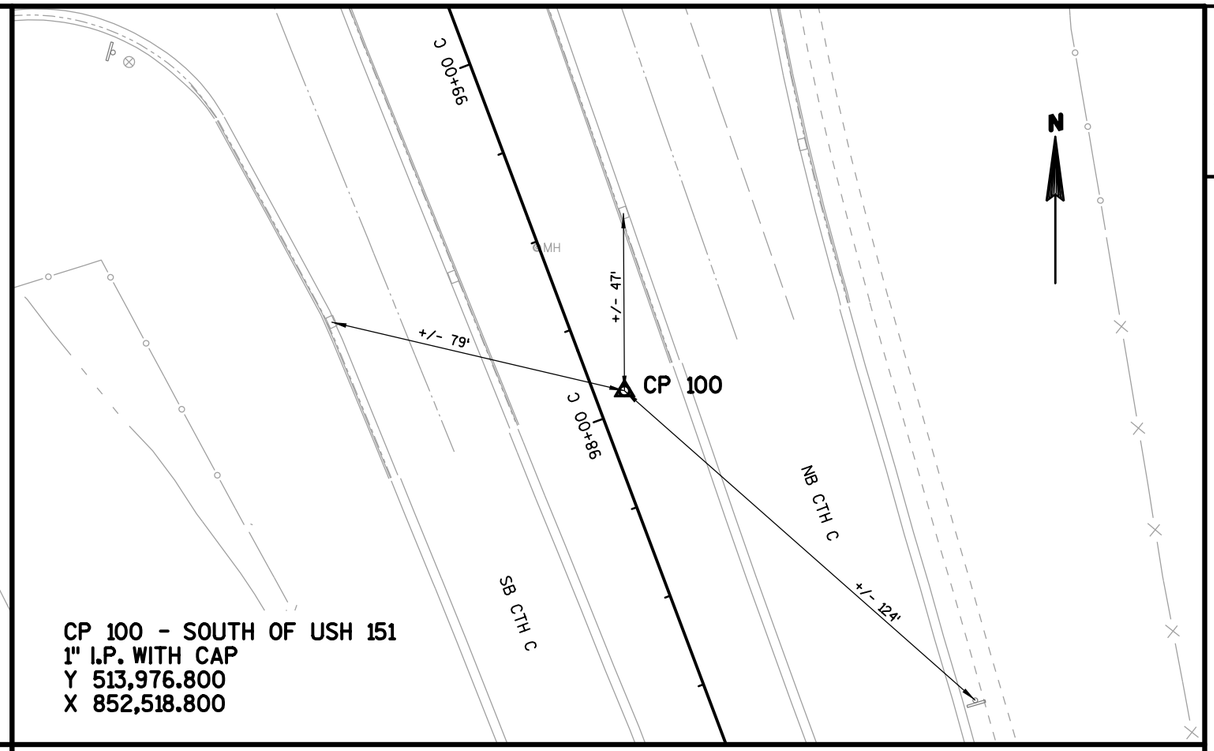
STA. 66+00± SC
STA. 94+05± NC
(SEE OTHER SHEETS FOR EXACT LOOP DETECTOR SIZES AND LOCATIONS)

NOTE: PAVEMENT COMPOSITION ON RAMPS IS ESTIMATED BASED ON CTH C PLANS, AND HAS NOT BEEN VERIFIED BY AS-BUILTS OR FIELD INFORMATION.

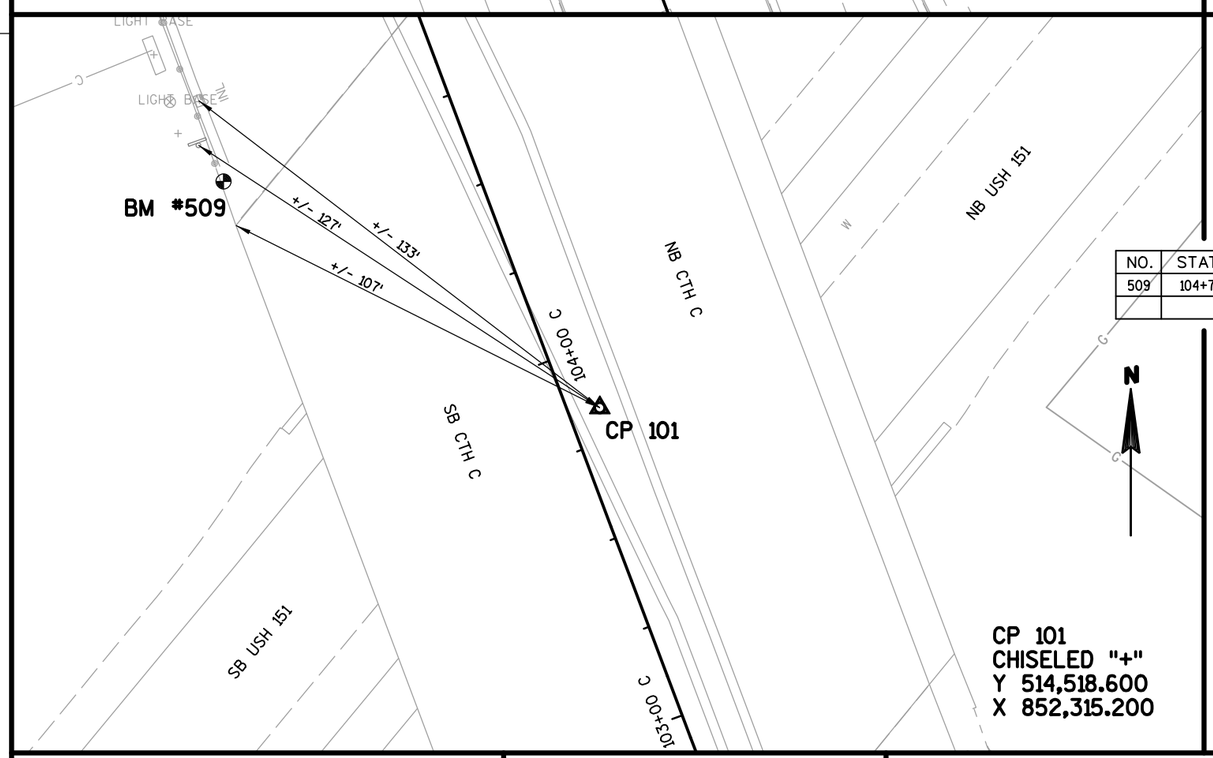
PROJECT NO: 1010-02-70	HWY: IH 39	COUNTY: DANE	TYPICAL EXISTING SECTION	SHEET 3	E



CP 102 - NORTH OF USH 151
1" I.P. WITH CAP
Y 515,163.390
X 852,070.900



CP 100 - SOUTH OF USH 151
1" I.P. WITH CAP
Y 513,976.800
X 852,518.800

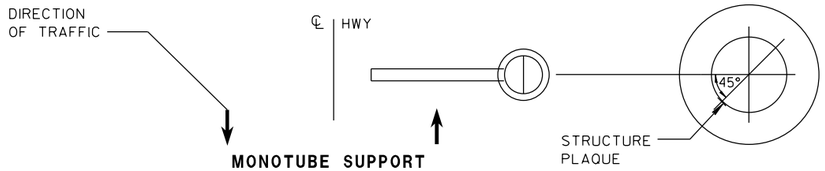


BENCH MARKS

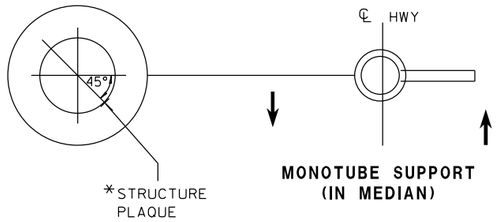
NO.	STATION	DESCRIPTION	OFFSET	ELEV.
509	104+75 C	BRASS DISK	64'LT	971.77

CP 101
CHISELED "+"
Y 514,518.600
X 852,315.200

PROJECT NO: 1010-02-70	HWY: IH 39	COUNTY: DANE	CONTROL POINT DIAGRAMS	SCALE, FEET 0 20 40	SHEET 4	E

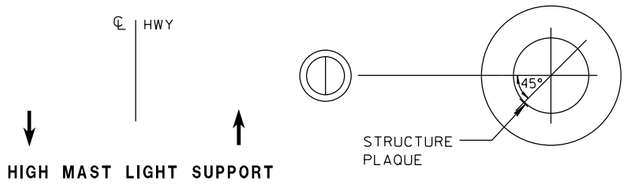


MONOTUBE SUPPORT (ON SHOULDER)

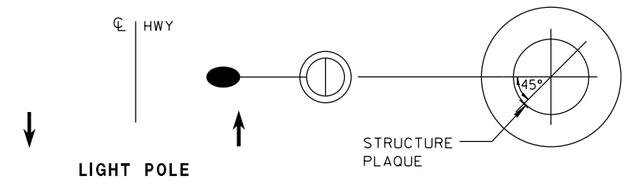


MONOTUBE SUPPORT (IN MEDIAN)

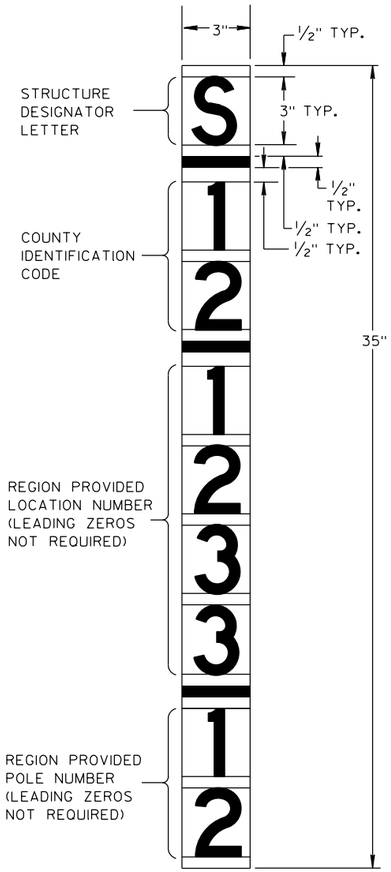
*WHEN MONOTUBES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN MONOTUBES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.



HIGH MAST LIGHT SUPPORT



LIGHT POLE (ON SHOULDER)



**LETTER "L" UTILIZED FOR LIGHTING STRUCTURES.
LETTER "S" UTILIZED FOR MONOTUBE STRUCTURES.

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

PLAQUE MATERIALS:

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

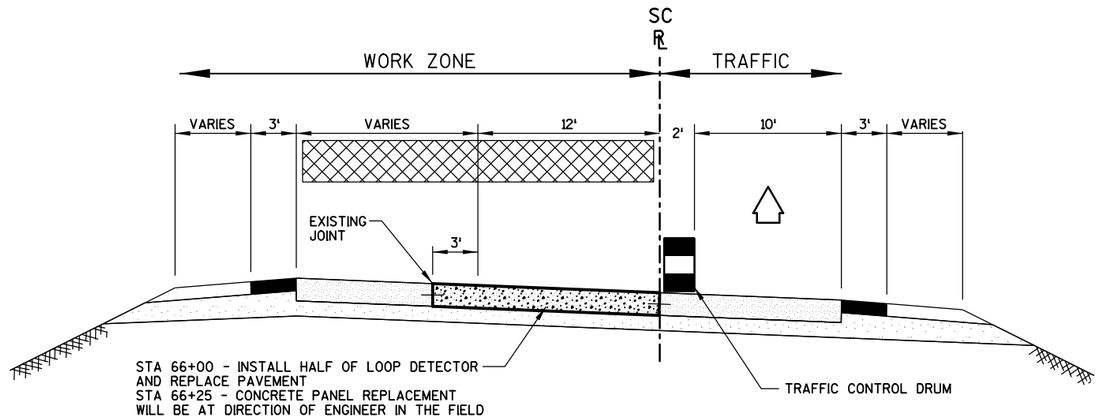
LINES - BLACK, ½" WIDE, SELF-ADHESIVE

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

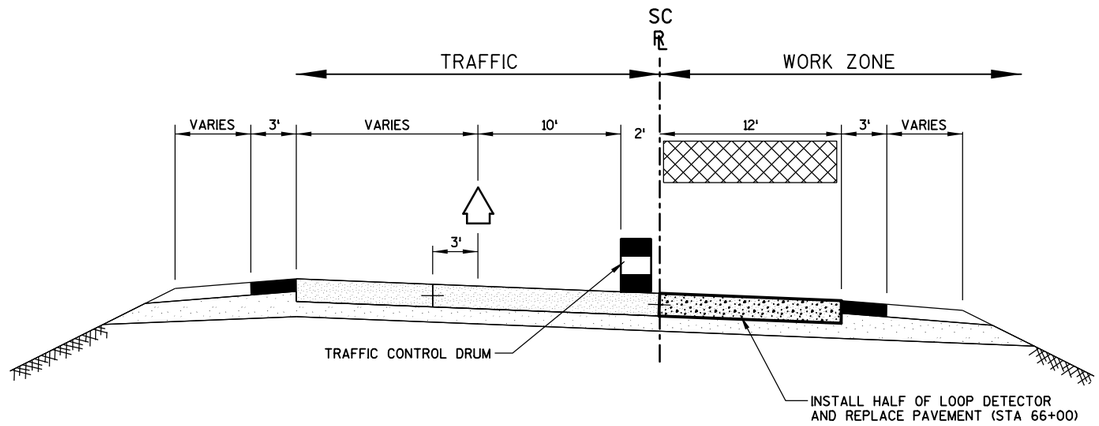
2

STRUCTURE IDENTIFICATION PLAQUES
LIGHT POLES & MONOTUBE POLES

SW REGION - MADISON



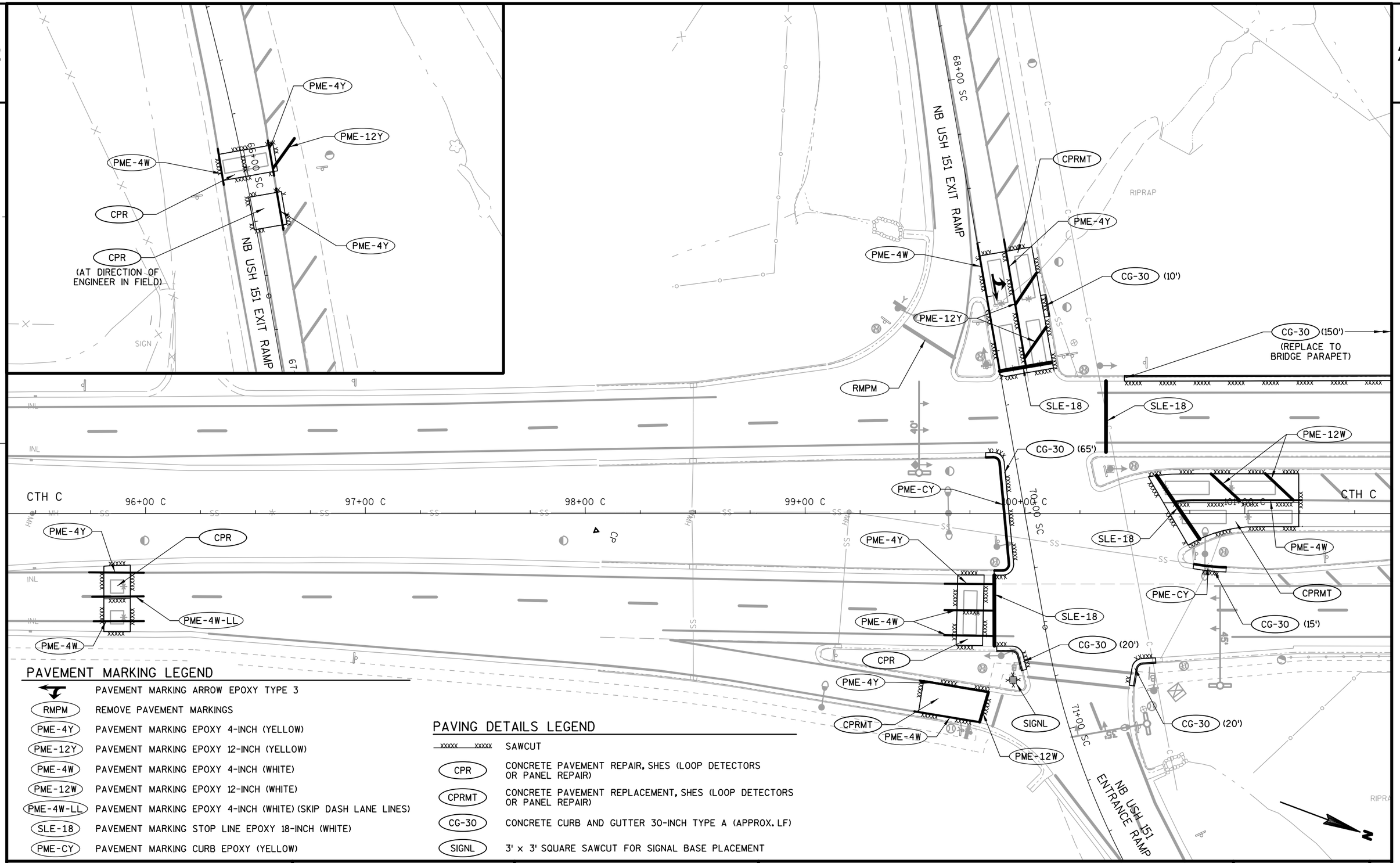
NB USH 151 EXIT RAMP - STAGE 1



NB USH 151 EXIT RAMP - STAGE 2

PROJECT NO: 1010-02-70	HWY: IH 39	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 6	E

2



PAVEMENT MARKING LEGEND

➘	PAVEMENT MARKING ARROW EPOXY TYPE 3
RMPM	REMOVE PAVEMENT MARKINGS
PME-4Y	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
PME-12Y	PAVEMENT MARKING EPOXY 12-INCH (YELLOW)
PME-4W	PAVEMENT MARKING EPOXY 4-INCH (WHITE)
PME-12W	PAVEMENT MARKING EPOXY 12-INCH (WHITE)
PME-4W-LL	PAVEMENT MARKING EPOXY 4-INCH (WHITE) (SKIP DASH LANE LINES)
SLE-18	PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
PME-CY	PAVEMENT MARKING CURB EPOXY (YELLOW)

PAVING DETAILS LEGEND

xxxxx xxxxx	SAWCUT
CPR	CONCRETE PAVEMENT REPAIR, SHES (LOOP DETECTORS OR PANEL REPAIR)
CPRMT	CONCRETE PAVEMENT REPLACEMENT, SHES (LOOP DETECTORS OR PANEL REPAIR)
CG-30	CONCRETE CURB AND GUTTER 30-INCH TYPE A (APPROX. LF)
SIGNL	3' x 3' SQUARE SAWCUT FOR SIGNAL BASE PLACEMENT

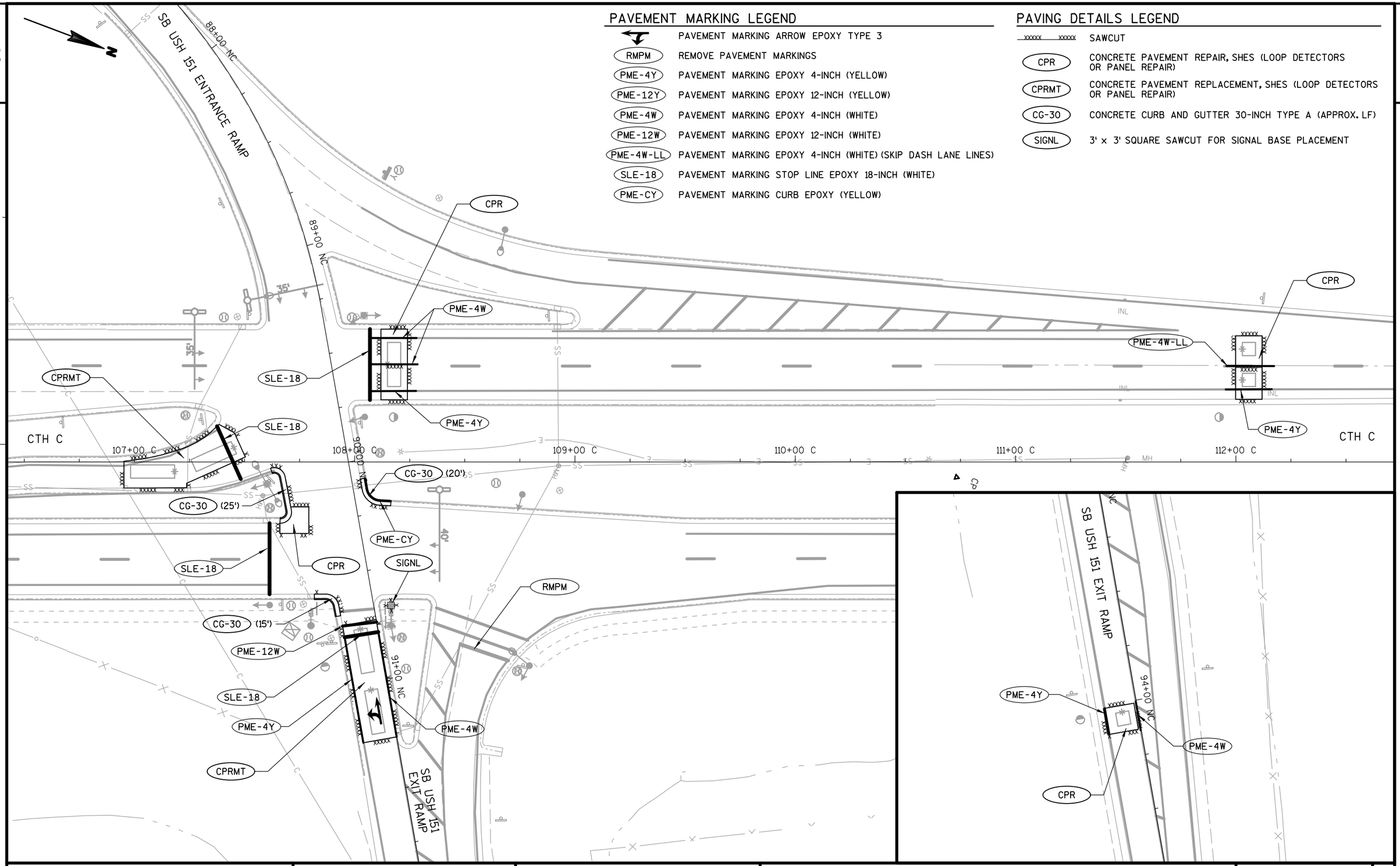
PROJECT NO: 1010-02-70	HWY: IH 39	COUNTY: DANE	PAVING DETAILS & PAVEMENT MARKING SCALE, FEET 0 20 40	SHEET 7	E

PAVEMENT MARKING LEGEND

	PAVEMENT MARKING ARROW EPOXY TYPE 3
RMPM	REMOVE PAVEMENT MARKINGS
PME-4Y	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
PME-12Y	PAVEMENT MARKING EPOXY 12-INCH (YELLOW)
PME-4W	PAVEMENT MARKING EPOXY 4-INCH (WHITE)
PME-12W	PAVEMENT MARKING EPOXY 12-INCH (WHITE)
PME-4W-LL	PAVEMENT MARKING EPOXY 4-INCH (WHITE) (SKIP DASH LANE LINES)
SLE-18	PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
PME-CY	PAVEMENT MARKING CURB EPOXY (YELLOW)

PAVING DETAILS LEGEND

xxxxx xxxxx	SAWCUT
CPR	CONCRETE PAVEMENT REPAIR, SHES (LOOP DETECTORS OR PANEL REPAIR)
CPRMT	CONCRETE PAVEMENT REPLACEMENT, SHES (LOOP DETECTORS OR PANEL REPAIR)
CG-30	CONCRETE CURB AND GUTTER 30-INCH TYPE A (APPROX. LF)
SIGNL	3' x 3' SQUARE SAWCUT FOR SIGNAL BASE PLACEMENT



PROJECT NO: 1010-02-70	HWY: IH 39	COUNTY: DANE	PAVING DETAILS & PAVEMENT MARKING SCALE, FEET 0 20 40	SHEET 8 E

FILE NAME : N:\410647\DGN\1010-02-70 CTH C\1010-02-70_021202_pd_C.dgn PLOT BY : dm253 PLOT DATE : 2/1/2013 PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

LEGEND

EXISTING SIGNS

- TYPE II SIGN ON WOOD OR STEEL POST
- R4-7 24" X 30" — EXISTING SIGN
- (R) — REMOVE SIGN
- (ESTR) — EXISTING SIGN TO REMAIN

PROPOSED SIGNS

- TYPE II SIGN ON WOOD POST
- R4-7 24" X 30" — NEW SIGN
- 16" x 16" ORANGE FLAGS
- (X-X) — NEW SIGN NUMBER

USH 151
WISDOT COMMUNICATIONS
CITY OF SUN PRAIRIE
CTH C
95 C
100 C
105 C
110 C
175'
175'
200'
65 SC
85 NC
80 NC
75 SC
95 NC
W3-3 36" X 36"
R1-2 36" X 31"
R1-1F 30" X 30" (MOUNT ON NEW SIGNAL POST)
(MOVE TO NEW SIGNAL POST)
WE ENERGIES
ATC
ALLIANT ENERGY
1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 1-10 1-11 1-12 1-13 1-14 1-15 1-16 1-17 1-18

PROJECT NO: 1010-02-70	HWY: IH 39	COUNTY: DANE	PERMANENT SIGNING SCALE, FEET 0 100 200	SHEET 9 E

FILE NAME : N:\410647\DGN\1010-02-70 CTH C\1010-02-70_023201_ps_C.dgn
PLOT BY : dm253 PLOT DATE : 2/1/2013 PLOT SCALE : 1:200
WISDOT/CADDS SHEET 42

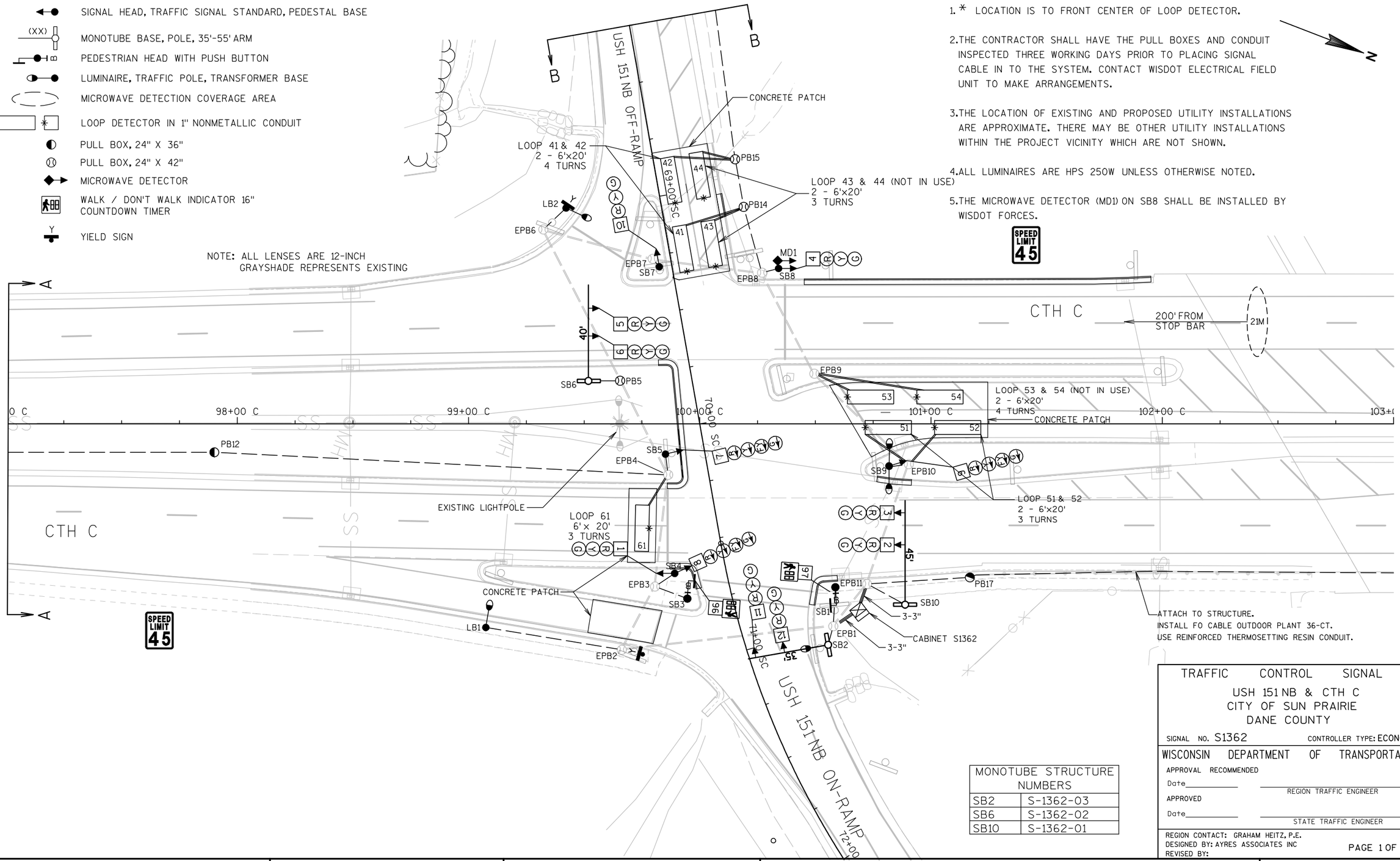
LEGEND

- NONMETALLIC CONDUIT 2" (UNLESS OTHERWISE NOTED)
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- MICROWAVE DETECTION COVERAGE AREA
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- MICROWAVE DETECTOR
- WALK / DON'T WALK INDICATOR 16" COUNTDOWN TIMER
- Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

NOTES

1. * LOCATION IS TO FRONT CENTER OF LOOP DETECTOR.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT INSPECTED THREE WORKING DAYS PRIOR TO PLACING SIGNAL CABLE IN TO THE SYSTEM. CONTACT WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS.
3. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT VICINITY WHICH ARE NOT SHOWN.
4. ALL LUMINAIRES ARE HPS 250W UNLESS OTHERWISE NOTED.
5. THE MICROWAVE DETECTOR (MD1) ON SB8 SHALL BE INSTALLED BY WISDOT FORCES.



MONOTUBE STRUCTURE NUMBERS	
SB2	S-1362-03
SB6	S-1362-02
SB10	S-1362-01

TRAFFIC CONTROL SIGNAL

USH 151 NB & CTH C
CITY OF SUN PRAIRIE
DANE COUNTY

SIGNAL NO. S1362 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date_____ REGION TRAFFIC ENGINEER
APPROVED
Date_____ STATE TRAFFIC ENGINEER

REGION CONTACT: GRAHAM HEITZ, P.E.
DESIGNED BY: AYRES ASSOCIATES INC
REVISED BY:

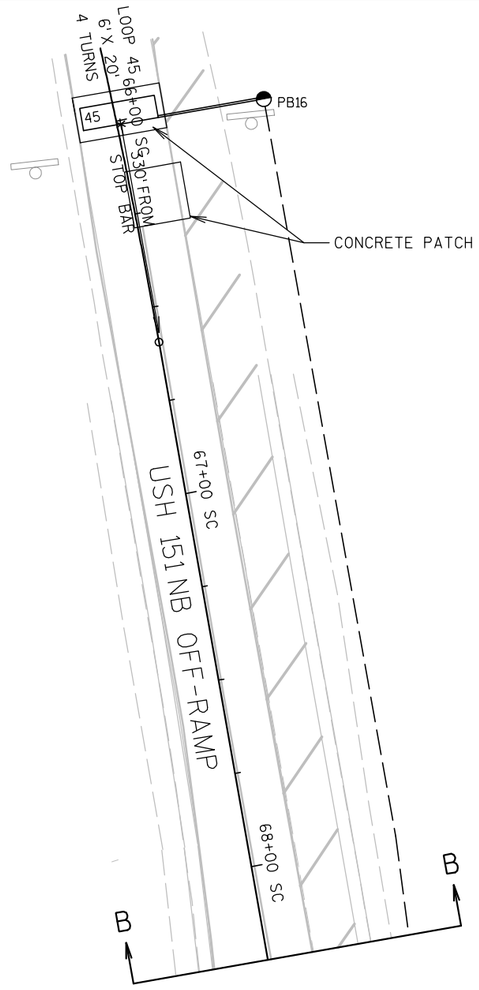
PAGE 1 OF 4

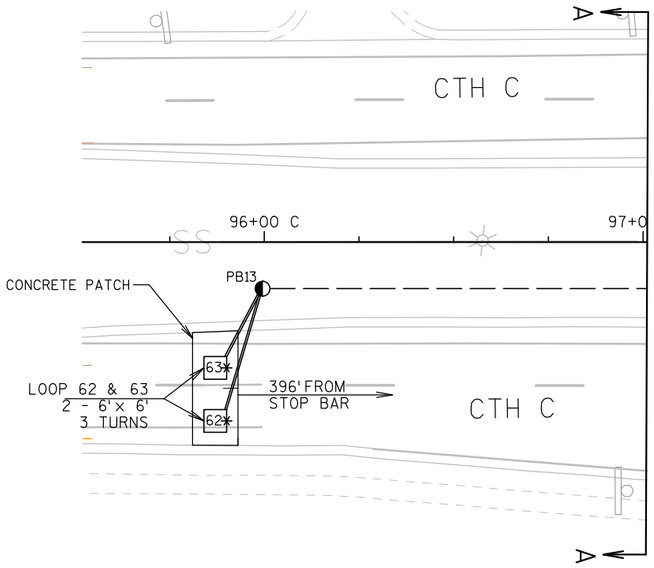
PROJECT NO: 1010-02-05	HWY: USH 151	COUNTY: DANE	TRAFFIC SIGNAL PLAN	SCALE, FEET 0 20 40	SHEET 10	E

FILE NAME : K:\41064700\traffic signal design\dgn\024001_sp.dgn PLOT DATE : 1/31/2013 PLOT BY : Tristan PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2





TRAFFIC CONTROL SIGNAL
USH 151 NB & CTH C
CITY OF SUN PRAIRIE
DANE COUNTY

SIGNAL NO. S1362

REGION CONTACT: GRAHAM HEITZ, P.E.
DESIGNED BY: AYRES ASSOCIATES INC
REVISED BY:

PROJECT NO: 1010-02-05	HWY: USH 151	COUNTY: DANE	TRAFFIC SIGNAL PLAN	SHEET 11	E

FILE NAME : K:\41064700\traffic signal design\dgn\024001_sp.dgn PLOT DATE : 1/31/2013 PLOT BY : Tristan PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	Ø1 R/W	Ø1 **	Ø1 CLEAR TO	Ø2 R/W	Ø2 **	Ø2 CLEAR TO	Ø3 R/W	Ø3 **	Ø3 CLEAR TO	Ø4 R/W	Ø4 **	Ø4 CLEAR TO	FLASH
		NOT USED			⇐			NOT USED			⇓			
Ø1														
Ø2	4, 5, 6				G	Y	R				R	R	R	R
Ø3														
Ø4	10 11, 12				R	R	R				G	Y	R	R
Ø5	7, 8, 9				-	-	-				-	-	-	-
Ø6	1, 2, 3				R	R	R				R	R	R	R
Ø7														
Ø8														
Ø2P														
Ø4P														
Ø6P	96, 97				*	D	D				D	D	D	
Ø8P														
OLE														
OLF														
OLG	7, 8, 9				R	R	R				R	R	R	
OLH														

N

BARRIER

RING 2

	HEAD NUMBERS	Ø5 R/W	Ø5 **	Ø5 CLEAR TO	Ø6 R/W	Ø6 **	Ø6 CLEAR TO	Ø7 R/W	Ø7 **	Ø7 CLEAR TO	Ø8 R/W	Ø8 **	Ø8 CLEAR TO
		↙			OLG ⇔			NOT USED			NOT USED		
Ø1													
Ø2	4, 5, 6	R	R	R	R	R	R						
Ø3													
Ø4	10 11, 12	R	R	R	R	R	R						
Ø5	7, 8, 9	G	Y	R	-	Y	R						
Ø6	1, 2, 3	R	R	R	G	Y	R						
Ø7													
Ø8													
Ø2P													
Ø4P													
Ø6P	96, 97	D	D	D	D	D	D						
Ø8P													
OLE													
OLF													
OLG	7, 8, 9	-	-	-	FY	-	-						
OLH													

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
21M	1			X		2			3.0		
41	2	X			4	4				6x20	4
42	3	X			4	4				6x20	4
43	NOT IN	USE								6x20	3
44	NOT IN	USE								6x20	3
45	4	X			4	4				6x20	5
51	5	X			5	5				6x20	3
52	6	X			5	5				6x20	3
53	NOT IN	USE								6x20	4
54	NOT IN	USE								6x20	4
61	7	X			6	6			3.0	6x20	3
62	8			X		6				6x6	3
63	9			X		6				6x6	3

CONTROLLER LOGIC

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

OVERLAPS

O.L. "E" =
O.L. "F" =
O.L. "G" = PRO (5) / PERM (6)
O.L. "H" =

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

TYPE OF INTERCONNECT COMMUNICATION	
NONE	
TBC	
CLOSED LOOP TWISTED PAIR*	X
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM #:	SS- -

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
3M	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

CHART 1

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

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

* WHEN CALLED, TIMED STEADY WALK, THEN FLASHING DON'T WALK, THEN GOES TO STEADY DON'T WALK

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 AT LEFT.)

USH 151 NB & CTH C
CITY OF SUN PRAIRIE
DANE COUNTY

SIGNAL NO. S1362

REGION CONTACT: GRAHAM HEITZ, P.E.
DESIGNED BY: AYRES ASSOCIATES INC
REVISED BY:

PROJECT NO: 1010-02-05	HWY: USH 151	COUNTY: DANE	SEQUENCE OF OPERATIONS	SCALE, FEET 0 N/A N/A	SHEET 12	E

USH 151 NB & CTH C TRAFFIC SIGNAL CABLING CHART NO. 14 CABLE					
CABLE RUN	CABLE	HEAD NO.	MOVEMENT	LENS	CONDUCTOR COLOR
CABINET TO SB1	5/C	96	ϕ6 PED	W	BU
				DW	BK
				PB	W/BK
CABINET TO SB2	9/C	11	NB	R	R
				Y	O
				G	G
		12	NB	R	R/BK
				Y	O/BK
				G	G/BK
CABINET TO SB3	5/C	97	ϕ6 PED	W	BU
				DW	BK
				PB	W/BK
CABINET TO SB4	9/C	1	WB	R	R
				Y	O
				G	G
		8	EB LT	←R	R/BK
				←Y	O/BK
				←FY	BK
				←G	G/BK
CABINET TO SB5	7/C	7	EB LT	←R	R/BK
				←Y	O/BK
				←FY	BK
				←G	G/BK
CABINET TO SB6	9/C	5	EB	R	R
				Y	O
				G	G
		6	EB	R	R/BK
				Y	O/BK
				G	G/BK
CABINET TO SB7	5/C	10	NB	R	R
				Y	O
				G	G
CABINET TO SB8	5/C	4	EB	R	R
				Y	O
				G	G
CABINET TO SB9	7/C	9	EB LT	←R	R/BK
				←Y	O/BK
				←FY	BK
				←G	G/BK
CABINET TO SB10	9/C	2	WB	R	R
				Y	O
				G	G
		3	WB	R	R/BK
				Y	O/BK
				G	G/BK

USH 151 NB & CTH C LIGHTING CABLING CHART NO. 12 UF		
CABLE	CABLE RUN	LOCATION
2/C WITH GROUND	CABINET TO SB2	NE QUADRANT
	SB2 TO LB1	SE QUADRANT
	CABINET TO SB9	MEDIAN
	SB9 TO LB2	SW QUADRANT

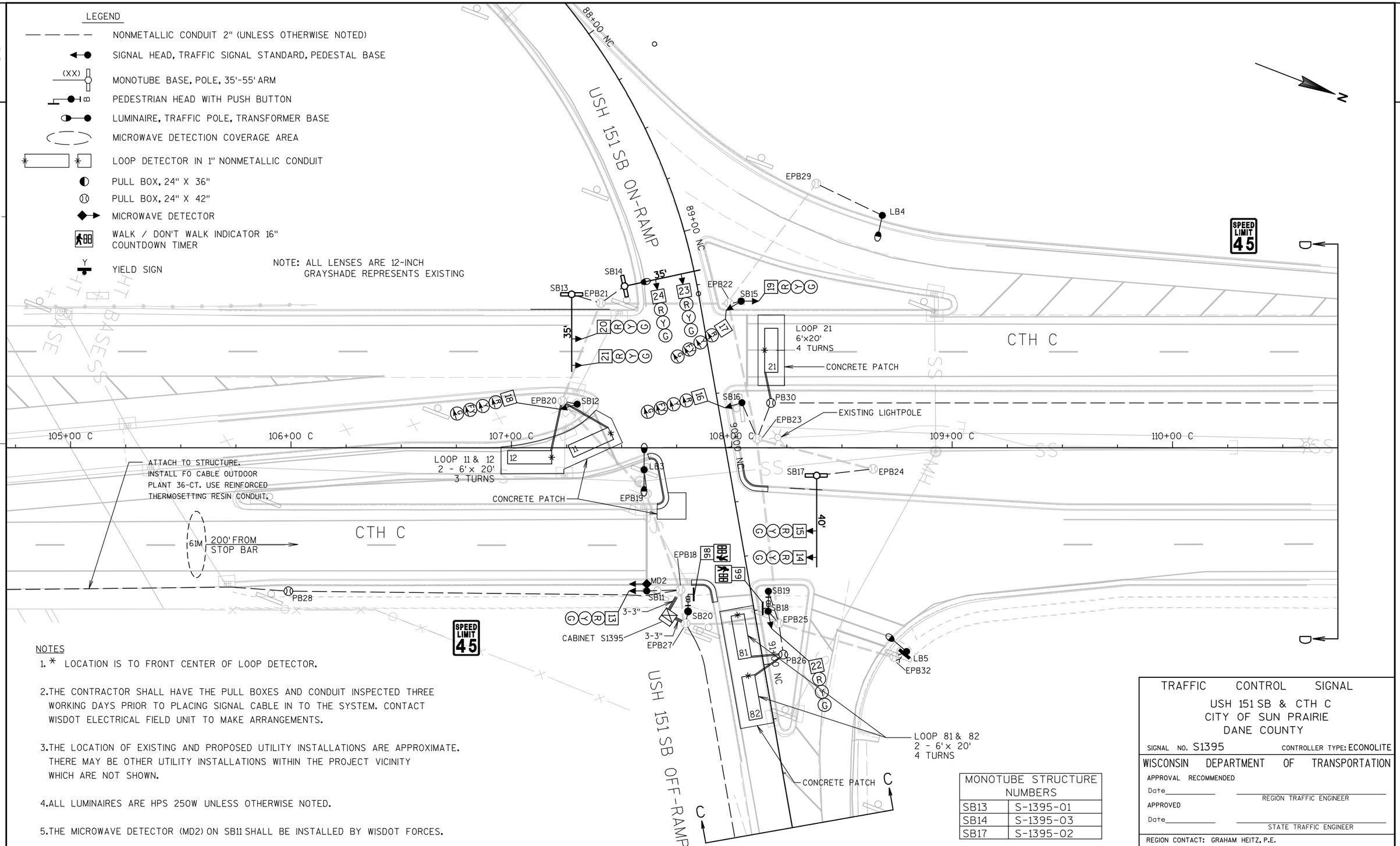
USH 151 NB & CTH C MICROWAVE DETECTOR CABLING CHART NO. 20 CABLE		
CABLE	CABLE RUN	LOCATION
12 TWISTED PAIR	CABINET TO SB8	NW QUADRANT

TRAFFIC CONTROL SIGNALS
USH 151 NB & CTH C
CITY OF SUN PRAIRIE
DANE COUNTY
SIGNAL NO. S1362 SCALE 0 5' 10' 20'
DIST. CONTACT: G. HEITZ, P.E. PAGE 4 OF 4

LEGEND

- NONMETALLIC CONDUIT 2" (UNLESS OTHERWISE NOTED)
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- B PEDESTRIAN HEAD WITH PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- MICROWAVE DETECTION COVERAGE AREA
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- MICROWAVE DETECTOR
- WALK / DON'T WALK INDICATOR 16" COUNTDOWN TIMER
- Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



NOTES

1. * LOCATION IS TO FRONT CENTER OF LOOP DETECTOR.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT INSPECTED THREE WORKING DAYS PRIOR TO PLACING SIGNAL CABLE IN TO THE SYSTEM. CONTACT WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS.
3. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT VICINITY WHICH ARE NOT SHOWN.
4. ALL LUMINAIRES ARE HPS 250W UNLESS OTHERWISE NOTED.
5. THE MICROWAVE DETECTOR (MD2) ON SB11 SHALL BE INSTALLED BY WISDOT FORCES.

MONOTUBE STRUCTURE NUMBERS	
SB13	S-1395-01
SB14	S-1395-03
SB17	S-1395-02

TRAFFIC CONTROL SIGNAL

USH 151 SB & CTH C
CITY OF SUN PRAIRIE
DANE COUNTY

SIGNAL NO. S1395 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date _____ REGION TRAFFIC ENGINEER

APPROVED
Date _____ STATE TRAFFIC ENGINEER

REGION CONTACT: GRAHAM HEITZ, P.E.
DESIGNED BY: AYRES ASSOCIATES INC
REVISED BY:

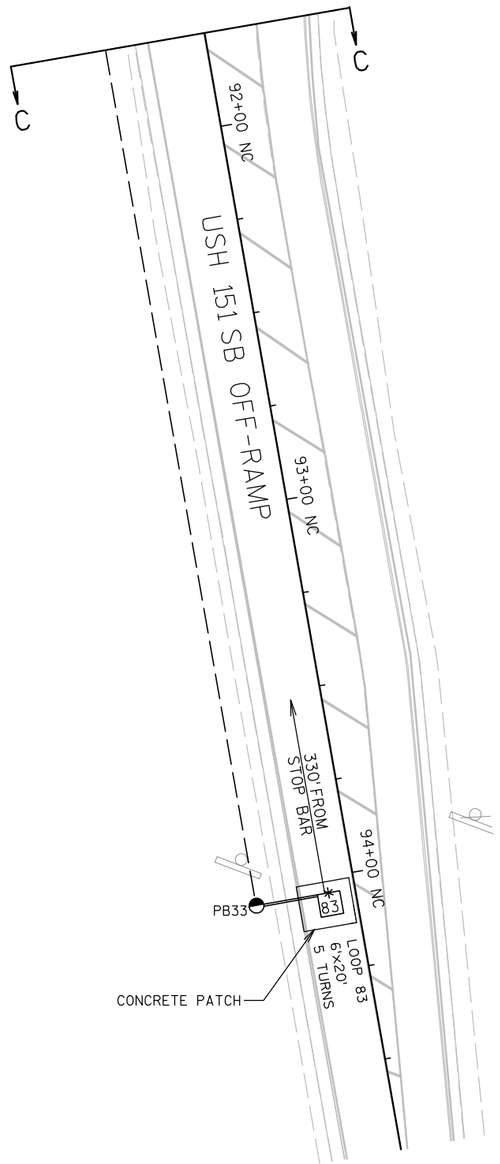
PAGE 1 OF 4

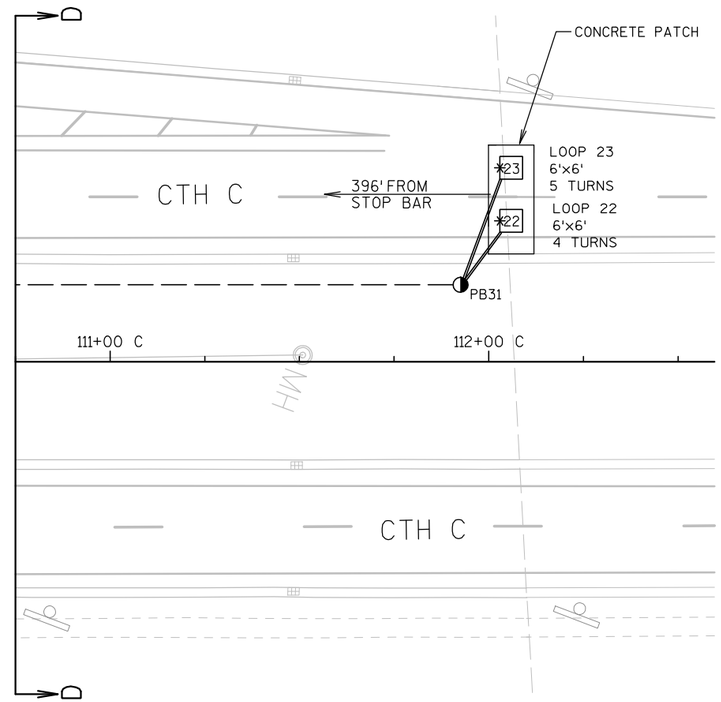
PROJECT NO: 1010-02-05	HWY: USH 151	COUNTY: DANE	TRAFFIC SIGNAL PLAN	SCALE, FEET 0 20 40	SHEET 14	E

FILE NAME : K:\41064700\traffic signal design\dgn\024001_sp.dgn PLOT DATE : 1/31/2013 PLOT BY : Tristan PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2





TRAFFIC CONTROL SIGNAL
USH 151 SB & CTH C
CITY OF SUN PRAIRIE
DANE COUNTY

SIGNAL NO. S1395

REGION CONTACT: GRAHAM HEITZ, P.E.
DESIGNED BY: AYRES ASSOCIATES INC
REVISED BY:

PAGE 2 OF 4

PROJECT NO: 1010-02-05	HWY: USH 151	COUNTY: DANE	TRAFFIC SIGNAL PLAN	SHEET 15	E

FILE NAME : K:\41064700\traffic signal design\dgn\024001_sp.dgn PLOT DATE : 1/31/2013 PLOT BY : Tristan PLOT NAME : PLOT SCALE : 1:40

2

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	Ø1 R/W	Ø1 CLEAR TO	Ø2 R/W	Ø2 CLEAR TO	NOT USED Ø3 R/W	Ø3 CLEAR TO	NOT USED Ø4 R/W	Ø4 CLEAR TO	FLASH
Ø1	16, 17, 18	G	Y R	-	Y R					-
Ø2	13, 14, 15	R	R R	G	Y R					R
Ø3										
Ø4										
Ø5										
Ø6	19, 20,21	R	R R	R	R R					R
Ø7										
Ø8	22, 23, 24	R	R R	R	R R					R
Ø2P	98, 99			*	D D					
Ø4P										
Ø6P										
Ø8P										
OLA	16, 17, 18	-	- -	FY	- -					
OLB										
OLC										
OLD										

RING 2

	HEAD NUMBERS	Ø5 R/W	Ø5 CLEAR TO	Ø6 R/W	Ø6 CLEAR TO	NOT USED Ø7 R/W	Ø7 CLEAR TO	NOT USED Ø8 R/W	Ø8 CLEAR TO
Ø1	16, 17, 18			-	- -			-	- -
Ø2	13, 14, 15			R	R R			R	R R
Ø3									
Ø4									
Ø5									
Ø6	19, 20,21			G	Y R			R	R R
Ø7									
Ø8	22, 23, 24			R	R R			G	Y R
Ø2P	98, 99			D	D D			D	D D
Ø4P									
Ø6P									
Ø8P									
OLA	16, 17, 18			R	R R			R	R R
OLB									
OLC									
OLD									

BARRIER

N

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
11	1	X			1	1				6x20	3
12	2	X			1	1				6x20	3
21	3	X			2	2				6x20	4
22	4	X			2	2				6x6	4
23	5	X			2	2				6x6	5
61M	6			X		6			3.0	6x20	
81	7	X			8	8				6x20	4
82	8	X			8	8				6x20	4
83	9			X		8			3.0	6x20	5

CONTROLLER LOGIC

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

OVERLAPS

O.L. "A" = PRO (1) / PERM (2)
O.L. "B" =
O.L. "C" =
O.L. "D" =

TYPE OF INTERCONNECT COMMUNICATION	
NONE	
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	x
RADIO	
*LOCATION OF MASTER CONTROLLER NO:	S-1362
SIGNAL SYSTEM #:	SS- -

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
3M	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

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

CHART 1

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

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

* WHEN CALLED, TIMED STEADY WALK,THEN FLASHING DON'T WALK, THEN GOES TO STEADY DON'T WALK

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 AT LEFT.)

USH 151 SB & CTH C
CITY OF SUN PRAIRIE
DANE COUNTY

SIGNAL NO. S1395

REGION CONTACT: GRAHAM HEITZ, P.E.
DESIGNED BY: AYRES ASSOCIATES INC
REVISED BY:

PROJECT NO: 1010-02-05	HWY: USH 151	COUNTY: DANE	SEQUENCE OF OPERATIONS	SCALE, FEET 0 N/A N/A	SHEET 16	E

USH 151 SB & CTH C TRAFFIC SIGNAL CABLING CHART NO. 14 CABLE					
CABLE RUN	CABLE	HEAD NO.	MOVEMENT	LENS	CONDUCTOR COLOR
CABINET TO SB11	5/C	13	WB	R	R
				Y	O
				G	G
CABINET TO SB12	7/C	18	WB LT	←R	R/BK
				←Y	O/BK
				←FY	BK
				←G	G/BK
CABINET TO SB13	9/C	20	EB	R	R
				Y	O
				G	G
		21	EB	R	R/BK
				Y	O/BK
				G	G/BK
CABINET TO SB14	9/C	23	SB	R	R
				Y	O
				G	G
		24	SB	R	R/BK
				Y	O/BK
				G	G/BK
CABINET TO SB15	9/C	19	EB	R	R
				Y	O
				G	G
		17	WB LT	←R	R/BK
				←Y	O/BK
				←FY	BK
				←G	G/BK
CABINET TO SB16	7/C	16	WB LT	←R	R/BK
				←Y	O/BK
				←FY	BK
				←G	G/BK
CABINET TO SB17	9/C	14	WB	R	R
				Y	O
				G	G
		15	WB	R	R/BK
				Y	O/BK
				G	G/BK
CABINET TO SB18	5/C	22	SB	R	R
				Y	O
				G	G
CABINET TO SB19	5/C	99	ϕ6 PED	W	BU
				DW	BK
				PB	W/BK
CABINET TO SB20	5/C	98	ϕ6 PED	W	BU
				DW	BK
				PB	W/BK

USH 151 SB & CTH C LIGHTING CABLING CHART NO. 12 UF		
CABLE	CABLE RUN	LOCATION
2/C WITH GROUND	CABINET TO LB3	MEDIAN
	LB3 TO SB14	SE QUADRANT
	CABINET TO LB4	NW QUADRANT
	CABINET TO LB5	NE QUADRANT

USH 151 & CTH C MICROWAVE DETECTOR CABLING CHART NO. 20 CABLE		
CABLE	CABLE RUN	LOCATION
12 TWISTED PAIR	CABINET TO SB11	SE QUADRANT

TRAFFIC CONTROL SIGNALS
USH 151 SB & CTH C
CITY OF SUN PRAIRIE
DANE COUNTY
SIGNAL NO. S1395 SCALE 0 5' 10' 20'
DIST. CONTACT: G. HEITZ, P.E. PAGE 4 OF 4

FTMS STANDARD ABBREVIATIONS

CCTV	CLOSED CIRCUIT TELEVISION SITE
CB	CONTROLLER CABINET
PB	PULL BOX
CV	COMMUNICATIONS VAULT
EX	EXISTING
S-F	STATE-FURNISHED

LEGEND

	EXISTING	PROPOSED
CCTV CAMERA AND POLE		
POLE MOUNTED CABINET		
METER BREAKER PEDESTAL		
24"X36" STEEL PULL BOX		
ITS CONDUIT		
COMMUNICATIONS VAULT		
ETHERNET RADIO		
MICROWAVE DETECTOR		
DETECTION ZONE (NON-PHYSICAL)		

FTMS GENERAL NOTES

THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PROJECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.

BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.

BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUITS, PULLBOXES, POLES, CABINET FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.

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

AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR FTMS CONSTRUCTION ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER AND SEED, AND MULCH. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS BUT ALSO CONTAINING FTMS CONSTRUCTION WILL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS. NO PAYMENT WILL BE MADE FOR RESTORING AREAS DISTURBED FOR FTMS CONSTRUCTION OPERATIONS.

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

BE ADVISED THAT DUE TO RAMP, LANE, AND SHOULDER CLOSURE RESTRICTIONS, AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.

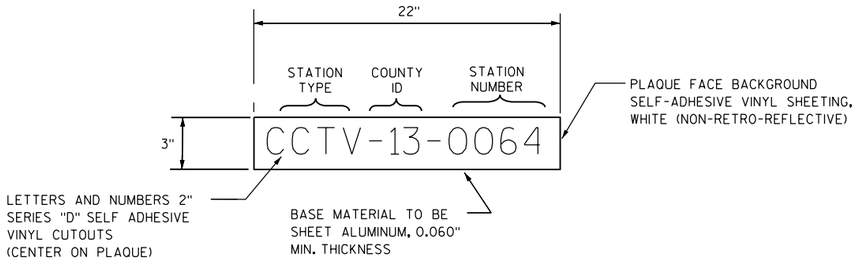
THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTS IN THE AREA.

CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414) 227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.

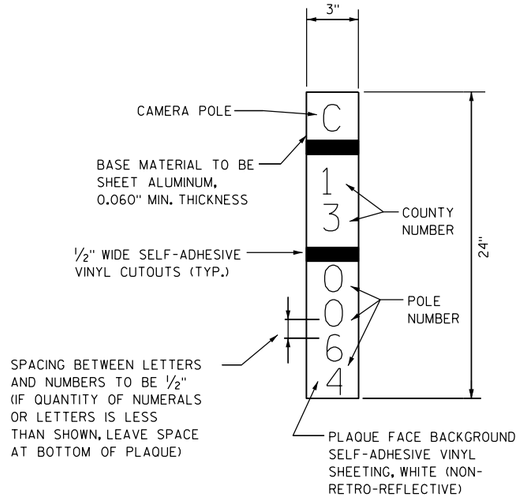
ALL LOOP DETECTORS STATIONED TO CENTER OF LEADING EDGE AS APPROACHED BY NORMAL VEHICLE PATH.

HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.

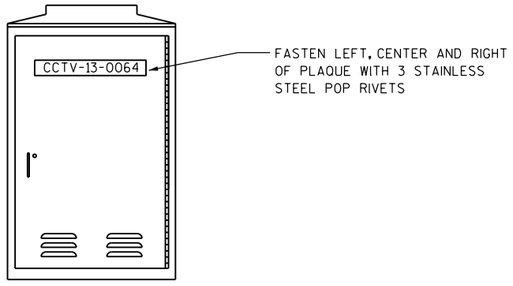
VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.



CONTROL CABINET IDENTIFICATION PLAQUE DETAIL



POLE IDENTIFICATION PLAQUE DETAIL



CONTROL CABINET IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

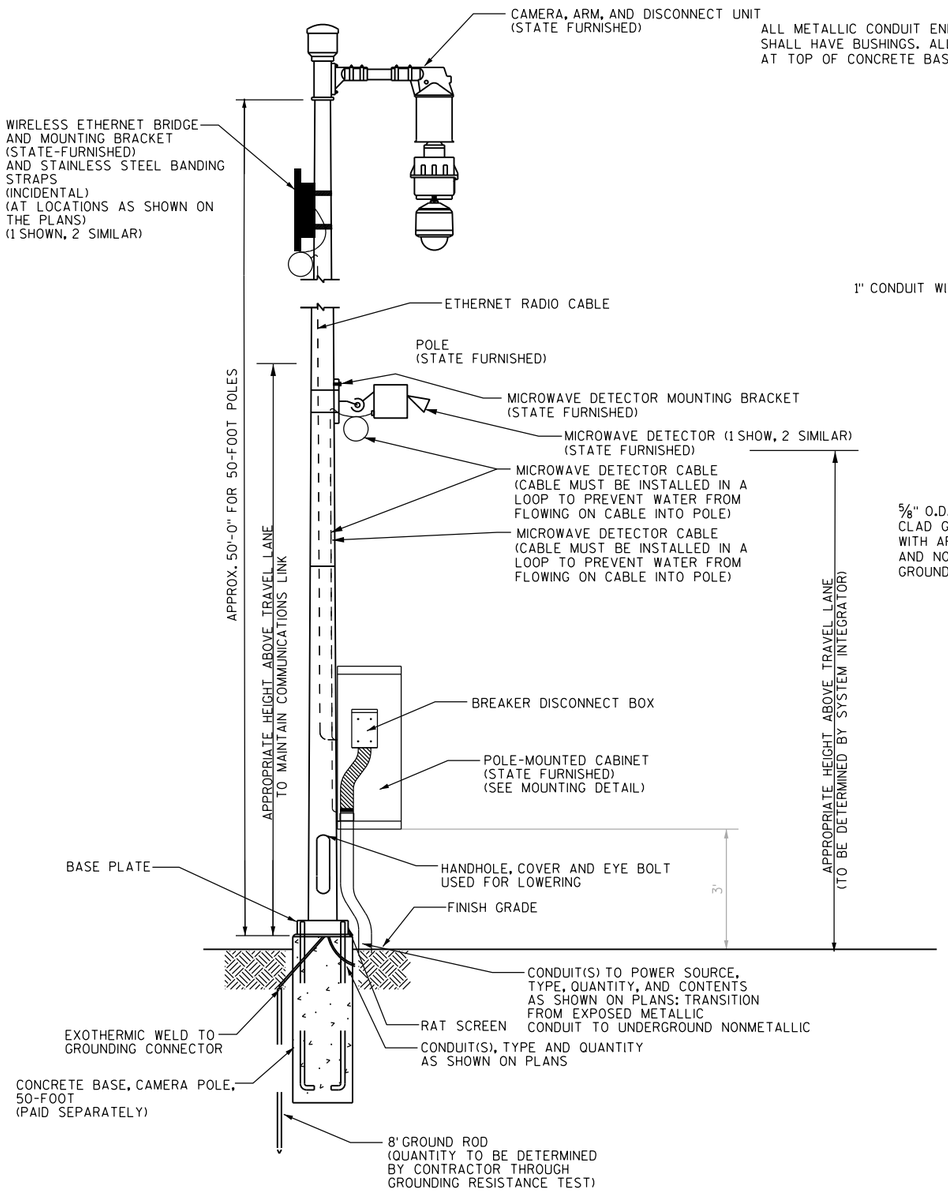
(TYPICAL ALL CONTROL CABINETS)

LEGEND STATION TYPE

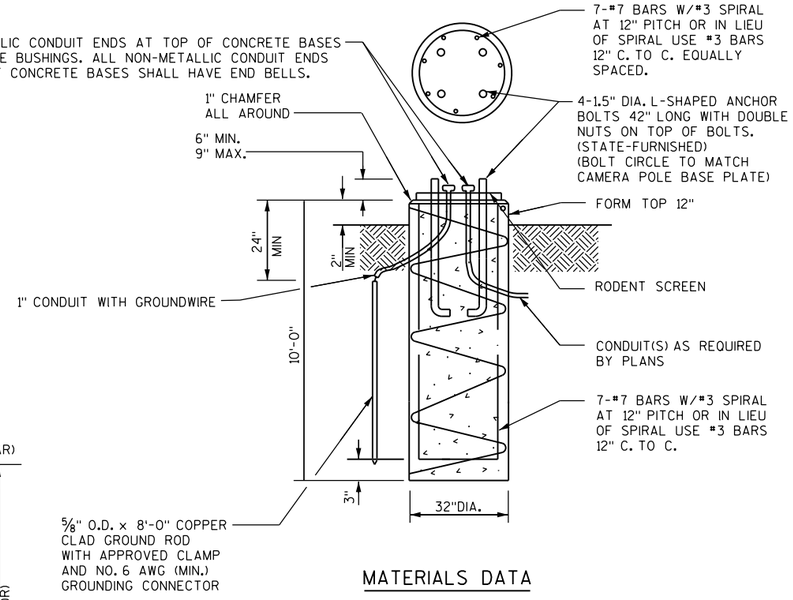
RM - RAMP METER
CCTV - CLOSED CIRCUIT TELEVISION
ATR - AUTOMATIC TRAFFIC RECORDER
SDS - SYSTEM DETECTOR STATION
MD - MICROWAVE DETECTOR

NOTES

1) TWO PLAQUES PER CABINET REQUIRED ON CONTROL CABINET.
2) FASTEN ONE PLAQUE ON FRONT DOOR, UPPER HALF.
3) FASTEN ONE PLAQUE ON SIDE FACING LOCAL STREET. IF NO LOCAL STREET NEARBY, OR IF SUCH LOCATION COINCIDES WITH LOCATION OF PLAQUE IN NOTE 2, FASTEN PLAQUE ON REAR OF CABINET, UPPER HALF.
4) COUNTY NUMBER NOT REQUIRED ON RAMP METER CABINETS.



CAMERA POLE WITH CAMERA LOWERING HARDWARE

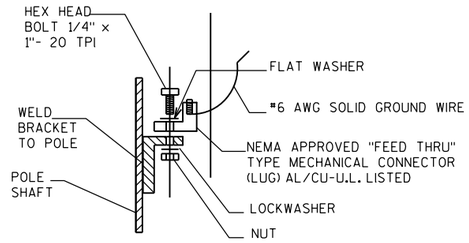


MATERIALS DATA

CONCRETE	f'c=3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60,000 psi

CONCRETE BASE, 50' CAMERA POLE

NOT TO SCALE



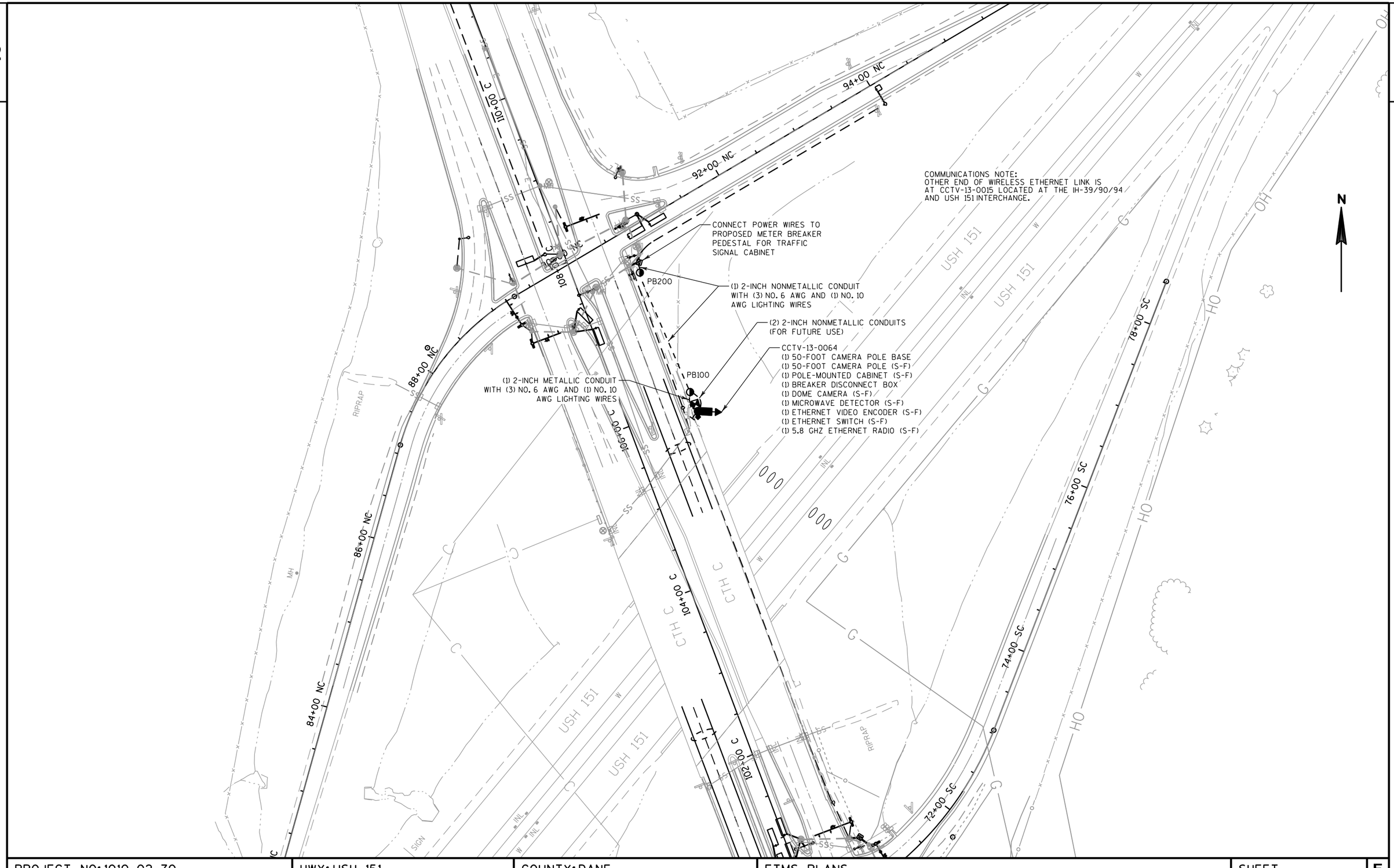
FIELD INSTALLED GROUNDING LUG

NOTES

1) ALL HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL
2) POLE DRAWINGS SHOWN FOR BIDDING INFORMATION PURPOSES ONLY. POLES WILL BE STATE FURNISHED. BASE TO BE CONTRACTOR DESIGNED.
3) CONTRACTOR SHALL CONFIRM BOLT PATTERN OF CAMERA POLE PRIOR TO CONSTRUCTION OF CONCRETE BASE.
4) CONTRACTOR SHALL INSTALL GROUNDING LUG AS SHOWN

CAMERA POLES & FOUNDATIONS

2



PROJECT NO: 1010-02-70	HWY: USH 151	COUNTY: DANE	FTMS PLANS	SHEET	E

FILE NAME : \\milw00\ingrproj\59271\10100270_CTH_C\cds\FM05_151C.dgn PLOT DATE : 1/10/2013 PLOT BY : pkutz PLOT NAME : PLOT SCALE : 100:1

NOTES:

INSTALLATION OF MONOTUBE STRUCTURES SB6 AND SB17 REQUIRES MEDIAN SIDE SINGLE THRU-LANE CLOSURES ON EB AND WB CTH C.

MAINTAIN MINIMUM LANE WIDTH OF 11' AT ALL TIMES.

SINGLE LANE CLOSURES ON CTH C AND USH 151 EXIT RAMP WIDTH REDUCTIONS FOR MONOTUBE INSTALLATIONS AND FOR LOOP DETECTOR INSTALLATIONS WILL BE PERMITTED BETWEEN 8 PM AND 3 PM THE FOLLOWING DAY. CLOSURES ARE ONLY PERMITTED FROM MONDAY MORNING THROUGH FRIDAY AFTERNOON, AND EXCLUDE PEAK AFTERNOON HOURS BETWEEN 3 PM AND 8PM, WHEN VOLUMES ON THE USH 151 RAMPS ARE EXPECTED TO CREATE SIGNIFICANT DELAYS. THE CONTRACTOR SHALL MINIMIZE LANE CLOSURE DURATION BY INSTALLING LOOP DETECTORS CONCURRENTLY WITH MONOTUBE INSTALLATION, WHEREVER POSSIBLE.

PLACE A PORTABLE CHANGEABLE MESSAGE SIGN ON USH 151 APPROXIMATELY 0.5 MILES FROM THE BEGINNING OF THE USH 151 EXIT RAMPS (NB AND SB DIRECTIONS) TO CTH C, AND ON CTH C 0.5 TO 1.0 MILE FROM THE INTERCHANGE (EB AND WB DIRECTIONS) TO WARN MOTORISTS OF POTENTIAL DELAYS AND ENCOURAGE ALTERNATE ROUTES DURING LANE CLOSURES AND REDUCTIONS.

PCMS
½ MILE
USH 151
ROAD WORK AHEAD
W20-1
NORTH 151
M3-1 24" X 12"
M1-4 24" X 24"
M6-2 21" X 21"
(MOUNTED ON TEMPORARY SIGN SUPPORT)
15D20
CONCRETE PANEL REPAIR
15D21
(DETAIL C)
85 SC
85 NC
LOOP INSTALLATION (INSTALL HALF OF LOOP WITHIN LANE CLOSURE)
INSTALL 2 OF 4 LOOP DETECTORS
INSTALL SB6
INSTALL LOOP DETECTOR
95 C
100 C
105 C
110 C
CTH C
APPROX. 1 MILE
APPROX. ½ MILE
INSTALL SB17
SOUTH 151
M3-3 24" X 12"
M1-4 24" X 24"
M6-2 21" X 21"
(MOUNTED ON TEMPORARY SIGN SUPPORT)
75 SC
95 NC
2½ MILE

LEGEND

- WORK ZONE FULL TIME CLOSURE FOR STAGE CONSTRUCTION
- TRAFFIC FLOW ARROWS
- TEMPORARY FIXED SIGN SUPPORT
- EXISTING TYPE II SIGN ON WOOD OR STEEL POST(S)
- INTERSTATE 39 — NEW SIGN
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

REFERENCED STANDARD DETAIL DRAWINGS

- 15D20 — TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
- 15D21 — TRAFFIC CONTROL, INTERSECTION WITH SINGLE LANE CLOSURE

PROJECT NO: 1010-02-70	HWY: IH 39	COUNTY: DANE	CONSTRUCTION STAGING - STAGE 1	SCALE, FEET 0 100 200	SHEET 22	E

NOTES:

INSTALLATION OF MONOTUBE STRUCTURES SB2, SB10, SB13, AND SB14 REQUIRES MEDIAN SIDE SINGLE THRU-LANE CLOSURES ON EB AND WB CTH C.

MAINTAIN MINIMUM LANE WIDTH OF 11' AT ALL TIMES.

SINGLE LANE CLOSURES ON CTH C AND USH 151 EXIT RAMP WIDTH REDUCTIONS FOR MONOTUBE INSTALLATIONS AND FOR LOOP DETECTOR INSTALLATIONS WILL BE PERMITTED BETWEEN 8 PM AND 3 PM THE FOLLOWING DAY. CLOSURES ARE ONLY PERMITTED FROM MONDAY MORNING THROUGH FRIDAY AFTERNOON, AND EXCLUDE PEAK AFTERNOON HOURS BETWEEN 3 PM AND 8PM, WHEN VOLUMES ON THE USH 151 RAMPS ARE EXPECTED TO CREATE SIGNIFICANT DELAYS. THE CONTRACTOR SHALL MINIMIZE LANE CLOSURE DURATION BY INSTALLING LOOP DETECTORS CONCURRENTLY WITH MONOTUBE INSTALLATION, WHEREVER POSSIBLE.

IF AN OUTSIDE LANE CLOSURE ON CTH C IS REQUIRED FOR INSTALLATION OF CCTV EQUIPMENT, THE CONTRACTOR SHALL COORDINATE THAT WORK WITH STAGE 2 WORK.

SIDEWALK CLOSURE ON THE EAST SIDE OF CTH C IS ONLY PERMITTED DURING MONOTUBE FOUNDATION INSTALLATION AND DURING ERECTION OF MONOTUBE SB10 AND CCTV EQUIPMENT. EACH CLOSURE NOT TO EXCEED SIX HOURS.

PLACE A PORTABLE CHANGEABLE MESSAGE SIGN ON USH 151 APPROXIMATELY 0.5 MILES FROM THE BEGINNING OF THE USH 151 EXIT RAMPS (NB AND SB DIRECTIONS) TO CTH C, AND ON CTH C 0.5 TO 1.0 MILE FROM THE INTERCHANGE (EB AND WB DIRECTIONS) TO WARN MOTORISTS OF POTENTIAL DELAYS AND ENCOURAGE ALTERNATE ROUTES DURING LANE CLOSURES AND REDUCTIONS.

ROAD WORK AHEAD W20-1

½ MILE

PCMS

USH 151

65 SC

85 NC

15D20

LOOP INSTALLATION (INSTALL HALF OF LOOP WITHIN LANE CLOSURE)

INSTALL 2 OF 4 LOOP DETECTORS

LOOP INSTALLATION (INSTALL HALF OF LOOP WITHIN LANE CLOSURE)

SIDEWALK CLOSED R9-9 24" X 12" (PLACE SIGN ON NE CORNER OF CTH C AND O'KEEFE AVE)

INSTALL LOOP DETECTOR

INSTALL SB14

INSTALL SB13

15D21 (DETAIL D)

APPROX. ½ MILE

95 C

100 C

105 C

110 C

CTH C

APPROX. 1 MILE

INSTALL SB10

INSTALL SB2

INSTALL CCTV EQUIPMENT

SIDEWALK CLOSED R9-9 24" X 12"

75 SC

95 NC

110 NC

2½ MILE

LEGEND

- WORK ZONE FULL TIME CLOSURE FOR STAGE CONSTRUCTION
- TRAFFIC FLOW ARROWS
- TYPE II BARRICADE WITH SIGN AND ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING
- TEMPORARY FIXED SIGN SUPPORT
- EXISTING TYPE II SIGN ON WOOD OR STEEL POST(S)
- INTERSTATE 39 — NEW SIGN
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

REFERENCED STANDARD DETAIL DRAWINGS

- 15D20 — TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
- 15D21 — TRAFFIC CONTROL, INTERSECTION WITH SINGLE LANE CLOSURE

PROJECT NO: 1010-02-70	HWY: IH 39	COUNTY: DANE	CONSTRUCTION STAGING - STAGE 2	SCALE, FEET 0 100 200	SHEET 23	E

FILE NAME : N:\410647\DGN\1010-02-70 CTH C\1010-02-70_026002_s_C.dgn PLOT BY : dm253 PLOT DATE : 2/1/2013 PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42

NOTES:

MAINTAIN MINIMUM LANE WIDTH OF 11' AT ALL TIMES.

LOOP DETECTORS FOR SB CTH C LEFT TURN LANE TO NB USH 151 WILL BE INSTALLED 2 LOOPS AT A TIME, KEEPING ONE TURN LANE OPEN AT ALL TIMES FOR LEFT TURNING VEHICLES. THE NB CTH C TO NB USH 151 CHANNELIZED RIGHT TURN BAY WILL BE CLOSED FOR CONCRETE PANEL REPAIR. RIGHT TURNS WILL BE PERMITTED FROM THE RIGHT THROUGH LANE. LANE CLOSURES WILL BE PERMITTED BETWEEN 8PM AND 3PM THE FOLLOWING DAY. CLOSURES ARE ONLY PERMITTED FROM MONDAY MORNING THROUGH FRIDAY AFTERNOON, AND EXCLUDE PEAK HOURS BETWEEN 3PM AND 8PM.

LOOP DETECTORS ON THE USH 151 SB OFF-RAMP AND THE CTH C NB LEFT TURN LANE SHALL BE CONSTRUCTED DURING THE SAME ONE-NIGHT CLOSURE (8PM TO 6AM). NO DETOUR ROUTE WILL BE SIGNED FOR THE RESTRICTED MOVEMENTS.

PLACE A PORTABLE CHANGEABLE MESSAGE SIGN ON USH 151 APPROXIMATELY 0.5 MILES FROM THE BEGINNING OF THE USH 151 EXIT RAMPS (NB AND SB DIRECTIONS) TO CTH C, AND ON CTH C 0.5 TO 1.0 MILE FROM THE INTERCHANGE (EB AND WB DIRECTIONS) TO WARN MOTORISTS OF POTENTIAL DELAYS AND ENCOURAGE ALTERNATE ROUTES DURING LANE CLOSURES AND REDUCTIONS.

PCMS
½ MILE
USH 151
ROAD WORK AHEAD W20-1
65 SC
85 NC
INSTALL LOOP DETECTORS
15D20
INSTALL 4 LOOP DETECTORS. CLOSE ONE LANE AT A TIME
APPROX. ½ MILE
95 C
100 C
105 C
110 C
CTH C
APPROX. 1 MILE
CONCRETE PANEL REPAIR
R3-60R 30" X 36"
R3-2 24" X 24"
15 SC
95 NC
½ MILE

LEGEND

- WORK ZONE FULL TIME CLOSURE FOR STAGE CONSTRUCTION
- TRAFFIC FLOW ARROWS
- TEMPORARY FIXED SIGN SUPPORT
- EXISTING TYPE II SIGN ON WOOD OR STEEL POST(S)
- INTERSTATE 39 — NEW SIGN
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

REFERENCED STANDARD DETAIL DRAWINGS

- 15D20 — TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
- 15D21 — TRAFFIC CONTROL, INTERSECTION WITH SINGLE LANE CLOSURE

PROJECT NO: 1010-02-70	HWY: IH 39	COUNTY: DANE	CONSTRUCTION STAGING - STAGE 3 (LEFT TURN LANES)	SCALE, FEET 0 100 200	SHEET 24	E

CURVE SC-1
PC = 61+89.55 SC
X = 851781.987
Y = 513692.755
PI = 64+25.88 SC
X = 851946.395
Y = 513862.516
PT = 66+59.40 SC
X = 852149.708
Y = 513982.984
R = 1762.95'
Delta = 15°16'12" RT
D = 3°15'00"
L = 469.85'
T = 236.32'
BK = N 44°04'56" E
AH = N 59°21'08" E

CURVE NC-1
PC = 87+10.24 NC
X = 851970.673
Y = 514697.060
PI = 88+25.29 NC
X = 852001.649
Y = 514807.864
PT = 89+29.05 NC
X = 852100.659
Y = 514866.465
R = 286.48'
Delta = 43°45'42" RT
D = 20°00'00"
L = 218.81'
T = 115.05'
BK = N 15°37'06" E
AH = N 59°22'48" E

Y= 513,601.22
X= 851,693.33

N44°04'56"E

CURVE SC-1

65 SC

Y= 514,138.97
X= 851,814.66

N15°37'06"E 85 NC

CURVE NC-1

SB USH 151

NB USH 151

N59°21'08"E

Y= 515,460.98
X= 851,951.38

CTH C

95 C

100 C

105 C

110 C

N20°38'29"W

40 SC

90 NC

CTH C

Y= 513,545.78
X= 852,672.83

STA. 100+00 C =
STA. 70+00 SC

STA. 107+97.17 C =
STA. 90+00 NC

CURVE SC-2

75 SC

N21°01'37"E

N59°22'48"E

95 NC

Y 514,883.54
X 852,843.82

Y= 515,277.67
X= 852,795.42

CURVE SC-2
PC = 70+52.54 SC
X = 852487.936
Y = 514183.393
PI = 71+83.10 SC
X = 852600.261
Y = 514249.948
PT = 73+03.86 SC
X = 852647.107
Y = 514371.816
R = 375.71'
Delta = 38°19'31" LT
D = 15°15'00"
L = 251.31'
T = 130.56'
BK = N 59°21'08" E
AH = N 21°01'37" E

PROJECT NO: 1010-02-70	HWY: CTH C	COUNTY: DANE	ALIGNMENT DIAGRAM	SHEET	E

FILE NAME : N:\410647\DGN\1010-02-70 CTH C\1010-02-70_027201_ad.dgn PLOT BY : dm253 PLOT DATE : 2/1/2013 PLOT SCALE : 1:200

DATE 01MAY13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1010-02-70 QUANTITY
0010	204.0150	REMOVING CURB & GUTTER	LF	440.000	440.000
0020	204.0155	REMOVING CONCRETE SIDEWALK	SY	8.000	8.000
0030	416.0610	DRILLED TIE BARS	EACH	400.000	400.000
0040	416.0620	DRILLED DOWEL BARS	EACH	460.000	460.000
0050	416.1715	CONCRETE PAVEMENT REPAIR SHES	SY	300.000	300.000
0060	416.1725	CONCRETE PAVEMENT REPLACEMENT SHES	SY	650.000	650.000
0070	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	440.000	440.000
0080	602.0410	CONCRETE SIDEWALK 5-INCH	SF	100.000	100.000
0090	619.1000	MOBILIZATION	EACH	1.000	1.000
0100	625.0500	SALVAGED TOPSOIL	SY	1,750.000	1,750.000
0110	628.1504	SILT FENCE	LF	1,235.000	1,235.000
0120	628.1520	SILT FENCE MAINTENANCE	LF	1,235.000	1,235.000
0130	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0140	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0150	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	1,750.000	1,750.000
0160	628.7015	INLET PROTECTION TYPE C	EACH	6.000	6.000
0170	629.0205	FERTILIZER TYPE A	CWT	2.000	2.000
0180	630.0140	SEEDING MIXTURE NO. 40	LB	36.000	36.000
0190	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	2.000	2.000
0200	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	8.000	8.000
0210	637.0202	SIGNS REFLECTIVE TYPE II	SF	79.760	79.760
0220	637.0402	SIGNS REFLECTIVE FOLDING TYPE II	SF	31.080	31.080
0230	637.0620	SIGN FLAGS PERMANENT TYPE II	EACH	16.000	16.000
0240	638.2102	MOVING SIGNS TYPE II	EACH	2.000	2.000
0250	638.2602	REMOVING SIGNS TYPE II	EACH	6.000	6.000
0260	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	6.000	6.000
0270	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0280	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1010-02-70	EACH	1.000	1.000
0290	643.0300	TRAFFIC CONTROL DRUMS	DAY	3,600.000	3,600.000
0300	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	55.000	55.000
0310	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	280.000	280.000
0320	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	720.000	720.000
0330	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	155.000	155.000
0340	643.0900	TRAFFIC CONTROL SIGNS	DAY	1,360.000	1,360.000
0350	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	135.000	135.000
0360	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	740.000	740.000
0370	646.0136	PAVEMENT MARKING EPOXY 12-INCH	LF	130.000	130.000
0380	646.0600	REMOVING PAVEMENT MARKINGS	LF	60.000	60.000
0390	647.0176	PAVEMENT MARKING ARROWS EPOXY TYPE 3	EACH	2.000	2.000
0400	647.0456	PAVEMENT MARKING CURB EPOXY	LF	110.000	110.000
0410	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	220.000	220.000
0420	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 1010-02-70	LS	1.000	1.000
0430	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1010-02-70	LS	1.000	1.000
0440	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	10.000	10.000
0450	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	2,488.000	2,488.000
0460	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	144.000	144.000
0470	652.0410	CONDUIT REINFORCED THERMOSETTING RESIN 3-INCH	LF	312.000	312.000
0480	652.0800	CONDUIT LOOP DETECTOR	LF	1,782.000	1,782.000
0490	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	8.000	8.000
0500	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	6.000	6.000

3

DATE 01MAY13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1010-02-70 QUANTITY
0510	654.0101	CONCRETE BASES TYPE 1	EACH	13.000	13.000
0520	654.0102	CONCRETE BASES TYPE 2	EACH	1.000	1.000
0530	654.0105	CONCRETE BASES TYPE 5	EACH	5.000	5.000
0540	654.0113	CONCRETE BASES TYPE 13	EACH	6.000	6.000
0550	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	2.000	2.000
0560	655.0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	1,615.000	1,615.000
0570	655.0240	CABLE TRAFFIC SIGNAL 7-14 AWG	LF	710.000	710.000
0580	655.0250	CABLE TRAFFIC SIGNAL 9-14 AWG	LF	1,392.000	1,392.000
0590	655.0305	CABLE TYPE UF 2-12 AWG GROUNDED	LF	1,388.000	1,388.000
0600	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	4,164.000	4,164.000
0610	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	2,138.000	2,138.000
0620	655.0615	ELECTRICAL WIRE LIGHTING 10 AWG	LF	210.000	210.000
0630	655.0625	ELECTRICAL WIRE LIGHTING 6 AWG	LF	630.000	630.000
0640	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	4,983.000	4,983.000
0650	655.0800	LOOP DETECTOR WIRE	LF	4,146.000	4,146.000
0660	656.0500	ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 01. CCTV-13-0064	LS	1.000	1.000
0670	657.0100	PEDESTAL BASES	EACH	13.000	13.000
0680	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	1.000	1.000
0690	657.0310	POLES TYPE 3	EACH	1.000	1.000
0700	657.0322	POLES TYPE 5-ALUMINUM	EACH	5.000	5.000
0710	657.0420	TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	EACH	2.000	2.000
0720	657.0425	TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	EACH	7.000	7.000
0730	657.0430	TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	EACH	4.000	4.000
0740	657.0610	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT	EACH	4.000	4.000
0750	657.0709	LUMINAIRE ARMS TRUSS TYPE 4-INCH CLAMP 12-FT	EACH	4.000	4.000
0760	657.1355	INSTALL POLES TYPE 12	EACH	4.000	4.000
0770	657.1360	INSTALL POLES TYPE 13	EACH	2.000	2.000
0780	657.1535	INSTALL MONOTUBE ARMS 35-FT	EACH	3.000	3.000
0790	657.1540	INSTALL MONOTUBE ARMS 40-FT	EACH	2.000	2.000
0800	657.1545	INSTALL MONOTUBE ARMS 45-FT	EACH	1.000	1.000
0810	657.1808	INSTALL LUMINAIRE ARMS STEEL 8-FT	EACH	2.000	2.000
0820	658.0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	18.000	18.000
0830	658.0115	TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	EACH	6.000	6.000
0840	658.0215	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	EACH	18.000	18.000
0850	658.0220	BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	EACH	6.000	6.000
0860	658.0416	PEDESTRIAN SIGNAL FACE 16-INCH	EACH	4.000	4.000
0870	658.0500	PEDESTRIAN PUSH BUTTONS	EACH	4.000	4.000
0880	658.0600	LED MODULES 12-INCH RED BALL	EACH	18.000	18.000
0890	658.0605	LED MODULES 12-INCH YELLOW BALL	EACH	18.000	18.000
0900	658.0610	LED MODULES 12-INCH GREEN BALL	EACH	18.000	18.000
0910	658.0615	LED MODULES 12-INCH RED ARROW	EACH	6.000	6.000
0920	658.0620	LED MODULES 12-INCH YELLOW ARROW	EACH	12.000	12.000
0930	658.0625	LED MODULES 12-INCH GREEN ARROW	EACH	6.000	6.000
0940	658.0635	LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	EACH	4.000	4.000
0950	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 01. USH 151 NB & CTH C	LS	1.000	1.000
0960	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 02. USH 151 SB & CTH C	LS	1.000	1.000

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DATE 01MAY13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1010-02-70 QUANTITY
0970	659.0125	LUMINAIRES UTILITY HPS 250 WATTS	EACH	10.000	10.000
0980	659.0802	PLAQUES SEQUENCE IDENTIFICATION	EACH	8.000	8.000
0990	670.0100	FIELD SYSTEM INTEGRATOR	LS	1.000	1.000
1000	670.0200	ITS DOCUMENTATION	LS	1.000	1.000
1010	672.0250	BASE CAMERA POLE 50-FT	EACH	1.000	1.000
1020	673.0225.S	INSTALL POLE MOUNTED CABINET	EACH	1.000	1.000
1030	674.0200	CABLE MICROWAVE DETECTOR	LF	257.000	257.000
1040	675.0300	INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	EACH	1.000	1.000
1050	675.0400.S	INSTALL ETHERNET SWITCH	EACH	1.000	1.000
1060	677.0100	INSTALL CAMERA POLE	EACH	1.000	1.000
1070	677.0200	INSTALL CAMERA ASSEMBLY	EACH	1.000	1.000
1080	677.0300.S	INSTALL VIDEO ENCODER	EACH	1.000	1.000
1090	678.0006	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT	LF	580.000	580.000
1100	678.0500	COMMUNICATION SYSTEM TESTING	LS	1.000	1.000
1110	690.0250	SAWING CONCRETE	LF	2,100.000	2,100.000
1120	SPV.0060	SPECIAL 01. INSTALL WIRELESS ETHERNET RADIO	EACH	1.000	1.000

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CONCRETE PAVEMENT, DOWELS, AND TIES

STA	TO	STA	ALIGN	LOCATION	STAGE	CONCRETE PAVEMENT REPAIR SHES 416.1715 SY	CONCRETE PAVEMENT REPLACEMENT SHES 416.1725 SY	DRILLED TIE BARS 416.0610 EACH	DRILLED DOWEL BARS 416.0620 EACH
95+81		95+93	C LINE	RT	1	20	--	--	22
95+81		95+93	C LINE	RT	2	20	--	--	22
99+52		99+84	C LINE	RT	3	--	50	22	22
99+70		99+82	C LINE	RT	1	21	--	--	24
99+70		99+82	C LINE	RT	2	21	--	--	24
100+50		102+00	C LINE	LT (CC&G)	2	--	--	59	--
100+56		101+25	C LINE	LT	3	--	95	27	19
100+63		101+25	C LINE	LT&RT	3	--	84	44	25
106+95		107+50	C LINE	LT&RT	3	--	91	41	24
107+66		107+78	C LINE	RT	1	14	--	--	11
108+12		108+24	C LINE	LT	1	21	--	--	24
108+12		108+24	C LINE	LT	2	21	--	--	24
112+00		112+12	C LINE	LT	1	19	--	--	20
112+00		112+12	C LINE	LT	2	19	--	--	20
65+92		66+04	SC LINE	LT	1	18	--	--	20
65+92		66+04	SC LINE	LT & RT	2	15	--	--	18
66+14		66+29	SC LINE	LT	1	25	--	--	22
68+81		69+37	SC LINE	LT	1	--	75	18	16
68+81		69+37	SC LINE	LT	2	--	75	44	16
69+70		70+25	SC LINE	RT (CC&G)	1	--	--	27	--
70+55		70+70	SC LINE	RT (CC&G)	2	--	--	8	--
70+75		70+85	SC LINE	LT (CC&G)	2	--	--	8	--
89+95		90+20	NC LINE	RT (CC&G)	3	--	--	9	--
90+10		90+25	NC LINE	LT (CC&G)	3	--	--	8	--
90+55		90+65	NC LINE	LT (CC&G)	3	--	--	7	--
90+73		91+27	NC LINE	RT	3	--	93	42	22
94+01		94+13	NC LINE	RT	1	19	--	--	20
UNDISTRIBUTED						45	87	36	45
TOTALS						300	650	400	460

SIDEWALK ITEMS

STA	ALIGN	LOCATION	REMOVING CONCRETE SIDEWALK 204.0155 SY	CONCRETE SIDEWALK 5-INCH 602.0410 SF
69+30	SC LINE	RT	--	7
70+61	SC LINE	RT	--	7
70+75	SC LINE	RT (3'X3')	1	7
89+35	NC LINE	LT	--	7
90+04	NC LINE	RT	--	7
90+67	NC LINE	LT (3'X3')	1	7
90+76	NC LINE	LT	--	7
UNDISTRIBUTED			6	51
TOTALS			8	100

SAWING CONCRETE

STA	TO	STA	ALIGN	LOCATION	STAGE	690.0250 LF
95+81		95+93	C LINE	RT	1	54
95+81		95+93	C LINE	RT	2	42
99+52		99+84	C LINE	RT	3	88
99+70		99+82	C LINE	RT	1	54
99+70		99+82	C LINE	RT	2	42
100+50		102+00	C LINE	LT (CC&G)	2	155
100+56		101+25	C LINE	LT	3	97
100+63		101+25	C LINE	LT&RT	3	147
100+75		100+90	C LINE	RT (CC&G)	1	20
106+95		107+50	C LINE	LT&RT	3	142
107+66		107+79	C LINE	RT	1	38
108+12		108+24	C LINE	LT	1	56
108+12		108+24	C LINE	LT	2	44
112+00		112+12	C LINE	LT	1	53
112+00		112+12	C LINE	LT	2	41
65+92		66+04	SC LINE	LT	1	47
65+92		66+04	SC LINE	LT & RT	2	35
66+14		66+29	SC LINE	LT & RT	1	60
68+81		69+37	SC LINE	LT	1	136
68+81		69+37	SC LINE	LT	2	80
69+70		70+25	SC LINE	RT (CC&G)	1	75
70+55		70+70	SC LINE	RT (CC&G)	2	25
70+75			SC LINE	RT (3'X3')	N/A	12
70+75		70+85	SC LINE	LT (CC&G)	2	25
89+95		90+20	NC LINE	RT (CC&G)	3	25
90+10		90+25	NC LINE	LT (CC&G)	3	18
90+55		90+65	NC LINE	RT (CC&G)	3	23
90+67			NC LINE	LT (3'X3')	N/A	12
90+73		91+27	NC LINE	RT	3	138
94+01		94+13	NC LINE	RT	1	52
UNDISTRIBUTED						264
TOTAL						2100

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ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

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CURB & GUTTER

STA	TO	STA	ALIGN	LOCATION	REMOVING CURB & GUTTER 201.015 LF	CONCRETE CURB & GUTTER 30-INCH TYPE A 601.0409 LF
100+50		102+00	C LINE	LT	150	150
100+75		100+90	C LINE	RT	15	15
69+05		69+15	SC LINE	LT	10	10
69+70		70+25	SC LINE	RT	65	65
70+55		70+70	SC LINE	RT	20	20
70+75		70+85	SC LINE	LT	20	20
89+95		90+20	SC LINE	RT	25	25
90+10		90+25	NC LINE	LT	20	20
90+55		90+65	NC LINE	RT	15	15
UNDISTRIBUTED					100	100
TOTALS					440	440

INLET PROTECTION TYPE C

LOCATION	628.7015 EACH
PROJECT WIDE	6
TOTAL	6

EROSION CONTROL ITEMS

LOCATION	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	EROSION MAT URBAN CLASS I TYPE A 628.2006 SY	SALVAGED TOPSOIL 625.0500 SY	SEEDING MIXTURE NO. 40 630.0140 LB	FERTILIZER TYPE A 629.0205 CWT
USH 151/CTH C NB RAMP TERMINAL INTERSECTION (NE QUADRANT)	45	45	170	170	3	0.2
USH 151/CTH C NB RAMP TERMINAL INTERSECTION (NW QUADRANT)	520	520	340	340	6	0.3
USH 151/CTH C NB RAMP TERMINAL INTERSECTION (SE QUADRANT)	0	0	45	45	1	0.1
USH 151/CTH C NB RAMP TERMINAL INTERSECTION (SW QUADRANT)	45	45	10	10	1	0.1
USH 151/CTH C NB RAMP TERMINAL INTERSECTION (N MEDIAN)	0	0	15	15	1	0.1
USH 151/CTH C NB RAMP TERMINAL INTERSECTION (S MEDIAN)	0	0	280	280	5	0.2
USH 151/CTH C SB RAMP TERMINAL INTERSECTION (NE QUADRANT)	35	35	7	7	1	0.1
USH 151/CTH C SB RAMP TERMINAL INTERSECTION (NW QUADRANT)	60	60	25	25	1	0.1
USH 151/CTH C SB RAMP TERMINAL INTERSECTION (SE QUADRANT)	370	370	340	340	6	0.3
USH 151/CTH C SB RAMP TERMINAL INTERSECTION (SW QUADRANT)	50	50	45	45	1	0.1
USH 151/CTH C SB RAMP TERMINAL INTERSECTION (N MEDIAN)	0	0	310	310	6	0.2
USH 151/CTH C SB RAMP TERMINAL INTERSECTION (S MEDIAN)	0	0	7	7	1	0.1
UNDISTRIBUTED	110	110	156	156	3	0.1
TOTALS	1235	1235	1750	1750	36	2.0

TRAFFIC CONTROL ITEMS

STAGE	SERVICE PERIOD DAYS	TRAFFIC CONTROL DRUMS 643.0300 NO. IN SERVICE EACH	TRAFFIC CONTROL DRUMS 643.0300 PAY QUANTITY DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 NO. IN SERVICE EACH	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 PAY QUANTITY DAYS	TRAFFIC CONTROL BARRICADES TYPE II 643.0410 NO. IN SERVICE EACH	TRAFFIC CONTROL BARRICADES TYPE II 643.0410 PAY QUANTITY DAYS	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 NO. IN SERVICE EACH	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 PAY QUANTITY DAYS	TRAFFIC CONTROL SIGNS 643.0900 NO. IN SERVICE EACH	TRAFFIC CONTROL SIGNS 643.0900 PAY QUANTITY DAYS	TRAFFIC CONTROL ARROW BOARDS 643.0800 NO. IN SERVICE EACH	TRAFFIC CONTROL ARROW BOARDS 643.0800 PAY QUANTITY DAYS	TRAFFIC CONTROL SIGNS PCMS 643.1050 NO. IN SERVICE EACH	TRAFFIC CONTROL SIGNS PCMS 643.1050 PAY QUANTITY DAYS
STAGE 1	12	125	1,500	24	288	--	--	8	96	46	552	5	60	4	48
STAGE 2	12	125	1,500	24	288	4	48	12	144	46	552	5	60	4	48
STAGE 3	6	50	300	12	72	--	--	2	12	22	132	3	18	4	24
UNDISTRIBUTED			300		72		7		28		124		17		15
TOTALS			3,600		720		55		280		1,360		155		135

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

SIGNS AND POSTS

SIGN NUMBER	STA	ALIGN	LOCATION	SIGN TYPE	SIZE (INCHES)	POSTS WOOD 4x6 INCH x 14-FT 634.0614 EACH	POSTS WOOD 4x6 INCH x 16-FT 634.0616 EACH	SIGNS REFLECTIVE TYPE II 637.0202 SF	SIGNS REFLECTIVE FOLDING TYPE II 637.0402 SF	SIGN FLAGS PERMANENT TYPE II 637.0620 EACH	MOVING SIGNS TYPE II 638.2102 EACH	REMOVING SIGNS TYPE II 638.2602 EACH	REMOVING SMALL SIGN SUPPORTS 638.3000 EACH	NOTES
1-1	N/A	C LINE	SOUTH OF INTERCHANGE, NB ROADWAY, LT	W3-3	36X36	--	1	9.00	--	2	--	--	--	
1-2	N/A	C LINE	SOUTH OF INTERCHANGE, NB ROADWAY, RT	W3-3	36X36	--	1	9.00	--	2	--	--	--	
1-3	N/A	C LINE	NORTH OF INTERCHANGE, SB ROADWAY, LT	W3-3	36X36	--	1	9.00	--	2	--	--	--	
1-4	N/A	C LINE	NORTH OF INTERCHANGE, SB ROADWAY, RT	W3-3	36X36	--	1	9.00	--	2	--	--	--	
1-5	64+50	SC LINE	LT	W3-3	36X36	--	1	9.00	--	2	--	--	--	
1-6	64+50	SC LINE	RT	W3-3	36X36	--	1	9.00	--	2	--	--	--	
1-7	69+00	SC LINE	RT	R1-2	36X31	1	--	3.88	--	--	--	--	--	
	69+10	SC LINE	RT	R1-1	--	--	--	--	--	--	--	1	1	
1-8	69+30	SC LINE	RT	R1-1F	30X30	--	--	--	5.18	--	--	--	--	MOUNT ON NEW SIGNAL POST
	69+30	SC LINE	LT	R1-1	--	--	--	--	--	--	--	1	1	
	69+30	SC LINE	RT	R1-1	--	--	--	--	--	--	--	1	1	
1-9	90+80	NC LINE	LT	R1-1F	30X30	--	--	--	5.18	--	--	--	--	MOUNT ON NEW SIGNAL POST
	90+80	NC LINE	LT	R1-1	--	--	--	--	--	--	--	1	1	
	90+80	NC LINE	RT	R1-1	--	--	--	--	--	--	--	1	1	
1-10	91+00	NC LINE	LT	R1-2	36X31	1	--	3.88	--	--	--	--	--	
	91+00	NC LINE	LT	R1-1	--	--	--	--	--	--	--	1	1	
1-11	95+00	NC LINE	LT	W3-3	36X36	--	1	9.00	--	2	--	--	--	
1-12	95+00	NC LINE	RT	W3-3	36X36	--	1	9.00	--	2	--	--	--	
1-13	100+35	C LINE	LT	R1-1F	30X30	--	--	--	5.18	--	--	--	--	MOUNT ON NEW SIGNAL POST
1-14	99+95	C LINE	RT	R1-1F	30X30	--	--	--	5.18	--	--	--	--	MOUNT ON NEW SIGNAL POST
1-15	108+10	C LINE	LT	R1-1F	30X30	--	--	--	5.18	--	--	--	--	MOUNT ON NEW SIGNAL POST
1-16	107+65	C LINE	RT	R1-1F	30X30	--	--	--	5.18	--	--	--	--	MOUNT ON NEW SIGNAL POST
1-17	90+80	NC LINE	RT	R6-3	--	--	--	--	--	--	1	--	--	MOUNT ON NEW SIGNAL POST
1-18	69+30	SC LINE	RT	R6-3	--	--	--	--	--	--	1	--	--	MOUNT ON NEW SIGNAL POST
TOTALS						2	8	79.76	31.08	16	2	6	6	

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

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STAKING ITEMS

LOCATION	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (1010-02-70) 650.8500.01 LS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (1010-02-70) 650.9910.01 LS
PROJECT WIDE TOTAL	1	1
TOTALS	1	1

PAVEMENT MARKING

STA	TO	STA	ALIGN	LOCATION	COLOR	PAVEMENT MARKING EPOXY 4-INCH 646.0106 LF	PAVEMENT MARKING EPOXY 12-INCH 646.0136 LF	PAVEMENT MARKING STOP LINE EPOXY 18-INCH 647.0566 LF	PAVEMENT MARKING ARROWS EPOXY TYPE 3 647.0176 EACH	PAVEMENT MARKING CURB EPOXY 647.0456 LF	REMOVING PAVEMENT MARKINGS 646.0600 LF
95+76		95+98	C LINE	RT	YELLOW	22	--	--	--	--	--
95+76		95+98	C LINE	RT	WHITE	13	--	--	--	--	--
95+76		95+98	C LINE	RT	WHITE	22	--	--	--	--	--
99+47		99+88	C LINE	RT	YELLOW	40	--	--	--	--	--
99+47		99+88	C LINE	RT	WHITE	38	--	--	--	--	--
99+65		99+87	C LINE	RT	YELLOW	22	--	--	--	--	--
99+65		99+87	C LINE	RT	WHITE	13	--	--	--	--	--
99+65		99+87	C LINE	RT	WHITE	22	--	--	--	--	--
99+87			C LINE	RT	WHITE	--	15	32	--	--	--
100+36			C LINE	RT	WHITE	--	--	32	--	--	--
100+61		101+30	C LINE	LT & RT	WHITE	56	36	35	--	--	--
100+75		100+90	C LINE	RT	YELLOW	--	--	--	--	15	--
107+45			C LINE	LT & RT	WHITE	--	--	28	--	--	--
107+62			C LINE	RT	WHITE	--	--	32	--	--	--
108+07		108+29	C LINE	LT	WHITE	22	--	--	--	--	--
108+07		108+29	C LINE	LT	WHITE	13	--	--	--	--	--
108+07		108+29	C LINE	LT	YELLOW	22	--	--	--	--	--
111+95		112+17	C LINE	LT	WHITE	13	--	--	--	--	--
111+95		112+17	C LINE	LT	YELLOW	22	--	--	--	--	--
65+87		66+09	SC LINE	LT	YELLOW	--	18	--	--	--	--
65+87		66+09	SC LINE	LT	YELLOW	22	--	--	--	--	--
65+87		66+09	SC LINE	RT	WHITE	22	--	--	--	--	--
66+09		66+34	SC LINE	LT	YELLOW	25	--	--	--	--	--
68+76		69+37	SC LINE	LT	YELLOW	57	36	--	--	--	--
68+76		69+37	SC LINE	LT	WHITE	57	--	--	1	--	--
69+07		69+25	SC LINE	RT		--	--	--	--	--	28
69+34			SC LINE	LT	WHITE	--	--	24	--	--	--
69+70		70+25	SC LINE	RT	YELLOW	--	--	--	--	65	--
90+10		90+25	NC LINE	LT	YELLOW	--	--	--	--	20	--
90+73			NC LINE	RT	WHITE	--	15	--	--	--	--
90+78			NC LINE	RT	WHITE	--	--	15	--	--	--
90+78		91+32	NC LINE	RT	WHITE	54	--	--	1	--	--
90+78		91+32	NC LINE	RT	YELLOW	54	--	--	--	--	--
90+89		91+00	NC LINE	LT		--	--	--	--	--	24
93+96		94+18	NC LINE	RT	WHITE	22	--	--	--	--	--
93+96		94+18	NC LINE	RT	YELLOW	22	--	--	--	--	--
UNDISTRIBUTED						67	10	22	--	10	8
TOTALS						740	130	220	2	110	60

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

		CONDUIT			
		652.0225	652.0235	652.0615	
		RIGID NONMETALLIC SCHEDULE 40 2-INCH	RIGID NONMETALLIC SCHEDULE 40 3-INCH	REINFORCED THERMOSETTING RESIN 3-INCH	
FROM	TO	LF	LF	LF	NOTES
USH 151 NB & CTH C					
CABINET S1362	EPB1	---	42	---	3 RUNS
CABINET S1362	EPB11	---	39	---	3 RUNS
EPB1	EPB2	---	---	---	EXISTING TO REMAIN
EPB2	EPB3	---	---	---	EXISTING TO REMAIN
EPB3	EPB4	---	---	---	EXISTING TO REMAIN
EPB4	PB5	---	---	---	EXISTING TO REMAIN
PB5	EPB6	---	---	---	EXISTING TO REMAIN
EPB6	EPB7	---	---	---	EXISTING TO REMAIN
EPB7	EPB8	---	---	---	EXISTING TO REMAIN
EPB8	EPB9	---	---	---	EXISTING TO REMAIN
EPB9	EPB10	---	---	---	EXISTING TO REMAIN
EPB10	EPB11	---	---	---	EXISTING TO REMAIN
EPB11	EPB1	---	---	---	EXISTING TO REMAIN
EPB1	SB1	8	---	---	---
EPB1	SB2	10	---	---	---
EPB2	LB1	61	---	---	---
EPB3	SB3	16	---	---	---
EPB3	SB4	11	---	---	---
EPB4	SB5	10	---	---	---
PB5	SB6	15	---	---	---
EPB6	LB2	15	---	---	---
EPB7	SB7	7	---	---	---
EPB8	SB8	8	---	---	---
EPB10	SB9	13	---	---	---
EPB11	SB10	20	---	---	---
EPB4	PB12	197	---	---	---
PB12	PB13	200	---	---	---
EPB8	PB14	30	---	---	---
PB14	PB15	21	---	---	---
PB15	PB16	396	---	---	---
EPB11	PB17	45	---	---	---
USH 151 NB & CTH C SUBTOTAL		1083	81	0	

QUANTITIES CONTINUED ON NEXT PAGE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

		CONDUIT			
		652.0225 RIGID NONMETALLIC SCHEDULE 40 2-INCH	652.0235 RIGID NONMETALLIC SCHEDULE 40 3-INCH	652.0615 REINFORCED THERMOSETTING RESIN 3-INCH	
FROM	TO	LF	LF	LF	NOTES
USH 151 SB & CTH C					
CABINET S1395	EPB18	---	36	---	3 RUNS
CABINET S1395	EPB27	---	27	---	3 RUNS
EPB18	EPB19	---	---	---	EXISTING TO REMAIN
EPB19	EPB20	---	---	---	EXISTING TO REMAIN
EPB20	EPB21	---	---	---	EXISTING TO REMAIN
EPB21	EPB22	---	---	---	EXISTING TO REMAIN
EPB22	EPB23	---	---	---	EXISTING TO REMAIN
EPB23	EPB24	---	---	---	EXISTING TO REMAIN
EPB23	EPB25	---	---	---	EXISTING TO REMAIN
EPB25	PB26	---	---	---	EXISTING TO REMAIN
EPB25	EPB32	---	---	---	EXISTING TO REMAIN
EPB25	EPB27	---	---	---	EXISTING TO REMAIN
EPB27	EPB18	---	---	---	EXISTING TO REMAIN
EPB18	PB28	174	---	---	---
PB17	PB28	---	---	312	ATTACH TO STRUCTURE
EPB22	EPB29	71	---	---	---
EPB23	PB30	18	---	---	---
PB30	PB31	386	---	---	---
EPB26	EPB32	56	---	---	---
EPB27	PB33	330	---	---	---
EPB18	SB11	11	---	---	---
EPB19	LB3	13	---	---	---
EPB20	SB12	8	---	---	---
EPB21	SB13	15	---	---	---
EPB21	SB14	14	---	---	---
EPB22	SB15	7	---	---	---
EPB23	SB16	18	---	---	---
EPB24	SB17	27	---	---	---
EPB25	SB18	8	---	---	---
EPB25	SB19	16	---	---	---
EPB27	SB20	7	---	---	---
EPB29	LB4	34	---	---	---
EPB32	LB5	7	---	---	---
USH 151 SB & CTH C SUBTOTAL		1220	63	312	
TOTAL		**2303**	**144**	**312**	

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

CONDUIT LOOP DETECTOR

LOOP NO.	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE LF
USH 151 NB & CTH C			
41	104	202	260
42	104	223	208
43	80	202	236
44	80	223	184
45	108	512	316
51	98	68	202
52	86	68	190
53	84	124	240
54	142	124	298
61	84	184	188
62	68	571	116
63	92	571	164
SUBTOTAL	1130	3072	2602
USH 151 SB & CTH C			
11	100	134	204
12	100	138	204
21	80	153	236
22	68	528	116
23	84	528	156
81	80	64	236
82	84	64	240
83	56	302	152
SUBTOTAL	652	1911	1544
TOTAL	**1782**	**4983**	**4146**

TRAFFIC SIGNAL FIBER OPTIC INTERCONNECT

FROM	TO	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT LF
CABINET S1362	EPB11	18
EPB11	PB17	51
PB17	PB28	315
PB28	EPB18	179
EPB18	CABINET S1395	17
TOTAL		**580**

PULL BOXES

PB NO.	STATION / OFFSET	653.0135 PULL BOXES STEEL 24X36-INCH EACH	653.0140 PULL BOXES STEEL 24x42-INCH EACH	NOTES
USH 151 & IH 39 NB OFF-RAMP				
EPB1	70+98 SC 39' RT	---	---	EXISTING
EPB2	70+39 SC 52' LT	---	---	EXISTING
EPB3	99+81 C 71' RT	---	---	EXISTING
EPB4	99+86 C 22' RT	---	---	EXISTING
PB5	99+66 C 19' LT	---	1	---
EPB6	99+32 C 84' LT	---	---	EXISTING
EPB7	69+26 SC 8' LT	---	---	EXISTING
EPB8	69+40 SC 38' RT	---	---	EXISTING
EPB9	100+50 C 22' LT	---	---	EXISTING
EPB10	100+92 C 17' RT	---	---	EXISTING
EPB11	100+72 C 69' RT	---	---	EXISTING
PB12	97+90 C 12' RT	1	---	---
PB13	96+00 C 12' RT	1	---	---
PB14	69+11 SC 35' LT	---	1	---
PB15	68+90 SC 35' LT	---	1	---
PB16	66+02 SC 39' LT	1	---	---
PB17	101+17 C 66' RT	1	---	---
SUBTOTAL		4	3	
USH 151 & IH 39 SB OFF-RAMP				
EPB18	107+71 C 65' RT	---	---	EXISTING
EPB19	107+62 C 21' RT	---	---	EXISTING
EPB20	107+23 C 21' LT	---	---	EXISTING
EPB21	107+41 C 66' LT	---	---	EXISTING
EPB22	107+99 C 66' LT	---	---	EXISTING
EPB23	108+12 C 4' LT	---	---	EXISTING
EPB24	108+64 C 10' RT	---	---	EXISTING
EPB25	90+83 NC 10' RT	---	---	EXISTING
PB26	90+97 NC 10' LT	---	1	---
EPB27	90+75 NC 32' LT	---	---	EXISTING
PB28	105+98 C 65' RT	---	1	---
EPB29	88+95 NC 64' RT	---	---	EXISTING
PB30	108+18 C 20' LT	---	1	---
PB31	111+93 C 20' LT	1	---	---
EPB32	91+07 NC 59' RT	---	---	EXISTING
PB33	94+04 NC 26' RT	1	---	---
SUBTOTAL		2	3	
TOTAL		**6**	**6**	

ADDITIONAL QUANTITIES WITH FTMS ITEMS

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

3

CONCRETE BASES

SB NO.	STATION / OFFSET	654.0101 TYPE 1 EACH	654.0102 TYPE 2 EACH	654.0105 TYPE 5 EACH	654.0113 TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
USH 151 NB & CTH C						
CABINET S1362	70+98 SC 51' LT	---	---	---	---	1
SB1	70+85 SC 44' LT	1	---	---	---	---
SB2	71+08 SC 34' LT	---	---	---	1	---
SB3	70+71 SC 19' RT	1	---	---	---	---
SB4	70+59 SC 22' RT	1	---	---	---	---
SB5	99+85 C 13' RT	1	---	---	---	---
SB6	99+52 C 19' LT	---	---	---	1	---
SB7	99+83 C 68' LT	1	---	---	---	---
SB8	100+34 C 67' LT	1	---	---	---	---
SB9	100+82 C 18' LT	---	1	---	---	---
SB10	100+89 C 78' RT	---	---	---	1	---
LB1	99+08 C 88' RT	---	---	1	---	---
LB2	68+98 SC 41' RT	---	---	1	---	---
SUBTOTAL		6	1	2	3	1
USH 151 SB & CTH C						
CABINET S1395	107+72 C 76' RT	---	---	---	---	1
SB11	107+61 C 65' RT	1	---	---	---	---
SB12	107+30 C 20' LT	1	---	---	---	---
SB13	107+27 C 69' LT	---	---	---	1	---
SB14	89+17 NC 32' RT	---	---	---	1	---
SB15	89+38 NC 19' LT	1	---	---	---	---
SB16	108+05 C 20' LT	1	---	---	---	---
SB17	108+38 C 13' RT	---	---	---	1	---
SB18	90+76 NC 6' LT	1	---	---	---	---
SB19	90+68 NC 8' LT	1	---	---	---	---
SB20	90+70 NC 30' RT	1	---	---	---	---
LB3	107+60 C 10' RT	---	---	1	---	---
LB4	108+68 C 105' LT	---	---	1	---	---
LB5	90+95 NC 65' LT	---	---	1	---	---
SUBTOTAL		7	0	3	3	1
TOTAL		**13**	**1**	**5**	**6**	**2**

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

CABLE TRAFFIC SIGNAL

FROM	TO	655.0230 5-14 AWG LF	655.0240 7-14 AWG LF	655.0250 9-14 AWG LF
USH 151 NB & CTH C				
CABINET S1362	SB1	36	---	---
SB1	FACE 97	10	---	---
CABINET S1362	SB2	---	---	27
SB2	FACE 11	52	---	---
SB2	FACE 12	39	---	---
CABINET S1362	SB3	169	---	---
SB3	FACE 96	10	---	---
CABINET S1362	SB4	---	---	164
SB4	FACE 1	20	---	---
SB4	FACE 8	20	---	---
CABINET S1362	SB5	---	218	---
SB5	FACE 7	20	---	---
CABINET S1362	SB6	---	---	274
SB6	FACE 5	52	---	---
SB6	FACE 6	39	---	---
CABINET S1362	SB7	255	---	---
SB7	FACE 10	20	---	---
CABINET S1362	SB8	203	---	---
SB8	FACE 4	20	---	---
CABINET S1362	SB9	---	87	---
SB9	FACE 9	20	---	---
CABINET S1362	SB10	---	---	37
SB11	FACE 2	46	---	---
SB11	FACE 3	60	---	---
USH 151 NB & CTH C SUBTOTAL		1091	305	502

CABLE TRAFFIC SIGNAL

FROM	TO	655.0230 5-14 AWG LF	655.0240 7-14 AWG LF	655.0250 9-14 AWG LF
USH 151 SB & CTH C				
CABINET S1395	SB11	---	27	---
SB11	FACE 13	20	---	---
CABINET S1395	SB12		138	---
SB12	FACE 18	20	---	---
CABINET S1395	SB13	---	---	199
SB13	FACE 20	39	---	---
SB13	FACE 21	51	---	---
CABINET S1395	SB14	---	---	198
SB14	FACE 23	40	---	---
SB14	FACE 24	34	---	---
CABINET S1395	SB15	---	---	254
SB15	FACE 17	20	---	---
SB15	FACE 19	20	---	---
CABINET S1395	SB16	---	170	---
SB6	FACE 16	48	---	---
CABINET S1395	SB17	---	---	239
SB17	FACE 14	54	---	---
SB17	FACE 15	42	---	---
CABINET S1395	SB18	---	70	---
SB18	FACE 22	20	---	---
CABINET S1395	SB19	76	---	---
SB18	FACE 99	10	---	---
CABINET S1395	SB20	20	---	---
SB20	FACE 98	10	---	---
USH 151 SB & CTH C SUBTOTAL		524	405	890
TOTAL		**1615**	**710**	**1392**

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

ELECTRICAL WIRE TRAFFIC SIGNALS

FROM	TO	655.0515 10 AWG (EQUIPMENT GROUNDING CONDUCTOR) LF	655.0515 10 AWG (GROUNDED CONDUCTOR) LF	655.0515 10 AWG (PULL BOX BONDING JUMPER) LF
USH1 151 NB & CTH C				
CABINET S1362	SB1	36	36	---
SB1	SB2	31	31	---
SB2	SB3	165	165	---
SB4	SB5	31	31	---
SB5	SB6	80	80	---
SB6	SB7	81	81	---
SB7	SB8	158	158	---
SB8	SB9	73	73	---
SB9	SB10	140	140	---
SB10	SB11	95	95	---
SB11	CABINET S1362	37	37	---
EPB1	SB1	---	---	23
EPB2	LB1	---	---	66
EPB3	SB4	---	---	16
EPB4	SB5	---	---	16
PB5	SB6	---	---	20
EPB6	LB2	---	---	20
EPB7	SB7	---	---	11
EPB8	SB8	---	---	13
EPB10	SB9	---	---	15
EPB11	SB10	---	---	25
USH 151 NB & CTH C SUBTOTAL		927	927	225

3

ELECTRICAL WIRE TRAFFIC SIGNALS

FROM	TO	655.0515 10 AWG (EQUIPMENT GROUNDING CONDUCTOR) LF	655.0515 10 AWG (GROUNDED CONDUCTOR) LF	655.0515 10 AWG (PULL BOX BONDING JUMPER) LF
USH1 151 SB & CTH C				
CABINET S1395	SB11	27	27	---
SB11	SB12	136	136	---
SB12	SB13	80	80	---
SB13	SB14	33	33	---
SB14	SB15	89	89	---
SB15	SB16	99	99	---
SB16	SB17	109	109	---
SB17	SB18	191	191	---
SB18	SB19	67	67	---
SB19	SB20	75	75	---
SB20	CABINET S1395	20	20	---
EPB18	SB11	---	---	16
EPB20	SB12	---	---	13
EPB21	SB13	---	---	20
EPB22	SB15	---	---	12
EPB23	SB16	---	---	23
EPB24	SB17	---	---	32
EPB25	SB18	---	---	14
EPB27	SB20	---	---	12
EPB19	LB3	---	---	18
EPB29	LB4	---	---	61
EPB32	LB5	---	---	12
USH 151 SB & CTH C SUBTOTAL		926	926	233

TOTAL **4164**

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

TRAFFIC POLES AND ARMS

SB NO.	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES STANDARD 11 1/2-INCH BOLT CIRCLE EACH	657.0310 POLES TYPE 3 EACH	657.1355 INSTALL POLES TYPE 12 EACH	657.1360 INSTALL POLES TYPE 13 EACH	657.1535 INSTALL MONOTUBE ARMS 35-FT EACH	657.1540 INSTALL MONOTUBE ARMS 40-FT EACH	657.1545 INSTALL MONOTUBE ARMS 45-FT EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	659.0802 PLAQUES SEQUENCE IDENTIFICATION EACH
USH 151 NB & CTH C												
SB1	1	---	---	---	---	---	---	---	---	---	1	---
SB2	---	---	---	---	1	1	---	---	---	---	---	1
SB3	1	---	---	---	---	---	---	---	---	---	1	---
SB4	1	---	---	---	---	---	---	---	---	1	---	---
SB5	1	---	---	---	---	---	---	---	---	1	---	---
SB6	---	---	---	1	---	--	1	---	---	---	---	1
SB7	1	---	---	---	---	---	---	---	1	---	---	---
SB8	1	---	---	---	---	---	---	---	---	1	---	---
SB9	---	1	1	---	---	---	---	---	---	---	---	---
SB10	---	---	---	1	---	---	---	1	---	---	---	1
SUBTOTAL	6	1	1	2	1	1	1	1	1	3	2	3
USH 151 SB & CTH C												
SB11	1	---	---	---	---	---	---	---	---	1	---	---
SB12	1	---	---	---	---	---	---	---	---	1	---	---
SB13	---	---	---	1	---	1	---	---	---	---	---	1
SB14	---	---	---	---	1	1	---	---	---	---	---	1
SB15	1	---	---	---	---	---	---	---	---	1	---	---
SB16	1	---	---	---	---	---	---	---	---	1	---	---
SB17	---	---	---	1	---	---	1	---	---	---	---	1
SB18	1	---	---	---	---	---	---	---	1	---	---	---
SB19	1	---	---	---	---	---	---	---	---	---	1	---
SB20	1	---	---	---	---	---	---	---	---	---	1	---
SUBTOTAL	7	0	0	2	1	2	1	0	1	4	2	3
TOTAL	**13**	**1**	**1**	**4**	**2**	**3**	**2**	**1**	**2**	**7**	**4**	**6**

ADDITIONAL QUANTITIES WITH FTMS ITEMS

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

		LED MODULES						
		658.0600	658.0605	658.0610	658.0615	658.0620	658.0625	658.0635
SB NO.	HEAD NO.	12-INCH RED BALL EACH	12-INCH YELLOW BALL EACH	12-INCH GREEN BALL EACH	12-INCH RED ARROW EACH	12-INCH YELLOW ARROW EACH	12-INCH GREEN ARROW EACH	PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
USH 151 NB & CTH C								
SB1	97	---	---	---	---	---	---	1
SB2	11	1	1	1	---	---	---	--
	12	1	1	1	---	---	---	--
SB3	96	---	---	---	---	---	---	1
SB4	1	1	1	1	---	---	---	---
	8	---	---	---	1	2	1	---
SB5	7	---	---	---	1	2	1	---
SB6	5	1	1	1	---	---	---	---
	6	1	1	1	---	---	---	---
SB7	10	1	1	1	---	---	---	---
SB8	4	1	1	1	---	---	---	---
SB9	9	---	---	---	1	2	1	---
SB10	2	1	1	1	---	---	---	---
	3	1	1	1	---	---	---	---
SUBTOTAL		9	9	9	3	6	3	2
USH 151 SB & CTH C								
SB11	13	1	1	1	---	---	---	---
SB12	18	---	---	---	1	2	1	---
SB13	20	1	1	1	---	---	---	---
	21	1	1	1	---	---	---	---
SB14	24	1	1	1	---	---	---	---
	23	1	1	1	---	---	---	---
SB15	17	---	---	---	1	2	1	---
	19	1	1	1	---	---	---	---
SB16	16	---	---	---	1	2	1	---
SB17	14	1	1	1	---	---	---	---
	15	1	1	1	---	---	---	---
SB18	22	1	1	1	---	---	---	---
SB19	99	---	---	---	---	---	---	1
SB20	98	---	---	---	---	---	---	1
SUBTOTAL		9	9	9	3	6	3	2
TOTAL		**18**	**18**	**18**	**6**	**12**	**6**	**4**

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

SIGNAL FACES & PUSH BUTTONS

			658.0110	658.0115	658.0215	658.0220	658.0416	658.0500
			TRAFFIC SIGNAL FACE		BACKPLATES			
SB NO.	HEAD NO.	TYPE OF MOUNT	3-12 INCH VERTICAL EACH	4-12 INCH VERTICAL EACH	3 SECTION 12-INCH SIGNAL FACES EACH	4 SECTION 12-INCH SIGNAL FACES EACH	PEDESTRIAN SIGNAL FACE 16-INCH EACH	PEDESTRIAN PUSH BUTTONS EACH
USH 151 NB & CTH C								
SB1	97	PED	---	---	---	---	1	1
SB2	11	MONOTUBE	1	---	1	---	---	---
	12	MONOTUBE	1	---	1	---	---	---
SB3	96	PED	---	---	---	---	1	1
SB4	1	POST	1	---	1	---	---	---
	8	POST	---	1	---	1	---	---
SB5	7	POST	---	1	---	1	---	---
SB6	5	MONOTUBE	1	---	1	---	---	---
	6	MONOTUBE	1	---	1	---	---	---
SB7	10	POST	1	---	1	---	---	---
SB8	4	POST	1	---	1	---	---	---
SB9	9	POST	---	1	---	1	---	---
SB10	2	MONOTUBE	1	---	1	---	---	---
	3	MONOTUBE	1	---	1	---	---	---
INTERSECTION	---	---	---	---	---	---	---	---
SUBTOTAL			9	3	9	3	2	2
USH 151 SB & CTH C								
SB11	13	POST	1	---	1	---	---	---
SB12	18	POST	---	1	---	1	---	---
SB13	20	MONOTUBE	1	---	1	---	---	---
	21	MONOTUBE	1	---	1	---	---	---
SB14	24	MONOTUBE	1	---	1	---	---	---
	23	MONOTUBE	1	---	1	---	---	---
SB15	17	POST	---	1	---	1	---	---
	19	POST	1	---	1	---	---	---
SB16	16	POST	---	1	---	1	---	---
SB17	14	MONOTUBE	1	---	1	---	---	---
	15	MONOTUBE	1	---	1	---	---	---
SB18	22	POST	1	---	1	---	---	---
SB19	99	PED	---	---	---	---	1	1
SB20	98	PED	---	---	---	---	1	1
INTERSECTION	---	---	---	---	---	---	---	---
SUBTOTAL			9	3	9	3	2	2
TOTAL			**18**	**6**	**18**	**6**	**4**	**4**

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

LIGHTING UNIT AND LUMINAIRE ITEMS

LOCATION	657.1808 INSTALL LUMINAIRE ARMS STEEL 8-FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	657.0709 LUMINAIRE ARMS TRUSS TYPE 4-INCH CLAMP 12-FOOT EACH	659.0125 LIGHTING UTILITY HPS 250 WATTS EACH	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED LF	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG LF	657.0322 POLES TYPE 5 - ALUMINUM EACH
USH 151 NB & CTH C							
SB2	1	---	---	1	28	60	---
SB9	---	---	2	2	354	770	---
LB1	---	1	---	1	177	209	1
LB2	---	1	---	1	92	124	1
SUBTOTAL	1	2	2	5	651	1163	2
USH 151 SB & CTH C							
SB14	1	---	---	1	197	229	---
LB3	---	---	2	2	80	222	1
LB4	---	1	---	1	330	362	1
LB5	---	1	---	1	130	162	1
SUBTOTAL	1	2	2	5	737	975	3
TOTAL	**2**	**4**	**4**	**10**	**1388**	**2138**	**5**

SIGNAL MOUNTING HARDWARE

	658.5069.01 SIGNAL MOUNTING HARDWARE (USH 151 NB & CTH C) LS	658.5069.02 SIGNAL MOUNTING HARDWARE (USH 151 NB & CTH C) LS
TOTAL	**1**	**1**

MICROWAVE VEHICLE DETECTION SYSTEM

674.0200

CABLE MICROWAVE DETECTOR

DETECTOR NUMBER	LF	REMARKS
MD1	215	MOUNTED ON SB8
MD2	42	MOUNTED ON SB11
TOTAL	**257**	

ADDITIONAL QUANTITIES WITH FTMS ITEMS

COMMUNICATION SYSTEM TESTING

LOCATION	678.0500 COMMUNICATION SYSTEM TESTING LS
1010-02-05	1
TOTAL	**1**

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

FTMS CAMERA AND CABINET ITEMS

CATEGORY 0020

ROADWAY	ITEM ID	659.0802 PLAQUES SEQUENCE IDENTIFICATION EACH	672.0250 BASE CAMERA POLE 50-FT EACH	673.0225.S INSTALL POLE MOUNTED CABINET EACH	675.0300 INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMLY EACH	675.0400.S INSTALL ETHERNET SWITCH EACH	677.0100 INSTALL CAMERA POLE EACH	677.0200 INSTALL CAMERA ASSEMBLY EACH	677.0300.S INSTALL VIDEO ENCODER EACH	SPV.0060.01 INSTALL WIRELESS ETHERNET RADIO EACH
CTH C	CCTV-13-0064	2	1	1	1	1	1	1	1	1
TOTALS		2	1	1	1	1	1	1	1	1

ADDITIONAL QUANTITIES WITH TRAFFIC SIGNAL ITEMS

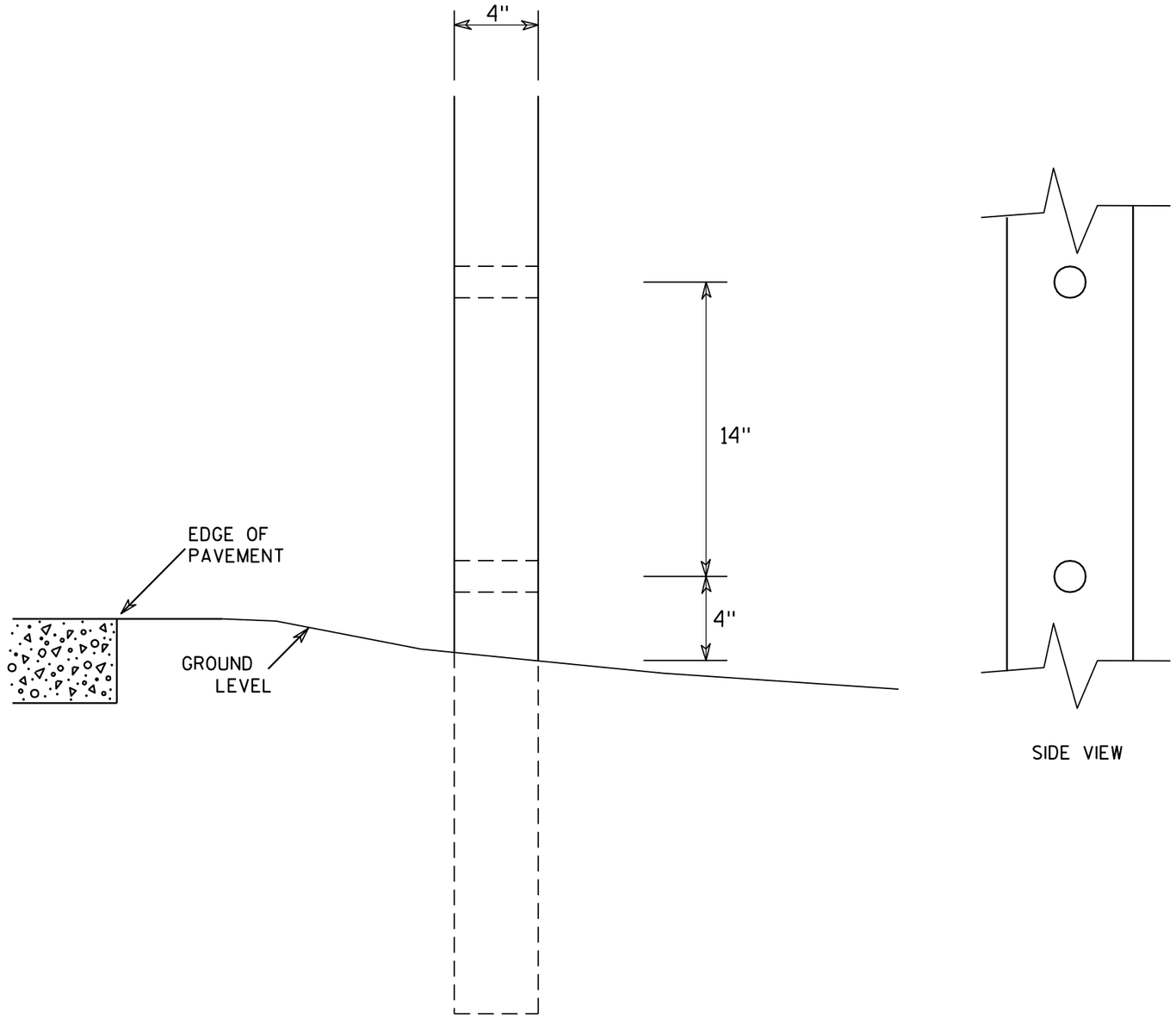
FTMS CONDUIT AND ELECTRICAL ITEMS

CATEGORY 0020

ITEM ID	LINEAR DISTANCE	652.0125 CONDUIT RIGID METALLIC 2-INCH LF	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	653.0135 PULL BOXES STEEL 24 X 36 - INCH EACH	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG LF	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (CCTV-13-0064) LS
Meter Breaker - PB200	5	--	5	--	60	20	--
PB 200	--	--	--	1	--	--	--
PB200-PB100	170	--	170	--	510	170	--
PB100	--	--	--	1	--	--	--
PB100-CCTV-13-0064	5	10	10	--	60	20	--
CCTV-13-0064	--	--	--	--	--	--	1
		10	185	2	630	210	1

ADDITIONAL ITEMS WITH TRAFFIC SIGNAL ITEMS

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

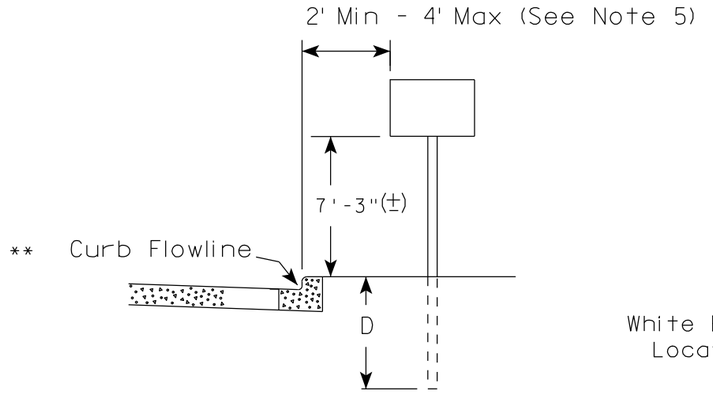
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

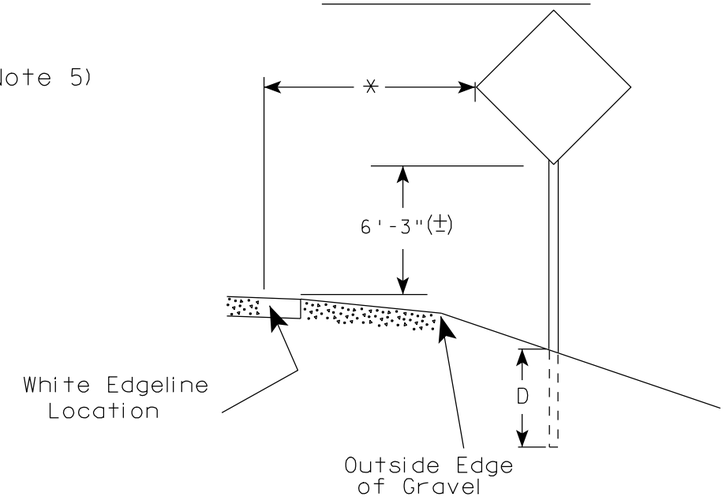
DATE 3/27/97 PLATE NO. A4-11.2

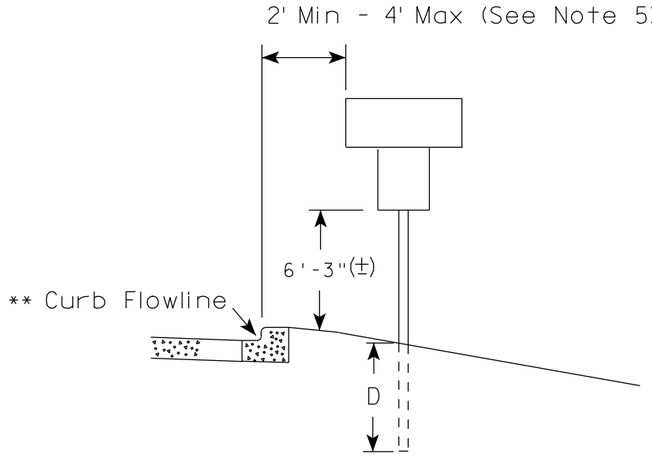
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 44	E

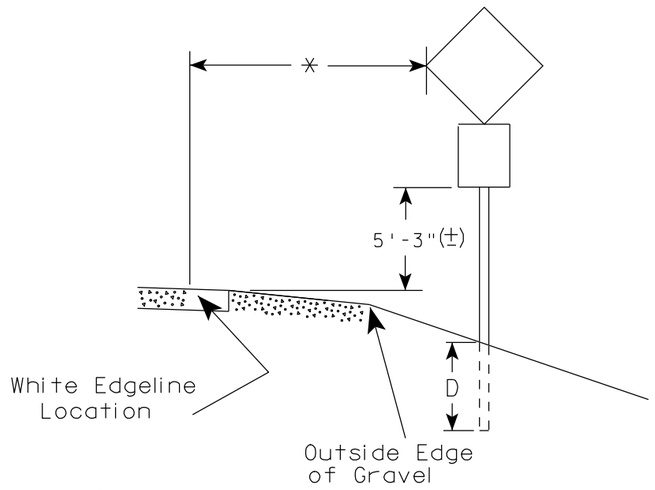
URBAN AREA



RURAL AREA (See Note 2)







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

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

GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. 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" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), 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" (±).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

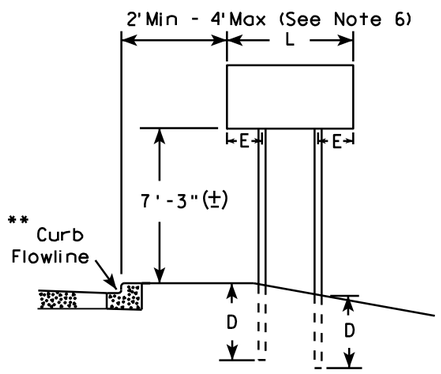
DATE 9/21/2011 PLATE NO. A4-3.16

7

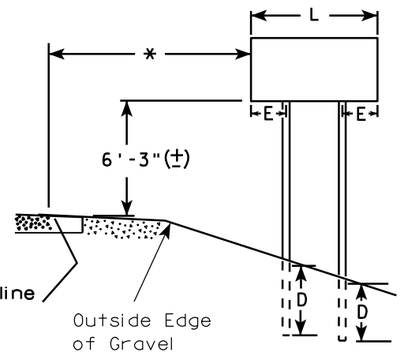
7

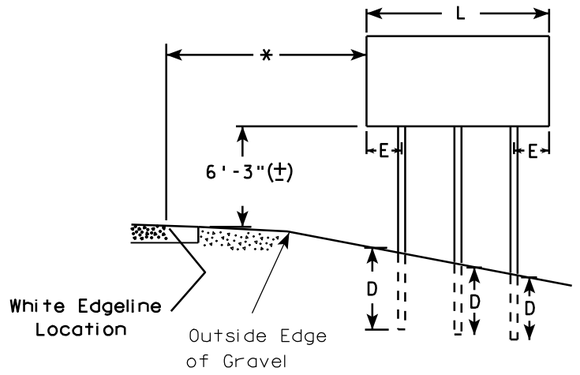
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 45 | E

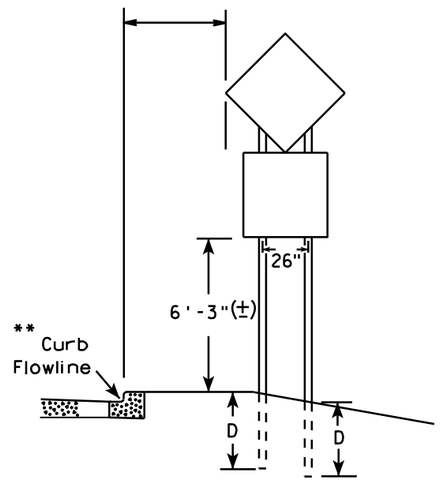
URBAN AREA



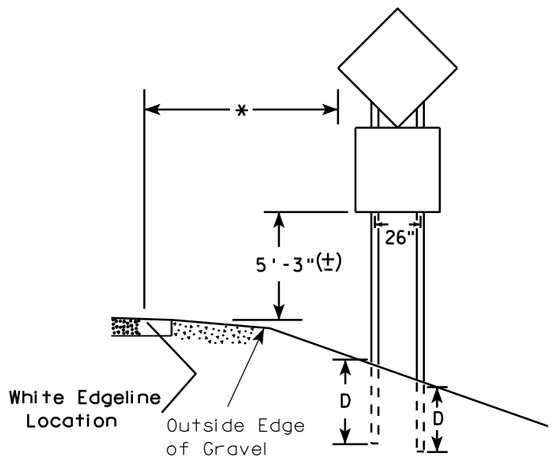
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

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

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. For multiple 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" (±) or 6'-3" (±) 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" (±).

* 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.

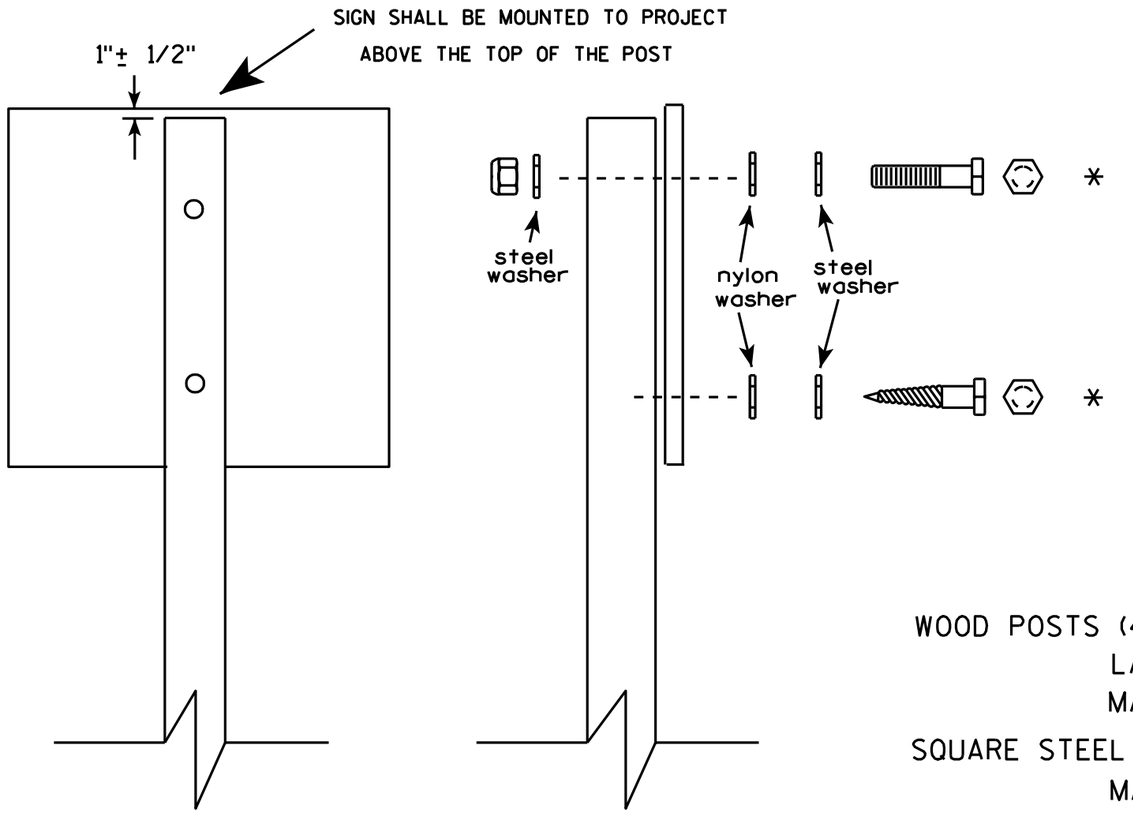
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 46	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

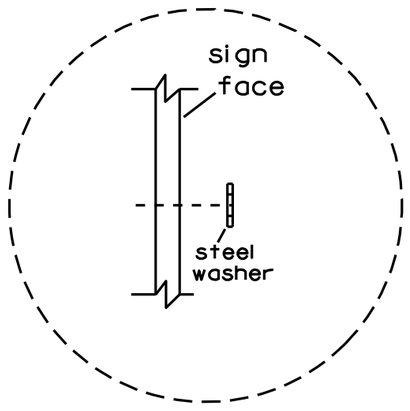
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

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

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

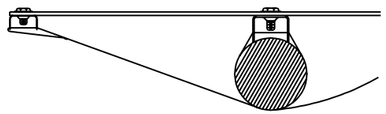
7

7

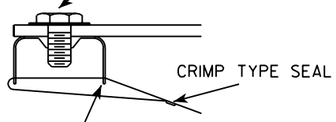
PROJECT NO:

SHEET NO: 47 E

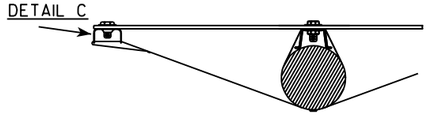
BRACE BANDING

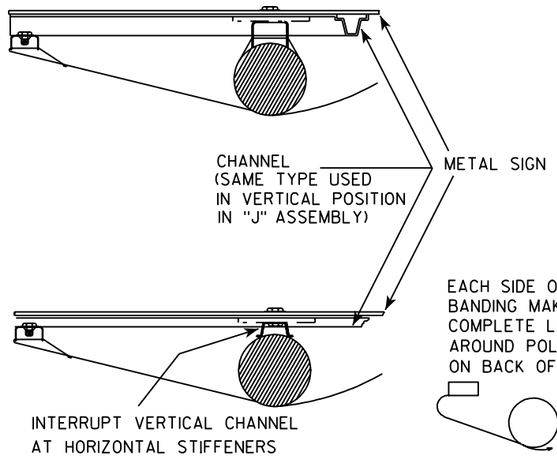


DETAIL C
CADMIUM PLATED STEEL BOLT
THROUGH BLACK BORDER



DETAIL C

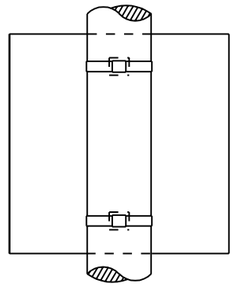


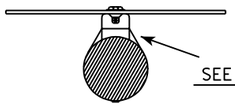


EACH SIDE OF BRACE
BANDING MAKES ONE
COMPLETE LOOP
AROUND POLE-SEAL
ON BACK OF POLE

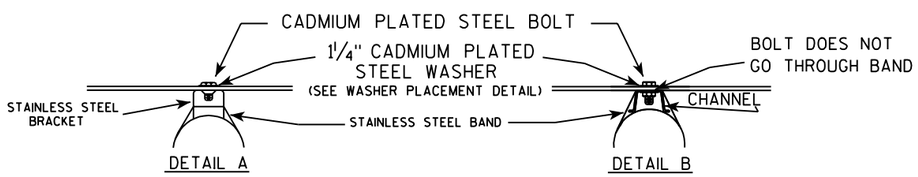
BRACKET BANDING

SINGLE SIGN





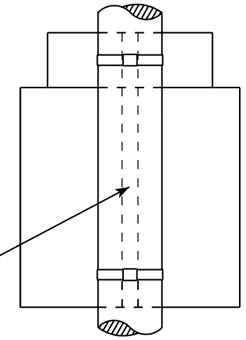
SEE DETAIL A



DETAIL A

DETAIL B

"J" ASSEMBLY

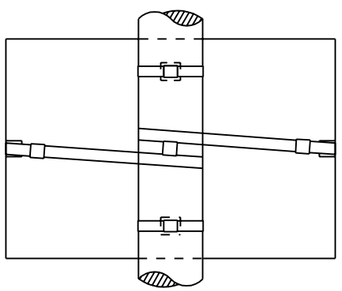


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

SEE DETAIL B

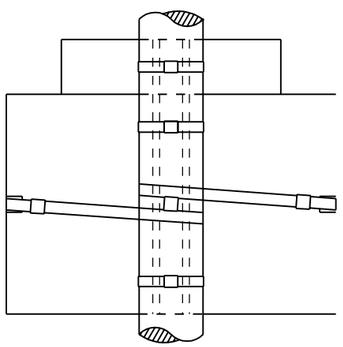
GENERAL NOTES

1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

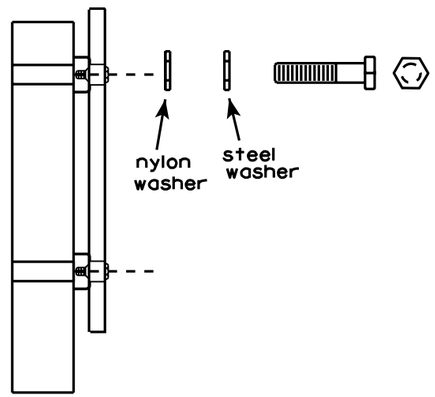


BRACE BANDING

BRACE BANDING SHALL BE TIGHTENED FIRMLY BUT NOT SO TIGHT AS TO APPRECIABLY CURVE FACE OF SIGN.



WASHER PLACEMENT



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

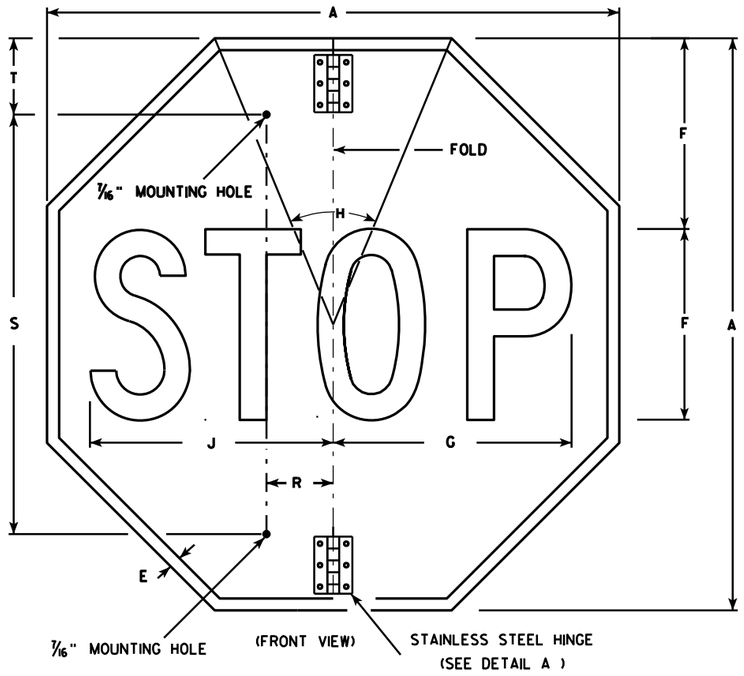
STANDARD SIGN
SIGN BANDING DETAILS

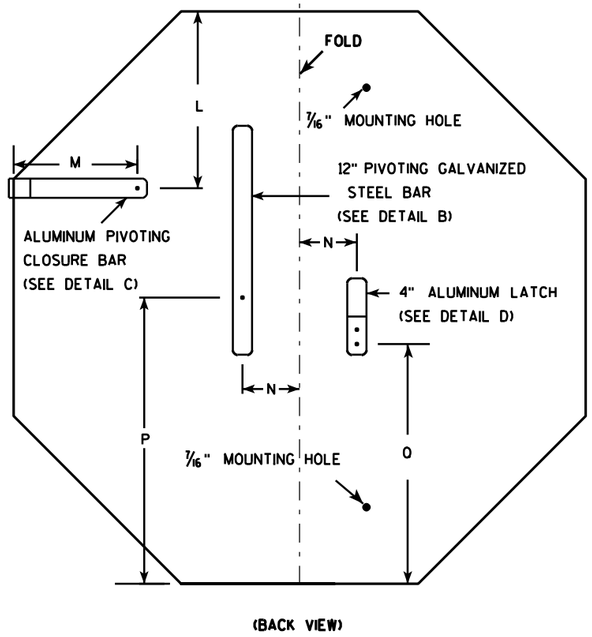
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2

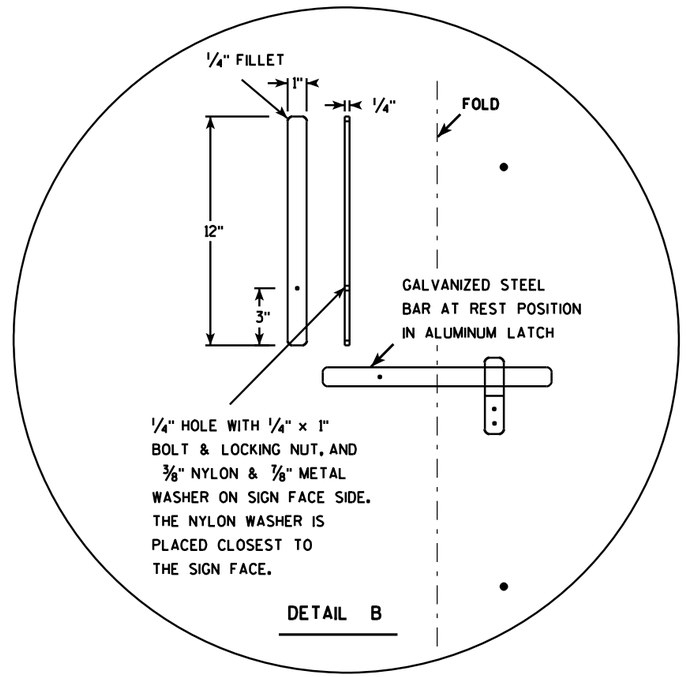
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 48	E

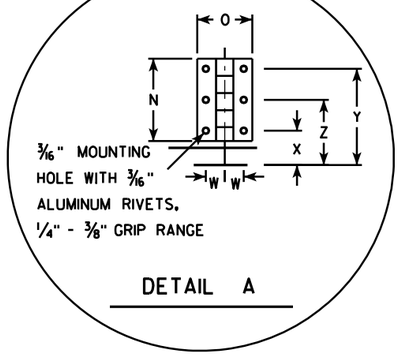


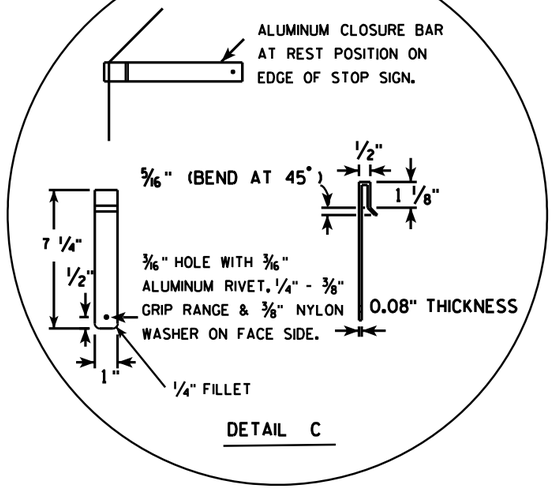


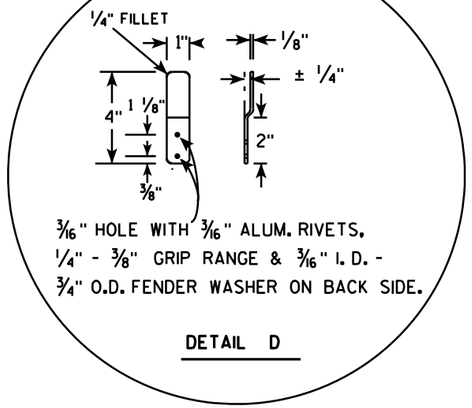
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.









SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

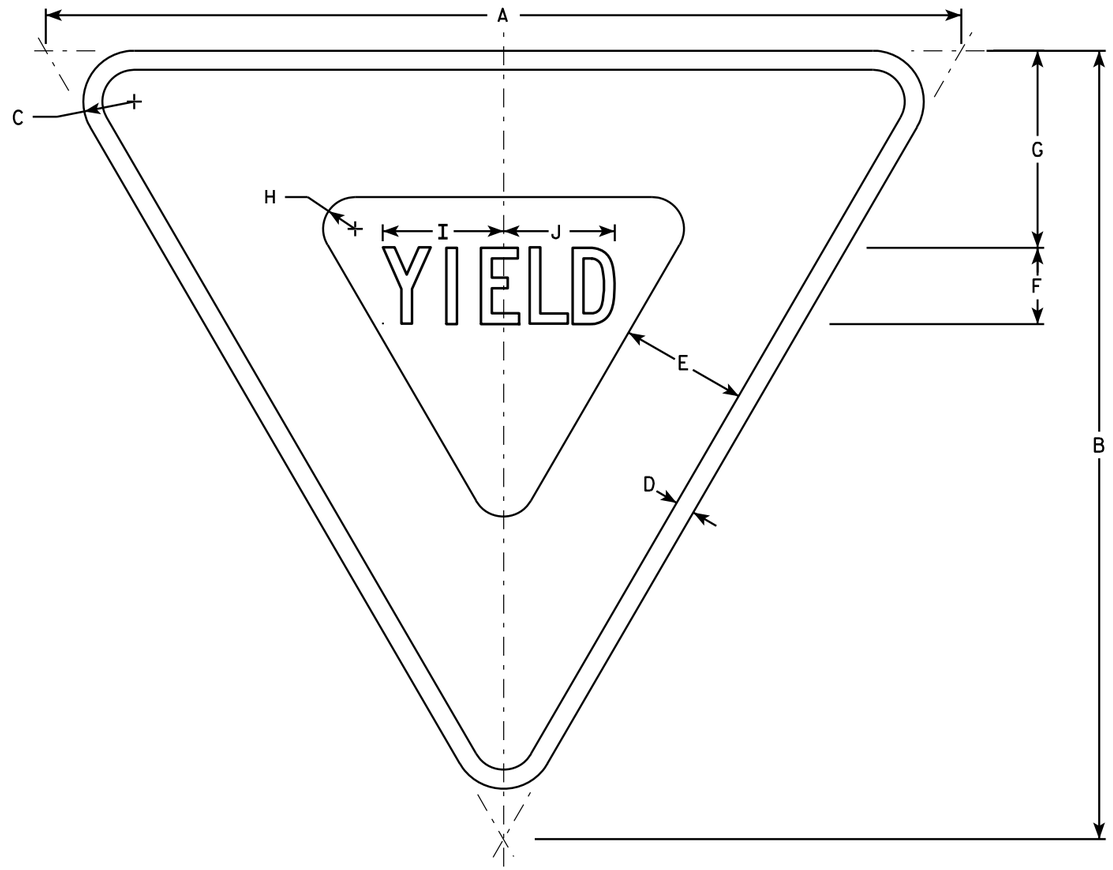
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 49 | E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6	24	21	1 1/2	3/8	3	2	4 3/4	7/8	3 1/4	3																	1.75
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

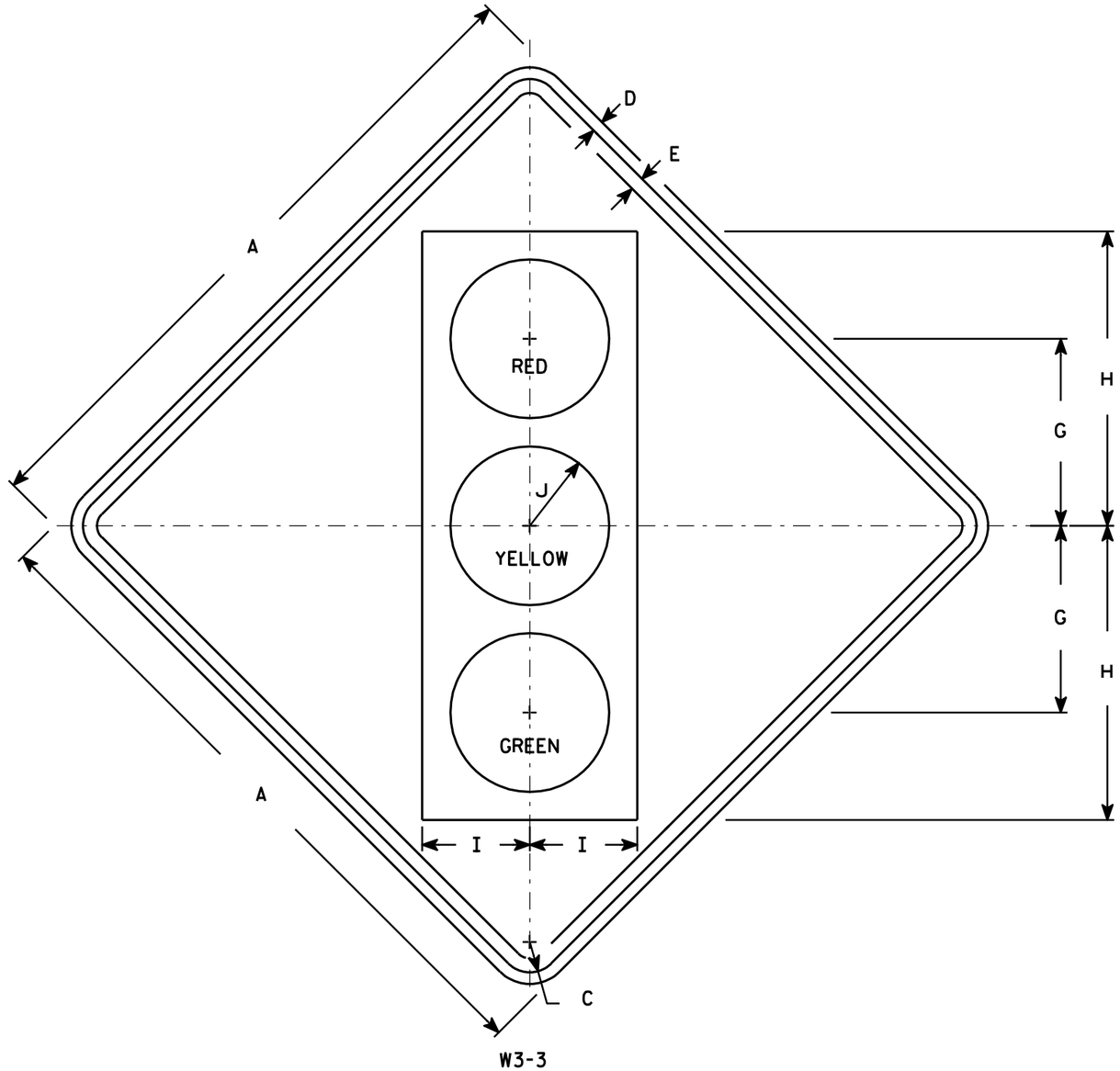
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-2.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 50 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   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. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 51 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W33.DGN PLOT DATE : 07-JUN-2010 13:07 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 7.448805:1.000000

Wisconsin Department of Transportation

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