

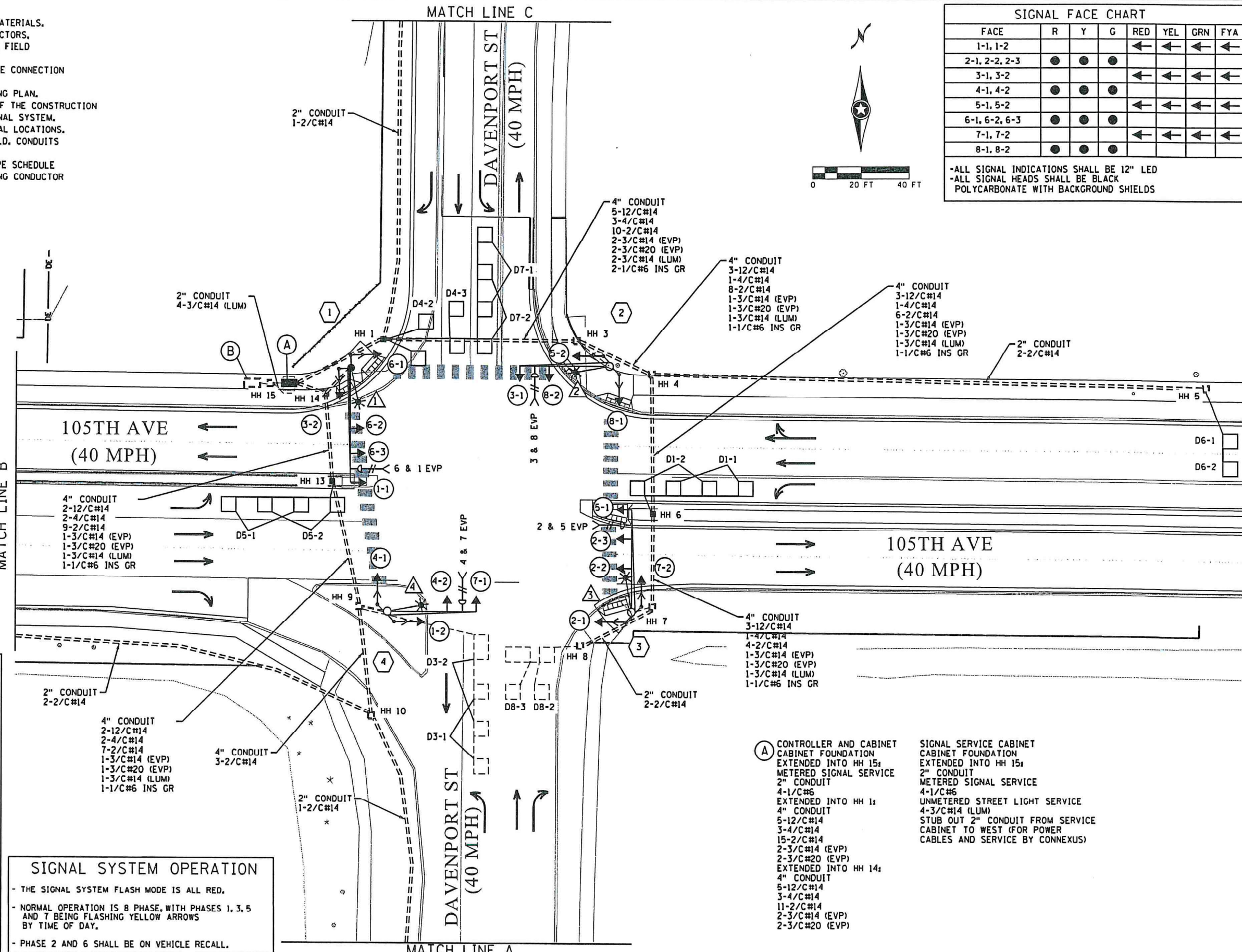
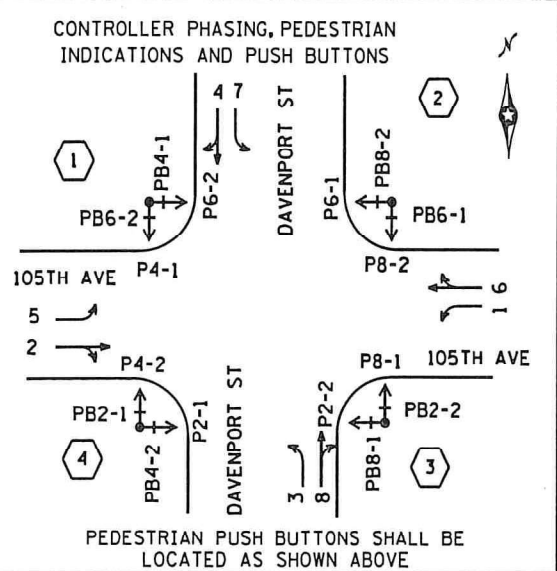
- NOTES:
- SEE SPECIAL PROVISIONS FOR DEPARTMENT FURNISHED MATERIALS.
 - THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS, AND PUSH BUTTON STATIONS, SHALL BE VERIFIED IN THE FIELD BY TRAFFIC OFFICE PERSONNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL.
 - PAVEMENT MARKINGS ARE INCLUDED IN PAVEMENT MARKING PLAN.
 - CONSTRUCTION OF PEDESTRIAN CURB RAMPS ARE PART OF THE CONSTRUCTION PLAN AND ARE NOT INCLUDED IN PAYMENT FOR THE SIGNAL SYSTEM.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS MAY REQUIRE BORING.
 - ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C#6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.

SIGNAL FACE CHART							
FACE	R	Y	G	RED	YEL	GRN	FYA
1-1, 1-2				←	←	←	←
2-1, 2-2, 2-3	●	●	●				
3-1, 3-2				←	←	←	←
4-1, 4-2	●	●	●				
5-1, 5-2				←	←	←	←
6-1, 6-2, 6-3	●	●	●				
7-1, 7-2				←	←	←	←
8-1, 8-2	●	●	●				

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	20 & 50
D1-2	2-6x6	5 & 35
D2-1, D2-2	6x6	250
D3-1	2-6x6	INPLACE
D3-2	2-6x6	INPLACE
D4-1	6x6	250
D4-2	2-6x6	5 & 20
D4-3	2-6x6	5 & 20
D5-1	2-6x6	20 & 50
D5-2	2-6x6	5 & 35
D6-1, D6-2	6x6	250
D7-1	2-6x6	20 & 50
D7-2	2-6x6	5 & 35
D8-1	6x6	INPLACE
D8-2	2-6x6	INPLACE
D8-3	6X12&6X6	INPLACE

-ALL LOOP DETECTORS SHALL BE PVC
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



SIGNAL SYSTEM OPERATION

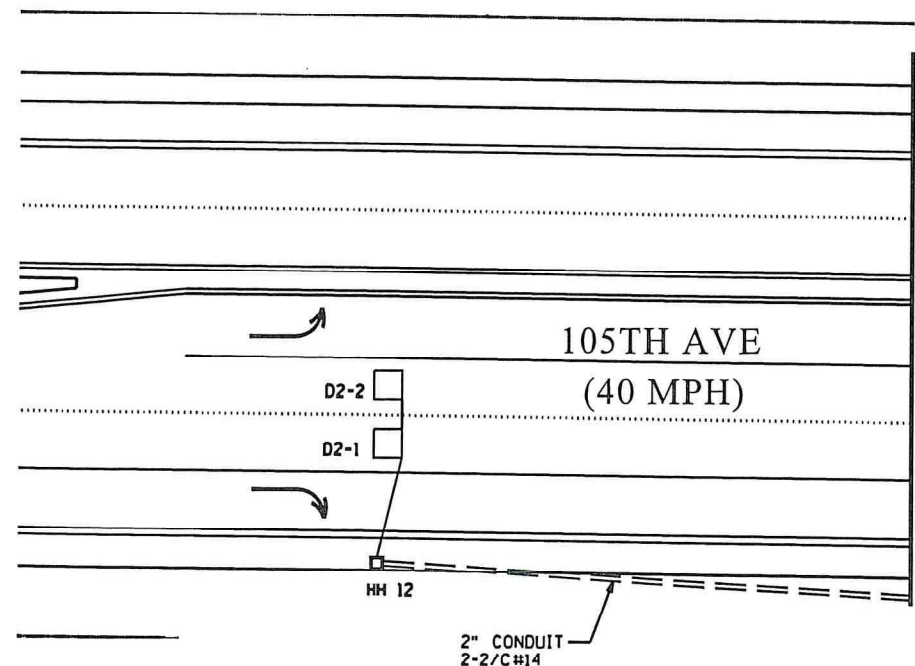
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASE 2 AND 6 SHALL BE ON VEHICLE RECALL.

(A) CONTROLLER AND CABINET CABINET FOUNDATION EXTENDED INTO HH 15; METERED SIGNAL SERVICE 2" CONDUIT 4-1/C#6 EXTENDED INTO HH 1; 4" CONDUIT 5-12/C#14 3-4/C#14 15-2/C#14 2-3/C#14 (EVP) 2-3/C#20 (EVP) EXTENDED INTO HH 14; 4" CONDUIT 5-12/C#14 3-4/C#14 11-2/C#14 2-3/C#14 (EVP) 2-3/C#20 (EVP)

SIGNAL SERVICE CABINET CABINET FOUNDATION EXTENDED INTO HH 15; 2" CONDUIT METERED SIGNAL SERVICE 4-1/C#6 UNMETERED STREET LIGHT SERVICE 4-3/C#14 (LUM) STUB OUT 2" CONDUIT FROM SERVICE CABINET TO WEST (FOR POWER CABLES AND SERVICE BY CONNEXUS)

NO. DATE BY CHK REVISIONS _____ _____ _____ _____	DESIGN BY: MS, NH	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. CERTIFIED BY: <i>Sean Delmore</i> SEAN DELMORE, PE DATE: 4/3/2017 LIC. NO.: 40945	701 Xena Avenue South, Suite 300 Minneapolis, MN 55416 Tel: (763) 541-4800 • Fax: (763) 541-1700 wsbang.com	105TH AVENUE NE RECONSTRUCTION	CITY OF BLAINE, MINNESOTA		SHEET 190 OF 218 SHEETS
	PLAN BY: NW, VK				105TH AVE NE @ DAVENPORT ST- INTERSECTION LAYOUT SYSTEM "B"		
	CHECKED BY: MS, NH				TRAFFIC CONTROL SIGNAL SYSTEM		
	APPROVED BY: NH				SAP 106-147-001, CP 14-11		

Date Printed: 4/4/2017 WSB Filename: K:\2017-001\Cad\Plan\250700-ar1.dwg

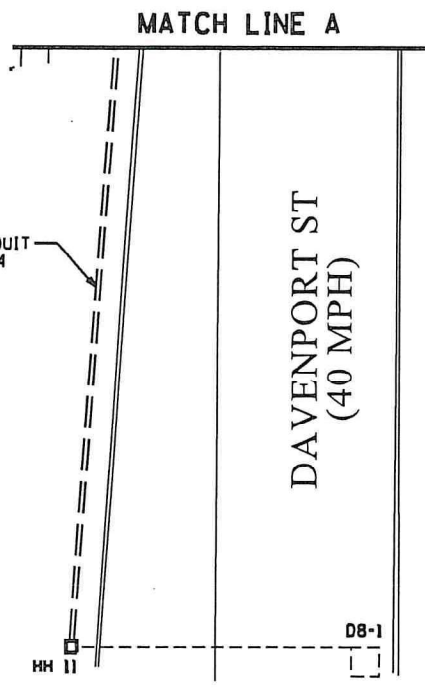


MATCH LINE B

- 1** INP:
 PA100 POLE FOUNDATION
 TYPE PA100-A-40-D30-9 (DAVIT AT 350 DEG)
 LUMINAIRE-250W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0 FT, 11 FT & 23 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 R6-1 SIGN PANELS-POLE MOUNTED AT 0 DEG & 180 DEG
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND LIGHT (PHASES 1 & 6)
 EXTENDED INTO HH 14:
 3" R.S.C.
 3-12/C#12
 2-3/C#12
 1-3/C#20 (EVP)
 1-3/C#12 (LUM)
- REMOVE:
 PA100 POLE FOUNDATION
 TYPE PA100-A-40-D30-9 (DAVIT AT 350 DEG)
 LUMINAIRE-250W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0 FT, 11 FT & 23 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 R6-1 SIGN PANELS-POLE MOUNTED AT 0 DEG & 180 DEG
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND LIGHT (PHASES 1 & 6)
 EXTENDED INTO HH 14:
 3" R.S.C.
 3-12/C#12
 2-3/C#12
 1-3/C#20 (EVP)
 1-3/C#12 (LUM)
- SALVAGE:
 TYPE PA100-A-40-D30-9
 R6-1 SIGN PANELS-POLE MOUNTED AT 0 DEG & 180 DEG
 TYPE D SIGN PANEL-OVERHEAD
- F&I:
 PA100 POLE FOUNDATION
 TYPE PA100-A-45-D30-9 (DAVIT AT 350 DEG)
 1-LED LUMINAIRE
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0 FT FROM END OF MAST ARM
 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11 FT & 23 FT FROM END OF MAST ARM
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-ANGLE MOUNT C.D. PED IND-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PB AND SIGNS (LT ARROW PB4-1) (RT ARROW PB6-2)
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (PHASES 1 & 6)
 EXTENDED INTO HH 14:
 3" CONDUIT
 3-12/C#14
 1-4/C#14
 1-3/C#14 (EVP)
 1-3/C#20 (EVP)
 1-3/C#14 (LUM)
 1-1/C#6 INS GR

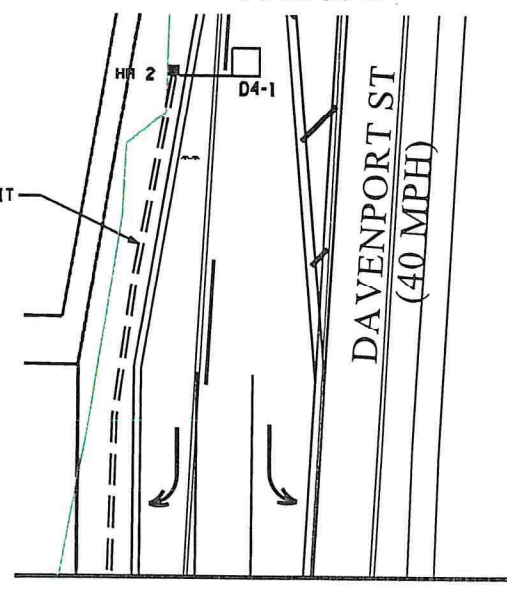
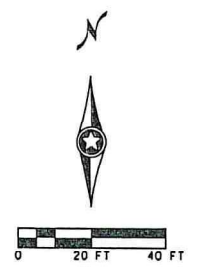
- 2** INP:
 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D30-9 (DAVIT AT 350 DEG)
 LUMINAIRE-250W HPS
 2-ONE WAY SIGNALS-OVERHEAD (0 FT & 11 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 R10-12 SIGN PANEL-ADJACENT TO 8-3
 2-TYPE D SIGN PANELS-OVERHEAD
 ONE WAY EVP DETECTOR AND LIGHT (PHASE 3 & 8)
 EXTENDED INTO HH 3:
 3" R.S.C.
 2-12/C#12
 4-3/C#12
 1-3/C#20 (EVP)
 1-3/C#12 (LUM)
- REMOVE:
 LUMINAIRE-250W HPS
 2-ONE WAY SIGNALS-OVERHEAD (0 FT & 11 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (PHASE 3 & 8)
 EXTENDED INTO HH 3:
 3" R.S.C.
 2-12/C#12
 4-3/C#12
 1-3/C#20 (EVP)
 1-3/C#12 (LUM)

- F&I:
 1-LED LUMINAIRE
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0 FT FROM END OF MAST ARM
 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11 FT FROM END OF MAST ARM
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-ANGLE MOUNT C.D. PED IND-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PB AND SIGNS (LT ARROW PB6-1) (RT ARROW PB8-2)
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (PHASE 3 & 8)
 EXTENDED INTO HH 3:
 3" CONDUIT
 2-12/C#14
 2-4/C#14
 2-2/C#14
 1-3/C#14 (EVP)
 1-3/C#20 (EVP)
 1-3/C#14 (LUM)
 1-1/C#6 INS GR



MATCH LINE A

DAVENPORT ST
(40 MPH)



MATCH LINE C

- 3** INP:
 PA100 POLE FOUNDATION
 TYPE PA100-A-40-D30-9 (DAVIT AT 350 DEG)
 LUMINAIRE-250W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0 FT, 11 FT & 23 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND LIGHT (PHASES 2 & 5)
 3" R.S.C.
 3-12/C#12
 2-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)
- REMOVE:
 LUMINAIRE-250W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0 FT, 11 FT & 23 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (PHASES 2 & 5)
 3" R.S.C.
 3-12/C#12
 2-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

- F&I:
 1-LED LUMINAIRE
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0 FT FROM END OF MAST ARM
 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11 FT & 23 FT FROM END OF MAST ARM
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-ANGLE MOUNT C.D. PED IND-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PB AND SIGNS (LT ARROW PB8-1) (RT ARROW PB2-2)
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (PHASES 2 & 5)
 EXTENDED INTO HH 7:
 3" CONDUIT
 3-12/C#14
 1-4/C#14
 2-2/C#14
 1-3/C#14 (EVP)
 1-3/C#20 (EVP)
 1-3/C#14 (LUM)
 1-1/C#6 INS GR

- 4** INP:
 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D30-9 (DAVIT AT 350 DEG)
 LUMINAIRE-250W HPS
 2-ONE WAY SIGNALS-OVERHEAD (0 FT & 12 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 R10-12 SIGN PANEL-ADJACENT TO 4-3
 2-TYPE D SIGN PANELS-OVERHEAD
 ONE WAY EVP DETECTOR AND LIGHT (PHASE 4 & 7)
 3" R.S.C.
 2-12/C#12
 4-3/C#12
 1-3/C#20 (EVP)
 1-3/C#12 (LUM)
- REMOVE:
 LUMINAIRE-250W HPS
 2-ONE WAY SIGNALS-OVERHEAD (0 FT & 12 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (PHASE 4 & 7)
 3" R.S.C.
 2-12/C#12
 4-3/C#12
 1-3/C#20 (EVP)
 1-3/C#12 (LUM)

- F&I:
 1-LED LUMINAIRE
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0 FT FROM END OF MAST ARM
 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11 FT FROM END OF MAST ARM
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED AT 45 DEG & 225 DEG
 2-ANGLE MOUNT C.D. PED IND-POLE MOUNTED AT 45 DEG & 225 DEG
 2-PEDESTRIAN PB AND SIGNS (LT ARROW PB2-1) (RT ARROW PB4-2)
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (PHASE 4 & 7)
 EXTENDED INTO HH 8:
 3" CONDUIT
 2-12/C#14
 2-4/C#14
 2-2/C#14
 1-3/C#14 (EVP)
 1-3/C#20 (EVP)
 1-3/C#14 (LUM)
 1-1/C#6 INS GR

NO.	DATE	BY	CHK	REVISIONS

DESIGN BY:	MS, NH
PLAN BY:	NW, VK
CHECKED BY:	MS, NH
APPROVED BY:	NH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: *Sean Delmore*
 SEAN DELMORE, PE
 DATE: 4/3/2017 LIC. NO.: 40945



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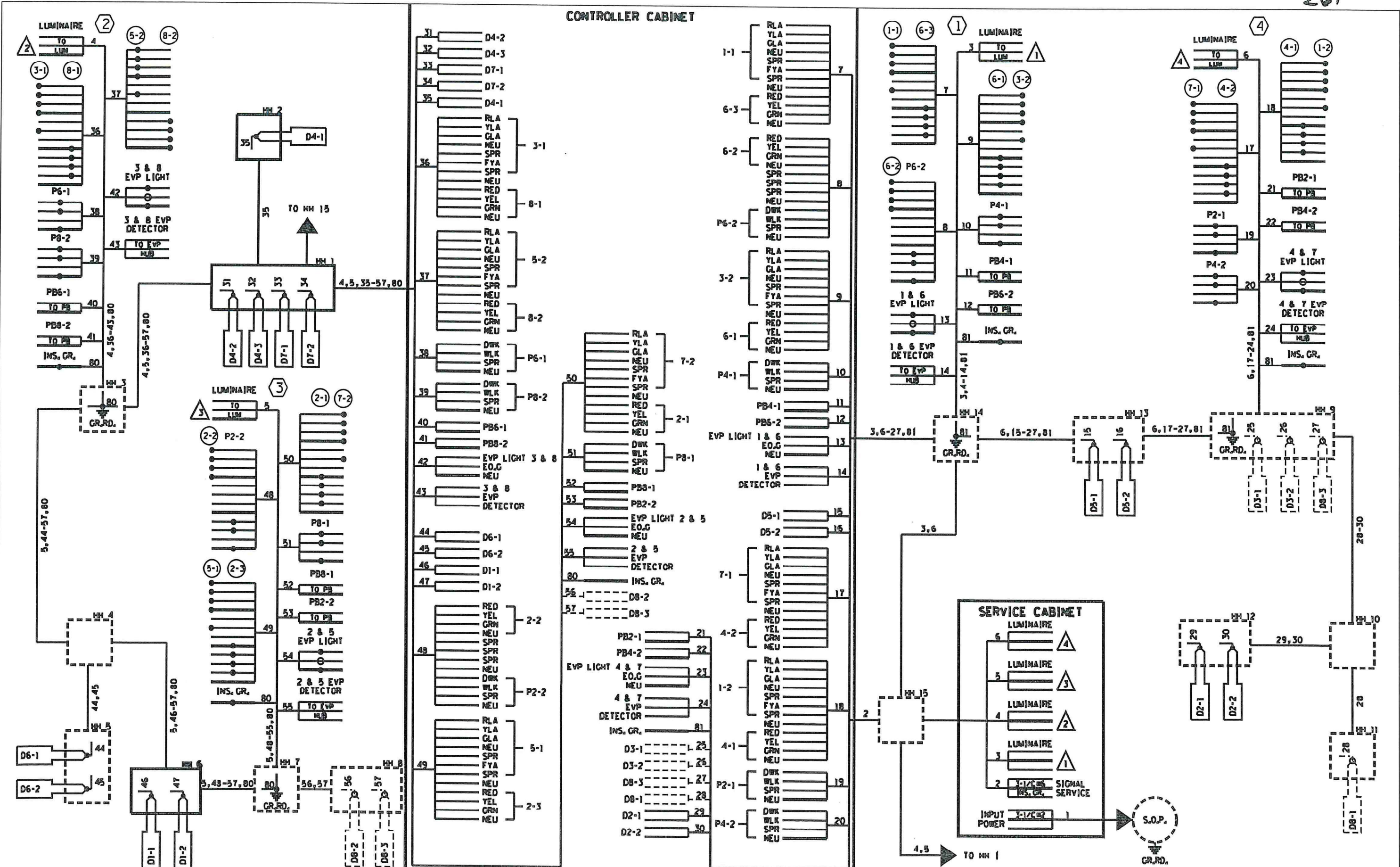


105TH AVENUE NE
 RECONSTRUCTION

CITY OF BLAINE, MINNESOTA
 105TH AVE NE @ DAVENPORT ST- INTERSECTION LAYOUT SYSTEM "B"
 TRAFFIC CONTROL SIGNAL SYSTEM
 SAP 106-147-001, CP 14-11

SHEET
 191
 OF
 218
 SHEETS

Date Plotted: 7/28/2015
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105TH AVENUE NE
 RECONSTRUCTION

CITY OF BLAINE, MINNESOTA
 105TH AVE NE @ DAVENPORT ST- WIRING DIAGRAM SYSTEM "B"
 TRAFFIC CONTROL SIGNAL SYSTEM
 SAP 106-147-001, CP 14-11

SHEET
 192
 OF
 218
 SHEETS