

- INTERCONNECT NOTES:**
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
  - (\*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"), SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
  - ALL ITEMS OF THIS SIGNAL SYSTEM ARE IN PLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED IN PLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (\*) AND BY F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR).
  - NEW HANDHOLES REQUIRED TO BE FURNISHED & INSTALLED BY THE CONTRACTOR AS PART OF PROJECT SHALL BE PRE-CAST POLYMER CONCRETE STRUCTURES (QUAZITE). SEE DETAILS/SPECIAL PROVISIONS.
  - SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH IN PLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "C" PAY ITEM.
  - FIBER OPTIC INTERCONNECT BETWEEN THIS SIGNAL SYSTEM AND SYSTEMS TO THE WEST (5TH AVENUE) AND EAST (9TH AVENUE) ARE IN PLACE AND SHALL BE MAINTAINED IN PLACE AND IN OPERATION.

**N.M.C. LOOP DETECTORS**

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-8x6	10' & 40'	1
D1-2	2-8x6	0' & 25'	7
D2-1	6x6	180'	1
D2-2	6x6	180'	1
D3-1	2-8x6	10' & 40'	1
D3-2	2-8x6	0' & 25'	7
D4-1	6x6	180'	3,8
D4-2	2-8x6	0' & 15'	7
D4-3	2-8x6	0' & 15'	1
D5-1	2-8x6	10' & 40'	1
D5-2	2-8x6	0' & 25'	7
D6-1	6x6	180'	1
D6-2	6x6	180'	1
D7-1	2-8x6	10' & 40'	1
D7-2	2-8x6	0' & 25'	7
D8-1	6x6	180'	3,8
D8-2	6x6	180'	3,8
D8-3	2-8x6	0' & 15'	7
D8-4	2-8x6	0' & 15'	1

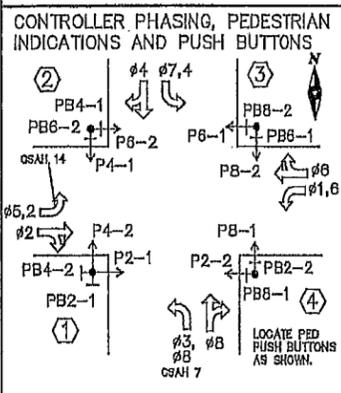
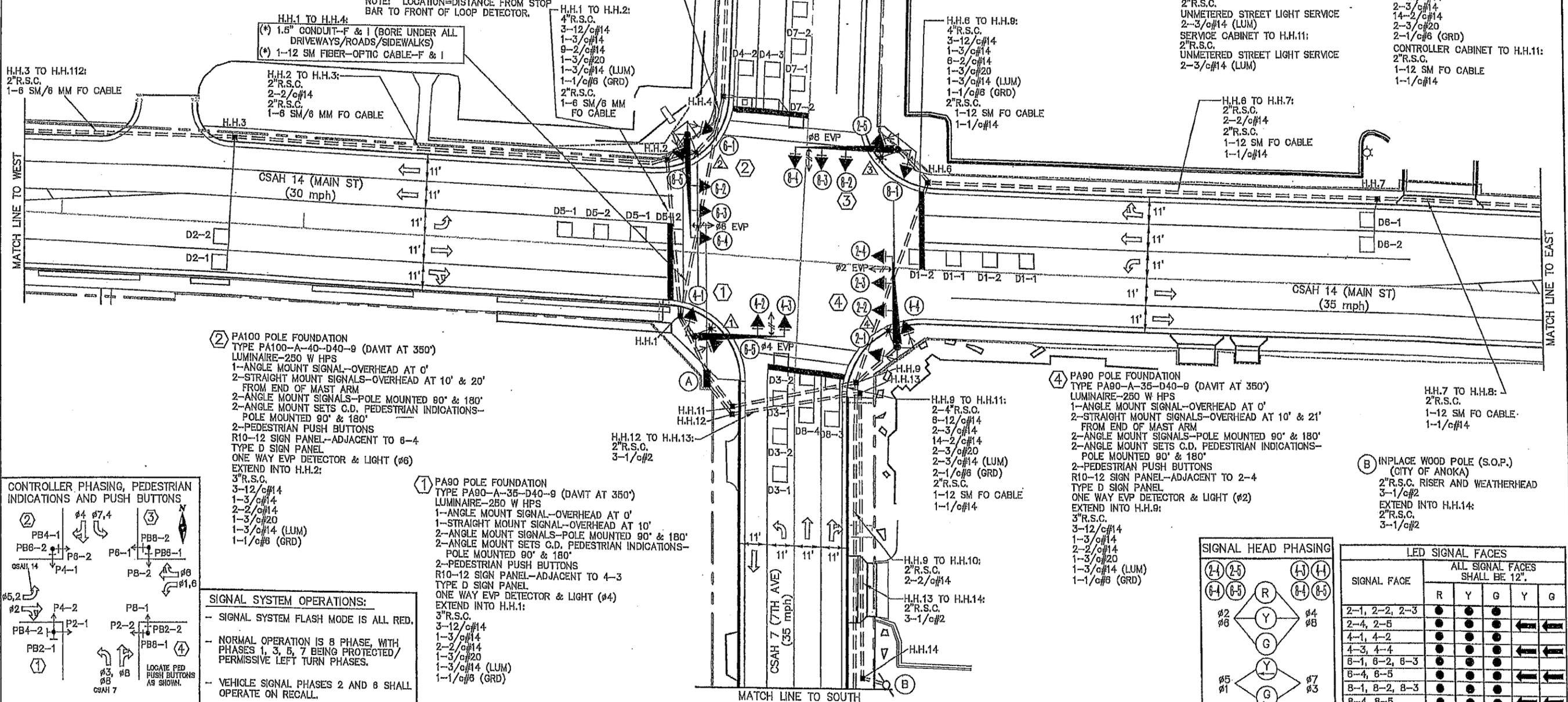
**LOOP DETECTORS FUNCTIONS:**

- CALL AND EXTEND
- EXTEND ONLY
- DELAYED CALL, IMMEDIATE EXTEND
- CARRY OVER (STRETCH)

**MATCH LINE "A" (INTERCONNECT) (TO BOB EHLEN/TYLER SIGNAL)**

20 0 20 40  
Scale feet

**(A) EQUIPMENT PAD FOUNDATION**  
CONTROLLER AND CABINET  
BATTERY BACK-UP SIGNAL SERVICE CABINET  
BETWEEN CONTROLLER CABINET AND SERVICE CABINET:  
METERED SIGNAL SERVICE  
2" R.S.C.  
3-1/c#6  
CONTROLLER CABINET TO H.H.1:  
2-4" R.S.C.  
6-12/c#14  
2-3/c#14  
13-2/c#14  
2-3/c#20  
2-1/c#6 (GRD)



**SIGNAL SYSTEM OPERATIONS:**

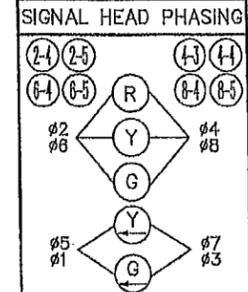
- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5, 7 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 8 SHALL OPERATE ON RECALL.

**(1) PA90 POLE FOUNDATION**  
TYPE PA90-A-35-D40-9 (DAVIT AT 350')  
LUMINAIRE-250 W HPS  
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 10'  
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180'  
2-ANGLE MOUNT SETS C.D. PEDESTRIAN INDICATIONS-POLE MOUNTED 90° & 180'  
2-PEDESTRIAN PUSH BUTTONS  
R10-12 SIGN PANEL-ADJACENT TO 4-3  
TYPE D SIGN PANEL  
ONE WAY EVP DETECTOR & LIGHT (#4)  
EXTEND INTO H.H.1:  
3" R.S.C.  
3-12/c#14  
1-3/c#14  
2-2/c#14  
1-3/c#20  
1-3/c#14 (LUM)  
1-1/c#6 (GRD)

**(2) PA100 POLE FOUNDATION**  
TYPE PA100-A-40-D40-9 (DAVIT AT 350')  
LUMINAIRE-250 W HPS  
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 10' & 20' FROM END OF MAST ARM  
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180'  
2-ANGLE MOUNT SETS C.D. PEDESTRIAN INDICATIONS-POLE MOUNTED 90° & 180'  
2-PEDESTRIAN PUSH BUTTONS  
R10-12 SIGN PANEL-ADJACENT TO 8-4  
TYPE D SIGN PANEL  
ONE WAY EVP DETECTOR & LIGHT (#6)  
EXTEND INTO H.H.2:  
3" R.S.C.  
3-12/c#14  
1-3/c#14  
2-2/c#14  
1-3/c#20  
1-3/c#14 (LUM)  
1-1/c#6 (GRD)

**(4) PA90 POLE FOUNDATION**  
TYPE PA90-A-35-D40-9 (DAVIT AT 350')  
LUMINAIRE-250 W HPS  
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 10' & 21' FROM END OF MAST ARM  
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180'  
2-ANGLE MOUNT SETS C.D. PEDESTRIAN INDICATIONS-POLE MOUNTED 90° & 180'  
2-PEDESTRIAN PUSH BUTTONS  
R10-12 SIGN PANEL-ADJACENT TO 2-4  
TYPE D SIGN PANEL  
ONE WAY EVP DETECTOR & LIGHT (#2)  
EXTEND INTO H.H.9:  
3" R.S.C.  
3-12/c#14  
1-3/c#14  
2-2/c#14  
1-3/c#20  
1-3/c#14 (LUM)  
1-1/c#6 (GRD)

**(B) IN PLACE WOOD POLE (S.O.P.) (CITY OF ANOKA)**  
2" R.S.C. RISER AND WEATHERHEAD  
3-1/c#2  
EXTEND INTO H.H.14:  
2" R.S.C.  
3-1/c#2



**LED SIGNAL FACES**

SIGNAL FACE	ALL SIGNAL FACES SHALL BE 12"				
	R	Y	G	Y	G
2-1, 2-2, 2-3	●	●	●	●	●
2-4, 2-5	●	●	●	●	●
4-1, 4-2	●	●	●	●	●
4-3, 4-4	●	●	●	●	●
6-1, 6-2, 6-3	●	●	●	●	●
6-4, 6-5	●	●	●	●	●
8-1, 8-2, 8-3	●	●	●	●	●
8-4, 8-5	●	●	●	●	●

DRAWN BY: JMG  
DESIGNER: JMG  
CHECKED BY: JMG  
DESIGN TEAM

NO. BY DATE

REVISIONS

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

John M. Gray, PE  
Lic. No. 22457  
Date: July 6, 2018

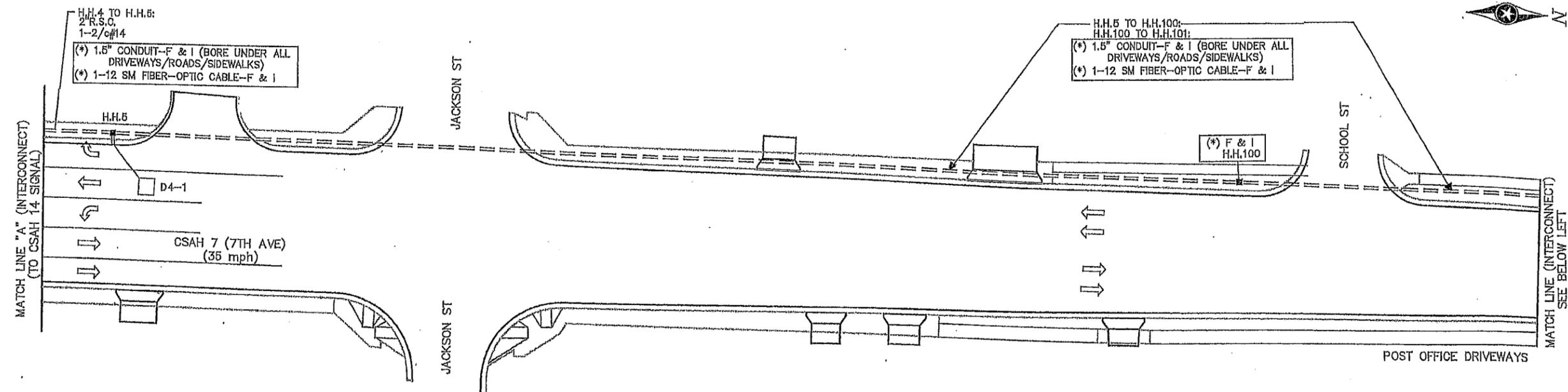
SEH  
PHONE (651) 480-2000  
3535 VANDER CENTER DR.  
ST. PAUL, MN 55110

ANOKA COUNTY, MN  
CITY OF ANOKA  
BAP 002-030-010

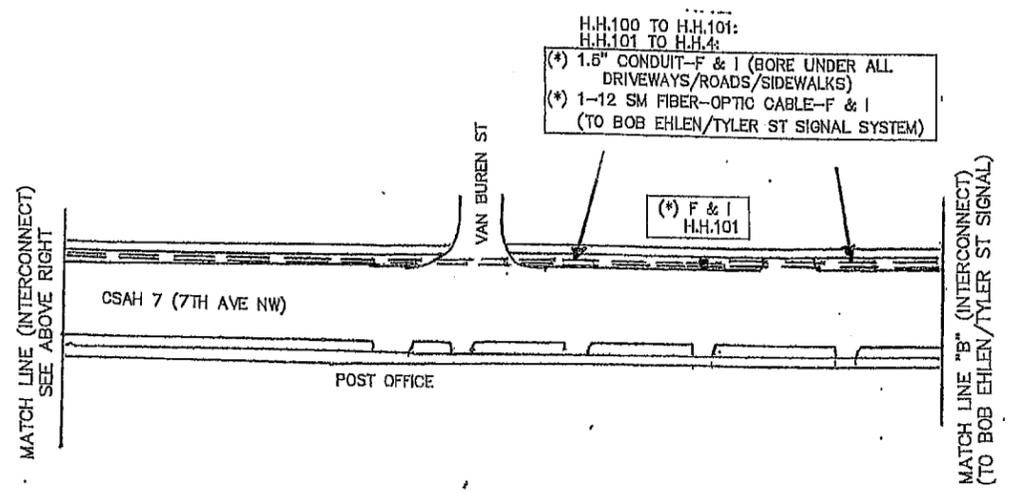
TRAFFIC SIGNAL INTERCONNECT "C"  
INTERSECTION LAYOUT  
CSAH 7 (7TH AVENUE NW)  
AT CSAH 14 (MAIN STREET)

FILE NO.  
ANOKA 142312  
46  
115

7076



- INTERCONNECT NOTES:**
- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
  - 2) (\*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2555 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
  - 3) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (\*) AND BY F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR).
  - 4) NEW HANDHOLES 100-101 REQUIRED TO BE FURNISHED & INSTALLED BY CONTRACTOR AS PART OF PROJECT SHALL BE PRE-CAST POLYMER CONCRETE STRUCTURES (QUAZITE). SEE DETAILS/SPECIAL PROVISIONS.



S:\AEN\ANOKA\COMBOS\SIGMA\2017\INTERCONNECT\2017\BASE.DWG

DRAWN BY: JMG			
DESIGNER: JMG			
CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS

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*John M. Gray*  
 Name: John M. Gray, PE  
 Date: July 6, 2018  
 Lic. No. 22457

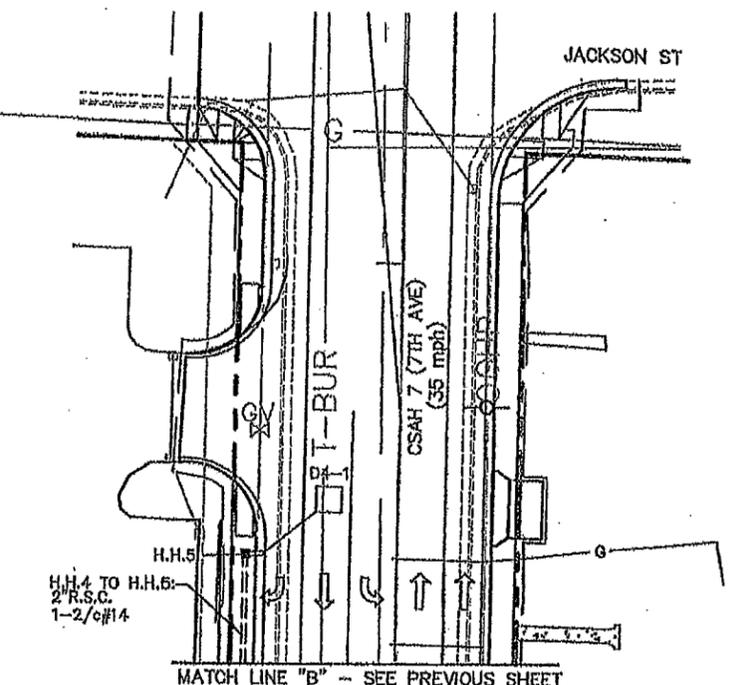
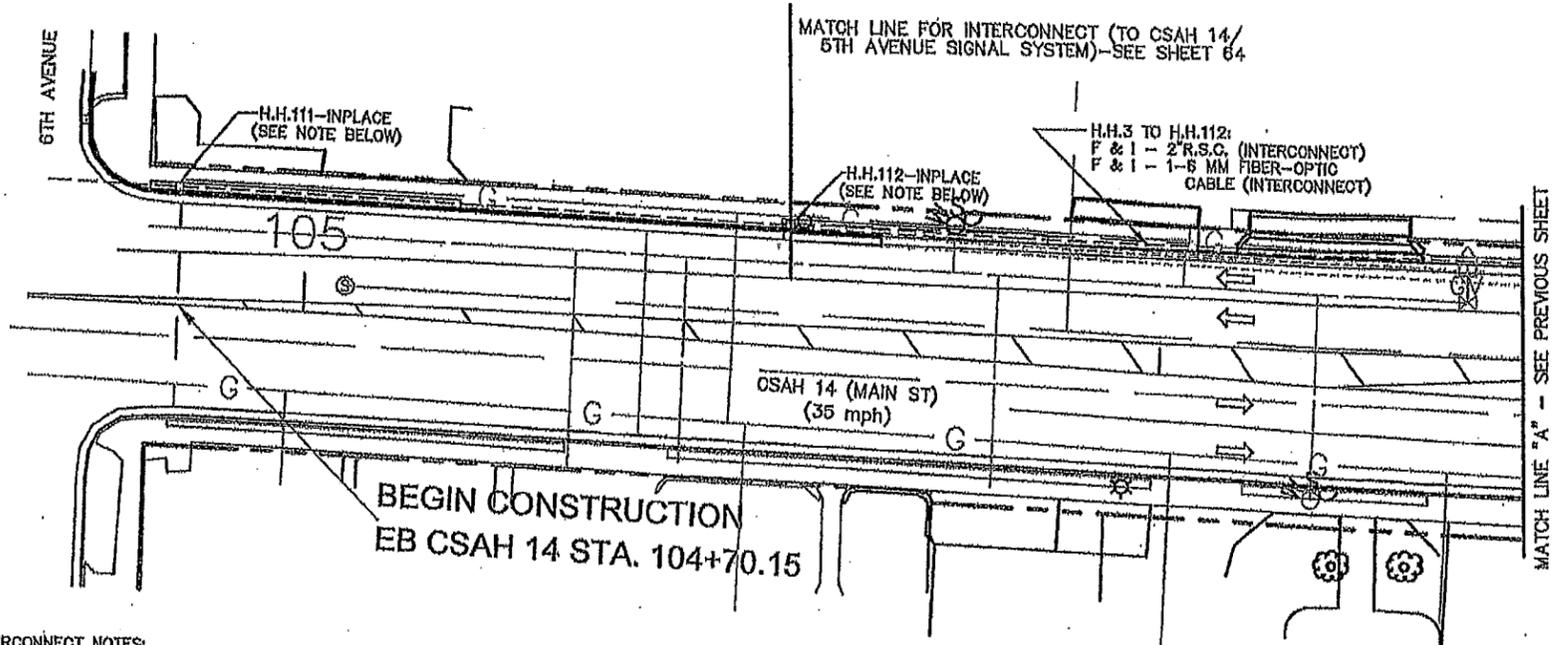
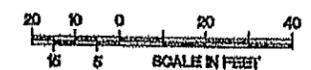
**SEH**  
 PHONE: (651) 480-2000  
 3535 WADSWORTH CENTER DR.  
 ST. PAUL, MN 55110

**ANOKA COUNTY, MN**  
**CITY OF ANOKA**  
 SAP 002-030-010

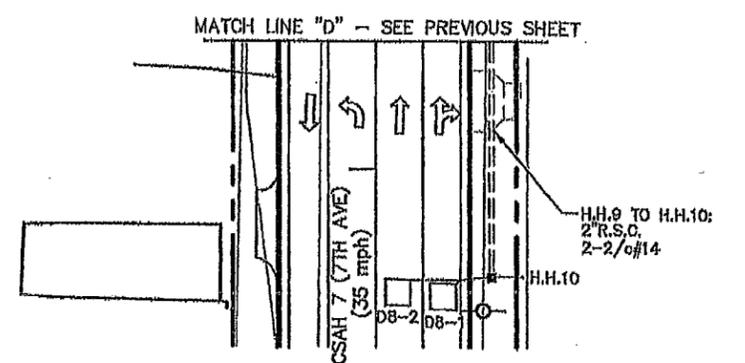
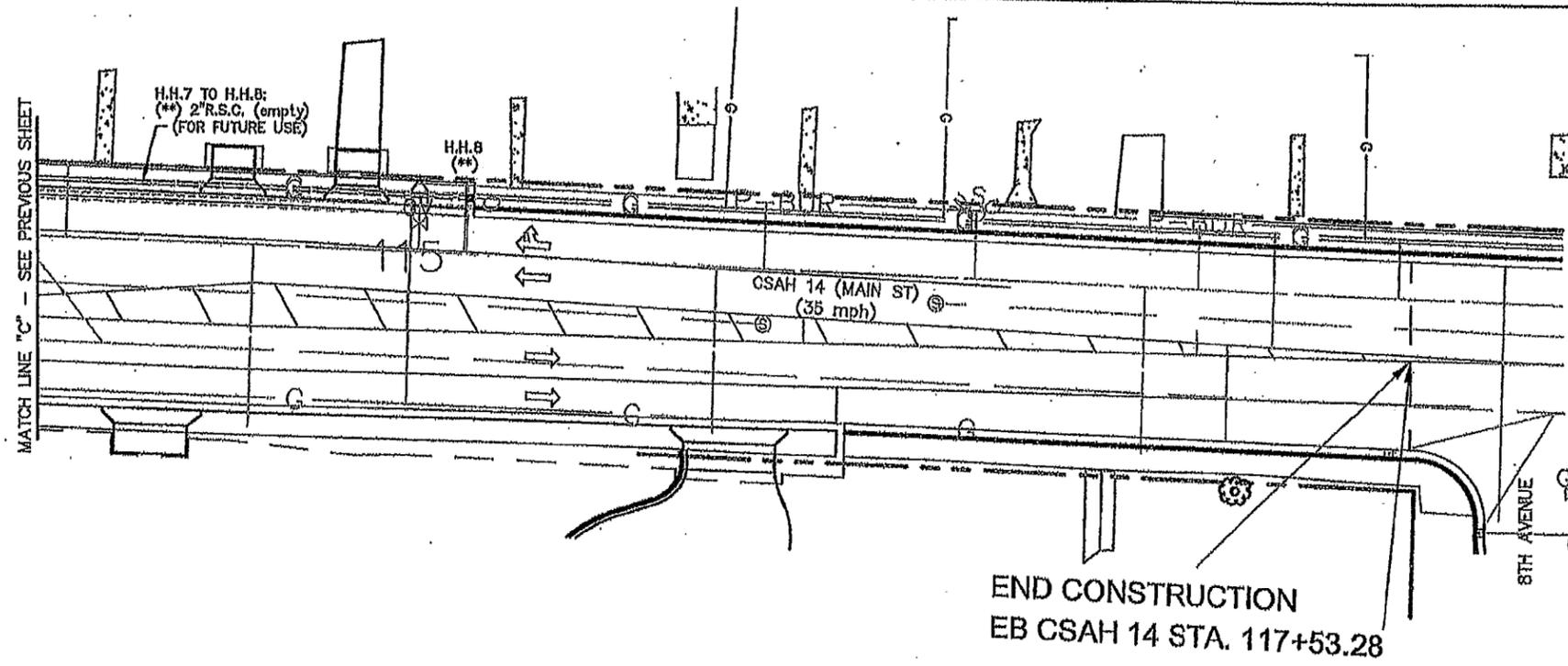
**TRAFFIC SIGNAL INTERCONNECT "C"**  
**INTERSECTION LAYOUT**  
**CSAH 7 (7TH AVENUE NW)**  
**(CSAH 14 TO BOB EHLEN DRIVE)**

FILE NO.  
 ANOKG 142312

**48**  
**115**



**INTERCONNECT NOTES:**  
 HANDHOLES 111 AND 112, AND 2\"/>



S:\VEVA\ANOKA COUNTY SIGNALS\14-15\SIGNAL DESIGN\2012-02-15-UPDATE-SIGNAL.DWG

DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
DESIGN TEAM		NO.	BY	DATE

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
  
 Name: John H. Gray, PE  
 Date: May 7, 2012  
 Lic. No.: 22457

**SEH**  
 PHONE: (651) 499-2000  
 3636 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

**ANOKA COUNTY, MN**  
**CITY OF ANOKA**

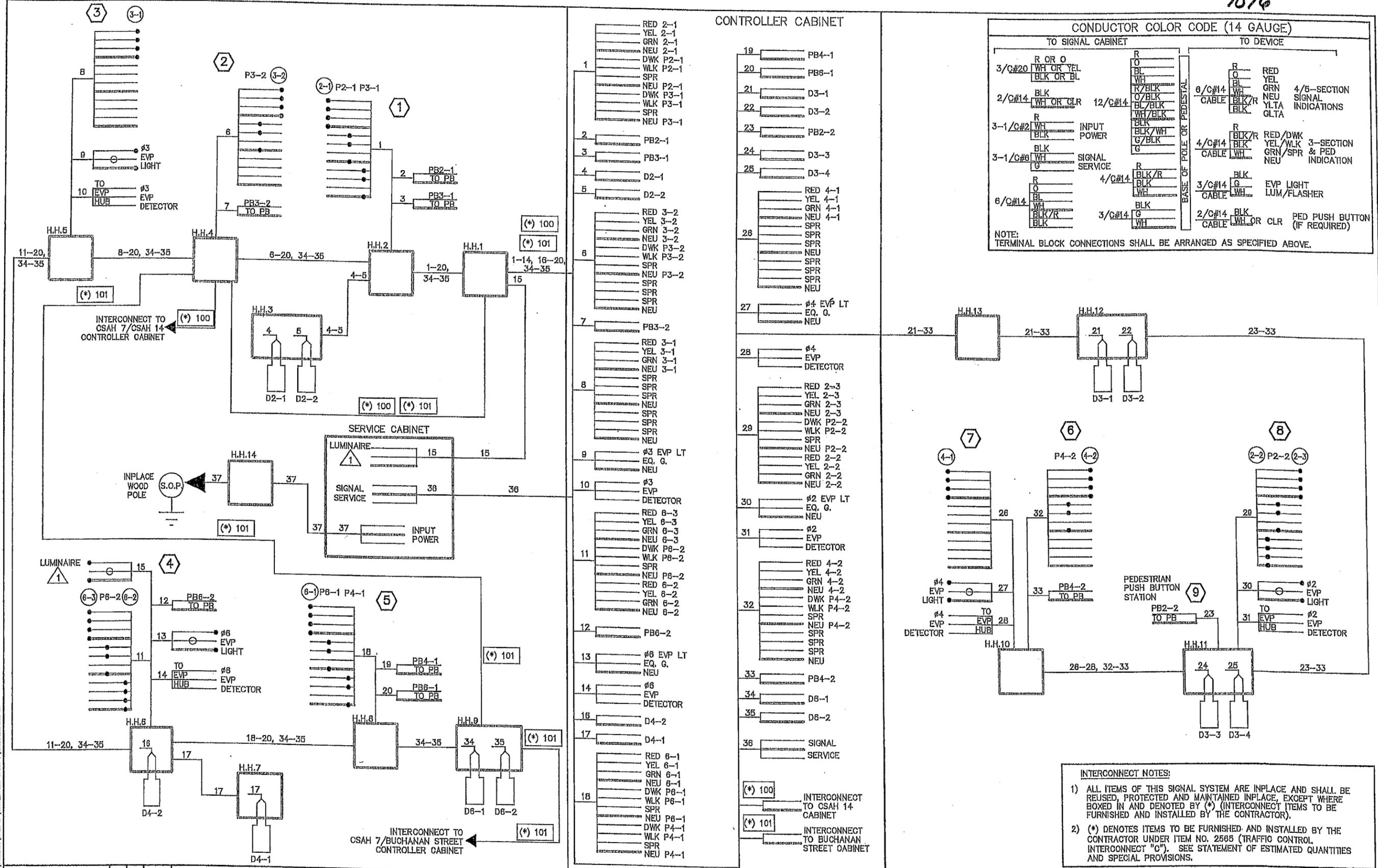
**TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT**  
**CSAH 7 (7TH AVE) AT CSAH 14 (MAIN ST)**  
 FILE NO. ANOKO 11620B  
 SIGNAL SHEET 80 OF 8010

S.P. 002-607-019





7076



**CONDUCTOR COLOR CODE (14 GAUGE)**

TO SIGNAL CABINET		TO DEVICE	
3/C#14	R OR O WH OR YEL BLK OR BL	R O BL WH	RED YEL GRN NEU YLTA GLTA
2/C#14	BLK WH OR CLR	R/BLK O/BLK BL/BLK WH/BLK	4/5-SECTION SIGNAL INDICATIONS
3-1/C#2	R WH BLK	BLK BLK/WH G/BLK G	RED/DWK YEL/WLK GRN/SPR NEU
3-1/C#6	BLK WH G	R BLK/R BLK WH	3-SECTION & PED INDICATION
6/C#14	R O BL WH BLK/R BLK	4/C#14 BLK WH	BLK WH EVP LIGHT LUM/FLASHER
		3/C#14 G WH	2/C#14 BLK WH OR CLR
			PED PUSH BUTTON (IF REQUIRED)

NOTE: TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

**INTERCONNECT NOTES:**

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (\*) (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- 2) (\*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2585 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

DRAWN BY: JMG  
 DESIGNER: JMG  
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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

John M. Gray, PE  
 Lic. No. 22457  
 Date: July 5, 2018

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 ST. PAUL, MN 55110

ANOKA COUNTY, MN  
 CITY OF ANOKA  
 SAP 002-030-010

TRAFFIC SIGNAL INTERCONNECT "C"  
 FIELD WIRING DIAGRAM  
 CSAH 7 (7TH AVENUE NW)  
 AT BOB EHLEN DRIVE/TYLER STREET

FILE NO.  
 ANOKO 142312

50  
 115