

NOTES:

- THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED IN FIELD BY ENGINEER.
- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION.
- THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
- SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL).
- EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION "FILLED" COUNTDOWN TIMER HAND/WALKING PERSON INDICATION.
- ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
- EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- SEE DETAILS, SPECIAL PROVISIONS, AND STATEMENT OF ESTIMATED QUANTITIES REGARDING BATTERY BACK-UP SIGNAL SERVICE CABINET TO BE FURNISHED AND INSTALLED BY CONTRACTOR (SEPARATE FROM ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
- LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- ALL VEHICLE AND PEDESTRIAN SIGNAL HOUSINGS, BACKGROUND SHIELDS, AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
- (EVP) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	10'	1
D2-1	6x6	475'	1
D3-1	2-6x6	20' & 50'	1
D3-2	2-6x6	5' & 35'	7
D4-1	6x6	300'	3,8
D4-2	2-6x6	0' & 15'	7
D4-3	2-6x6	0' & 15'	1
D5-1	6x6	40'	1
D5-2	6x6	10'	1
D6-1	6x6	475'	1
D7-1	2-6x6	20' & 50'	1
D7-2	2-6x6	5' & 35'	7
D8-1	6x6	300'	3,8
D8-2	2-6x6	0' & 15'	7
D8-3	2-6x6	0' & 15'	1

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

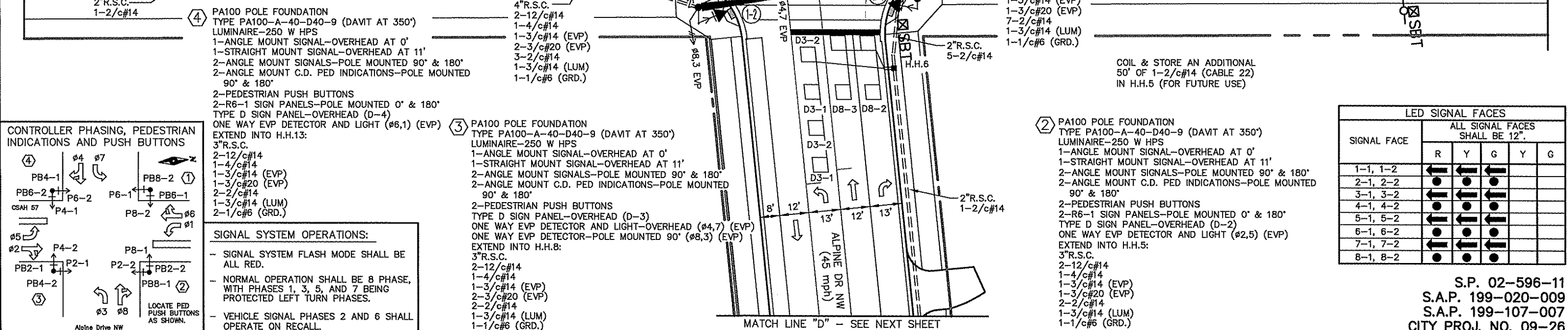
LOOP DETECTORS FUNCTIONS:

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

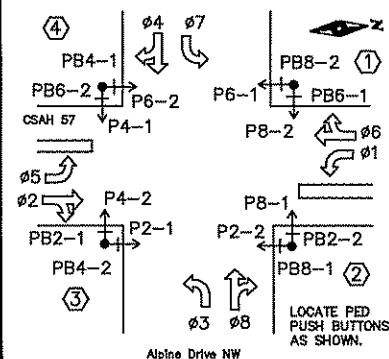
- 2-4" R.S.C.
- 4-12/c#14
- 2-4/c#14
- 2-3/c#14 (EVP)
- 4-3/c#20 (EVP)
- 12-2/c#14
- 2-3/c#14 (LUM)
- 1-1/c#6 (GRD.)

MATCH LINE "A" - SEE NEXT SHEET

MATCH LINE "C" - SEE NEXT SHEET



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1, 3, 5, AND 7 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

4 PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAVIT AT 350")
LUMINAIRE-250 W HPS
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180°
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90° & 180°
2-PEDESTRIAN PUSH BUTTONS
2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
TYPE D SIGN PANEL-OVERHEAD (D-4)
ONE WAY EVP DETECTOR AND LIGHT (Ø6,1) (EVP)
EXTEND INTO H.H.13:
3" R.S.C.
2-12/c#14
1-4/c#14
1-3/c#14 (EVP)
1-3/c#20 (EVP)
2-2/c#14
1-3/c#14 (LUM)
2-1/c#6 (GRD.)

3 PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAVIT AT 350")
LUMINAIRE-250 W HPS
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180°
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90° & 180°
2-PEDESTRIAN PUSH BUTTONS
TYPE D SIGN PANEL-OVERHEAD (D-3)
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (Ø4,7) (EVP)
ONE WAY EVP DETECTOR-POLE MOUNTED 90° (Ø8,3) (EVP)
EXTEND INTO H.H.8:
3" R.S.C.
2-12/c#14
1-4/c#14
1-3/c#14 (EVP)
2-3/c#20 (EVP)
2-2/c#14
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'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180°
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90° & 180°
2-PEDESTRIAN PUSH BUTTONS
2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
TYPE D SIGN PANEL-OVERHEAD (D-2)
ONE WAY EVP DETECTOR AND LIGHT (Ø2,5) (EVP)
EXTEND INTO H.H.5:
3" R.S.C.
2-12/c#14
1-4/c#14
1-3/c#14 (EVP)
1-3/c#20 (EVP)
2-2/c#14
1-3/c#14 (LUM)
1-1/c#6 (GRD.)

COIL & STORE AN ADDITIONAL 50' OF 1-2/c#14 (CABLE 22) IN H.H.5 (FOR FUTURE USE)

LED SIGNAL FACES					
SIGNAL FACE	ALL SIGNAL FACES SHALL BE 12"				
	R	Y	G	Y	G
1-1, 1-2	●	●	●	●	●
2-1, 2-2	●	●	●	●	●
3-1, 3-2	●	●	●	●	●
4-1, 4-2	●	●	●	●	●
5-1, 5-2	●	●	●	●	●
6-1, 6-2	●	●	●	●	●
7-1, 7-2	●	●	●	●	●
8-1, 8-2	●	●	●	●	●

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
Name: John M. Gray, PE
Lic. No. 22457
Date: March 2, 2011

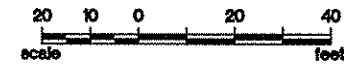
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PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT
CSAH 57 (SUNFISH LAKE BLVD) AT ALPINE DRIVE NW

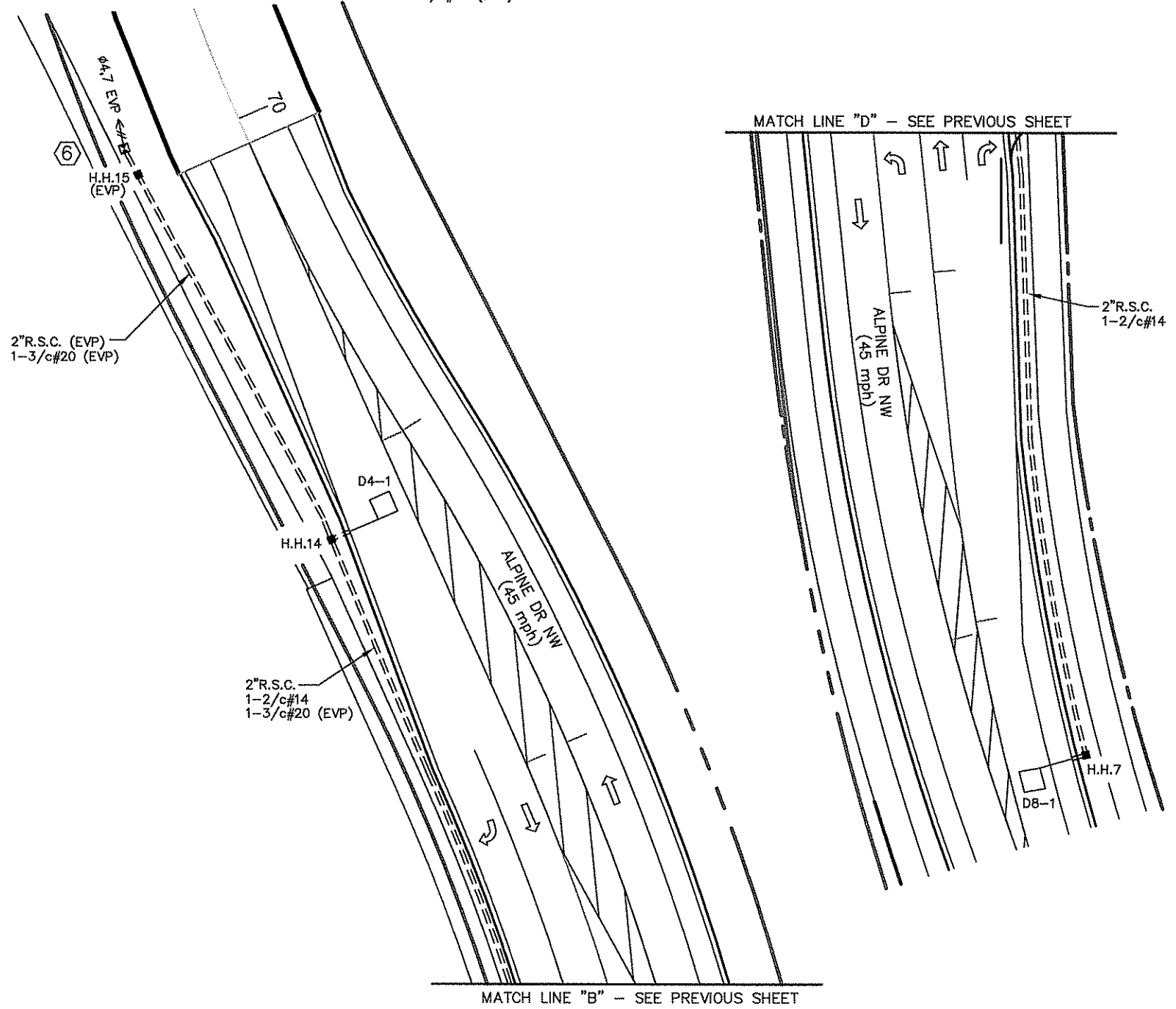
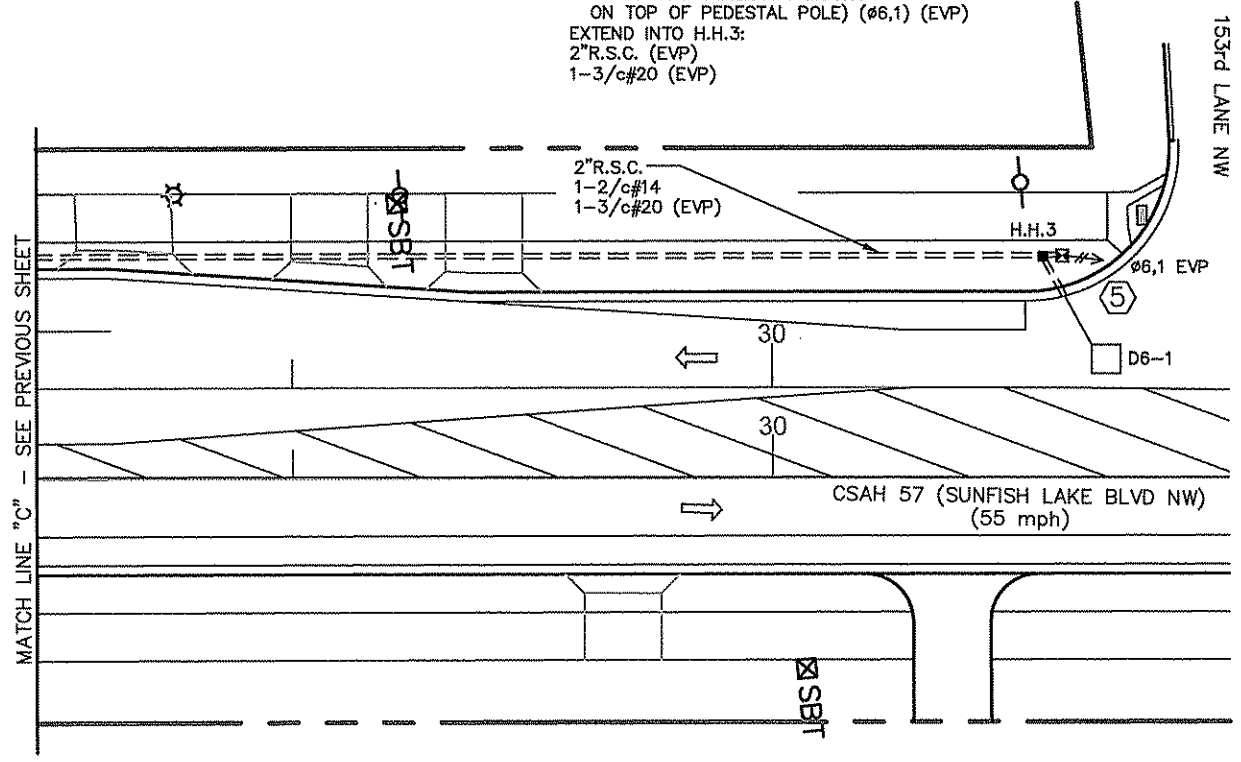
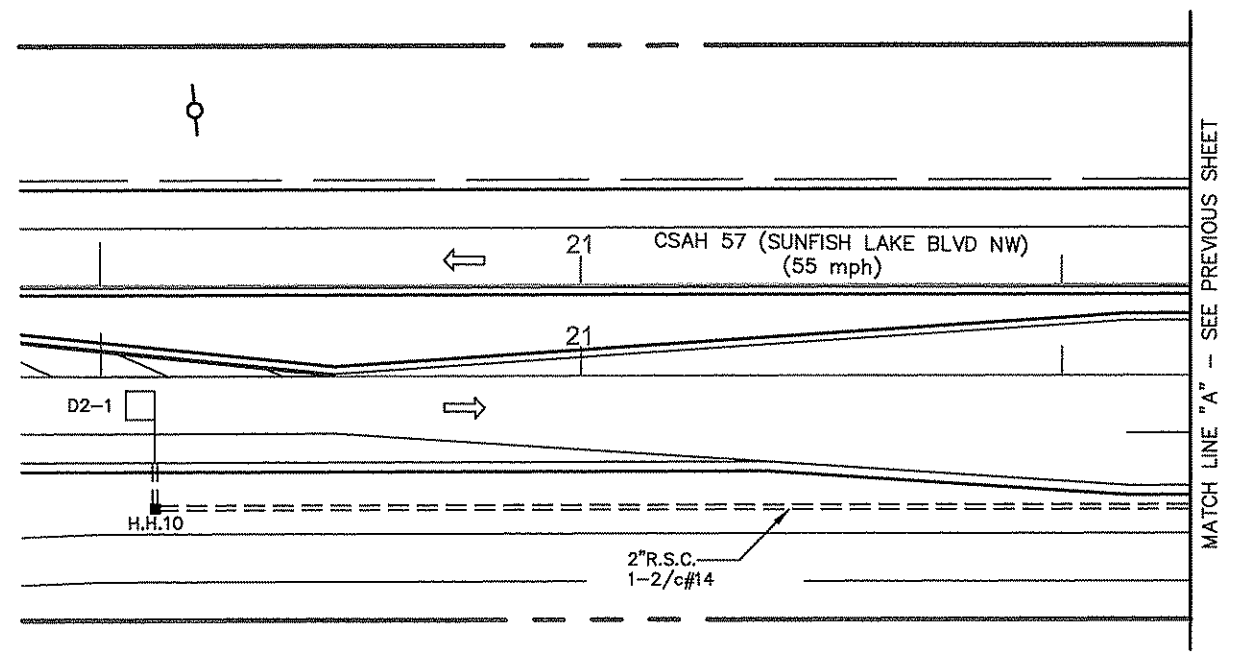
S.P. 02-596-11
S.A.P. 199-020-009
S.A.P. 199-107-007
CITY PROJ. NO. 09-26

FILE NO. ANOKC 111182
SHEET 95 OF 98



⑥ PEDESTAL FOUNDATION (EVP)
 10' PEDESTAL POLE (INCLUDES BASE) (EVP)
 WIND COLLAR FOR PEDESTAL POLE (EVP)
 ONE WAY EVP DETECTOR-MOUNT
 ON TOP OF PEDESTAL POLE) (Ø4,7) (EVP)
 EXTEND INTO H.H.15:
 2"R.S.C. (EVP)
 1-3/c#20 (EVP)

⑤ PEDESTAL FOUNDATION (EVP)
 10' PEDESTAL POLE (INCLUDES BASE) (EVP)
 WIND COLLAR FOR PEDESTAL POLE (EVP)
 ONE WAY EVP DETECTOR-MOUNT
 ON TOP OF PEDESTAL POLE) (Ø6,1) (EVP)
 EXTEND INTO H.H.3:
 2"R.S.C. (EVP)
 1-3/c#20 (EVP)



S:\VE\A\ANDOK\C\COMMON\SIGNALS\57-ALPINE\SIGBASE.DWG

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

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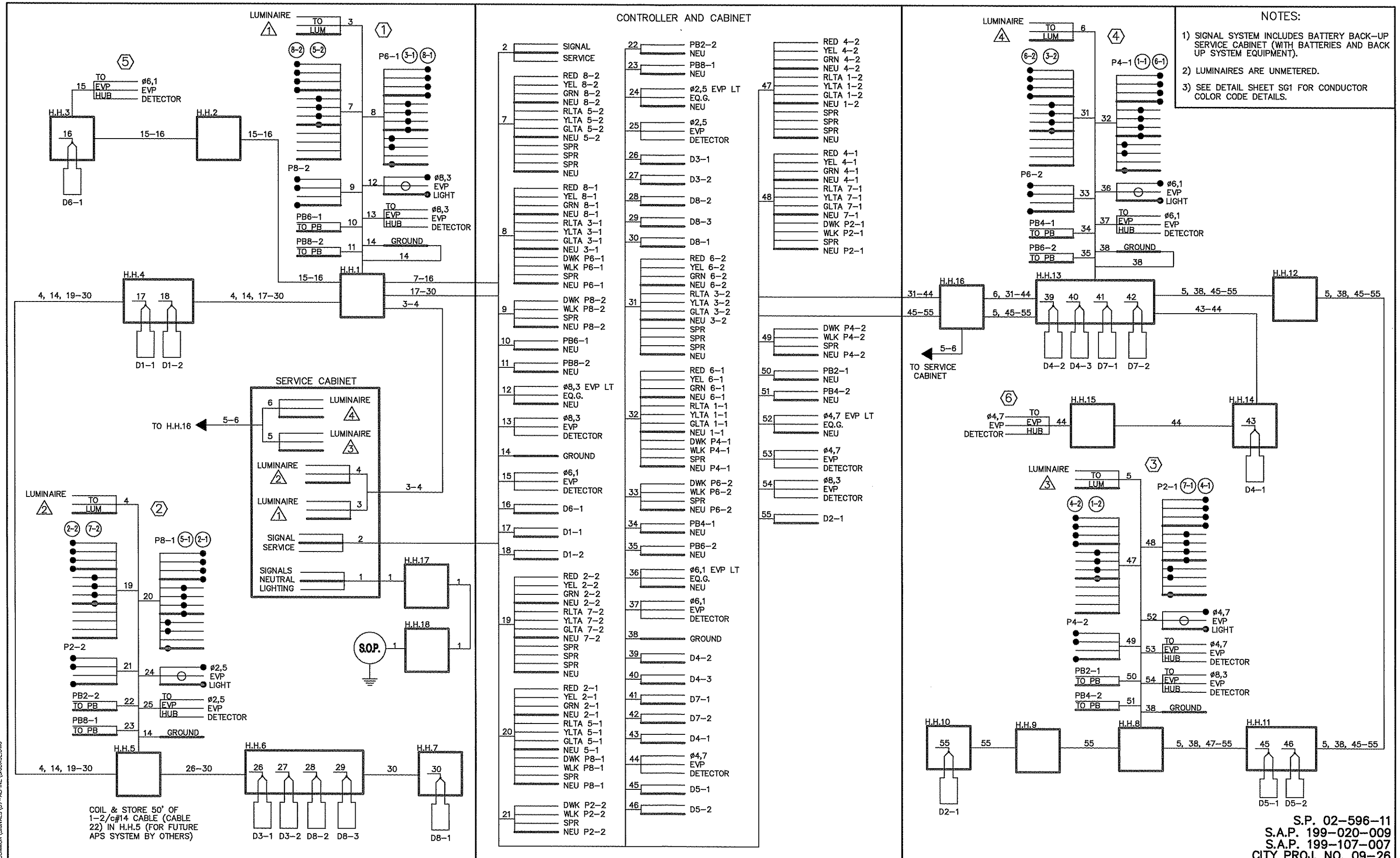
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**ANOKA COUNTY,
 MINNESOTA
 CITY OF RAMSEY**

**TRAFFIC SIGNAL SYSTEM
 INTERSECTION LAYOUT
 CSAH 57 (SUNFISH LAKE BLVD)
 AT ALPINE DRIVE NW**

S.P. 02-596-11
 S.A.P. 199-020-009
 S.A.P. 199-107-007
 CITY PROJ. NO. 09-26

FILE NO. ANOKC 111182
 SHEET 61
 SGT OF SGB 95



NOTES:

- 1) SIGNAL SYSTEM INCLUDES BATTERY BACK-UP SERVICE CABINET (WITH BATTERIES AND BACK UP SYSTEM EQUIPMENT).
- 2) LUMINAIRES ARE UNMETERED.
- 3) SEE DETAIL SHEET SG1 FOR CONDUCTOR COLOR CODE DETAILS.

COIL & STORE 50' OF 1-2/c#14 CABLE (CABLE 22) IN H.H.5 (FOR FUTURE APS SYSTEM BY OTHERS)

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

DESIGN TEAM	NO.	BY	DATE	REVISIONS

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ANOKA COUNTY, MINNESOTA
 CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM
 FIELD WIRING DIAGRAM
 CSAH 57 (SUNFISH LAKE BLVD)
 AT ALPINE DRIVE NW

S.P. 02-596-11
 S.A.P. 199-020-009
 S.A.P. 199-107-007
 CITY PROJ. NO. 09-26

FILE NO. ANOKC 111182
 SHEET 95
 SGB OF SGB