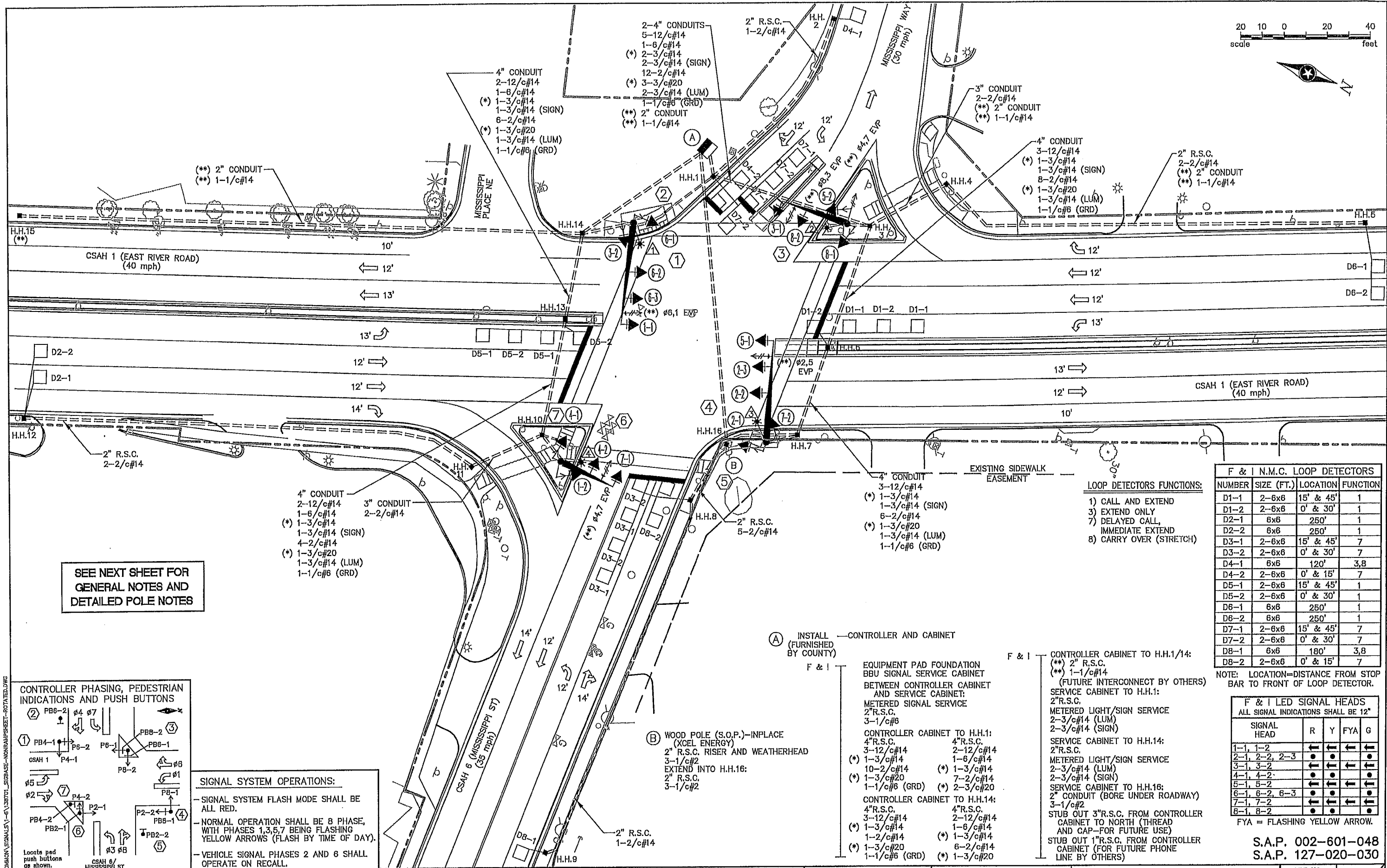
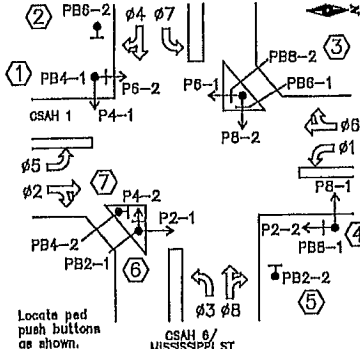


SEE NEXT SHEET FOR
GENERAL NOTES AND
DETAILED POLE NOTES

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 1,3,6,7 BEING FLASHING YELLOW ARROWS (FLASH BY TIME OF DAY).
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

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.

Date: May 10, 2017 Name: John M. Gray, PE Lico. No. 22457



**ANOKA COUNTY,
MINNESOTA
CITY OF FRIDLEY**

**TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 1 AT CSAH 6/MISSISSIPPI WAY**

FILE NO. ANOKA 135701	25
DATE 05/10/2017	30

F & I N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	15' & 45'	1
D1-2	2-6x6	0' & 30'	1
D2-1	6x6	250'	1
D2-2	6x6	250'	1
D3-1	2-6x6	15' & 45'	7
D3-2	2-6x6	0' & 30'	7
D4-1	6x6	120'	3,8
D4-2	2-6x6	0' & 15'	7
D5-1	2-6x6	15' & 45'	1
D5-2	2-6x6	0' & 30'	1
D6-1	6x6	250'	1
D6-2	6x6	250'	1
D7-1	2-6x6	15' & 45'	7
D7-2	2-6x6	0' & 30'	7
D8-1	6x6	180'	3,8
D8-2	2-6x6	0' & 15'	7

- LOOP DETECTORS FUNCTIONS:**
- 1) CALL AND EXTEND
 - 3) EXTEND ONLY
 - 7) DELAYED CALL, IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)

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

F & I LED SIGNAL HEADS ALL SIGNAL INDICATIONS SHALL BE 12"				
SIGNAL HEAD	R	Y	FYA	G
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	●	●	●	●

FYA = FLASHING YELLOW ARROW.

S.A.P. 002-601-048
S.A.P. 127-020-030

NOTES:

- 1) LOCATION OF FOUNDATIONS, LOOP DETECTORS, AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 3) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS. SEE SPECIAL PROVISIONS.
- 4) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE & CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM END OF EACH MAST ARM (FOR EVP).
- 5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION (XCEL ENERGY). SEE SPECIAL PROVISIONS.
- 6) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION LED FILLED COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
- 7) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- 8) SEE DETAILS, SPECIAL PROVISIONS & 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).
- 9) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- 10) (*) DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE STATEMENT OF ESTIMATED AND SPECIAL PROVISIONS.
- 11) ALL ITEMS OF THE COMPLETE SIGNAL AND EVP SYSTEM SHALL BE CONTRACTOR FURNISHED AND INSTALLED UNLESS SPECIFICALLY DENOTED OTHERWISE.
- 12) (**) DENOTES ITEMS TO BE INCLUDED AS PART OF SEPARATE PAY ITEMS FOR CONDUIT AND HANDHOLES TO BE FURNISHED AND INSTALLED BY CONTRACTOR (FOR FUTURE INTERCONNECT SYSTEM). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 13) SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (TO BE MEASURED AND PAID FOR SEPARATELY FROM "TRAFFIC CONTROL SIGNAL SYSTEM" PAY ITEM).
- 14) CONTRACTOR SHALL MAINTAIN OPERATION OF A TRAFFIC SIGNAL SYSTEM AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY COUNTY FOR SIGNAL SYSTEM TO BE TURNED OFF FOR CHANGEOVERS BETWEEN SIGNAL SYSTEMS. SEE SPECIAL PROVISIONS, TEMPORARY SIGNAL PLANS, AND STATEMENT OF ESTIMATED QUANTITIES REGARDING TEMPORARY SIGNAL OPERATION.
- 15) SEPARATE BID ITEMS ARE LISTED FOR MAST ARM MOUNTED STREET NAME SIGNS TO BE PROVIDED AND INSTALLED BY CONTRACTOR. "BASE BID" INCLUDES PAY ITEM FOR PROVIDING AND INSTALLING TYPE D SIGN PANELS AND ALL REQUIRED MOUNTING HARDWARE UNDER ITEM NO. 2564 (SIGN PANELS TYPE D SIGNALS). "ADD ALTERNATE BID" INCLUDES PAY ITEM FOR PROVIDING AND INSTALLING INTERNALLY ILLUMINATED SIGNS (INCLUDING SIGNS, HOUSINGS, BRACKETING, CABLES AND CONDUCTORS, AND ALL OTHER COMPONENTS NECESSARY FOR OPERATION OF THESE SIGNS) UNDER ITEM NO. 2564 (INTERNALLY ILLUMINATED SIGN). SHOULD "ADD ALTERNATE BID" BE ACCEPTED BY COUNTY AND CITY, THE BID ITEM FOR SIGN PANELS TYPE D SIGNALS WILL BE DELETED FROM THE CONTRACT. SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES.
- 16) (SIGN) DENOTES MATERIALS AND ELECTRICAL EQUIPMENT INCLUDED AS PART OF INTERNALLY ILLUMINATED SIGN PANEL INSTALLATIONS.

① INSTALL (FURNISHED BY COUNTY) TYPE PA100-A-45-D30-9 (DAVIT AT 350 DEG) (*) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#6,1)

F & I PA100 POLE FOUNDATION
LUMINAIRE-LED SHOEBOX
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11', 23'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 1-1
TYPE D SIGN PANEL-OVERHEAD (D-1) (SEE NOTE 15)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO H.H.14:
3"R.S.C.
3-12/c#14
(*) 1-3/c#14
1-3/c#14 (SIGN) (SEE NOTE 15)
2-2/c#14
(*) 1-3/c#20
1-3/c#14 (LUM)
1-1/c#6 (GRD)

③ INSTALL (FURNISHED BY COUNTY) TYPE PA90-A-30-D30-9 (DAVIT AT 350 DEG) (*) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#8,3) (*) ONE WAY EVP DETECTOR (#4,7)

F & I PA90 POLE FOUNDATION
LUMINAIRE-LED SHOEBOX
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 3-1
TYPE D SIGN PANEL-OVERHEAD (D-2) (SEE NOTE 15)
(*) ONE WAY EVP MAST ARM MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
(*) ONE WAY EVP POLE MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AT 90 DEG)
EXTEND INTO H.H.3:
3"R.S.C.
2-12/c#14
1-6/c#14
(*) 1-3/c#14
1-3/c#14 (SIGN) (SEE NOTE 15)
2-2/c#14
(*) 2-3/c#20
1-3/c#14 (LUM)
1-1/c#6 (GRD)

④ INSTALL (FURNISHED BY COUNTY) TYPE PA100-A-45-D30-9 (DAVIT AT 350 DEG) (*) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#2,5)

F & I PA100 POLE FOUNDATION
LUMINAIRE-LED SHOEBOX
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11', 23'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 5-1
TYPE D SIGN PANEL-OVERHEAD (D-3) (SEE NOTE 15)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO H.H.7:
3"R.S.C.
3-12/c#14
(*) 1-3/c#14
1-3/c#14 (SIGN) (SEE NOTE 15)
1-2/c#14
(*) 1-3/c#20
1-3/c#14 (LUM)
1-1/c#6 (GRD)

⑥ INSTALL (FURNISHED BY COUNTY) TYPE PA90-A-25-D30-9 (DAVIT AT 350 DEG) (*) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (#4,7)

F & I PA90 POLE FOUNDATION
LUMINAIRE-LED SHOEBOX
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 7-1
TYPE D SIGN PANEL-OVERHEAD (D-4) (SEE NOTE 15)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO H.H.10:
3"R.S.C.
2-12/c#14
1-6/c#14
(*) 1-3/c#14
1-3/c#14 (SIGN) (SEE NOTE 15)
2-2/c#14
(*) 1-3/c#20
1-3/c#14 (LUM)
1-1/c#6 (GRD)

② F & I PEDESTRIAN PUSH BUTTON STATION (SEE DETAILS)
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
EXTEND INTO H.H.1:
1"R.S.C.
1-2/c#14

⑤ F & I PEDESTRIAN PUSH BUTTON STATION (SEE DETAILS)
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
EXTEND INTO H.H.8:
1"R.S.C.
1-2/c#14

⑦ F & I PEDESTRIAN PUSH BUTTON STATION (SEE DETAILS)
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
EXTEND INTO H.H.10:
1"R.S.C.
1-2/c#14

S.A.P. 002-601-048
S.A.P. 127-020-030

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.
Date: May 10, 2017 Name: John M. Gray, PE Lto. No. 22457

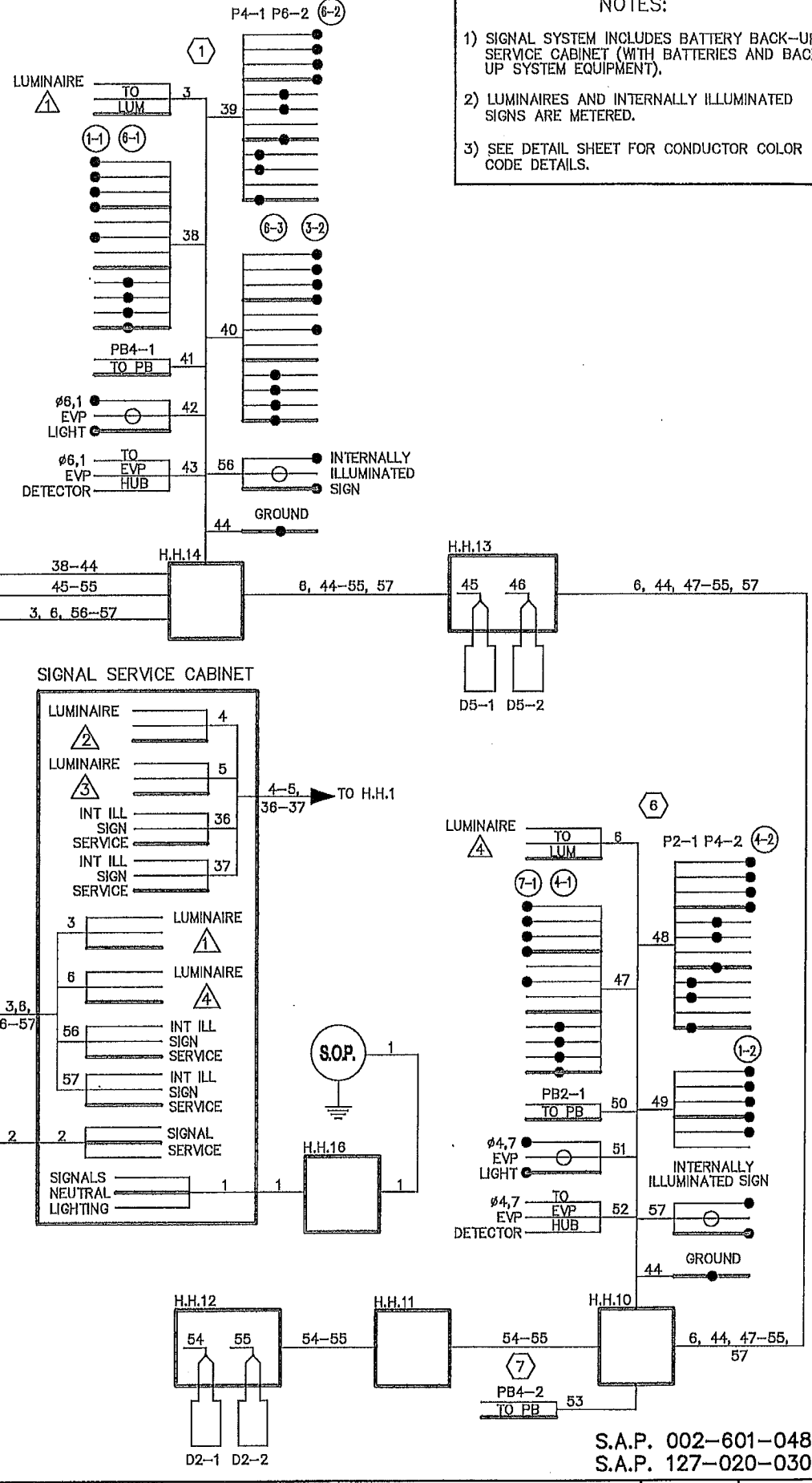
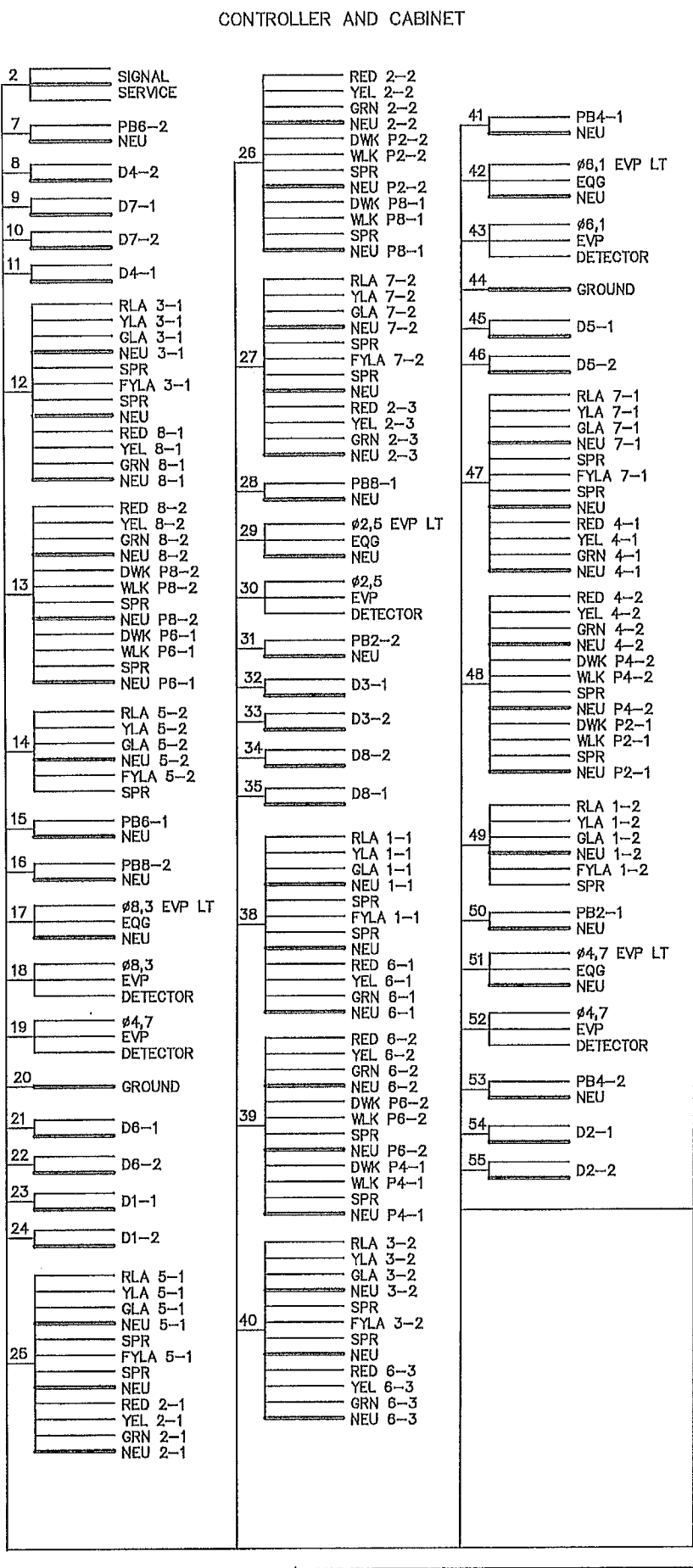
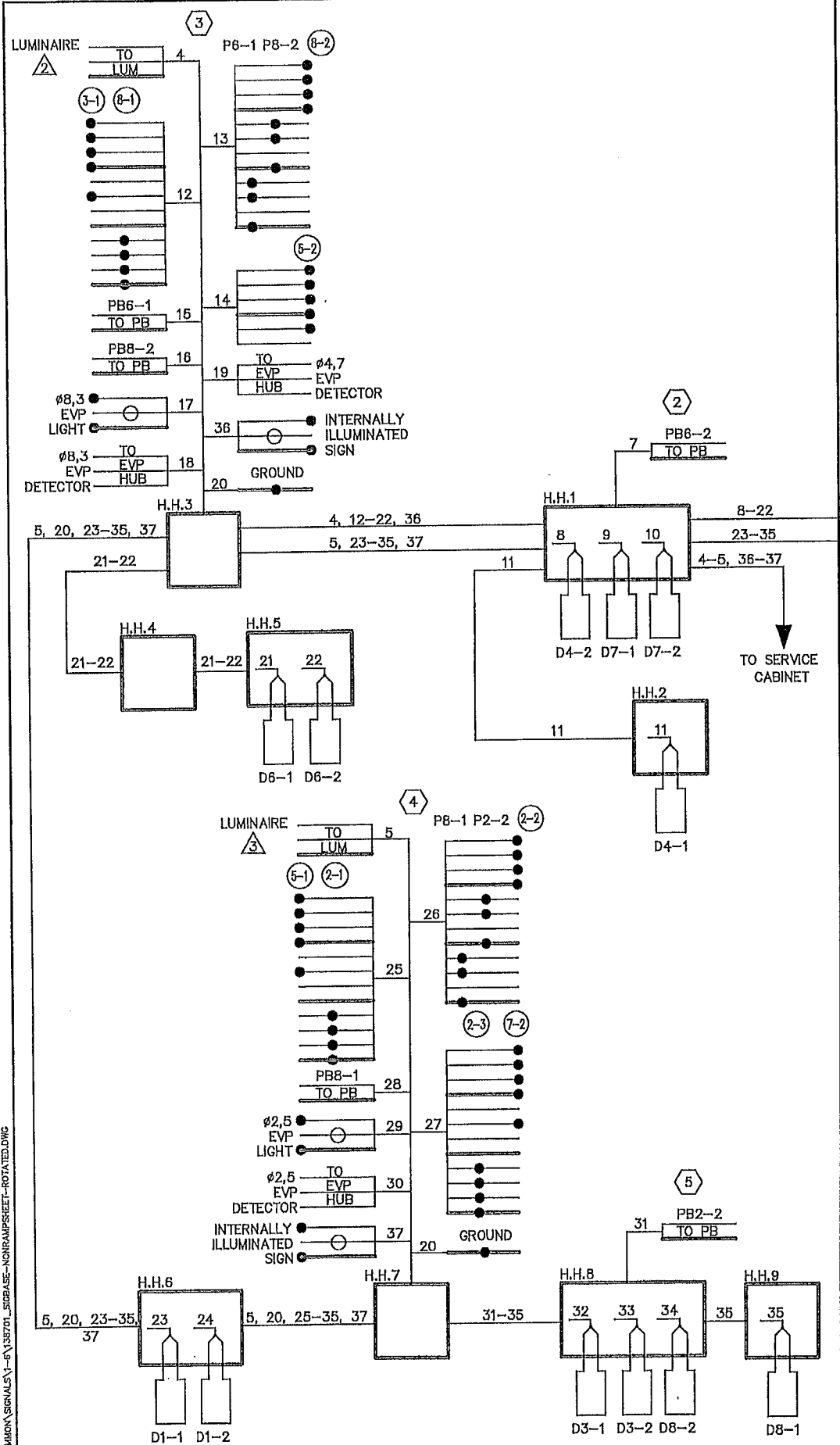
SEH PHONE: (651) 480-2000 3535 VADRAIS CENTER DR. ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF FRIDLEY

TRAFFIC SIGNAL SYSTEM
POLE AND GENERAL NOTES
CSAH 1 AT CSAH 6/MISSISSIPPI WAY

FILE NO.
ANOKC 138701
DATE
05/10/2017

26
30



- NOTES:
- 1) SIGNAL SYSTEM INCLUDES BATTERY BACK-UP SERVICE CABINET (WITH BATTERIES AND BACK UP SYSTEM EQUIPMENT).
 - 2) LUMINAIRES AND INTERNALLY ILLUMINATED SIGNS ARE METERED.
 - 3) SEE DETAIL SHEET FOR CONDUCTOR COLOR CODE DETAILS.

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

NO.	BY	DATE	REVISIONS

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Date: May 10, 2017 Name: John M. Gray, PE Lto. No. 22457

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

ANOKA COUNTY,
MINNESOTA
CITY OF FRIDLEY

TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
CSAH 1 AT CSAH 6/MISSISSIPPI WAY

S.A.P. 002-601-048
S.A.P. 127-020-030

FILE NO. ANOKC 138701
DATE 05/10/2017

27
30