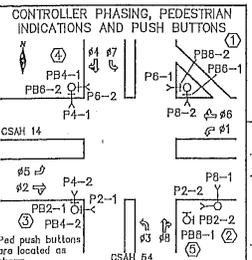
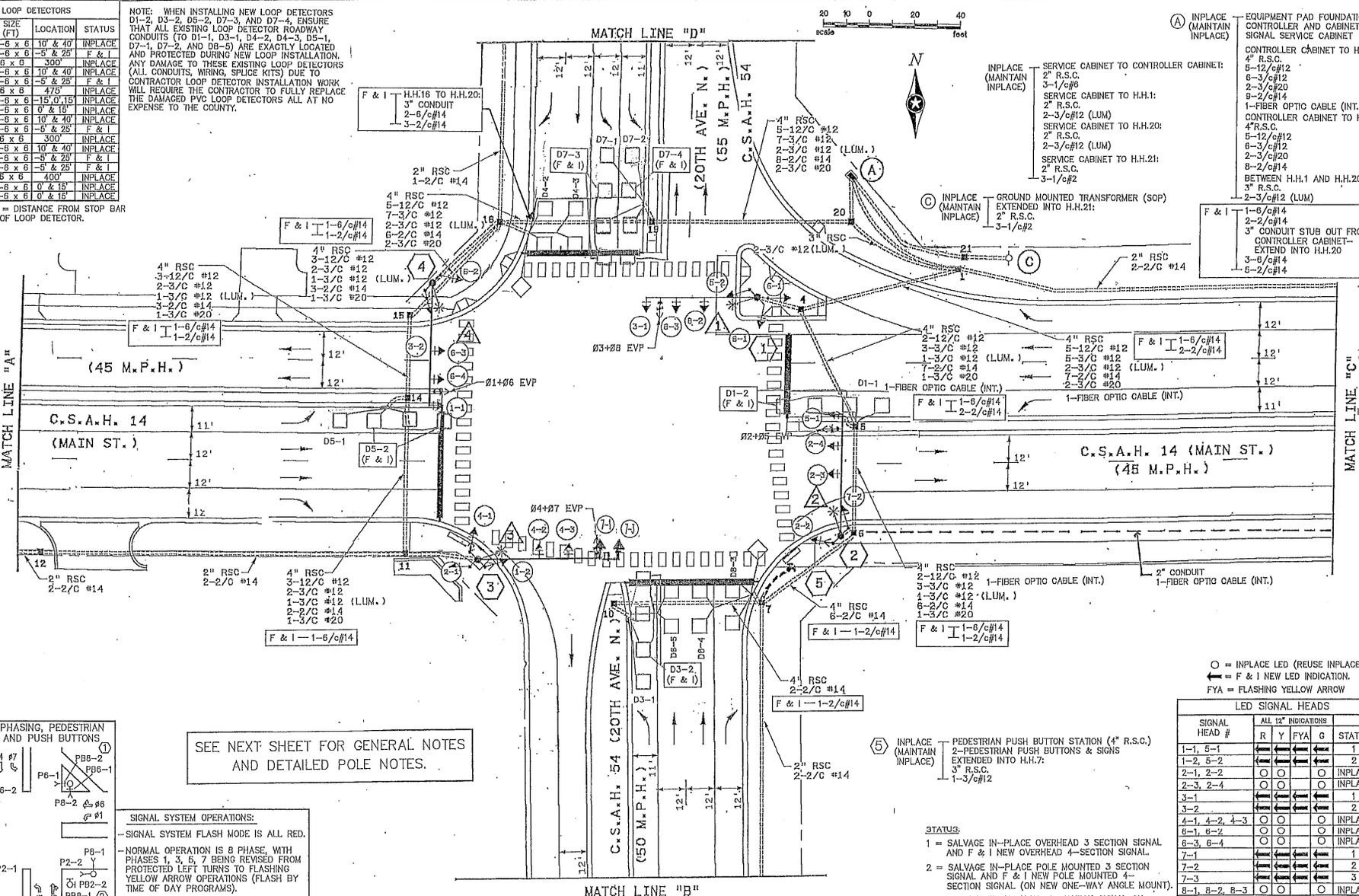


NUMBER	SIZE (FT)	LOCATION	STATUS
D1-1	2-6 x 6	10' & 40'	INPLACE
D1-2	2-6 x 6	5' & 25'	F & I
D2-1, D2-2	6 x 6	300'	INPLACE
D3-1	2-6 x 6	10' & 40'	INPLACE
D3-2	2-6 x 6	5' & 25'	F & I
D4-1	6 x 6	475'	INPLACE
D4-2	3-6 x 6	15' & 15'	INPLACE
D4-3	2-6 x 6	0' & 15'	INPLACE
D5-1	2-6 x 6	10' & 40'	INPLACE
D6-1	2-6 x 6	5' & 25'	F & I
D6-2	2-6 x 6	0' & 25'	F & I
DB-1, DB-2	6 x 6	300'	INPLACE
D7-1, D7-2	2-6 x 6	10' & 40'	INPLACE
D7-3	2-6 x 6	5' & 25'	F & I
D7-4	2-6 x 6	5' & 25'	F & I
DB-1, DB-2	6 x 6	400'	INPLACE
DB-3	3-6 x 6	0' & 15'	INPLACE
DB-4, DB-5	2-6 x 6	0' & 15'	INPLACE

NOTE: WHEN INSTALLING NEW LOOP DETECTORS D1-2, D3-2, D5-2, D7-3, AND D7-4, ENSURE THAT ALL EXISTING LOOP DETECTOR ROADWAY CONDUITS (TO D1-1, D3-1, D4-2, D4-3, D5-1, D7-1, D7-2, AND DB-5) ARE EXACTLY LOCATED AND PROTECTED DURING NEW LOOP INSTALLATION. ANY DAMAGE TO THESE EXISTING LOOP DETECTORS (ALL CONDUITS, WIRING, SPLICE KITS) DUE TO CONTRACTOR LOOP DETECTOR INSTALLATION WORK WILL REQUIRE THE CONTRACTOR TO FULLY REPLACE THE DAMAGED PVC LOOP DETECTORS ALL AT NO EXPENSE TO THE COUNTY.

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



SEE NEXT SHEET FOR GENERAL NOTES AND DETAILED POLE NOTES.

SIGNAL SYSTEM OPERATIONS:
 - SIGNAL SYSTEM FLASH MODE IS ALL RED.
 - NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5, 7 BEING REVISED FROM PROTECTED LEFT TURNS TO FLASHING YELLOW ARROW OPERATIONS (FLASH BY TIME OF DAY PROGRAMS).
 - VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

STATUS:
 1 = SALVAGE IN-PLACE OVERHEAD 3 SECTION SIGNAL AND F & I NEW OVERHEAD 4-SECTION SIGNAL.
 2 = SALVAGE IN-PLACE POLE MOUNTED 3 SECTION SIGNAL AND F & I NEW POLE MOUNTED 4-SECTION SIGNAL (ON NEW ONE-WAY ANGLE MOUNT).
 3 = F & I NEW OVERHEAD 4-SECTION SIGNAL ON NEW 5-FOOT EXTENSION.

○ = INPLACE LED (REUSE INPLACE).
 ◀ = F & I NEW LED INDICATION.
 FYA = FLASHING YELLOW ARROW

SIGNAL HEAD #	ALL 12" INDICATIONS				STATUS
	R	Y	FYA	G	
1-1, 5-1	◀	◀	◀	◀	1
1-2, 5-2	◀	◀	◀	◀	2
2-1, 2-2	○	○	○	○	INPLACE
2-3, 2-4	○	○	○	○	INPLACE
3-1	◀	◀	◀	◀	1
3-2	◀	◀	◀	◀	2
4-1, 4-2, 4-3	○	○	○	○	INPLACE
5-1, 5-2	○	○	○	○	INPLACE
6-3, 6-4	○	○	○	○	INPLACE
7-1	◀	◀	◀	◀	1
7-2	◀	◀	◀	◀	2
7-3	◀	◀	◀	◀	3
8-1, 8-2, 8-3	○	○	○	○	INPLACE

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

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.
 J.M.G.
 Name: John M. Gray, PE

ANOKA COUNTY
 CITIES OF CENTERVILLE AND LINO LAKES, MN
 PHONE: (951) 490-2000
 3535 MADISON CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY
 CITIES OF CENTERVILLE AND LINO LAKES, MN

REVISE SIGNAL SYSTEM 'A'
 INTERSECTION LAYOUT
 CS.A.H. 14 (MAIN ST.) AT CS.A.H. 54 (20TH AVE. N.)

FILE NO. ANOKC 136739
 DATE 06/27/2016
 5
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NOTES:

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
- 2) ALL HANDHOLES ARE PVC HANDHOLES WITH METAL FRAMES AND COVERS AND ARE INPLACE (REUSE AND MAINTAIN INPLACE).
- 3) ALL PEDESTRIAN SIGNAL HEADS ARE ONE-SECTION LED "HAND/WALKING PERSON" COUNTDOWN TIMER INDICATIONS AND ARE INPLACE (REUSE AND MAINTAIN INPLACE).
- 4) ALL LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AND OPERATIONAL, EXCEPT AS FOLLOWS: CONTRACTOR SHALL FURNISH AND INSTALL NEW LOOP DETECTORS D1-2, D3-2, D5-2, D7-3, AND D7-4 IN PVC PER DETAILS INCLUDED ELSEWHERE IN THESE PLANS. LOOP DETECTOR WIRES FOR NEW LOOP DETECTORS SHALL BE CROSS-LINKED POLY-ETHYLENE (XLP) IN 3/4" NMC. SEE SPECIAL PROVISIONS.
- 5) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), DUE TO TRAFFIC SIGNAL REVISION WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- 6) CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY ENGINEER.
- 7) ALL NEW VEHICULAR SIGNAL HEADS SHALL HAVE BACKGROUND SHIELDS FURNISHED & INSTALLED BY CONTRACTOR. ALL INPLACE VEHICULAR SIGNAL HEADS BEING REUSED AS PART OF REVISE SIGNAL SYSTEM "A" HAVE BACKGROUND SHIELDS (REUSE AND MAINTAIN INPLACE).
- 8) LOCATION OF NEW LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 9) F & I = NEW, FURNISH AND INSTALL.
S & I = INPLACE, SALVAGE AND INSTALL.
- 10) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS TO BE INSTALLED AND MADE OPERATIONAL BY CONTRACTOR.
- 11) ALL NEW VEHICULAR SIGNAL HOUSINGS, BACKGROUND SHIELDS AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
- 12) SEE SPECIAL PROVISIONS REGARDING NEW TYPE C SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM A").

① INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-45-D30-9 (DAVMT AT 350 DEG)
 LUMINAIRE-250 W HPS
 2-ONE WAY SIGNALS-OVERHEAD AT 12' (8-3) AND 24' (8-2)
 2-ONE WAY SIGNALS-POLE MOUNTED 135 DEG (6-1) AND 225 DEG (8-1)
 2-SETS CD PED SIGNALS-POLE MOUNTED AT 45 DEG (P8-1) AND 225 DEG (P8-2)
 2-PEDESTRIAN PUSH BUTTONS & SIGNS
 TYPE D SIGN PANEL-OVERHEAD AT 28'
 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
 ONE WAY EVP DETECTOR AND LIGHT AT 6' (#8,3)
 EXTENDED INTO H.H.4:
 3" R.S.C.
 3-12/c#12
 2-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

INPLACE | ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 3-1)
 (SALVAGE) | ONE WAY SIGNAL AND MOUNT-POLE MOUNTED 45 DEG (OLD 5-2)
 F & I | 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 3-1)
 | 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 45 DEG (NEW 5-2)
 | R10-X12 SIGN PANEL-ADJACENT TO 3-1

③ INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-55-D30-9 (DAVMT AT 350 DEG)
 LUMINAIRE-250 W HPS
 2-ONE WAY SIGNALS-OVERHEAD AT 18' (4-3) AND 30' (4-2)
 2-ONE WAY SIGNALS-POLE MOUNTED 135 DEG (2-1) AND 225 DEG (4-1)
 2-SETS CD PED SIGNALS-POLE MOUNTED AT 45 DEG (P2-1) AND 225 DEG (P4-2)
 2-PEDESTRIAN PUSH BUTTONS & SIGNS
 TYPE D SIGN PANEL-OVERHEAD AT 34'
 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
 ONE WAY EVP DETECTOR AND LIGHT AT 6' (#4,7)
 EXTENDED INTO H.H.11:
 3" R.S.C.
 3-12/c#12
 2-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

INPLACE | ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 7-1)
 (SALVAGE) | ONE WAY SIGNAL AND MOUNT-POLE MOUNTED 45 DEG (OLD 1-2)
 F & I | 5 FOOT MAST ARM EXTENSION
 | 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT -5' (NEW 7-3)
 | STRAP-ON MID-MAST ARM MOUNT AT 5' (FOR NEW 7-1)
 | 1-ONE WAY SIGNAL-OVERHEAD AT 5' (NEW 7-1)
 | 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 45 DEG (NEW 1-2)
 | R10-X12 SIGN PANEL-BETWEEN SIGNAL HEADS 7-3 AND 7-1
 | 1-6/c#14

② INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-50-D30-9 (DAVMT AT 350 DEG)
 LUMINAIRE-250 W HPS
 2-ONE WAY SIGNALS-OVERHEAD AT 12' (2-4) AND 24' (2-3)
 1-ONE WAY SIGNAL-POLE MOUNTED 225 DEG (2-2)
 2-SETS CD PED SIGNALS-POLE MOUNTED AT 45 DEG (P8-1) AND 225 DEG (P2-2)
 TYPE D SIGN PANEL-OVERHEAD AT 32'
 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
 ONE WAY EVP DETECTOR AND LIGHT AT 6' (#2,5)
 EXTENDED INTO H.H.6:
 3" R.S.C.
 2-12/c#12
 3-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

INPLACE | ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 5-1)
 (SALVAGE) | ONE WAY SIGNAL AND MOUNT-POLE MOUNTED 45 DEG (OLD 7-2)
 F & I | 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 5-1)
 | 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 45 DEG (NEW 7-2)
 | R10-X12 SIGN PANEL-ADJACENT TO 5-1
 | 1-6/c#14

④ INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-50-D30-9 (DAVMT AT 350 DEG)
 LUMINAIRE-250 W HPS
 2-ONE WAY SIGNALS-OVERHEAD AT 12' (6-4) AND 24' (6-3)
 1-ONE WAY SIGNAL-POLE MOUNTED 225 DEG (6-2)
 2-SETS CD PED SIGNALS-POLE MOUNTED AT 45 DEG (P4-1) AND 225 DEG (P8-2)
 2-PEDESTRIAN PUSH BUTTONS & SIGNS
 TYPE D SIGN PANEL-OVERHEAD AT 26'
 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
 ONE WAY EVP DETECTOR AND LIGHT AT 6' (#6,1)
 EXTENDED INTO H.H.16:
 3" R.S.C.
 2-12/c#12
 4-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

INPLACE | ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 1-1)
 (SALVAGE) | ONE WAY SIGNAL AND MOUNT-POLE MOUNTED 45 DEG (OLD 3-2)
 F & I | 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 1-1)
 | 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 45 DEG (NEW 3-2)
 | R10-X12 SIGN PANEL-ADJACENT TO 1-1
 | 1-6/c#14

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

DATE	BY	DATE	BY

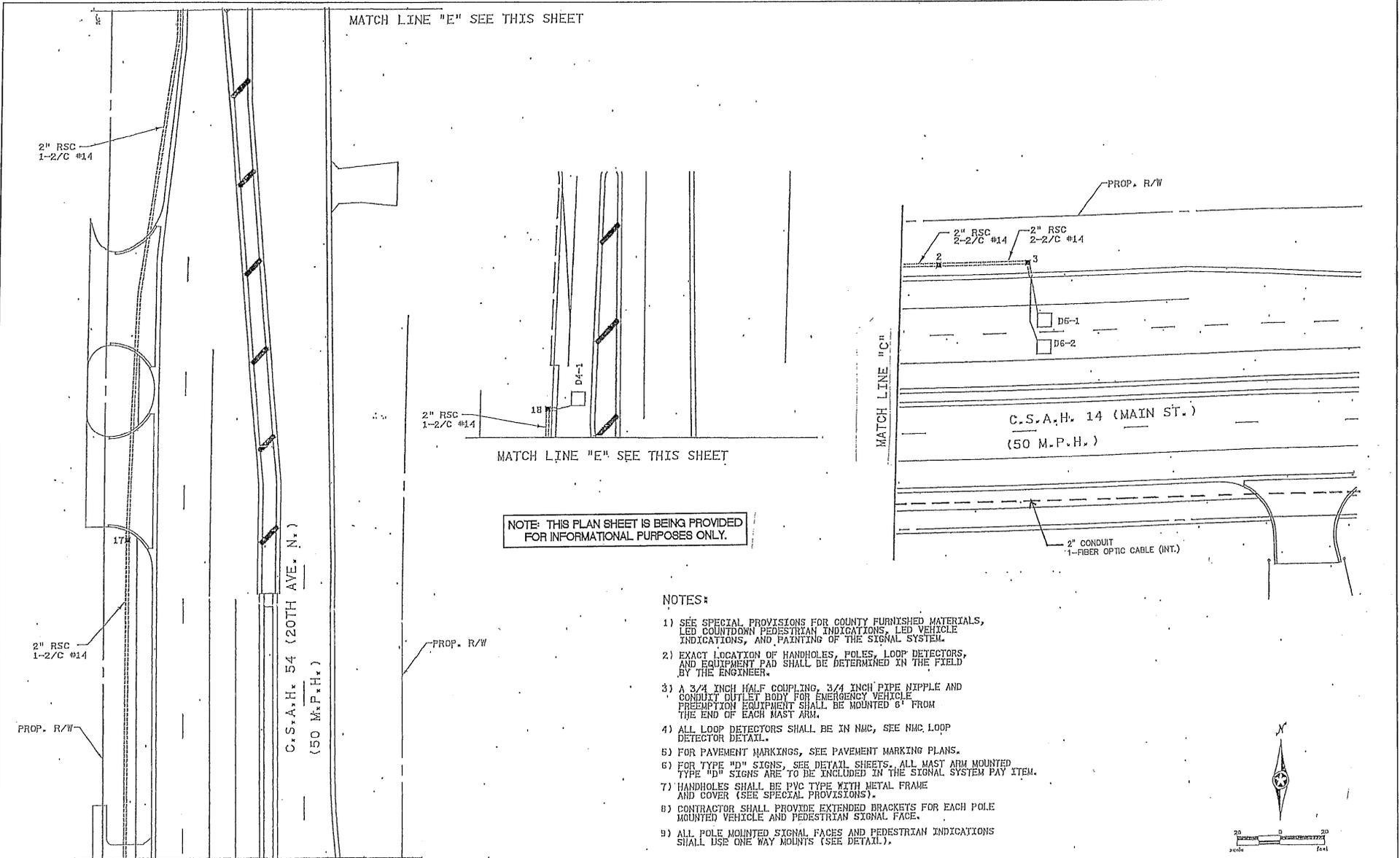
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 John M. Crey, PE
 September 23, 2016
 No. 29487

SEH
 PHONE: (951) 430-2000
 3330 VANDERBILT CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY
 CITIES OF CENTERVILLE
 AND LINO LAKES, MN

REVISE SIGNAL SYSTEM 'A'
 GENERAL NOTES AND POLE NOTES
 CSAH 14 (MAIN ST) AT CSAH 54 (201H AVE N)

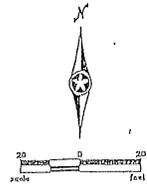
FILE NO. ANOKC 136739
 DATE 09/23/2016
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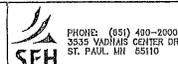
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NOTES:

- 1) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS, LED COUNTDOWN PEDESTRIAN INDICATIONS, LED VEHICLE INDICATIONS, AND PAINTING OF THE SIGNAL SYSTEM.
- 2) EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS, AND EQUIPMENT PAD SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 3) A 3/4 INCH HALF COUPLING, 3/4 INCH PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE MOUNTED 6" FROM THE END OF EACH MAST ARM.
- 4) ALL LOOP DETECTORS SHALL BE IN NMC, SEE NMC LOOP DETECTOR DETAIL.
- 5) FOR PAVEMENT MARKINGS, SEE PAVEMENT MARKING PLANS.
- 6) FOR TYPE "M" SIGNS, SEE DETAIL SHEETS. ALL MAST ARM MOUNTED TYPE "M" SIGNS ARE TO BE INCLUDED IN THE SIGNAL SYSTEM PAY ITEM.
- 7) HANDHOLES SHALL BE PVC TYPE WITH METAL FRAME AND COVER (SEE SPECIAL PROVISIONS).
- 8) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
- 9) ALL POLE MOUNTED SIGNAL FACES AND PEDESTRIAN INDICATIONS SHALL USE ONE WAY MOUNTS (SEE DETAIL).



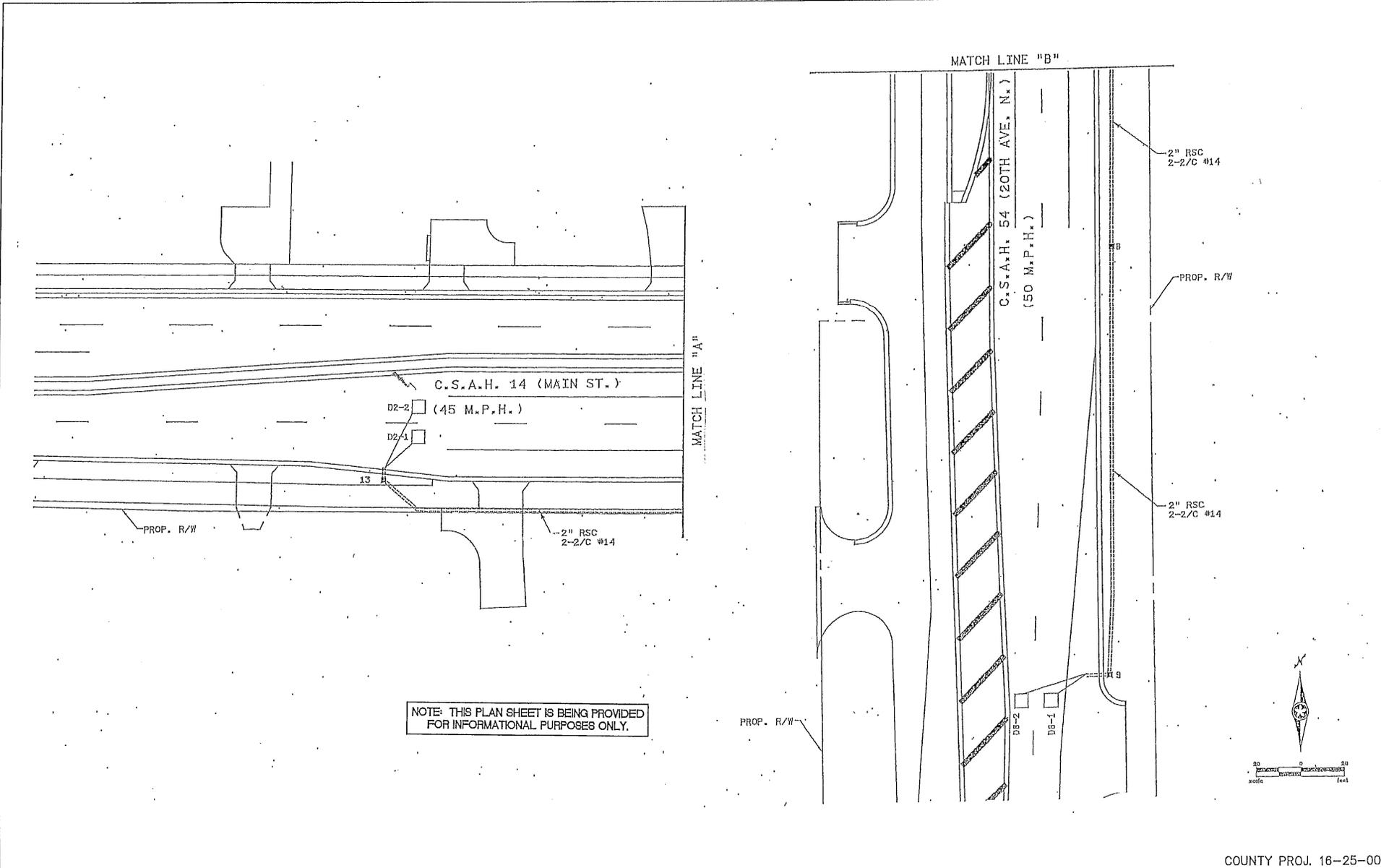
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DESIGNER:	JMG
CHECKED BY:	JMG



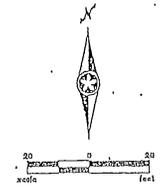
ANOKA COUNTY
CITIES OF CENTERVILLE
AND LINO LAKES, MN

INPLACE SIGNAL SYSTEM "A"
"FOR INFORMATION ONLY"
CSAH 14 (MAIN ST) AT CSAH 54 (20TH AVE N)

FILE NO. ANGKC 138739	10
DATE 09/23/2018	60



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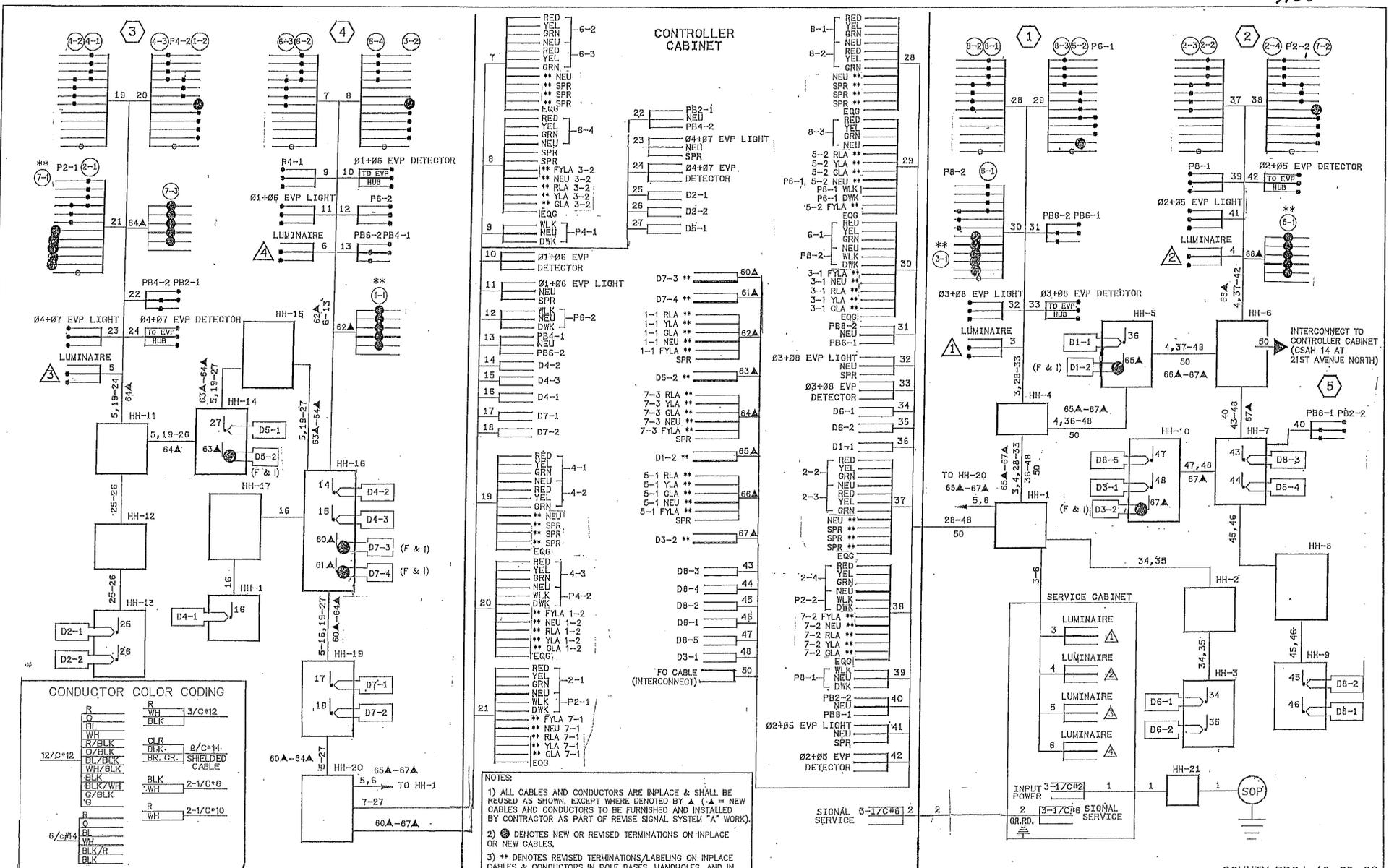
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ANOKA COUNTY
CITIES OF CENTERVILLE
AND LINO LAKES, MN

INPLACE SIGNAL SYSTEM "A"
"FOR INFORMATION ONLY"
CSAH 14 (MAIN ST) AT CSAH 64 (20TH AVE N)

FILE NO. ANOKC 136739	9
DATE 09/23/2010	60



CONDUCTOR COLOR CODING

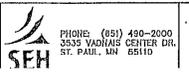
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BL	BLK	
WH	CLR	2/C*14
R/BLK	BLK	SHIELDED CABLE
BL/BLK	BR. CR.	
WH/BLK	BLK	2-1/C*6
BLK	WH	
BLK/WH	R	2-1/C*10
G/BLK	WH	
6/C#14	BL	
	BLK/R	
	BLK	

NOTES:

- 1) ALL CABLES AND CONDUCTORS ARE INPLACE & SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ (▲ = NEW CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF REVISED SIGNAL SYSTEM "A" WORK).
- 2) ● DENOTES NEW OR REVISED TERMINATIONS ON INPLACE OR NEW CABLES.
- 3) ** DENOTES REVISED TERMINATIONS/LABELING ON INPLACE CABLES & CONDUCTORS IN POLE BASES, HANDHOLES, AND IN CONTROLLER CABINET.

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

John M. Gray, PE
 September 23, 2018
 License No. 29487



ANOKA COUNTY
 CITIES OF CENTERVILLE AND LINO LAKES, MN

REVISE SIGNAL SYSTEM "A" FIELD WIRING DIAGRAM
 CSAH 14 (MAIN ST) AT CSAH 54 (20TH AVE N)

COUNTY PROJ. 16-25-00

FILE NO. ANOKC 138739
 DATE 09/23/2018
 7
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DUPLICATE

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG