

INPLACE PVC LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D2-1	6x6	475'	1
D2-2	6x6	475'	1
D4-1	6x6	250'	3,8
D4-3	3-6x6	-5', 5', 20'	7
D4-4	4-6x6	-5', 5', 20', 35'	1
D4-5	4-6x6	-5', 5', 20', 35'	1
D5-1	6x6	40'	1
D5-2	6x6	10'	1
D6-1	6x6	475'	1
D6-2	6x6	475'	1

LOOP DETECTOR FUNCTIONS:

- 1) CALL AND EXTEND.
- 3) EXTEND ONLY.
- 7) DELAYED CALL, IMMEDIATE EXTEND.
- 8) CARRY OVER (STRETCH).

(A) INPLACE (MAINTAIN INPLACE)

CABINET FOUNDATION CONTROLLER AND CABINET
2-3" RSC STUBBED OUT FROM CABINET (BOTH ENDS THREADED AND CAPPED-FOR FUTURE USE)

EXTENDED INTO HH 17:
METERED SIGNAL SERVICE
1.25" RSC
3 - 1/C 6

EXTENDED INTO HH 1:
4" RSC
3 - 12/C 12
2 - 3/C 12
2 - 3/C 20
2 - 2/C 14
1 - 6 Pr 19

EXTENDED INTO HH 16:
4" RSC
2 - 12/C 12
4 - 3/C 12
3 - 3/C 20
9 - 2/C 14
1 - 6 Pr 19

HH 13 TO HH 14:
F & I 3" CONDUIT
2 - 4/C 14
2 - 2/C 14

F & I 2 - 4/C 14
2 - 2/C 14

3" R.S.C.
2-12/C #12
4-3/C #12
1-3/C #12 (LUM)
3-3/C #20
4-2/C #14
1-6 Pr.#19

2" R.S.C.
2-2/C #14
1-6 Pr.#19

(B) INPLACE (MAINTAIN INPLACE)

CABINET FOUNDATION SIGNAL SERVICE CABINET EXTENDED INTO HH 1:
1.25" RSC
2 - 3/C 12 (LUM)
EXTENDED INTO HH 17:
METERED SIGNAL SERVICE
1.25" RSC
3 - 1/C 6
2" RSC STUBBED OUT (FOR SERVICE BY CONNEXUS)

HH 14 TO HH 16:
F & I 3" CONDUIT (BORE UNDER ROADWAY)
2 - 4/C 14
2 - 2/C 14

HH 14 TO HH 16:
3" RSC
2 - 12/C 12
4 - 3/C 12
1 - 3/C 12 (LUM)
3 - 3/C 20
7 - 2/C 14
1 - 6 Pr 19

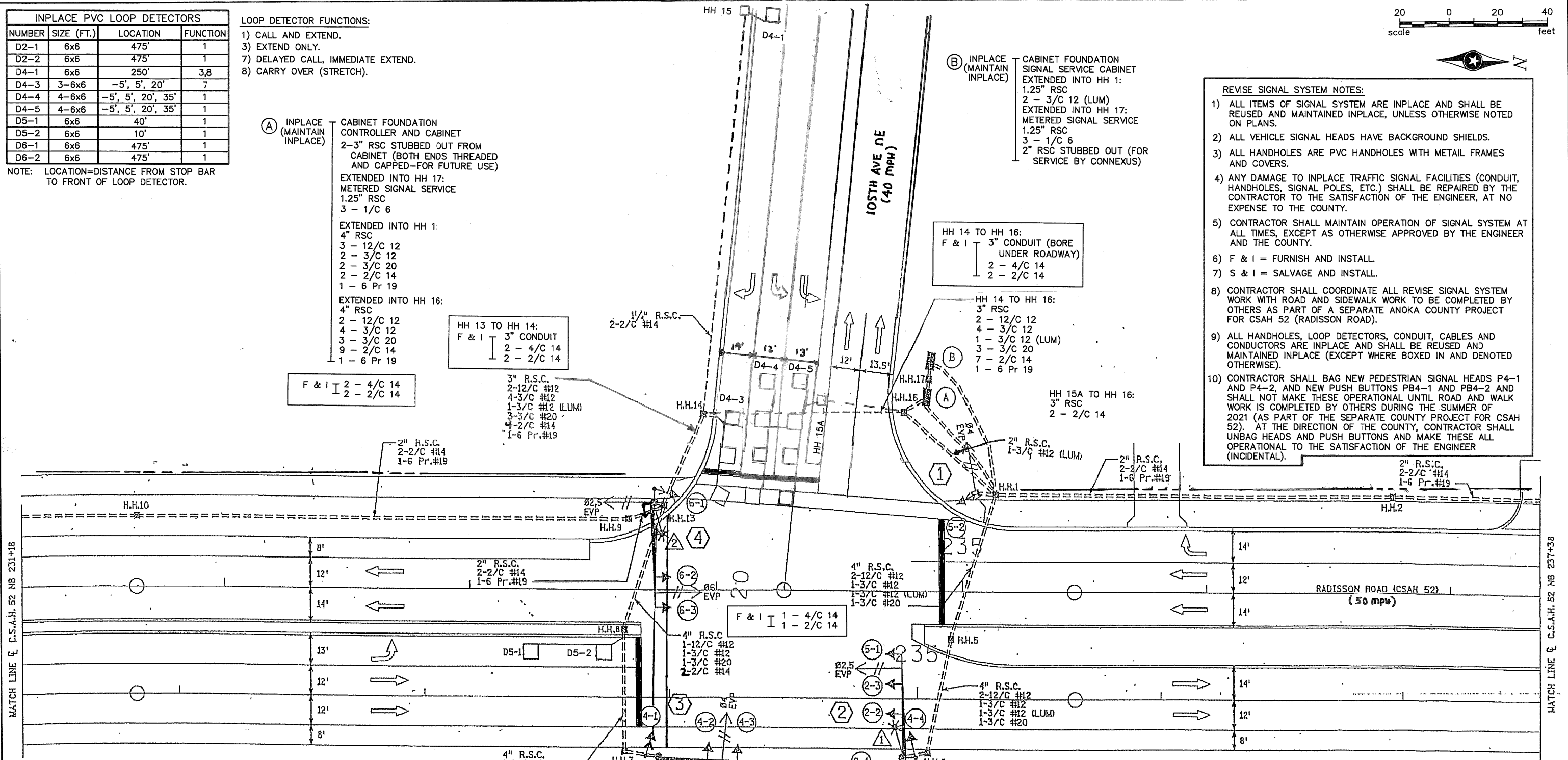
HH 15A TO HH 16:
3" RSC
2 - 2/C 14

2" R.S.C.
2-2/C #14
1-6 Pr.#19

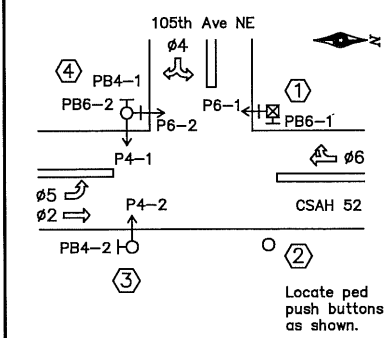


REVISE SIGNAL SYSTEM NOTES:

- 1) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
- 2) ALL VEHICLE SIGNAL HEADS HAVE BACKGROUND SHIELDS.
- 3) ALL HANDHOLES ARE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 4) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, HANDHOLES, SIGNAL POLES, ETC.) SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- 5) CONTRACTOR SHALL MAINTAIN OPERATION OF SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER AND THE COUNTY.
- 6) F & I = FURNISH AND INSTALL.
- 7) S & I = SALVAGE AND INSTALL.
- 8) CONTRACTOR SHALL COORDINATE ALL REVISE SIGNAL SYSTEM WORK WITH ROAD AND SIDEWALK WORK TO BE COMPLETED BY OTHERS AS PART OF A SEPARATE ANOKA COUNTY PROJECT FOR CSAH 52 (RADISSON ROAD).
- 9) ALL HANDHOLES, LOOP DETECTORS, CONDUIT, CABLES AND CONDUCTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE (EXCEPT WHERE BOXED IN AND DENOTED OTHERWISE).
- 10) CONTRACTOR SHALL BAG NEW PEDESTRIAN SIGNAL HEADS P4-1 AND P4-2, AND NEW PUSH BUTTONS PB4-1 AND PB4-2 AND SHALL NOT MAKE THESE OPERATIONAL UNTIL ROAD AND WALK WORK IS COMPLETED BY OTHERS DURING THE SUMMER OF 2021 (AS PART OF THE SEPARATE COUNTY PROJECT FOR CSAH 52). AT THE DIRECTION OF THE COUNTY, CONTRACTOR SHALL UNBAG HEADS AND PUSH BUTTONS AND MAKE THESE ALL OPERATIONAL TO THE SATISFACTION OF THE ENGINEER (INCIDENTAL).



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

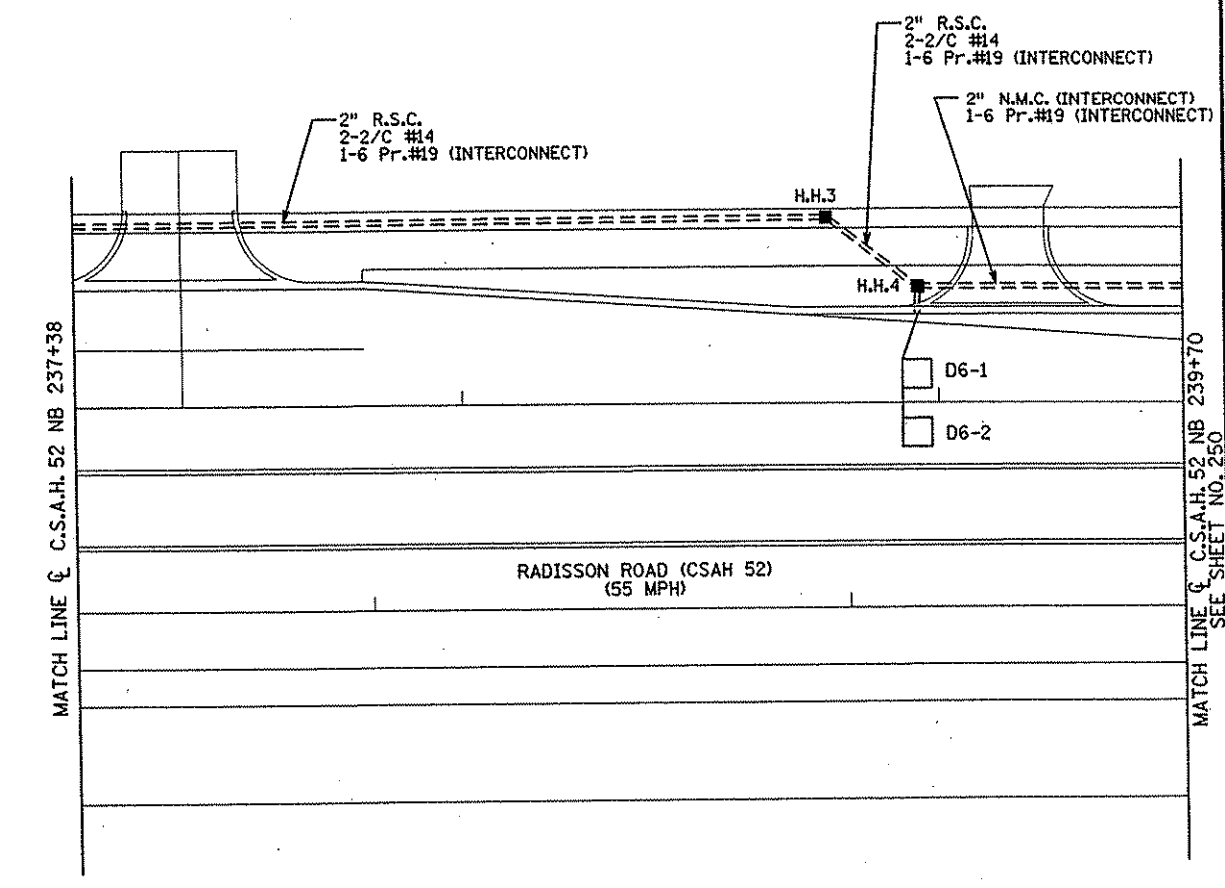
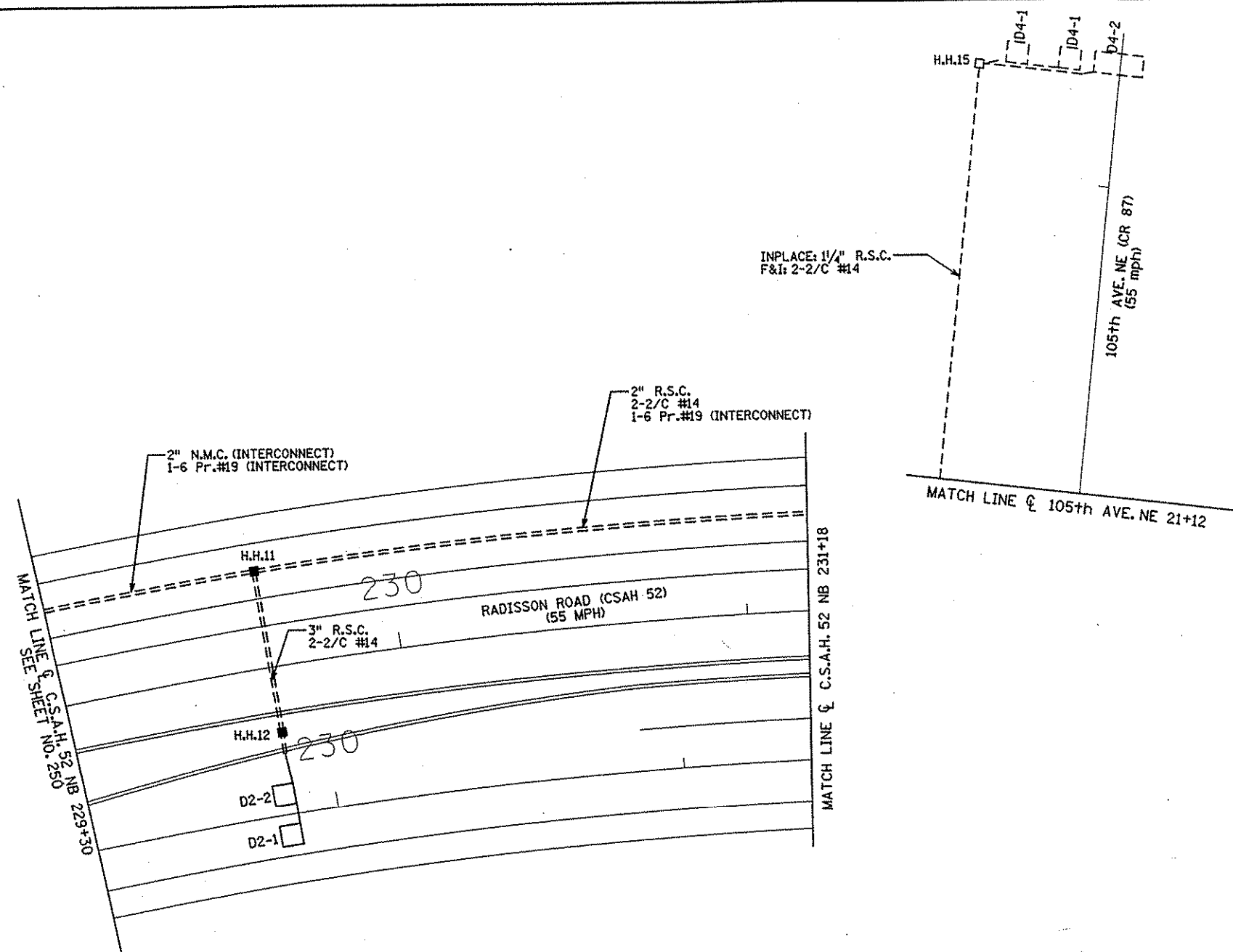
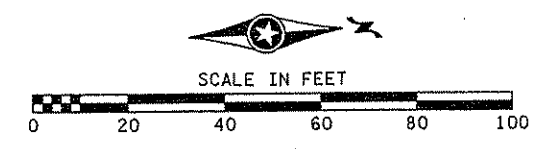


SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 5 PHASE, WITH PHASE 5 BEING A PROTECTED LEFT TURN PHASE.
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

SEE NEXT SHEET FOR DETAILED POLE NOTES.

INPLACE SIGNAL HEADS				
SIGNAL HEAD	SIGNAL INDICATIONS ARE 12" LED.			
	R	Y	FYA	G
2-1, 2-2, 2-3	○	○	○	○
4-1, 4-2, 4-3, 4-4	○	○	○	○
5-1, 5-2	◀	◀	◀	◀
6-1, 6-2, 6-3	○	○	○	○



NOTE:
 (INTERCONNECT) DENOTES ITEMS TO BE MEASURED
 AND PAID FOR SEPARATELY FROM ITEM 2565.511.

NO	DATE	BY	CKD	APPR	REVISION

NAME: k:\site\proj\c11749\part4\roadway\drawings\signals\105th\int05.dwg 2001

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.

Grant O. Paulson
 DATE 11-20-01 LIC. NO. 26820

DRAWN BY _____ DATE _____
 DESIGN BY _____ DATE _____
 CHECKED BY _____ DATE _____

S.P. 0280-50 (TH 35W)
 S.P. 90-080-11
 S.A.P. 02-652-02
 S.A.P. 02-652-03
 S.A.P. 02-652-04
 S.A.P. 106-020-021, 106-020-022

TKDA
 TOLTZ, KING, DUVAL, ANDERSON
 AND ASSOCIATES, INCORPORATED
 ENGINEERS-ARCHITECTS-PLANNERS SAINT PAUL, MINNESOTA

ANOKA COUNTY
 MATCH LINES - SYSTEM "E"
 C.S.A.H. 52 RECONSTRUCTION
 C.S.A.H. 52 AT 105th AVE. NE

SHEET
 274
 OF
 559

REVISE SIGNAL SYSTEM NOTES:

- 1) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
- 2) ALL VEHICLE SIGNAL HEADS HAVE BACKGROUND SHIELDS.
- 3) ALL HANDHOLES ARE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 4) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, HANDHOLES, SIGNAL POLES, ETC.) SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
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- 7) S & I = SALVAGE AND INSTALL.
- 8) CONTRACTOR SHALL COORDINATE ALL REVISE SIGNAL SYSTEM WORK WITH ROAD AND SIDEWALK WORK TO BE COMPLETED BY OTHERS AS PART OF A SEPARATE ANOKA COUNTY PROJECT FOR CSAH 52 (RADISSON ROAD).
- 9) ALL HANDHOLES, LOOP DETECTORS, CONDUIT, CABLES AND CONDUCTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE (EXCEPT WHERE BOXED IN AND DENOTED OTHERWISE).
- 10) CONTRACTOR SHALL BAG NEW PEDESTRIAN SIGNAL HEADS P4-1 AND P4-2, AND NEW PUSH BUTTONS PB4-1 AND PB4-2 AND SHALL NOT MAKE THESE OPERATIONAL UNTIL ROAD AND WALK WORK IS COMPLETED BY OTHERS DURING THE SUMMER OF 2021 (AS PART OF THE SEPARATE COUNTY PROJECT FOR CSAH 52). AT THE DIRECTION OF THE COUNTY, CONTRACTOR SHALL UNBAG HEADS AND PUSH BUTTONS AND MAKE THESE ALL OPERATIONAL TO THE SATISFACTION OF THE ENGINEER (INCIDENTAL).

① INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION
 10' PEDESTAL POLE AND BASE
 TYPE 1C
 1-PEDESTRIAN PUSH BUTTON
 R9-3 (NO PED XING) SIGN-FACING POLE 2
 ONE WAY EVP DETECTOR-MOUNTED ATOP
 SLIPFITTER COLLAR (ø4)
 EXTENDED INTO HH 1:
 3" RSC
 1 - 12/C 12
 1 - 3/C 12
 1 - 3/C 20

INPLACE (REMOVE) "HAND/WALKING PERSON" LENS (LEAVE HOUSING AND VISOR INPLACE)
 1-PED INSTRUCTION (STICKER) SIGN
 F & I 1-CD PED SIGNAL LENS (INSTALL WITHIN EXISTING McCAIN HOUSING) (P6-1)
 1-R10-3e PED INSTRUCTION SIGN

② INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9 (DAVIT AT 350 DEG)
 LUMINAIRE-LED
 3-ONE WAY SIGNALS-OVERHEAD AT 0', 11', AND 23' FROM LEFT END OF MAST ARM
 2-TYPE 10A-POLE MOUNTED 90/180 DEG
 R6-1L (ONE WAY LEFT) SIGN-POLE MTD 0 DEG
 R9-3 (NO PED XING) SIGN-FACING POLE 1
 TYPE D SIGN (102" x 24")-OVERHEAD
 ONE WAY EVP DETECTOR & LIGHT AT 6' (ø2,5)
 VIDEO DETECTOR CAMERA-ATOP LUM EXTENSION
 EXTENDED INTO HH 6:
 3" RSC
 2 - 12/C 12
 1 - 3/C 12
 1 - 3/C 20
 1 - 3/C 12 (LUM)

③ INPLACE (MAINTAIN INPLACE) PA90 POLE FOUNDATION
 TYPE PA90-A-30
 2-ONE WAY SIGNALS-OVERHEAD AT 0' AND 11' FROM LEFT END OF MAST ARM
 TYPE D SIGN (108" x 24")-OVERHEAD
 ONE WAY EVP DETECTOR & LIGHT AT 6' (ø4)
 EXTENDED INTO HH 7:
 3" RSC
 1 - 12/C 12
 1 - 3/C 12
 1 - 3/C 20

INPLACE (REMOVE) TYPE 10A BRACKETING AT 180 DEG
 R9-3 (NO PED XING) SIGN-FACING POLE 4
 INPLACE - ONE WAY SIGNAL-POLE MOUNTED 180 DEG (4-1) (S & I)
 F & I TYPE 10B BRACKETING-POLE MOUNTED 180 DEG (FOR 4-1, P4-2)
 1-SET CD PED SIGNAL (HOUSING, VISOR, AND LENS) AT 180 DEG (NEW P4-2)
 1-PEDESTRIAN PUSH BUTTON & R10-3e SIGN
 1 - 4/C 14
 1 - 2/C 14

④ INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9 (DAVIT AT 315 DEG)
 LUMINAIRE-200 W HPS WITH PEC
 2-ONE WAY SIGNALS-OVERHEAD AT 0' AND 11' FROM LEFT END OF MAST ARM
 TYPE 10B-POLE MOUNTED 180 DEG
 1-PEDESTRIAN PUSH BUTTON AT 180 DEG (PB6-2)
 R6-1R (ONE WAY RIGHT) SIGN-POLE MTD 180 DEG
 TYPE D SIGN (102" x 24")-OVERHEAD
 ONE WAY EVP DETECTOR & LIGHT AT 6' (ø6)
 ONE WAY EVP DETECTOR-POLE MOUNTED 135 DEG (ø2,5)
 EXTENDED INTO HH 13:
 3" RSC
 1 - 12/C 12
 3 - 3/C 12
 2 - 3/C 20
 1 - 3/C 12 (LUM)

INPLACE (REMOVE) "HAND/WALKING PERSON" LENS (LEAVE HOUSING AND VISOR INPLACE) (P6-2)
 1-PED INSTRUCTION (STICKER) SIGN
 R9-3 (NO PED XING) SIGN-FACING POLE 3
 F & I TYPE 30A BRACKETING-POLE MOUNTED 90 DEG (FOR P4-1)
 1-SET CD PED SIGNAL (HOUSING, VISOR, AND LENS) AT 90 DEG (NEW P4-1)
 1-CD PED SIGNAL LENS (INSTALL WITHIN EXISTING McCAIN HOUSING) (P6-2)
 1-R10-3e PED INSTRUCTION SIGN (FOR PB6-2)
 1-PEDESTRIAN PUSH BUTTON & R10-3e SIGN (PB4-1)
 1 - 4/C 14
 1 - 2/C 14

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

NO.	BY	DATE	REVISIONS

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 M. Gray, PE
 Lic. No. 22457
 Date: February 2, 2021

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

ANOKA COUNTY, MN
 CITY OF BLAINE
 SAP 002-652-010

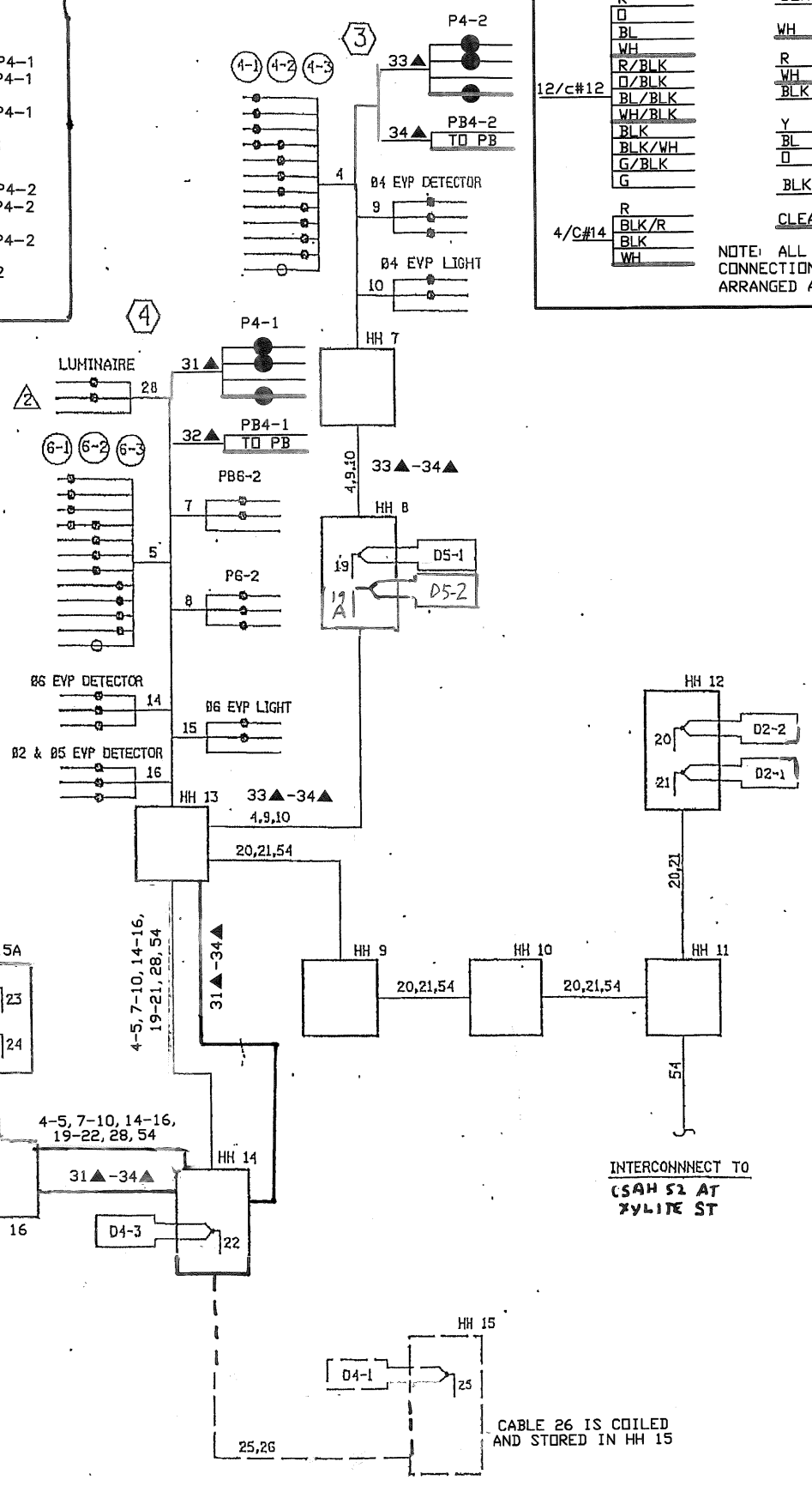
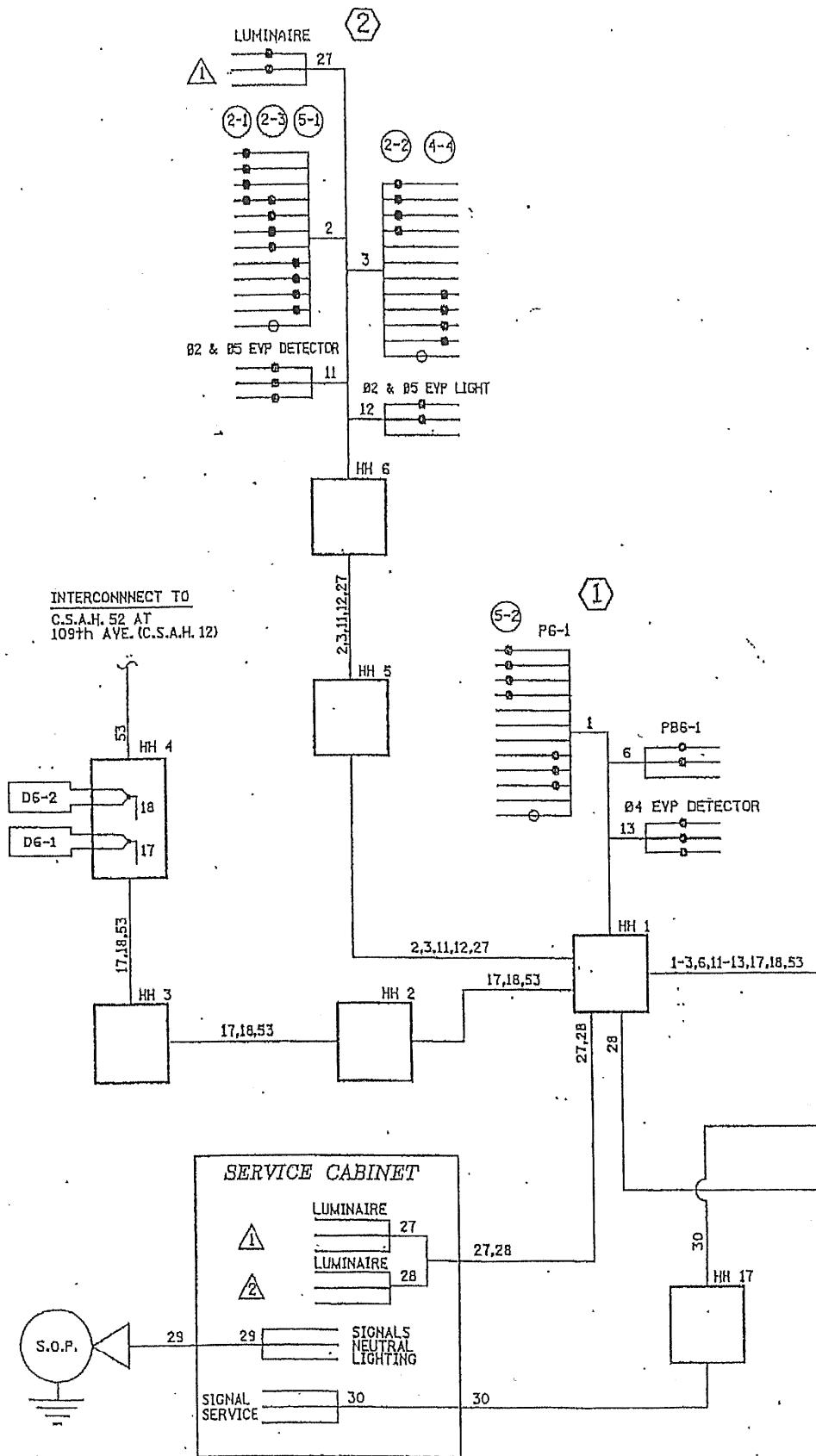
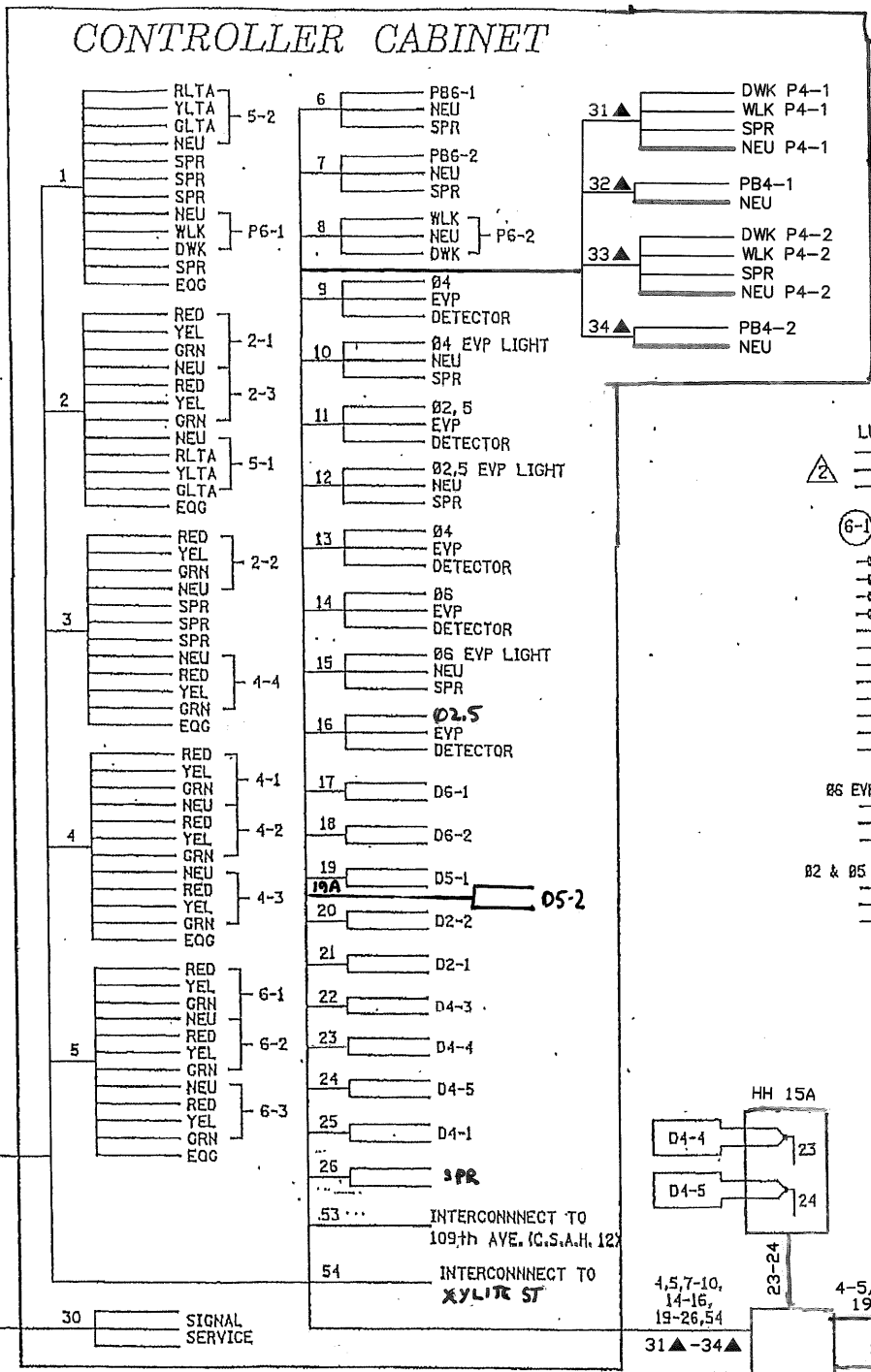
REVISE SIGNAL SYSTEM
 POLE NOTES
 CSAH 52 (RADISSON ROAD)
 AT 105TH AVENUE NE

FILE NO.
 ANOKC 122928

CONDUCTOR COLOR CODING

R	BLK
D	WH 2-1/c#6
BL	WH 2-1/c#10
WH	R
R/BLK	WH 3/c#12
D/BLK	BLK 3-1/c#6
BL/BLK	Y
WH/BLK	BL 3/c#20
BLK	D
BLK/WH	BLK
G/BLK	CLEAR 2/c#14
R	
BLK/R	
BLK	
WH	

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SHOWN ABOVE.

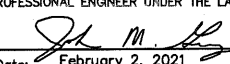


REVISE SIGNAL SYSTEM NOTES:

- 1) ALL CABLES AND CONDUCTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE DENOTED BY ▲ (▲ = NEW CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THE REVISE SIGNAL SYSTEM.
- 2) ALL HANDHOLES AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE.
- 3) ● DENOTES INPLACE TERMINATIONS ON INPLACE CABLES.
- 4) ● DENOTES NEW TERMINATIONS ON NEW CABLES.

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

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**ANOKA COUNTY, MN
 CITY OF BLAINE**
 SAP 002-652-010

**REVISE SIGNAL SYSTEM
 FIELD WIRING DIAGRAM
 CSAH 52 (RADISSON ROAD)
 AT 105TH AVENUE NE**

FILE NO. ANOKC 122928

5
5