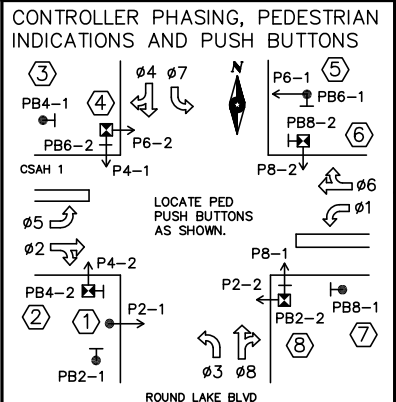
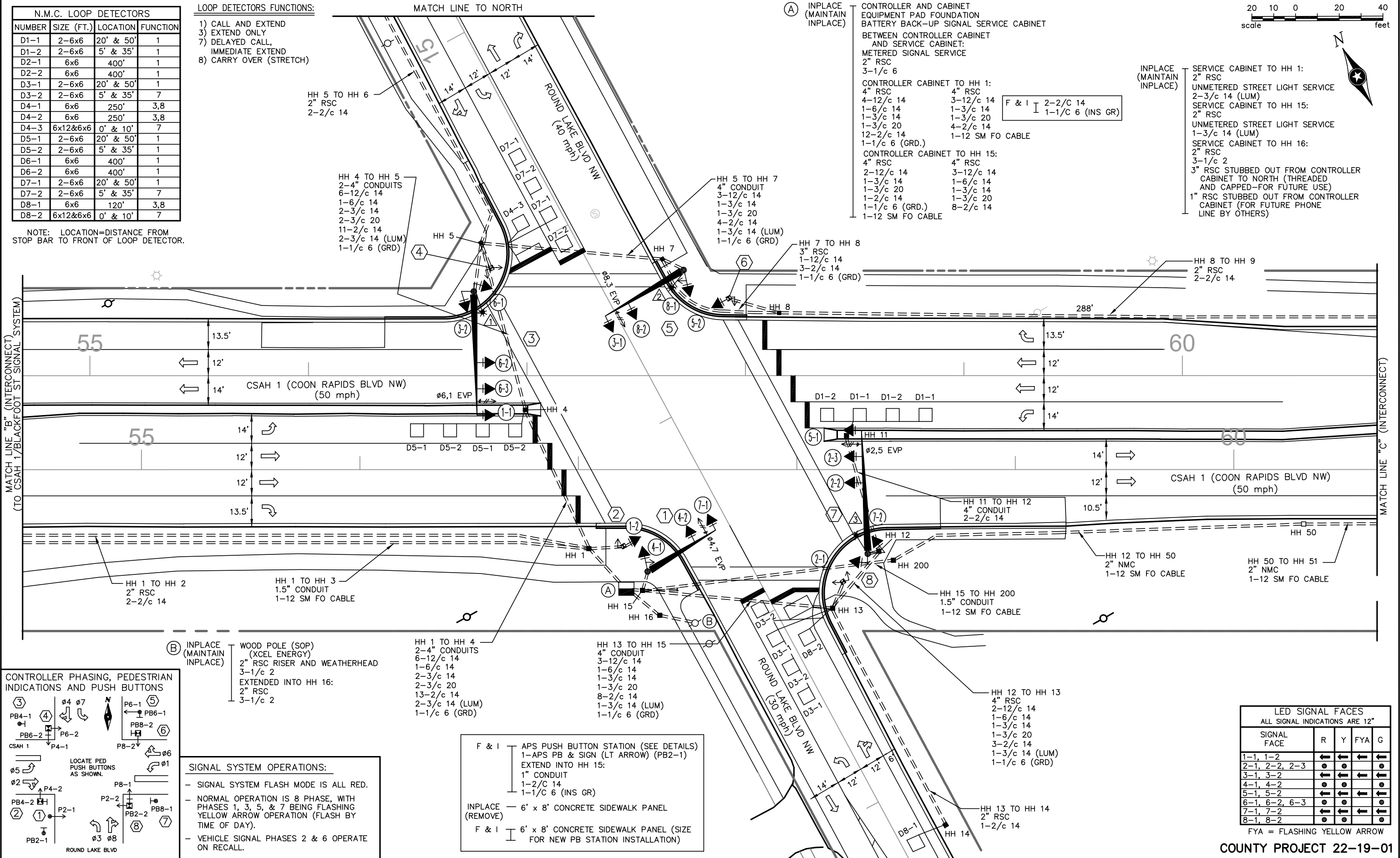


N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20' & 50'	1
D1-2	2-6x6	5' & 35'	1
D2-1	6x6	400'	1
D2-2	6x6	400'	1
D3-1	2-6x6	20' & 50'	1
D3-2	2-6x6	5' & 35'	7
D4-1	6x6	250'	3,8
D4-2	6x6	250'	3,8
D4-3	6x12&6x6	0' & 10'	7
D5-1	2-6x6	20' & 50'	1
D5-2	2-6x6	5' & 35'	1
D6-1	6x6	400'	1
D6-2	6x6	400'	1
D7-1	2-6x6	20' & 50'	1
D7-2	2-6x6	5' & 35'	7
D8-1	6x6	120'	3,8
D8-2	6x12&6x6	0' & 10'	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.



SIGNAL SYSTEM OPERATIONS:

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

APS PUSH BUTTON STATION (SEE DETAILS)

1-APS PB & SIGN (LT ARROW) (PB2-1)
EXTEND INTO HH 15:
1" CONDUIT
1-2/c 14
1-1/c 6 (INS GR)

INPLACE (REMOVE)
6' x 8' CONCRETE SIDEWALK PANEL
6' x 8' CONCRETE SIDEWALK PANEL (SIZE FOR NEW PB STATION INSTALLATION)

LED SIGNAL FACES				
ALL SIGNAL INDICATIONS ARE 12"				
SIGNAL FACE	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

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.

Name: John M. Gray, PE
Lic. No. 22457
Date: May 9, 2022

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

ANOKA COUNTY
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM 'J'
INTERSECTION LAYOUT
CSAH 1 (COON RAPIDS BOULEVARD)
AT ROUND LAKE BOULEVARD


FILE NO. ANOKC 122928
SIGNAL SHEET 32 OF 35

63U
94

- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS BOXED IN AND NOTED OTHERWISE ON PLANS.
- ALL HANDHOLES ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE.
- LOCATION OF NEW PUSH BUTTON STATION SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL CABLES AND CONDUCTORS, CONDUIT, HANDHOLES, AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED OTHERWISE.
- LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) 12 AWG IN 3/4" NMC. LOOP DETECTORS IMPACTED BY EITHER CURB RAMP WORK OR MILL/OVERLAY WORK SHALL BE FURNISHED, INSTALLED & MADE OPERATIONAL BY CONTRACTOR TO SATISFACTION OF ENGINEER. SEE DETAILS & SPECIAL PROVISIONS.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING LOOP DETECTOR SPLICE KITS (FOR ANY LOOP DETECTOR BEING REPLACED AS PART OF THIS PROJECT) AND SHALL FURNISH AND INSTALL NEW LOOP DETECTOR SPLICE KITS IN THE ADJACENT HANDHOLE FOR THESE LOOP DETECTORS AS CALLED FOR IN THE SPECIAL PROVISIONS.
- A SEPARATE PAY ITEM HAS BEEN ADDED (2565 - RIGID PVC LOOP DETECTOR 6' x 6') FOR REPLACEMENT OF LOOP DETECTORS, SHOULD THESE LOOP DETECTORS BE REQUIRED TO BE REPLACED BY THE CONTRACTOR EITHER DUE TO MILL/OVERLAY OR CURB RAMP/CURB AND GUTTER WORK THAT CAUSES THE EXISTING LOOP DETECTOR TO BE DAMAGED. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT AND MAINTAIN THE EXISTING LOOP DETECTORS (INCLUDING LEAD-IN CONDUITS FROM HANDHOLE TO IN-PAVEMENT LOOP DETECTOR CONDUIT) AND SHALL NOTIFY THE ENGINEER IF THEY ANTICIPATE THAT A LOOP DETECTOR WILL BE DAMAGED DUE TO THEIR WORK. COUNTY WILL PROVIDE INITIAL LOCATION OF THESE LOOP DETECTORS FOR CONTRACTOR TO BE ABLE TO PLAN FOR WORKING AROUND THESE LOOP DETECTORS. SEE SPECIAL PROVISIONS.
- CONTRACTOR SHALL MAINTAIN A SIGNAL SYSTEM IN OPERATION AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE PLACED INTO ALL-RED FLASH DURING NON-PEAK TRAFFIC PERIODS (FOR WORK THAT REQUIRES THE SIGNAL SYSTEM TO BE OUT OF OPERATION OR TO ACCOMMODATE ROAD WORK AT THE INTERSECTION).
- ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), DUE TO TRAFFIC SIGNAL OR ROAD WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- F & I = NEW, FURNISH AND INSTALL.
S & I = INPLACE, SALVAGE AND INSTALL.
- CONCRETE SIDEWALK REMOVAL AND REPLACEMENT ON THE SW QUADRANT (TO ALLOW FOR NEW PUSH BUTTON STATION PB2-1 TO BE FURNISHED AND INSTALLED) SHALL BE COMPLETED BY THE CONTRACTOR AND INCLUDED AS PART OF THE BID ITEM FOR REVISE SIGNAL SYSTEM J (ITEM NO. 2565), WITH NO DIRECT COMPENSATION BEING MADE THEREFORE.

INPLACE — 1-PEDESTRIAN PUSH BUTTON AT 90 DEG
(SALVAGE)

INPLACE — 1-PED PB STICKER SIGN AT 90 DEG (R10-4b)
(REMOVE)

F & I  PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTON
USED TO BE (AT 90 DEG)

INPLACE — 1-PEDESTRIAN PUSH BUTTON (SOUTH SIDE OF POLE)
(SALVAGE)

INPLACE — 1-PED PB STICKER SIGN (R10-4b)
(REMOVE)

F & I — 1-APS PB, SIGN (RT ARROW) AND APS PEDESTAL POLE
SPACERS (PB6-2)
PLUG HOLES ON PEDESTAL POLE WHERE PUSH BUTTON
USED TO BE (SOUTH SIDE OF POLE)

INPLACE — 1-PEDESTRIAN PUSH BUTTON AT 270 DEG
(SALVAGE)

INPLACE — 1-PED PB STICKER SIGN AT 270 DEG (R10-4b)
(REMOVE)

F & I — 1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE
ADAPTOR (PB8-1)
PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTON
USED TO BE (AT 270 DEG)

INPLACE — 1-PEDESTRIAN PUSH BUTTON (EAST SIDE OF POLE)
(SALVAGE)

INPLACE — 1-PED PB STICKER SIGN (R10-4b)
(REMOVE)

F & I — 1-APS PB, SIGN (RT ARROW) AND APS PEDESTAL POLE
SPACERS (PB4-2)

— PLUG HOLES ON PEDESTAL POLE WHERE PUSH BUTTON
USED TO BE (EAST SIDE OF POLE)

INPLACE — 1—PEDESTRIAN PUSH BUTTON AT 315 DEG
(SALVAGE)

INPLACE — 1—PED PB STICKER SIGN AT 315 DEG (R10—4b)
(REMOVE)

F & I — 1—APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE
ADAPTOR (PB6—1)
PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTON
USED TO BE (AT 315 DEG)

INPLACE — 1-PEDESTRIAN PUSH BUTTON (NORTH SIDE OF POLE)
(SALVAGE)

INPLACE — 1-PED PB STICKER SIGN (R10-4b)
(REMOVE)

F & I | 1-APS PB, SIGN (RT ARROW) AND APS PEDESTAL POLE
| SPACERS (PB2-2)
| PLUG HOLES ON PEDESTAL POLE WHERE PUSH BUTTON
| USED TO BE (NORTH SIDE OF POLE)


INPLACE (SALVAGE)	— 1—PEDESTRIAN PUSH BUTTON AT 270 DEG
INPLACE (REMOVE)	— 1—PED PB STICKER SIGN AT 270 DEG (R10—4b)
F & I	1—APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR (PB4—1) PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTON USED TO BE (AT 270 DEG)

INPLACE — 1-PEDESTRIAN PUSH BUTTON (WEST SIDE OF POLE)
(SALVAGE)

INPLACE — 1-PED PB STICKER SIGN (R10-4b)
(REMOVE)

F & I | 1-APS PB, SIGN (RT ARROW) AND APS PEDESTAL POLE
| SPACERS (PBB-2)
| PLUG HOLES ON PEDESTAL POLE WHERE PUSH BUTTON
| USED TO BE (WEST SIDE OF POLE)

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.



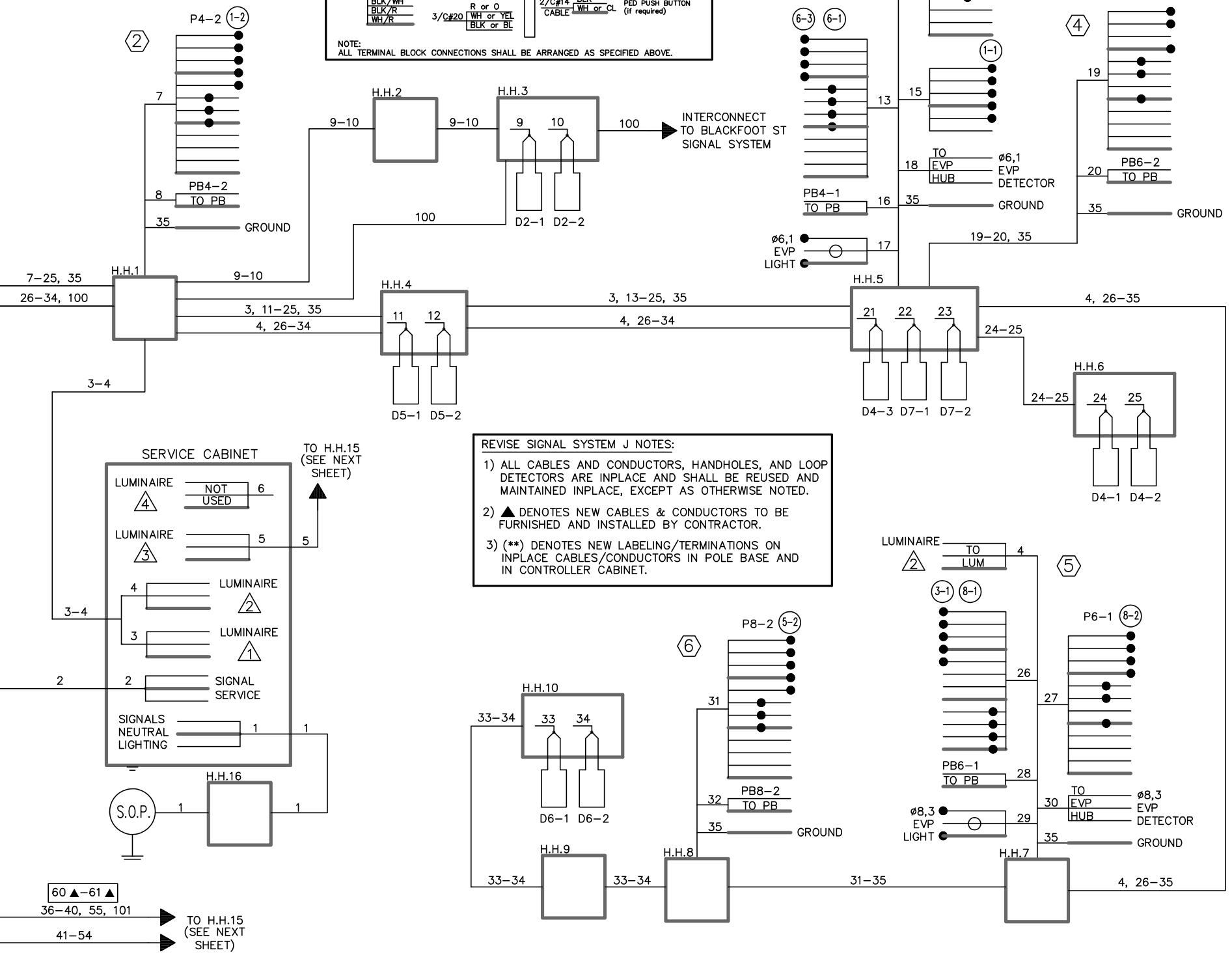
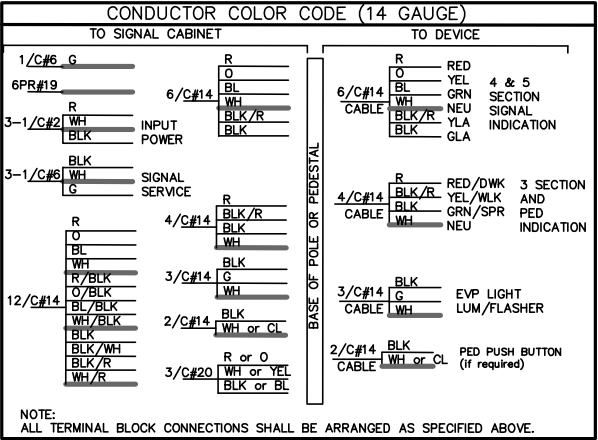
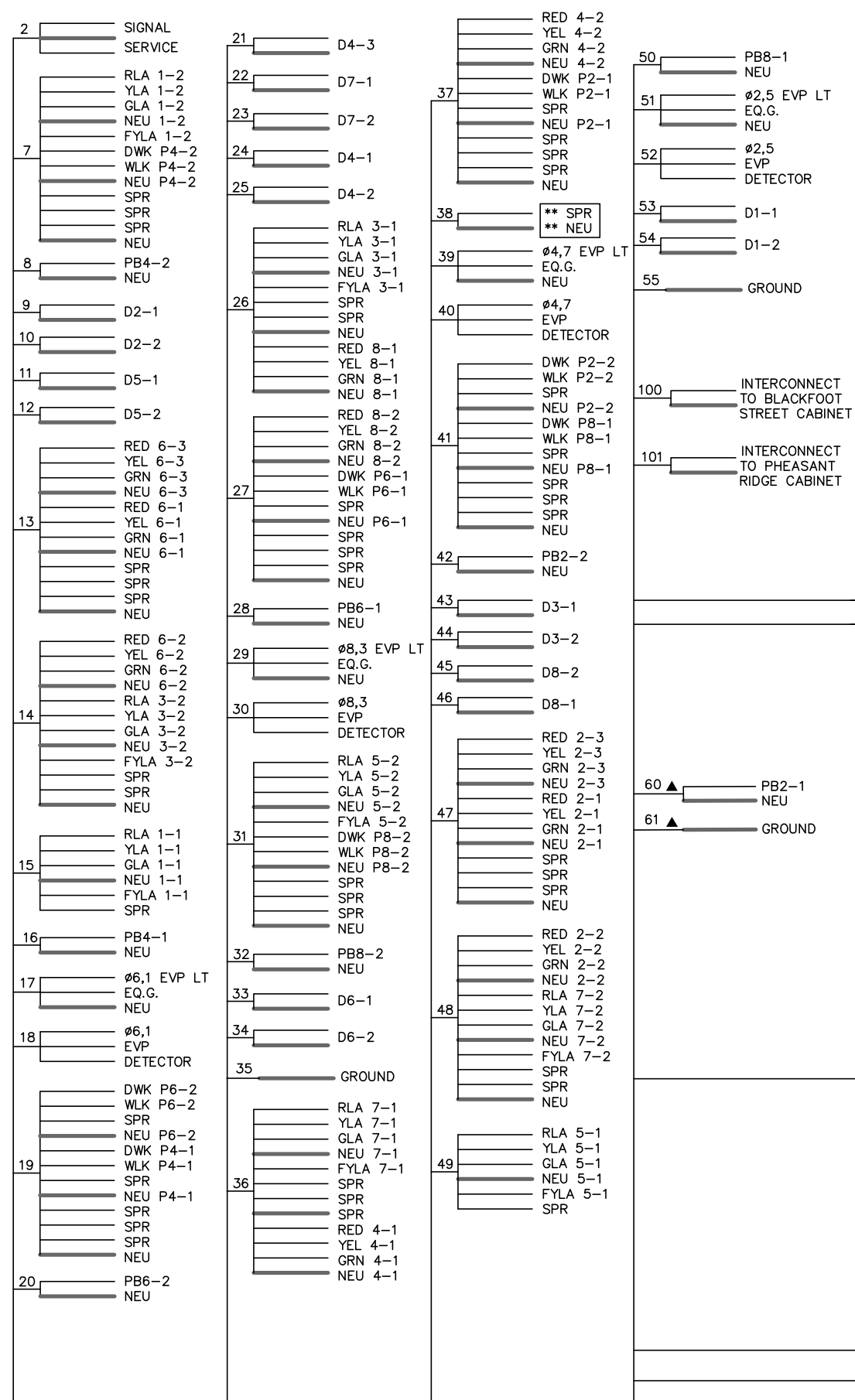
Date: May 9, 2022 Name: John M Gray, PE
Lic. No. 22457



REVISE SIGNAL SYSTEM 'J'
SIGNAL SYSTEM NOTES
CSAH 1 (COON RAPIDS BOULEVARD)
AT ROUND LAKE BOULEVARD

FILE NO. ANOKC 122928	63V
SIGNAL SHEET 33 OF 35	94

CONTROLLER AND CABINET



COUNTY PROJECT 22-19-01

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: May 9, 2022



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

ANOKA COUNTY
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "J"
FIELD WIRING DIAGRAM
CSAH 1 (COON RAPIDS BOULEVARD)
AT ROUND LAKE BOULEVARD

FILE NO.
ANOKC 122928
SIGNAL SHEET
34 OF 35

63W
94

REVISE SIGNAL SYSTEM J NOTES:

- 1) ALL CABLES AND CONDUCTORS, HANDHOLES, AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT AS OTHERWISE NOTED.
- 2) ▲ DENOTES NEW CABLES & CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
- 3) (**) DENOTES NEW LABELING/TERMINATIONS ON INPLACE CABLES/CONDUCTORS IN POLE BASE AND IN CONTROLLER CABINET.

