

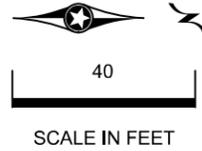
**LED SIGNAL HEAD CHART**

SIGNAL HEAD	R	Y	FYA	G
1-1, 1-2, 1-3	←	←	←	←
2-1, 2-2, 2-3	●	●		●
3-1, 3-2, 3-3	←	←	←	←
4-1, 4-2, 4-3	●	●		●
5-1, 5-2, 5-3	←	←	←	←
6-1, 6-2, 6-3, 6-4	●	●		●
7-1, 7-2, 7-3	←	←	←	←
8-1, 8-2, 8-3	●	●		●

- ALL SIGNAL INDICATIONS SHALL BE 12" LED.  
 - FYA DENOTES FLASHING YELLOW ARROW.  
 - ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELD.

**MATCHLINE F**

FO VAULT 103 TO HH 121:  
 (\*\*) 2" CONDUIT - INPLACE (CUT & EXTEND INTO NEW FO VAULT 103)  
 (\*\*) 1-6 SM FO CABLE - INPLACE (S & I)



**NOTE:**  
 LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR  
**LOOP DETECTOR FUNCTIONS:**  
 1) CALL AND EXTEND  
 3) EXTEND ONLY  
 7) DELAYED CALL-IMMEDIATE EXTEND  
 8) CARRY OVER (STRETCH)  
 11) SPECIAL DETECTOR (COUNT)

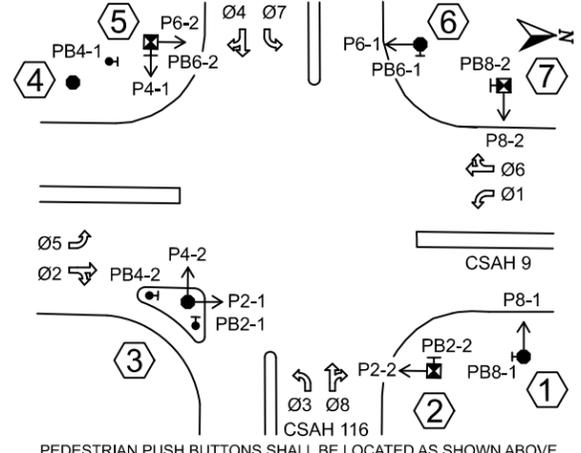
**PVC LOOP DETECTORS**

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	3-6X6	20', 35', 50'	1
D1-2	6X6	5'	1
D1-3	3-6X6	20', 35', 50'	1
D1-4	6X6	5'	1
D2-1	6X6	450'	1
D2-2	6X6	450'	1
D2-3	6X6	5'	11
D2-4	6X6	5'	11
D3-1	3-6X6	20', 35', 50'	1
D3-2	6X6	5'	1
D3-3	3-6X6	20', 35', 50'	1
D3-4	6X6	5'	1
D4-1	6X6	430'	3,8
D4-2	6X6	430'	3,8
D4-3	6X6	20'	7
D4-4	6X6	20'	1
D4-5	6X6	20'	1
D4-6	6X6	5'	11
D4-7	6X6	5'	11
D4-8	6X6	5'	11
D5-1	3-6X6	20', 35', 50'	1
D5-2	6X6	5'	1
D5-3	3-6X6	20', 35', 50'	1
D5-4	6X6	5'	1
D6-1	6X6	450'	1
D6-2	6X6	450'	1
D6-3	6X6	5'	11
D6-4	6X6	5'	11
D6-5	6X6	5'	11
D7-1	3-6X6	20', 35', 50'	1
D7-2	6X6	5'	1
D7-3	3-6X6	20', 35', 50'	1
D7-4	6X6	5'	1
D8-1	6X6	450'	3,8
D8-2	6X6	450'	3,8
D8-3	6X6	20'	7
D8-4	6X6	20'	1
D8-5	6X6	20'	1
D8-6	6X6	5'	11
D8-7	6X6	5'	11
D8-8	6X6	5'	11

MATCHLINE E

MATCHLINE G

**CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS**



HH 8 TO HH 9:  
 2-4" CONDUITS  
 4-6/C 16  
 7-4/C 16  
 (\*) 1-3/C 16  
 14-2/C 14  
 (\*) 1-3/C 20  
 1-3/C 16 (LUM)  
 1-1/C 6 (INS GR)

HH 5 TO HH 8:  
 2-4" CONDUITS  
 8-6/C 16  
 12-4/C 16  
 (\*) 2-3/C 16  
 18-2/C 14  
 (\*) 2-3/C 20  
 2-3/C 16 (LUM)  
 1-1/C 6 (INS GR)

**SIGNAL SYSTEM OPERATIONS:**  
 - SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.  
 - NORMAL OPERATION SHALL BE 8 PHASE FULLY-ACTUATED, WITH PHASES 1, 3, 5, AND 7 BEING FLASHING YELLOW ARROW SEQUENCING SELECTABLE BY TIME OF DAY PROGRAMS.  
 - VEHICLE SIGNAL PHASES 2 AND 6 SHALL BE ON RECALL.

SEE NEXT SHEET FOR DETAILED POLE AND CONTROLLER CABINET NOTES.

HH 4 TO HH 5:  
 2-4" CONDUITS  
 8-6/C 16  
 12-4/C 16  
 (\*) 2-3/C 16  
 20-2/C 14  
 (\*) 2-3/C 20  
 2-3/C 16 (LUM)  
 1-1/C 6 (INS GR)

HH 1 TO HH 2:  
 2" CONDUIT  
 2-2/C 14

HH 1 TO HH 4:  
 2-4" CONDUITS  
 8-6/C 16  
 12-4/C 16  
 (\*) 2-3/C 16  
 24-2/C 14  
 (\*) 2-3/C 20  
 2-3/C 16 (LUM)  
 1-1/C 6 (INS GR)

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.  
 Printed Name: JOHN M. GRAY  
 License No. 22457 Date: 09/23/2025



ANOKA COUNTY, MN  
 CSAH 9  
 SAP 002-609-023  
 CITY OF ANDOVER SAP 198-020-042, CITY PROJECT 25-13  
 CITY OF ANOKA SAP 103-020-020

**TRAFFIC SIGNAL SYSTEM "C"**  
 INTERSECTION LAYOUT  
 CSAH 9 (ROUND LAKE BOULEVARD) AT CSAH 116 (BUNKER LAKE BOULEVARD)

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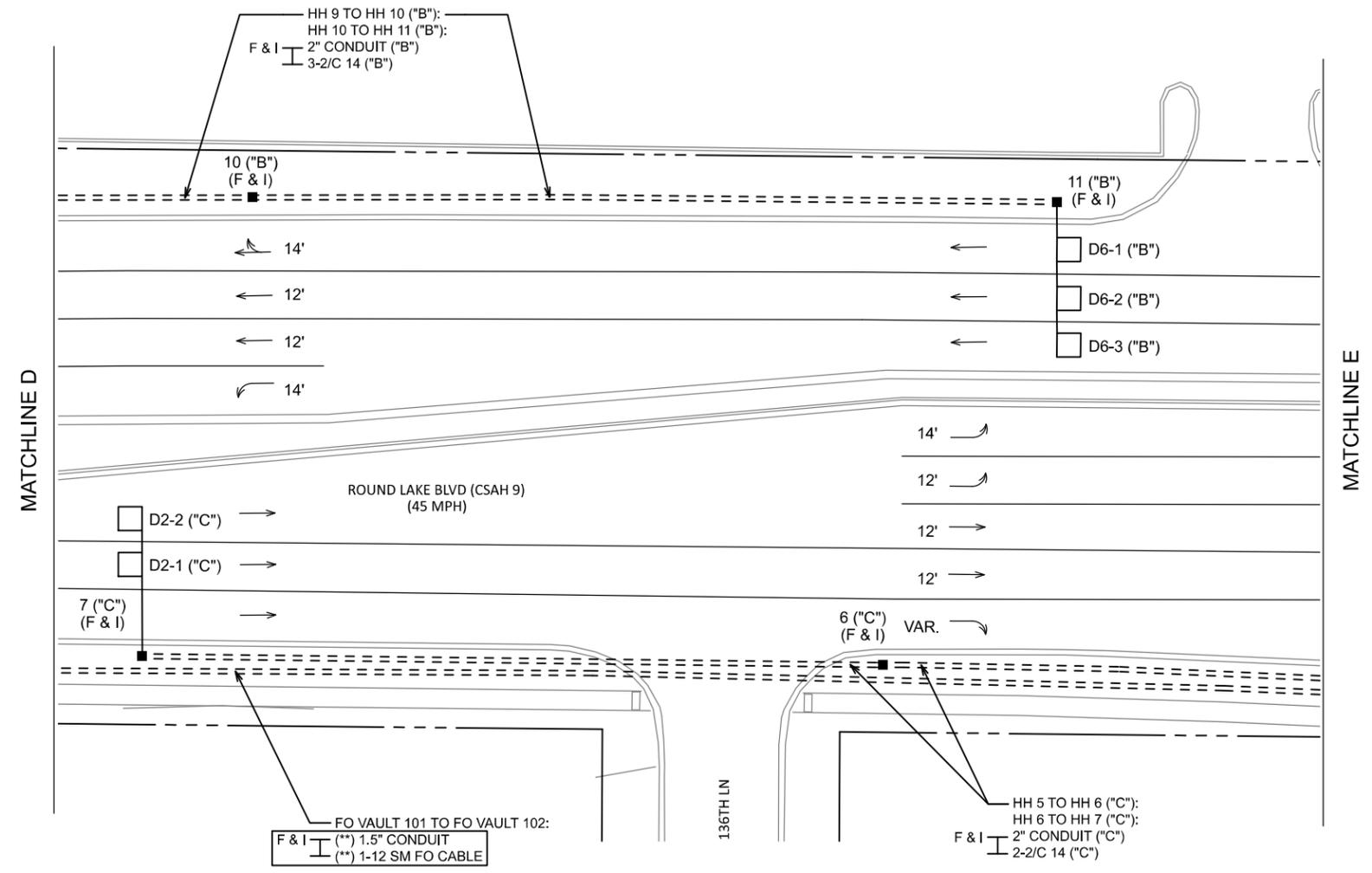
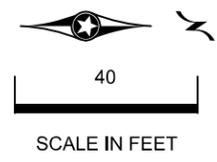
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INTERCONNECT NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- DISTANCE OFF SHOULDER OR CURB FOR NEW INTERCONNECT CONDUIT SHALL BE 1-2 FEET UNLESS OTHERWISE APPROVED BY ENGINEER.
- (\*\*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ITEMS DENOTED BY "B" SHALL BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (TRAFFIC CONTROL SIGNAL SYSTEM "B").  
ITEMS DENOTED BY "C" SHALL BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (TRAFFIC CONTROL SIGNAL SYSTEM "C").
- (F & I) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
- ALL NEW INTERCONNECT CONDUIT INSTALLATIONS (UNDER ROADWAYS, SIDEWALKS, AND IN BOULEVARD AREAS) SHALL BE DIRECTIONALLY BORED UNLESS OTHERWISE APPROVED BY THE ENGINEER IN THE FIELD (DURING CONSTRUCTION) FOR A CONDUIT SECTION TO BE TRENCHED-IN DUE TO UTILITY OR OTHER CONFLICTS THAT WILL NOT ALLOW FOR A CONDUIT SECTION TO BE BORED. TURF ESTABLISHMENT (INCLUDING GRADING AND RESTORATION) SHALL ALSO BE PROVIDED FOR ALL CONDUIT INSTALLATION AREAS IN THE BOULEVARDS (INCIDENTAL).



DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: MRB				
DESIGNER: MRB				
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.

*John M. Gray*  
Printed Name: JOHN M. GRAY  
Lic. No. 22457 Date: 09/23/2025

SEH

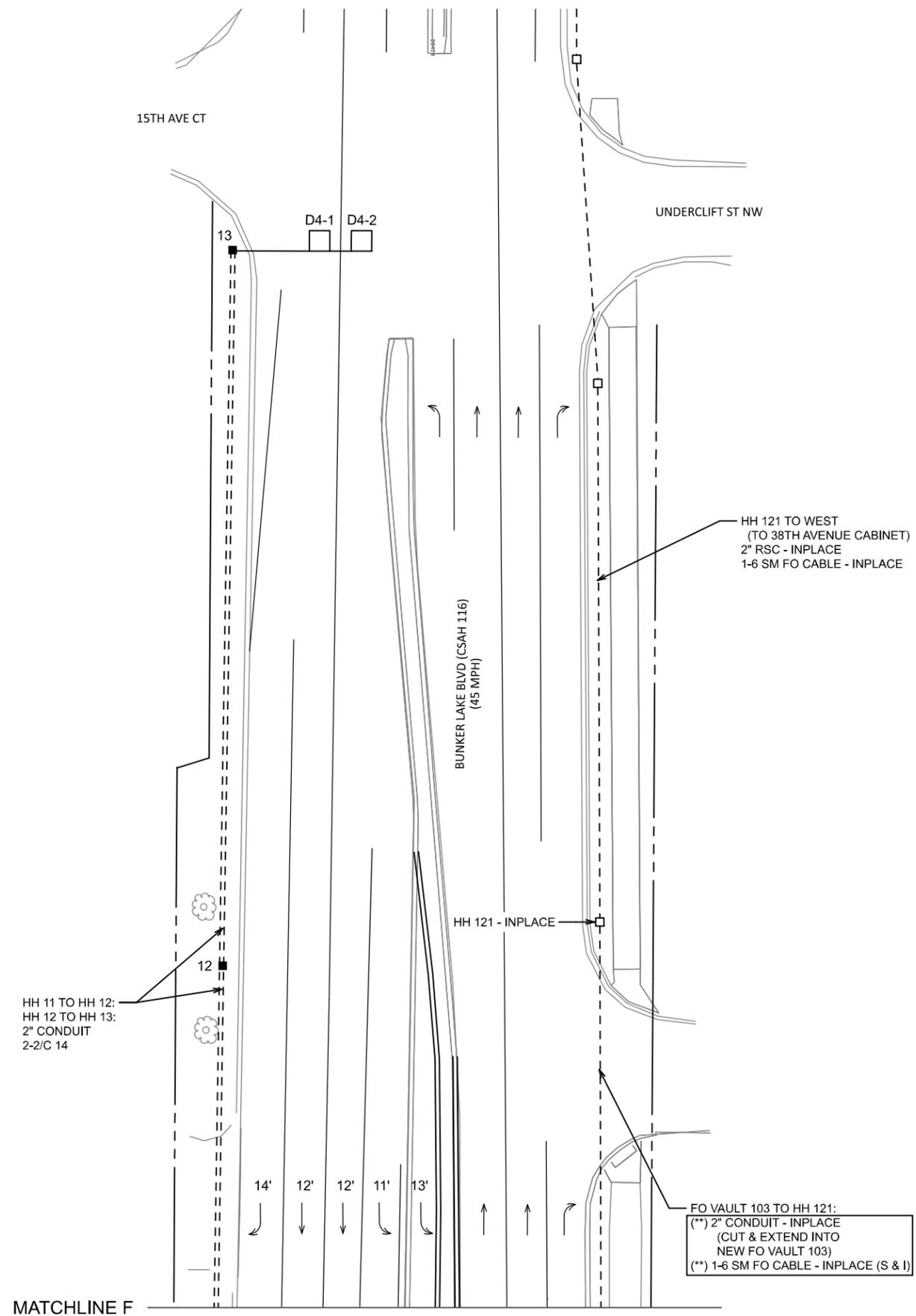
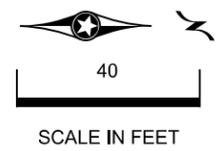
ANOKA COUNTY, MN  
CSAH 9  
SAP 002-609-023  
CITY OF ANDOVER SAP 198-020-042, CITY PROJECT 25-13  
CITY OF ANOKA SAP 103-020-020

TRAFFIC SIGNAL SYSTEMS "B-C"  
INTERSECTION LAYOUT AND INTERCONNECT  
CSAH 9 (ROUND LAKE BLVD) BETWEEN 136TH AVENUE AND CSAH 116 (BUNKER LAKE BLVD)

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ANOKA COUNTY, MN  
CSAH 9  
SAP 002-609-023  
CITY OF ANDOVER SAP 198-020-042, CITY PROJECT 25-13  
CITY OF ANOKA SAP 103-020-020

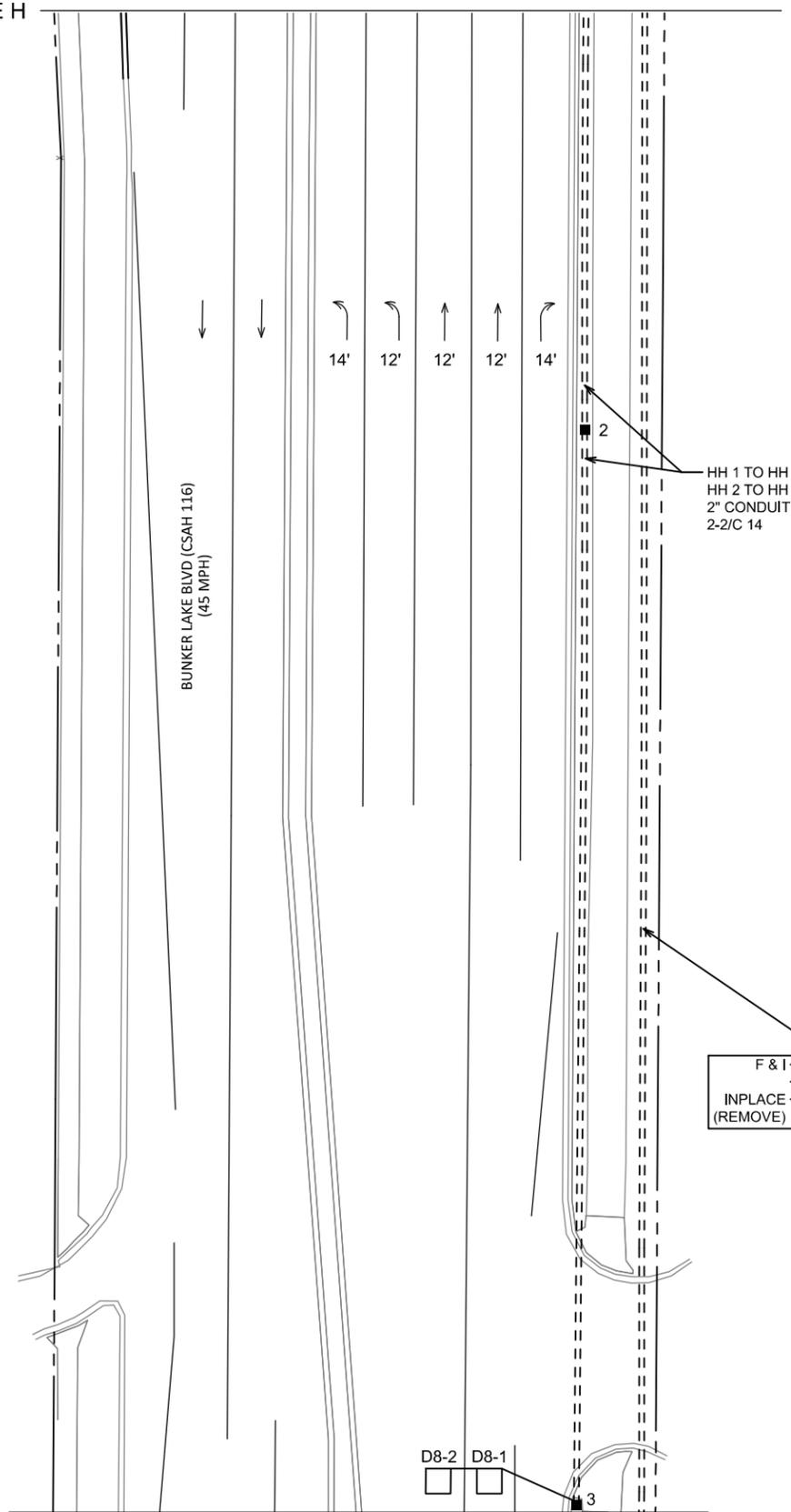
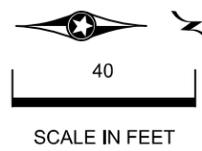
TRAFFIC SIGNAL SYSTEM "C"  
INTERSECTION LAYOUT  
CSAH 9 (ROUND LAKE BOULEVARD) AT CSAH 116 (BUNKER LAKE BOULEVARD)

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9/25/2025

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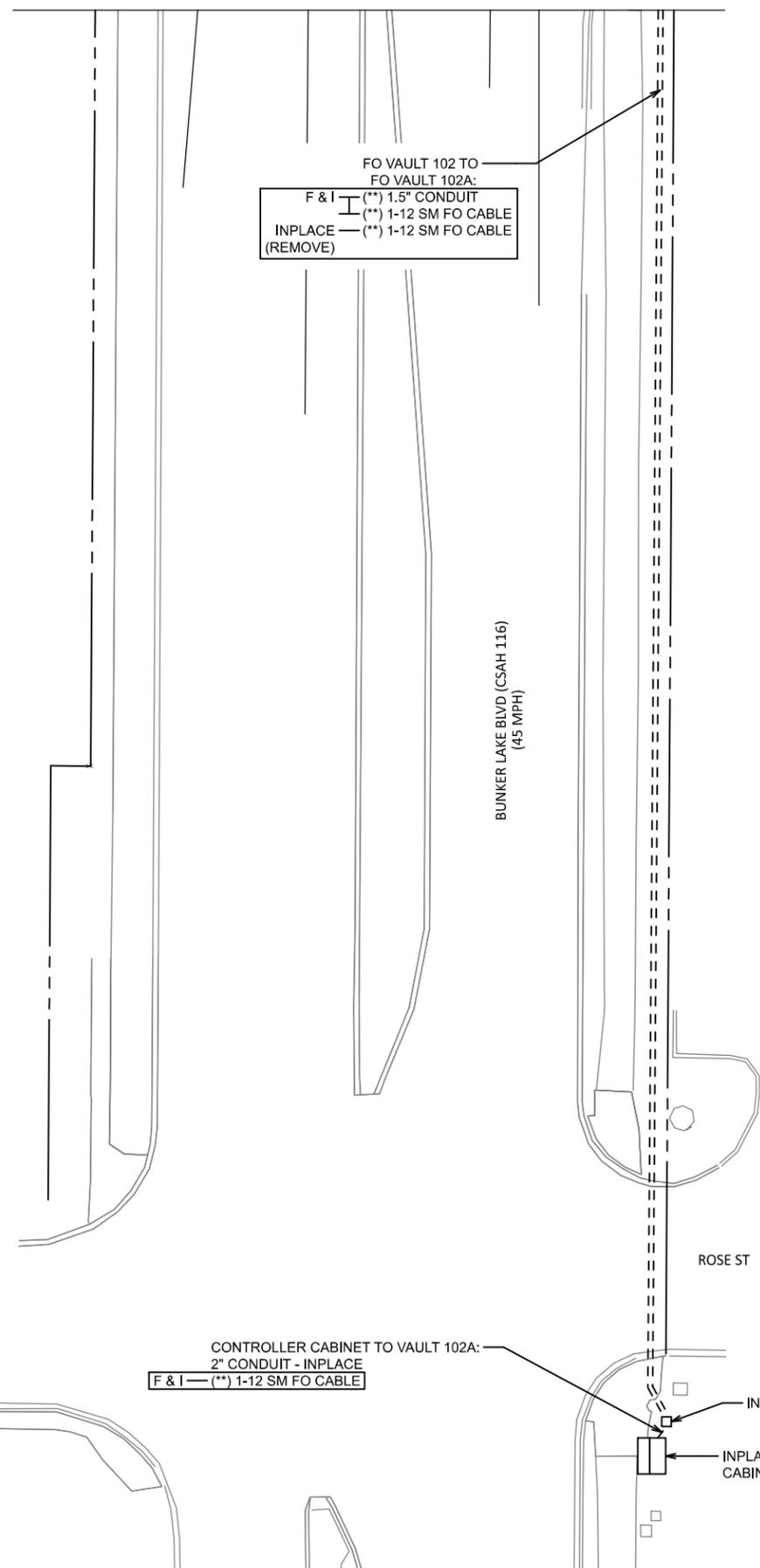
MATCHLINE H



FO VAULT 102 TO  
FO VAULT 102A:  
F & I (\*\*\*) 1.5" CONDUIT  
INPLACE (\*\*\*) 1-12 SM FO CABLE  
(REMOVE) (\*\*\*) 1-12 SM FO CABLE

MATCHLINE  
SEE UPPER RIGHT

MATCHLINE  
SEE LOWER LEFT



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ANOKA COUNTY, MN  
CSAH 9  
SAP 002-609-023  
CITY OF ANDOVER SAP 198-020-042, CITY PROJECT 25-13  
CITY OF ANOKA SAP 103-020-020

TRAFFIC SIGNAL SYSTEM "C"  
INTERSECTION LAYOUT  
CSAH 9 (ROUND LAKE BOULEVARD) AT CSAH 116 (BUNKER LAKE BOULEVARD)

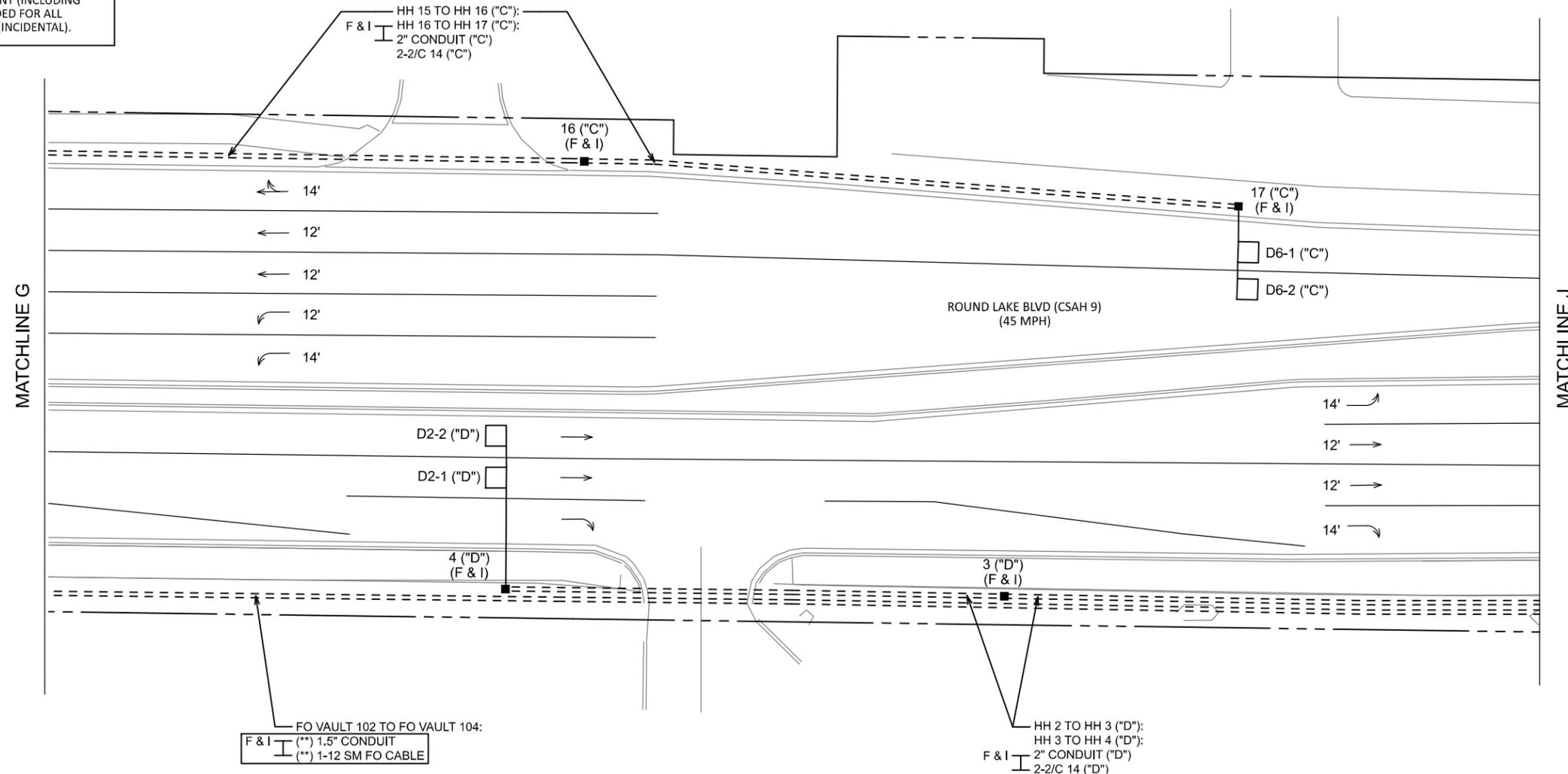
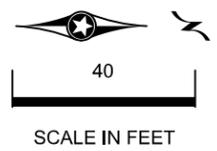
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INTERCONNECT NOTES:

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR NEW INTERCONNECT CONDUIT SHALL BE 1-2 FEET UNLESS OTHERWISE APPROVED BY ENGINEER.
- 3) (\*\*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 4) ITEMS DENOTED BY "C" SHALL BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (TRAFFIC CONTROL SIGNAL SYSTEM "C").  
ITEMS DENOTED BY "D" SHALL BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (TRAFFIC CONTROL SIGNAL SYSTEM "D").
- 5) (F & I) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
- 6) ALL NEW INTERCONNECT CONDUIT INSTALLATIONS (UNDER ROADWAYS, SIDEWALKS, AND IN BOULEVARD AREAS) SHALL BE DIRECTIONALLY BORED UNLESS OTHERWISE APPROVED BY THE ENGINEER IN THE FIELD (DURING CONSTRUCTION) FOR A CONDUIT SECTION TO BE TRENCHED-IN DUE TO UTILITY OR OTHER CONFLICTS THAT WILL NOT ALLOW FOR A CONDUIT SECTION TO BE BORED. TURF ESTABLISHMENT (INCLUDING GRADING AND RESTORATION) SHALL ALSO BE PROVIDED FOR ALL CONDUIT INSTALLATION AREAS IN THE BOULEVARDS (INCIDENTAL).



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DESIGNER: MRB				
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*John M. Gray*  
 Printed Name: JOHN M. GRAY  
 License No. 22457 Date: 09/23/2025



ANOKA COUNTY, MN  
 CSAH 9  
 SAP 002-609-023  
 CITY OF ANDOVER SAP 198-020-042, CITY PROJECT 25-13  
 CITY OF ANOKA SAP 103-020-020

TRAFFIC SIGNAL SYSTEMS "C-D"  
 INTERSECTION LAYOUT AND INTERCONNECT  
 CSAH 9 (ROUND LAKE BLVD) BETWEEN CSAH 116 (BUNKER LAKE BLVD) AND 138TH LN

- NOTES:**
- 1) LOCATION OF FOUNDATIONS, LOOP DETECTORS, HANDHOLES, AND PUSH BUTTON STATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
  - 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
  - 3) ALL HANDHOLES, CONDUIT, AND CABLES AND CONDUCTORS SHALL BE NEW AND SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED.
  - 4) NEW HANDHOLES SHALL BE IN ACCORDANCE WITH THE MnDOT APPROVED/ QUALIFIED PRODUCTS LIST AND THE SPECIAL PROVISIONS.
  - 5) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE & CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
  - 6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION (CONNEXUS). SEE SPECIAL PROVISIONS.
  - 7) SEE SPECIAL PROVISIONS & DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (TO BE MEASURED AND PAID FOR SEPARATELY FROM THE "TRAFFIC CONTROL SIGNAL SYSTEM C" PAY ITEM).
  - 8) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION LED COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
  - 9) 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).
  - 10) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) #12 AWG IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
  - 11) (\*) DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM INO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM C). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
  - 12) (\*\*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
  - 13) NO SPLICING IS ALLOWED ON ANY CABLE OR CONDUCTOR BETWEEN THE CONTROLLER/SERVICE CABINETS AND EACH POLE OR MAST ARM MOUNTED COMPONENT (EXCEPT THAT LOOP DETECTORS SPLICES ARE ALLOWED IN ADJACENT HANDHOLES ONLY).
  - 14) SEE SPECIAL PROVISIONS REGARDING REMOVAL OF EXISTING SIGNAL SYSTEM (TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565 - "TRAFFIC CONTROL SIGNAL SYSTEM C").
  - 15) CONTRACTOR SHALL MAINTAIN OPERATION OF A SIGNAL SYSTEM AT THIS INTERSECTION AT ALL TIMES (EITHER VIA THE EXISTING SIGNAL SYSTEM OR A TEMPORARY SIGNAL SYSTEM), EXCEPT AS OTHERWISE APPROVED BY THE COUNTY FOR THE SIGNAL SYSTEM TO BE TURNED OFF FOR CHANGEOVER FROM EXISTING TO TEMPORARY (AND/OR PERMANENT) SIGNAL SYSTEM. SEE SPECIAL PROVISIONS AND "TEMPORARY SIGNAL SYSTEM C" PLANS FOR FURTHER INFORMATION.
  - 16) CONTRACTOR SHALL PROVIDE, INSTALL, AND MAKE OPERATIONAL ALL COMPONENTS RELATED TO THE COMPLETE PTZ CAMERA INSTALLATION (TO BE MEASURED AND PAID FOR SEPARATELY FROM THE "TRAFFIC CONTROL SIGNAL SYSTEM C" PAY ITEM). SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES.

**1** F & I BA POLE FOUNDATION  
 TYPE BA-A-60-X6-300 CAM 350 (DAVIT AT 0 DEG)  
 LUMINAIRE-LED  
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
 3-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 12', 24', 36'  
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG  
 1-ANGLE MOUNT C.D. PED INDICATION-POLE MOUNTED 90 DEG  
 1-APS PB, SIGN (LT ARROW)  
 AND APS MAST ARM POLE ADAPTOR (PB8-1)  
 R10-X12 SIGN PANEL - BETWEEN 5-1 AND 5-2  
 STREET NAME SIGN PANEL-OVERHEAD (P9)  
 (\*) EVP MOUNTING HARDWARE & LED CONFIRMATION LIGHT - OVERHEAD AT 6' (Ø2,5)  
 1-PTZ CAMERA AND MOUNTING HARDWARE (MOUNT ATOP CAMERA EXTENSION)  
 EXTEND INTO HH 19:  
 3" CONDUIT  
 4-6/C 16 (INCLUDING 1 SPARE)  
 4-4/C 16  
 (\*) 1-3/C 16  
 1-2/C 14  
 (\*) 1-3/C 20  
 1-CAT 5E CABLE (PTZ)  
 1-3/C 16 (LUM)  
 1-1/C 6 (GRD)

INSTALL (FURNISHED BY COUNTY) — (\*) ONE WAY EVP DETECTOR (Ø2,5)

**4** F & I BA POLE FOUNDATION  
 TYPE BA-A-65-D30-9 (DAVIT AT 350 DEG)  
 LUMINAIRE-LED  
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
 4-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 12', 24', 36', 48'  
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG  
 R10-X12 SIGN PANEL - BETWEEN 1-1 AND 1-2  
 STREET NAME SIGN PANEL-OVERHEAD (P11)  
 EVP MOUNTING HARDWARE & LED CONFIRMATION LIGHT - OVERHEAD AT 6' (Ø6,1)  
 EXTEND INTO HH 10:  
 3" CONDUIT  
 4-6/C 16 (INCLUDING 1 SPARE)  
 4-4/C 16  
 (\*) 1-3/C 16  
 (\*) 1-3/C 20  
 1-3/C 16 (LUM)  
 1-1/c 6 (GRD)

INSTALL (FURNISHED BY COUNTY) — (\*) ONE WAY EVP DETECTOR (Ø6,1)

**A** INSTALL (FURNISHED BY COUNTY) — CONTROLLER AND CABINET

F & I EQUIPMENT PAD FOUNDATION  
 BBU SIGNAL SERVICE CABINET  
 BETWEEN CONTROLLER CABINET AND SERVICE CABINET:  
 METERED SIGNAL SERVICE  
 2" CONDUIT  
 3-1/C 6  
 1.5" CONDUIT (COMMS)  
 1-6 PR 19 (COMMS)  
 CONTROLLER CABINET TO HH 1:  
 2-4" CONDUITS 4" CONDUIT  
 4-6/C 16 4-6/C 16  
 7-4/C 16 7-4/C 16  
 (\*) 1-3/C 16 (\*) 1-3/C 16  
 19-2/C 14 14-2/C 14  
 (\*) 1-3/C 20 (\*) 1-3/C 20  
 1-1/C 6 (GRD)  
 CONTROLLER CABINET TO HH 19:  
 2-4" CONDUITS 4" CONDUIT  
 4-6/C 16 4-6/C 16  
 4-4/C 16 6-4/C 16  
 (\*) 1-3/C 16 (\*) 1-3/C 16  
 1-2/C 14 15-2/C 14  
 (\*) 1-3/C 20 (\*) 1-3/C 20  
 1-CAT 5E CABLE (PTZ)  
 1-1/C 6 (GRD)

**2** F & I PEDESTAL FOUNDATION  
 14' PEDESTAL POLE, BASE, WIND COLLAR  
 1-STRAIGHT MOUNT C.D. PED INDICATION  
 1-APS PB, SIGN (RT ARROW), AND POLE SPACERS (PB2-2)  
 2-R6-1 (ONE WAY) SIGNS-POLE MOUNTED  
 EXTEND INTO HH 1:  
 3" CONDUIT  
 2-4/C 16 (INCLUDING 1 SPARE)  
 1-2/C 14  
 1-1/C 6 (INS GRD)

**5** F & I PEDESTAL FOUNDATION  
 14' PEDESTAL POLE, BASE, WIND COLLAR  
 2-STRAIGHT MOUNT C.D. PED INDICATIONS  
 1-APS PB, SIGN (RT ARROW), AND POLE SPACERS (PB6-2)  
 2-R6-1 (ONE WAY) SIGNS-POLE MOUNTED  
 EXTEND INTO HH 11:  
 3" CONDUIT  
 3-4/C 16 (INCLUDING 1 SPARE)  
 1-2/C 14  
 1-1/C 6 (INS GRD)

**7** F & I PEDESTAL FOUNDATION  
 14' PEDESTAL POLE, BASE, WIND COLLAR  
 1-STRAIGHT MOUNT C.D. PED INDICATION  
 1-APS PB, SIGN (RT ARROW), AND POLE SPACERS (PB8-2)  
 2-R6-1 (ONE WAY) SIGNS-POLE MOUNTED 0/180 DEG  
 EXTEND INTO HH 15:  
 3" CONDUIT  
 2-4/C 16 (INCLUDING 1 SPARE)  
 1-2/C 14  
 1-1/C 6 (INS GRD)

F & I SERVICE CABINET TO HH 1:  
 1.25" CONDUIT  
 METERED STREET LIGHT SERVICE  
 2-3/C 16 (LUM)  
 SERVICE CABINET TO HH 19:  
 1.25" CONDUIT  
 METERED STREET LIGHT SERVICE  
 2-3/C 16 (LUM)  
 STUB OUT 2" CONDUIT FROM SERVICE CABINET (FOR POWER CONNECTION BY CONNEXUS)  
 STUB OUT 2-3" CONDUITS FROM CONTROLLER CABINET TO SOUTH (CAP BOTH ENDS- FOR FUTURE USE)  
 CONTROLLER CABINET TO FO-VAULT 102:  
 (\*\*) 2" CONDUIT  
 (\*\*) 1-12 SM FO (TO 136TH)  
 (\*\*) 1-12 SM FO (TO 138TH)  
 (\*\*) 1-6 SM FO (TO 38TH) - INPLACE (S & I)  
 (\*\*) 1-12 SM FO (TO ROSE)

**B** INPLACE — GROUND MOUNTED TRANSFORMER (SOP - CONNEXUS)

**3** F & I PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D30-9 (DAVIT AT 350 DEG)  
 LUMINAIRE-LED  
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
 3-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 12', 24', 36'  
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG  
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED AT 90 DEG AND 180 DEG  
 2-R6-1 (ONE WAY) SIGNS-POLE MOUNTED 0/180 DEG  
 R10-X12 SIGN PANEL - BETWEEN 7-1 AND 7-2  
 STREET NAME SIGN PANEL-OVERHEAD (P10)  
 (\*) EVP MOUNTING HARDWARE & LED CONFIRMATION LIGHT - OVERHEAD AT 6' (Ø4,7)  
 EXTEND INTO HH 8:  
 3" CONDUIT  
 4-6/C 16 (INCLUDING 1 SPARE)  
 5-4/C 16  
 (\*) 1-3/C 16  
 (\*) 1-3/C 20  
 1-3/C 16 (LUM)  
 1-1/C 6 (GRD)

INSTALL (FURNISHED BY COUNTY) — (\*) ONE WAY EVP DETECTOR (Ø4,7)

**6** F & I BA POLE FOUNDATION  
 TYPE BA-A-60-D30-9 (DAVIT AT 350 DEG)  
 LUMINAIRE-LED  
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
 3-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 12', 24', 36'  
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG  
 1-ANGLE MOUNT C.D. PED INDICATION-POLE MOUNTED 90 DEG  
 1-APS PB, SIGN (LT ARROW)  
 AND APS MAST ARM POLE ADAPTOR (PB6-1)  
 R10-X12 SIGN PANEL - BETWEEN 3-1 AND 3-2  
 STREET NAME SIGN PANEL-OVERHEAD (P12)  
 EVP MOUNTING HARDWARE & LED CONFIRMATION LIGHT - OVERHEAD AT 6' (Ø8,3)  
 EXTEND INTO HH 15:  
 3" CONDUIT  
 4-6/C 16 (INCLUDING 1 SPARE)  
 4-4/C 16  
 (\*) 1-3/C 16  
 1-2/C 14  
 (\*) 1-3/C 20  
 1-3/C 16 (LUM)  
 1-1/C 6 (GRD)

INSTALL (FURNISHED BY COUNTY) — (\*) ONE WAY EVP DETECTOR (Ø8,3)

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: MRB				
DESIGNER: MRB				
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.  
  
 Printed Name: JOHN M. GRAY  
 License No. 22457 Date: 09/23/2025



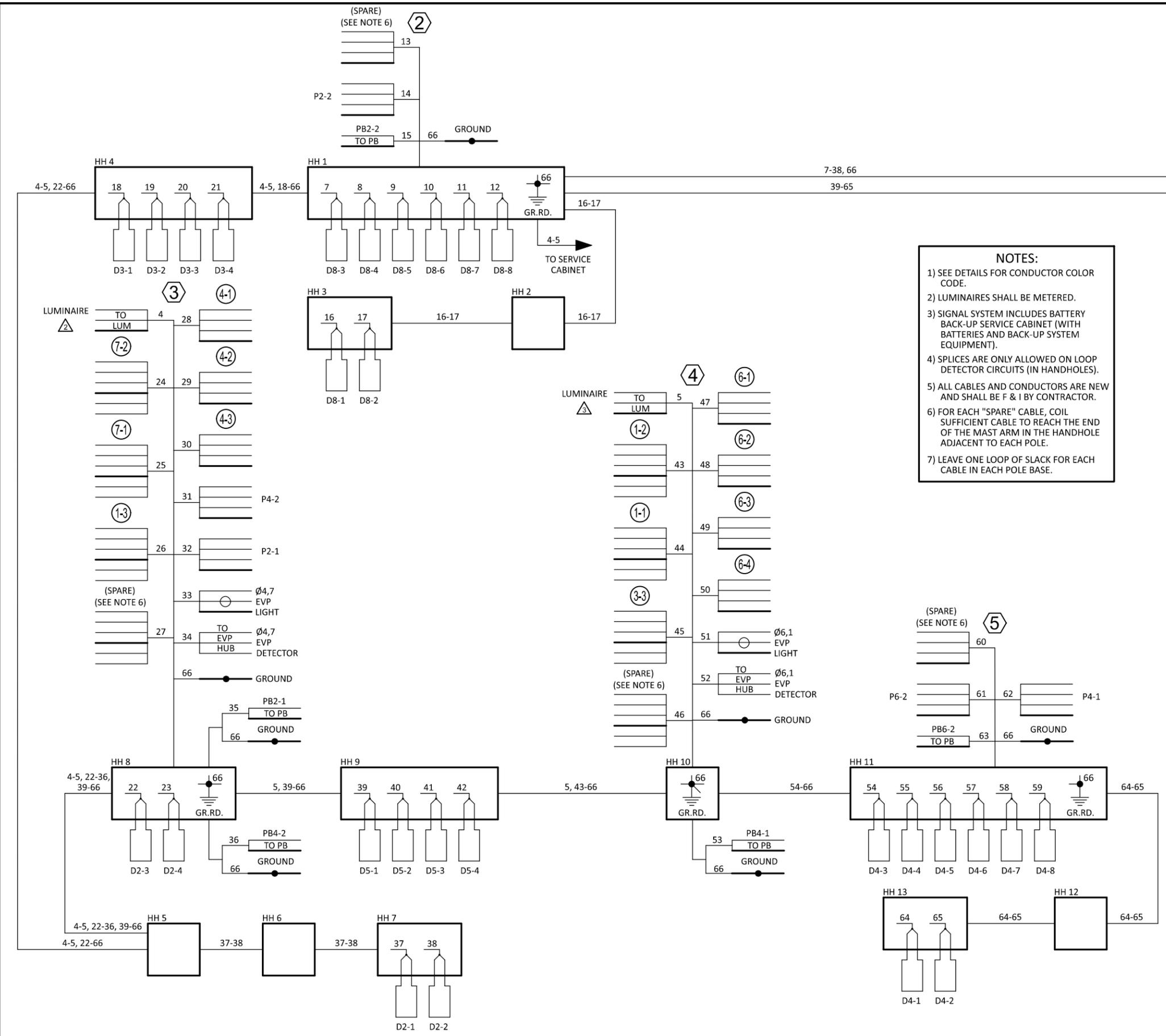
ANOKA COUNTY, MN  
 CSAH 9  
 SAP 002-609-023  
 CITY OF ANDOVER SAP 198-020-042, CITY PROJECT 25-13  
 CITY OF ANOKA SAP 103-020-020

TRAFFIC SIGNAL SYSTEM "C"  
 POLE & CABINET NOTES  
 CSAH 9 (ROUND LAKE BOULEVARD) AT CSAH 116 (BUNKER LAKE BOULEVARD)

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9/25/2025

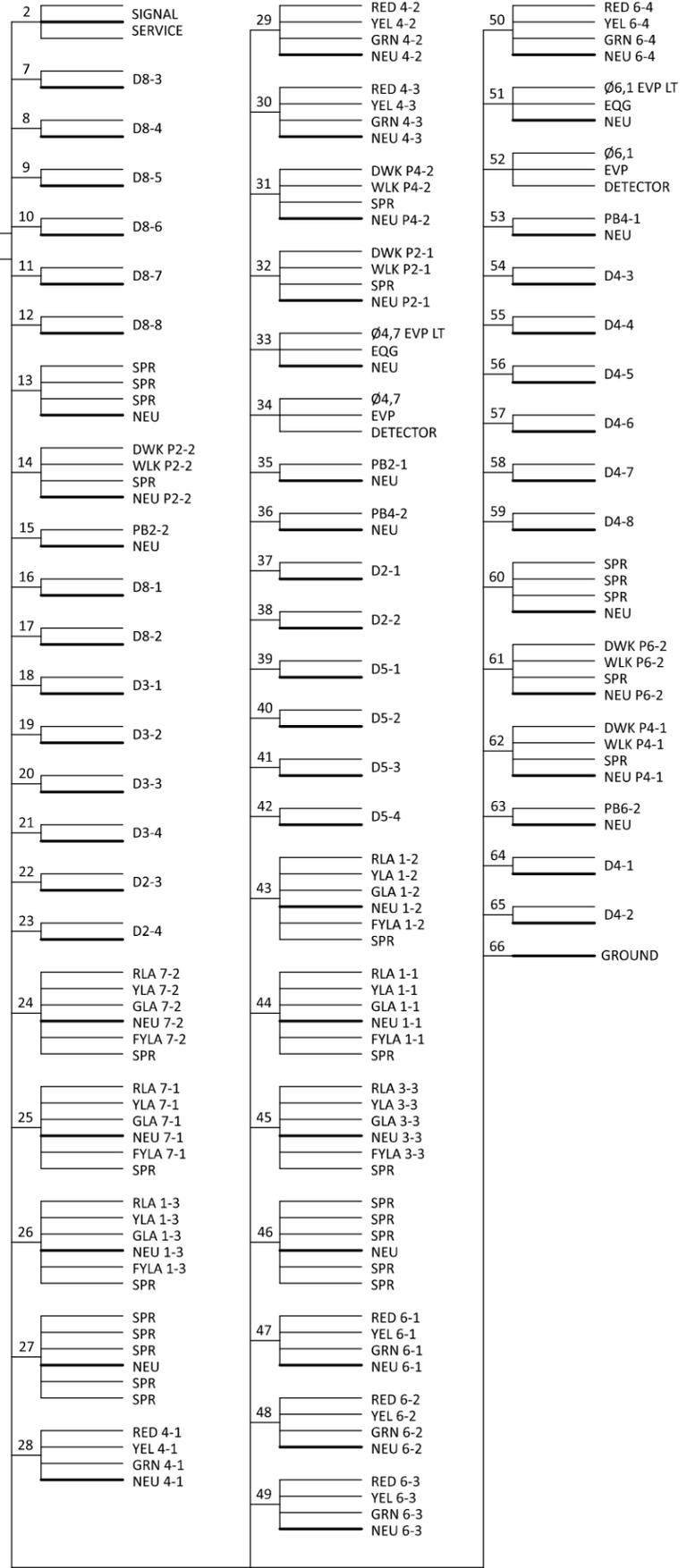
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**NOTES:**

- 1) SEE DETAILS FOR CONDUCTOR COLOR CODE.
- 2) LUMINAIRES SHALL BE METERED.
- 3) SIGNAL SYSTEM INCLUDES BATTERY BACK-UP SERVICE CABINET (WITH BATTERIES AND BACK-UP SYSTEM EQUIPMENT).
- 4) SPLICES ARE ONLY ALLOWED ON LOOP DETECTOR CIRCUITS (IN HANDHOLES).
- 5) ALL CABLES AND CONDUCTORS ARE NEW AND SHALL BE F & I BY CONTRACTOR.
- 6) FOR EACH "SPARE" CABLE, COIL SUFFICIENT CABLE TO REACH THE END OF THE MAST ARM IN THE HANDHOLE ADJACENT TO EACH POLE.
- 7) LEAVE ONE LOOP OF SLACK FOR EACH CABLE IN EACH POLE BASE.

**CONTROLLER AND CABINET**



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DRAWN BY: MRB				
DESIGNER: MRB				
CHECKED BY: JMG				

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 Printed Name: JOHN M. GRAY  
 License No. 22457 Date: 09/23/2025

ANOKA COUNTY, MN  
**CSAH 9**  
 SAP 002-609-023  
 CITY OF ANDOVER SAP 198-020-042, CITY PROJECT 25-13  
 CITY OF ANOKA SAP 103-020-020

**TRAFFIC SIGNAL SYSTEM "C"**  
 FIELD WIRING DIAGRAM  
 CSAH 9 (ROUND LAKE BOULEVARD) AT CSAH 116 (BUNKER LAKE BOULEVARD)

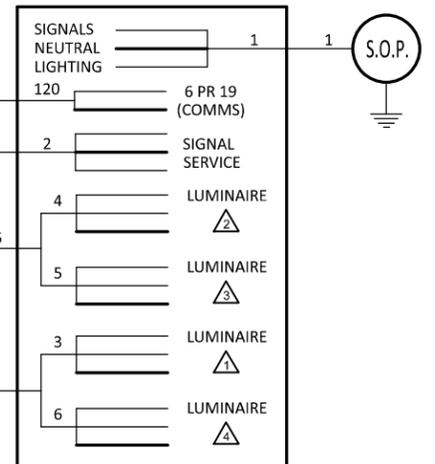
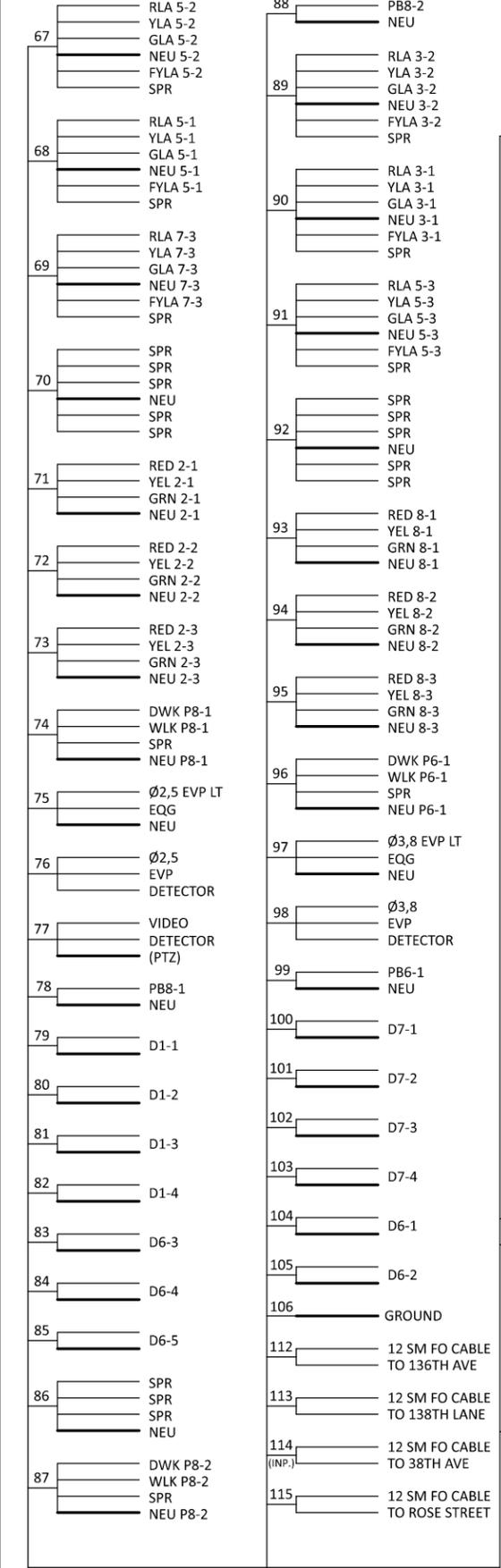
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9/25/2025

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### CONTROLLER AND CABINET

### SIGNAL SERVICE CABINET



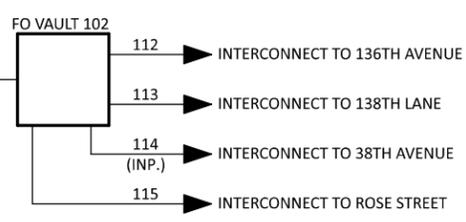
TO HH 1

LUMINAIRE TO LUM

LUMINAIRE TO LUM

(SPARE) (SEE NOTE 6)

(SPARE) (SEE NOTE 6)



- NOTES:**
- 1) SEE DETAILS FOR CONDUCTOR COLOR CODE.
  - 2) LUMINAIRES SHALL BE METERED.
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Lic. No. 22457 Date: 09/23/2025

ANOKA COUNTY, MN  
CSAH 9  
SAP 002-609-023  
CITY OF ANDOVER SAP 198-020-042, CITY PROJECT 25-13  
CITY OF ANOKA SAP 103-020-020

TRAFFIC SIGNAL SYSTEM "C"  
FIELD WIRING DIAGRAM  
CSAH 9 (ROUND LAKE BOULEVARD) AT CSAH 116 (BUNKER LAKE BOULEVARD)