

DISTRICT #: Metro  
 I/PLOT NAME: T-4029001.sgl  
 PATH & FILENAME: Projects\DM\_R05\007\00007\Traffic\Signals\90.54 TH7 @ (73)\HOPKINS CROSSROAD 4029001\REVISED: 26-JAN-2022

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

**SIGNAL SYSTEM OPERATION**

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASE(S) 1, 3, 5, AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

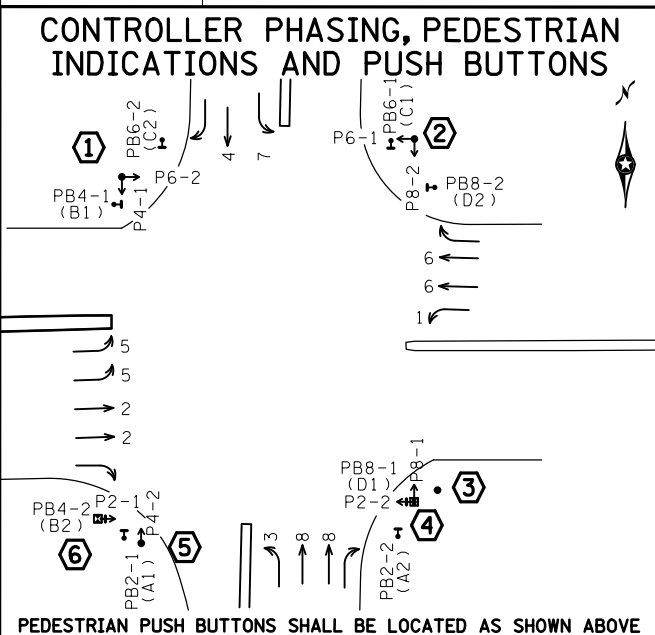
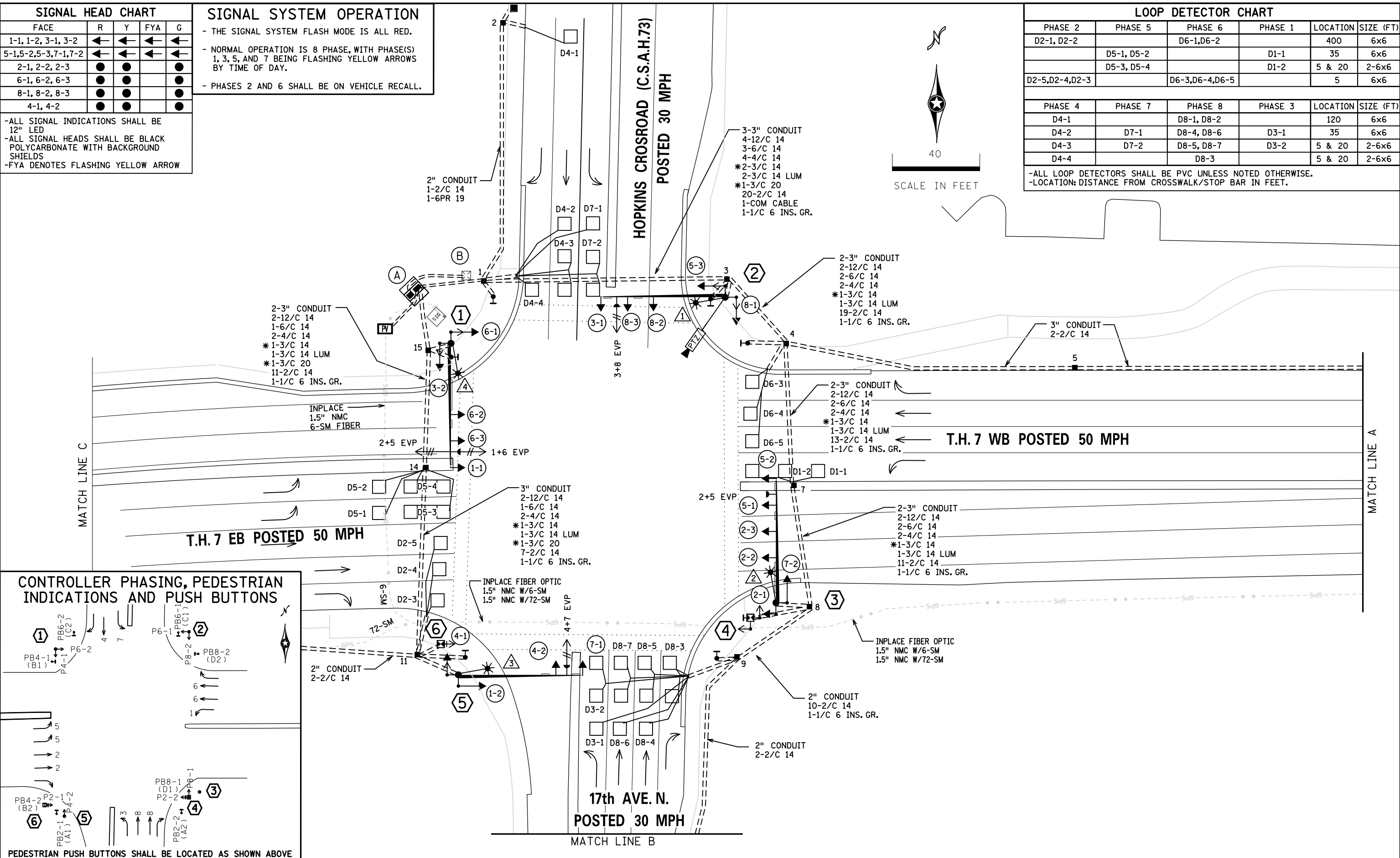
-ALL SIGNAL INDICATIONS SHALL BE 12" LED  
 -ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS  
 -FYA DENOTES FLASHING YELLOW ARROW

LOOP DETECTOR CHART					
PHASE 2	PHASE 5	PHASE 6	PHASE 1	LOCATION	SIZE (FT)
D2-1, D2-2		D6-1, D6-2		400	6x6
	D5-1, D5-2		D1-1	35	6x6
	D5-3, D5-4		D1-2	5 & 20	2-6x6
D2-5, D2-4, D2-3		D6-3, D6-4, D6-5		5	6x6

PHASE 4	PHASE 7	PHASE 8	PHASE 3	LOCATION	SIZE (FT)
D4-1		D8-1, D8-2		120	6x6
D4-2	D7-1	D8-4, D8-6	D3-1	35	6x6
D4-3	D7-2	D8-5, D8-7	D3-2	5 & 20	2-6x6
D4-4		D8-3		5 & 20	2-6x6

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE.  
 -LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET.



BY	DATE	REVISIONS	SYSTEM ID:	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
MJB	1/26/22	SP 2706-232 AS BUILT PLAN	4029001		027-673-009			
			METER ADDRESS: 1701 HIGHWAY 7	<b>INTERSECTION LAYOUT</b> <b>T.H. 7 AT HOPKINS CROSSROAD (CSAH 73)/17TH AVE N.</b> <b>IN HOPKINS, HENNEPIN COUNTY</b>		CERTIFIED BY _____ LIC. NO. _____ DATE: _____		
			OLD SYSTEM ID: 20141			STATE PROJ. NO. 2706-232 (T.H.7)		SHEET NO. 1 OF 5 SHEETS

DISTRICT \*: Metro  
 PLOT NAME: T4029001.sgl  
 PATH & FILENAME: Projects\DM\_R05\007\00007\Traffic\Signals\90.54 TH7 @ (73)\HOPKINS CROSSROAD 4029001\4029001.sgl PLOTTED/REVISED: 26-JAN-2022

**1** PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)  
 1-PAIR SWING AWAY HINGES  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS OVERHEAD  
 AT 11' AND 23'  
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
 2-ANGLE MOUNT C.D. PED HEADS AT 90 AND  
 180 DEG  
 \* 1-ONE WAY EVP DETECTOR AND  
 CONFIRMATORY LIGHT (PHASES 1+6)  
 \* 1-ONE WAY EVP DETECTOR (PHASES 2+5)  
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)  
 2-TYPE D SIGN (D-2 D-4) (SEE SIGN DETAILS)  
 3" CONDUIT TO HH 15:  
 2-12/C 14  
 1-6/C 14  
 2-4/C 14  
 \* 1-3/C 14  
 1-3/C 14 (LUM)  
 \* 2-3/C 20  
 1-1/C 6 INS. GR.

PED PB STATION  
 1-APS PB AND SIGN  
 (RT ARROW) (PB6-2)  
 EXTEND INTO HH 1:  
 1" NOM. DIA. CONDUIT  
 1-2/C 14  
 1-1/C 6 INS. GR.

PED PB STATION  
 1-APS PB AND SIGN  
 (LT ARROW) (PB4-1)  
 EXTEND INTO HH 15:  
 1" NOM. DIA. CONDUIT  
 1-2/C 14  
 1-1/C 6 INS. GR.

**2** PA100 POLE FOUNDATION  
 TYPE PA100-A-55-6X-350/CAM 400 EXTENSION  
 (MOUNTED AT 350 DEG) (INCLUDING LIGHTNING ROD)  
 7/16" GROUND BRAID  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'  
 AND 23'  
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
 2-ANGLE MOUNT C.D. PED HEADS AT 90 AND  
 180 DEG  
 \* 1-ONE WAY EVP DETECTOR AND  
 CONFIRMATORY LIGHT (PHASES 3+8)  
 1-LUMINAIRE-LED (FOR 35' MOUNTING HEIGHT)  
 1-PTZ VIDEO CAMERA (STATE FURNISHED)  
 1-R10-X12 SIGN ADJACENT TO HEAD (3-1)  
 1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)  
 3" CONDUIT TO HH 3:  
 2-12/C 14  
 1-6/C 14  
 2-4/C 14  
 \* 1-3/C 14  
 1-3/C 14 (LUM)  
 \* 1-3/C 20  
 1-7/16" GROUND BRAID TO GROUND ROD  
 1-COM CABLE (CAT 5E)  
 1-1/C 6 INS. GR.

PED PB STATION  
 1-APS PB AND SIGN  
 (LT ARROW) (PB6-1)  
 EXTEND INTO HH 3:  
 1" NOM. DIA. CONDUIT  
 1-2/C 14  
 1-1/C 6 INS. GR.

PED PB STATION  
 1-APS PB AND SIGN  
 (RT ARROW) (PB8-2)  
 EXTEND INTO HH 4:  
 1" NOM. DIA. CONDUIT  
 1-2/C 14  
 1-1/C 6 INS. GR.

**A** EQUIPMENT PAD (SEE DETAIL SHEET)  
 SERVICE CABINET (SSB) NO BATTERY BACKUP SYSTEM OR BATTERIES  
 CONTROLLER AND CABINET (STATE FURNISHED)

3" CONDUIT TO HH 1: 2-4/C 14 6-2/C 14	3" CONDUIT TO HH 15: 2-12/C 14 1-6/C 14 * 1-3/C 14 1-2/C 14 * 2-3/C 20
3" CONDUIT TO HH 1: 2-12/C 14 1-6/C 14 2-4/C 14 * 1-3/C 14 10-2/C 14 * 1-3/C 20 1-COM CABLE	3" CONDUIT TO HH 15: 2-12/C 14 1-6/C 14 2-4/C 14 * 1-3/C 14 11-2/C 14 1-1/C 6 INS. GR.
3" CONDUIT TO HH 1: 2-12/C 14 2-6/C 14 2-4/C 14 * 1-3/C 14 10-2/C 14 1-6PR 19 1-1/C 6 INS. GR.	

GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD  
 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)

1-1/2" CONDUIT TO PULL VAULT:  
 1-FO PIGTAIL (6-SM)

CONTROLLER CABINET TO SERVICE CABINET:  
 2" CONDUIT  
 3-1/C 6

CONTROLLER CABINET TO SERVICE CABINET (COMMS):  
 2" CONDUIT  
 1-6PR 19

SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:  
 2" CONDUIT  
 3-1/C 2

SERVICE CABINET TO HH 1:  
 2" CONDUIT  
 2-3/C 14 (LUM)

SERVICE CABINET TO HH 15:  
 2" CONDUIT  
 2-3/C 14 (LUM)

SERVICE CABINET TO EXTERNAL GR. RD.:  
 1" CONDUIT  
 1-1/C 6 INS. GR.  
 (SEE EQUIPMENT PAD LAYOUT)

**B** INPLACE SOP-GROUND MOUNTED  
 TRANSFORMER (XCEL ENERGY)  
 2" CONDUIT INTO SERVICE CABINET:  
 3-1/C 2

**6** PEDESTAL FOUNDATION  
 TYPE 4A - 1-C.D. PED HEAD (P4-2)  
 8' PEDESTAL POLE PLUS BASE  
 1-APS PB AND SIGN (RT ARROW) (PB4-2)  
 AND APS PB MOUNTING SPACERS  
 3" CONDUIT TO HH 11:  
 1-4/C 14  
 1-2/C 14  
 1-1/C 6 INS. GR.

**5** PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'  
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
 1-ANGLE MOUNT C.D. PED HEADS AT 180 DEG  
 \* 1-ONE WAY EVP DETECTOR AND  
 CONFIRMATORY LIGHT (PHASES 4+7)  
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
 1-R10-X12 SIGN ADJACENT TO HEAD (7-1)  
 1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)  
 3" CONDUIT TO HH 11:  
 2-12/C 14  
 1-6/C 14  
 1-4/C 14  
 \* 1-3/C 14  
 1-3/C 14 (LUM)  
 \* 1-3/C 20  
 1-1/C 6 INS. GR.

PED PB STATION  
 1-APS PB AND SIGN  
 (LT ARROW) (PB2-1)  
 EXTEND INTO HH 11:  
 1" CONDUIT  
 1-2/C 14  
 1-1/C 6 INS. GR.

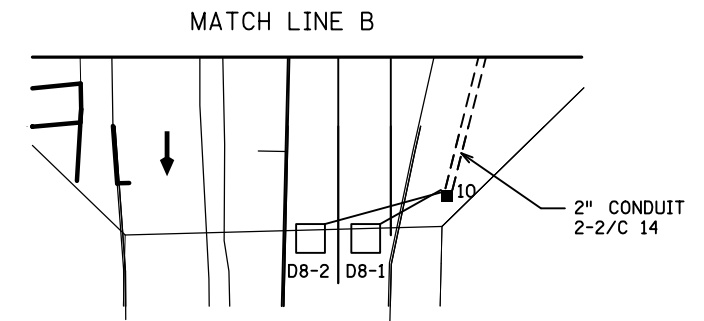
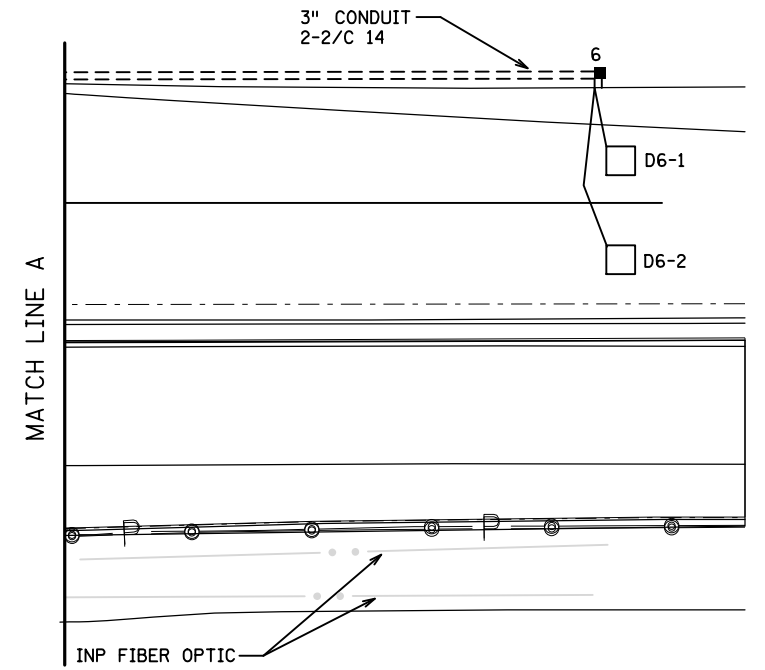
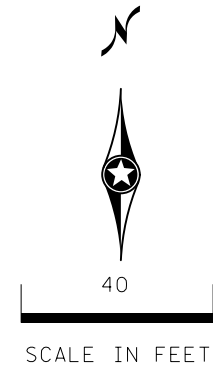
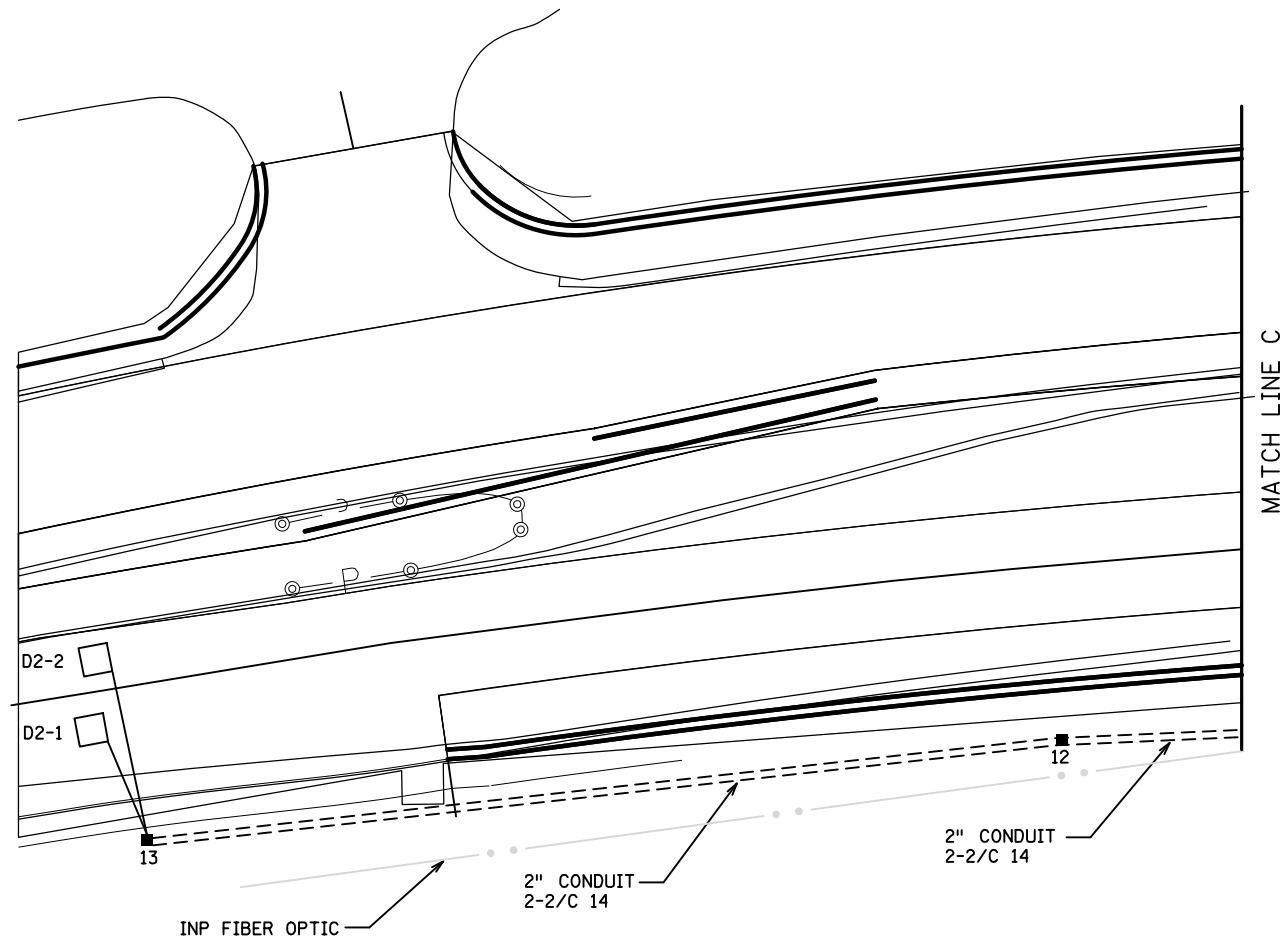
PED PB STATION  
 1-APS PB AND SIGN  
 (RT ARROW) (PB2-2)  
 EXTEND INTO HH 9:  
 1" NOM. DIA. CONDUIT  
 1-2/C 14  
 1-1/C 6 INS. GR.

**4** PEDESTAL FOUNDATION  
 10' PEDESTAL POLE PLUS BASE  
 2-STRAIGHT MOUNT C. D. PED HEADS  
 AT 90 AND 180 DEG  
 1-APS PB AND SIGN (LT ARROW) (PB8-1)  
 AND APS PB MOUNTING SPACERS  
 3" CONDUIT TO HH 8:  
 2-4/C 14  
 1-2/C 14  
 1-1/C 6 INS. GR.

**3** PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)  
 1-PAIR SWING AWAY HINGES  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 3-STRAIGHT MOUNT SIGNALS OVERHEAD  
 AT 11', 23' AND 35'  
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
 \* 1-CONFIRMATORY LIGHT (PHASES 2+5)  
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)  
 2-TYPE D SIGN (D-1 D-5) (SEE SIGN DETAILS)  
 3" CONDUIT TO HH 8:  
 2-12/C 14  
 2-6/C 14  
 \* 1-3/C 14  
 1-3/C 14 (LUM)  
 1-1/C 6 INS. GR.

BY	DATE	REVISIONS	SYSTEM ID: 4029001	T.E.	S.A.P. NO. 027-673-009	DRAWN BY:	CKD BY:	DATE:
MJB	1/26/22	SP 2706-232 AS BUILT PLAN	METER ADDRESS: 1701 HIGHWAY 7		CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
			OLD SYSTEM ID: 20141		<b>INTERSECTION LAYOUT NOTES</b> <b>T.H. 7 AT HOPKINS CROSSROAD (CSAH 73)/17TH AVE N.</b> <b>IN HOPKINS, HENNEPIN COUNTY</b>			
					<b>STATE PROJ. NO. 2706-232 (T.H.7) SHEET NO. 2 OF 5 SHEETS</b>			

DISTRICT \*: Metro  
 IPLOT NAME: T4029001.sgl  
 PATH & FILENAME: Projects\DM罗斯\000000TrafficSignals\90.54 THT @ (73)HOPKINS CROSSROAD 4029001.sgl PLOTTED/REVISED: 26-JAN-2022



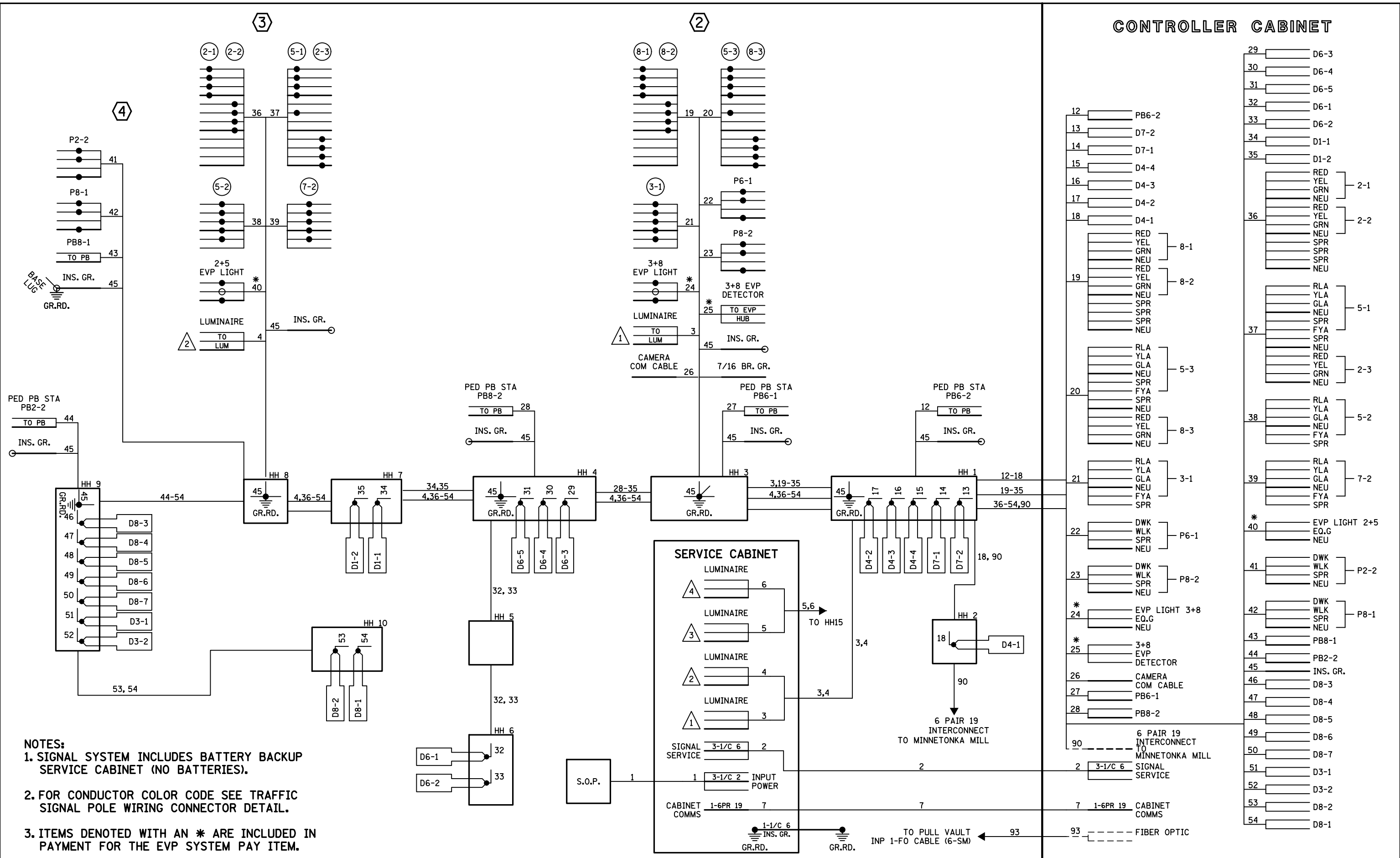
BY	DATE	REVISIONS
MJB	1/26/22	SP 2706-232 AS BUILT PLAN

SYSTEM ID: 4029001 T.E.  
 METER ADDRESS: 1701 HIGHWAY 7  
 OLD SYSTEM ID: 20141

**MATCHLINES**  
**T.H. 7 AT HOPKINS CROSS ROADS**  
**IN HOPKINS, HENNEPIN COUNTY**

S.A.P. NO. 027-673-009	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ.NO. 2706-232 (T.H.7)		SHEET NO. 3 OF	5 SHEETS

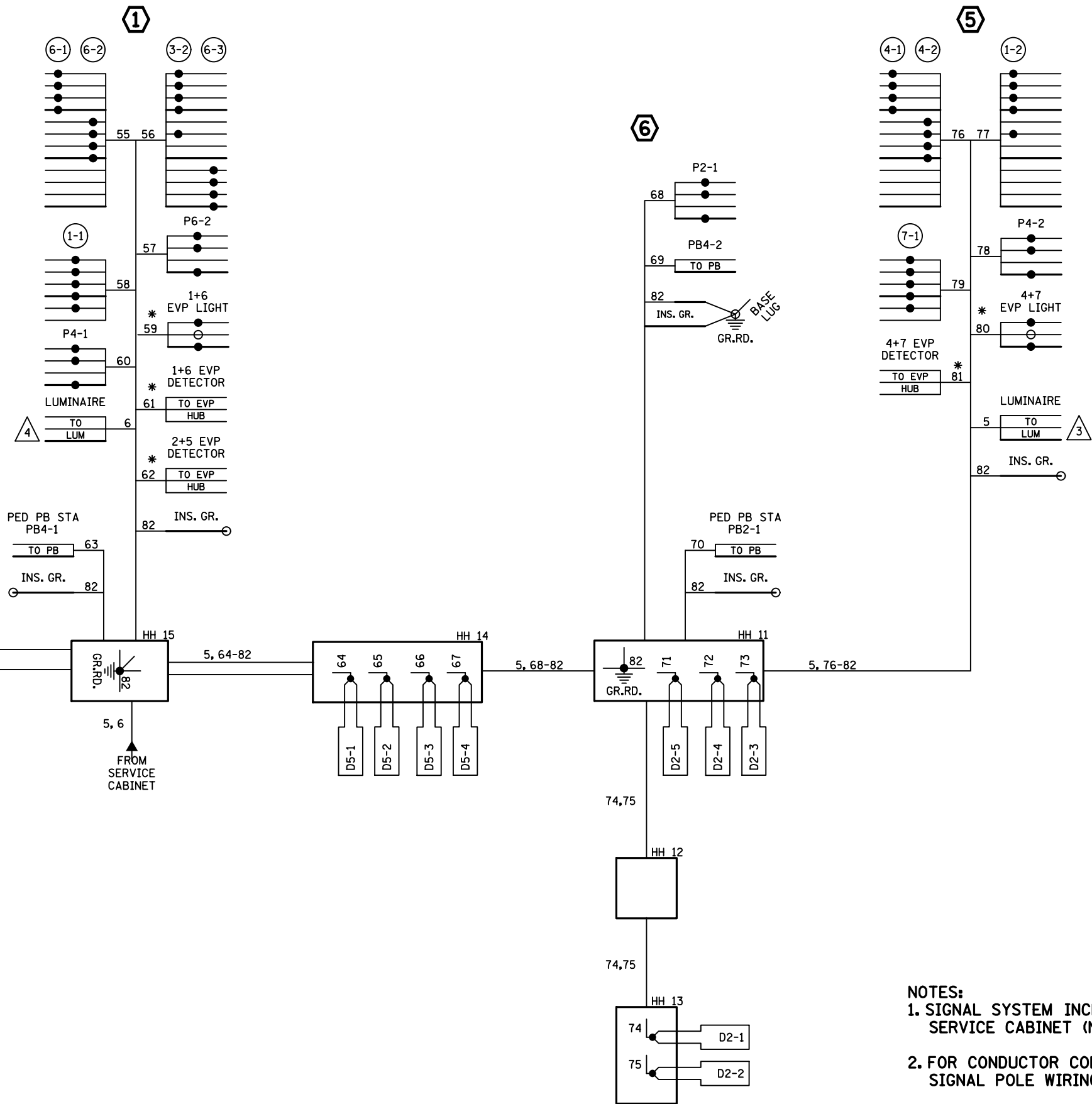
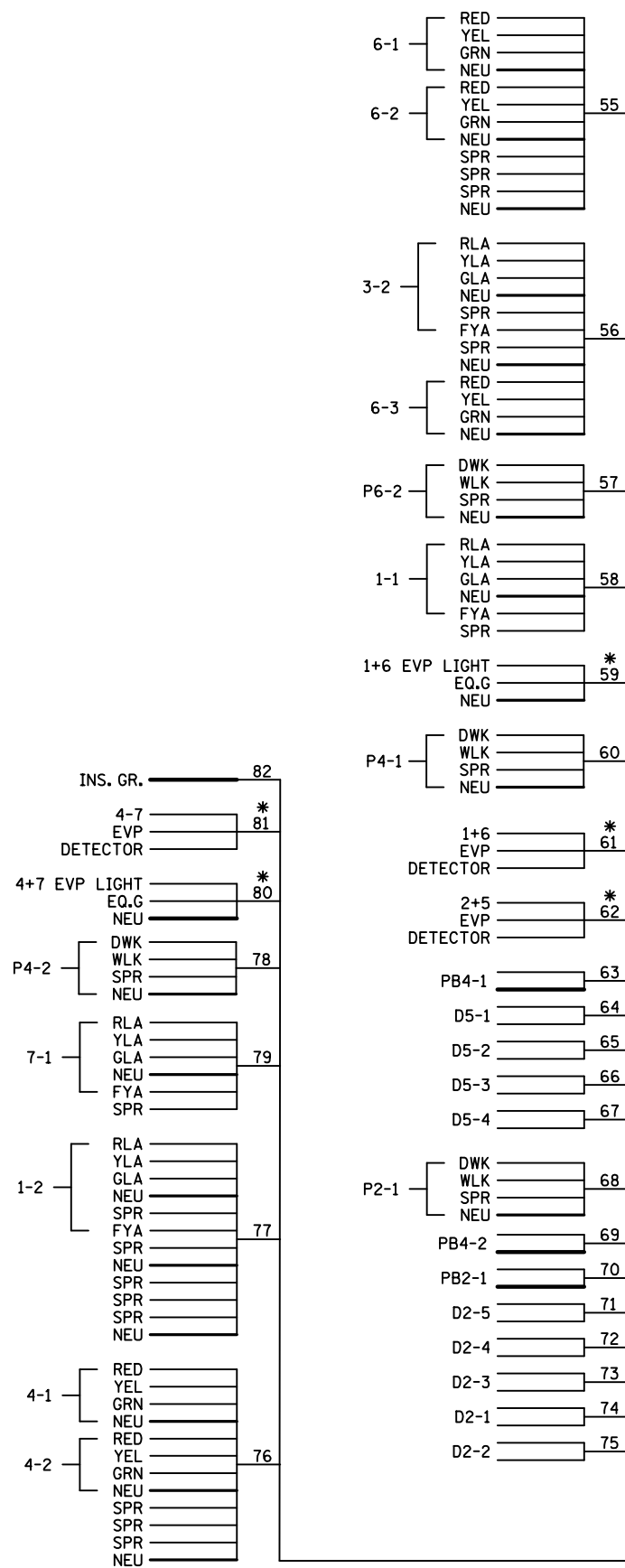
DISTRICT \*: Metro  
 PLOT NAME: T-4029001.sgl  
 PATH & FILENAME: Projects\DM\_ROS\007\00007TrafficSignals\90.54 T.H.7 @ 173\HOPKINS CROSSROAD 4029001.sgl PLOTTED/REVISED: 26-JAN-2022



BY	DATE	REVISIONS	SYSTEM ID: 4029001	T.E.	S.A.P. NO. 027-673-009	DRAWN BY:	CKD BY:	DATE:
MJB	1/26/22	SP 2706-232 AS BUILT PLAN	METER ADDRESS: 1701 HIGHWAY 7		CERTIFIED BY _____	LIC. NO. _____		
			OLD SYSTEM ID: 20141		<b>WIRING DIAGRAM (1 OF 2)</b> <b>T.H. 7 AT HOPKINS CROSSROAD (CSAH 73)/17TH AVE N.</b> <b>IN HOPKINS, HENNEPIN COUNTY</b>			
					<b>STATE PROJ. NO. 2706-232 (T.H.7) SHEET NO. 4 OF 5 SHEETS</b>			

DISTRICT \*: Metro  
 IPLOT NAME: T4029001.sgl  
 PATH & FILENAME: Projects\DM\_ROS\007\0000NTrafficSignals\90.54 THT @ (7.3)HOPKINS CROSSROAD 4029001.sgl PLOTTED/REVISED: 26-JAN-2022

# CONTROLLER CABINET



- NOTES:**
1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (NO BATTERIES).
  2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
  3. ITEMS DENOTED WITH AN \* ARE INCLUDED IN PAYMENT FOR THE EVF SYSTEM PAY ITEM.

BY	DATE	REVISIONS
MJB	1/26/22	SP 2706-232 AS BUILT PLAN

SYSTEM ID: 4029001 T.E.  
 METER ADDRESS: 1701 HIGHWAY 7  
 OLD SYSTEM ID: 20141

**WIRING DIAGRAM (2 OF 2)**  
**T.H. 7 AT HOPKINS CROSSROAD (CSAH 73)/17TH AVE N.**  
**IN HOPKINS, HENNEPIN COUNTY**

S.A.P. NO. 027-673-009	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ. NO. 2706-232 (T.H.7)		SHEET NO. 5 OF	5 SHEETS

DISTRICT #: Metro  
 PLOT NAME: SHT17  
 PATH & FILENAME: Projects\DM罗斯007\0000\Traffic\SIGNALS\2014\ Hopkins Cross Road 17th Ave\PENDING 2020-03\12706-232\_1707\FED/REVISED: 14-DEC-2020

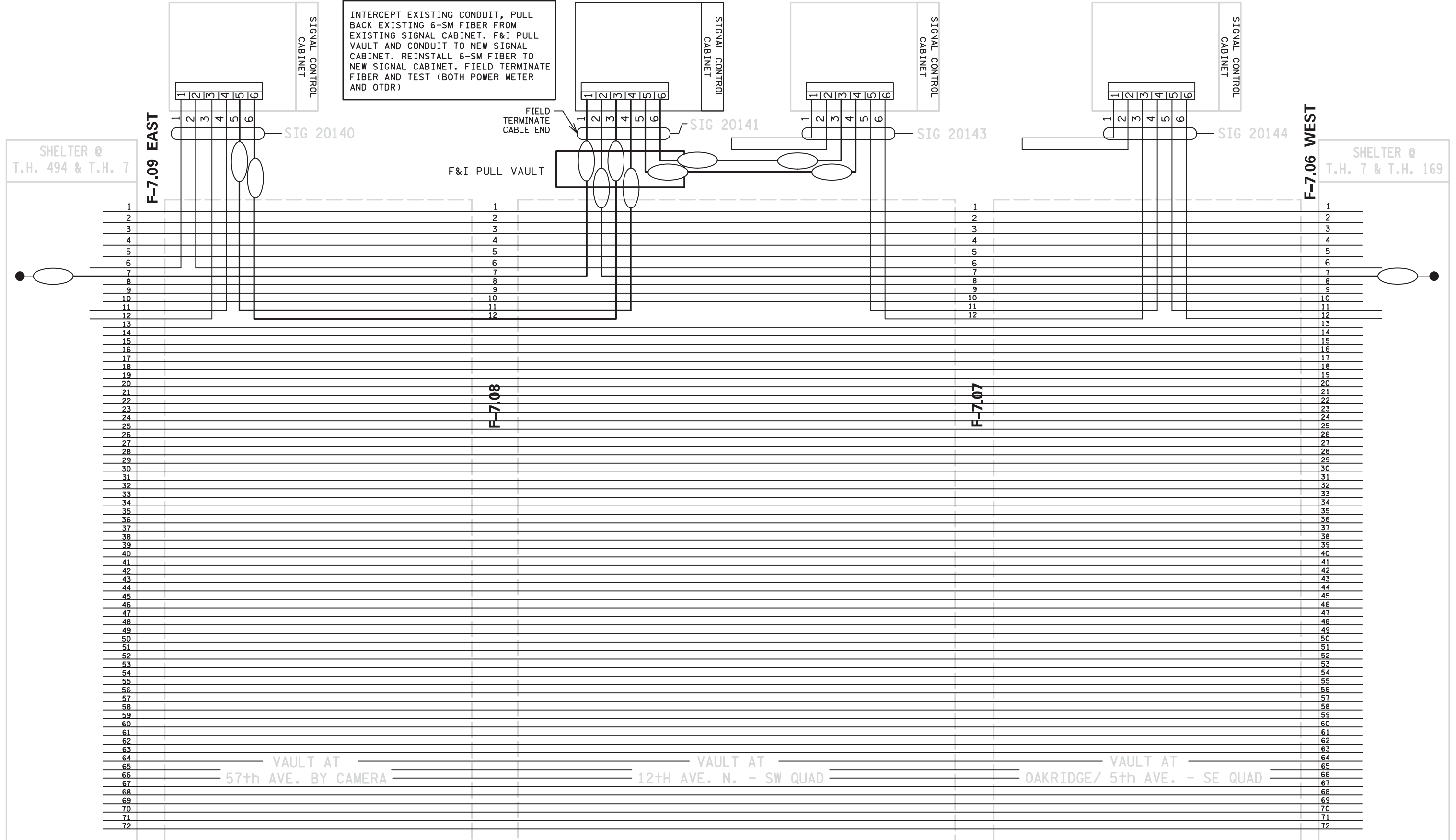
SIGNAL CONTROL CABINET  
 T.H. 7 @ SHADY OAK ROAD  
 SYSYTEM NO. 1734996(20140)

SIGNAL CONTROL CABINET  
 T.H. 7 @ HOPKINS CROSSROAD  
 SYSYTEM NO. 4029001(20141)

SIGNAL CONTROL CABINET  
 T.H. 7 @ 12th AVE.  
 SYSYTEM NO. 1734998(20143)

SIGNAL CONTROL CABINET  
 T.H. 7 @ 5th AVE./OAKRIDGE  
 SYSYTEM NO. 1734999(20144)

INTERCEPT EXISTING CONDUIT, PULL BACK EXISTING 6-SM FIBER FROM EXISTING SIGNAL CABINET. F&I PULL VAULT AND CONDUIT TO NEW SIGNAL CABINET. REINSTALL 6-SM FIBER TO NEW SIGNAL CABINET. FIELD TERMINATE FIBER AND TEST (BOTH POWER METER AND OTDR)



BY	DATE	REVISIONS	SYSTEM ID:	T.E.	S.A.P. NO. 027-673-009	DRAWN BY:HRL	CKD BY:CDB	DATE:7/10/20
			METER ADDRESS:		CERTIFIED BY: <i>Michael P. Sulinsky</i>		LIC. NO. 19863	DATE: 12/14/2020
			OLD SYSTEM ID:		STATE PROJ.NO. 2706-232 (T.H.7)		SHEET NO. SS17 OF SS27 SHEETS	

FIBER OPTIC SCHEMATIC  
 TRAFFIC CONTROL SIGNAL SYSTEM A  
 T.H. 7 AT HOPKINS CROSSROAD (CSAH 73)/ 17th AVE. N.  
 IN HOPKINS & MINNETONKA, HENNEPIN COUNTY