

PLOTTED/REVISED: 15-MAY-2024

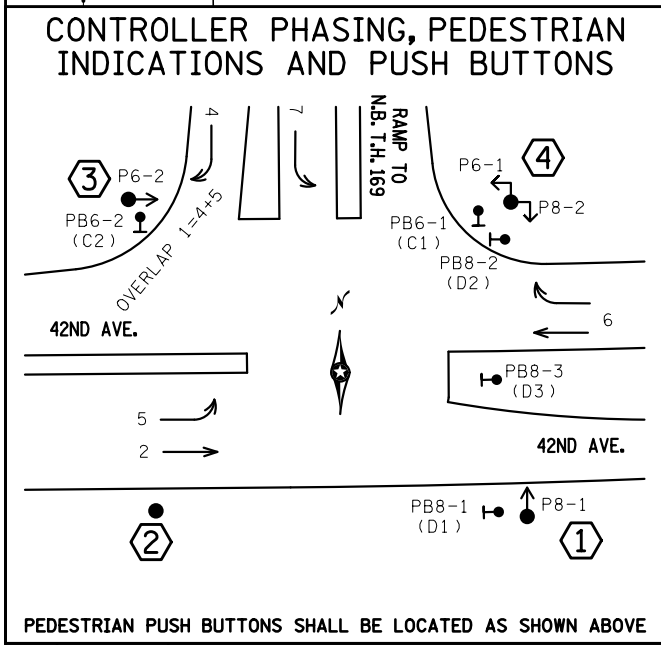
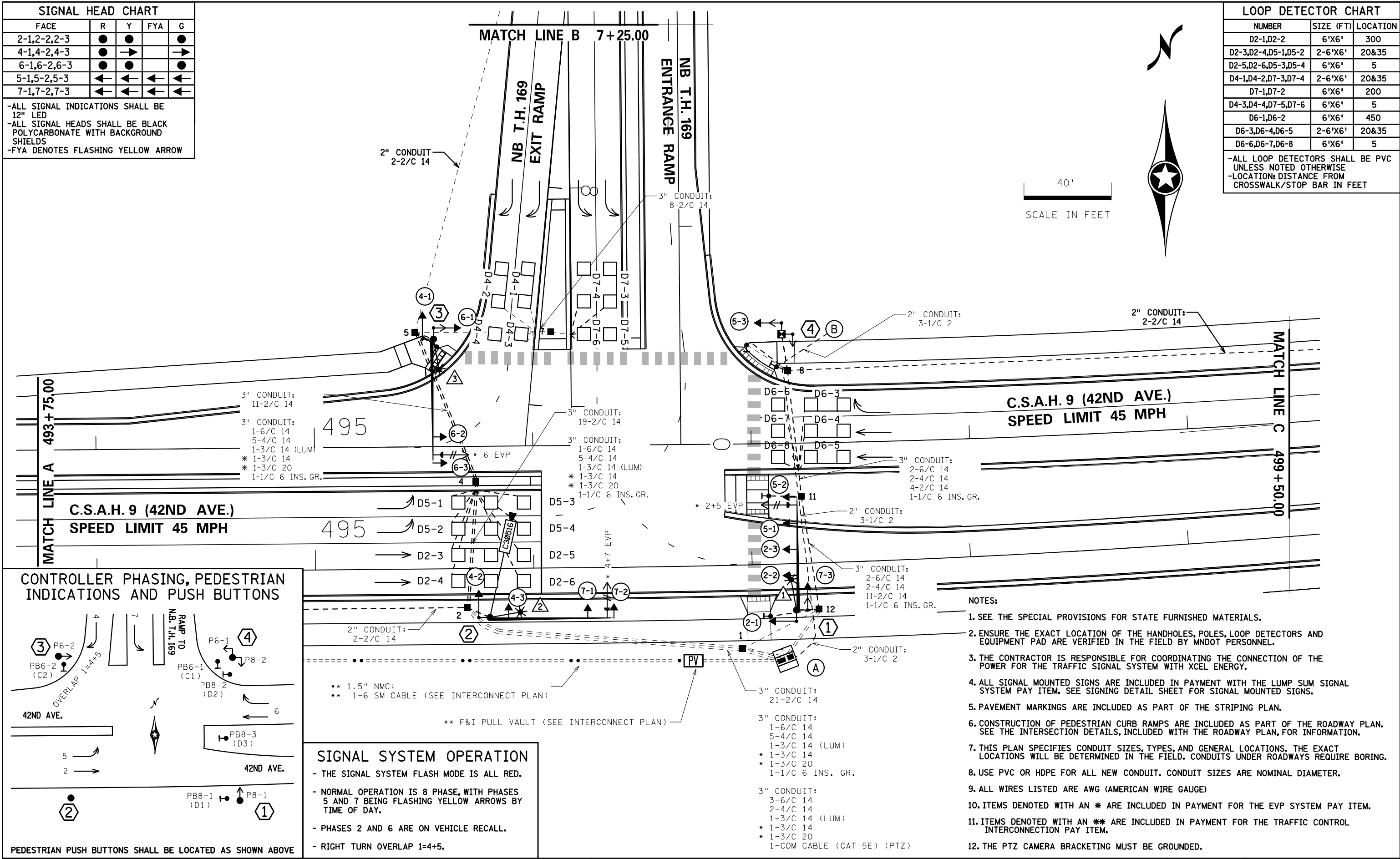
PLOT NAME: Layout
FILE NAME: Projects\DM_PROS\6900000\Traffic\Signals\320_TH169 @ (9) ROCKFORD RD E RAMP 4344813\T4344813.sgl

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

-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		
NUMBER	SIZE (FT)	LOCATION
D2-1,D2-2	6'X6'	300
D2-3,D2-4,D5-1,D5-2	2-6'X6'	20&35
D2-5,D2-6,D5-3,D5-4	6'X6'	5
D4-1,D4-2,D7-3,D7-4	2-6'X6'	20&35
D7-1,D7-2	6'X6'	200
D4-3,D4-4,D7-5,D7-6	6'X6'	5
D6-1,D6-2	6'X6'	450
D6-3,D6-4,D6-5	2-6'X6'	20&35
D6-6,D6-7,D6-8	6'X6'	5

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



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 ARE ON VEHICLE RECALL.
- RIGHT TURN OVERLAP 1=4+5.

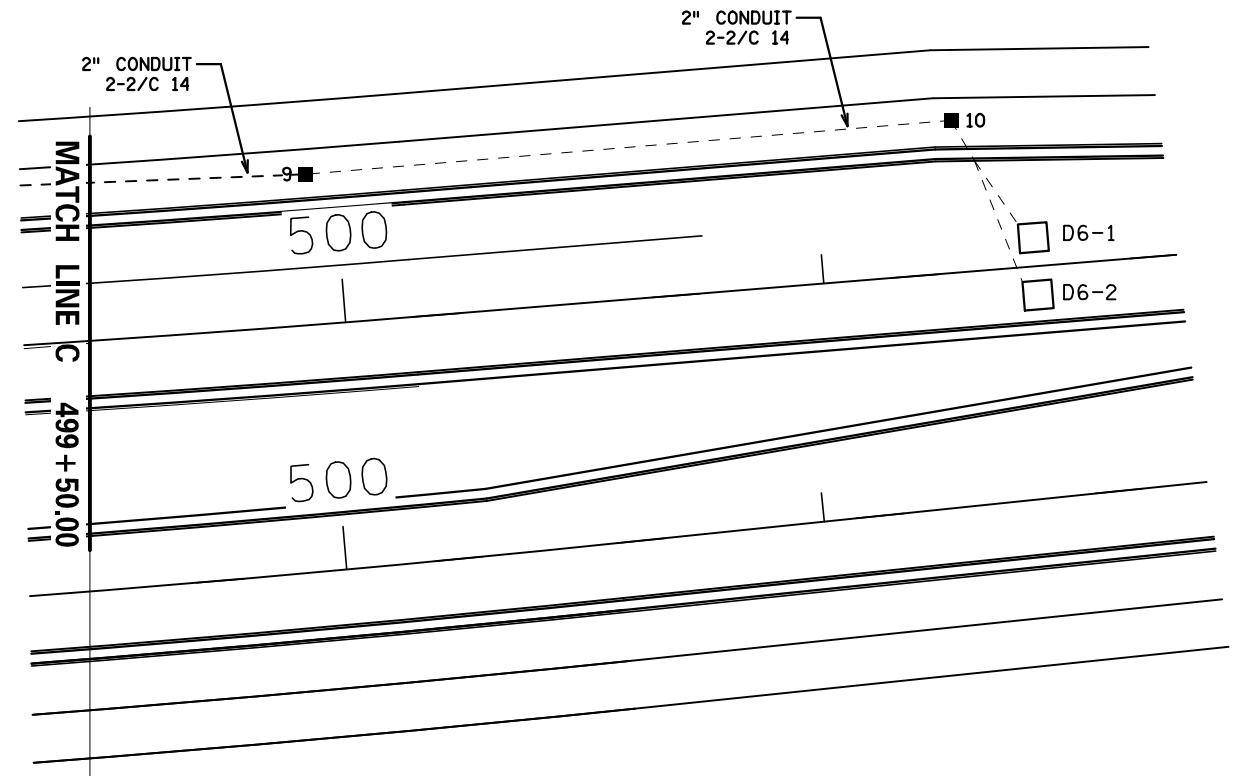
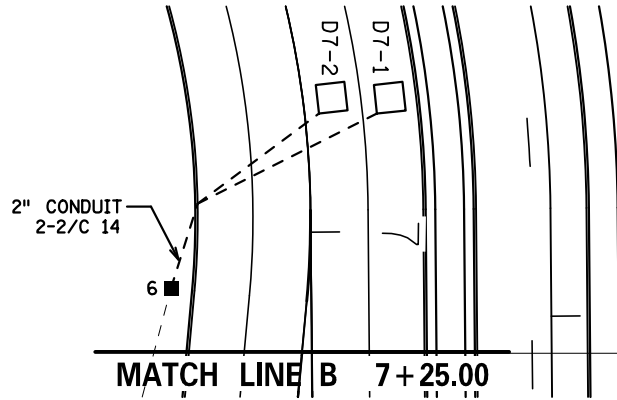
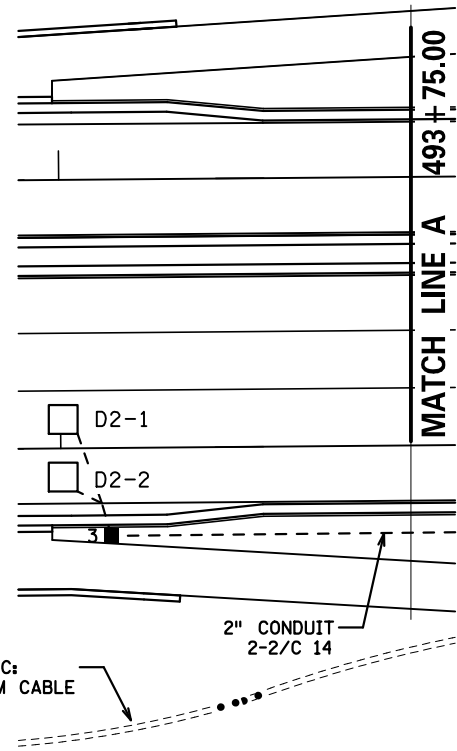
- ### NOTES:
- SEE THE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
 - ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY MNDOT PERSONNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH XCEL ENERGY.
 - ALL SIGNAL MOUNTED SIGNS ARE INCLUDED IN PAYMENT WITH THE LUMP SUM SIGNAL SYSTEM PAY ITEM. SEE SIGNING DETAIL SHEET FOR SIGNAL MOUNTED SIGNS.
 - PAVEMENT MARKINGS ARE INCLUDED AS PART OF THE STRIPING PLAN.
 - CONSTRUCTION OF PEDESTRIAN CURB RAMPS ARE INCLUDED AS PART OF THE ROADWAY PLAN. SEE THE INTERSECTION DETAILS, INCLUDED WITH THE ROADWAY PLAN, FOR INFORMATION.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER ROADWAYS REQUIRE BORING.
 - USE PVC OR HDPE FOR ALL NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
 - ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE)
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.
 - THE PTZ CAMERA BRACKETING MUST BE GROUNDED.

BY	DATE	REVISIONS	SYSTEM ID: 4344813	T.E. 49094	STATE PROJ. NO. 182-020-027,155-020-021,027-609-042	DRAWN BY: MJB	CKD BY:	DATE: 12/08/22
SJK	5/15/24	NEW SOP LOCATION	METER ADDRESS: 9301 42ND AVE N		CERTIFIED BY _____	LIC. NO. 26829	DATE: 12/08/22	
			OLD SYSTEM ID:		STATE PROJ. NO. 2772-115 (T.H.169) SHEET NO. SS19 OF SS24 SHEETS			

BY	DATE	REVISIONS
SJK	5/15/24	NEW SOP LOCATION

INTERSECTION LAYOUT
 TRAFFIC CONTROL SIGNAL SYSTEM B
 TH 169 @ CSAH 9 (42ND AVE.) EAST RAMPS
 IN NEW HOPE, HENNEPIN COUNTY

STATE PROJ. NO. 182-020-027,155-020-021,027-609-042
 DRAWN BY: MJB
 CKD BY:
 DATE: 12/08/22
 STATE PROJ. NO. 2772-115 (T.H.169) SHEET NO. SS19 OF SS24 SHEETS



BY	DATE	REVISIONS
SJK	5/15/24	NEW SOP LOCATION

SYSTEM ID: 4344813 T.E. 49094
 METER ADDRESS: 9301 42ND AVE N
 OLD SYSTEM ID:

MATCHLINES
TRAFFIC CONTROL SIGNAL SYSTEM B
TH 169 @ CSAH 9 (42ND AVE.) EAST RAMPS
IN NEW HOPE, HENNEPIN COUNTY

STATE PROJ. NO. 182-020-027,155-020-021,027-609-042	DRAWN BY: MJB	CKD BY:	DATE: 12/08/22
CERTIFIED BY _____	LIC. NO. 26829	DATE: 12/08/22	
STATE PROJ. NO. 2772-115 (T.H.169) SHEET NO. SS20 OF SS24 SHEETS			

PLOTTED/REVISED: 15-MAY-2024

PLOT NAME: pole notes
FILENAME: Projects\DM罗斯690000TrafficSignals\320 TH169 @ (9) ROCKFORD RD E RAMP 4344813\T4344813.sgl

③ X=495854.2186 Y=188391.1320
 PA100 POLE FOUNDATION
 TYPE PA100-55-A-D40-9 (DAVIT AT 350 DEG)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (6-3)
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11' (6-2)
 2-ANGLE MOUNT SIGNAL AT 90° & 180° (4-1) (6-1)
 1-ANGLE MOUNT C.D. PED HEADS AT 180° (P6-2)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
 1-TYPE R9-3 SIGN (NO PEDS) FACING POLE 2
 2-SIGNS (SOUTH US 169 STRAIGHT ARROW)
 (NORTH US 169 RIGHT ARROW) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 5:
 1-6/C 14
 5-4/C 14
 1-3/C 14 (LUM)
 * 1-3/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN
 (RT ARROW)(PB6-2)
 EXTEND INTO HH 5:
 1" CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN
 (LT ARROW)(PB6-1)
 EXTEND INTO HH 8:
 1" 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 8:
 1" CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

④ X=496013.5794 Y=188393.3846
 SIGNAL HEAD PEDESTAL POLE FOUNDATION
 SIGNAL HEAD PEDESTAL POLE (APPROVED PRODUCTS LIST)
 1-ANGLE MOUNT SIGNAL HEAD AT 90° (5-3)
 2-ANGLE MOUNT C.D. PED HEADS AT 90°
 AND 180° (P6-1) (P8-2)
 3" CONDUIT TO HH 8:
 2-6/C 14
 2-4/C 14
 1-1/C 6 INS. GR.

② X=495880.0834 Y=188263.6377
 PA100 POLE FOUNDATION
 TYPE PA100-55-X6-350/CAM 400 EXTENSION (DAVIT AT 350 DEG)
 (INCLUDES LIGHTNING ROD, 7/16" GROUND BRAID AND GROUND ROD)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-PTZ VIDEO CAMERA (STATE FURNISHED)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (7-2)
 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 47' (7-1, 4-3)
 1-ANGLE MOUNT SIGNAL AT 180° (4-2)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4+7)
 1-TYPE R9-3 SIGN (NO PEDS) FACING POLE 3
 2-SIGNS (CSAH 9 DOUBLE ARROW)
 (LEFT ARROW 42ND AVE - ROCKFORD RD RIGHT ARROW) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 2:
 3-6/C 14
 2-4/C 14
 1-3/C 14 (LUM)
 * 1-3/C 14
 * 1-3/C 20
 1-COM CABLE (CAT 5E) (PTZ)
 1-7/16" GROUNDING BRAID (LIGHTING ROD TO GROUND ROD)
 1-1/C 6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN
 (DOUBLE ARROW)(PB8-3)
 EXTEND INTO HH 11:
 1" CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN
 (LT ARROW)(PB8-1)
 EXTEND INTO HH 12:
 1" CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

① X=496020.4231 Y=188267.0291
 PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (5-2)
 3-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11',
 23' AND 35' (5-1) (2-3) (2-2)
 2-ANGLE MOUNT SIGNALS AT 90°
 AND 180° (7-3) (2-1)
 1-ANGLE MOUNT C.D. PED HEAD AT 90° (P8-1)
 * 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 2 AND 5)
 1-R10-X12 SIGN ADJACENT TO HEAD (5-2)
 1-SIGN (NORTH US 169 LEFT ARROW) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 12:
 4-6/C 14
 4-4/C 14
 1-3/C 14 (LUM)
 * 1-3/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB)
 NO BATTERY BACKUP SYSTEM OR BATTERIES
 CONTROLLER AND CABINET (STATE FURNISHED)
 3" CONDUIT TO HH 1:
 21-2/C 14
 3" CONDUIT TO HH 1:
 1-6/C 14
 5-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

3" CONDUIT TO HH 1:
 3-6/C 14
 2-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-COM CABLE (CAT 5E) (PTZ)
 3" CONDUIT TO HH 11:
 2-6/C 14
 2-4/C 14
 11-2/C 14
 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)
 ** 1.5" NMC TO TMS VAULT:
 ** 1-6 SM FIBER (TO ROCKFORD RD W RAMPS)
 CONTROLLER CABINET TO SERVICE CABINET:
 2" CONDUIT
 3-1/C 6

CONTROLLER CABINET TO SERVICE CABINET (COMMS):
 1-6PR 19
 SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:
 2" CONDUIT:
 3-1/C 2
 SERVICE CABINET TO HH 11:
 2" CONDUIT
 3-3/C 14 (LUM)
 SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.
 (SEE EQUIPMENT PAD LAYOUT)
 HH 1 TO HH 11:
 2" CONDUIT
 1-2/C 14 (LUM)

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

BY	DATE	REVISIONS
SJK	5/15/24	NEW SOP LOCATION

SYSTEM ID: 4344813 T.E. 49094
 METER ADDRESS: 9301 42ND AVE N
 OLD SYSTEM ID:

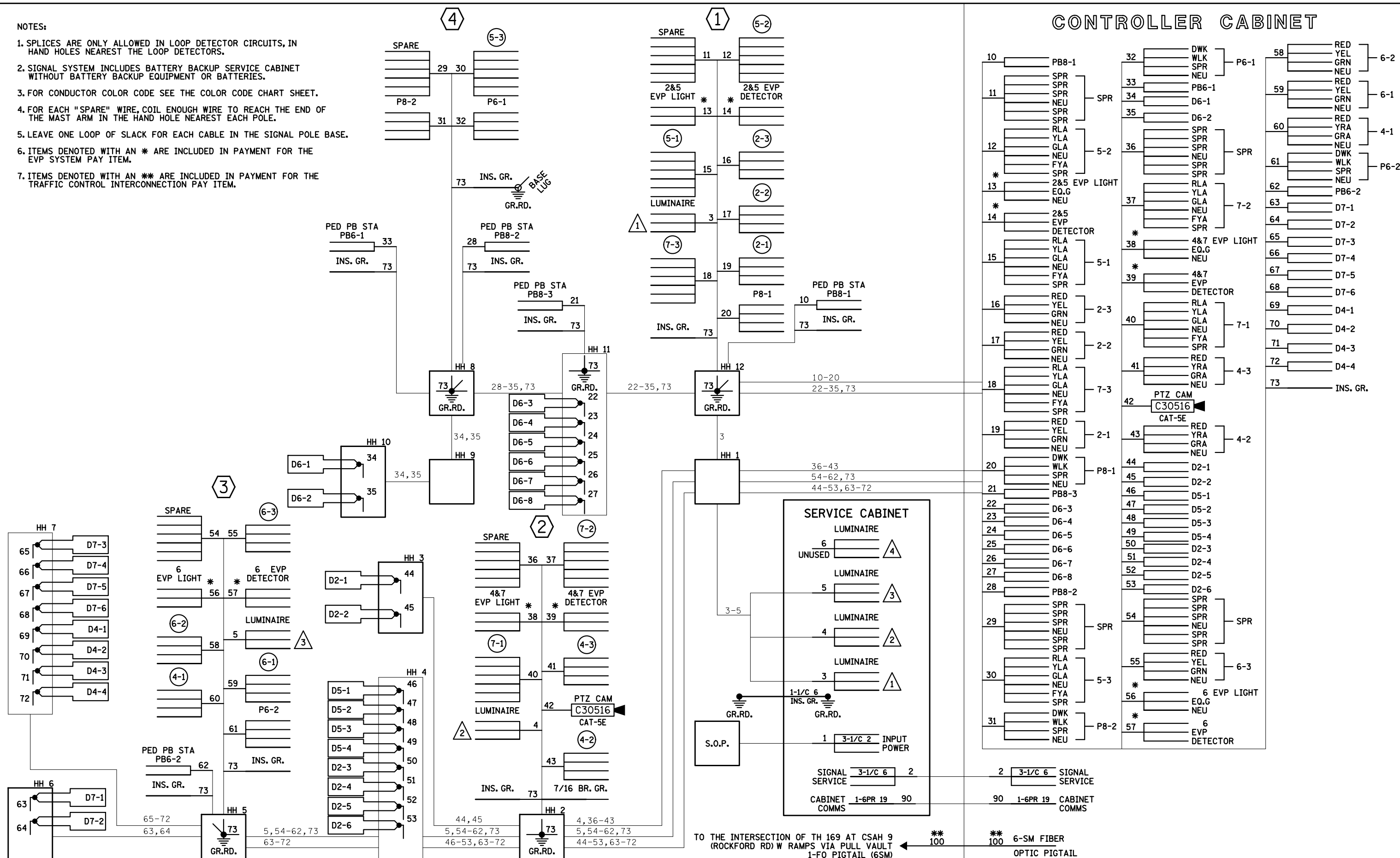
POLE NOTES
 TRAFFIC CONTROL SIGNAL SYSTEM B
 TH 169 @ CSAH 9 (42ND AVE.) EAST RAMPS
 IN NEW HOPE, HENNEPIN COUNTY

STATE PROJ. NO. 182-020-027,155-020-021,027-609-042 DRAWN BY: MJB CKD BY: DATE: 12/08/22
 CERTIFIED BY _____ LIC. NO. 26829 DATE: 12/08/22
 STATE PROJ. NO. 2772-115 (T.H.169) SHEET NO. SS21 OF SS24 SHEETS

PLOTTED/REVISED: 15-MAY-2024

PROJECT NAME: wiring diagram
FILE NAME: Projects\DM_ROS\690000\Traffic\Signal\320_TH169 @ (9) ROCKFORD RD E RAMP 4344813\T4344813.sgl

- NOTES:
1. SPLICES ARE ONLY ALLOWED IN LOOP DETECTOR CIRCUITS, IN HAND HOLES NEAREST THE LOOP DETECTORS.
 2. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET WITHOUT BATTERY BACKUP EQUIPMENT OR BATTERIES.
 3. FOR CONDUCTOR COLOR CODE SEE THE COLOR CODE CHART SHEET.
 4. FOR EACH "SPARE" WIRE, COIL ENOUGH WIRE TO REACH THE END OF THE MAST ARM IN THE HAND HOLE NEAREST EACH POLE.
 5. LEAVE ONE LOOP OF SLACK FOR EACH CABLE IN THE SIGNAL POLE BASE.
 6. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 7. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

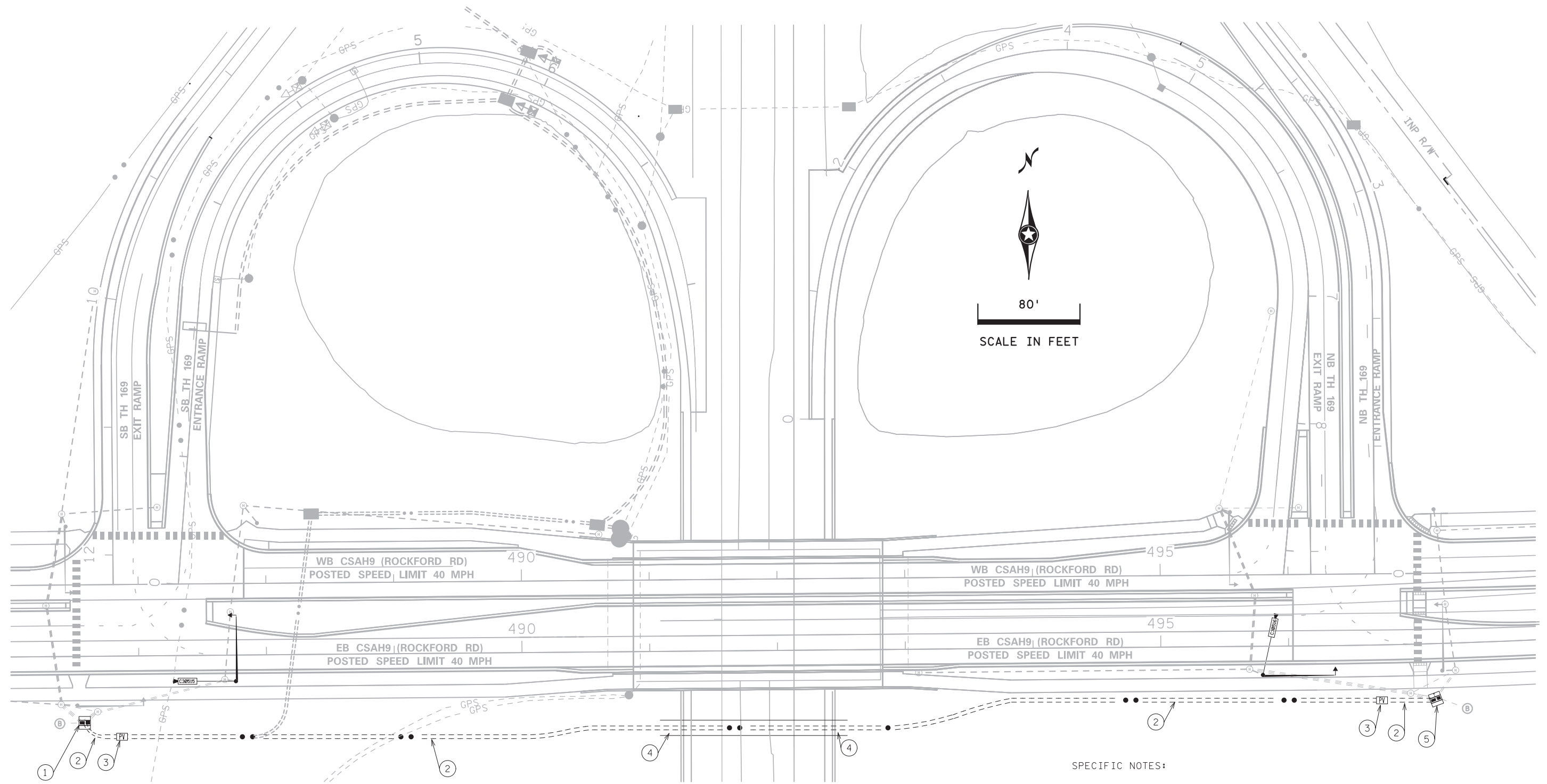


BY	DATE	REVISIONS
SJK	5/15/24	NEW SOP LOCATION

SYSTEM ID: 4344813 T.E. 49094
 METER ADDRESS: 9301 42ND AVE N
 OLD SYSTEM ID:

WIRING DIAGRAM
TRAFFIC CONTROL SIGNAL SYSTEM B
TH 169 @ CSAH 9 (42ND AVE.) EAST RAMPS
IN NEW HOPE, HENNEPIN COUNTY

STATE PROJ. NO. 182-020-027,155-020-021,027-609-042	DRAWN BY: MJB	CKD BY:	DATE: 12/08/22
CERTIFIED BY _____	LIC. NO. 26829	DATE: 12/08/22	
STATE PROJ. NO. 2772-115 (T.H.169) SHEET NO. SS22 OF SS24 SHEETS			



GENERAL NOTES:

1. ALL WORK AND MATERIALS (INCLUDING FIELD TERMINATING AND TESTING THE 6-SM CABLE) REQUIRED TO CONSTRUCT THE TRAFFIC SIGNAL INTERCONNECT IS INCLUDED IN THE LUMP SUM PAYMENT FOR THE "TRAFFIC CONTROL INTERCONNECT" PAY ITEM.
2. SEE THE TMS PLAN FOR INFORMATION ABOUT THE PROPOSED FIBER PIGTAIL, TWO PULL VAULTS, AND 1.5" NMC CONNECTING THE TMS CAMERA TO SIG SYS 4344814.
3. FIELD TERMINATIONS OF 6 SM CABLE REQUIRE BOTH POWER METER AND OTDR TESTING.

SPECIFIC NOTES:

- ① PROPOSED SIGNAL CABINET (SIG SYS 4344814)
F&I 1-F0 PIGTAIL TERMINATION
- ② F&I 1.5" NMC & 1-F0 PIGTAIL (6-SM)
- ③ F&I PULL VAULT
- ④ F&I 1.5" NMC BORE & 1-F0 PIGTAIL (6 SM)
- ⑤ PROPOSED SIGNAL CABINET (SIG SYS 4344813)
F&I 1-F0 PIGTAIL TERMINATION

BY	DATE	REVISIONS

SYSTEM ID: 4344813 to 4344814
METER ADDRESS:
OLD SYSTEM ID:

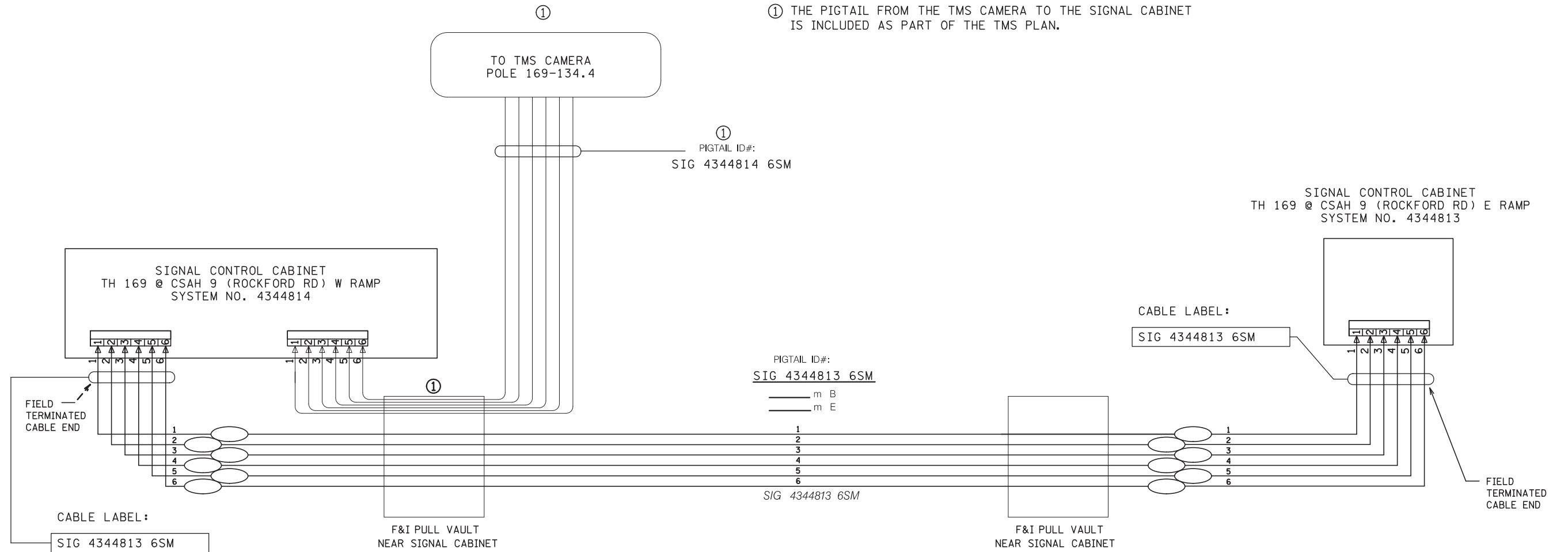
TRAFFIC CONTROL INTERCONNECT

STATE PROJ. NO. 182-020-027,155-020-021,027-609-042	DRAWN BY: MJB	CKD BY:	DATE: 10/28/22
CERTIFIED BY: <i>Gregory Kim</i>	LIC. NO. 26829	DATE: 10/28/22	
STATE PROJ. NO. 2772-115 (T.H.169) SHEET NO. SS11 OF SS24 SHEETS			

FIBER OPTIC SCHEMATIC

(FOR SIGNAL COMMUNICATIONS)

PLOTTED/REVISED: 8-NOV-2022

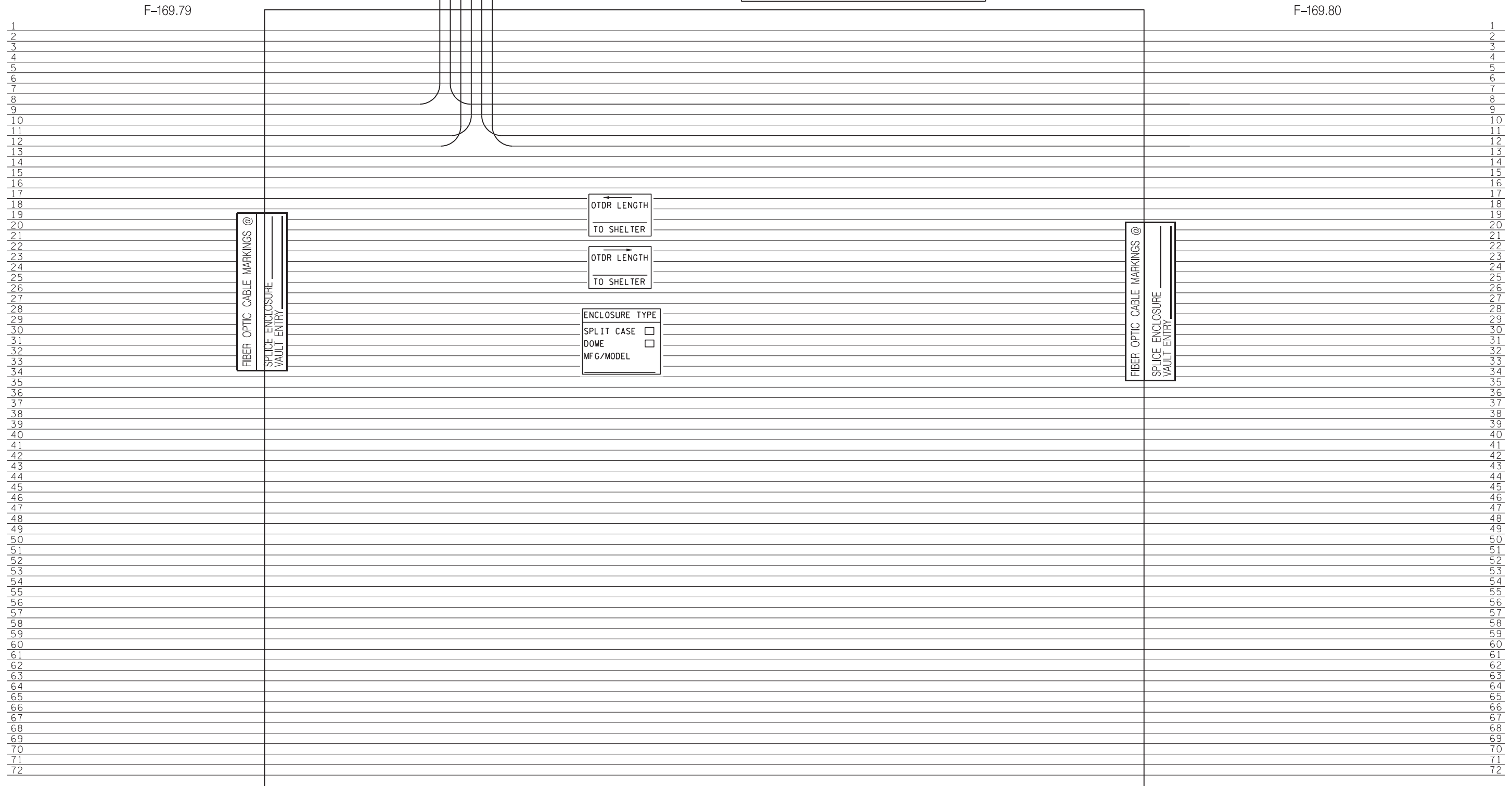
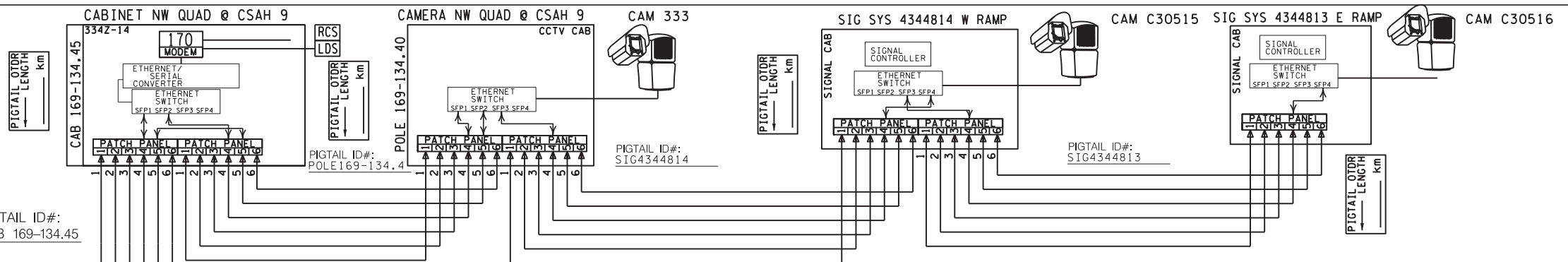


NOTES:
FURNISHING, INSTALLING, SPLICING AND TESTING OF THE 6SM FIBER OPTIC CABLE IS INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

PLOT NAME: 12 of 24 - Interconnect Schematic
FILENAME: Projects\DM_FOS\69\2772\15\TrafficSignal\2772-115_fiber

BY	DATE	REVISIONS	SYSTEM ID: 4344813 to 4344814	STATE PROJ. NO. 182-020-027,155-020-021,027-609-042	DRAWN BY: MJB	CKD BY:	DATE: 10/14/22
			METER ADDRESS:	FIBER OPTIC SCHEMATIC	CERTIFIED BY	LIC. NO. 26829	DATE: 10/28/22
			OLD SYSTEM ID:	STATE PROJ. NO. 2772-115 (T.H.169) SHEET NO. SS12 OF SS24 SHEETS			

- FD = FIBER DISTRIBUTION FRAME
- = DIRECT PIGTAIL TERMINATION FROM TRUNK LINE TO FRONT OF FDF
- = FDF TERMINATED FIBER
- = FDF TERMINATED FIBER W/ PATCHCORD CONNECTION
- = SINGLE-MODE (MAIN FIBERS ONLY)
- = MULTI-MODE (MAIN FIBERS ONLY)
- = BAD FIBER (DON'T USE)
- D = DROPPED FIBER (DON'T USE)
- = DENOTES 1550 LASER FOR DV 6000



PROPOSED VAULT @
 ROCKFORD RD NW QUAD