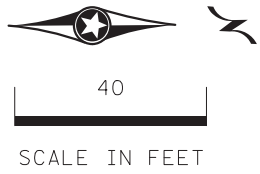


PLOTTED/REVISED: 27-SEP-2022

PLOT NAME: south ramp layout
FILENAME: Projects\DM_FOS\036\0000\Traffic\SIGNALS\21_48\FAIRVIEW S RAMP-4341684\Pending\T.4341684_sgl.dgn

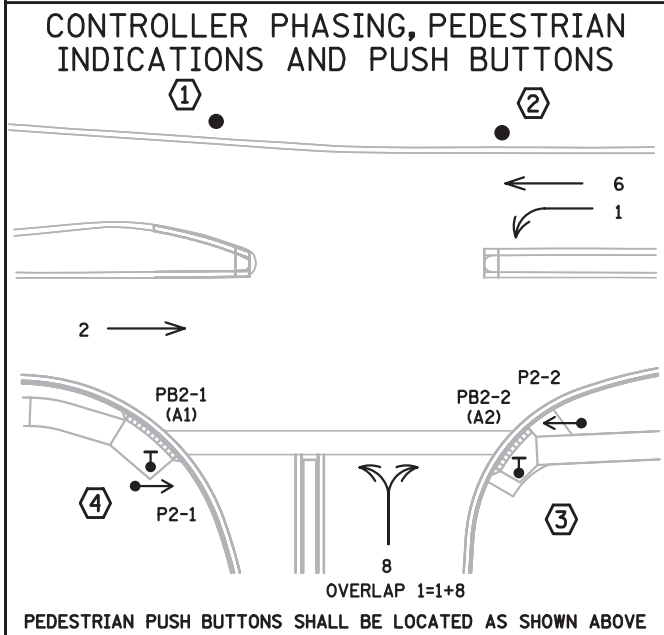
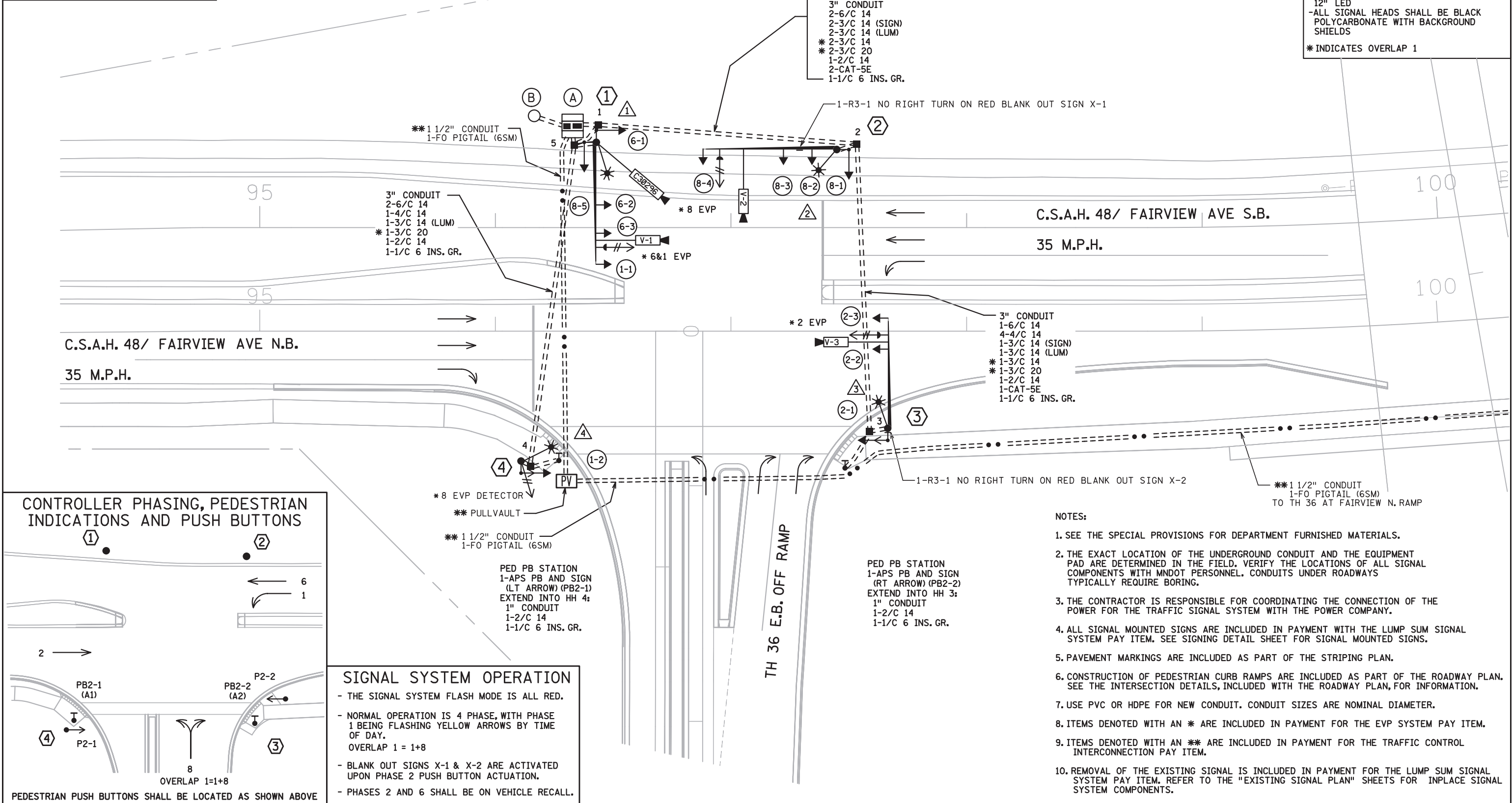
VIDEO DETECTION				
CAMERA		LOCATION		PHASE
NO.	TYPE	POLE	MOUNT LOC.	
V-1	DIRECTIONAL	1	MAST ARM	6 & 1
V-2	DIRECTIONAL	2	MAST ARM	8
V-3	DIRECTIONAL	3	MAST ARM	2

VIDEO DETECTION CAMERAS AND MOUNTING HARDWARE ARE STATE FURNISHED.



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

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
* INDICATES OVERLAP 1



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE, WITH PHASE 1 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
OVERLAP 1 = 1+8
- BLANK OUT SIGNS X-1 & X-2 ARE ACTIVATED UPON PHASE 2 PUSH BUTTON ACTUATION.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

- NOTES:
- SEE THE SPECIAL PROVISIONS FOR DEPARTMENT FURNISHED MATERIALS.
 - THE EXACT LOCATION OF THE UNDERGROUND CONDUIT AND THE EQUIPMENT PAD ARE DETERMINED IN THE FIELD. VERIFY THE LOCATIONS OF ALL SIGNAL COMPONENTS WITH MNDOT PERSONNEL. CONDUITS UNDER ROADWAYS TYPICALLY REQUIRE BORING.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
 - 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.
 - USE PVC OR HDPE FOR NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
 - 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.
 - REMOVAL OF THE EXISTING SIGNAL IS INCLUDED IN PAYMENT FOR THE LUMP SUM SIGNAL SYSTEM PAY ITEM. REFER TO THE "EXISTING SIGNAL PLAN" SHEETS FOR INPLACE SIGNAL SYSTEM COMPONENTS.

BY	DATE	REVISIONS	SYSTEM ID: 4341684	T.E. 48023	TRAFFIC CONTROL SIGNAL SYSTEM A INTERSECTION LAYOUT T.H. 36 AT C.S.A.H. 48 (FAIRVIEW AVE) S. RAMP IN ROSEVILLE, RAMSEY COUNTY	S.A.P. NO. 062-648-023, 160-020-047	DRAWN BY: SJK	CKD BY: GAK	DATE: 09/27/22
			METER ADDRESS: FAIRVIEW AVE			CERTIFIED BY: <i>Gregory Ken</i>	LIC. NO. 26829		DATE: 09/27/22
			OLD SYSTEM ID: 1735294			STATE PROJ. NO. 6212-181 (T.H.36) SHEET NO. SS11 OF SS32 SHEETS			

① X=553395.9856 Y=179538.3426
 PA100 POLE FOUNDATION
 INSTALL: TYPE PA100-A-50-X6-350/CAM 400 EXTENSION (MOUNTED AT 350 DEG) (INCLUDES LIGHTNING ROD, 7/16" GROUND BRAID AND GROUND ROD) (STATE FURNISHED)
 (A 3/4" THREADED HALF COUPLING (FOR EVP MOUNTING), SHALL BE F&I 3' FROM THE END OF THE MAST ARM)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-PTZ VIDEO CAMERA (C30296) (STATE FURNISHED)
 1-VIDEO DETECTION CAMERA (STATE FURNISHED)
 MOUNTED ON 6' EXTENSION AT 9' FROM END OF MAST ARM
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (1-1)
 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 23'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 6&1)
 1-TYPE R9-3 SIGN (NO PEDS) FACING POLE 4
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 1-TYPE D SIGN (SEE SIGN DETAILS)
 3" CONDUIT INTO HH 5:
 2-6/C 14
 4-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-3/C 14 (LUM)
 1-COM CABLE (CAT 5E) (PTZ)
 1-COM CABLE (CAT 5E) (VID DET)
 1-7/16" GROUNDING BRAID (LIGHTNING ROD TO GROUND ROD)
 1-1/C 6 INS. GR.

② X=553416.1289 Y=179638.4417
 PA100 POLE FOUNDATION
 INSTALL: TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG) (STATE FURNISHED)
 (A 3/4" THREADED HALF COUPLING (FOR EVP MOUNTING), SHALL BE F&I 3' FROM THE END OF THE MAST ARM)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-VIDEO DETECTION CAMERA (STATE FURNISHED)
 MOUNTED ON 6' EXTENSION AT 16' FROM END OF MAST ARM
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (8-4)
 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 33' AND 45'
 1-ANGLE MOUNT SIGNAL AT 180 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
 1-TYPE R9-3 SIGN (NO PEDS) FACING POLE 3
 1-R3-1 BLANKOUT SIGN NO RIGHT TURN SYMBOL/WITH TEXT "ON RED"
 1-TYPE D SIGN (SEE SIGN DETAILS)
 3" CONDUIT INTO HH 2:
 1-6/C 14
 4-4/C 14
 1-3/C 14 (SIGN)
 * 1-3/C 14
 * 1-3/C 20
 1-3/C 14 (LUM)
 1-COM CABLE (CAT 5E) (VID DET)
 1-1/C 6 INS. GR.

③ X=553536.3429 Y=179639.9416
 PA100 POLE FOUNDATION
 INSTALL: TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG) (STATE FURNISHED)
 (A 3/4" THREADED HALF COUPLING (FOR EVP MOUNTING), SHALL BE F&I 3' FROM THE END OF THE MAST ARM)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-VIDEO DETECTION CAMERA (STATE FURNISHED)
 MOUNTED ON 6' EXTENSION AT 9' FROM END OF MAST ARM
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (2-3)
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 1-ANGLE MOUNT SIGNAL AT 180 DEG
 1-ANGLE MOUNT C. D. PED HEAD AT 180 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
 1-R3-1 BLANKOUT SIGN NO RIGHT TURN SYMBOL/WITH TEXT "ON RED"
 1-TYPE R9-3 SIGN (NO PEDS) FACING POLE 2
 1-TYPE D SIGN (SEE SIGN DETAILS)
 3" CONDUIT INTO HH 3:
 1-6/C 14
 4-4/C 14
 1-3/C 14 (SIGN)
 * 1-3/C 14
 * 1-3/C 20
 1-3/C 14 (LUM)
 1-COM CABLE (CAT 5E) (VID DET)
 1-1/C 6 INS. GR.

④ X=553523.9600 Y=179484.1854
 PA85 POLE FOUNDATION
 INSTALL: TYPE PA85-A-D40-9 (DAVIT AT 350 DEG) (STATE FURNISHED)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL AT 90 DEG
 1-ANGLE MOUNT C. D. PED HEAD AT 90 DEG
 * 1-ONE WAY EVP DETECTOR (PHASE 8)
 1-TYPE R9-3 SIGN (NO PEDS) FACING POLE 1
 3" CONDUIT INTO HH 4:
 2-6/C 14
 1-4/C 14
 * 1-3/C 20
 1-3/C 14 (LUM)
 1-1/C 6 INS. GR.

Ⓐ EQUIPMENT PAD (SEE STANDARD PLAN)
 SERVICE CABINET (SSB) NO BATTERY BACKUP SYSTEM OR BATTERIES
 CONTROLLER AND CABINET (STATE FURNISHED)

3" CONDUIT TO HH 5: 4-6/C 14 1-1/C 6 INS GR	3" CONDUIT TO HH 1: 8-4/C 14 1-1/C 6 INS. GR.
3" CONDUIT TO HH 5: 5-4/C 14 * 1-3/C 14 * 2-3/C 20 1-2/C 14 2-CAT-5E 1-1/C 6 INS. GR.	3" CONDUIT TO HH 1: 2-6/C 14 2-3/C 14 (SIGN) * 2-3/C 14 * 2-3/C 20 1-2/C 14 2-CAT-5E 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 TH 36 AT FAIRVIEW AVE NORTH RAMP
 ** 1-FO PIGTAIL (6SM)

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

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

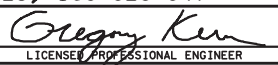
SERVICE CABINET TO S.O.P. (XCEL ENERGY)
 2" CONDUIT
 3-1/C 2

SERVICE CABINET TO HH 5:
 2" CONDUIT
 4-3/C 14 (LUM)

HH 5 TO HH 1:
 2" CONDUIT
 2-3/C 14 (LUM)

SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.

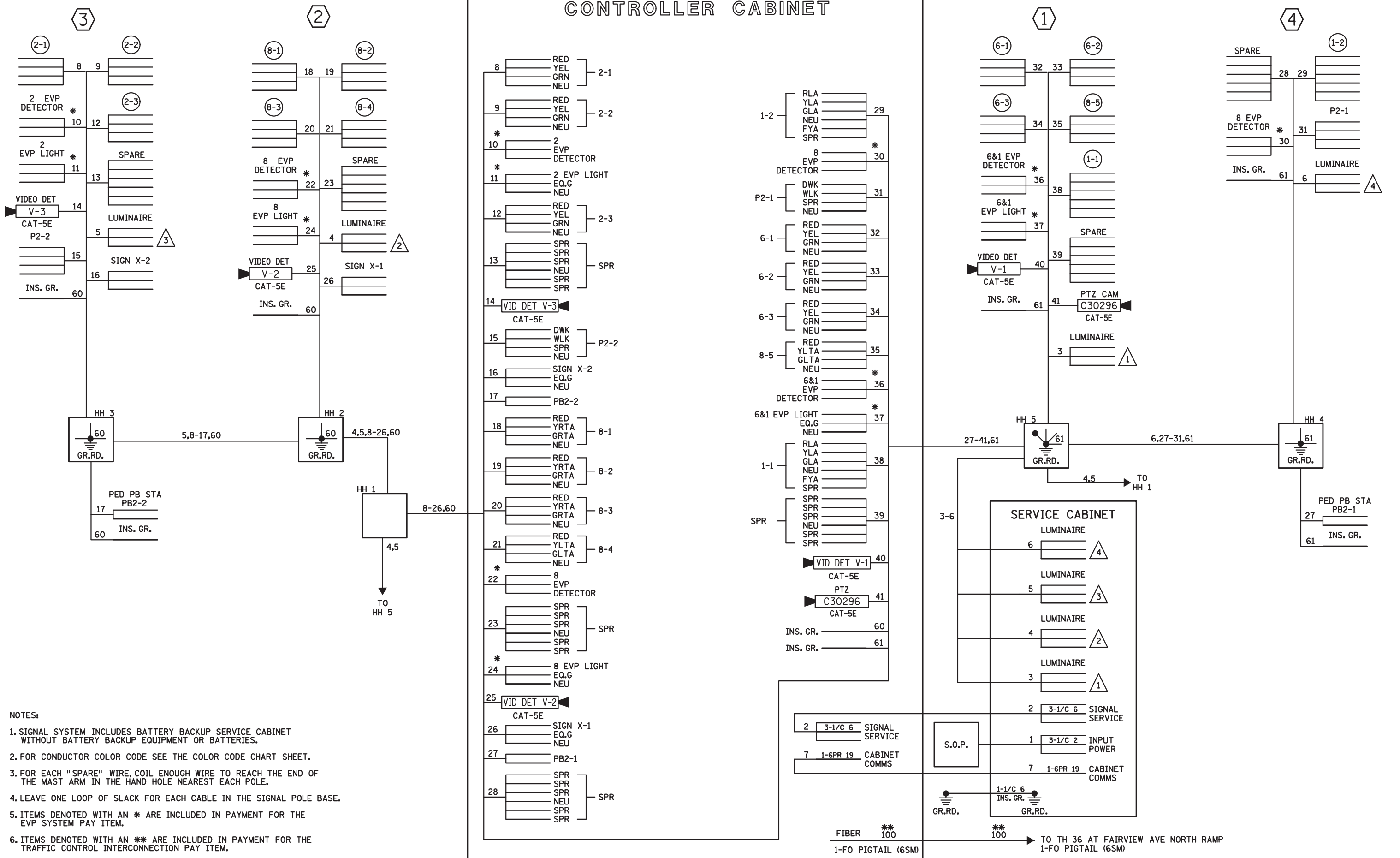
Ⓑ S.O.P. (XCEL ENERGY)
 2" CONDUIT FROM SERVICE CONNECTION INTO SERVICE CABINET:
 3-1/C 2

BY	DATE	REVISIONS	SYSTEM ID: 4341684	T.E. 48023	TRAFFIC CONTROL SIGNAL SYSTEM A INTERSECTION NOTES T.H. 36 AT C.S.A.H. 48 (FAIRVIEW AVE) S. RAMP IN ROSEVILLE, RAMSEY COUNTY	S.A.P. NO. 062-648-023, 160-020-047	DRAWN BY: SJK	CKD BY: GAK	DATE: 09/27/22
			METER ADDRESS: FAIRVIEW AVE			CERTIFIED BY 	LIC. NO. 26829		DATE: 09/27/22
			OLD SYSTEM ID: 1735294			STATE PROJ. NO. 6212-181 (T.H.36) SHEET NO. SS12 OF SS32 SHEETS			

PLOTTED/REVISED: 27-SEP-2022

PLOT NAME: south ramp wiring diagram
FILE NAME: Projects\DM_POS\036\0000\Traffic\Signal\21\48\FAIRVIEW S RAMP-4341684\Pending\T.4341684_sgl.dgn

CONTROLLER CABINET

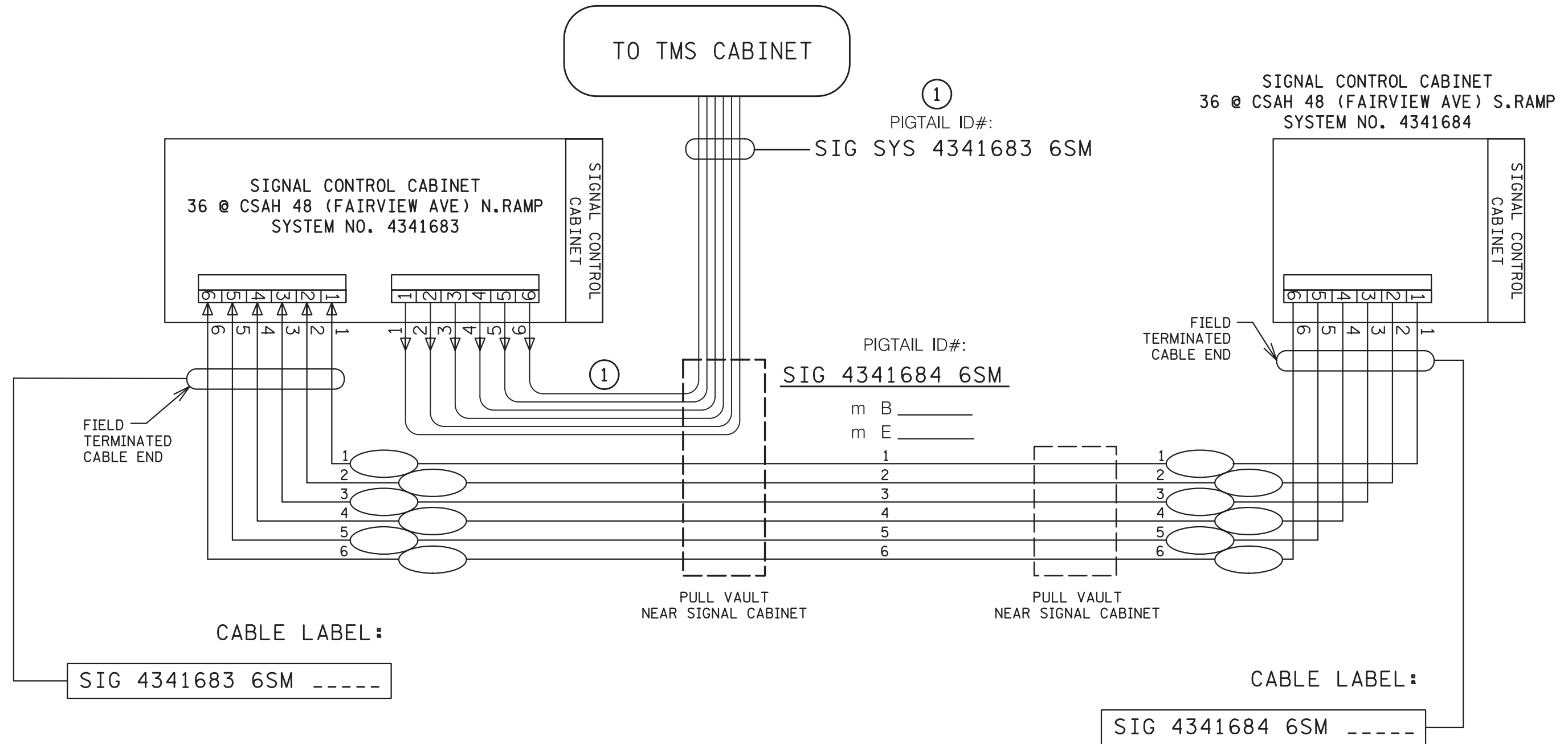


- NOTES:**
1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET WITHOUT BATTERY BACKUP EQUIPMENT OR BATTERIES.
 2. FOR CONDUCTOR COLOR CODE SEE THE COLOR CODE CHART SHEET.
 3. FOR EACH "SPARE" WIRE, COIL ENOUGH WIRE TO REACH THE END OF THE MAST ARM IN THE HAND HOLE NEAREST EACH POLE.
 4. LEAVE ONE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

BY	DATE	REVISIONS	SYSTEM ID: 4341684	T.E. 48023	TRAFFIC CONTROL SIGNAL SYSTEM A FIELD WIRING DIAGRAM T.H. 36 AT C.S.A.H. 48 (FAIRVIEW AVE) S. RAMP IN ROSEVILLE, RAMSEY COUNTY	S.A.P. NO. 062-648-023, 160-020-047	DRAWN BY: SJK	CKD BY: GAK	DATE: 09/27/22
			METER ADDRESS: FAIRVIEW AVE			CERTIFIED BY: <i>Gregory Ken</i>			DATE: 09/27/22
			OLD SYSTEM ID: 1735294			LICENSED PROFESSIONAL ENGINEER			
						STATE PROJ. NO. 6212-181 (T.H.36)	SHEET NO. SS13 OF SS32 SHEETS		

FIBER OPTIC SCHEMATIC
(FOR SIGNAL COMMUNICATIONS)

① THE PIGTAIL FROM TMS CABINET TO SIGNAL CABINET IS INCLUDED AS PART OF THE TMS PLAN.

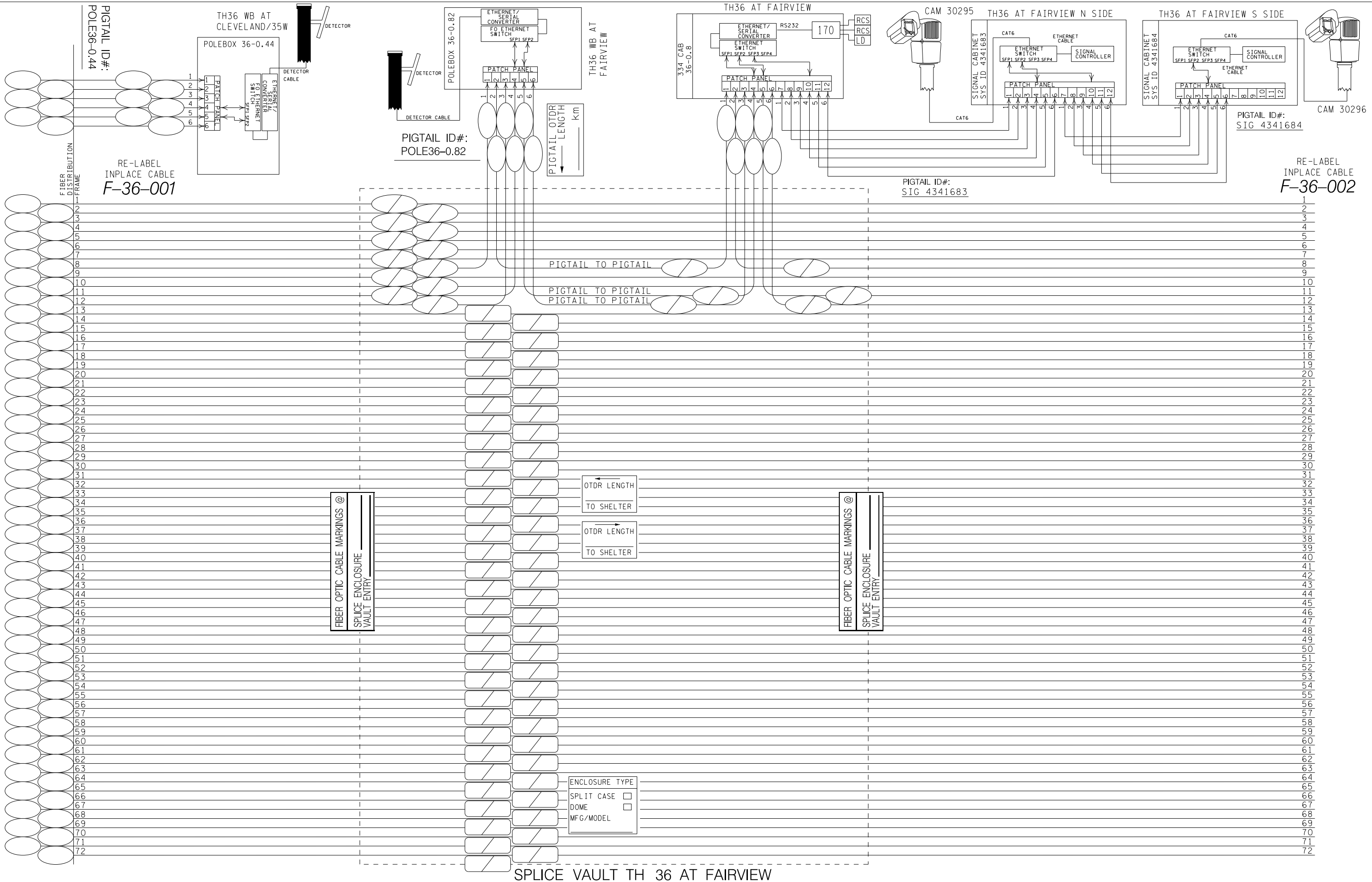


PLOTTED/REVISED: 27-SEP-2022

I/PLOT NAME: fiber schematic testing sheet
PATH & FILENAME: Projects\DM罗斯036\6212181\Traffic\Signals\SP 6212181\Detail\sdgn

BY	DATE	REVISIONS	SYSTEM ID: 4341683, 4341684 T.E.	FIBER OPTIC SCHEMATIC TRAFFIC CONTROL SIGNAL SYSTEM T.H. 36 AT C.S.A.H. 48 (FAIRVIEW AVE) SOUTH AND NORTH RAMPS IN ROSEVILLE, RAMSEY COUNTY	S.A.P. NO. 062-648-023, 160-020-047	DRAWN BY: SJK	CKD BY: GAK	DATE: 09/27/22
			METER ADDRESS:		CERTIFIED BY: <i>Gregory Kim</i> LICENSED PROFESSIONAL ENGINEER	LIC. NO. 26829		DATE: 09/27/22
			OLD SYSTEM ID:		STATE PROJ. NO. 6212-181(T.H.36)	SHEET NO. SS10 OF SS32 SHEETS		

SEE TH36/35W SHELTER



SPLICE VAULT TH 36 AT FAIRVIEW