

PLOTTED/REVISED: 7-DEC-2022

DISTRICT *: Metro
PLOT NAME: layout
FILENAME: Projects\DM_FOS\212\00007TrafficSignals\5189_17\17\3652\T1736527_sgl.dgn

SIGNAL HEAD CHART							
FACE	R	Y	G	RLTA	YLTA	GLTA	FYA
1-1, 1-2, 1-3	←	←	←				←
2-1, 2-2, 2-3	○	○	○				
6-1, 6-2, 6-3	○	○	○				
8-1, 8-2	○	○	○				
A-1							→

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

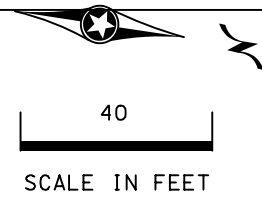
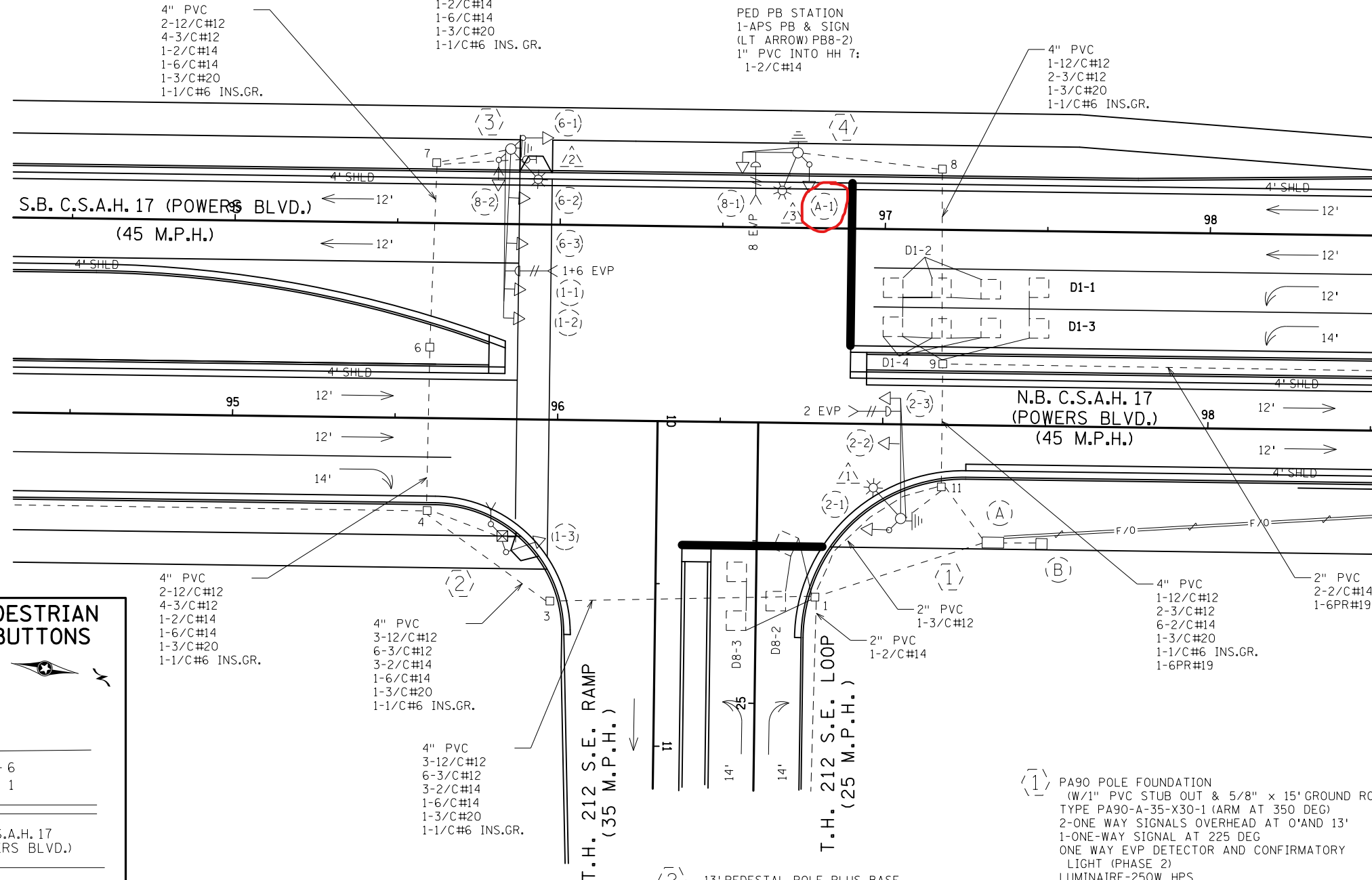
Head "A-1" becomes 8-3
error in chart should be 8-2

(3) PA100 POLE FOUNDATION
(W/1" PVC STUB OUT & 5/8" x 15' GROUND ROD)
TYPE PA100-A-45-X30-1 (ARM AT 350 DEG)
1-5' MAST ARM EXTENSION
4-ONE WAY SIGNALS OVERHEAD AT 0', 11', 17', AND 29'
2-ONE-WAY SIGNALS AT 45 AND 225 DEG
ONE-WAY CD PED HEAD AT 45 DEG
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 1+6)
LUMINAIRE-250W HPS
1-R10-X12 SIGN
1-TYPE D SIGN
3" PVC INTO HH 7:
2-12/C#12
3-3/C#12
1-3/C#12 (LUM)
1-2/C#14
1-6/C#14
1-3/C#20
1-1/C#6 INS. GR.

(4) PA90 POLE FOUNDATION
(W/1" PVC STUB OUT & 5/8" x 15' GROUND ROD)
TYPE PA90-A-15-X30-1 (ARM AT 350 DEG)
1-ONE WAY SIGNAL OVERHEAD AT 0'
1-ONE-WAY SIGNAL AT 225 DEG
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
LUMINAIRE-250W HPS
1-TYPE R9-3 SIGN (FACING POLE 1)
1-TYPE D SIGN
3" PVC INTO HH 8:
1-12/C#12
1-3/C#12
1-3/C#12 (LUM)
1-3/C#20
1-1/C#6 INS. GR.

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D1-3	6x6	55
D1-2, D1-4	3-6x6	10, 25 & 40
D2-1, D2-2	6x6	300
D6-1, D6-2	6x6	300
D8-1	6x6	180
D8-2	2-6x6	-5 & 10
D8-3	2-6x6	5 & 20

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



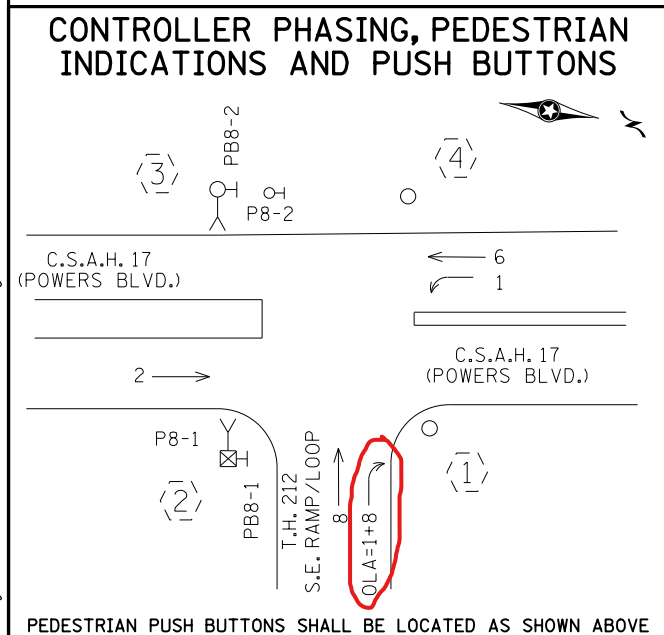
(A) COMBINATION EQUIPMENT PAD - TYPE 2
(LIGHTING, TMS AND SIGNAL)
CONTROLLER AND CABINET
SERVICE CABINET
3/4" PVC FOR FUTURE PHONE DROP
4" PVC TO HH 1: 3-12/C#12, 5-3/C#12, 6-2/C#14, 1-6/C#14, 1-3/C#20, 1-1/C#6 INS. GR.
4" PVC TO HH 11: 3-12/C#12, 2-3/C#12, 6-2/C#14, 2-3/C#20, 1-1/C#6 INS. GR., 1-6PR#19

3" PVC STUBBED OUT TO THE WEST (CAPPED BOTH ENDS)
2" PVC TO SERVICE CABINET
2-1/C#6, 1-1/C#6 INS. GR.

SERVICE CABINET TO TRANSFORMER
2" PVC, 3-1/C#2
SERVICE CABINET TO HH 11
2" PVC, 3-3/C#12

CONTROLLER CABINET TO TMS VAULT:
1 1/2" PVC INSIDE 3" STUB OUT
1-FIBER OPTIC CABLE (6SM)
WITH PRETERMINATED CABLE END

(B) SOP PAD MOUNTED TRANSFORMER (BY XCEL ENERGY) (120/240 V, SINGLE PHASE, 50 KVA)



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.
- OLA IS PHASES 1 OR 8

BY	DATE	REVISIONS
SJK	12/06/22	AS-BUILT PLAN SP 1017-106

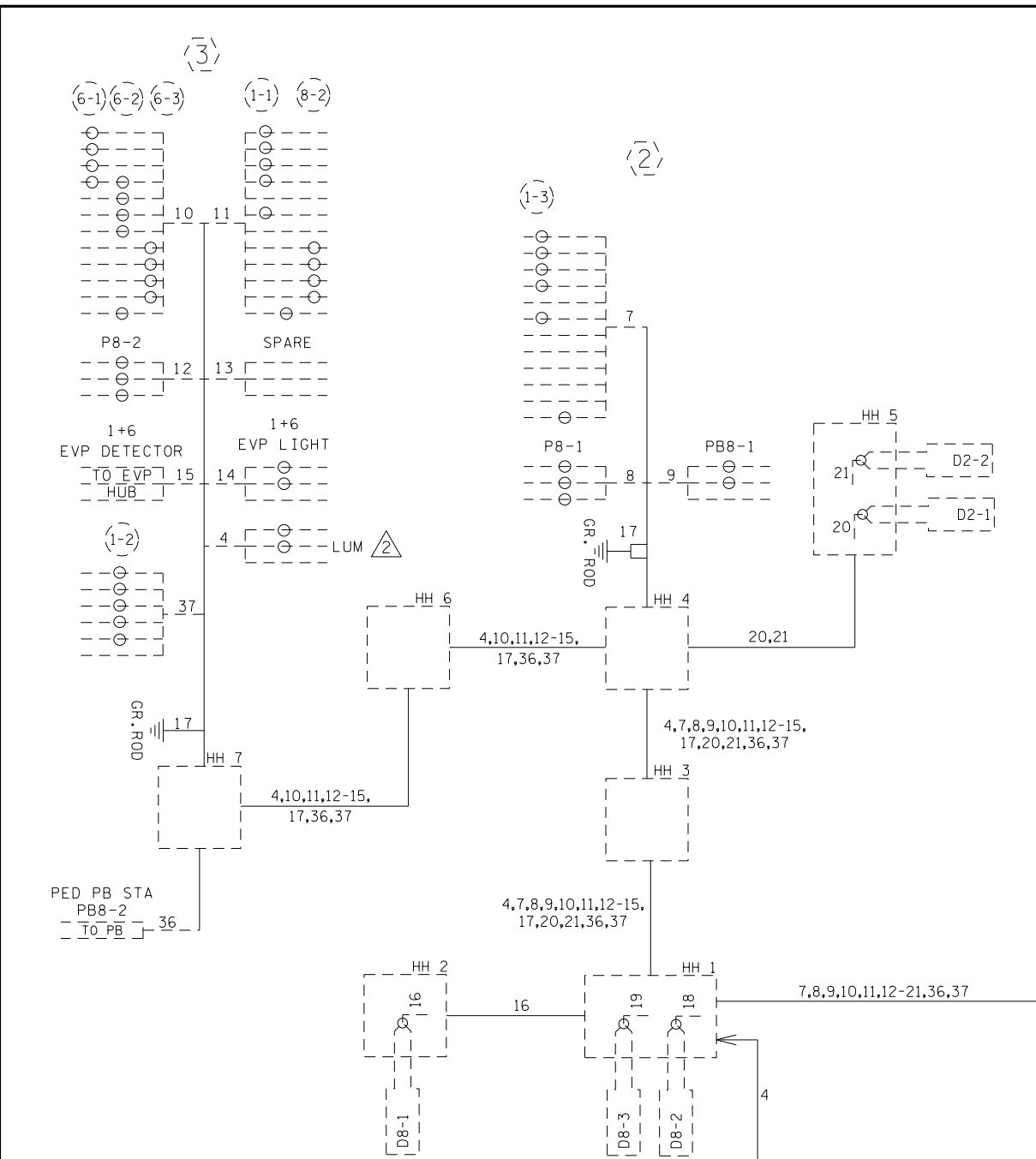
SYSTEM ID: 1736527 T.E.
METER ADDRESS: 9500 POWERS BLVD
OLD SYSTEM ID: 38437

**INTERSECTION LAYOUT
TH 212 AT CSAH 17 (POWERS BLVD)
SOUTH RAMP
IN CHANHASSEN, CARVER COUNTY**

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ. NO. 1017-106 (T.H.212)		SHEET NO. 1 OF 3 SHEETS	

PLOTTED/REVISED: 7-DEC-2022

DISTRICT *: Metro
PLOT NAME: wiring diagram
FILENAME: Projects\DM_FOS\212\00007TrafficSignals\5189_17\ Powers Blvd S R-173652\TIT36527_sgl.dgn

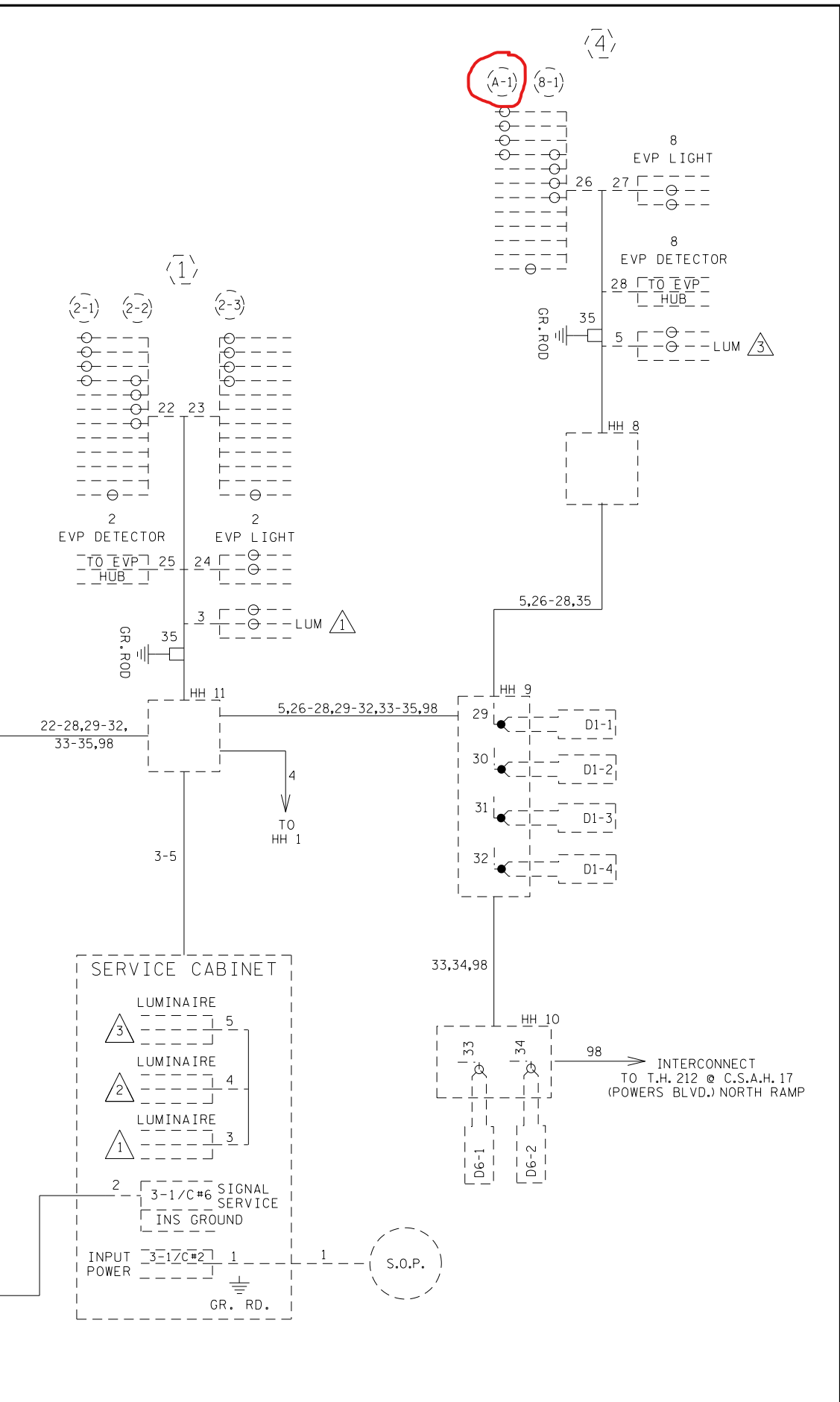
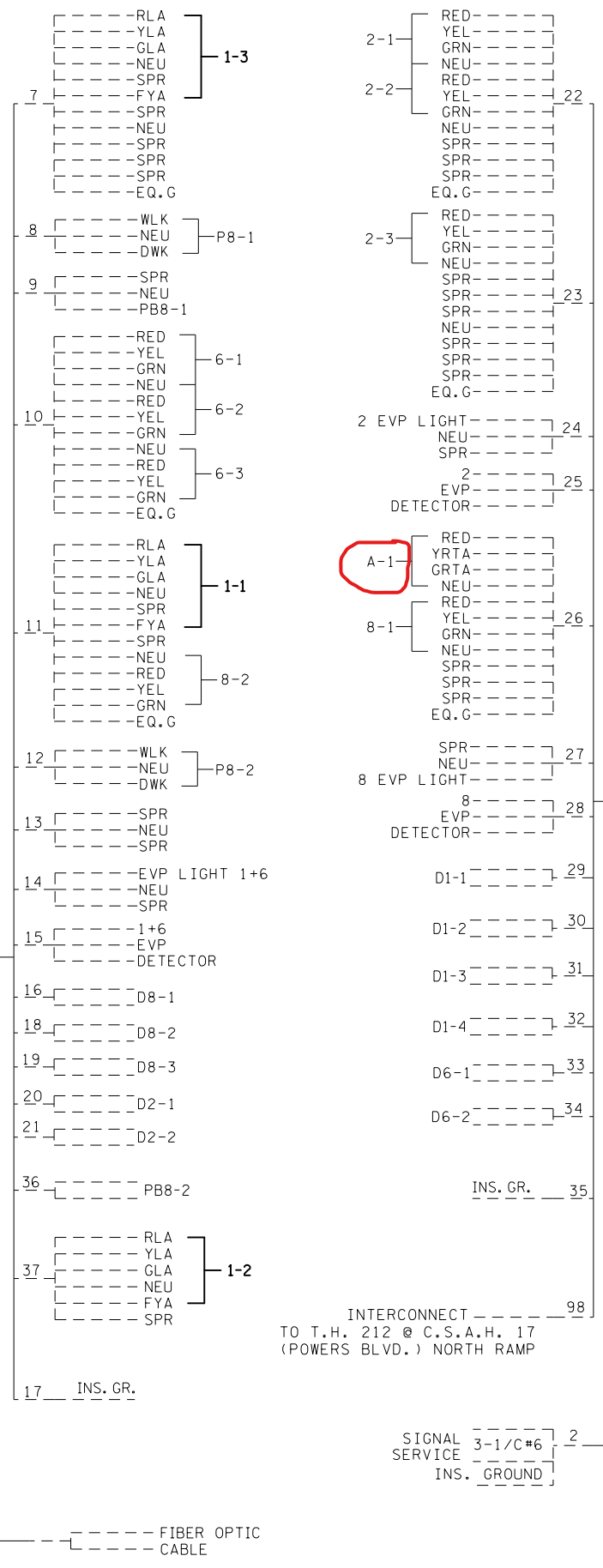


CONDUCTOR COLOR CODE	
TO SIGNAL CABINET	TO DEVICE
3/C#20 R OR O WH OR YEL BLK OR BL	12/C#12 R O BL WH R/BLK O/BLK BLK/BLK WH/BLK BLK BLK/WH G/BLK G
2/C#14 BLK CLR	7/C#14 CABLE R O BL WH Y BLK BRN
2-1/C BLK WH	5/C#14 CABLE R O BL WH BLK
6PR#19	4/C#14 CABLE R O BL WH BLK
1-1/C #6 INS. GR. GREEN	2/C#14 CABLE R O BL WH

BY	DATE	REVISIONS
SJK	12/06/22	AS-BUILT PLAN SP 1017-106

SYSTEM ID: 1736527 T.E.
METER ADDRESS: 9500 POWERS BLVD
OLD SYSTEM ID: 38437

CONTROLLER CABINET



FIELD WIRING DIAGRAM TH 212 AT CSAH 17 (POWERS BLVD) SOUTH RAMP IN CHANHASSEN, CARVER COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY	LIC. NO.	DATE:	
STATE PROJ.NO. 1017-106 (T.H.212) SHEET NO. 3 OF 3 SHEETS			

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

DISTRICT #: \$@DISTRICT@
PLOT NAME: \$\$\$@PLOT\$NAME@
PATH & FILENAME: \$\$\$@PATH\$FILENAME@\$\$\$

3

PA100 POLE FOUNDATION
(W/1" PVC STUB OUT & 5/8" x 15' GROUND ROD)
TYPE PA100-A-45-X30-1 (ARM AT 350 DEG)
3-ONE WAY SIGNALS OVERHEAD AT 0', 17', AND 29'
2-ONE-WAY SIGNALS AT 45 AND 225 DEG
ONE-WAY CD PED HEAD AT 45 DEG
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6 & 1)
LUMINAIRE-250W HPS
1-TYPE D SIGN
3" PVC INTO HH 7:
2-12/C#12
3-3/C#12
1-3/C#12 (LUM)
1-2/C#14
1-3/C#20
1-1/C#6 INS. GR.

4

PA90 POLE FOUNDATION
(W/1" PVC STUB OUT & 5/8" x 15' GROUND ROD)
TYPE PA90-A-15-X30-1 (ARM AT 350 DEG)
1-ONE WAY SIGNAL OVERHEAD AT 0'
1-ONE-WAY SIGNAL AT 225 DEG
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
LUMINAIRE-250W HPS
1-TYPE R9-3 SIGN (FACING POLE 1)
1-TYPE D SIGN
3" PVC INTO HH 8:
1-12/C#12
1-3/C#12
1-3/C#12 (LUM)
1-3/C#20
1-1/C#6 INS. GR.

PED PB STATION
1-APS PB & SIGN (LT ARROW) PB8-2)
1" PVC INTO HH 7:
1-2/C#14

4" PVC
2-12/C#12
4-3/C#12
1-2/C#14
1-3/C#20
1-1/C#6 INS.GR.

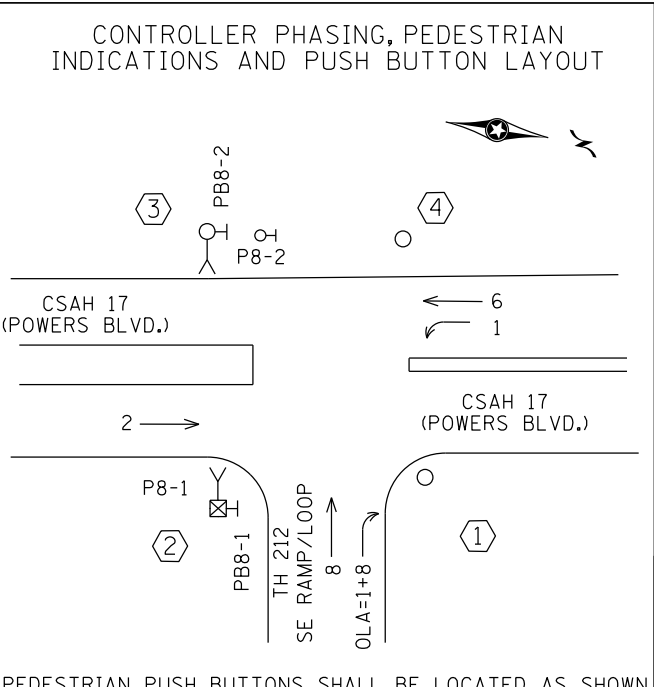
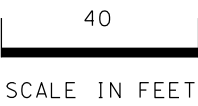
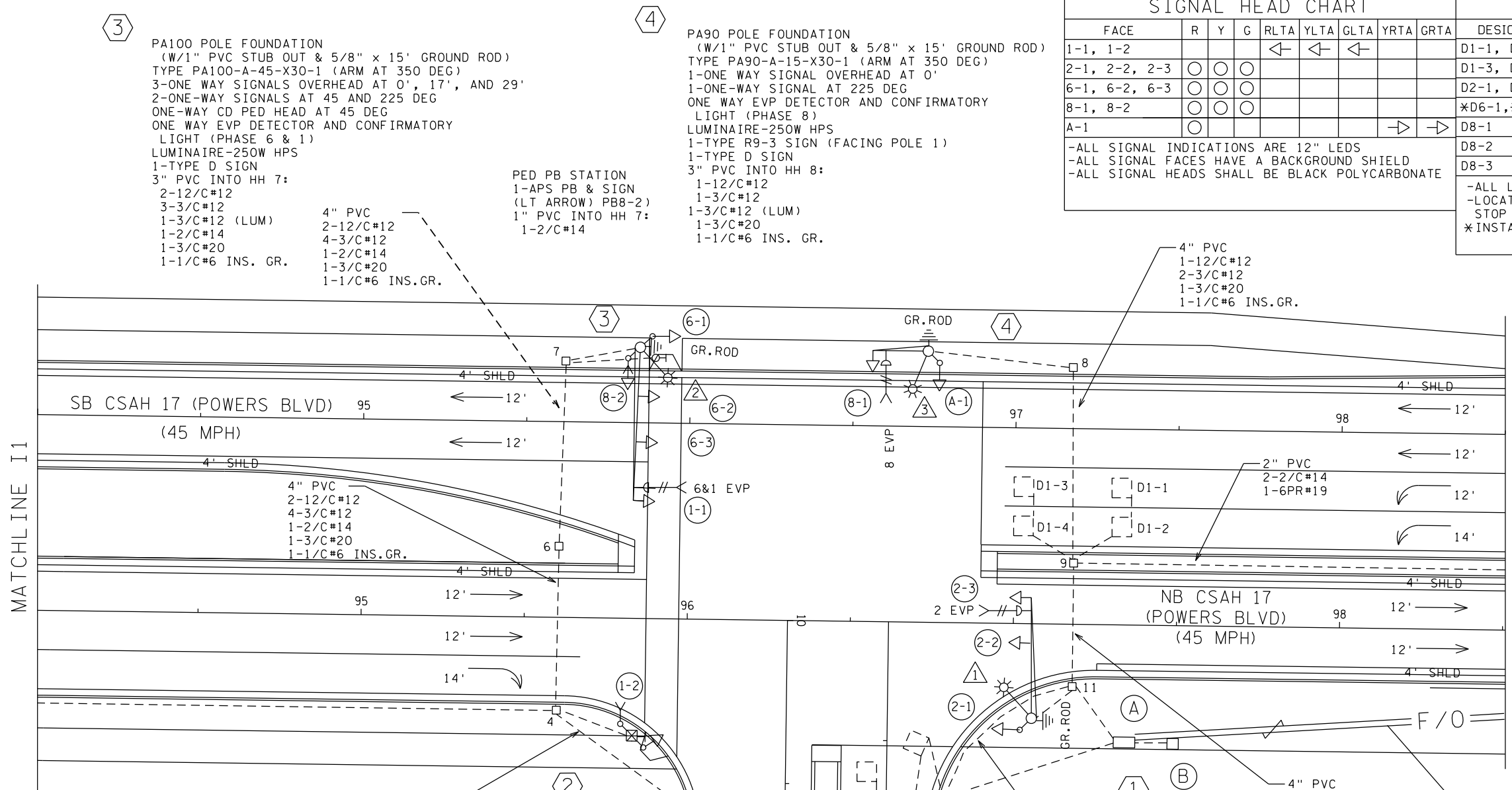
(A) COMBINATION EQUIPMENT PAD - TYPE 2
(LIGHTING, TMS AND SIGNAL)
CONTROLLER AND CABINET
SERVICE CABINET
3/4" PVC FOR FUTURE PHONE DROP
4" PVC TO HH 1:
3-12/C#12
5-3/C#12
6-2/C#14
1-3/C#20
1-1/C#6 INS. GR.
4" PVC TO HH 11:
3-12/C#12
2-3/C#12
6-2/C#14
2-3/C#20
1-1/C#6 INS. GR.
1-6PR#19
3" PVC STUBBED OUT TO THE WEST
(CAPPED BOTH ENDS)
2" PVC TO SERVICE CABINET
2-1/C#6
1-1/C#6 INS. GR.
SERVICE CABINET TO TRANSFORMER
2" PVC
3-1/C#2
SERVICE CABINET TO HH 11
2" PVC
3-3/C#12
CONTROLLER CABINET TO TMS VAULT:
1 1/2" PVC INSIDE 3" STUB OUT
1-FIBER OPTIC CABLE (6SM)
WITH PRETERMINATED CABLE END

SIGNAL HEAD CHART										LOOP DETECTORS		
FACE	R	Y	G	RLTA	YLTA	GLTA	YRTA	GRTA	DESIGNATION	NO. OF LOOPS	LOCATION	
1-1, 1-2				←	←	←			D1-1, D1-2	1	40	
2-1, 2-2, 2-3	○	○	○						D1-3, D1-4	1	10	
6-1, 6-2, 6-3	○	○	○						D2-1, D2-2	1	300	
8-1, 8-2	○	○	○						*D6-1,*D6-2	1	300	
A-1	○						→	→	D8-1	1	180	

-ALL SIGNAL INDICATIONS ARE 12" LEDS
-ALL SIGNAL FACES HAVE A BACKGROUND SHIELD
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE

DESIGNATION	NO. OF LOOPS	LOCATION
D1-1, D1-2	1	40
D1-3, D1-4	1	10
D2-1, D2-2	1	300
*D6-1,*D6-2	1	300
D8-1	1	180
D8-2	2	-5 & 10
D8-3	2	5 & 20

-ALL LOOP DETECTORS ARE 6' X 6' PVC
-LOCATION: DISTANCE FROM CROSSWALK/
STOP LINE IN FEET
*INSTALLED IN BRIDGE DECK



(2) 13' PEDESTAL POLE PLUS BASE
PEDESTAL FOUNDATION
1-ONE-WAY SIGNAL AT 45 DEG
1-CD PED HEAD AT 225 DEG
1-APS PB & SIGN (RT ARROW) PB8-1
1-TYPE R9-3 SIGN (FACING POLE 1)
2" PVC INTO HH 4:
1-12/C#12
2-3/C#12
2-1/C#6 INS. GR.

SIGNAL SYSTEM OPERATION
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE, WITH PHASE 1 BEING A PROTECTED LEFT TURN PHASE.
- OLA IS PHASES 1 OR 8

(B) SOP PAD MOUNTED TRANSFORMER (BY XCEL ENERGY)
(120/240 V, SINGLE PHASE, 50 KVA)

(1) PA90 POLE FOUNDATION
(W/1" PVC STUB OUT & 5/8" x 15' GROUND ROD)
TYPE PA90-A-35-X30-1 (ARM AT 350 DEG)
2-ONE WAY SIGNALS OVERHEAD AT 0' AND 13'
1-ONE-WAY SIGNAL AT 225 DEG
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
LUMINAIRE-250W HPS
2-TYPE R9-3 SIGNS (FACING POLES 2 & 4)
1-TYPE D SIGN
3" PVC INTO HH 11:
2-12/C#12
1-3/C#12
1-3/C#12 (LUM)
1-3/C#20
2-1/C#6 INS. GR.

(1) SEE THE TMS PLAN FOR FIBER OPTICS.

BY	DATE	REVISIONS
EJA	02/04/15	AS-BUILTS OF SP 1017-101 & SP 8825-473

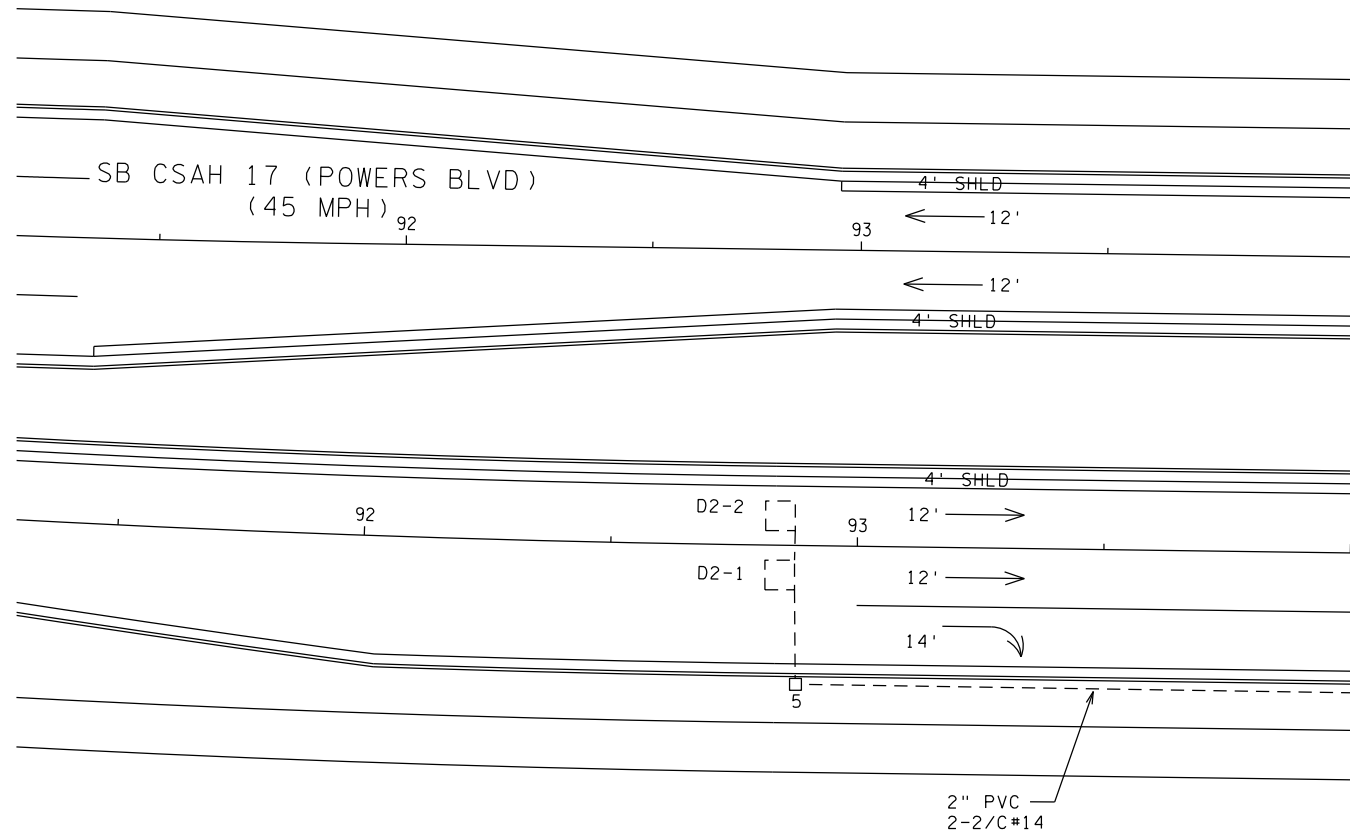
SYSTEM ID: 38437	T.E. 5965
METER ADDRESS: 9500 POWERS BLVD	
MASTER ID:	T.E.

INTERSECTION LAYOUT
TH 212 AT CSAH 17 (POWERS BLVD)
SOUTH RAMP
IN CHANHASSEN, CARVER COUNTY

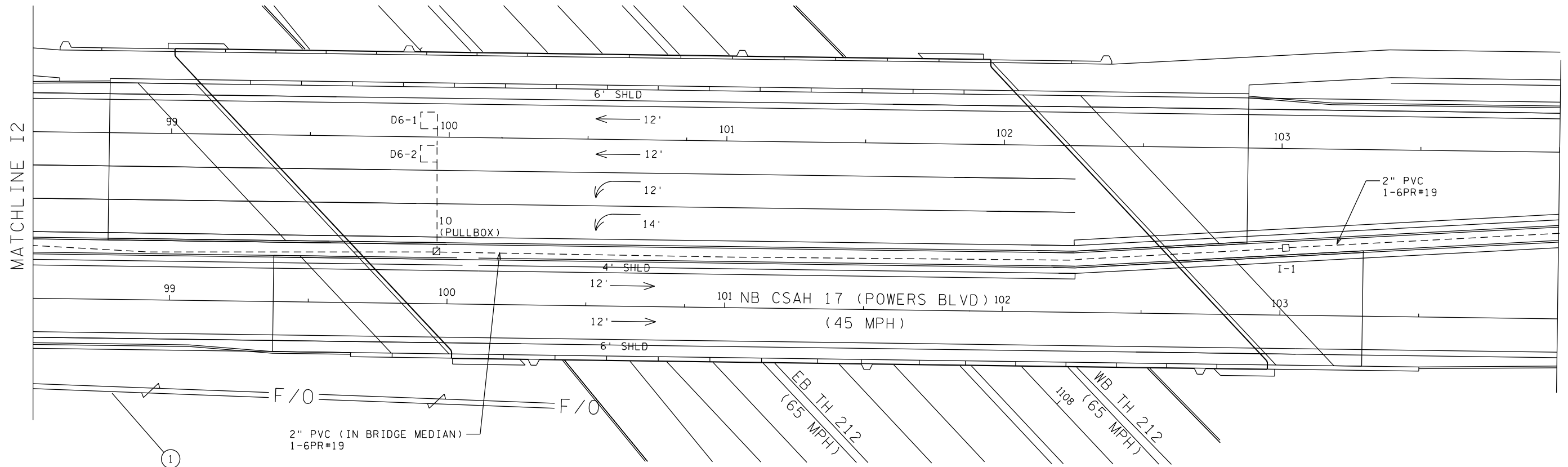
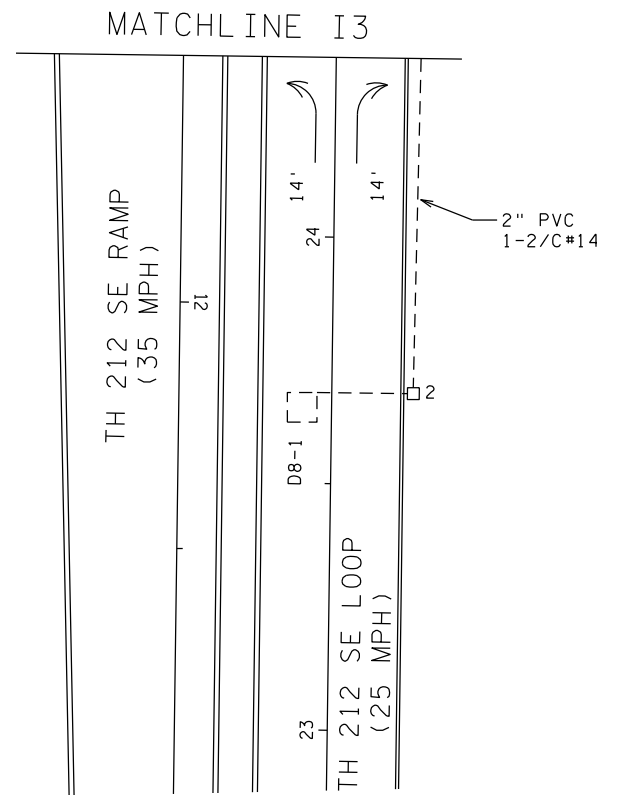
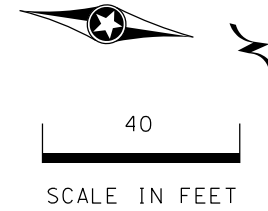
S.A.P. NO.	DRAWN BY: SJK	CKD BY: EJA	DATE: 12/11/13
STATE PROJ. NO.	(T.H.212)	SHEET NO.	1 OF 3 SHEETS

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

DISTRICT #: \$\$\$@DISTRICT@\$\$
IPLOT NAME: \$\$\$@PLOT\$NAME@\$\$
PATH & FILENAME: \$\$\$@PATH\$FILENAME@\$\$\$



MATCHLINE I1



MATCHLINE J4

① SEE THE TMS PLAN FOR FIBER OPTICS.

BY	DATE	REVISIONS
EJA	02/04/15	AS-BUILTS OF SP 1017-101 & SP 8825-473

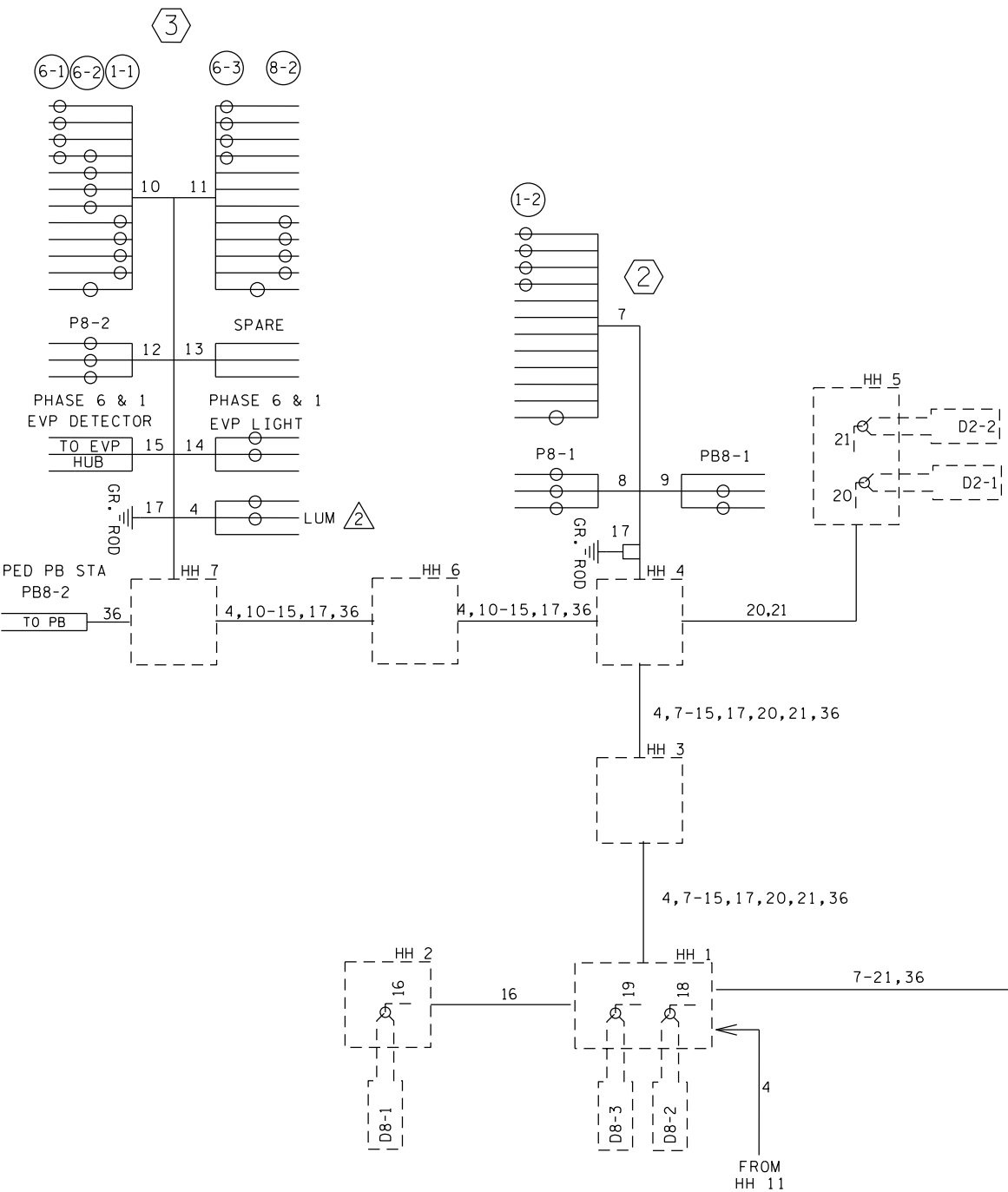
SYSTEM ID: 38437	T.E. 5965
METER ADDRESS: 9500 POWERS BLVD	
MASTER ID:	T.E.

MATCH LINES
 TH 212 AT CSAH 17 (POWERS BLVD)
 SOUTH RAMP
 IN CHANHASSEN, CARVER COUNTY

S.A.P. NO.	DRAWN BY: SJK	CKD BY: EJA	DATE: 12/11/13
STATE PROJ. NO.	(T.H.212)	SHEET NO.	2 OF 3 SHEETS

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

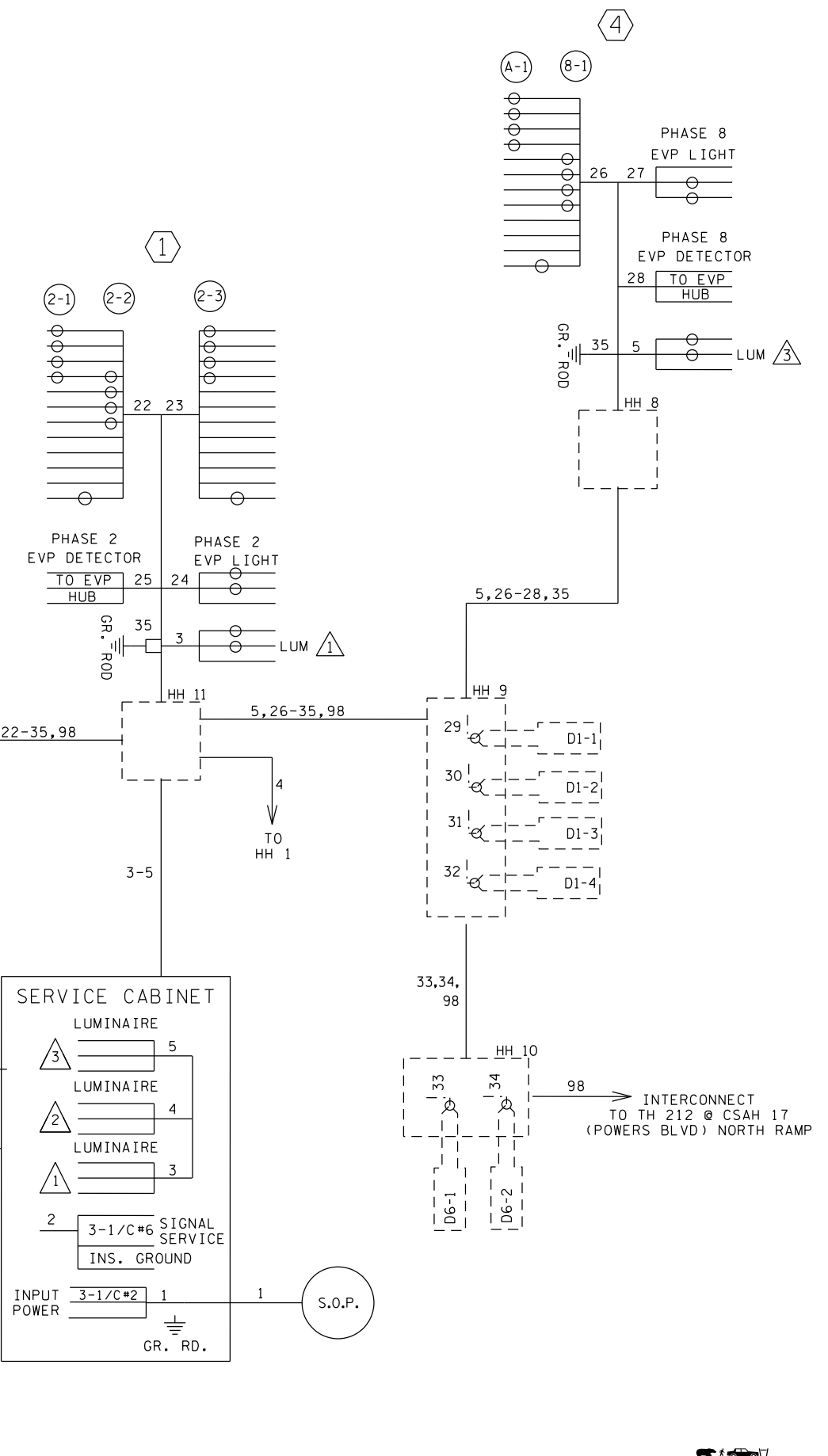
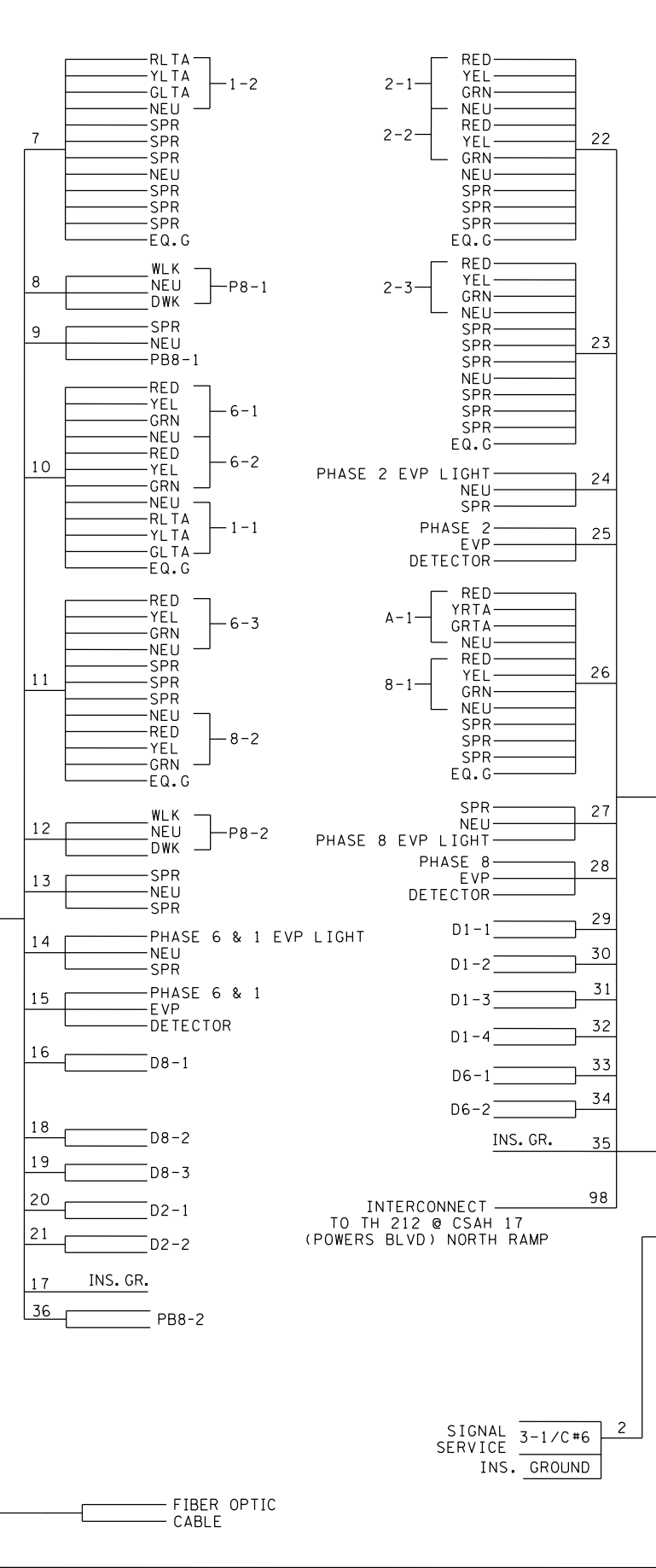
DISTRICT #: \$\$\$@DISTRICT@\$\$
PLOT NAME: \$\$\$@PLOT\$NAME@\$\$
PATH & FILENAME: \$\$\$@PATH\$FILENAME@\$\$\$



CONDUCTOR COLOR CODE		
TO SIGNAL CABINET	TO DEVICE	
3/C#20 R OR O WH OR YEL BLK OR BL	12/C#12 R O BL WH R/BLK O/BLK BL/BLK WH/BLK BLK BLK/WH G/BLK G R O BL WH G R O BL WH G R O BL WH G	7/C#14 CABLE R RED O YEL BL GRN WH NEU Y YLTA BLK GLTA BRN SPR
2/C#14 BLK CLR	5/C#14 CABLE R RED O YEL BL GRN WH NEU BLK GLTA	3 & 4-SECTION SIGNAL INDICATION
2-1/C BLK WH	4/C#14 CABLE R DWK BL WLK WH NEU BLK SPR	PEDESTRIAN INDICATION
6PR#19	2/C#14 CABLE BLK BLK WH WH	EVP/PB/FLASHER NEU
1-1/C #6 INS. GR.		

NOTE: GREEN
TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

CONTROLLER CABINET



BY	DATE	REVISIONS	SYSTEM ID: 38437	T.E. 5965	WIRING DIAGRAM	S.A.P. NO.	DRAWN BY: SJK	CKD BY: EJA	DATE: 12/11/13
EJA	02-04-15	AS-BUILTS OF SP 1017-101 & SP 8825-473	METER ADDRESS: 9500 POWERS BLVD		TH 212 AT CSAH 17 (POWERS BLVD) SOUTH RAMP IN CHANHASSEN, CARVER COUNTY				
			MASTER ID:	T.E.		STATE PROJ. NO.	(T.H.212)	SHEET NO.	3 OF 3 SHEETS