LOOP DETECTOR CHART

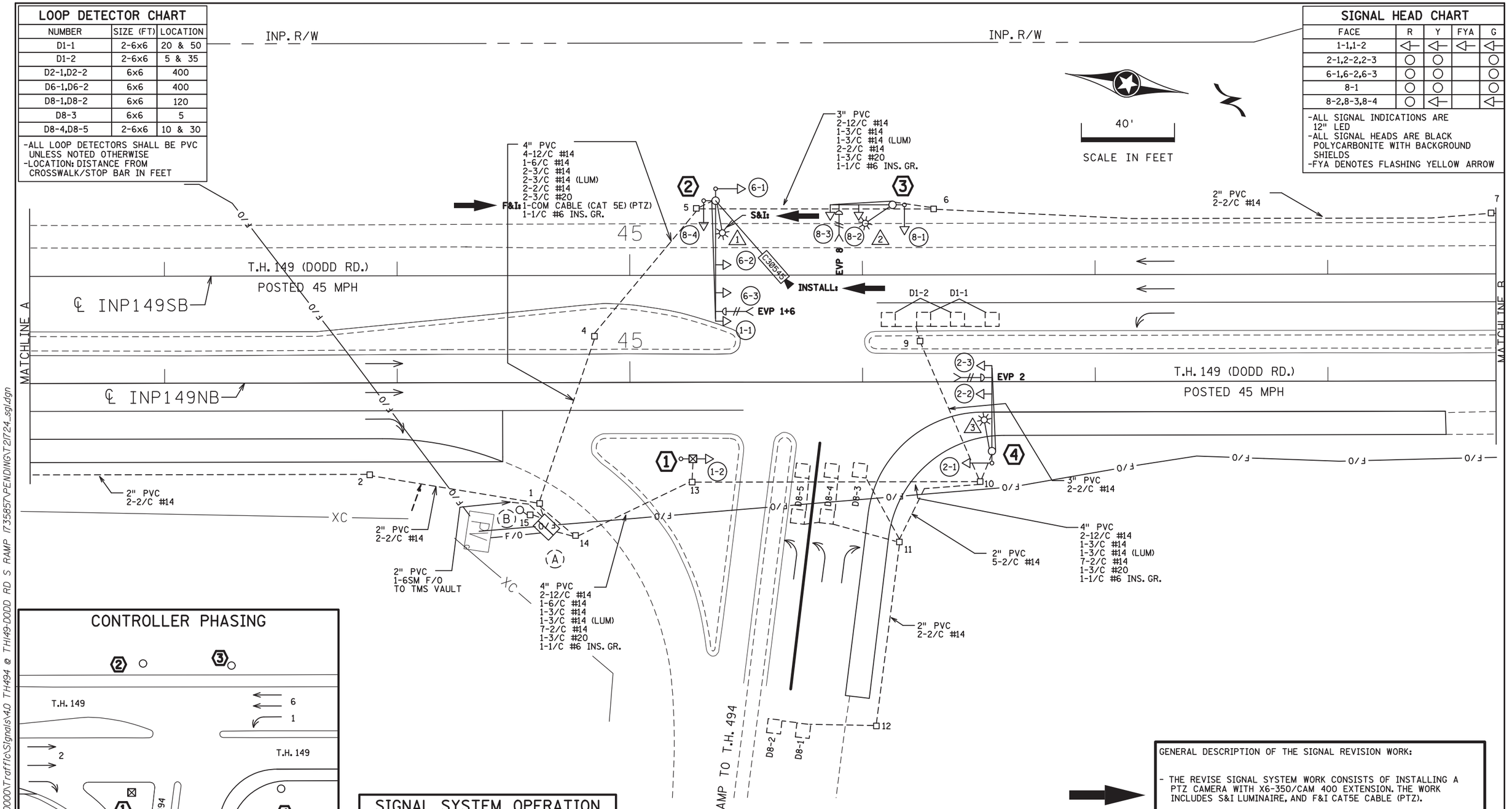
NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	20 & 50
D1-2	2-6x6	5 & 35
D2-1,D2-2	6x6	400
D6-1,D6-2	6x6	400
D8-1,D8-2	6x6	120
D8-3	6x6	5
D8-4,D8-5	2-6x6	10 & 30

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

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	○	◁		◁

-ALL SIGNAL INDICATIONS ARE 12" LED
-ALL SIGNAL HEADS ARE BLACK POLYCARBONITE WITH BACKGROUND SHIELDS
-FYA DENOTES FLASHING YELLOW ARROW



CONTROLLER PHASING

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE, WITH PHASE 1 BEING FLASHING YELLOW ARROW BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

GENERAL DESCRIPTION OF THE SIGNAL REVISION WORK:

- THE REVISE SIGNAL SYSTEM WORK CONSISTS OF INSTALLING A PTZ CAMERA WITH X6-350/CAM 400 EXTENSION. THE WORK INCLUDES S&I LUMINAIRE, AND F&I CAT5E CABLE (PTZ).
- ALL ITEMS ARE INPLACE UNLESS OTHERWISE INDICATED.
- → INDICATES SIGNAL REVISION WORK TO BE COMPLETED.

BY	DATE	REVISIONS

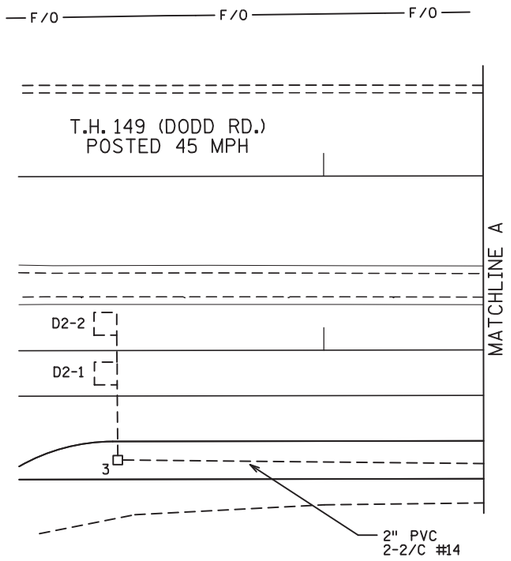
SYSTEM ID: 1735857 T.E. 92835
METER ADDRESS: 2580 DODD RD.
OLD SYSTEM ID: 21724

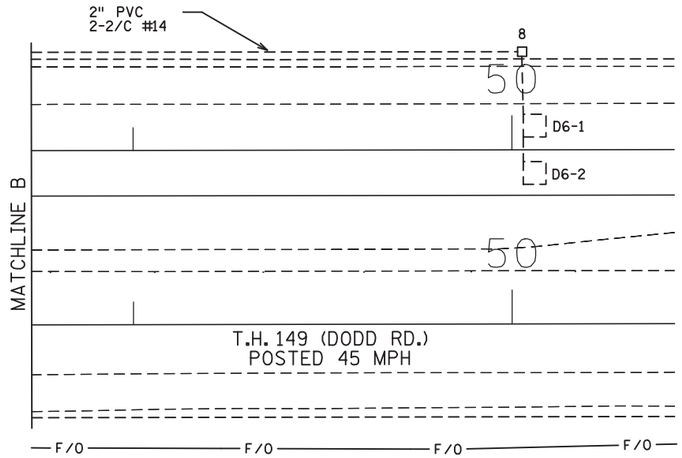
REVISE SIGNAL SYSTEM "S"
INTERSECTION LAYOUT
T.H. 494 AT T.H. 149 (DODD RD.) SOUTH RAMP
IN EAGAN, DAKOTA COUNTY

S.A.P. NO. | DRAWN BY: HRL | CKD BY: CDB | DATE: 03/31/23

CERTIFIED BY Gregory Kern LICENSED PROFESSIONAL ENGINEER LIC. NO. 26829 DATE: 04/04/23

STATE PROJ.NO. 8825-1025(T.H.999) SHEET NO. 67 OF 121 SHEETS





(2)

INP149NB STA. 45+37.0, 78.0' (LEFT)
PA100 POLE FOUNDATION
TYPE PA100-A-50

SALVAGE: 1-D40-9 (DAVIT AT 350 DEG)

INSTALL: 1-X6-350/CAM 400 EXTENSION (STATE FURNISHED) (MOUNTED AT 350 DEG) (INCLUDES LIGHTNING ROD, 7/16" GROUND BRAID AND GROUND ROD)
1-PTZ VIDEO CAMERA C30545 (STATE FURNISHED)
(A 3/4" THREADED HALF COUPLING (FOR EVP MOUNTING), SHALL BE F&I 4.5' FROM THE END OF THE MAST ARM)
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
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 6+1)

S&I: LUMINAIRE-LED
1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
1-R9-3a SIGN (NO PED) FACING POLE 1
1-TYPE D SIGN (D-1)
3" PVC TO HH 5:
2-12/C #14
1-6/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20

F&I: 1-COM CABLE (CAT 5E) (PTZ)
1-1/C #6 INS. GR.

(1)

INP149NB STA. 45+27.0, 32.9' (RIGHT)
PEDESTAL FOUNDATION
TYPE 5A -13' PEDESTA POLE AND BASE
(ALL ALUMINUM COMPONETS)
1-SIGNAL
2-R9-3a SIGNS (NO PED) FACING POLES 2 AND 4
3" PVC TO HH 13:
1-6/C #14
1-/C #6 INS. GR.

(3)

INP149NB STA. 46+13.0, 76.1' (LEFT)
PA85 POLE FOUNDATION
TYPE PA85-A-25-D40-9 (DAVIT AT 350 DEG)
(A 3/4" THREADED HALF COUPLING (FOR EVP MOUNTING), SHALL BE F&I 8.5' FROM THE END OF THE MAST ARM)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
1-ANGLE MOUNT SIGNAL AT 180 DEG
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
LUMINAIRE-LED
1-R9-3a SIGN (NO PED) FACING POLE 4
2-TYPE D SIGNS (D-2) & (D-5)
3" PVC TO HH 6:
2-12/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6 INS. GR.

(4)

INP149NB STA. 46+55.5, 29.8' (RIGHT)
PA90 POLE FOUNDATION
TYPE PA90-A-35-D40-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
1-ANGLE MOUNT SIGNAL AT 180 DEG
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
LUMINAIRE-LED
2- R9-3a SIGNS (NO PED) FACING POLES 1 AND 3
2-TYPE D SIGNS (D-3) & (D-4)
3" PVC TO HH 10:
2-12/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6 INS. GR.

(A)

EQUIPMENT PAD (SEE DETAIL SHEET)
SERVICE CABINET (SSB)

SIGNAL CABINET AND CONTROLLER
4" PVC TO HH 1:
4-12/C #14
1-6/C #14
2-3/C #14
4-2/C #14
2-3/C #20

F&I: 1-COM CABLE (CAT 5E) (PTZ)
1-1/C #6 INS. GR

2-2" AND 1-3" PVC STUBBED OUT (CAPPED BOTH ENDS
3/4" PVC STUBBED OUT (FOR TELEPHONE LINE)
1-2" PVC

CONTROLLER CABINET TO SERVICE CABINET:
2" PVC
2-1/C #6
1-1/C #6 INS. GR.

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

4" PVC TO HH 14:
2-12/C #14
1-6/C #14
1-3/C #14
7-2/C #14
1-3/C #20
1-1/C #6 INS. GR.

SERVICE CABINET TO POLE MOUNTED TRANSFORMER:
2" PVC
3-1/C #2

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

HH 1 TO HH 14:
2" PVC
1-3/C #14 (LUM)

SOP
WOOD POLE
EXTEND INTO HH 15:
2" PVC AND WEATHERHEAD
WITH 3-1/C #2

GENERAL DESCRIPTION OF THE SIGNAL REVISION WORK:

- THE REVISE SIGNAL SYSTEM WORK CONSISTS OF INSTALLING A PTZ CAMERA WITH X6-350/CAM 400 EXTENSION. THE WORK INCLUDES S&I LUMINAIRE, AND F&I CAT5E CABLE (PTZ).

- ALL ITEMS ARE INPLACE UNLESS OTHERWISE INDICATED.

- → INDICATES SIGNAL REVISION WORK TO BE COMPLETED.

BY	DATE	REVISIONS

SYSTEM ID: 1735857 T.E. 92835
METER ADDRESS: 2580 DODD RD.
OLD SYSTEM ID: 21724

REVISE SIGNAL SYSTEM "S"
MATCHLINE AND POLE NOTES
T.H. 494 AT T.H. 149 (DODD RD.) SOUTH RAMP
IN EAGAN, DAKOTA COUNTY

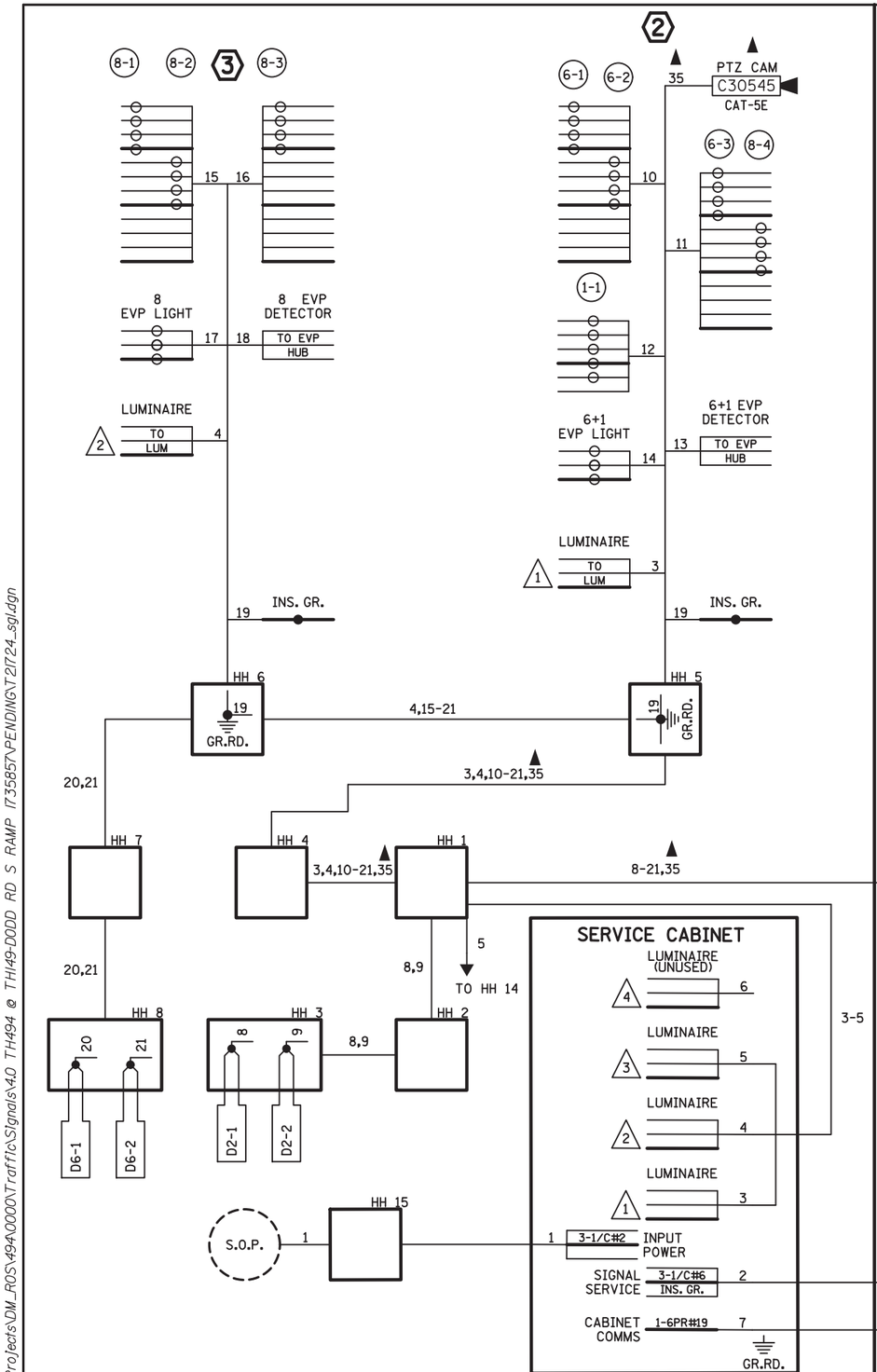
S.A.P. NO. | DRAWN BY: HRL | CKD BY: CDB | DATE: 03/31/23

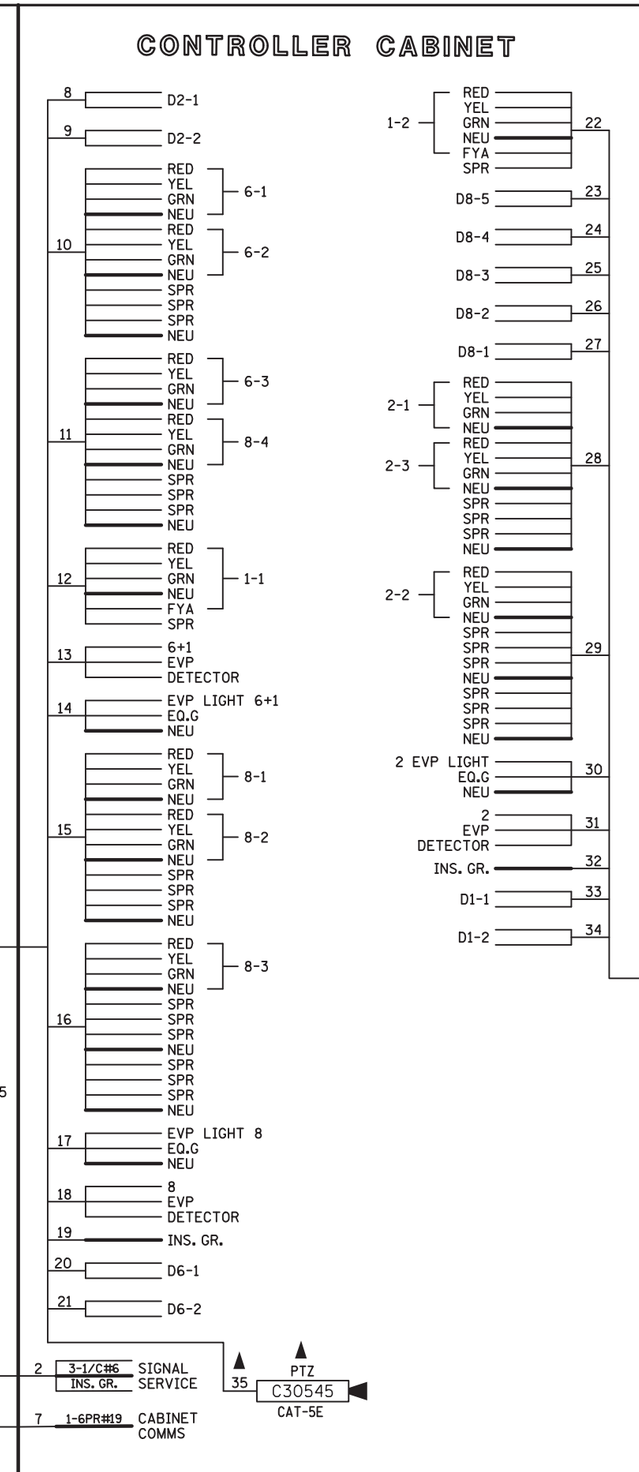
CERTIFIED BY Gregory Kern LICENSED PROFESSIONAL ENGINEER LIC. NO. 26829 DATE: 04/04/23

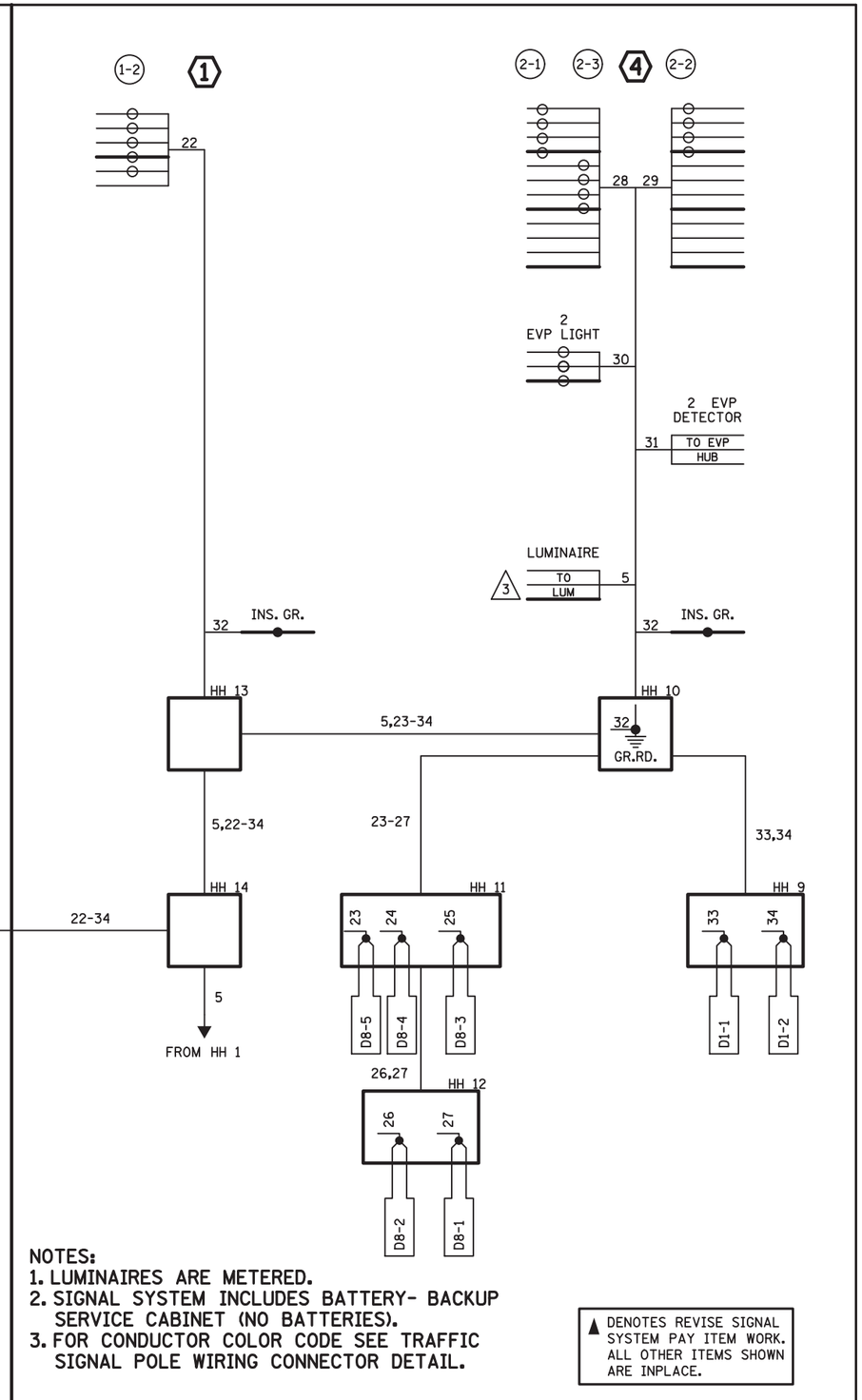
STATE PROJ.NO. 8825-1025(T.H.999) SHEET NO. 68 OF 121 SHEETS

PLOTTED/REVISED: 6-APR-2023

DISTRICT *: Metro
IPLOT NAME: Sheet_68
FILENAME: Projects\DM_ROS\494A0000\Traffic\Signals\4.0 TH494 @ TH149-DODD RD S RAMP 173585\PENDING\T21724_sgl.dgn







NOTES:
1. LUMINAIRES ARE METERED.
2. SIGNAL SYSTEM INCLUDES BATTERY- BACKUP SERVICE CABINET (NO BATTERIES).
3. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.

▲ DENOTES REVISE SIGNAL SYSTEM PAY ITEM WORK. ALL OTHER ITEMS SHOWN ARE INPLACE.

BY	DATE	REVISIONS

SYSTEM ID: 1735857 T.E. 92835
METER ADDRESS: 2580 DODD RD.
OLD SYSTEM ID: 21724

REVISE SIGNAL SYSTEM "S"
FIELD WIRING DIAGRAM
T.H. 494 AT T.H. 149 (DODD RD.) SOUTH RAMP
IN EAGAN, DAKOTA COUNTY

S.A.P. NO. | DRAWN BY:HRL | CKD BY:CDB | DATE:03/31/23

CERTIFIED BY Gregory Kuo LICENSED PROFESSIONAL ENGINEER LIC. NO. 26829 DATE: 04/04/23

STATE PROJ.NO. 8825-1025(T.H.999) SHEET NO. 69 OF 121 SHEETS

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	20 & 50
D1-2	2-6x6	5 & 35
D2-1,D2-2	6x6	400
D6-1,D6-2	6x6	400
D8-1,D8-2	6x6	120
D8-3	6x6	5
D8-4,D8-5	2-6x6	10 & 30

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

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	○	◁		◁

-ALL SIGNAL INDICATIONS ARE 12" LED
-ALL SIGNAL HEADS ARE BLACK POLYCARBONITE WITH BACKGROUND SHIELDS
-FYA DENOTES FLASHING YELLOW ARROW

INP. R/W

INP. R/W

40'

SCALE IN FEET

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

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

2" PVC
2-2/C #14

T.H. 149 (DODD RD.)
POSTED 45 MPH

℄ INP149SB

℄ INP149NB

MATCHLINE A

MATCHLINE B

EVP 8

EVP 1+6

EVP 2

D1-2 D1-1

T.H. 149 (DODD RD.)
POSTED 45 MPH

2" PVC
2-2/C #14

XC

2" PVC
2-2/C #14

2" PVC
1-6SM F/O
TO TMS VAULT

4" PVC
2-12/C #14
1-6/C #14
1-3/C #14
1-3/C #14 (LUM)
7-2/C #14
1-3/C #20
1-1/C #6 INS. GR.

3" PVC
2-2/C #14

4" PVC
2-12/C #14
1-3/C #14
1-3/C #14 (LUM)
7-2/C #14
1-3/C #20
1-1/C #6 INS. GR.

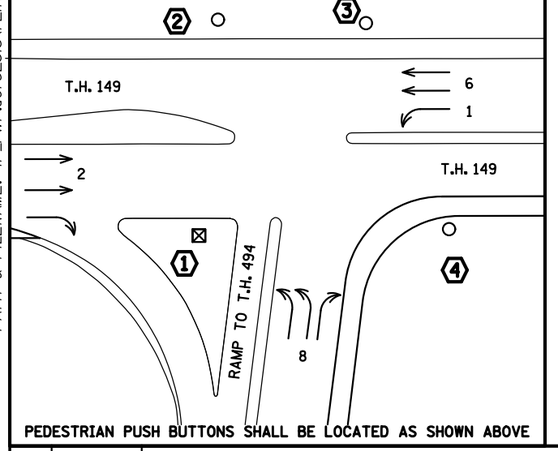
2" PVC
5-2/C #14

2" PVC
2-2/C #14

D8-5 D8-4 D8-3 D8-2 D8-1

RAMP TO T.H. 494

CONTROLLER PHASING



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE, WITH PHASE 1 BEING FLASHING YELLOW ARROW BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

BY	DATE	REVISIONS
EJA	12-11-14	AS-BUILT OF SP 1917-44

SYSTEM ID: 21724 T.E. 5945
METER ADDRESS: 2580 DODD RD.
MASTER ID: T.E.

INTERSECTION LAYOUT
T.H. 494 AT T.H. 149 (DODD RD.) SOUTH RAMP
IN EAGAN, DAKOTA COUNTY

DRAWN BY: BAM | CKD BY: CDB | DATE: 12/20/13

CERTIFIED BY Michael P Gabrinsky LICENSED PROFESSIONAL ENGINEER LIC. NO. 19863 DATE: 12/20/13

(T.H. 494) SHEET NO. 1 OF 4 SHEETS

PLOTTED/REVISED: 6/23/2015

DISTRICT *: METRO
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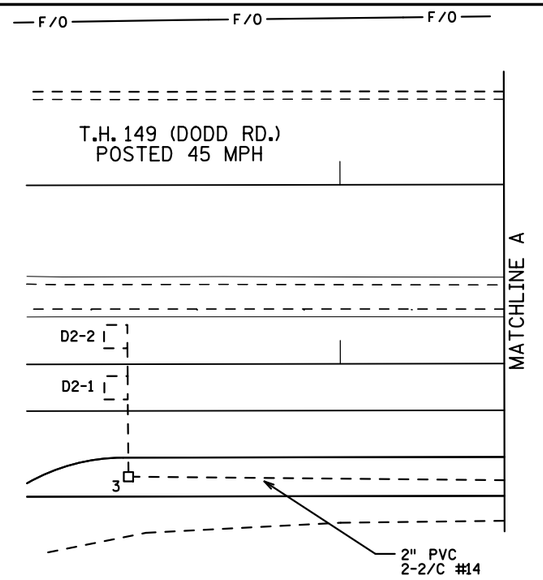
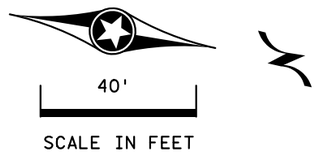
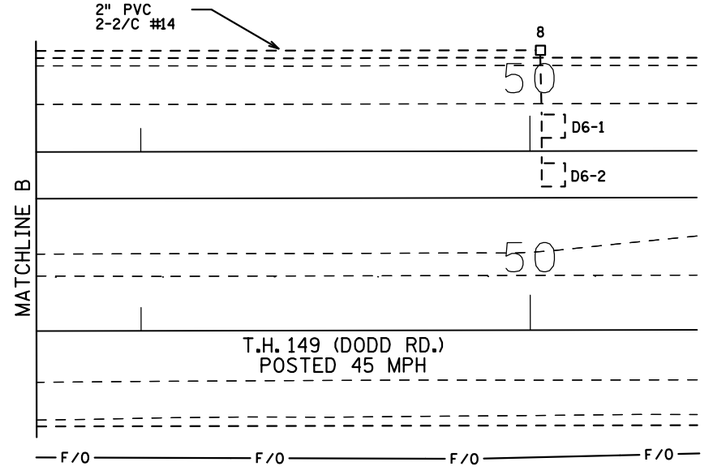
PATH & FILENAME: IP_PWP:d07823\3\T21724_sgl.dgn







② INP149NB STA. 45+37.0, 78.0' (LEFT)
PA100 POLE FOUNDATION
TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
① (A 3/4" THREADED HALF COUPLING (FOR EVP MOUNTING), SHALL BE F&I 4.5' FROM THE END OF THE MAST ARM)
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
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 6+1)
LUMINAIRE-LED
1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
1-R9-3a SIGN (NO PED) FACING POLE 1
1-TYPE D SIGN (D-1)
3" PVC TO HH 5:
2-12/C #14
1-6/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6 INS. GR.

③ INP149NB STA. 46+13.0, 76.1' (LEFT)
PA85 POLE FOUNDATION
TYPE PA85-A-25-D40-9 (DAVIT AT 350 DEG)
① (A 3/4" THREADED HALF COUPLING (FOR EVP MOUNTING), SHALL BE F&I 8.5' FROM THE END OF THE MAST ARM)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
1-ANGLE MOUNT SIGNAL AT 180 DEG
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
LUMINAIRE-LED
1-R9-3a SIGN (NO PED) FACING POLE 4
2-TYPE D SIGNS (D-2) & (D-5)
3" PVC TO HH 6:
2-12/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6 INS. GR.

Ⓐ
EQUIPMENT PAD (SEE DETAIL SHEET)
SERVICE CABINET (SSB)

SIGNAL CABINET AND CONTROLLER
4" PVC TO HH 1:
4-12/C #14
1-6/C #14
2-3/C #14
4-2/C #14
2-3/C #20
1-1/C #6 INS. GR.

2-2" AND 1-3" PVC STUBBED OUT (CAPPED BOTH ENDS
3/4" PVC STUBBED OUT (FOR TELEPHONE LINE)
1-2" PVC

CONTROLLER CABINET TO SERVICE CABINET:
2" PVC
2-1/C #6
1-1/C #6 INS. GR.

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

4" PVC TO HH 14:
2-12/C #14
1-6/C #14
1-3/C #14
7-2/C #14
1-3/C #20
1-1/C #6 INS. GR.

SERVICE CABINET TO POLE MOUNTED TRANSFORMER:
2" PVC
3-1/C #2

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

HH 1 TO HH 14:
2" PVC
1-3/C #14 (LUM)

④ INP149NB STA. 46+55.5, 29.8' (RIGHT)
PA90 POLE FOUNDATION
TYPE PA90-A-35-D40-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
1-ANGLE MOUNT SIGNAL AT 180 DEG
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
LUMINAIRE-LED
2- R9-3a SIGNS (NO PED) FACING POLES 1 AND 3
2-TYPE D SIGNS (D-3) & (D-4)
3" PVC TO HH 10:
2-12/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6 INS. GR.

① INP149NB STA. 45+27.0, 32.9' (RIGHT)
PEDESTAL FOUNDATION
TYPE 5A -13' PEDESTA POLE AND BASE (ALL ALUMINUM COMPONETS)
1-SIGNAL
2-R9-3a SIGNS (NO PED) FACING POLES 2 AND 4
3" PVC TO HH 13:
1-6/C #14
1-/C #6 INS. GR.

SOP
WOOD POLE
EXTEND INTO HH 15:
2" PVC AND WEATHERHEAD
WITH 3-1/C #2

BY	DATE	REVISIONS
EJA	12-11-14	AS-BUILT OF SP 1917-44

SYSTEM ID: 21724 T.E. 5945
METER ADDRESS: 2580 DODD RD.
MASTER ID: T.E.

MATCHLINE AND POLE NOTES
T.H. 494 AT T.H. 149 (DODD RD.) SOUTH RAMP IN EAGAN, DAKOTA COUNTY

DRAWN BY: BAM | CKD BY: CDB | DATE: 12/20/13

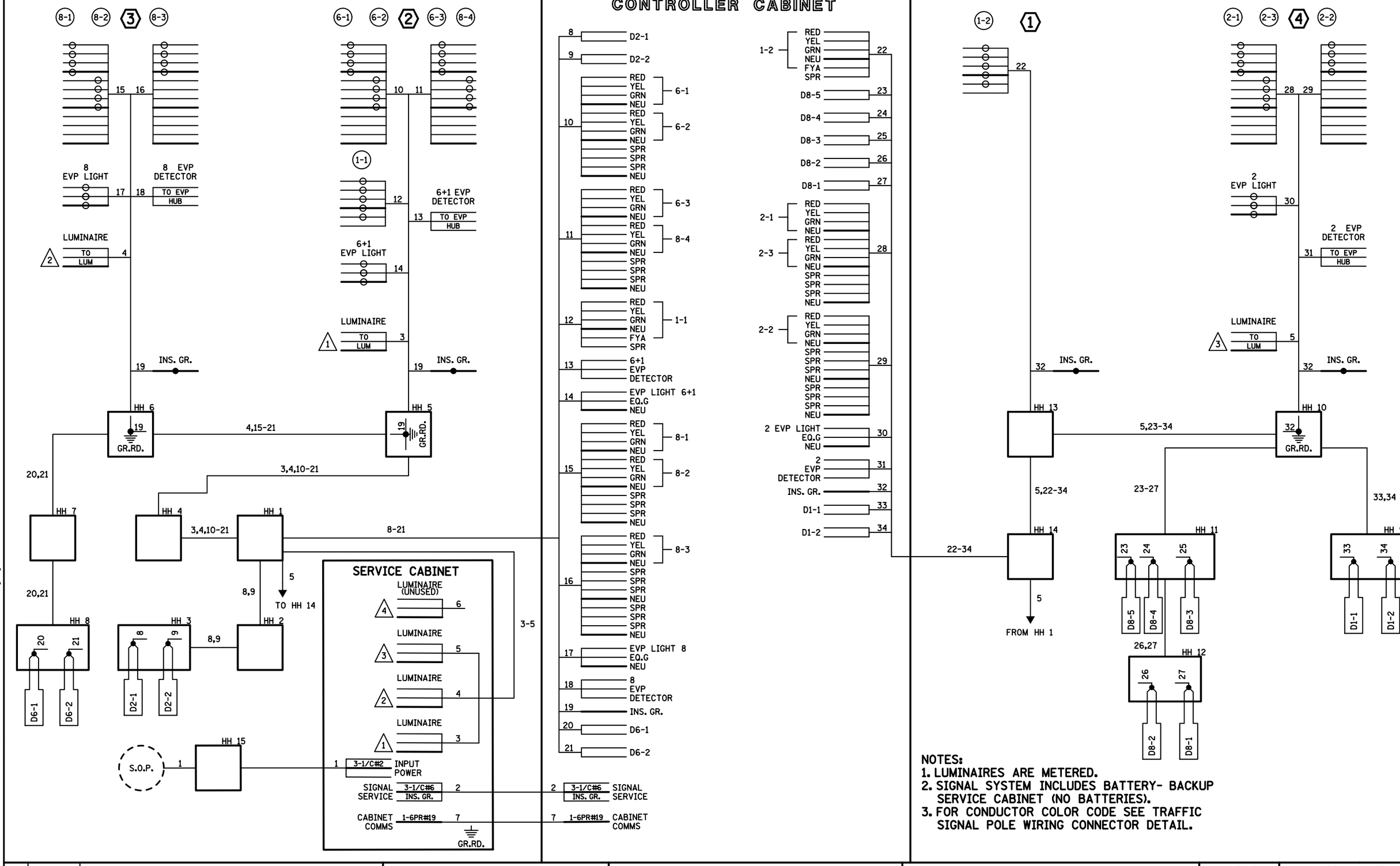
CERTIFIED BY Michael P. Gabrinsky LICENSED PROFESSIONAL ENGINEER LIC. NO. 19863 DATE: 12/20/13

(T.H. 149) SHEET NO. 2 OF 4 SHEETS

PLOTTED/REVISED: 6/23/2015
DISTRICT *: METRO
IPLOT NAME: matchline
PATH & FILENAME: IP_PWP-sd07823\3\T2\724_sgl.dgn

PLOTTED/REVISED: 6/23/2015

DISTRICT *: METRO
IPLOT NAME: wire
PATH & FILENAME: IP_PWP:d07823i3\T21724_sgl.dgn



NOTES:
1. LUMINAIRES ARE METERED.
2. SIGNAL SYSTEM INCLUDES BATTERY- BACKUP SERVICE CABINET (NO BATTERIES).
3. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.

BY	DATE	REVISIONS
EJA	12-11-14	AS-BUILT OF SP 1917-44

SYSTEM ID: 21724 T.E. 5945
METER ADDRESS: 2580 DODD RD.
MASTER ID: T.E.

FIELD WIRING DIAGRAM
T.H. 494 AT T.H. 149 (DODD RD.) SOUTH RAMP IN EAGAN, DAKOTA COUNTY

DRAWN BY: BAM | CKD BY: CDB | DATE: 12/20/13

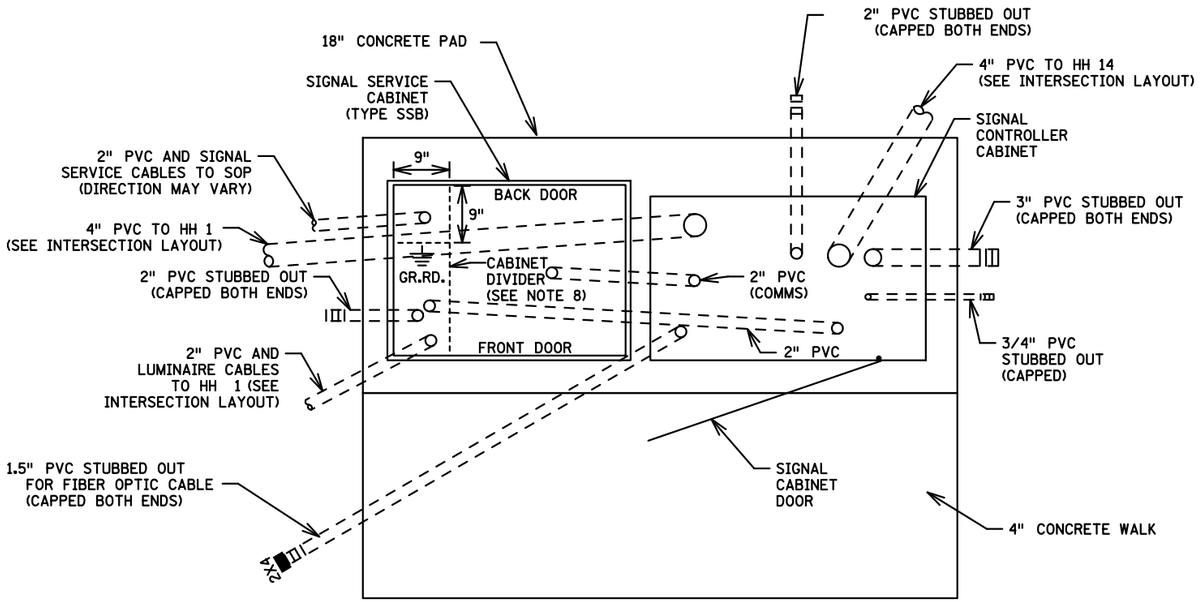
CERTIFIED BY Michael P. Gabrinsky LICENSED PROFESSIONAL ENGINEER LIC. NO. 19863 DATE: 12/20/13

(T.H. 149) SHEET NO. 3 OF 4 SHEETS

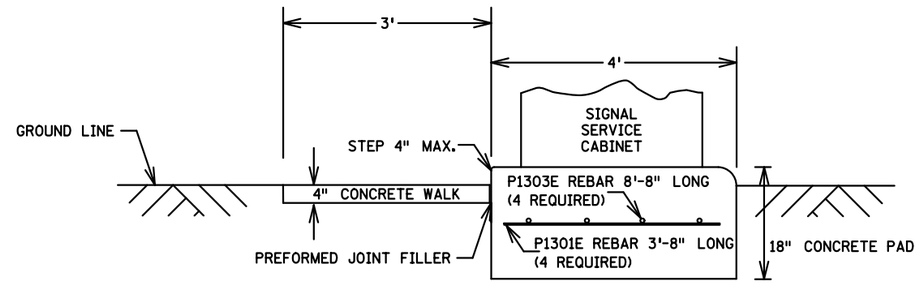
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

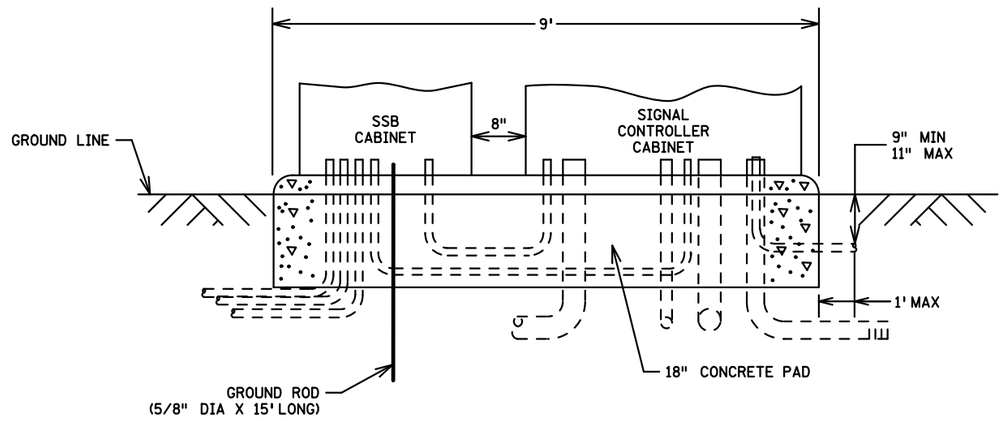
PLAN VIEW



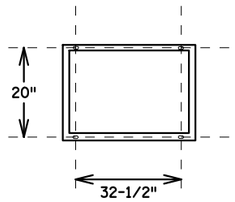
SIDE VIEW



FRONT VIEW

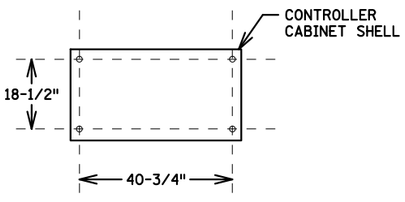


S.S.B. SERVICE CABINET BOLT PATTERN



DIMENSION SHOWN ARE CENTER ROD TO CENTER ROD

CONTROLLER CABINET TYPE "P" & "R" BOLT PATTERN



DIMENSION SHOWN ARE CENTER ROD TO CENTER ROD

BY	DATE	REVISIONS
EJA	12-11-14	AS-BUILT OF SP 1917-44

SYSTEM ID: 21724 T.E. 5945
METER ADDRESS: 2580 DODD RD.
MASTER ID: T.E.

EQUIPMENT PAD LAYOUT
T.H. 494 AT T.H. 149 (DODD RD.) SOUTH RAMP
IN EAGAN, DAKOTA COUNTY

DRAWN BY: BAM | CKD BY: CDB | DATE: 12/20/13

CERTIFIED BY Michael P. Gibinsky LICENSED PROFESSIONAL ENGINEER LIC. NO. 19863 DATE: 12/20/13

(T.H. 494) SHEET NO. 4 OF 4 SHEETS

PLOTTED/REVISED: 6/23/2015

DISTRICT *: METRO
IPLOT NAME: pad detail
PATH & FILENAME: IP_PWP-d0782313\T2if24_sgl.dgn