

PLOT NAME: T20545.sgl  
 PATH & FILENAME: Projects\DM\_ROS\035E\0000\Traffic\Signals\20545 (TH 62) W Ramp\T20545.sgl.dgn  
 PLOTTED/REVISED: 22-JAN-2019

| LOOP DETECTOR CHART |           |          |        |
|---------------------|-----------|----------|--------|
| NUMBER              | SIZE (FT) | LOCATION | STATUS |
| D1-1                | 2-6X6     | 20'x50'  | INPL.  |
| D1-2                | 2-6X6     | 5'x35'   | INPL.  |
| D1-3                | 2-6X6     | 20'x50'  | INPL.  |
| D1-4                | 2-6X6     | 5'x35'   | INPL.  |
| D2-1                | 6X6       | 600'     | INPL.  |
| D2-2                | 2-6X6     | 600'     | INPL.  |

-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, 1-3     | ← | ← | ←   | ← |
| 2-1, 2-2, 2-3     | ○ | ○ |     | ○ |
| 6-1, 6-2          |   |   |     | △ |

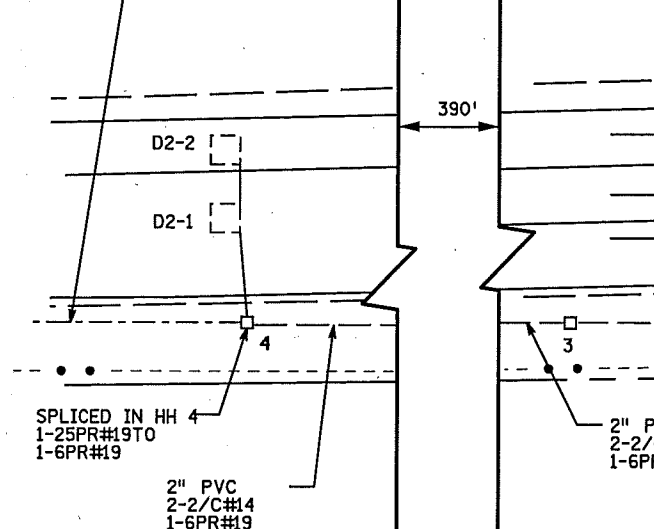
-ALL SIGNAL INDICATIONS ARE 12" LEDS  
 -ALL SIGNAL HEADS ARE BLACK POLYCARBONITE WITH BACKGROUND SHIELDS  
 -FYA DENOTES FLASHING YELLOW ARROW

**(1) PEDESTAL FOUNDATION**  
 13' PEDESTAL PLUS BASE  
 1-STRAIGHT MOUNT SIGNAL AT 0 DEG  
 2-SIGNS TYPE R9-3a (FACING POLES 2 AND 3)  
 3" PVC INTO HH 1:  
 1-12/C#14  
 1-1/C#6 INS GR

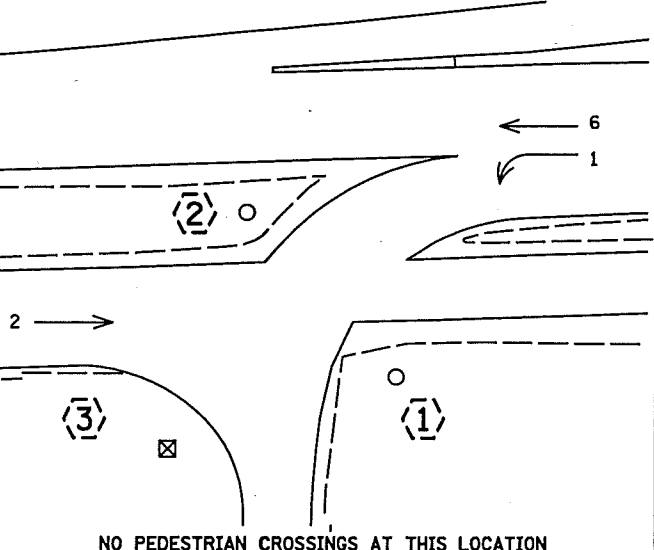
**(2) PA100 POLE FOUNDATION**  
 TYPE PA100-A-40-D40-9 (DAVIT AT 350 DEG)  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 27'  
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6&1)  
 1-ANGLE MOUNT SIGNAL AT 90 DEG  
 LUMINAIRE 250 HPS  
 1-SIGN TYPE D  
 1-SIGN TYPE R10-X12 ADJACENT TO HEAD 1-1  
 1-SIGN TYPE R9-3a (FACING POLE 1)  
 3" PVC INTO HH 5:  
 2-12/C#14  
 1-3/C#14  
 1-3/C#14 (LUM)  
 1-3/C#20  
 1-1/C#6 INS GR

1 1/2" HDPE  
 1-FIBER OPTIC CABLE (6-SM)  
 TO TMS VAULT

1-25PR#19 (DIRECT BURIED)  
 TO TH 62 AT CR 43  
 (LEXINGTON AVE)



**CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS**



**SIGNAL SYSTEM OPERATION**  
 - THE SIGNAL SYSTEM FLASH MODE IS ALL RED.  
 - NORMAL OPERATION IS 3 PHASE, WITH PHASE 1 BEING A FLASHING YELLOW ARROW BY TIME OF DAY.  
 - PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

**(B) WOOD POLE (XCEL ENERGY)**  
 2" PVC RISER AND WEATHERHEAD TO SERVICE CABINET VIA HH 10 AND 11 WITH:  
 2" PVC  
 3-1/C#2

**(3) PA100 POLE FOUNDATION**  
 TYPE PA100-A-40-D40-9 (DAVIT AT 350 DEG)  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 0'  
 1-STRAIGHT MOUNT SIGNAL AT 11'  
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)  
 LUMINAIRE 250 HPS  
 1-ANGLE MOUNT SIGNAL AT 180 DEG  
 1-SIGN TYPE D  
 1-SIGN TYPE R9-3a (FACING POLE 1)  
 3" PVC INTO HH 8:  
 2-12/C#14  
 1-3/C#14  
 1-3/C#14 (LUM)  
 1-3/C#20  
 1-6PR#19  
 1-1/C#6 INS GR

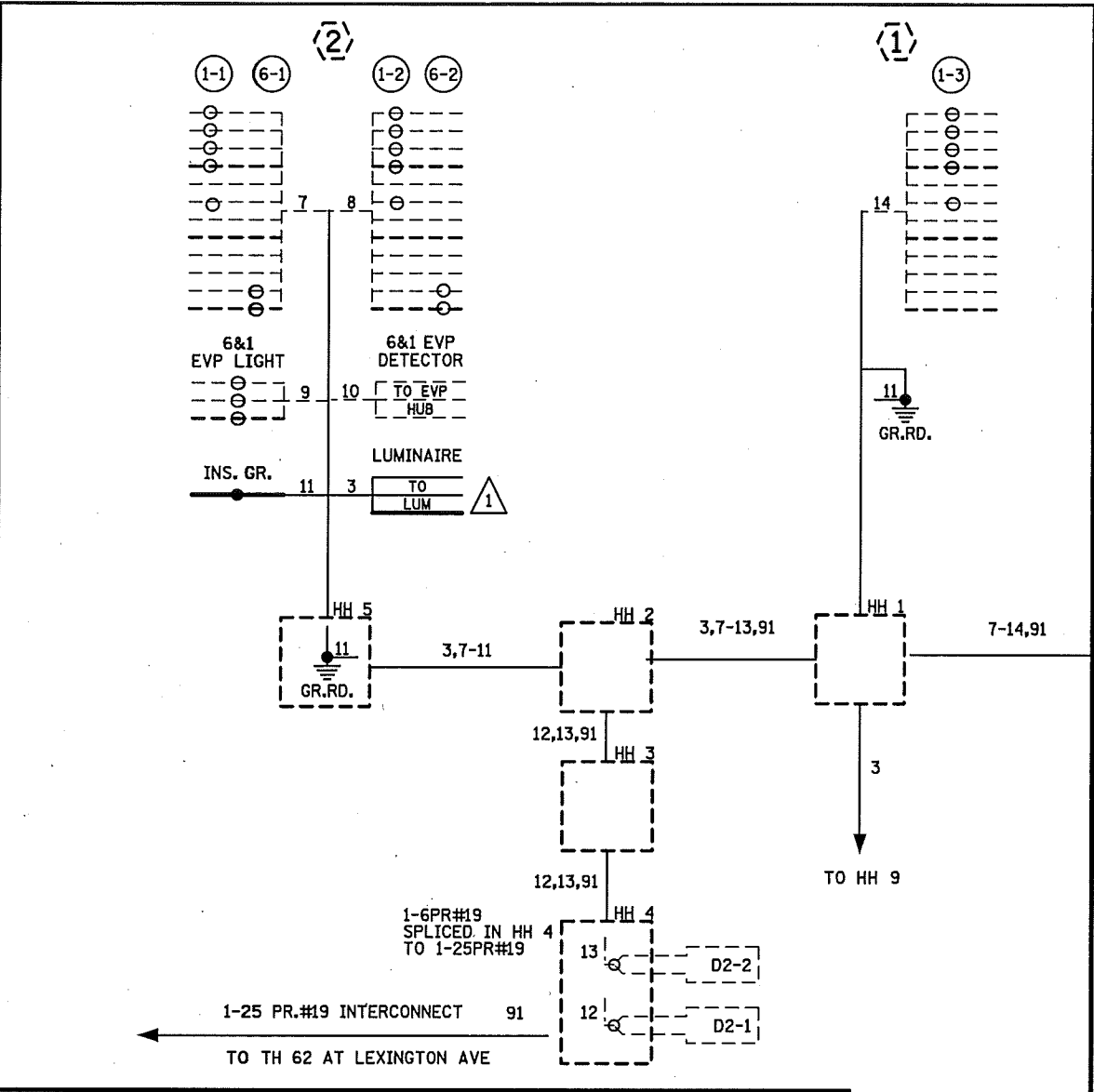
**(A) EQUIPMENT PAD (SEE DETAIL)**  
 CONTROLLER AND CABINET  
 SERVICE CABINET  
 4" PVC INTO HH 1:  
 3-12/C#14  
 1-3/C#14  
 2-2/C#14  
 1-3/C#20  
 1-6PR#19  
 1-1/C#6 INS GR

4" PVC TO HH 9:  
 2-12/C#14  
 1-3/C#14  
 4-2/C#14  
 1-3/C#20  
 1-6PR#19  
 1-1/C#6 INS GR

1-1 1/2" PVC TO TMS VAULT (SEE TMS PLAN) WITH 1-FO CABLE (6-SM)  
 2" AND 3" PVC STUBBED OUT AND CAPPED  
 2" PVC TO SERVICE CABINET  
 2-1/C#6  
 1-1/C#6 INS GR  
 2" PVC TO SERVICE CABINET (COMMS)  
 SERVICE CABINET TO HH 9:  
 2" PVC  
 2-3/C#14 (LUM)  
 HH 9 TO HH 1:  
 2" PVC  
 1-3/C#14 (LUM)  
 TO PULL VAULT  
 1.5" CONDUIT  
 1-FO PIGTAIL

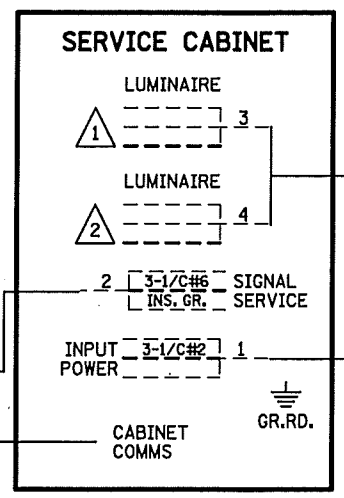
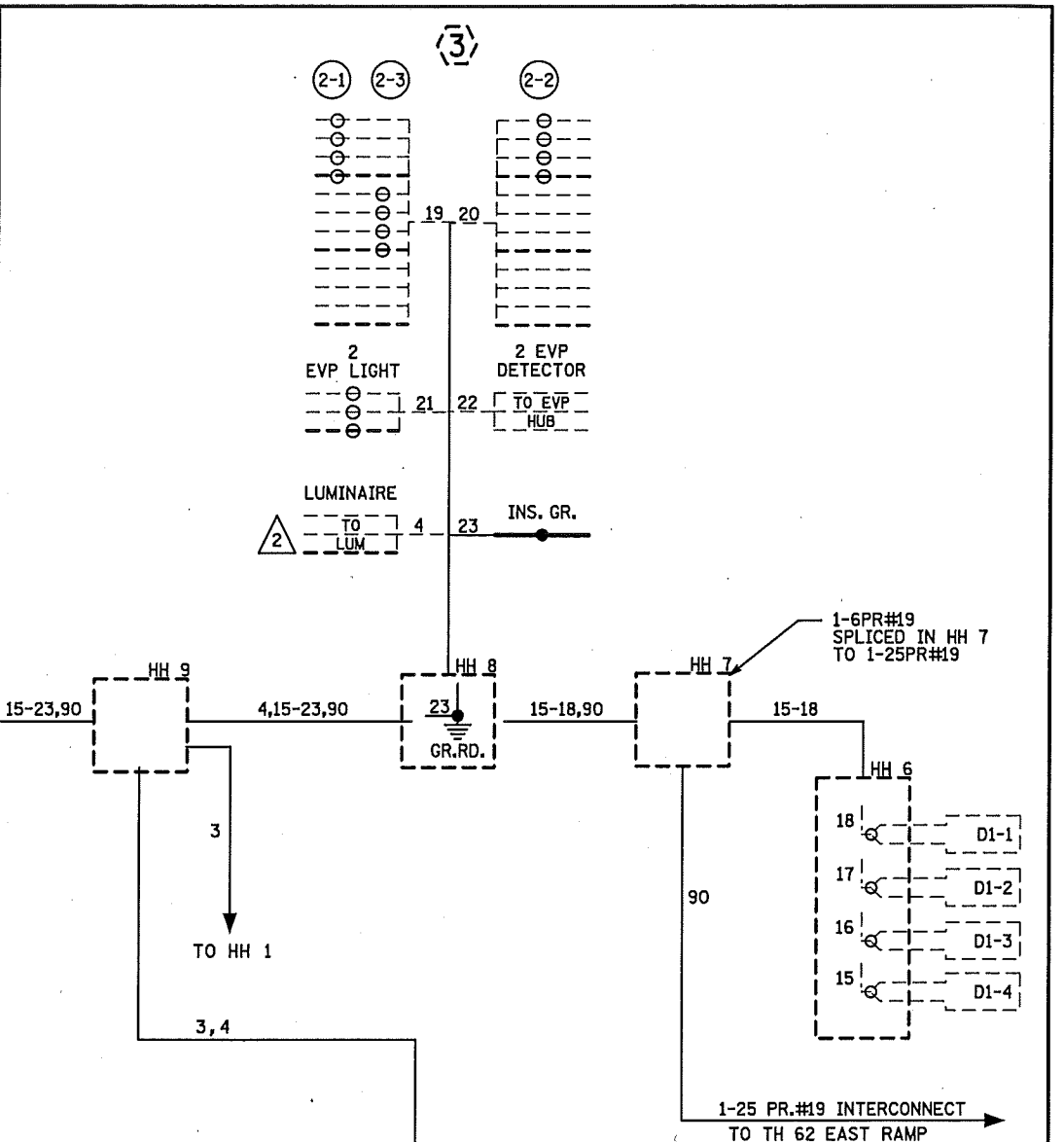
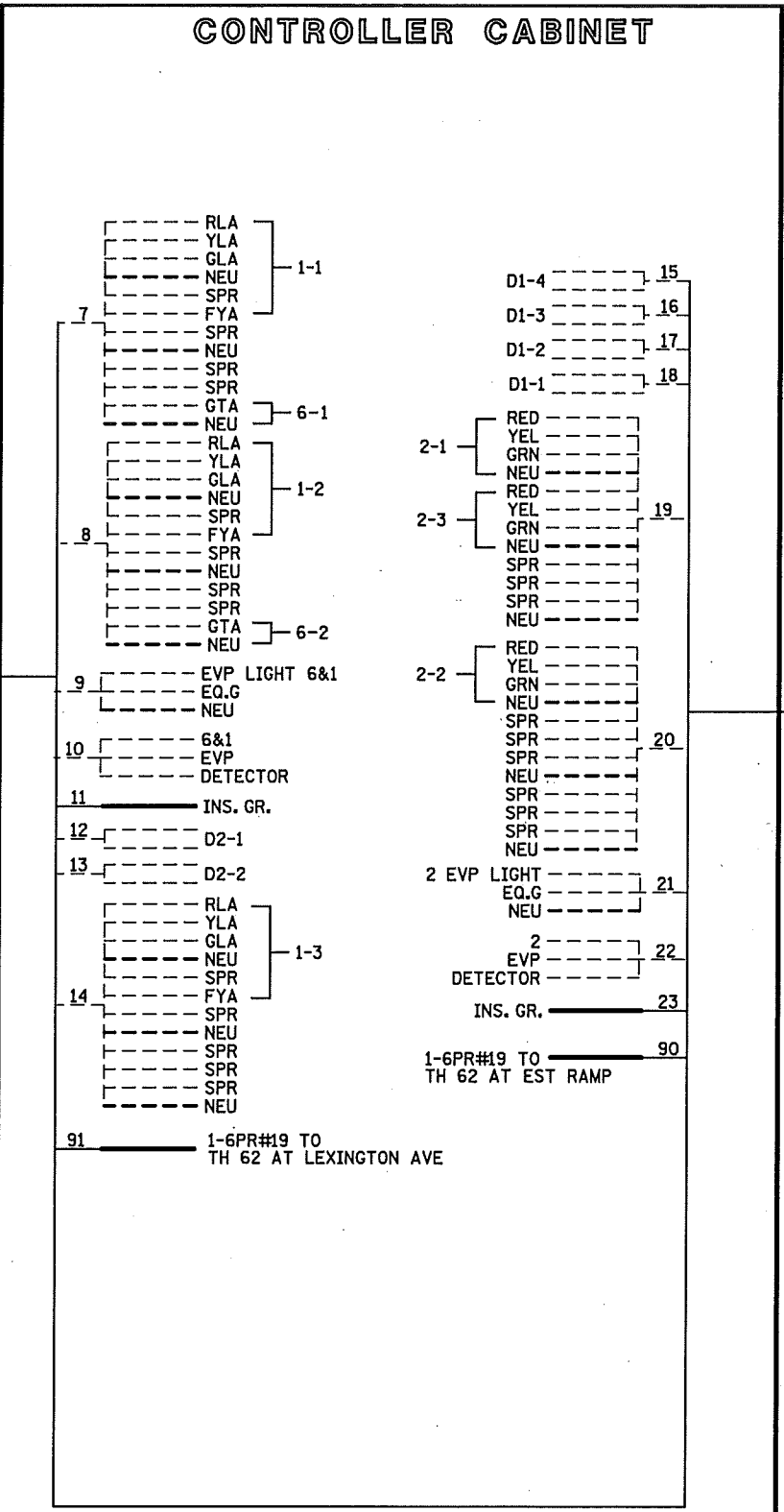
|     |          |                |                             |      |  |                |             |               |
|-----|----------|----------------|-----------------------------|------|--|----------------|-------------|---------------|
| BY  | DATE     | REVISIONS      | SYSTEM ID: 1735255          | T.E. | S.A.P. NO.   | DRAWN BY:      | CKD BY:     | DATE:         |
| SJK | 01/22/19 | OPERATION PLAN | METER ADDRESS: 1024 HWY 110 |      | CERTIFIED BY _____   | LIC. NO. _____ | DATE: _____ |               |
|     |          |                | OLD SYSTEM ID: 20545        |      | <b>INTERSECTION LAYOUT</b><br><b>T.H. 35E AT T.H. 62 (WEST RAMP)</b><br><b>IN MENDOTA HEIGHTS, DAKOTA COUNTY</b> |                |             |               |
|     |          |                |                             |      | STATE PROJ. NO.  | (T.H.35E)      | SHEET NO.   | 1 OF 2 SHEETS |

IPLOT NAME: T20545.sgl  
 PATH & FILENAME: Projects\DM罗斯035E\0000TrafficSignals\20545 (TH 62) W Ramp\T20545.sgl.dgn  
 PLOTTED/REVISED: 22-JAN-2019

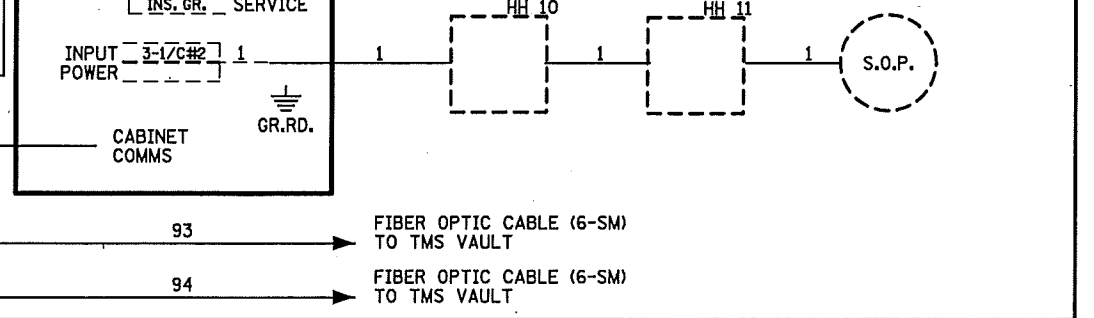


| CONDUCTOR COLOR CODE (14 GAUGE) |                                  |
|---------------------------------|----------------------------------|
| TO SIGNAL CABINET               | TO DEVICE                        |
| 1/C#6 G                         | R<br>O<br>BLK                    |
| 6PR#19                          | 6/C#14 BLK<br>WH<br>BLK/R<br>BLK |
| COXIAL CABLE (6SM)              | R<br>4/C#14 BLK/R<br>BLK<br>WH   |
| 3-1/C#2 WH                      | R<br>4/C#18 BLK<br>WH<br>G       |
| BLK                             | INPUT POWER                      |
| 3-1/C#6 BLK                     | R<br>4/C#14 BLK/R<br>BLK<br>WH   |
| WH                              | SIGNAL SERVICE                   |
| G                               | BASE OF POLE OR PEDESTAL         |
| R                               | 3/C#14 BLK                       |
| O                               | WH                               |
| BL                              | G                                |
| WH                              | 3/C#14 BLK                       |
| R/BLK                           | WH                               |
| O/BLK                           | 2/C#14 BLK                       |
| BL/BLK                          | WH OR CLR                        |
| WH/BLK                          | 3/C#20 WH OR YEL                 |
| BLK                             | BLK OR BL                        |
| BLK/WH                          | 2/C#14 BLK                       |
| BLK/R                           | WH OR CLR                        |
| WH/R                            | PED PUSH BUTTON (If Required)    |

NOTE: ALL POLE CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.



NOTES:  
 1. LUMINAIRES ARE METERED.  
 2. SIGNAL SYSTEM INCLUDES BATTERY- BACKUP SERVICE CABINET (NO BATTERIES).



|         |                |                |            |                      |      |                             |                                   |                         |                                |           |       |
|---------|----------------|----------------|------------|----------------------|------|-----------------------------|-----------------------------------|-------------------------|--------------------------------|-----------|-------|
| BY: SJK | DATE: 01/22/19 | OPERATION PLAN | REVISIONS: | SYSTEM ID: 1735255   | T.E. | METER ADDRESS: 1024 HWY 110 | FIELD WIRING DIAGRAM              | S.A.P. NO.              | DRAWN BY:                      | CKD BY:   | DATE: |
|         |                |                |            | OLD SYSTEM ID: 20545 |      |                             | IN MENDOTA HEIGHTS, DAKOTA COUNTY | CERTIFIED BY:           | LICENSED PROFESSIONAL ENGINEER | LIC. NO.: | DATE: |
|         |                |                |            |                      |      | STATE PROJ. NO. (T.H.35E)   |                                   | SHEET NO. 2 OF 2 SHEETS |                                |           |       |

| LOOP DETECTOR CHART |           |          |        |
|---------------------|-----------|----------|--------|
| NUMBER              | SIZE (FT) | LOCATION | STATUS |
| D1-1                | 2-6X6     | 20'x50'  | INPL.  |
| D1-2                | 2-6X6     | 5'x35'   | INPL.  |
| D1-3                | 2-6X6     | 20'x50'  | INPL.  |
| D1-4                | 2-6X6     | 5'x35'   | INPL.  |
| D2-1                | 6X6       | 600'     | INPL.  |
| D2-2                | 2-6X6     | 600'     | INPL.  |

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

(2) PA100 POLE FOUNDATION  
TYPE PA100-A-40-D40-9 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 27'  
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6&1)  
1-ANGLE MOUNT SIGNAL AT 90 DEG  
LUMINAIRE 250 HPS  
1-SIGN TYPE D  
1-SIGN TYPE R10-X12 ADJACENT TO HEAD 1-1  
1-SIGN TYPE R9-3a (FACING POLE 1)  
3" PVC INTO HH 5:  
2-12/C#14  
1-3/C#14  
1-3/C#14 (LUM)  
1-3/C#20  
1-1/C#6 INS GR

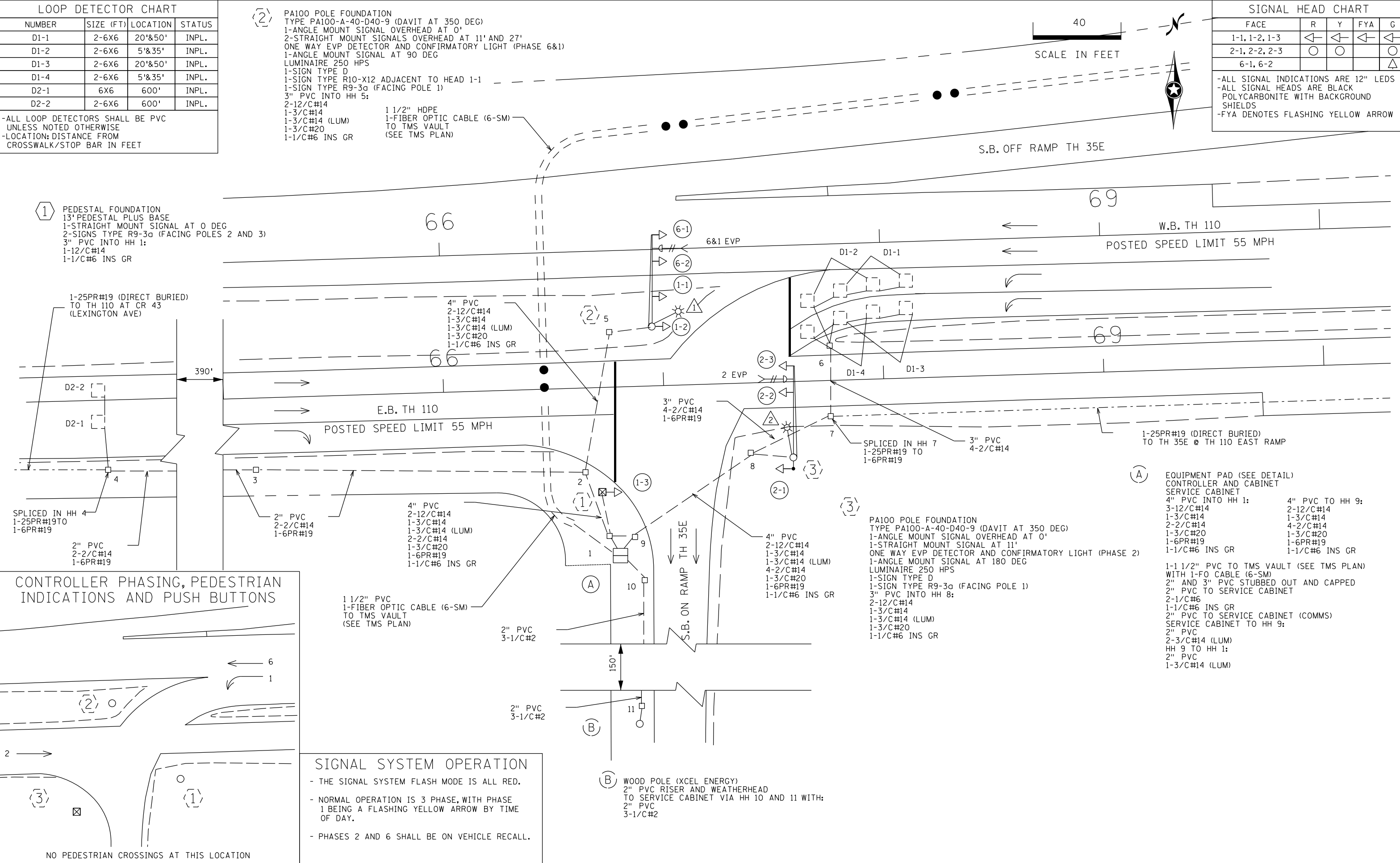
1 1/2" HDPE  
1-FIBER OPTIC CABLE (6-SM)  
TO TMS VAULT  
(SEE TMS PLAN)

| SIGNAL HEAD CHART |   |   |     |   |
|-------------------|---|---|-----|---|
| FACE              | R | Y | FYA | G |
| 1-1, 1-2, 1-3     | ← | ← | ←   | ← |
| 2-1, 2-2, 2-3     | ○ | ○ |     | ○ |
| 6-1, 6-2          |   |   |     | △ |

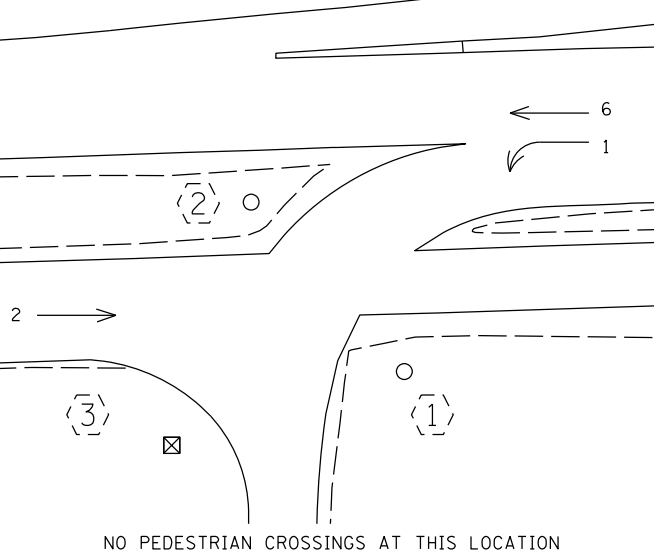
-ALL SIGNAL INDICATIONS ARE 12" LEDS  
-ALL SIGNAL HEADS ARE BLACK POLYCARBONITE WITH BACKGROUND SHIELDS  
-FYA DENOTES FLASHING YELLOW ARROW

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

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



**CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS**



**SIGNAL SYSTEM OPERATION**

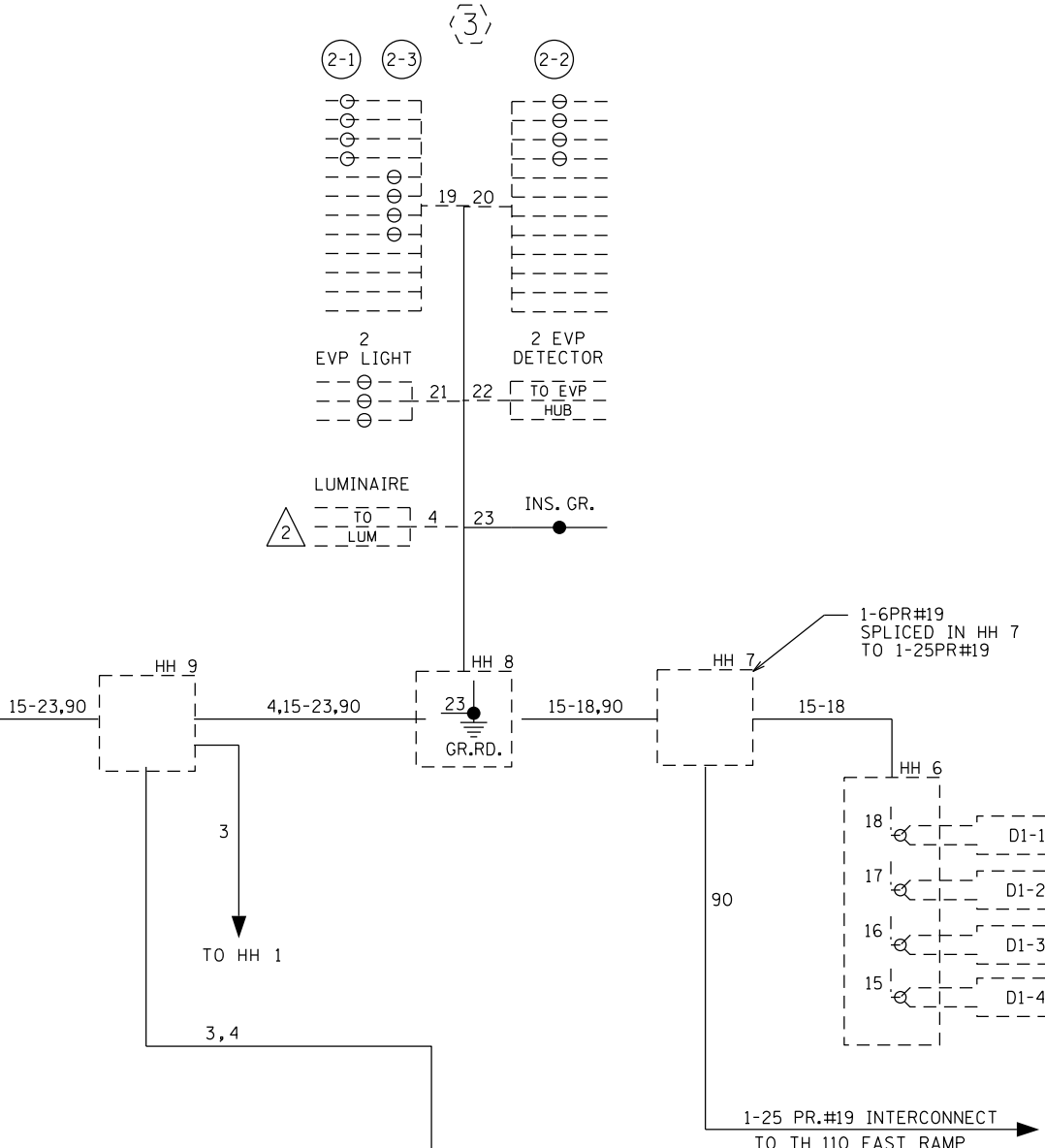
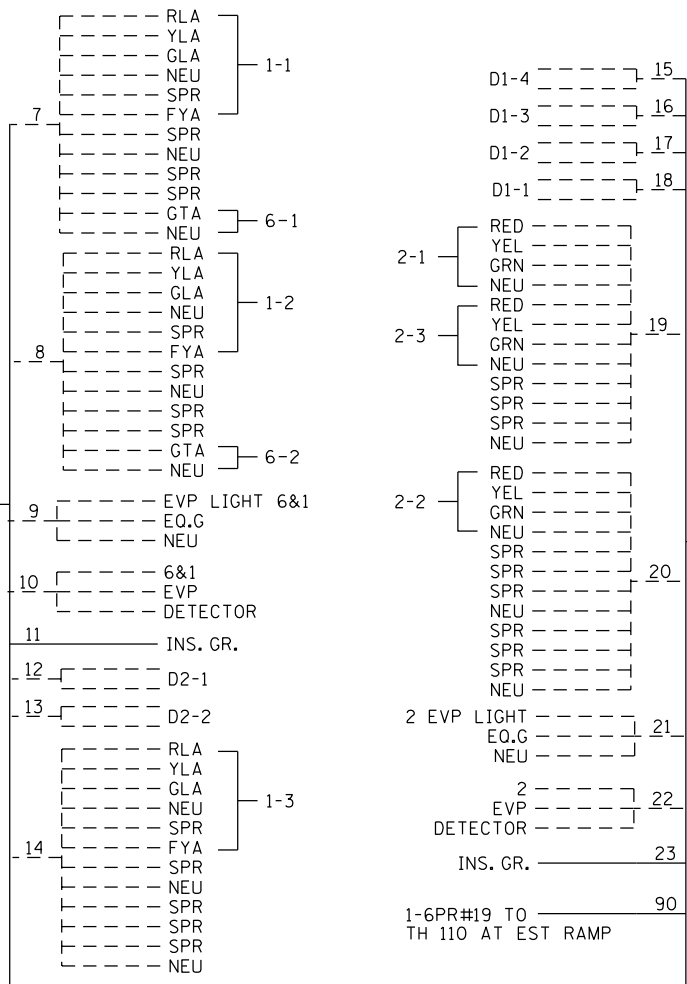
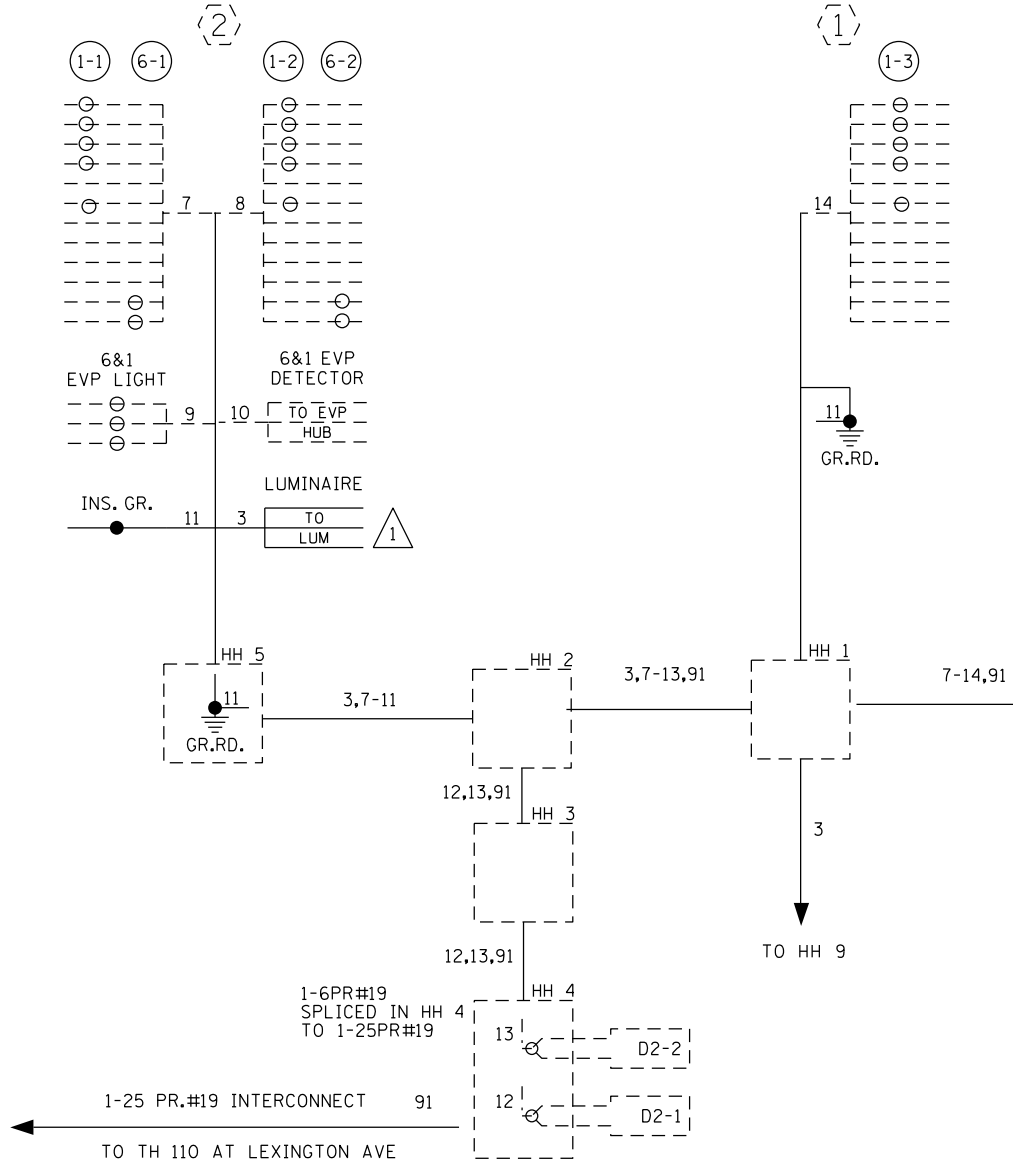
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 3 PHASE, WITH PHASE 1 BEING A FLASHING YELLOW ARROW BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

| BY  | DATE     | REVISIONS               | SYSTEM ID: 20545            | T.E. | TRAFFIC CONTROL SIGNAL SYSTEM INTERSECTION LAYOUT              | S.A.P. NO.                 | DRAWN BY: SJK  | CKD BY: EJA | DATE: 11-14-11          |
|-----|----------|-------------------------|-----------------------------|------|--|----------------------------|----------------|-------------|-------------------------|
| EJA | 01-25-13 | AS-BUILT OF SP 1982-148 | METER ADDRESS: 1024 HWY 110 | T.E. | TH 35E AT TH 110 (WEST RAMP) IN MENDOTA HEIGHTS, DAKOTA COUNTY | CERTIFIED BY _____         | LIC. NO. _____ | DATE: _____ |                         |
|     |          |                         | MASTER ID:                  |      |  | STATE PROJ. NO. (T.H. 35E) |                |             | SHEET NO. 1 OF 2 SHEETS |

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

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

# CONTROLLER CABINET

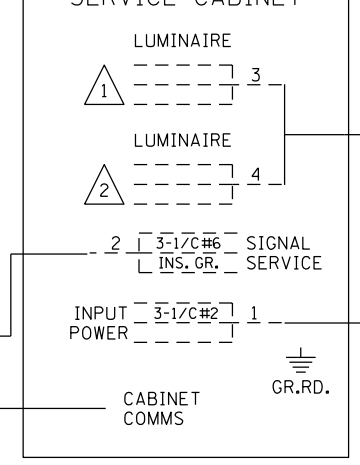


## CONDUCTOR COLOR CODE (14 GAUGE)

| TO SIGNAL CABINET  |           | TO DEVICE |         |
|--------------------|-----------|-----------|---------|
| 1/C#6 G            | R         | R         | RED     |
| 6PR#19             | O         | O         | YEL     |
| COXIAL CABLE (6SM) | BL        | BL        | GRN     |
|                    | WH        | WH        | NEU     |
|                    | BLK/R     | BLK/R     | YLA/FYA |
|                    | BLK       | BLK       | GLA     |
|                    | BLK       | BLK       |         |
| 3-1/C#2            | R         | R         | RED/DWK |
|                    | WH        | WH        | YEL/WLK |
|                    | BLK       | BLK       | GRN/SPR |
|                    | BLK       | BLK       | NEU     |
| 3-1/C#6            | WH        | WH        |         |
|                    | G         | G         |         |
|                    | R         | R         |         |
|                    | O         | O         |         |
|                    | BL        | BL        |         |
|                    | WH        | WH        |         |
|                    | R/BLK     | R/BLK     |         |
|                    | O/BLK     | O/BLK     |         |
| 12/C#14            | BL/BLK    | BL/BLK    |         |
|                    | WH/BLK    | WH/BLK    |         |
|                    | BLK       | BLK       |         |
|                    | BLK/WH    | BLK/WH    |         |
|                    | BLK/R     | BLK/R     |         |
|                    | WH/R      | WH/R      |         |
|                    | R OR O    | R OR O    |         |
|                    | WH OR YEL | WH OR YEL |         |
|                    | BLK OR BL | BLK OR BL |         |
|                    | BLK       | BLK       |         |
|                    | WH OR CLR | WH OR CLR |         |
|                    | WH OR CLR | WH OR CLR |         |
|                    | BLK       | BLK       |         |
|                    | WH OR CLR | WH OR CLR |         |

NOTE: ALL POLE CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

## SERVICE CABINET



NOTES:  
 1. LUMINAIRES ARE METERED.  
 2. SIGNAL SYSTEM INCLUDES BATTERY- BACKUP SERVICE CABINET (NO BATTERIES).

FIBER OPTIC CABLE (6-SM) TO TMS VAULT (SEE TMS PLAN)

FIBER OPTIC CABLE (6-SM) TO TMS VAULT (SEE TMS PLAN)

| BY  | DATE     | REVISIONS               |
|-----|----------|-------------------------|
| EJA | 01-25-13 | AS-BUILT OF SP 1982-148 |

SYSTEM ID: 20545  
 METER ADDRESS: 1024 HWY 110  
 MASTER ID:

T.E.  
 T.E.  
 TRAFFIC CONTROL SIGNAL SYSTEM  
 FIELD WIRING DIAGRAM  
 TH 35E AT TH 110 (WEST RAMP)  
 IN MENDOTA HEIGHTS, DAKOTA COUNTY

S.A.P. NO.  
 CERTIFIED BY \_\_\_\_\_  
 STATE PROJ. NO. (T.H. 35E)

DRAWN BY: SJK  
 CKD BY: EJA  
 DATE: 11-14-11  
 LIC. NO. \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 SHEET NO. 2 OF 2 SHEETS