

SIGNAL HEAD CHART

| FACE | R | Y | FYA | G |
|--------------------|---|---|-----|---|
| 2-1, 2-2, 2-3, 2-4 | ○ | ○ | | ○ |
| 4-1, 4-2 | ○ | ○ | | ○ |
| 7-1, 7-2 | ← | ← | ← | ← |
| 8-1, 8-2, 8-3 | ○ | ○ | | ○ |

-ALL SIGNAL INDICATIONS ARE 12" LED
-ALL SIGNAL HEADS ARE BLACK POLYCARBONITE WITH BACKGROUND SHIELDS

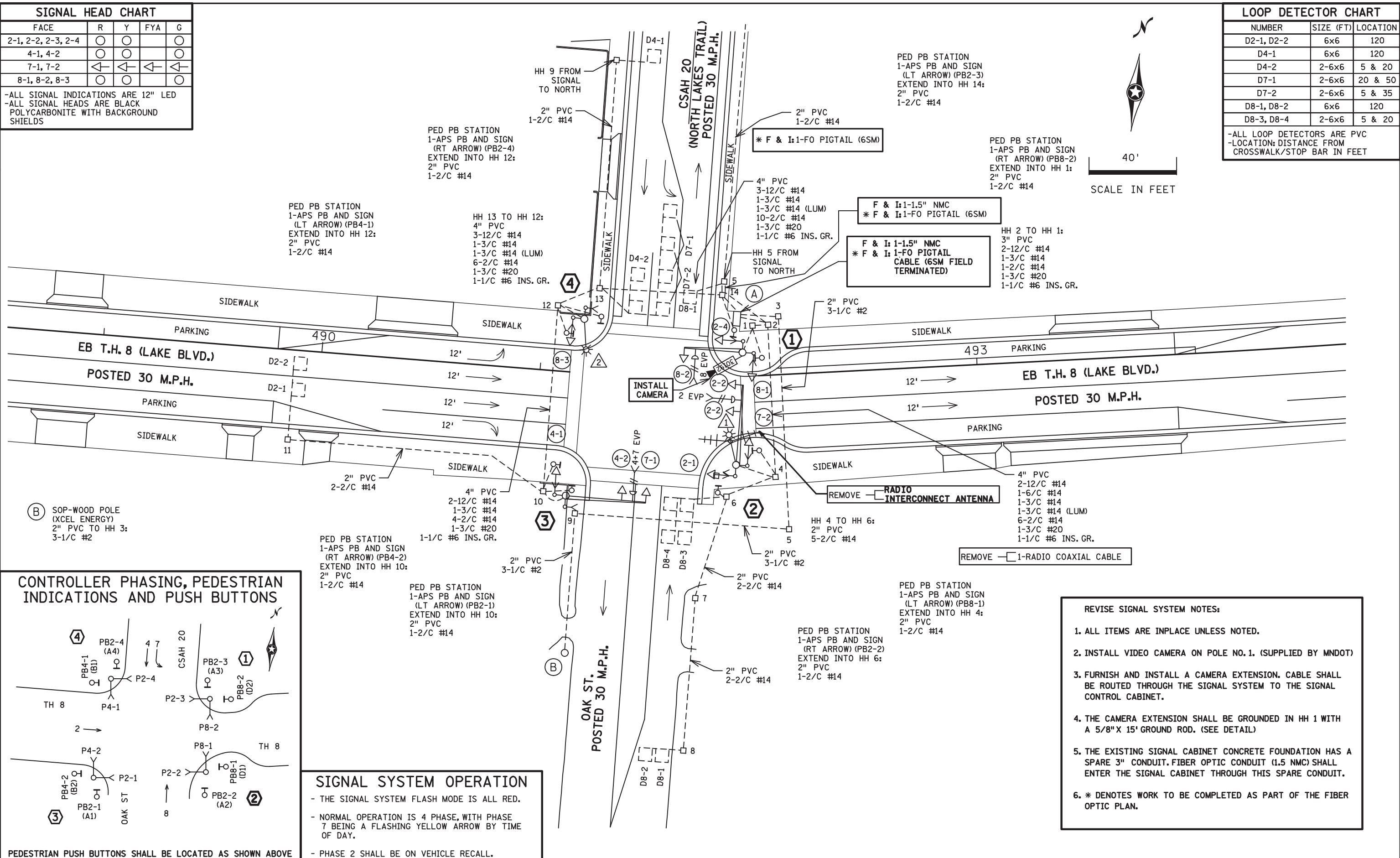
LOOP DETECTOR CHART

| NUMBER | SIZE (FT) | LOCATION |
|------------|-----------|----------|
| D2-1, D2-2 | 6x6 | 120 |
| D4-1 | 6x6 | 120 |
| D4-2 | 2-6x6 | 5 & 20 |
| D7-1 | 2-6x6 | 20 & 50 |
| D7-2 | 2-6x6 | 5 & 35 |
| D8-1, D8-2 | 6x6 | 120 |
| D8-3, D8-4 | 2-6x6 | 5 & 20 |

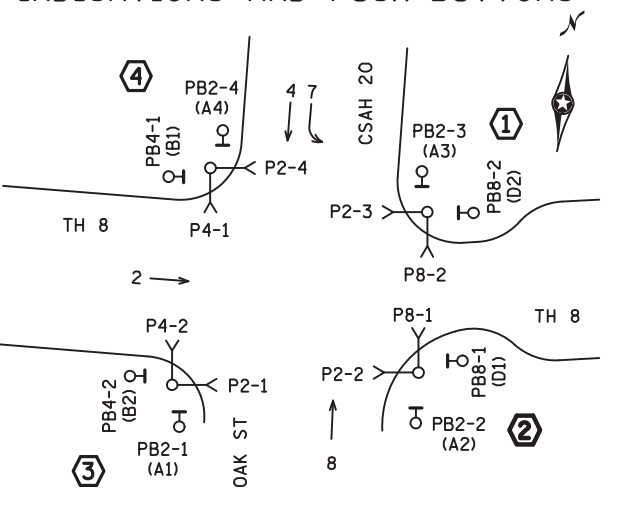
-ALL LOOP DETECTORS ARE PVC
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET

PLOTTED/REVISED: 23-APR-2020

DISTRICT #: Metro
I/PLOT NAME: SS28_LAYOUT 39094
PATH & FILENAME: Projects\DM_ROS\008\00007\Traffic\Signal\39094_South Ramp CSAH20V39094_sgl.dgn



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE, WITH PHASE 7 BEING A FLASHING YELLOW ARROW BY TIME OF DAY.
- PHASE 2 SHALL BE ON VEHICLE RECALL.

- REVISE SIGNAL SYSTEM NOTES:**
1. ALL ITEMS ARE INPLACE UNLESS NOTED.
 2. INSTALL VIDEO CAMERA ON POLE NO. 1. (SUPPLIED BY MNDOT)
 3. FURNISH AND INSTALL A CAMERA EXTENSION. CABLE SHALL BE ROUTED THROUGH THE SIGNAL SYSTEM TO THE SIGNAL CONTROL CABINET.
 4. THE CAMERA EXTENSION SHALL BE GROUNDED IN HH 1 WITH A 5/8" X 15' GROUND ROD. (SEE DETAIL)
 5. THE EXISTING SIGNAL CABINET CONCRETE FOUNDATION HAS A SPARE 3" CONDUIT. FIBER OPTIC CONDUIT (1.5 NMC) SHALL ENTER THE SIGNAL CABINET THROUGH THIS SPARE CONDUIT.
 6. * DENOTES WORK TO BE COMPLETED AS PART OF THE FIBER OPTIC PLAN.

| BY | DATE | REVISIONS | SYSTEM ID: 1736731 | S.A.P. NO. | DRAWN BY: BAM | CKD BY: GAK | DATE: 4-9-20 |
|----|------|-----------|------------------------------------|----------------------------------|---------------|-------------------------------|-----------------------------|
| | | | METER ADDRESS: 30540 N. LAKE TRAIL | CERTIFIED BY: <i>Gregory Ken</i> | | | LIC. NO. 26829 DATE: 4/9/20 |
| | | | OLD SYSTEM ID: 39094 | STATE PROJ. NO. 1301-126 (T.H.8) | | SHEET NO. SS28 OF SS42 SHEETS | |

**INTERSECTION LAYOUT
REVISE SIGNAL SYSTEM H
TH 8 (LAKE BLVD) AT (N.LAKES TRAIL)/OAK ST
IN LINDSTROM, CHISAGO COUNTY**

DISTRICT #: Metro
 PLOT NAME: SS29_NOTES_39094
 PATH & FILENAME: Projects\DM_R0S\008\00007\Traffic\Signals\39094_South Ramp CSAH20N39094_sgl.dgn
 PLOTTED/REVISED: 23-APR-2020

4 EB STA 491+18.32, 24.67' LT
 PA85 POLE FOUNDATION
 PA85-A-0-D40-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNALS AT 90 DEG
 2-ANGLE MOUNT C.D. PED HEADS
 AT 90 AND 180 DEG
 1-R6-1R SIGN (ONE WAY)
 1-R6-1L SIGN (ONE WAY)
 LUMINAIRE-250W HPS
 3" PVC TO HH 12:
 1-12/C #14
 1-3/C #14 (LUM)
 1-1/C #6 INS. GR.

1 EB STA 491+93.23, 11.00' LT
 PA85 POLE FOUNDATION
 TYPE PA85-A-2

| | |
|---------|--|
| F&I | CAM X-400 EXTENSION (MOUNTED AT 350 DEG) (INCLUDING LIGHTNING ROD) |
| INSTALL | 7/16 GROUND BRAID |
| | 1-VIDEO CAMERA WITH MOUNT (30192) |

1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 2-ANGLE MOUNT C.D. PED HEADS
 AT 90 AND 180 DEG
 ONE-WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 8)
 2-TYPE D SIGNS
 3" PVC TO HH 1:
 2-12/C #14
 1-3/C #14
 1-3/C #20
 1-1/C #6 INS. GR.

| | |
|-----|------------------------------------|
| F&I | 1-7/16" GROUND BRAID TO GROUND ROD |
| | 1-COM CABLE (CAT 5E) |

3 EB STA 491+16.17, 49.86' RT
 PA90 POLE FOUNDATION
 TYPE PA90-A-35
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 1-ANGLE MOUNT SIGNAL AT 180 DEG
 2-ANGLE MOUNT C.D. PED HEADS
 AT 90 AND 180 DEG
 ONE-WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 4+7)
 1-R10-X12 SIGN ADJACENT TO HEAD 7-1
 1-TYPE D SIGN
 3" PVC TO HH 10:
 2-12/C #14
 1-3/C #14
 1-3/C #20
 1-1/C #6 INS. GR.

2 EB STA 491+87.69, 40.16' RT
 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (DAVIT AT 350 DEG)
 2-SWING AWAY HINGES
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 2-ANGLE MOUNT C.D. PED HEADS
 AT 90 AND 180 DEG
 ONE-WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 2)
 LUMINAIRE-250W HPS

| | |
|--------|---|
| REMOVE | 1-TWO-WAY RADIO INTERCONNECT ANTENNA ON LUMINAIRE DAVIT ARM |
|--------|---|

2-TYPE D SIGNS
 1-R6-1R SIGN (ONE WAY)
 1-R6-1L SIGN (ONE WAY)
 3" PVC TO HH 4:
 2-12/C #14
 1-6/C #14
 1-3/C #14
 1-3/C #20
 1-3/C #14 (LUM)

| | |
|--------|-----------------------|
| REMOVE | 1-RADIO COAXIAL CABLE |
|--------|-----------------------|

1-1/C #6 INS. GR.

A EQUIPMENT PAD
 SERVICE CABINET

| | |
|--------|-------------------|
| REMOVE | MASTER CONTROLLER |
|--------|-------------------|

CONTROLLER AND CABINET
 4" PVC TO HH 2: 4" PVC TO HH 14:
 4-12/C #14 3-12/C #14
 1-6/C #14 1-3/C #14
 2-3/C #14 11-2/C #14
 7-2/C #14 1-3/C #20
 2-3/C #20 1-1/C #6 INS. GR.
 1-1/C #6 INS. GR.

| | |
|--------|-----------------------|
| REMOVE | 1-RADIO COAXIAL CABLE |
| F&I | 1-COM CABLE (CAT 5E) |

2" PVC TO SERVICE CABINET:
 2-1/C #6
 1-1/C #6 INS. GR.
 2" PVC TO SERVICE CABINET:
 (SPARE COMMS)
 SERVICE CABINET TO HH 3:
 2" PVC
 3-1/C #2
 SERVICE CABINET TO HH 2:
 2" PVC
 2-3/C #14 (LUM)
 HH 14 TO HH 2:
 2" PVC
 1-3/C #14 (LUM)

| | |
|------|-------------------------------------|
| *F&I | CONTROLLER CABINET TO HH 14 |
| | 1.5" NMC |
| | 1-FO PIGTAIL (GSM FIELD TERMINATED) |

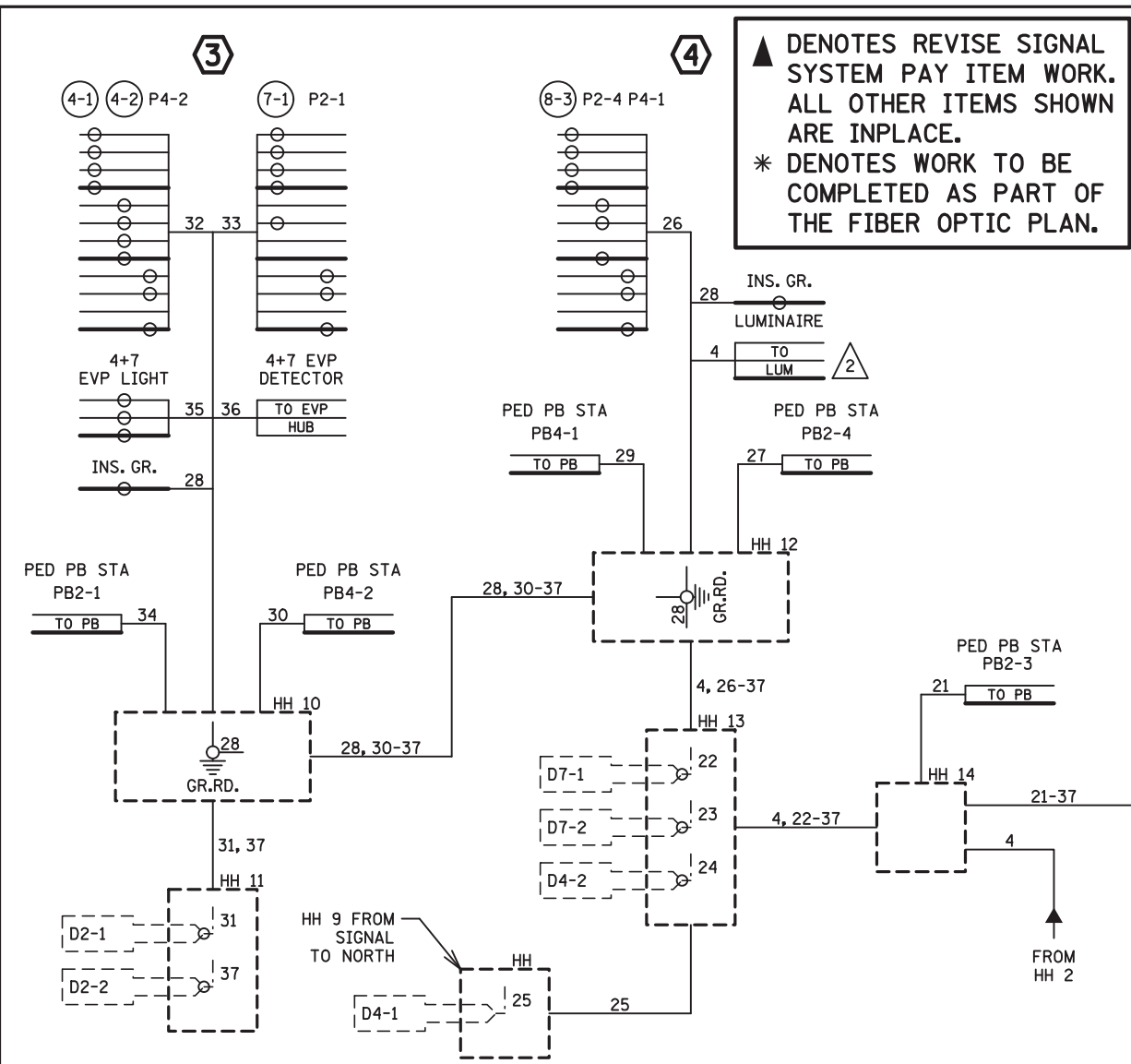
REVISE SIGNAL SYSTEM NOTES:

- ALL ITEMS ARE INPLACE UNLESS NOTED.
- INSTALL VIDEO CAMERA ON POLE NO.1. (SUPPLIED BY MNDOT)
- FURNISH AND INSTALL A CAMERA EXTENSION. CABLE SHALL BE ROUTED THROUGH THE SIGNAL SYSTEM TO THE SIGNAL CONTROL CABINET.
- THE CAMERA EXTENSION SHALL BE GROUNDED IN HH 1 WITH A 5/8" X 15' GROUND ROD. (SEE DETAIL)
- THE EXISTING SIGNAL CABINET CONCRETE FOUNDATION HAS A SPARE 3" CONDUIT. FIBER OPTIC CONDUIT (1.5 NMC) SHALL ENTER THE SIGNAL CABINET THROUGH THIS SPARE CONDUIT.
- * DENOTES WORK TO BE COMPLETED AS PART OF THE FIBER OPTIC PLAN.

| BY | DATE | REVISIONS | SYSTEM ID: 1736731 | INTERSECTION LAYOUT NOTES REVISE SIGNAL SYSTEM H TH 8 (LAKE BLVD) AT (N.LAKES TRAIL)/OAK ST IN LINDSTROM, CHISAGO COUNTY | S.A.P. NO. | DRAWN BY: BAM | CKD BY: GAK | DATE: 4-9-20 |
|----|------|-----------|------------------------------------|---|----------------------------------|-------------------------------|-------------|--------------|
| | | | METER ADDRESS: 30540 N. LAKE TRAIL | | CERTIFIED BY: <i>Gregory Ken</i> | | | DATE: 4/9/20 |
| | | | OLD SYSTEM ID: 39094 | | LICENSED PROFESSIONAL ENGINEER | LIC. NO. 26829 | | |
| | | | | | STATE PROJ. NO. 1301-126 (T.H.8) | SHEET NO. SS29 OF SS42 SHEETS | | |

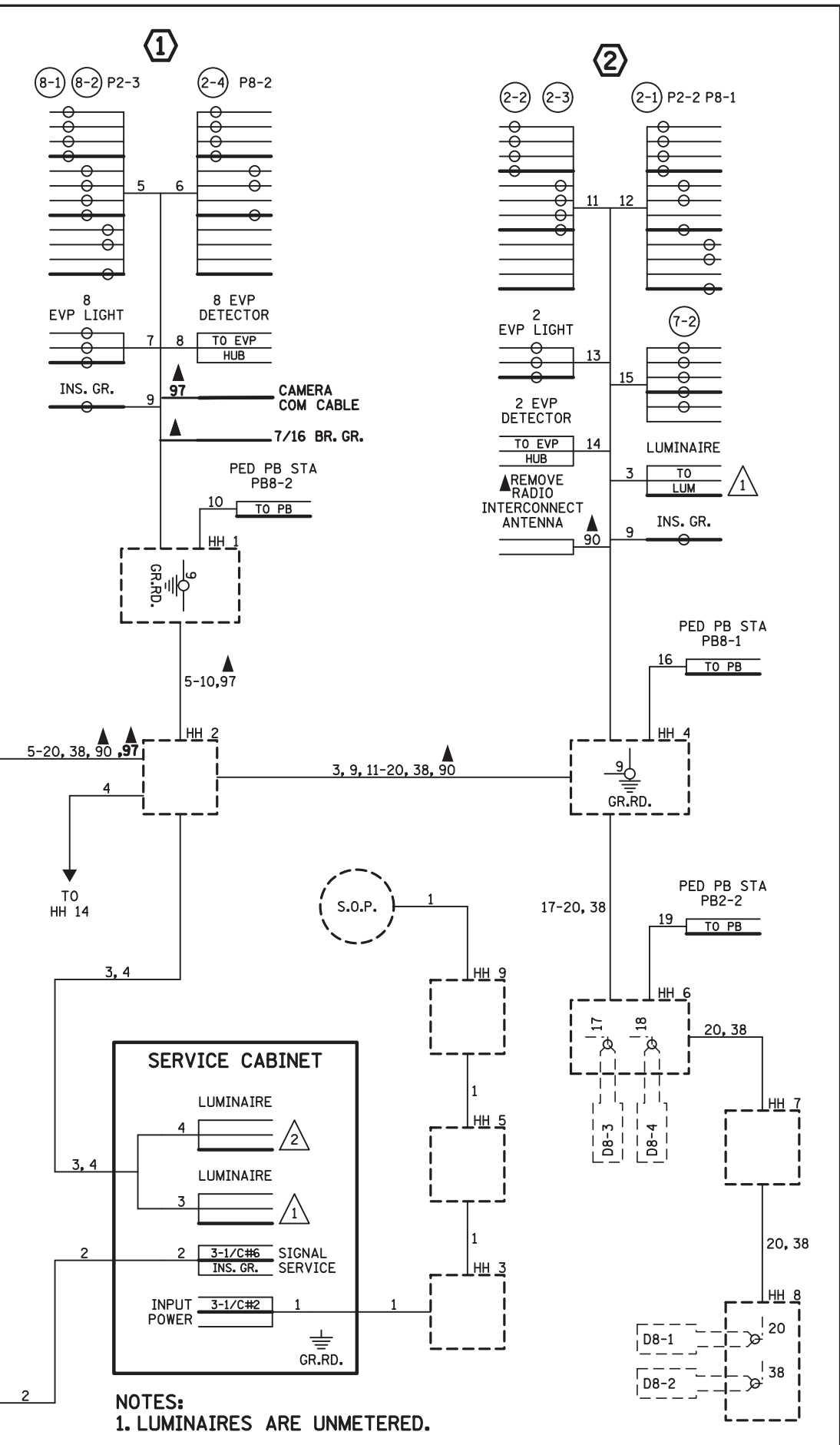
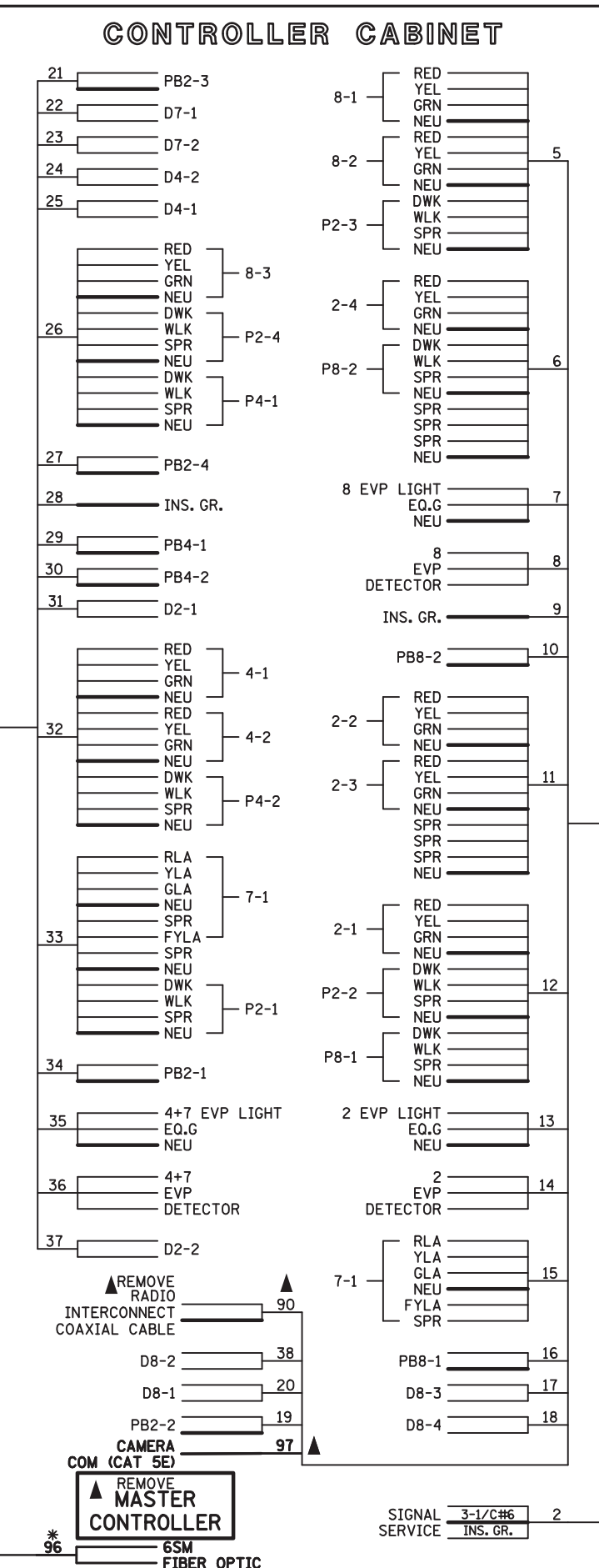
PLOTTED/REVISED: 13-APR-2020

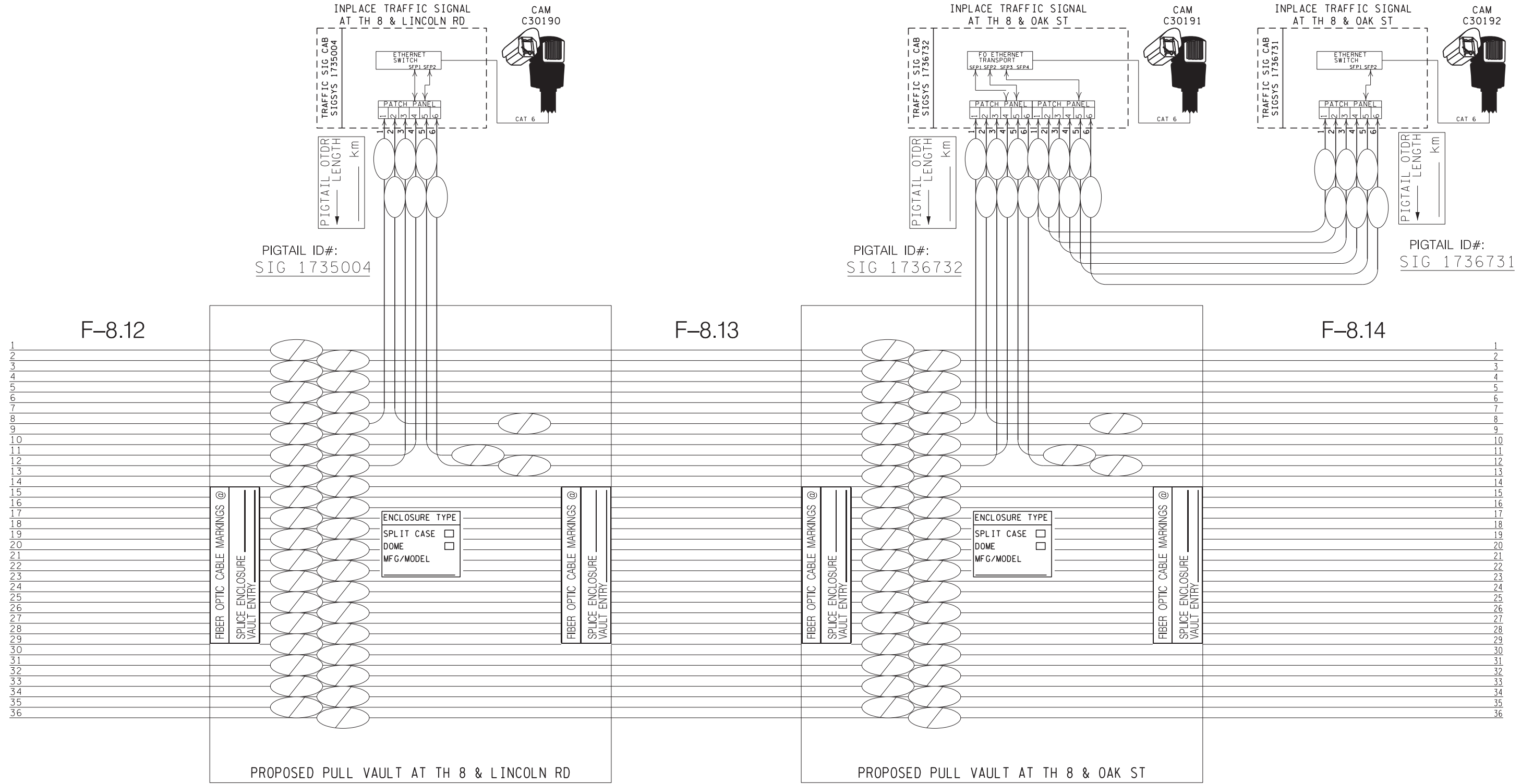
DISTRICT #: Metro
PLOT NAME: WIRE 39094
PATH & FILENAME: Projects\DM - ROS\008\0000\Traffic\Signal\39094 South Ramp CSAH20V39094_sgl.dgn



| TO SIGNAL CABINET | | TO DEVICE | |
|-------------------|----------------|---------------|-----------|
| 1/C#6 G | R | R | RED |
| 6PR#19 | O | O | YEL |
| COXIAL CABLE | 6/C#14 BL | BL | GRN |
| | WH | WH | NEU |
| | BLK/R | BLK/R | YLA/FYA |
| | BLK | BLK | GLA |
| | 4/C#14 R | | |
| | BLK/R | | |
| | BLK | | |
| | WH | | |
| 3-1/C#2 R | INPUT POWER | 4/C#14 R | RED/DWK |
| BLK | | BLK/R | YEL/WLK |
| WH | | BLK | GRN/SPR |
| 3-1/C#6 G | SIGNAL SERVICE | WH | NEU |
| | | | |
| R | | 3/C#14 BLK | EVP LIGHT |
| O | | G | LUM |
| BL | | WH | |
| WH | | | |
| R/BLK | | 2/C#14 BLK | |
| O/BLK | | WH OR CLR | |
| BL/BLK | | | |
| WH/BLK | | 3/C#20 R OR O | |
| BLK | | WH OR YEL | |
| BLK/WH | | BLK OR BL | |
| BLK/R | | | |
| WH/R | | | |

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





| | |
|----------|-----------|
| REV. NO. | DATE: / / |
| REV. NO. | DATE: / / |

CERTIFIED BY *Michael P. Manly* LIC. NO. 43957 APR 9 2020
 LICENSED PROFESSIONAL ENGINEER

PLOTTED/REVISED: 7/31/2015

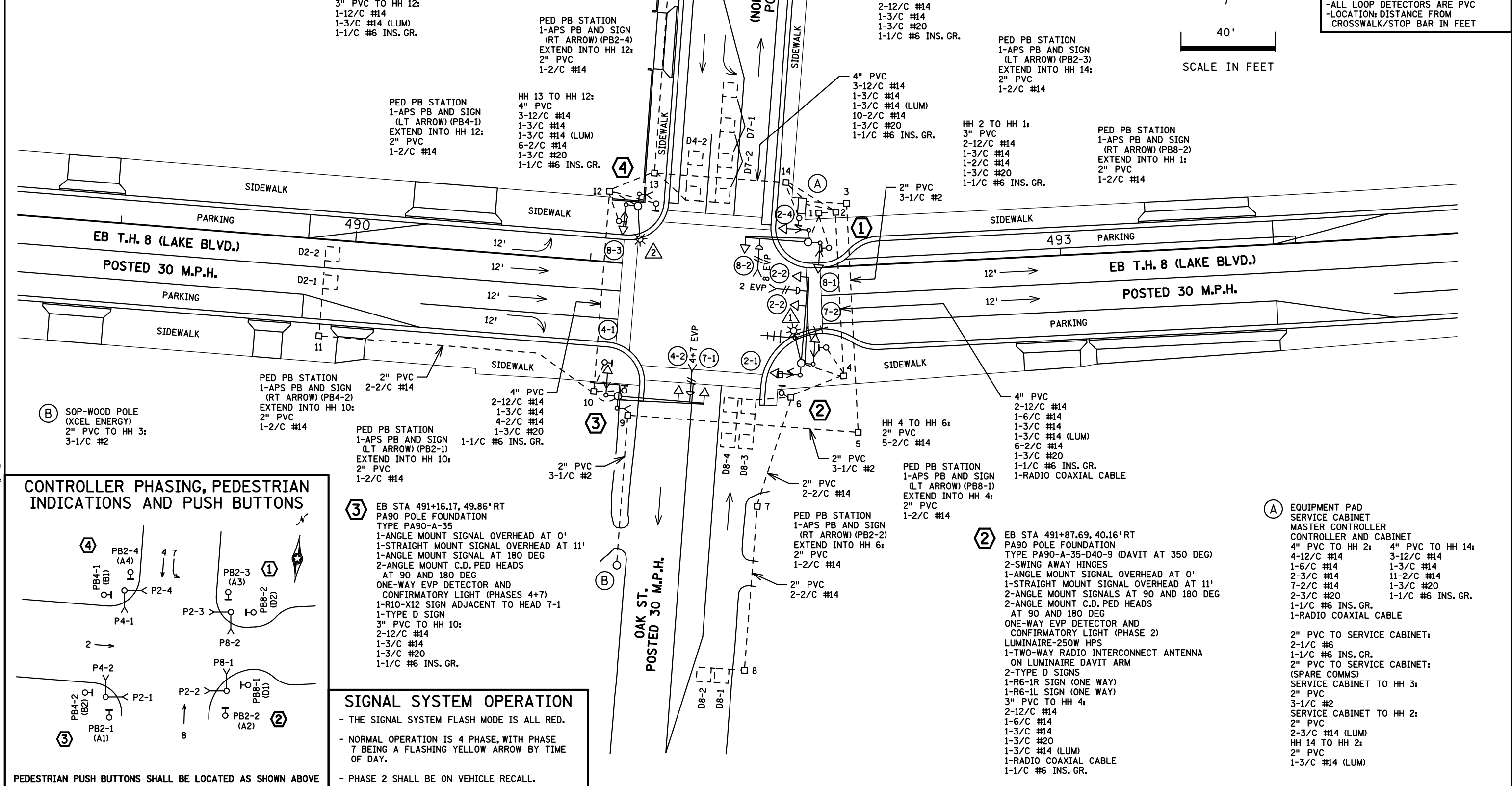
DISTRICT #: METRO
PLOT NAME: layout
PATH & FILENAME: IP_PWP-d1447220V739094LW_sgl.dgn

| SIGNAL HEAD CHART | | | | |
|--------------------|---|---|-----|---|
| FACE | R | Y | FYA | G |
| 2-1, 2-2, 2-3, 2-4 | ○ | ○ | | ○ |
| 4-1, 4-2 | ○ | ○ | | ○ |
| 7-1, 7-2 | ◀ | ◀ | ◀ | ◀ |
| 8-1, 8-2, 8-3 | ○ | ○ | | ○ |

-ALL SIGNAL INDICATIONS ARE 12" LED
-ALL SIGNAL HEADS ARE BLACK POLYCARBONITE WITH BACKGROUND SHIELDS

| LOOP DETECTOR CHART | | |
|---------------------|-----------|----------|
| NUMBER | SIZE (FT) | LOCATION |
| D2-1, D2-2 | 6x6 | 120 |
| D4-1 | 6x6 | 120 |
| D4-2 | 2-6x6 | 5 & 35 |
| D7-1 | 2-6x6 | 20 & 50 |
| D7-2 | 2-6x6 | 5 & 35 |
| D8-1, D8-2 | 6x6 | 120 |
| D8-3, D8-4 | 2-6x6 | 5 & 35 |

-ALL LOOP DETECTORS ARE PVC
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



| BY | DATE | REVISIONS |
|-----|----------|------------------------|
| GDS | 07-31-15 | AS BUILT OF SP 1301-98 |

| | |
|--|------|
| SYSTEM ID: 39094 | T.E. |
| METER ADDRESS: 30540 NORTH LAKES TRAIL | |
| MASTER ID: 39273 | T.E. |

INTERSECTION LAYOUT
TRAFFIC CONTROL SIGNAL SYSTEM
T.H. 8 (LAKE BLVD.) AT (N. LAKES TRAIL)/
OAK ST. IN LINDSTROM, CHISAGO COUNTY

| | | | |
|--------------------|----------------------------|---------|-------|
| S.A.P. NO. | DRAWN BY: | CKD BY: | DATE: |
| CERTIFIED BY _____ | LIC. NO. _____ DATE: _____ | | |
| STATE PROJ. NO. | (T.H.8) | | |

SHEET NO. 1 OF 2 SHEETS

