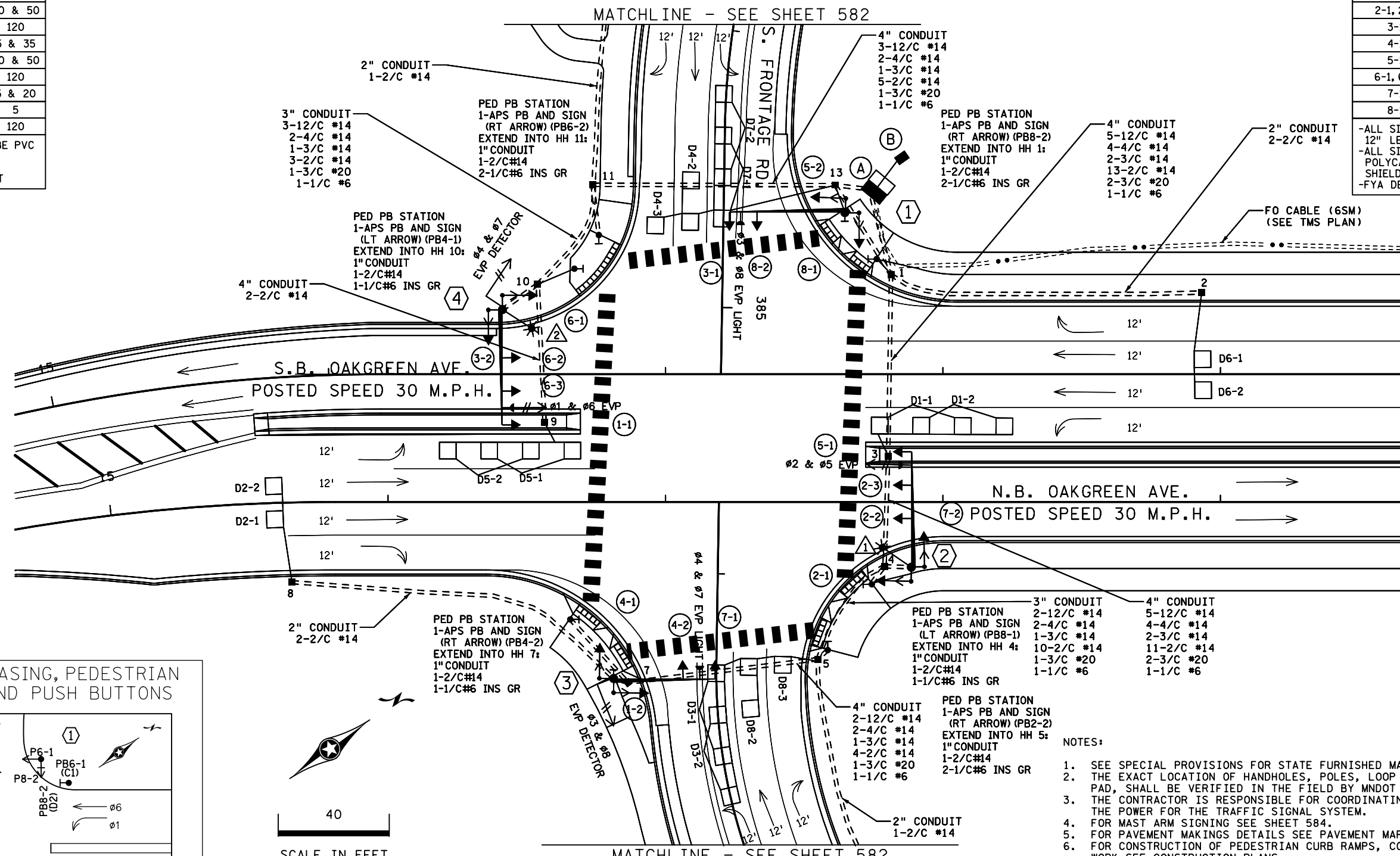


| LOOP DETECTOR CHART | | |
|---------------------|-----------|----------|
| NUMBER | SIZE (FT) | LOCATION |
| D1-1, D5-1 | 2-6x6 | 5 & 35 |
| D1-2, D5-2 | 2-6x6 | 20 & 50 |
| D2-1, D2-2 | 6x6 | 120 |
| D3-1, D7-1 | 2-6x6 | 5 & 35 |
| D3-2, D7-2 | 2-6x6 | 20 & 50 |
| D4-1, D8-1 | 6x6 | 120 |
| D4-2, D8-2 | 2-6x6 | 5 & 20 |
| D4-3, D8-3 | 6x6 | 5 |
| D6-1, D6-2 | 6x6 | 120 |

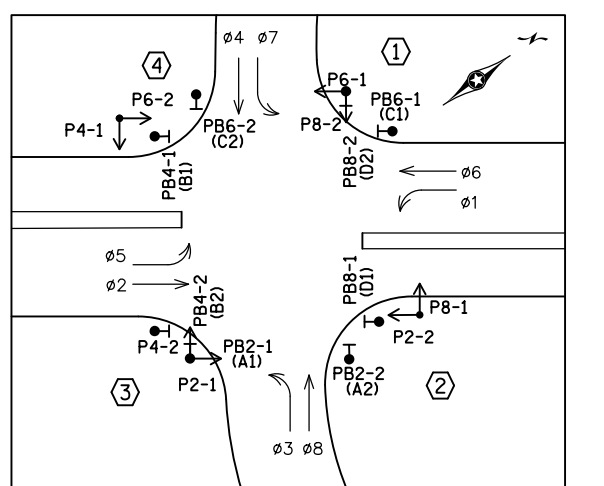
-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET

| SIGNAL FACE CHART | | | | |
|-------------------|---|---|-----|---|
| FACE | R | Y | FYA | G |
| 1-1, 1-2 | ← | ← | ← | ← |
| 2-1, 2-2, 2-3 | ● | ● | ● | ● |
| 3-1, 3-2 | ← | ← | ← | ← |
| 4-1, 4-2 | ● | ● | ● | ● |
| 5-1, 5-2 | ← | ← | ← | ← |
| 6-1, 6-2, 6-3 | ● | ● | ● | ● |
| 7-1, 7-2 | ← | ← | ← | ← |
| 8-1, 8-2 | ● | ● | ● | ● |

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



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5, AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

NOTES:

- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
- THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD, SHALL BE VERIFIED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
- FOR MAST ARM SIGNING SEE SHEET 584.
- FOR PAVEMENT MARKINGS DETAILS SEE PAVEMENT MARKING PLAN.
- FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE CONSTRUCTION PLANS.
- THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.
- ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C#6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
- THE SIGNALS SHALL BE INTERCONNECTED THROUGH 6SM FIBER OPTIC CABLE. SEE THE TMS PLANS FOR MORE DETAILS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL TYPE SSB BATTERY BACK-UP SIGNAL SERVICE CABINETS WITHOUT BATTERIES. (SEE SPECIAL PROVISIONS)

METER ADDRESS:
1736875
13539 60TH ST. N
SYSTEM ID: 39454
T.E.: 5655

RECORD DRAWING NOTE

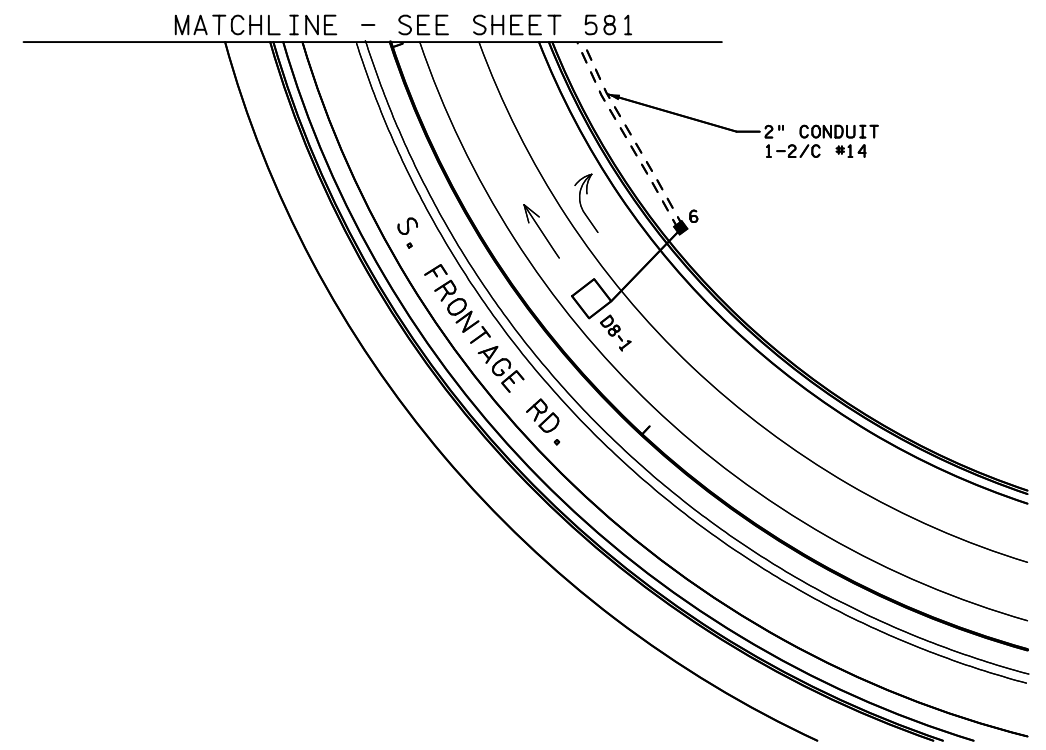
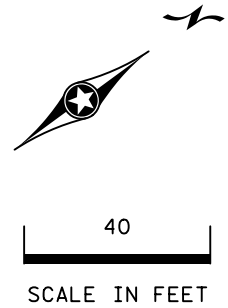
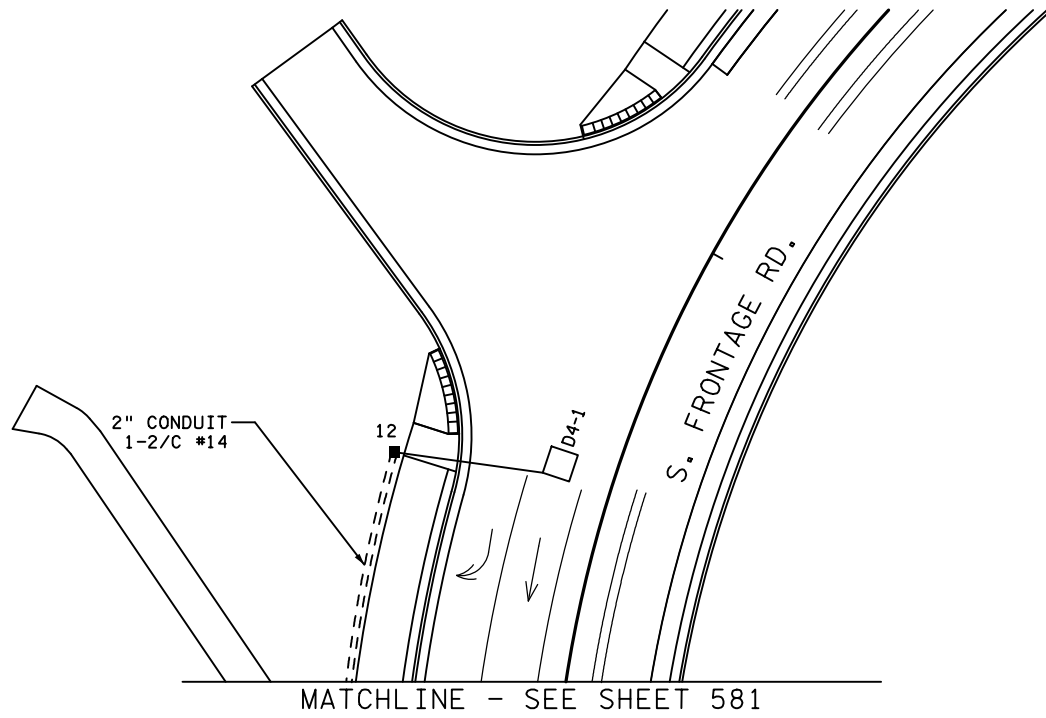
THESE RECORD DRAWINGS WERE DEVELOPED BASED ON THE PREVIOUS DRAWING REVISIONS AND INFORMATION TRANSMITTED FROM THE FIELD BY OTHERS. THE INFORMATION CONTAINED WITHIN THIS RECORD AS-BUILT PLAN REPRESENTS THE ACTUAL CONDITIONS FOR ALL CHANGES OF WHICH ALLIANT IS AWARE. FUTURE USERS OF THESE DRAWINGS SHOULD VERIFY AS-BUILT CONDITIONS IN THE FIELD IN ALL CIRCUMSTANCES.



ST. CROIX MN APPROACHES (S.P. 8214-114) SHEET 581
TRAFFIC CONTROL SIGNAL SYSTEM A OF
INTERSECTION LAYOUT
T.H. 36 AT OAKGREEN AVE AT SOUTH FRONTAGE RD
IN OAK PARK HEIGHTS, WASHINGTON COUNTY 628

| NO | DATE | BY | CKD | APPR | REVISION |
|----|----------|-----|-----|------|---|
| 0 | 02/07/14 | KAS | RJG | KAS | INITIAL RELEASE FOR CONSTRUCTION - DP T-3 |
| 1 | 06/04/14 | KAS | RJG | KAS | NDC 028 |
| 2 | 05/27/15 | KS | RJG | KAS | NDC 036 |
| 3 | 03/22/16 | NSM | TJJ | JWD | RECORD PLAN |
| 4 | 12/7/18 | JBA | | | BY MNDOT: ADDED TAMS SYSTEM ID*, TO OPERATIONS PLAN |

DRAWING NO.: SGL50



- ① X=502900.36
Y=205107.65
PA90 POLE FOUNDATION
TYPE PA90-A-40
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C. D. PED HEADS AT 90 DEG AND 180 DEG
1-ONE WAY EVP CONFIRMATORY LIGHT (PHASES 3+8)
1-APS PUSHBUTTON (LT ARROW) AT 270 DEG (PB6-1)
1-R10-X12 SIGN ADJACENT TO HEAD (3-1)
1-TYPE D SIGN (D-39) (SEE SIGN DETAILS)
3" CONDUIT TO HH 13:
2-12/C #14
2-4/C #14
1-3/C #14
1-2/C #14
1-3/C #20
1-1/C #6

- ③ X=502987.38
Y=204941.28
PA90 POLE FOUNDATION
TYPE PA90-A-35
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C. D. PED HEADS AT 90 DEG AND 180 DEG
1-ONE WAY EVP CONFIRMATORY LIGHT (PHASES 4+7)
1-ONE WAY EVP DETECTOR (PHASES 3+4)
1-APS PUSHBUTTON (LT ARROW) AT 270 DEG (PB2-1)
1-R10-X12 SIGN ADJACENT TO HEAD (7-1)
1-TYPE D SIGN (D-39) (SEE SIGN DETAILS)
3" CONDUIT TO HH 7:
2-12/C #14
2-4/C #14
1-3/C #14
1-2/C #14
1-3/C #20
1-1/C #6

- ② X=503017.72
Y=205051.77
PA90 POLE FOUNDATION
TYPE PA90-A-40-D40-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 12' AND 24'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C. D. PED HEADS AT 90 DEG AND 180 DEG
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2+5)
LUMINAIRE-LED
1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
1-TYPE D SIGN (D-38) (SEE SIGN DETAILS)
3" CONDUIT TO HH 4:
3-12/C #14
2-4/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6

- ④ X=502855.42
Y=204987.51
PA100 POLE FOUNDATION
TYPE PA90-A-40-D40-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 12' AND 24'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C. D. PED HEADS AT 90 AND 180 DEG
1-ONE WAY EVP CONFIRMATORY LIGHT (PHASES 1+6)
1-ONE WAY EVP DETECTOR (PHASES 4+7)
LUMINAIRE-LED
1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
1-TYPE D SIGN (D-38) (SEE SIGN DETAILS)
3" CONDUIT TO HH 10:
3-12/C #14
2-4/C #14
1-3/C #14
1-3/C #14 (LUM)
1-3/C #20
1-1/C #6

- Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
SERVICE CABINET (SSB)
CONTROLLER AND CABINET (STATE FURNISHED)
4" CONDUIT TO HH 1:
5-12/C #14
4-4/C #14
2-3/C #14
16-2/C #14
2-3/C #20
1-1/C#6 INS. GR.

4" CONDUIT TO HH 13:
5-12/C #14
4-4/C #14
2-3/C #14
10-2/C #14
2-3/C #20
1-1/C#6 INS. GR.

- Ⓑ SOP-GROUND MOUNTED TRANSFORMER (XCEL ENERGY)
2" CONDUIT INTO SERVICE CABINET:
3-1/C #2

- 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
1-1/2" CONDUIT TO TMS VAULT (SEE TMS PLANS)
1-FO PIGTAIL (6SM) WITH PRE-TERMINATED CABLE END (SEE TMS PLANS)
CONTROLLER CABINET TO SERVICE CABINET:
2" CONDUIT
2-1/C#6
1-1/C#6 INS. GR.
CONTROLLER CABINET TO SERVICE CABINET (COMMS):
2" CONDUIT
1-6PR#19
SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:
2" CONDUIT
3-1/C#2
SERVICE CABINET TO HH 13:
2" CONDUIT
2-3/C#14 (LUM)
HH 13 TO HH 1:
2" CONDUIT
1-3/C#14 (LUM)

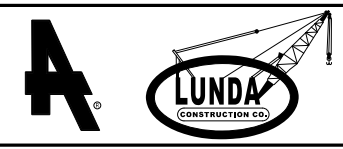
1736875

METER ADDRESS:
13539 60TH ST. N
SYSTEM ID: 39454
T.E.: 5655

| NO | DATE | BY | CHK | APPR | REVISION |
|----|----------|-----|-----|------|---|
| 0 | 02/07/14 | KAS | RJG | KAS | INITIAL RELEASE FOR CONSTRUCTION - DP T-3 |
| 1 | 06/04/14 | KAS | RJG | KAS | NDC 028 |
| 2 | 03/22/16 | NSM | TJJ | JWD | RECORD PLAN |
| 3 | 12/7/18 | JBA | | | BY MNDOT: ADDED TAMS SYSTEM ID*, TO OPERATIONS PLAN |
| NO | DATE | BY | CHK | APPR | REVISION |

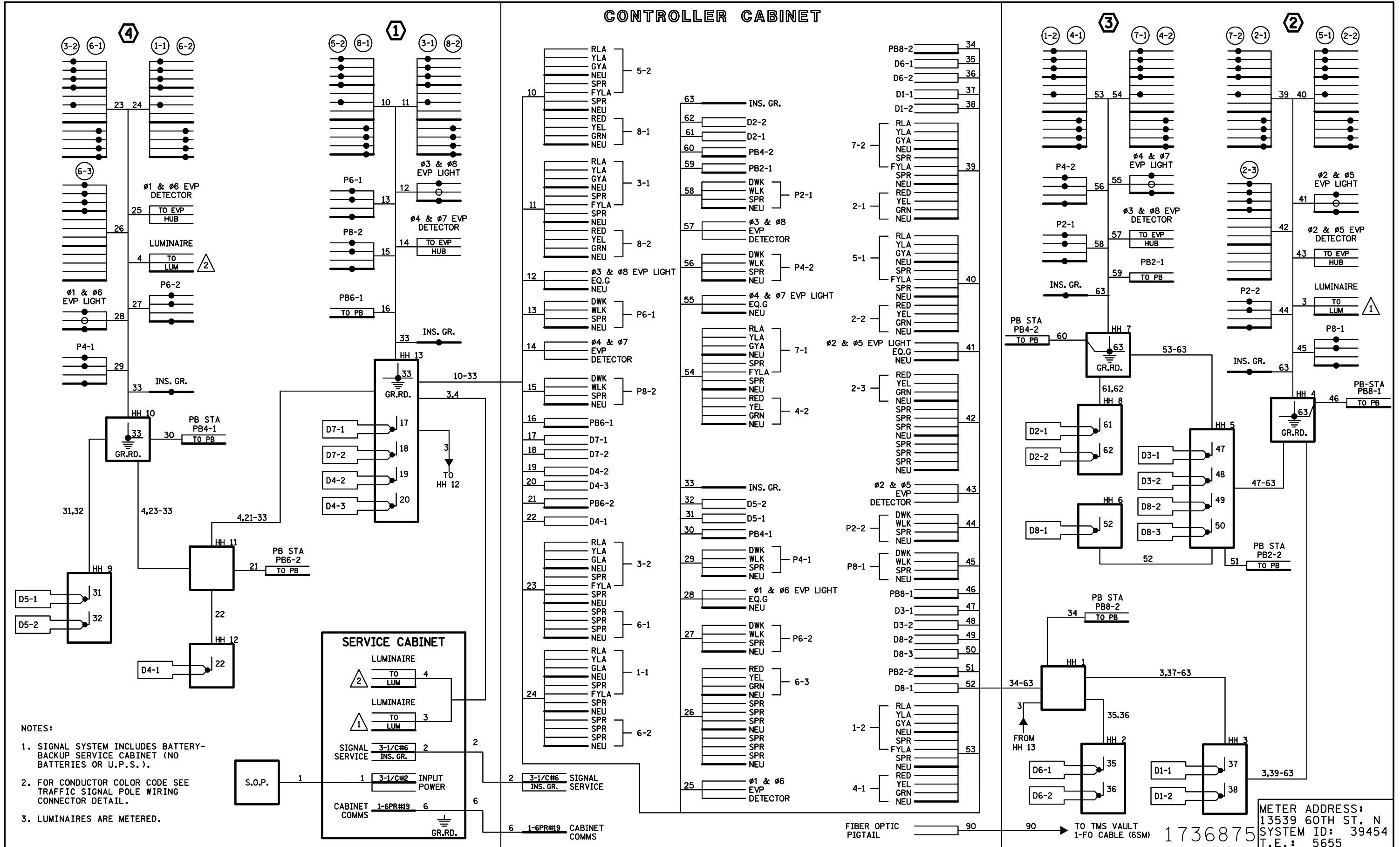
DRAWING NO.: SGL51

RECORD DRAWING NOTE
THESE RECORD DRAWINGS WERE DEVELOPED BASED ON THE PREVIOUS DRAWING REVISIONS AND INFORMATION TRANSMITTED FROM THE FIELD BY OTHERS. THE INFORMATION CONTAINED WITHIN THIS RECORD AS-BUILT PLAN REPRESENTS THE ACTUAL CONDITIONS FOR ALL CHANGES OF WHICH ALLIANT IS AWARE. FUTURE USERS OF THESE DRAWINGS SHOULD VERIFY AS-BUILT CONDITIONS IN THE FIELD IN ALL CIRCUMSTANCES.

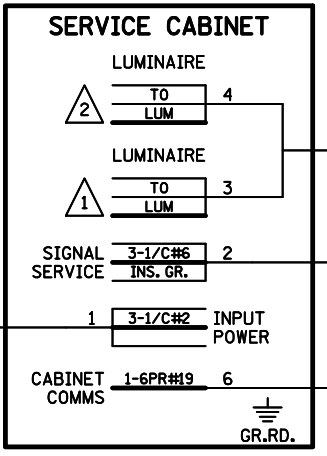


ST. CROIX MN APPROACHES (S.P. 8214-114) SHEET 582
TRAFFIC CONTROL SIGNAL SYSTEM A MATCHLINE LAYOUT AND POLE NOTES OF 628
T.H. 36 AT OAKGREEN AVE AT SOUTH FRONTAGE RD IN OAK PARK HEIGHTS, WASHINGTON COUNTY

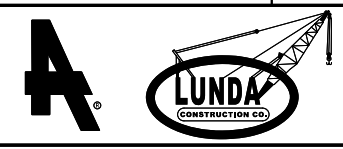
CONTROLLER CABINET



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



RECORD DRAWING NOTE
 THESE RECORD DRAWINGS WERE DEVELOPED BASED ON THE PREVIOUS DRAWING REVISIONS AND INFORMATION TRANSMITTED FROM THE FIELD BY OTHERS. THE INFORMATION CONTAINED WITHIN THIS RECORD AS-BUILT PLAN REPRESENTS THE ACTUAL CONDITIONS FOR ALL CHANGES OF WHICH ALLIANT IS AWARE. FUTURE USERS OF THESE DRAWINGS SHOULD VERIFY AS-BUILT CONDITIONS IN THE FIELD IN ALL CIRCUMSTANCES.



ST. CROIX MN APPROACHES (S.P. 8214-114) SHEET 583
 TRAFFIC CONTROL SIGNAL SYSTEM A OF
 T.H. 36 AT OAKGREEN AVE AT SOUTH FRONTAGE RD 628
 IN OAK PARK HEIGHTS, WASHINGTON COUNTY

| NO | DATE | BY | CHKD | APPR | REVISION |
|----|----------|-----|------|------|---|
| 0 | 02/07/14 | KAS | RJG | KAS | INITIAL RELEASE FOR CONSTRUCTION - DP T-3 |
| 1 | 06/04/14 | KAS | RJG | KAS | NDC 028 |
| 2 | 05/27/15 | KS | RJG | KAS | NDC 036 |
| 3 | 03/22/16 | NSM | TJJ | JWD | RECORD PLAN |
| 4 | 12/7/18 | JBA | | | BY MNDOT: ADDED TAMS SYSTEM ID*, TO OPERATIONS PLAN |

DRAWING NO.: SGL52

METER ADDRESS:
 13539 60TH ST. N
 SYSTEM ID: 39454
 T.E.: 5655