

PLOTTED/REVISED: 13-DEC-2018

PLOT NAME: system H layout
PATH & FILENAME: Projects\DM_R05\06\00007\Traffic\Signals\21000 TH55721000_sgl.dgn

SIGNAL HEAD CHART					
HEAD	R	Y	FYA	G	G
1-1, 1-2	←	←	←	←	
2-1, 2-2, 2-3	○	○	○	○	
3-1, 3-2	○	○	○	○	←
3-3	○	○	○	○	←
3-4	○	○	○	○	←
4-1, 4-2	○	○	○	○	
4-3, 4-5	○	○	○	○	←
4-4	○	○	○	○	←
5-1, 5-2	←	←	←	←	
6-1, 6-2, 6-3	○	○	○	○	
EL2-1, EL6-1	EL	○			

-ALL SIGNAL INDICATIONS ARE 12" LED
 -ALL SIGNAL HEADS ARE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
 -FYA DENOTES FLASHING YELLOW ARROW
 -EL DENOTES BLUE ENFORCEMENT LIGHT

HH 1 TO HH 2:
 4" PVC
 2-12/C #14
 2-4/C #14
 1-3/C #14
 13-2/C #14
 1-3/C #20
 1-6PR #19 *REMOVE
 1-1/C #6 INS. GR.
 *F&I 3-FO PIGTAIL (6SM)

PED PB STATION
 1-APS PB AND SIGN (RT ARROW) (PB6-2)
 EXTEND INTO HH 2:
 2" PVC
 1-2/C #14

4" PVC
 2-12/C #14
 2-4/C #14
 1-3/C #14
 5-2/C #14
 1-3/C #20

PED PB STATION
 1-APS PB AND SIGN (LT ARROW) (PB4-1)
 EXTEND INTO HH 2:
 2" PVC
 1-2/C #14

*F&I HH 2 TO HH 20:
 2" PVC
 F&I 2-FO CABLE (6SM)

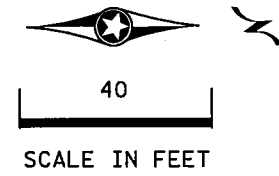
4" PVC
 2-12/C #14
 1-6/C #14
 2-4/C #14
 1-3/C #14
 1-3/C #14 (LUM)
 5-2/C #14
 1-3/C #20
 1-1/C #6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN (LT ARROW) (PB6-1)
 EXTEND INTO HH 8:
 2" PVC
 1-2/C #14

3" RSC
 3-1/C #2
 2-2/C #14

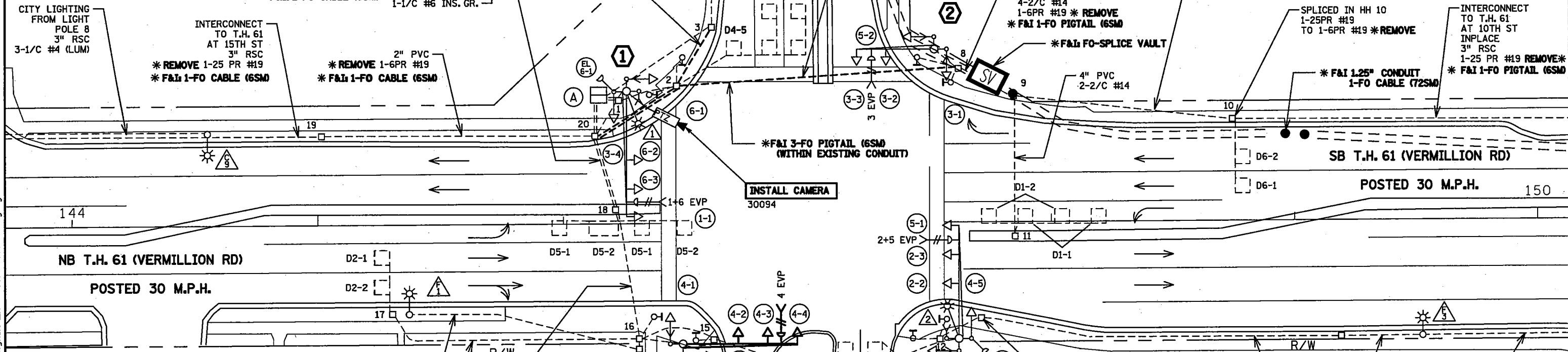
MATCH LINE A

*F&I 1.25" CONDUIT
 1-FO CABLE (72SM)

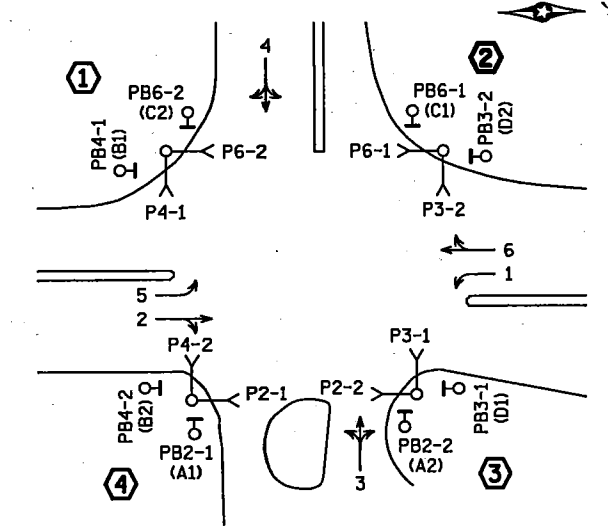


LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	30 & 60
D1-2	2-6x6	15 & 45
D2-1, D2-2	6x6	111
D3-1, D3-2	2-6x6	5 & 20
D4-1, D4-2	6x6	97
D4-3	2-6x6	5 & 20
D4-4	2-6x6	5 & 20
D4-5	6x6	5
D5-1	2-6x6	5 & 40
D5-2	6x6	-12
D5-2	6x12	18
D6-1, D6-2	6x6	120

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



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

CITY LIGHTING
 3" RSC
 3-1/C #4 (LUM)

2" PVC
 2-2/C #14

CITY LIGHTING
 SPLICED IN HH
 AND EXTENDED
 INTO HH 16
 3" RSC
 3-1/C #4 (LUM)

CITY LIGHTING
 SPLICED IN HH
 AND EXTENDED
 INTO HH 12
 3" RSC
 3-1/C #4 (LUM)

CITY LIGHTING
 SPLICED IN HH
 AND EXTENDED
 INTO HH 12
 3" RSC
 3-1/C #4 (LUM)

CITY LIGHTING
 FROM LIGHT
 POLE 4
 3" RSC
 3-1/C #4 (LUM)

CITY LIGHTING
 FROM LIGHT
 POLE 4
 3" RSC
 3-1/C #4 (LUM)

HH 15 TO HH 16:
 4" PVC
 3-1/C #4 (LUM)
 2-12/C #14
 1-6/C #14
 4-4/C #14
 2-3/C #14
 1-3/C #14 (LUM)
 8-2/C #14
 2-3/C #20
 1-1/C #6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN (RT ARROW) (PB4-2)
 EXTEND INTO HH 16:
 2" PVC
 1-2/C #14

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.
- LEFT TURN GEOMETRY FOR PHASES 3 AND 4 CONFLICT. PHASES 3 AND 4 CANNOT OPERATE CONCURRENTLY. PHASES 3 AND 4 OPERATE AS SPLIT PHASE SEQUENTIAL.

PED PB STATION
 1-APS PB AND SIGN (LT ARROW) (PB2-1)
 EXTEND INTO HH 15:
 2" PVC
 1-2/C #14

HH 14 TO HH 15:
 4" PVC
 3-1/C #4 (LUM)
 2-12/C #14
 1-6/C #14
 2-4/C #14
 1-3/C #14
 1-3/C #14 (LUM)
 4-2/C #14
 1-3/C #20
 1-1/C #6 INS. GR.

HH 13 TO HH 14:
 4" PVC
 3-1/C #4 (LUM)
 2-12/C #14
 1-6/C #14
 2-4/C #14
 1-3/C #14
 1-3/C #14 (LUM)
 3-2/C #14
 1-3/C #20
 1-1/C #6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN (RT ARROW) (PB2-2)
 EXTEND INTO HH 12:
 2" PVC
 1-2/C #14

REVISE SIGNAL SYSTEM

A VIDEO CAMERA SHALL BE PLACED ON POLE NUMBER 1. THE EXISTING LUMINAIRE EXTENSION SHALL BE REMOVED AND REPLACED WITH A COMBINATION LUMINAIRE/CAMERA EXTENSION AND CABLE SHALL BE ROUTED THROUGH THE SIGNAL SYSTEM TO THE SIGNAL CONTROLLER CABINET. SEE THE TMS PLAN SHEETS FOR FIBER OPTIC CONNECTION WORK.

REVISE SIGNAL SYSTEM NOTES:

1. INSTALL VIDEO CAMERA ON POLE NO.1 (SUPPLIED BY MNDOT)
2. ALL ITEMS ARE INPLACE UNLESS OTHERWISE NOTED.
3. THE CAMERA EXTENSION SHALL BE GROUNDED IN HH 1 WITH A 5/8" X 15" GROUND ROD (SEE DETAIL).
4. (2) FO PIGTAILS (6SM) SHALL BE ROUTED TO THE SIGNAL CABINET THROUGH EXISTING CONDUITS AND HANDHOLES. ONE PIGTAIL EXTENDS TO THE SPLICE VAULT AND THE OTHER TO THE 10TH STREET SIGNAL.
5. * DENOTES WORK TO BE COMPLETED AS PART OF THE TMS PLAN.

BY	DATE	REVISIONS

SYSTEM ID: 1735474 T.E.
 METER ADDRESS: 1050 VERMILLION ST N
 OLD SYSTEM ID: 21000

INTERSECTION LAYOUT
 REVISE SIGNAL SYSTEM H
 T.H. 61 AT T.H. 55/WALGREENS ENTRANCE
 IN HASTINGS, DAKOTA COUNTY

S.A.P. NO. _____
 CERTIFIED BY: *Michael P. Selinsky*
 LICENSED PROFESSIONAL ENGINEER
 STATE PROJ. NO. 1910-50 (T.H.55) SHEET NO. SS27 OF SS35 SHEETS
 DRAWN BY: SJK CKD BY: CDB DATE: 12/12/18
 LIC. NO. 19863 DATE: 12/12/18

PLOTTED/REVISED: 13-DEC-2018

IPLOT NAME: system H pole notes
PATH & FILENAME: Projects\DM_R05\06\0000\TrafficSignals\21000 TH55\T21000_sgl.dgn

INTERSECTION NOTES

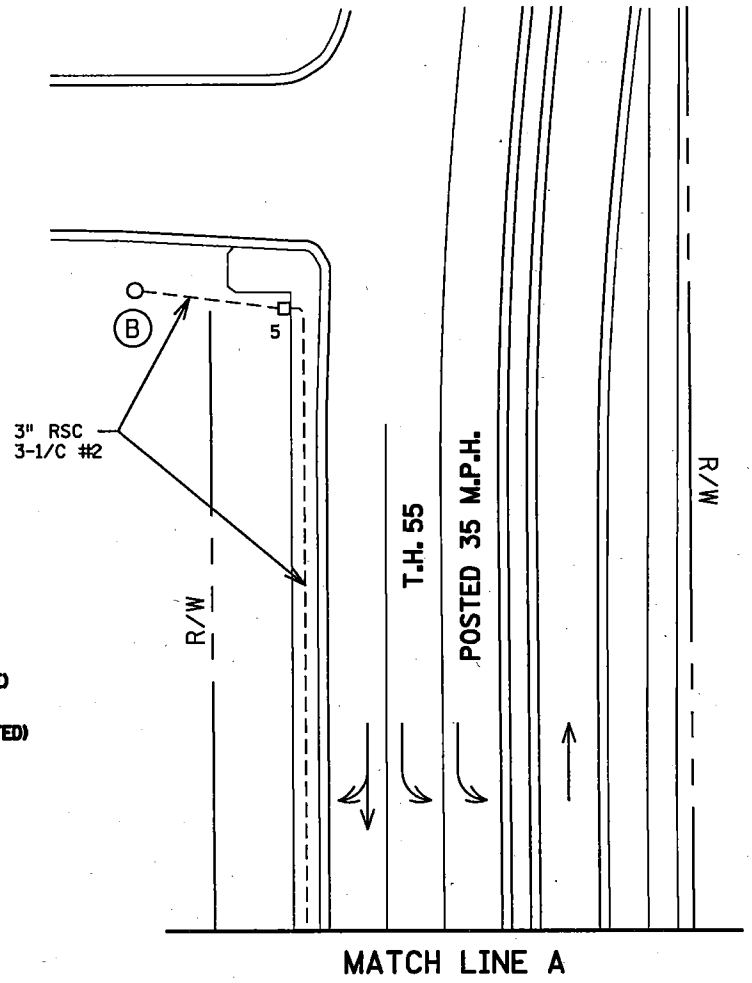
- ① PA100 POLE FOUNDATION
TYPE PA100-A-50-D40-9
- REMOVE — D40-9 (DAVIT AT 350 DEG)
- F&I — 1-X6-350/CAM EXTENSION (MOUNTED AT 350 DEG)
INCLUDES LIGHTING ROD
7/16" GROUND BRAID
- INSTALL — 1-VIDEO CAMERA WITH MOUNT
- 1-PAIR SWING AWAY HINGES
- 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
- 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 23'
- 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
- 2-ANGLE MOUNT C. D. PED HEADS AT 180 AND 270 DEG
- ENFORCEMENT LIGHT (EL6-1) AT 90 DEG.
- 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)
- S&I — LUMINAIRE-250W HPS
- 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
- 1-TYPE D SIGN
- 3" PVC TO HH 1:
- 2-12/C #14
- 1-6/C #14
- 2-4/C #14
- 1-3/C #14
- 1-3/C #14 (LUM)
- 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)

- ② PA90 POLE FOUNDATION
TYPE PA90-A-30
- 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
- 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 3)
- 1-TYPE D SIGN
- 3" PVC TO HH 8:
- 2-12/C #14
- 2-4/C #14
- 1-3/C #14
- 1-3/C #20
- 1-1/C #6 INS. GR.

- ③ PA100 POLE FOUNDATION
TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
- 1-PAIR SWING AWAY HINGES
- 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
- 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 23'
- 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
- 2-ANGLE MOUNT C. D. PED HEADS AT 180 AND 270 DEG
- ENFORCEMENT LIGHT (EL2-1) AT 90 DEG
- 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2+5)
- LUMINAIRE-250W HPS
- 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
- 1-TYPE D SIGN
- 3" PVC TO HH 12:
- 2-12/C #14
- 1-6/C #14
- 2-4/C #14
- 1-3/C #14
- 1-3/C #14 (LUM)
- 1-3/C #20
- 1-1/C #6 INS. GR.

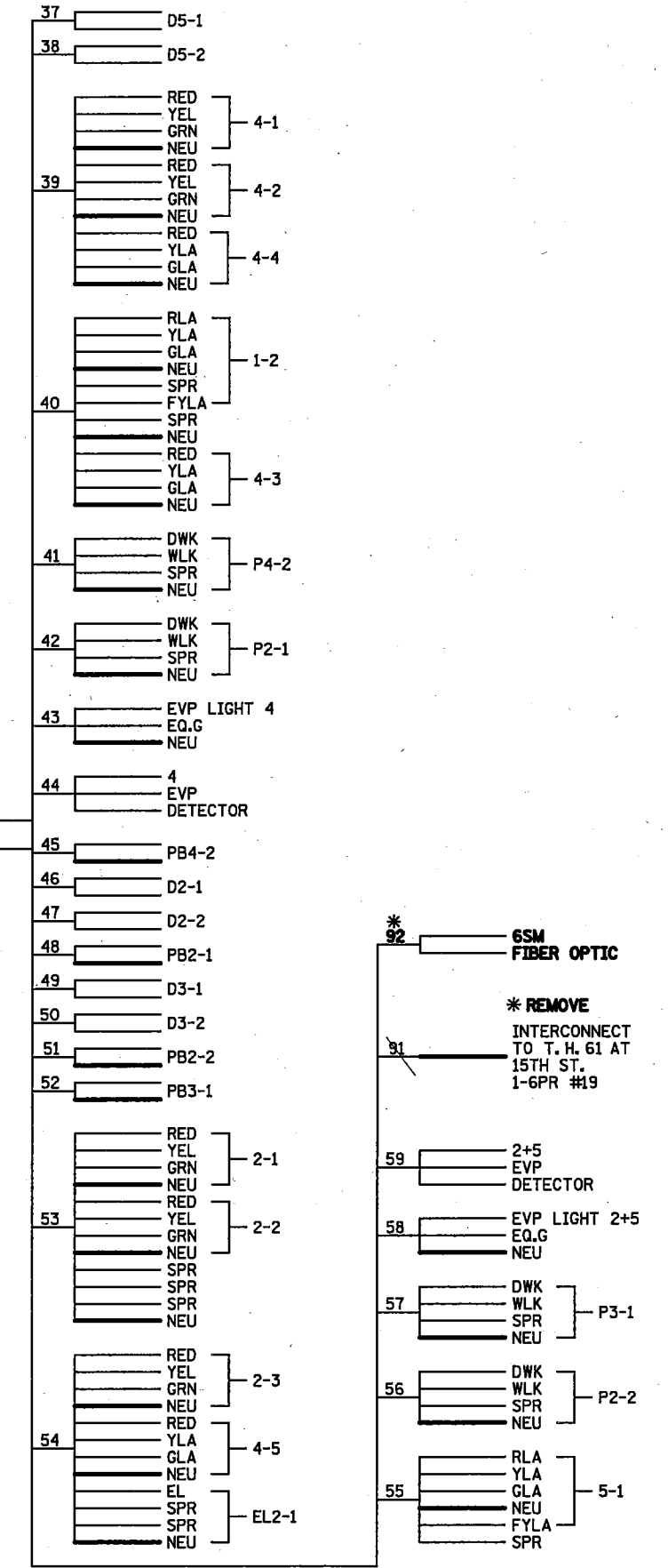
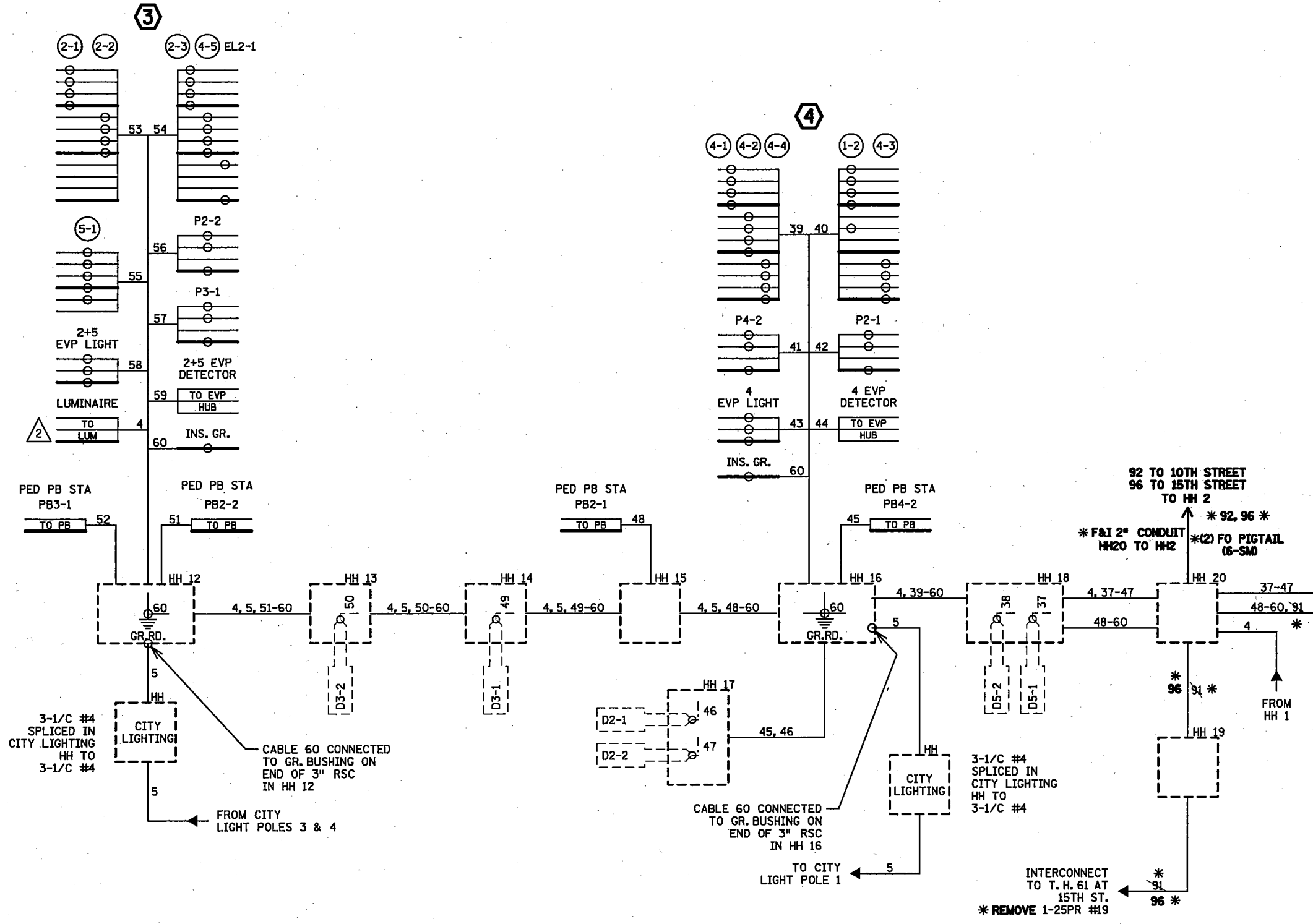
- ④ PA100 POLE FOUNDATION
PA100-A-45
- 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
- 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
- 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 23'
- 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
- 1-TYPE D SIGN
- 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
- 2-ANGLE MOUNT C. D. PED HEADS AT 90 AND 180 DEG
- 3" PVC TO HH 16:
- 2-12/C #14
- 2-4/C #14
- 1-3/C #14
- 1-3/C #14
- 1-3/C #20
- 1-1/C #6 INS. GR.

- ⑤ EQUIPMENT PAD
SERVICE CABINET (SSB)
CONTROLLER AND CABINET
- 4" PVC TO HH 20:
- 2-12/C #14
- 1-6/C #14
- 2-4/C #14
- 1-3/C #14
- 5-2/C #14
- 1-3/C #20
- 4" PVC TO HH 1:
- 2-12/C #14
- 1-6/C #14
- 2-4/C #14
- 1-3/C #14
- 13-2/C #14
- 1-3/C #20
- 1-6PR #19
- 1-1/C #6 INS. GR.
- *REMOVE — 1-6PR #19
- 1-1/C #6 INS. GR.
- *F&I — 1-FO PIGTAIL (6SM - FIELD TERMINATED) (TO 10TH STREET SIGNAL)
- *F&I — 1-FO PIGTAIL (6SM - FIELD TERMINATED) (TO SPLICE VAULT)
- 1-2" AND 1-3" PVC STUBBED OUT (CAPPED BOTH ENDS)
- 3/4" PVC STUBBED OUT (FOR TELEPHONE LINE)
- 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 (SPARE)
- SERVICE CABINET TO SOP VIA HH 3, 4, 5:
- 2" PVC
- 3-1/C #2
- SERVICE CABINET TO HH 1:
- 2" PVC
- 2-3/C #14 (LUM)
- HH 1 TO HH 20:
- 2" PVC
- 1-3/C #14 (LUM)
- ⑥ SOP-WOOD POLE (XCEL ENERGY)
- 2" PVC RISER AND WEATHERHEAD
- 3" RSC INTO HH 5:
- 3-1/C #2



BY	DATE	REVISIONS	SYSTEM ID: 1735474	T.E.	S.A.P. NO.	DRAWN BY: SJK	CKD BY: CDB	DATE: 12/12/18
			METER ADDRESS: 1050 VERMILLION ST N		CERTIFIED BY: <i>Michael P. Libinsky</i>			LIC. NO. 19863
			OLD SYSTEM ID: 21000					DATE: 12/12/18
POLE NOTES REVISE SIGNAL SYSTEM H T.H. 61 AT T.H. 55/WALGREENS ENTRANCE IN HASTINGS, DAKOTA COUNTY					STATE PROJ. NO. 1910-50 (T.H.55) SHEET NO. SS28 OF SS35 SHEETS			

CONTROLLER CABINET



- NOTES:**
- LUMINAIRES ARE METERED.
 - SIGNAL SYSTEM INCLUDES BATTERY- BACKUP SERVICE CABINET (NO BATTERIES OR INVERTER).
 - CITY LIGHTING CABLE - 5.
 - EL DENOTES BLUE ENFORCEMENT LIGHT.

NOTES:

ALL ITEMS ARE INPLACE UNLESS OTHERWISE NOTED.

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

* DENOTES WORK TO BE COMPLETED AS PART OF THE FIBER OPTIC PLAN.

BY	DATE	REVISIONS	SYSTEM ID: 1735474	T.E.	S.A.P. NO.	DRAWN BY: SJK	CKD BY: CDB	DATE: 12/12/18
			METER ADDRESS: 1050 VERMILLION ST N		CERTIFIED BY: <i>Michael P. Lubinsky</i>	LIC. NO. 19863		DATE: 12/12/18
			OLD SYSTEM ID: 21000		STATE PROJ.NO. 1910-50 (T.H.55) SHEET NO. SS30 OF SS35 SHEETS			

WIRING DIAGRAM 2 OF 2
 REVISE SIGNAL SYSTEM H
 T.H. 61 AT T.H. 55/WALGREENS ENTRANCE
 IN HASTINGS, DAKOTA COUNTY

SIGNAL HEAD CHART

HEAD	R	Y	FYA	G	G
1-1, 1-2	←	←	←	←	
2-1, 2-2, 2-3	○	○		○	
3-1, 3-2	○	○		○	
3-3	○	○		○	←
3-4	○	○		○	←
4-1, 4-2	○	○		○	
4-3, 4-5	○	○		○	
4-4	○	○		○	←
5-1, 5-2	←	←	←	←	
6-1, 6-2, 6-3	○	○		○	
EL2-1, EL6-1	EL	○			

-ALL SIGNAL INDICATIONS ARE 12" LED
 -ALL SIGNAL HEADS ARE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
 -FYA DENOTES FLASHING YELLOW ARROW
 -EL DENOTES BLUE ENFORCEMENT LIGHT

HH 1 TO HH 2:
 4" PVC
 2-12/C #14
 2-4/C #14
 1-3/C #14
 13-2/C #14
 1-3/C #20
 1-6PR #19
 1-1/C #6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN
 (RT ARROW) (PB6-2)
 EXTEND INTO HH 2:
 2" PVC
 1-2/C #14

PED PB STATION
 1-APS PB AND SIGN
 (LT ARROW) (PB4-1)
 EXTEND INTO HH 2:
 2" PVC
 1-2/C #14

4" PVC
 2-12/C #14
 2-4/C #14
 1-3/C #14
 5-2/C #14
 1-3/C #20

4" PVC
 2-12/C #14
 1-6/C #14
 2-4/C #14
 1-3/C #14
 1-3/C #14 (LUM)
 5-2/C #14
 1-3/C #20
 1-1/C #6 INS. GR.

2" PVC
 1-6PR #19

3" RSC
 3-1/C #2
 2-2/C #14

2" PVC
 2-2/C #14

HH 8 TO HH 2:
 4" PVC
 2-12/C #14
 2-4/C #14
 1-3/C #14
 6-2/C #14
 1-3/C #20
 1-6PR #19
 1-1/C #6 INS. GR.
 (SEE NOTE 12)

PED PB STATION
 1-APS PB AND SIGN
 (LT ARROW) (PB6-1)
 EXTEND INTO HH 8:
 2" PVC
 1-2/C #14

PED PB STATION
 1-APS PB AND SIGN
 (RT ARROW) (PB3-2)
 EXTEND INTO HH 8:
 2" PVC
 1-2/C #14

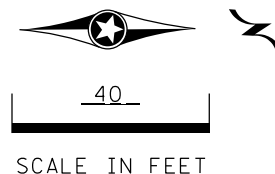
SPliced IN HH 10
 1-25PR #19
 TO 1-6PR #19

INTERCONNECT
 TO T.H. 61
 AT 10TH ST
 INPLACE
 3" RSC
 1-25 PR #19

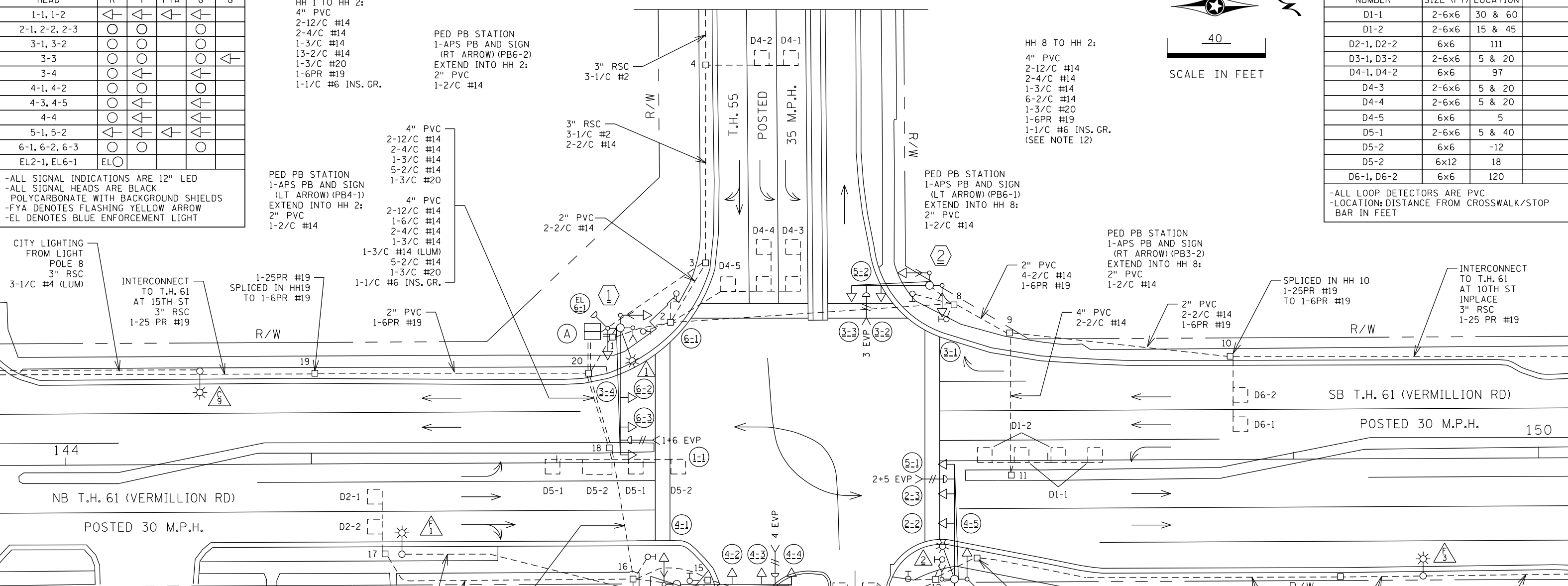
LOOP DETECTOR CHART

NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	30 & 60
D1-2	2-6x6	15 & 45
D2-1, D2-2	6x6	111
D3-1, D3-2	2-6x6	5 & 20
D4-1, D4-2	6x6	97
D4-3	2-6x6	5 & 20
D4-4	2-6x6	5 & 20
D4-5	6x6	5
D5-1	2-6x6	5 & 40
D5-2	6x6	-12
D5-3	6x6	18
D6-1, D6-2	6x6	120

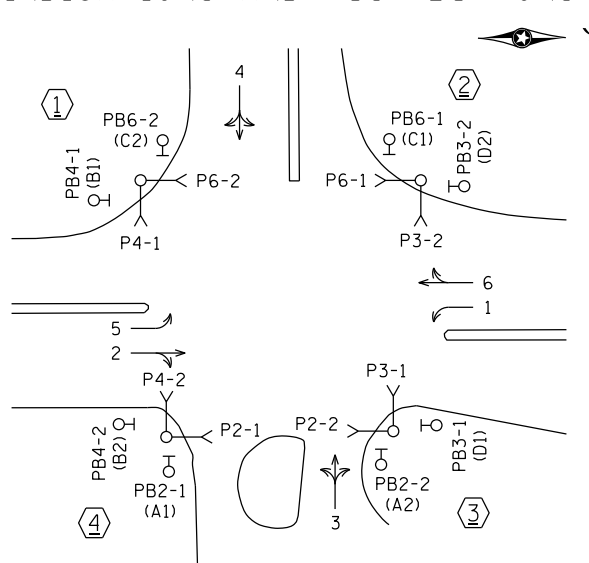
-ALL LOOP DETECTORS ARE PVC
 -LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



MATCHLINE A



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



CITY LIGHTING
 3" RSC
 3-1/C #4 (LUM)

CITY LIGHTING
 SPliced IN HH
 AND EXTENDED
 INTO HH 16
 3" RSC
 3-1/C #4 (LUM)

CITY LIGHTING
 SPliced IN HH
 AND EXTENDED
 INTO HH 12
 3" RSC
 3-1/C #4 (LUM)

CITY LIGHTING
 3" RSC
 3-1/C #4 (LUM)

CITY LIGHTING
 FROM LIGHT
 POLE 4
 3" RSC
 3-1/C #4 (LUM)

HH 15 TO HH 16:
 4" PVC
 3-1/C #4 (LUM)
 2-12/C #14
 1-6/C #14
 4-4/C #14
 2-3/C #14
 1-3/C #14 (LUM)
 8-2/C #14
 2-3/C #20
 1-1/C #6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN
 (RT ARROW) (PB4-2)
 EXTEND INTO HH 16:
 2" PVC
 1-2/C #14

PED PB STATION
 1-APS PB AND SIGN
 (LT ARROW) (PB2-1)
 EXTEND INTO HH 15:
 2" PVC
 1-2/C #14

HH 13 TO HH 14:
 4" PVC
 3-1/C #4 (LUM)
 2-12/C #14
 2-4/C #14
 1-3/C #14
 1-3/C #14 (LUM)
 3-2/C #14
 1-3/C #20
 1-1/C #6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN
 (RT ARROW) (PB2-2)
 EXTEND INTO HH 12:
 2" PVC
 1-2/C #14

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.
- LEFT TURN GEOMETRY FOR PHASES 3 AND 4 CONFLICT. PHASES 3 AND 4 CANNOT OPERATE CONCURRENTLY. PHASES 3 AND 4 OPERATE AS SPLIT PHASE SEQUENTIAL.

BY	DATE	REVISIONS
EJA	09-10-12	CHANGED POLE 4 FROM PA90 TO PA100
EJA	02-11-14	AS-BUILT OF SP 1913-72 SIGNAL REPLACEMENT
EJA	03-30-16	AS-BUILT OF SP 1910-47 REVISION

SYSTEM ID: 21000 T.E. _____
 METER ADDRESS: 1050 VERMILLION ST N
 MASTER ID: 21001 T.E. _____

INTERSECTION LAYOUT
 T.H. 61 AT T.H. 55/WALGREENS ENTRANCE
 IN HASTINGS, DAKOTA COUNTY

S.A.P. NO. _____ DRAWN BY: GDS CKD BY: EJA DATE: 02-13-19
 CERTIFIED BY: _____ LIC. NO. _____ DATE: _____
 STATE PROJ. NO. _____ (T.H. 61) SHEET NO. 1 OF 4 SHEETS

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

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

INTERSECTION NOTES

① PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
 1-PAIR SWING AWAY HINGES
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2-STRAIGHT MOUNT SIGNALS OVERHEAD
 AT 11' AND 23'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 2-ANGLE MOUNT C.D.PED HEADS
 AT 180 AND 270 DEG
 ENFORCEMENT LIGHT (EL6-1) AT 90 DEG
 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 1+6)
 LUMINAIRE-250W HPS
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 1-TYPE D SIGN
 3" PVC TO HH 1:
 2-12/C #14
 1-6/C #14
 2-4/C #14
 1-3/C #14
 1-3/C #14 (LUM)
 1-3/C #20
 1-1/C #6 INS. GR.

④ PA100 POLE FOUNDATION
 PA100-A-45
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 23'
 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 4)
 1-TYPE D SIGN
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 2-ANGLE MOUNT C.D.PED HEADS
 AT 90 AND 180 DEG
 3" PVC TO HH 16:
 2-12/C #14
 2-4/C #14
 1-3/C #14
 1-3/C #20
 1-1/C #6 INS. GR.

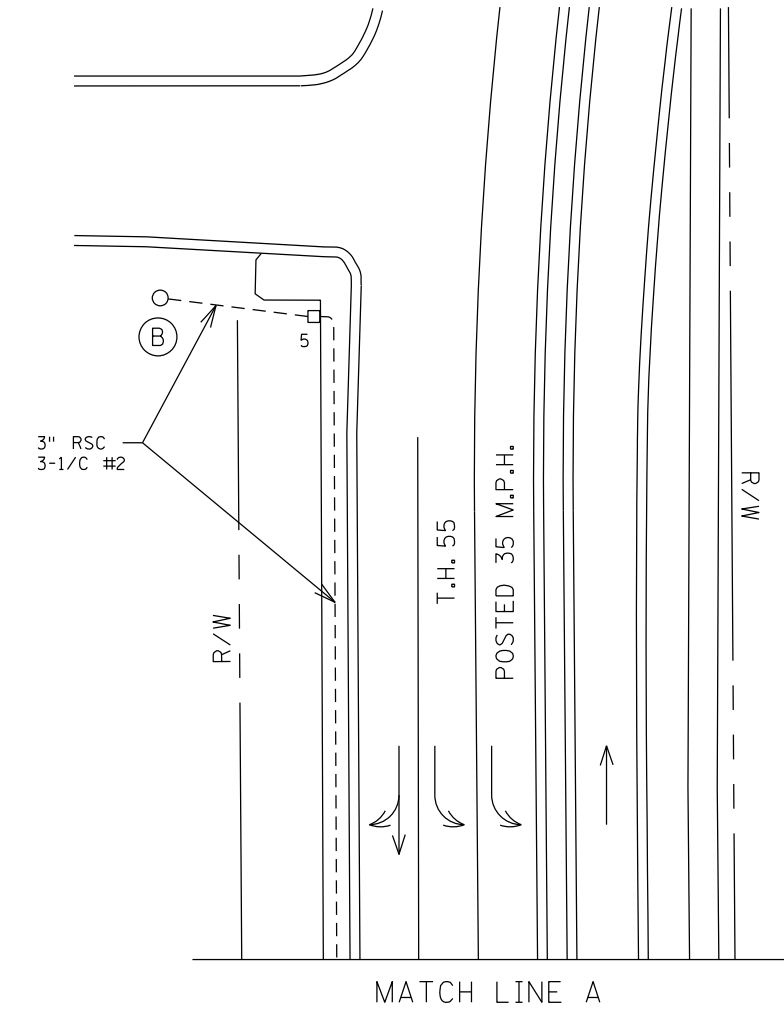
② PA90 POLE FOUNDATION
 TYPE PA90-A-30
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 2-ANGLE MOUNT C.D.PED HEADS
 AT 90 AND 180 DEG
 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 3)
 1-TYPE D SIGN
 3" PVC TO HH 8:
 2-12/C #14
 2-4/C #14
 1-3/C #14
 1-3/C #20
 1-1/C #6 INS. GR.

③ PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
 1-PAIR SWING AWAY HINGES
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2-STRAIGHT MOUNT SIGNALS OVERHEAD
 AT 11' AND 23'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 2-ANGLE MOUNT C.D.PED HEADS
 AT 180 AND 270 DEG
 ENFORCEMENT LIGHT (EL2-1) AT 90 DEG
 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 2+5)
 LUMINAIRE-250W HPS
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 1-TYPE D SIGN
 3" PVC TO HH 12:
 2-12/C #14
 1-6/C #14
 2-4/C #14
 1-3/C #14
 1-3/C #14 (LUM)
 1-3/C #20
 1-1/C #6 INS. GR.

Ⓐ EQUIPMENT PAD
 SERVICE CABINET (SSB)
 MASTER CONTROLLER
 CONTROLLER AND CABINET
 4" PVC TO HH 20:
 2-12/C #14
 2-4/C #14
 1-3/C #14
 5-2/C #14
 1-3/C #20
 4" PVC TO HH 20:
 2-12/C #14
 1-6/C #14
 2-4/C #14
 1-3/C #14
 5-2/C #14
 1-3/C #20
 1-6PR #19
 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)
 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 (SPARE)
 SERVICE CABINET TO SOP VIA HH 3, 4, 5:
 2" PVC
 3-1/C #2
 SERVICE CABINET TO HH 1:
 2" PVC
 2-3/C #14 (LUM)
 HH 1 TO HH 20:
 2" PVC
 1-3/C #14 (LUM)

Ⓑ SOP-WOOD POLE (XCEL ENERGY)
 2" PVC RISER AND WEATHERHEAD
 3" RSC INTO HH 5:
 3-1/C #2



BY	DATE	REVISIONS
EJA	09-10-12	CHANGED POLE 4 FROM PA90 TO PA100
EJA	02-11-14	AS-BUILT OF SP 1913-72 SIGNAL REPLACEMENT
EJA	03-30-16	AS-BUILT OF SP 1910-47 REVISION

SYSTEM ID: 21000 _____ T.E. _____
 METER ADDRESS: 1050 VERMILLION ST N _____
 MASTER ID: 21001 _____ T.E. _____

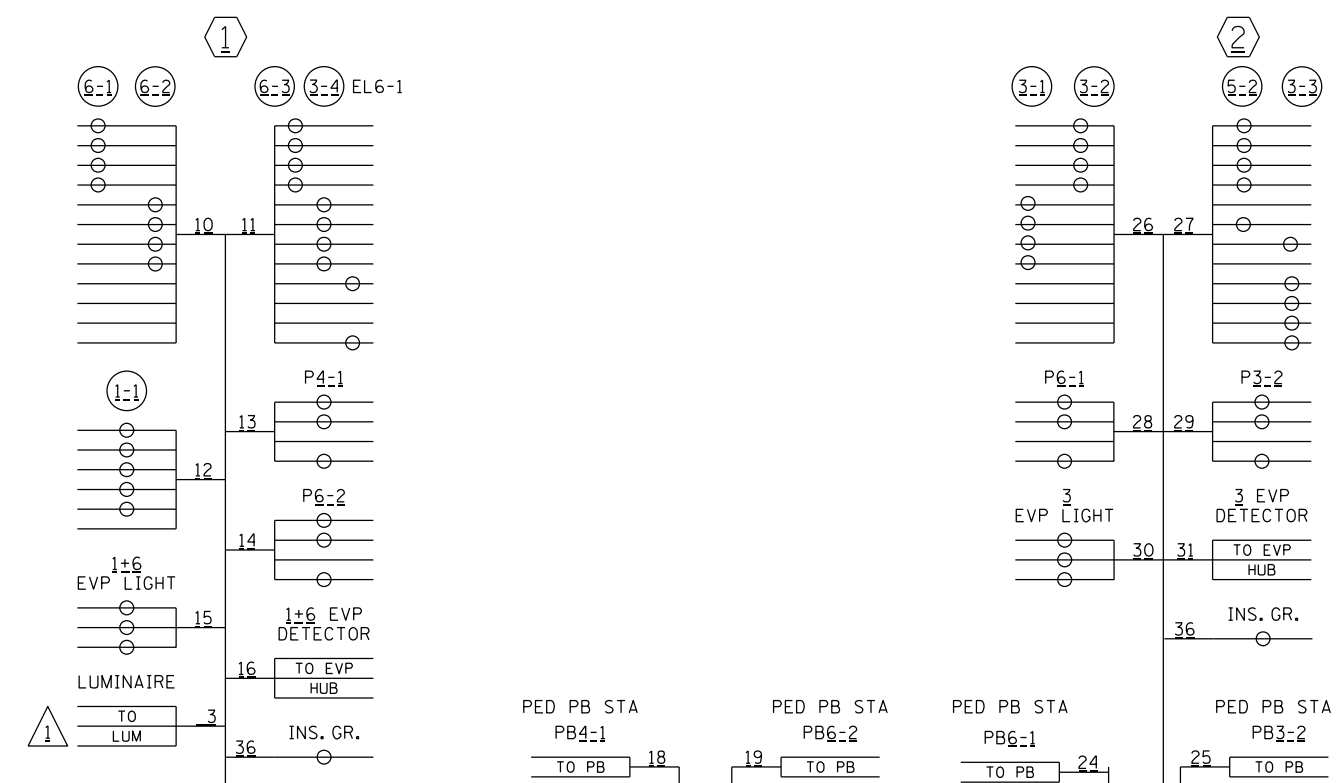
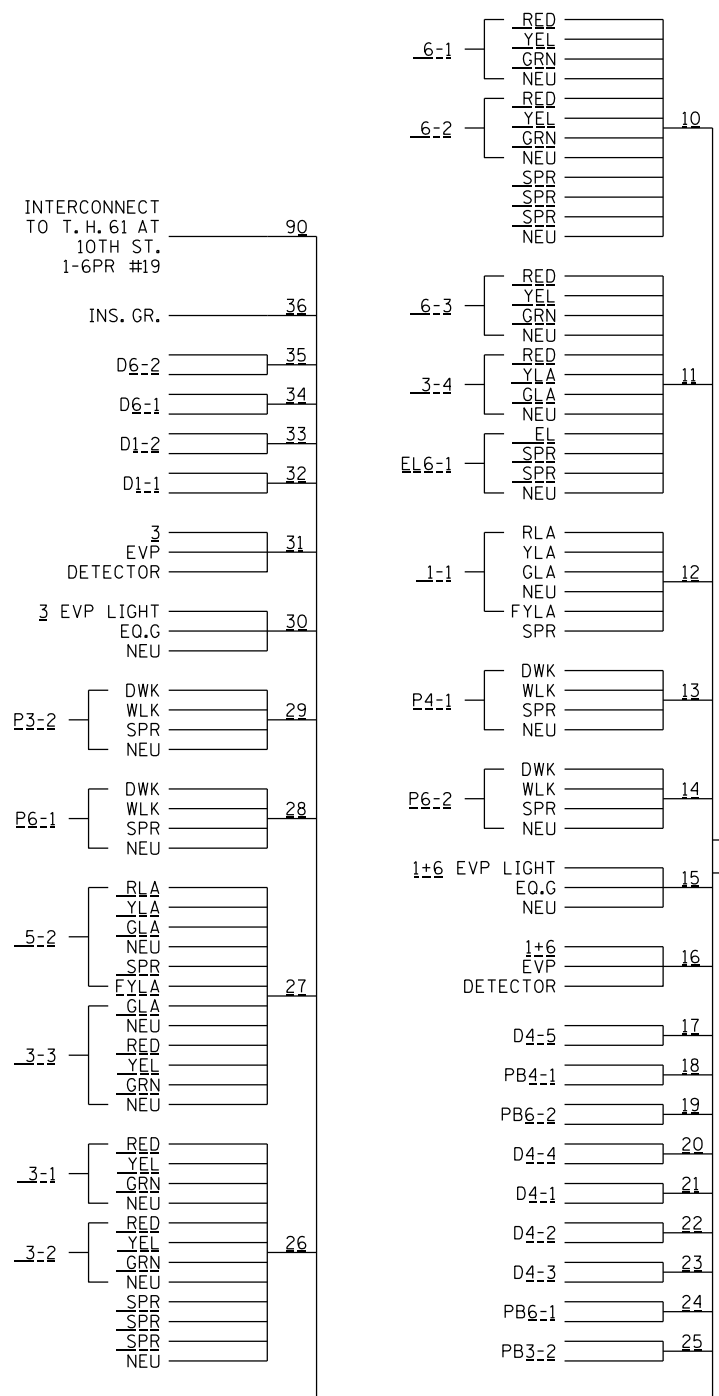
MATCH LINE LAYOUT/INTERSECTION NOTES
 T.H. 61 AT T.H. 55/WALGREENS ENTRANCE
 IN HASTINGS, DAKOTA COUNTY

S.A.P. NO. _____ DRAWN BY: GDS CKD BY: EJA DATE: 02-13-15
 CERTIFIED BY _____ LIC. NO. _____ DATE: _____
 LICENSED PROFESSIONAL ENGINEER
 STATE PROJ. NO. _____ (T.H. 61) SHEET NO. 2 OF 4 SHEETS

CONTROLLER CABINET

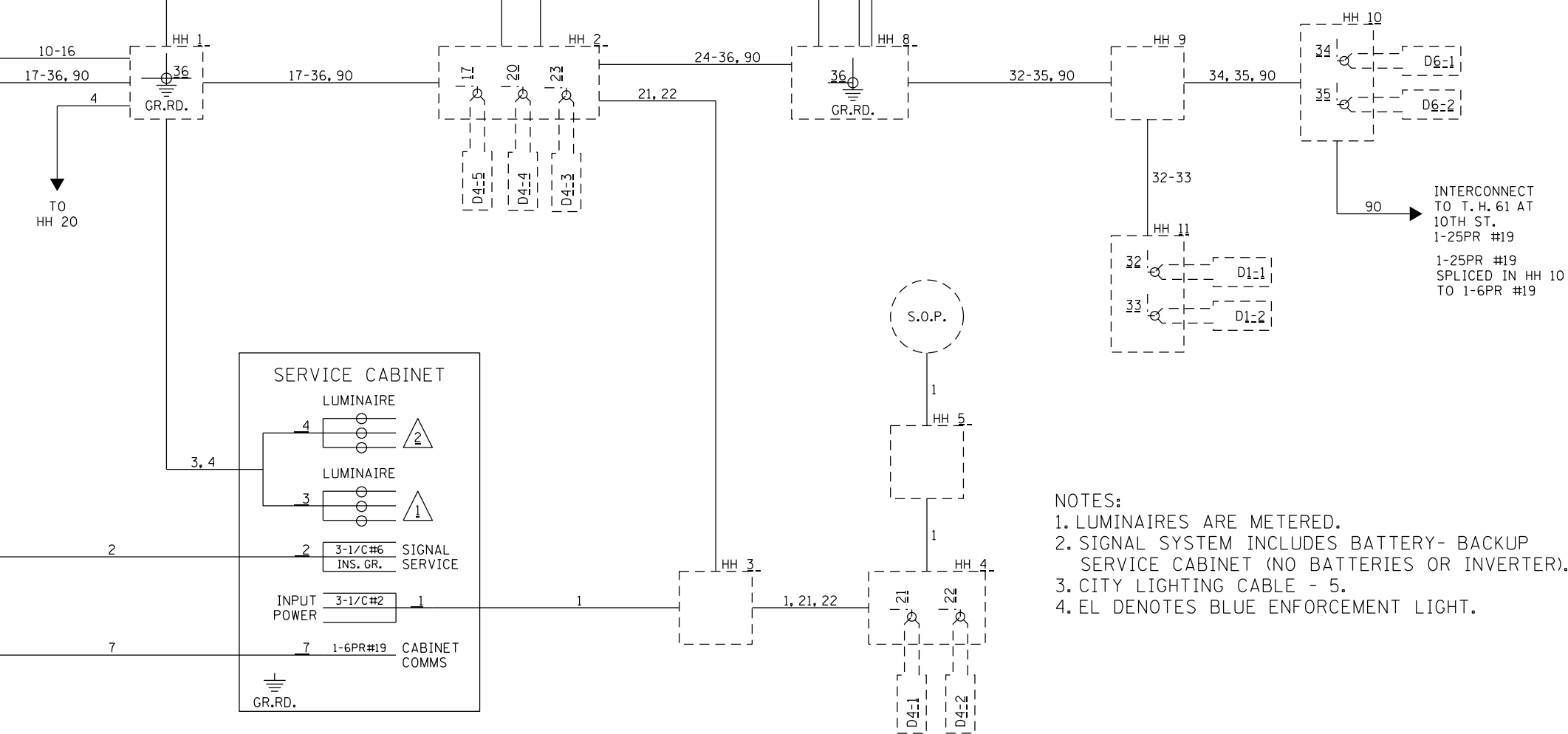
PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

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



CONDUCTOR COLOR CODE (14 GAUGE)			
TO SIGNAL CABINET		TO DEVICE	
1/C#6 G	R	R	RED
6PR#19	O	O	YEL
	BL	BL	GRN
COXIAL CABLE	WH	WH	NEU
(6SM) CABLE	BLK/R	BLK/R	YLA/FYA
	BLK	BLK	GLA
3-1/C#2	R	R	RED/DWK
	WH	WH	YEL/WLK
	BLK	BLK	GRN/SPR
		WH	NEU
3-1/C#6	R	R	RED/DWK
	WH	WH	YEL/WLK
	G	G	GRN/SPR
		WH	NEU
		BLK	EVP LIGHT
		G	LUM/VIDEO
		WH	CAMERA
		BLK	PED PUSH BUTTON
		WH OR CLR	(If Required)

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



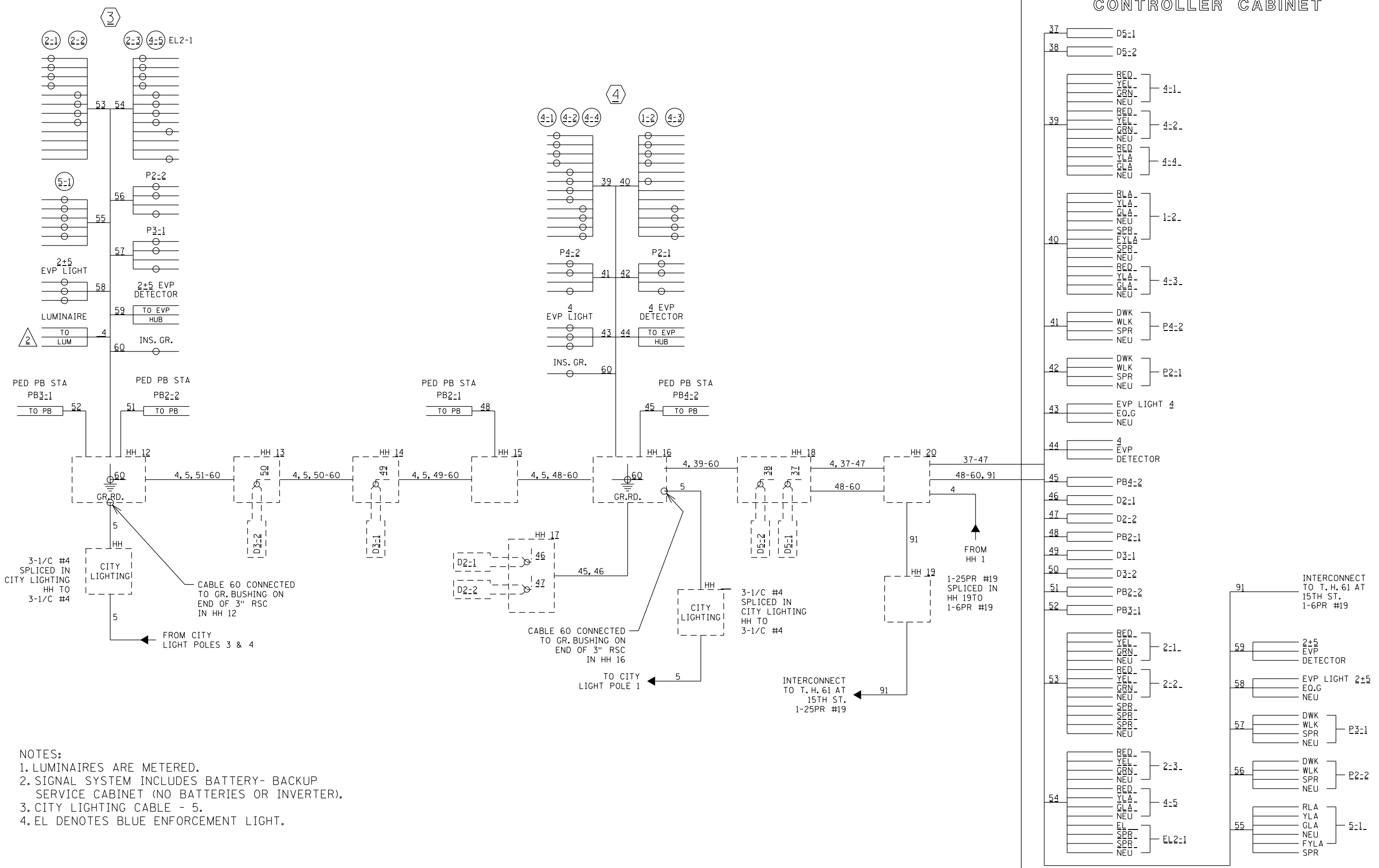
- NOTES:
- LUMINAIRES ARE METERED.
 - SIGNAL SYSTEM INCLUDES BATTERY- BACKUP SERVICE CABINET (NO BATTERIES OR INVERTER).
 - CITY LIGHTING CABLE - 5.
 - EL DENOTES BLUE ENFORCEMENT LIGHT.

BY	DATE	REVISIONS	SYSTEM ID: 21000	T.E.	S.A.P. NO.	DRAWN BY: GDS	CKD BY: EJA	DATE: 02-13-15
EJA	09-10-12	CHANGED POLE 4 FROM PA90 TO PA100	METER ADDRESS: 1050 VERMILLION ST N		FIELD WIRING DIAGRAM (1 OF 2)			
EJA	02-11-14	AS-BUILT OF SP 1913-72 SIGNAL REPLACEMENT	MASTER ID: 21001	T.E.	T.H. 61 AT T.H. 55/WALGREENS ENTRANCE			
EJA	03-30-16	AS-BUILT OF SP 1910-47 REVISION			IN HASTINGS, DAKOTA COUNTY			
					CERTIFIED BY:	LIC. NO.		DATE:
					STATE PROJ. NO.		(T.H. 61)	SHEET NO. 3 OF 4 SHEETS

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

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

CONTROLLER CABINET



- NOTES:
1. LUMINAIRES ARE METERED.
 2. SIGNAL SYSTEM INCLUDES BATTERY- BACKUP SERVICE CABINET (NO BATTERIES OR INVERTER).
 3. CITY LIGHTING CABLE - 5.
 4. EL DENOTES BLUE ENFORCEMENT LIGHT.

BY	DATE	REVISIONS
EJA	09-10-12	CHANGED POLE 4 FROM PA90 TO PA100
EJA	02-11-14	AS-BUILT OF SP 1913-72 SIGNAL REPLACEMENT
EJA	03-30-16	AS-BUILT OF SP 1910-47 REVISION

SYSTEM ID: 21000 _____ T.E. _____
 METER ADDRESS: 1050 VERMILLION ST N _____
 MASTER ID: 21001 _____ T.E. _____

FIELD WIRING DIAGRAM (2 OF 2)
 T.H. 61 AT T.H. 55/WALGREENS ENTRANCE
 IN HASTINGS, DAKOTA COUNTY

S.A.P. NO. _____ DRAWN BY: GDS CKD BY: EJA DATE: 02-13-15
 CERTIFIED BY: _____ LIC. NO. _____ DATE: _____
 STATE PROJ. NO. _____ (T.H. 61) SHEET NO. 4 OF 4 SHEETS