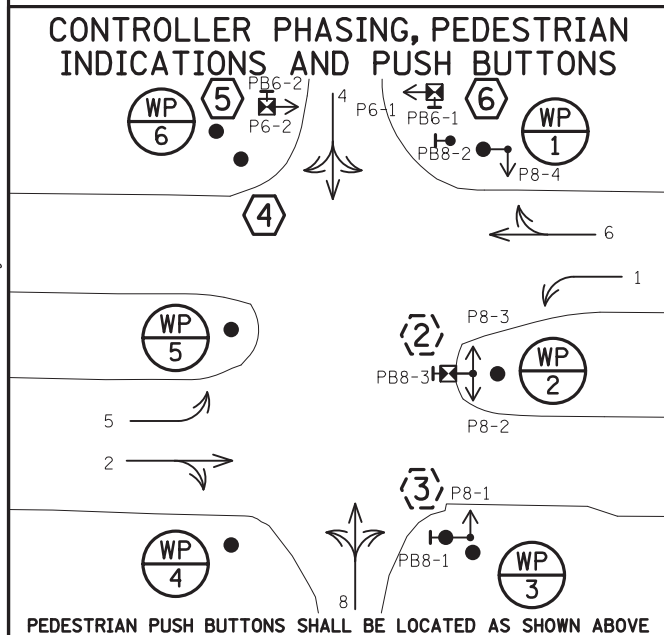
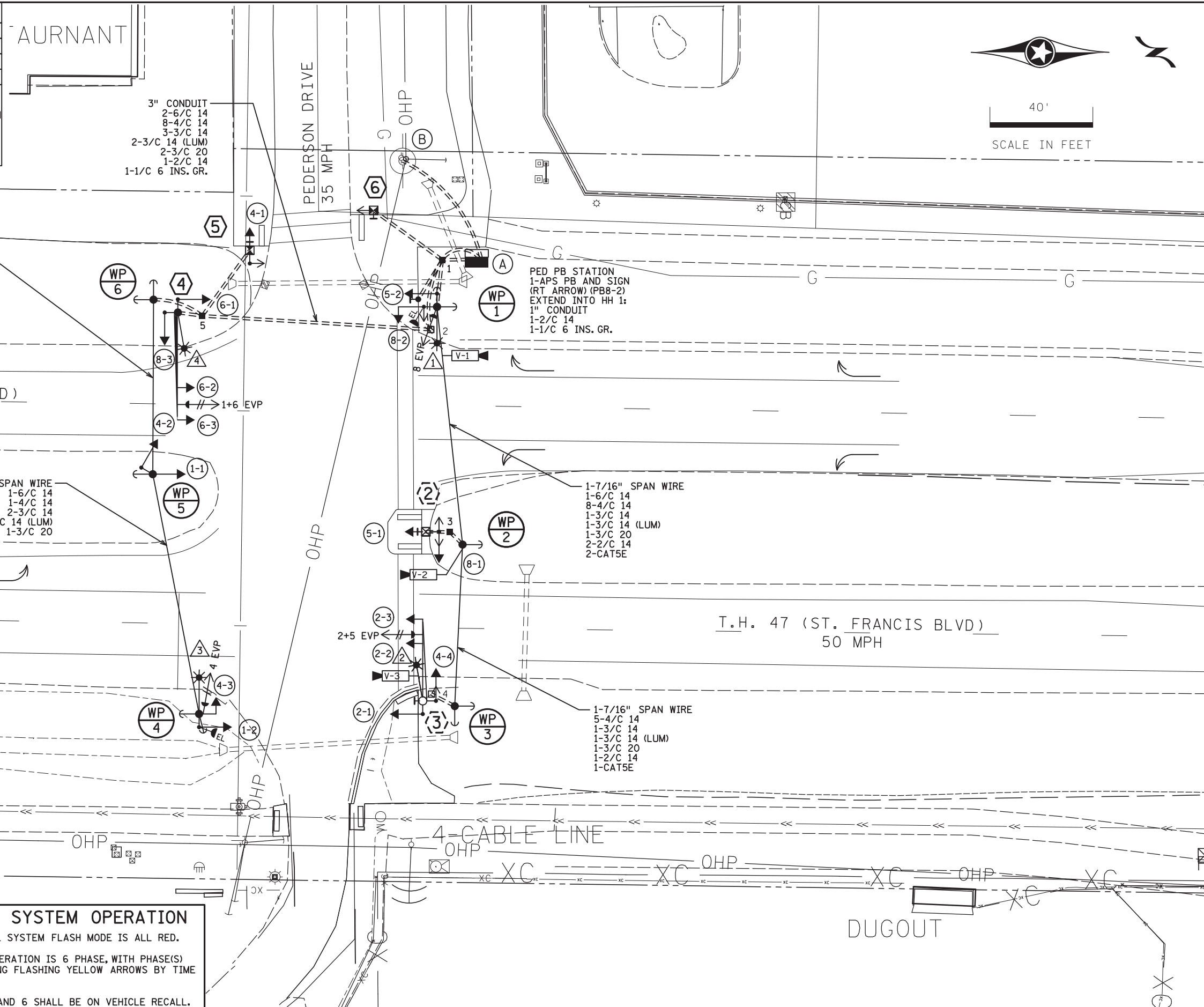


SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3	●	●	●	●
4-1, 4-2, 4-3, 4-4	●	●	●	●
5-1, 5-2	←	←	←	←
6-1, 6-2, 6-3	●	●	●	●
8-1, 8-2, 8-3	●	●	●	●

VIDEO DETECTOR CHART		
CAMERA NO.	LOCATION	PHASE
V-1	WP-1	1+6
V-2	WP-2	ALL*
V-3	POLE 3	2+5

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

-VIDEO DETECTION CAMERAS SHALL BE POLE MOUNTED.
 -EXACT LOCATION OF VIDEO DETECTION CAMERAS SHALL BE DETERMINED IN THE FIELD BY MNDOT OFFICE PERSONNEL.
 * GRIDSMART CAMERA



SIGNAL SYSTEM OPERATION

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

BY	DATE	REVISIONS
JBA	02/20/19	BLUE ENFORCEMENT LIGHTS
BPV	04/05/19	VIDEO DETECTION CAMERA REVISIONS

SYSTEM ID: 2498823 T.E. 11974
 METER ADDRESS: 23082 ST. FRANCIS BLVD.
 OLD SYSTEM ID: 38350

**INTERSECTION LAYOUT
 TRAFFIC CONTROL SIGNAL SYSTEM
 T.H. 47 AT PEDERSON DRIVE NW
 ST. FRANCIS, ANOKA COUNTY**

S.A.P. NO.	DRAWN BY: JBA	CKD BY: BPV	DATE: 02/06/19
CERTIFIED BY: <i>B.P. [Signature]</i>	LIC. NO. 40444	DATE: 04/05/19	
STATE PROJ. NO. 0206-76 (T.H. 47)		SHEET NO. 9R OF 13 SHEETS	

DISTRICT #: Metro
 IPLOT NAME: T38350.LL.sgl
 PATH & FILENAME: Projects\DM_R05\047\0000\Traffic\Signals\3480 - MN47 - (81) PEDERSON DRIVE\2-2018 Pending\T38350\ED.sgl

DISTRICT #: Metro
 PLOT NAME: 738350.LL.sgl
 PATH & FILENAME: Projects\DM_POS\0470000\Traffic\Signal\3480 - 2498823 - MM47 - (81) PEDERSON DR V2-2018 Pending\VT 88370\ED\49\ED\6.ED - 5-APR-2019

WP 1 60' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 1-5' MINI ARM W/ANGLE MOUNT AT 0 DEG (20' MOUNTING HEIGHT)
 1-TYPE 10A-WOOD POLE MOUNTED AT 90 DEG
 1-BLUE ENFORCEMENT LIGHT (PHASE 6) MOUNTED AT 0 DEG (FACING EAST)
 1-TYPE 30A-WOOD POLE MOUNTED C.D. PED HEAD AT 0 DEG
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8) POLE MOUNTED
 15' MAST ARM AND LED LUMINAIRE (FOR 40' MOUNTING HEIGHT) AT 270 DEG
 1-VIDEO DETECTION CAMERA (V-1) MAST ARM MOUNTED METAL JUNCTION BOX WITH TERMINAL BLOCK

3" CONDUITS, RISERS AND WEATHERHEADS FROM HH 1 TO SPAN WIRES WITH:
 1-6/C 14
 8-4/C 14
 1-3/C 14
 1-3/C 14 (LUM)
 1-3/C 20
 2-2/C 14
 2-CAT5E
 1-1/C 6 INS. GR.

3" CONDUIT FROM HH 1 TO J.B. 1:
 1-6/C 14
 2-4/C 14
 2-3/C 14
 1-3/C 14 (LUM)
 1-3/C 20
 1-CAT5E

1" CONDUIT RISER AND WEATHERHEAD ABOVE SPAN WIRE WITH:
 1-3/C 14 (LUM)
 1-CAT5E

(1) REMOVE:
 PA90 POLE FOUNDATION
 3" CONDUIT TO HH 3 WITH:
 1-3/C 14 (LUM)
 1-1/C 6 INS. GR.
 SALVAGE:
 TYPE PA90-A-40-X25-12 (DAVIT AT 0 DEG)
 LUMINAIRE LED
 1-RRFB WITH SIGN (W11-2) MOUNTED OVERHEAD AT 3'
 1-SIGN (R1-9B) MOUNTED OVERHEAD AT 10'
 1-RRFB WITH SIGN (W11-2 AND W16-7MPL) POLE MOUNTED AT 270 DEG
 1-POLE MOUNTED RRFB CONTROLLER AND CABINET
 1-POLE MOUNTED SOLAR SYSTEM WITH BATTERY
 1-PB AND SIGN (R10-25)

WP 2 60' WOOD POLE
 1-DOWN GUY, GUARD AND ANCHOR
 15' MAST ARM (FOR VIDEO DETECTION CAMERA) AT 0 DEG
 1-VIDEO DETECTION CAMERA (V-2) MAST ARM MOUNTED METAL JUNCTION BOX WITH TERMINAL BLOCK

3" CONDUIT RISER AND WEATHERHEAD FROM HH 3 TO SPAN WIRES WITH:
 1-6/C 14
 3-4/C 14
 1-2/C 14

1" CONDUIT RISER AND WEATHERHEAD ABOVE SPAN WIRE WITH:
 1-CAT5E

- NOTES:
 1. SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
 2. ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY MNDOT OFFICE PERSONNEL.
 3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
 4. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 5. USE PVC OR HDPE FOR ALL NEW CONDUIT.
 6. CONDUIT SIZES ARE NOMINAL DIAMETER.
 7. ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE).

(2) INPLACE:
 PEDESTAL FOUNDATION
 1" NMC STUB OUT AND 5/8" X 15' GROUND ROD
 1-1/C 6 INS. GR.
 13' PEDESTAL POLE PLUS BASE
 SALVAGE:
 2-RRFB BEACONS WITH SIGN (W11-2) PEDESTAL MOUNTED FACING NORTH AND SOUTH
 1-PEDESTAL MOUNTED RRFB CONTROLLER AND CABINET
 1-PEDESTAL MOUNTED SOLAR SYSTEM WITH BATTERY
 1-PB AND SIGN (R10-25) FACING SOUTH
 F&I:
 2-STRAIGHT MOUNT SIGNALS AT 0 AND 270 DEG
 2-STRAIGHT MOUNT C.D. PED HEADS AT 90 AND 270 DEG
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 1-APS PB AND SIGN (DBL ARROW) (PB8-3) AND APS PB MOUNTING SPACERS
 3" CONDUIT TO HH 3:
 1-6/C 14
 3-4/C 14
 1-2/C 14

3" CONDUIT RISER AND WEATHERHEAD FROM HH 4 TO SPAN WIRES WITH:
 5-4/C 14
 1-3/C 14
 1-3/C 14 (LUM)
 1-3/C 20
 1-2/C 14
 1-CAT5E
 1-1/C 6 INS. GR.

WP 3 60' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS

(3) INPLACE:
 PA85 POLE FOUNDATION
 TYPE PA90-A-30-X25-12 (DAVIT AT 0 DEG)
 3" CONDUIT TO HH 3 WITH:
 1-3/C 14 (LUM) (REMOVE)
 1-1/C 6 INS. GR.
 SALVAGE:
 X25-12 LUMINAIRE EXTENSION
 LUMINAIRE LED
 1-RRFB WITH SIGN (W11-2) MOUNTED OVERHEAD AT 3'
 1-SIGN (R1-9B) MOUNTED OVERHEAD AT 10'
 1-RRFB WITH SIGN (W11-2 AND W16-7MPL) POLE MOUNTED AT 270 DEG
 1-POLE MOUNTED RRFB CONTROLLER AND CABINET
 1-POLE MOUNTED SOLAR SYSTEM WITH BATTERY
 1-PB AND SIGN (R10-25)
 F&I:
 1-D40-9 LUMINAIRE EXTENSION (DAVIT AT 350 DEG)
 1-LED LUMINAIRE (FOR 40' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 10'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 1-ANGLE MOUNT C.D. PED HEAD AT 90 DEG
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2+5)
 1-APS PB AND SIGN (LT ARROW) (PB8-1)
 1-APS PUSH BUTTON POLE MOUNT ADAPTOR
 1-VIDEO DETECTION CAMERA (V-3) LUMINAIRE ARM MOUNTED
 3" CONDUIT TO HH 4 (INPLACE):
 5-4/C 14
 1-3/C 14
 1-3/C 14 (LUM)
 1-3/C 20
 1-2/C 14
 1-CAT5E
 1-1/C 6 INS. GR.

WP 4 60' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 1-5' MINI ARM W/ANGLE MOUNT AT 0 DEG (20' MOUNTING HEIGHT)
 1-TYPE 10A-WOOD POLE MOUNTED AT 90 DEG
 1-BLUE ENFORCEMENT LIGHT (PHASE 2) MOUNTED AT 90 DEG
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4) POLE MOUNTED
 15' MAST ARM AND LUMINAIRE LED (FOR 40' MOUNTING HEIGHT)
 1-R9-3A SIGN FACING POLE WP-5
 METAL JUNCTION BOX WITH TERMINAL BLOCK

3" CONDUIT ABOVE JUNCTION BOX TO SPAN WIRES WITH:
 1-6/C 14
 1-4/C 14
 2-3/C 14
 1-3/C 14 (LUM)
 1-3/C 20

1" CONDUIT RISER AND WEATHERHEAD ABOVE SPAN WIRE WITH:
 1-3/C 14 (LUM)

WP 5 60' WOOD POLE
 1-DOWN GUY, GUARD AND ANCHOR
 2-TYPE 10A-WOOD POLE MOUNTED AT 0 AND 270 DEG
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 2-R9-3A SIGNS FACING POLE WP-4 AND POLE 4
 METAL JUNCTION BOX WITH TERMINAL BLOCK

3" CONDUIT ABOVE JUNCTION BOX TO SPAN WIRES WITH:
 1-6/C 14
 1-4/C 14

WP 6 60' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS

(4) F&I:
 PA90 POLE FOUNDATION
 INSTALL:
 TYPE PA90-A-40
 F&I:
 1-D40-9 LUMINAIRE EXTENSION AT 350 DEG
 1-LUMINAIRE LED (FOR 40' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)
 1-R9-3A SIGN FACING POLE WP-5
 3" CONDUIT TO HH 5:
 4-4/C 14
 1-3/C 14
 1-3/C 14 (LUM)
 1-3/C 20
 1-1/C 6 INS. GR.

(5) PEDESTAL FOUNDATION
 13' PEDESTAL POLE PLUS BASE
 1-STRAIGHT MOUNT SIGNAL AT 270 DEG
 1-ANGLE MOUNT C.D. PED HEAD AT 90 DEG
 1-APS PB AND SIGN (LT ARROW) (PB6-2) AND APS PB MOUNTING SPACERS
 3" CONDUIT TO HH 5:
 2-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

(A) EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB) NO BATTERY BACKUP SYSTEM OR BATTERIES
 CONTROLLER AND CABINET (STATE FURNISHED)

3" CONDUIT TO HH 1:
 1-6/C 14
 3-4/C 14
 2-3/C 14
 1-3/C 20
 2-2/C 14
 1-CAT5E
 1-1/C 6 INS. GR.

3" CONDUIT TO HH 1:
 2-6/C 14
 8-4/C 14
 3-3/C 14
 2-3/C 20
 1-2/C 14
 1-CAT5E


GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD
 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
 CONTROLLER CABINET TO SERVICE CABINET:
 2" CONDUIT
 3-1/C 6
 CONTROLLER CABINET TO SERVICE CABINET (COMMS):
 2" CONDUIT
 1-6PR 19

SERVICE CABINET TO SOURCE OF POWER:
 2" CONDUIT
 3-1/C 2
 SERVICE CABINET TO EXTERNAL GR. ROD:
 1" CONDUIT
 1-1/C 6 INS. GR.
 SERVICE CABINET TO HH 1:
 2" CONDUIT
 4-3/C 14 (LUM)

3" CONDUIT HH 1 TO HH 2:
 2-6/C 14
 8-4/C 14
 3-3/C 14
 2-3/C 14 (LUM)
 2-3/C 20
 1-2/C 14
 1-1/C 6 INS. GR.

(B) SOP- WOOD POLE MOUNTED TRANSFORMER (CONNEXUS ENERGY)
 2" CONDUIT, RISER AND WEATHERHEAD INTO SERVICE CABINET:
 3-1/C 2

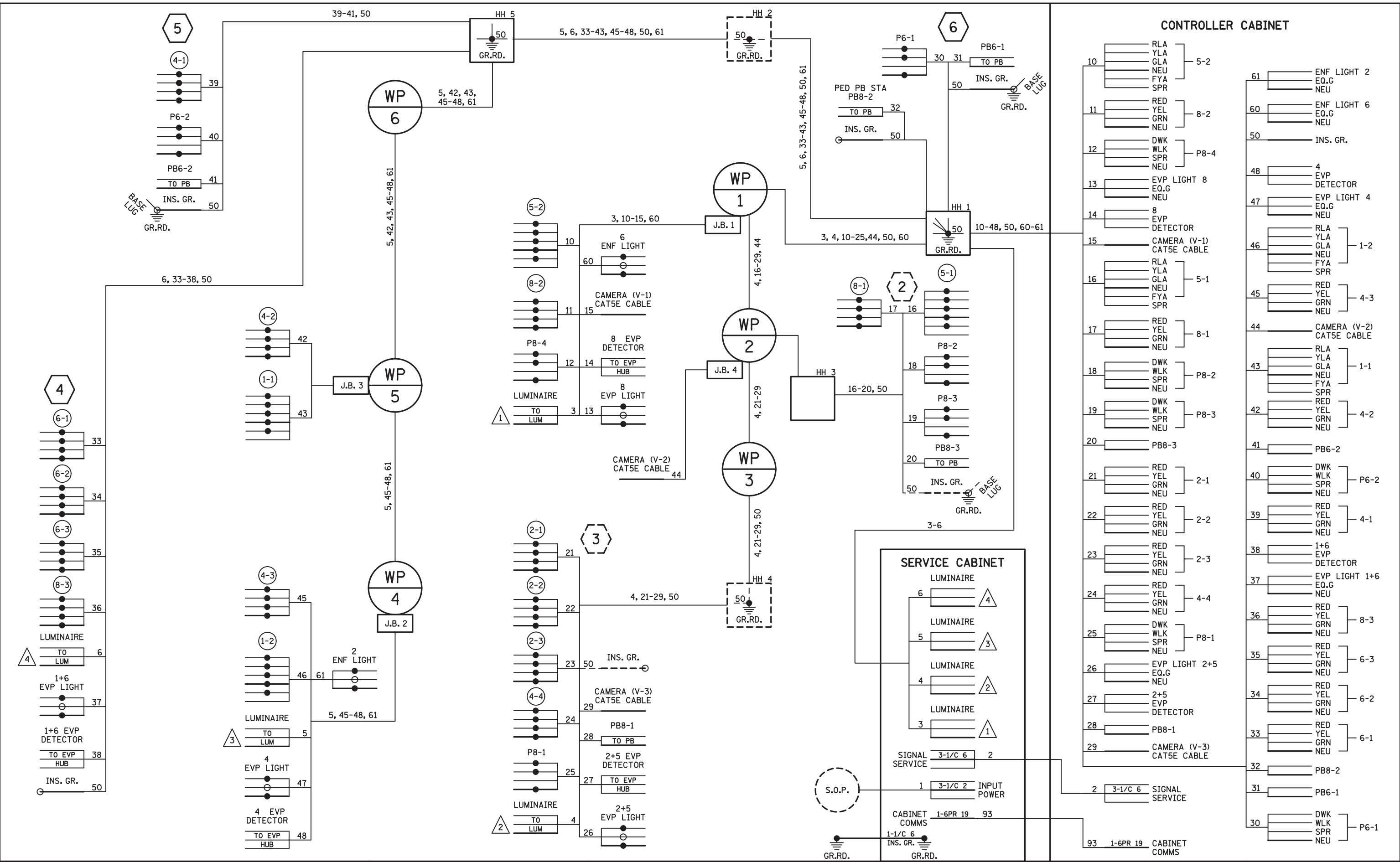
(6) PEDESTAL FOUNDATION
 10' PEDESTAL POLE PLUS BASE
 1-STRAIGHT MOUNT C.D. PED HEAD AT 0 DEG
 1-APS PB AND SIGN (LT ARROW) (PB6-1) AND APS PB MOUNTING SPACERS
 3" CONDUIT TO HH 1:
 1-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

DRAWN BY: JBA	REVISED BY:	REVISED BY:	AS BUILT BY:
CKD BY:BPV DATE:02/06/19	CKD BY: DATE:	CKD BY: DATE:	CKD BY: DATE:
SYSTEM ID: 2498823 T.E. 11974			
METER ADDRESS: 23082 ST. FRANCIS			
OLD SYSTEM ID: 38350			
S.A.P. NO.			
CERTIFIED BY: 		LIC. NO. 40444	DATE: 04/05/19
STATE PROJ. NO. 0206-76 (T.H. 47)			
SHEET NO. 10R OF 13 SHEETS			

INTERSECTION NOTES
SPAN WIRE TRAFFIC CONTROL SIGNAL
T.H. 47 AT PEDERSON DRIVE NW
ST. FRANCIS, ANOKA COUNTY

BY	DATE	REVISIONS
JBA	02/20/19	BLUE ENFORCEMENT LIGHTS
BPV	04/05/19	VIDEO DETECTION CAMERA REVISIONS

DISTRICT #: Metro
 I/PLOT NAME: T38350.L.sgl
 PATH & FILENAME: Projects\DM_ROS\047\0000\Traffic\Signals\3480 - 2498823 - MN47 - (81) PEDERSON DRV\2-2018 Pending\T38350\ED.sgl
 5-APR-2019



BY	DATE	REVISIONS
BPV	04/05/19	VIDEO DETECTION CAMERA REVISIONS

SYSTEM ID: 2498823 T.E. 11974
 METER ADDRESS: 23082 ST. FRANCIS BLVD.
 OLD SYSTEM ID: 38350

FIELD WIRING DIAGRAM
SPAN WIRE TRAFFIC CONTROL SIGNAL
T.H. 47 AT PEDERSON DRIVE NW
ST. FRANCIS, ANOKA COUNTY

S.A.P. NO.	DRAWN BY: JBA	CKD BY: BPV	DATE: 02/06/19
CERTIFIED BY: <i>[Signature]</i>	LIC. NO. 40444	DATE: 04/05/19	
STATE PROJ. NO. 0206-76 (T.H.47)		SHEET NO. 11R OF 13 SHEETS	