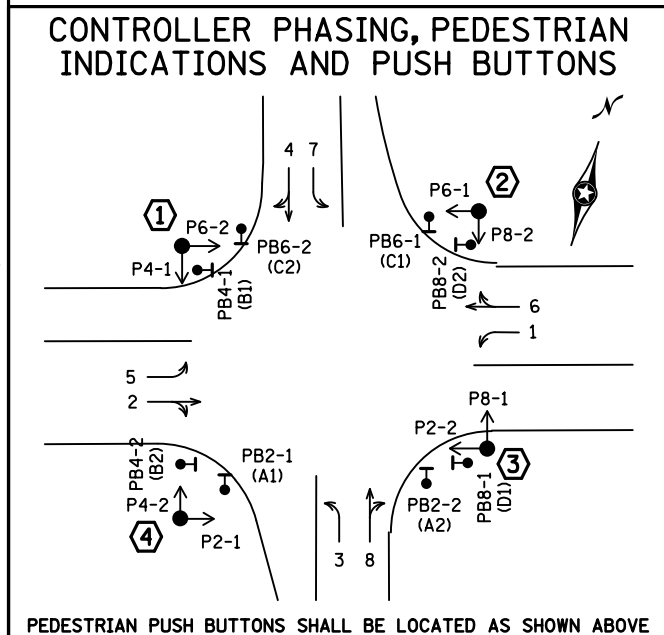
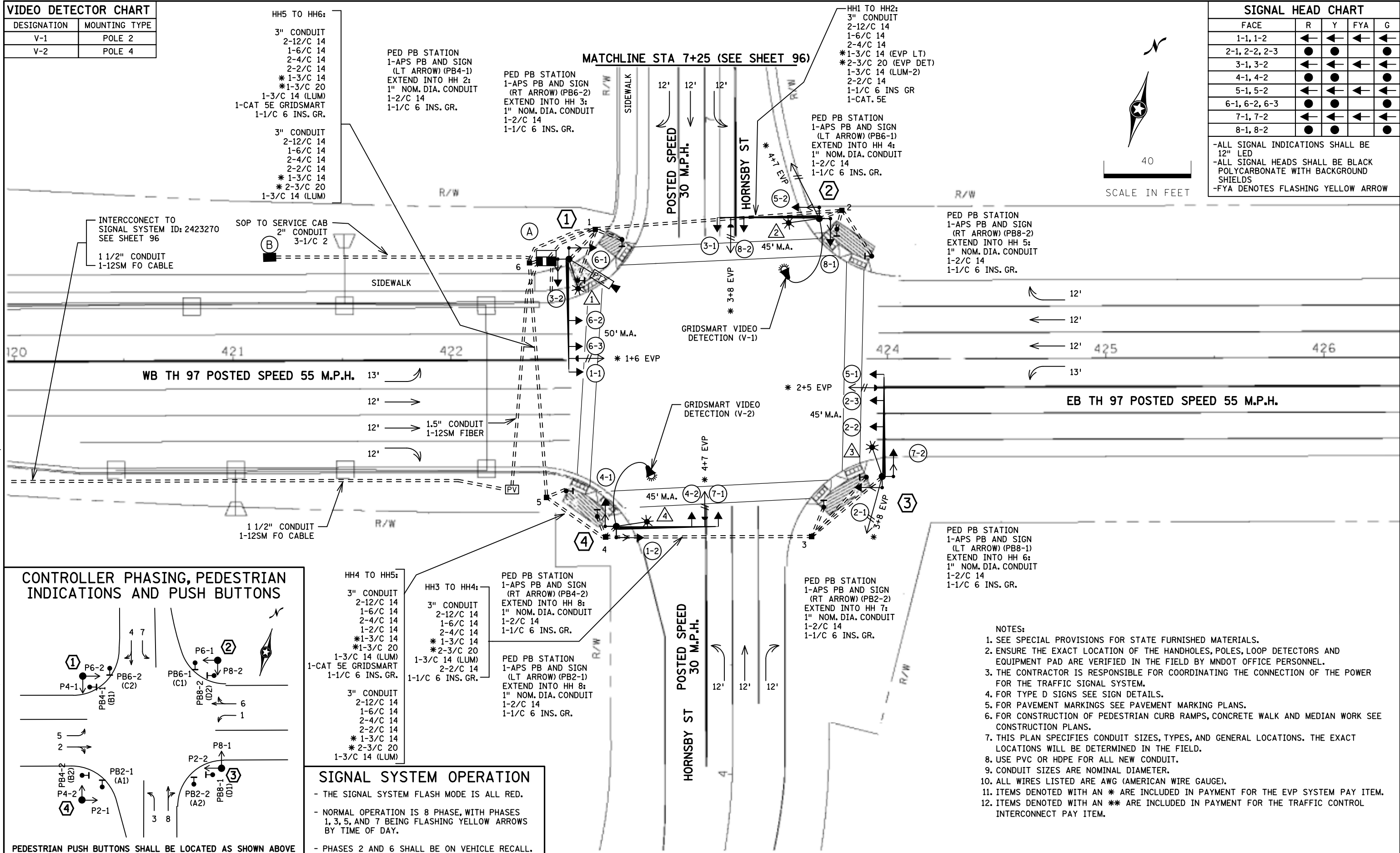
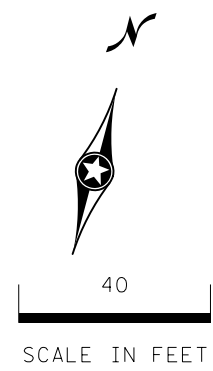


VIDEO DETECTOR CHART	
DESIGNATION	MOUNTING TYPE
V-1	POLE 2
V-2	POLE 4

SIGNAL HEAD 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 POLYCARBONATE WITH BACKGROUND SHIELDS
 -FYA DENOTES FLASHING YELLOW ARROW



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:
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. FOR TYPE D SIGNS SEE SIGN DETAILS.
 5. FOR PAVEMENT MARKINGS SEE PAVEMENT MARKING PLANS.
 6. FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE CONSTRUCTION PLANS.
 7. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.
 8. USE PVC OR HDPE FOR ALL NEW CONDUIT.
 9. CONDUIT SIZES ARE NOMINAL DIAMETER.
 10. ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE).
 11. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 12. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECT PAY ITEM.

BY: SJK	DATE: 12/20/21	AS-BUILT PLAN	REVISIONS:	SYSTEM ID: 2638267 T.E. 15109	METER ADDRESS: T.H. 97 & HORNSBY ST	INTERSECTION LAYOUT TRAFFIC CONTROL SIGNAL SYSTEM TH 97 AT HORNSBY ST IN COLUMBUS TWP, ANOKA COUNTY	DRAWN BY: MR	CKD BY: SA	DATE: 5/28/19
							CERTIFIED BY: _____	LIC. NO. _____	DATE: _____
						STATE PROJ.NO. 8201-20 (T.H. 97), S.A.P. NO. 002-596-024	SHEET NO. 1 OF 3 SHEETS		

DISTRICT #: Metro
 PLOT NAME: LAYOUT
 PATH & FILENAME: Projects\DM_R05\097\0000\Traffic\Signals\2638267_Hornsby St NEVT\2638267.sgl.dgn
 PLOTTED/REVISED: 20-DEC-2021

INTERSECTION NOTES

① PA100 POLE FOUNDATION
 TYPE PA100-A-50 - X6-350/CAM 400 EXTENSION
 (MOUNTED AT 350 DEG)
 (INCLUDES LIGHTNING ROD, 7/16" GROUND BRAID
 AND GROUND ROD)
 1-PTZ CAMERA (STATE FURNISHED) WITH MOUNT
 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 90 AND 180 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)

3" CONDUIT TO HH 1:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14 (EVP LT)
 1-3/C 14 (LUM-1)
 * 1-3/C 20 (EVP DET)
 1-CAT 5E PTZ CAMERA
 1-7/16" GROUNDING BRAID
 TO GROUND ROD IN HH 1
 1-1/C 6 INS. GR.

④ PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
 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 (PHASES 4+7)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-GRIDSMART VIDEO DETECTION CAMERA (V-2) (STATE FURNISHED)
 MOUNTED TO LUMINAIRE EXTENSION
 1-R10-X12 SIGN ADJACENT TO HEAD (7-1)
 1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)

3" CONDUIT TO HH 4:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14 (EVP LT)
 1-3/C 14 (LUM-4)
 * 1-3/C 20 (EVP DET)
 1-CAT 5E (GRIDSMART VIDEO DETECTION)
 1-1/C 6 INS. GR.

② PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
 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 (PHASES 4+7) (MOUNTED TOP OF POLE)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY
 LIGHT (PHASES 3+8) (MOUNTED 6' FROM END OF MAST ARM)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-GRIDSMART VIDEO DETECTION CAMERA (V-1) (STATE FURNISHED)
 MOUNTED TO LUMINAIRE EXTENSION
 1-R10-X12 SIGN ADJACENT TO HEAD (3-1)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)

3" CONDUIT TO HH 2:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 2-3/C 14 (EVP LT)
 1-3/C 14 (LUM-2)
 * 1-3/C 20 (EVP DET)
 1-1/C 6 INS. GR.
 1-CAT 5E (GRIDSMART VIDEO DETECTION)

③ PA100 POLE FOUNDATION
 TYPE PA100-A-45 - D40-9 (DAVIT AT 350 DEG)
 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 90 AND 180 DEG
 * 1-ONE WAY EVP DETECTOR MOUNTED AT TOP OF POLE (PHASES 3+8)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 MOUNTED 6' FROM END OF MAST ARM (PHASES 2+5)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)

3" CONDUIT TO HH 3:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14 (EVP LT)
 1-3/C 14 (LUM-3)
 * 2-3/C 20 (EVP DET)
 1-2/C 14
 1-1/C 6 INS. GR.

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB)
 NOT BATTERY BACKUP SYSTEM OR BATTERIES
 CONTROLLER AND CABINET (STATE FURNISHED)

CONTROLLER CABINET TO HH 1:
 3" CONDUIT 3" CONDUIT
 4-4/C 14 2-12/C 14
 4-2/C 14 1-6/C 14
 1-1/C 6 INS. GR. * 1-3/C 14
 * 2-3/C 20
 1-CAT 5E PTZ CAMERA

3" CONDUIT
 2-12/C 14
 1-6/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-CAT 5E GRIDSMART CABLE

CONTROLLER CABINET TO HH 6:
 3" CONDUIT 3" CONDUIT
 2-12/C 14 2-12/C 14
 1-6/C 14 1-6/C 14
 * 1-3/C 14 2-4/C 14
 * 1-3/C 20 * 1-3/C 14
 1-1/C 6 INS. GR. * 2-3/C 20

3" CONDUIT
 2-4/C 14
 4-2/C 14
 1-CAT 5E GRIDSMART CABLE

GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD
 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
 ** 1-1/2" CONDUIT TO PULL VAULT (SW QUAD):
 ** 1-FO PIGTAIL (6-SM)

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 GROUND MOUNTED TRANSFORMER:
 2" CONDUIT
 3-1/C 2

SERVICE CABINET TO HH 1:
 2" CONDUIT
 2-3/C 14 (LUM)

SERVICE CABINET TO HH 6:
 2" CONDUIT
 2-3/C 14 (LUM)

SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.

Ⓑ SOP-GROUND MOUNTED TRANSFORMER
 2" CONDUIT INTO SERVICE CABINET:
 3-1/C 2

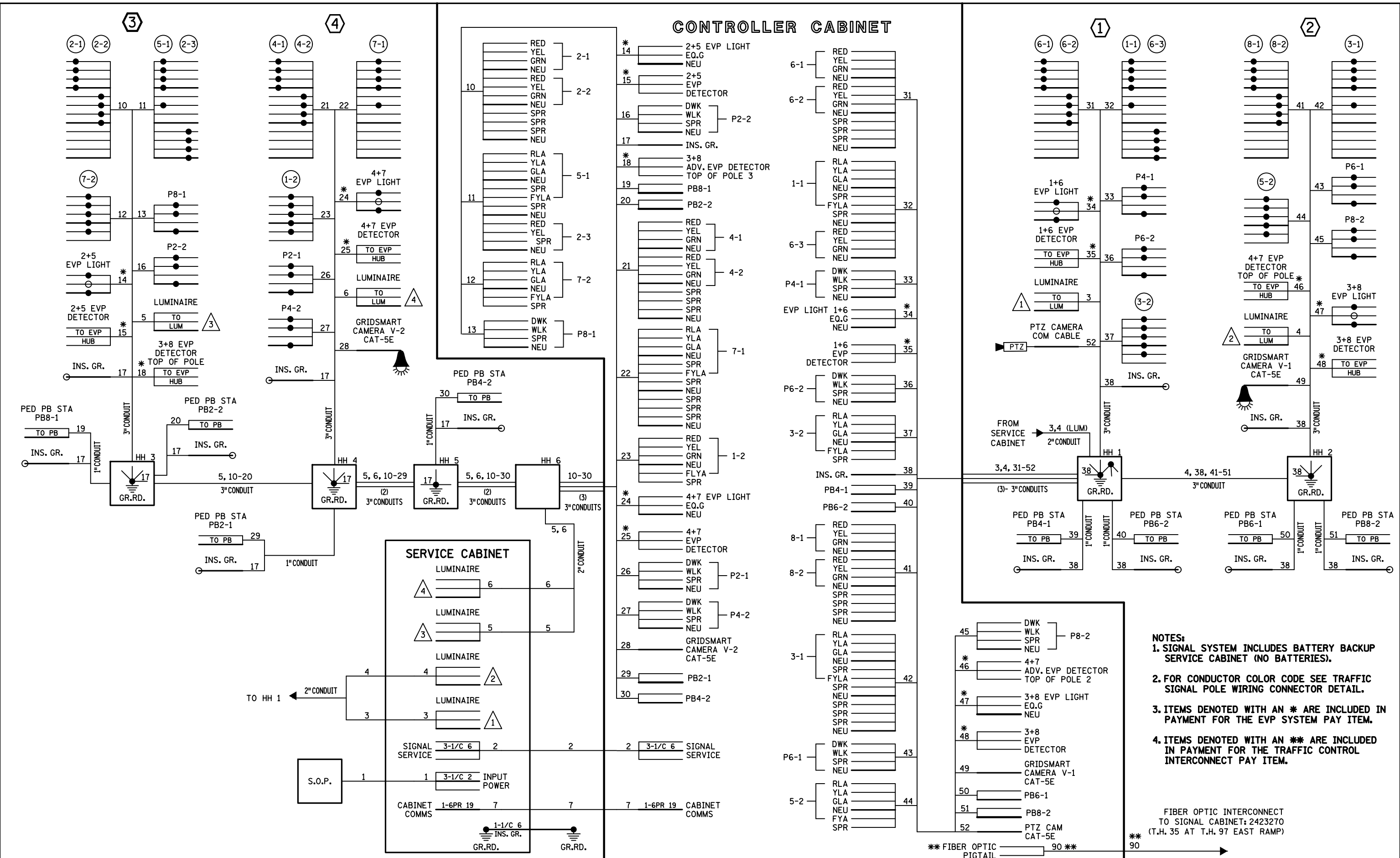
- ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
- ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECT PAY ITEM.

DISTRICT #: Metro
 I/PLOT NAME: POLE NOTES
 PATH & FILENAME: Projects\DM罗斯097\000007TrafficSignals\2638267 Hornsby St NEV\2638267.sgl.dgn
 PLOTTED/REVISED: 20-DEC-2021

BY	DATE	REVISIONS	SYSTEM ID: 2638267 T.E. 15109	POLE NOTES TRAFFIC CONTROL SIGNAL SYSTEM TH 97 AT HORNSBY ST IN COLUMBUS TWP, ANOKA COUNTY	DRAWN BY:MR	CKD BY:SA	DATE:5/28/19
SJK	12/20/21	AS-BUILT PLAN	METER ADDRESS: T.H. 97 & HORNSBY ST		CERTIFIED BY _____	LIC. NO. _____	DATE: _____
				STATE PROJ.NO. 8201-20 (T.H. 97), S.A.P. NO. 002-596-024	SHEET NO. 2 OF 3 SHEETS		

PLOTTED/REVISED: 20-DEC-2021

DISTRICT #: Metro
PLOT NAME: WIRING
PATH & FILENAME: Projects\DM_R05\097\0000\Traffic\Signals\2638267_Hornsby St NEV\2638267.sgl.dgn



- NOTES:**
1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (NO BATTERIES).
 2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
 3. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVF SYSTEM PAY ITEM.
 4. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECT PAY ITEM.

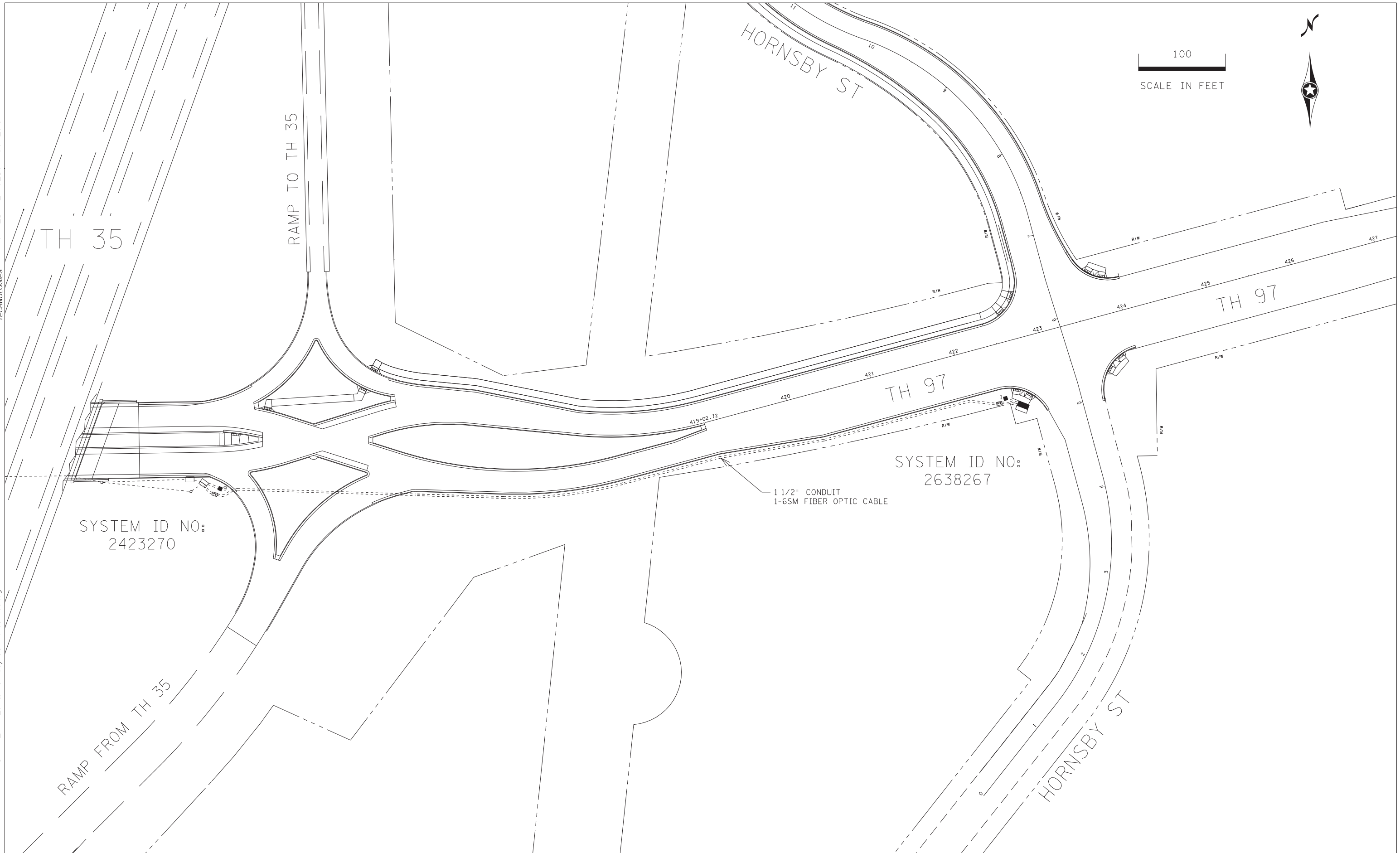
FIBER OPTIC INTERCONNECT TO SIGNAL CABINET: 2423270 (T.H. 35 AT T.H. 97 EAST RAMP)

BY	DATE	REVISIONS
SJK	12/20/21	AS-BUILT PLAN

SYSTEM ID: 2638267 T.E. 15109
METER ADDRESS: T.H. 97 & HORNSBY ST

**FIELD WIRING DIAGRAM
TH 97 AT HORNSBY ST
IN COLUMBUS TWP, ANOKA COUNTY**

CERTIFIED BY _____	LICENSED PROFESSIONAL ENGINEER	LIC. NO. _____	DATE: _____
STATE PROJ.NO. 8201-20 (T.H. 97), S.A.P. NO. 002-596-024		SHEET NO. 3 OF 3 SHEETS	



BY	DATE	REVISIONS

SYSTEM ID: 2638267 T.E. 15109
METER ADDRESS: T.H. 97 & HORNSBY ST

INTERCONNECT LAYOUT
TRAFFIC CONTROL SIGNAL SYSTEM
TH 97 AT HORNSBY ST
IN COLUMBUS TWP, ANOKA COUNTY

CERTIFIED BY:	LIC. NO. 25992	DATE: 7/29/2019
STATE PROJ.NO. 8201-20 (T.H. 97), S.A.P. NO. 002-596-024		SHEET NO. 94 OF 99 SHEETS

FIBER OPTIC SCHEMATIC

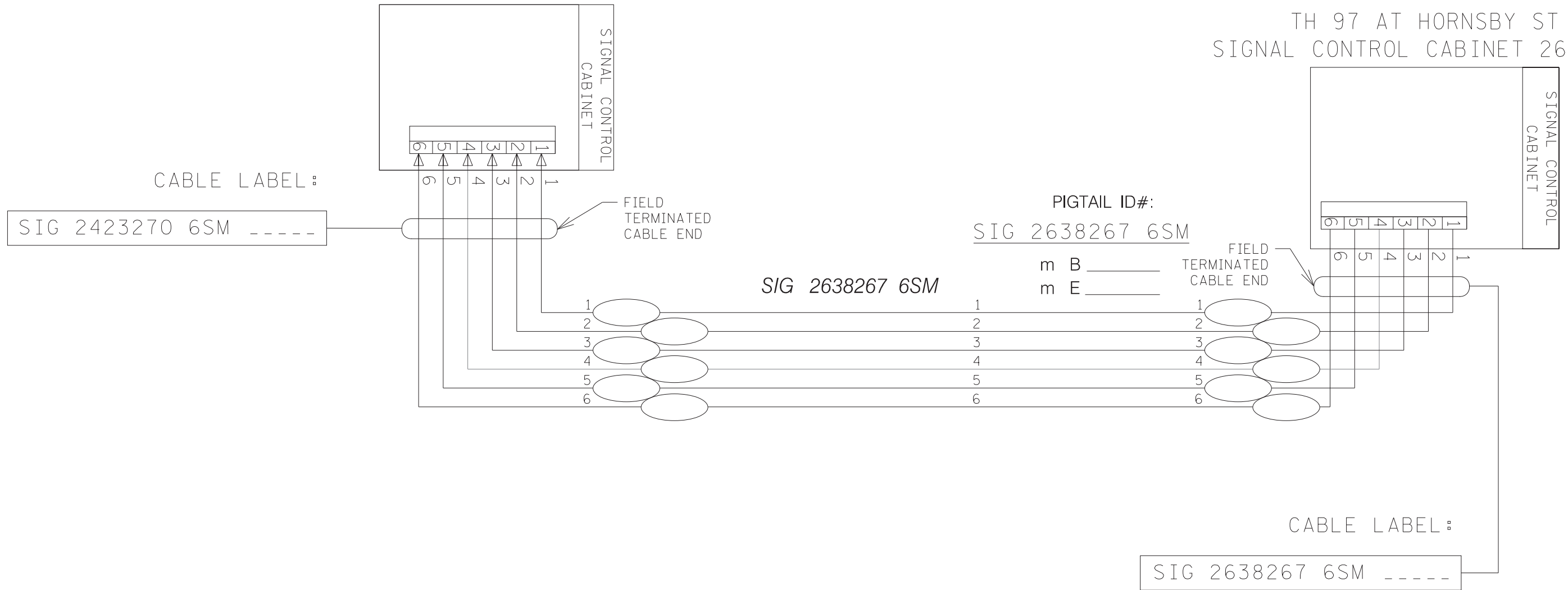
(FOR SIGNAL COMMUNICATIONS)

TransSmart
 TECHNOLOGIES
 PLOTTED/REVISED: 7/30/2019

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TH 35 AT TH 97 EAST RAMP
 SIGNAL CONTROL CABINET 2423270

TH 97 AT HORNSBY ST
 SIGNAL CONTROL CABINET 2638267



BY	DATE	REVISIONS	SYSTEM ID: 2638267 T.E. 15109 METER ADDRESS: T.H. 97 & HORNSBY ST	FIBER OPTIC SCHEMATIC	DRAWN BY: MR CKD BY: SA DATE: 5/28/19
					CERTIFIED BY: LIC. NO. 25992 DATE: 7/29/2019 STATE PROJ. NO. 8201-20 (T.H. 97), S.A.P. NO. 002-596-024 SHEET NO. 93 OF 99 SHEETS