PLOTTED/REVISED: 4-APR-2023

VIDEO DETECTION

CAMERA NO.	CAMERA TYPE	LOCATION POLE	LOCATION MOUNT LOC.	PHASE
V-1	DIRECTIONAL	1	MAST ARM	2,5
V-2	DIRECTIONAL	2	MAST ARM	4,7
V-3	DIRECTIONAL	3	MAST ARM	6,1
V-4	DIRECTIONAL	4	MAST ARM	8,3

- VIDEO DETECTION CAMERAS AND MOUNTING HARDWARE ARE STATE FURNISHED.

Please see the wiring diagram for redlines.

HH1 TO HH2:
3" CONDUIT
2-6/C 14
6-4/C 14
1-3/C 14
1-3/C 20
2-2/C 14
1-3/C 18 (VDET)
1-3/C 14 (LUM3)
1-1/C 6 INS. GR.

3" CONDUIT
2-6/C 14
5-4/C 14
1-3/C 14
1-3/C 20
2-2/C 14
1-3/C 18 (VDET)
1-CAT5E (PTZ)
1-3/C 14 (LUM2)

HH2 TO HH3:
3" CONDUIT
2-6/C 14
6-4/C 14
1-3/C 14
1-3/C 20
2-2/C 14
1-3/C 18 (VDET)
1-3/C 14 (LUM3)
1-1/C 6 INS. GR.

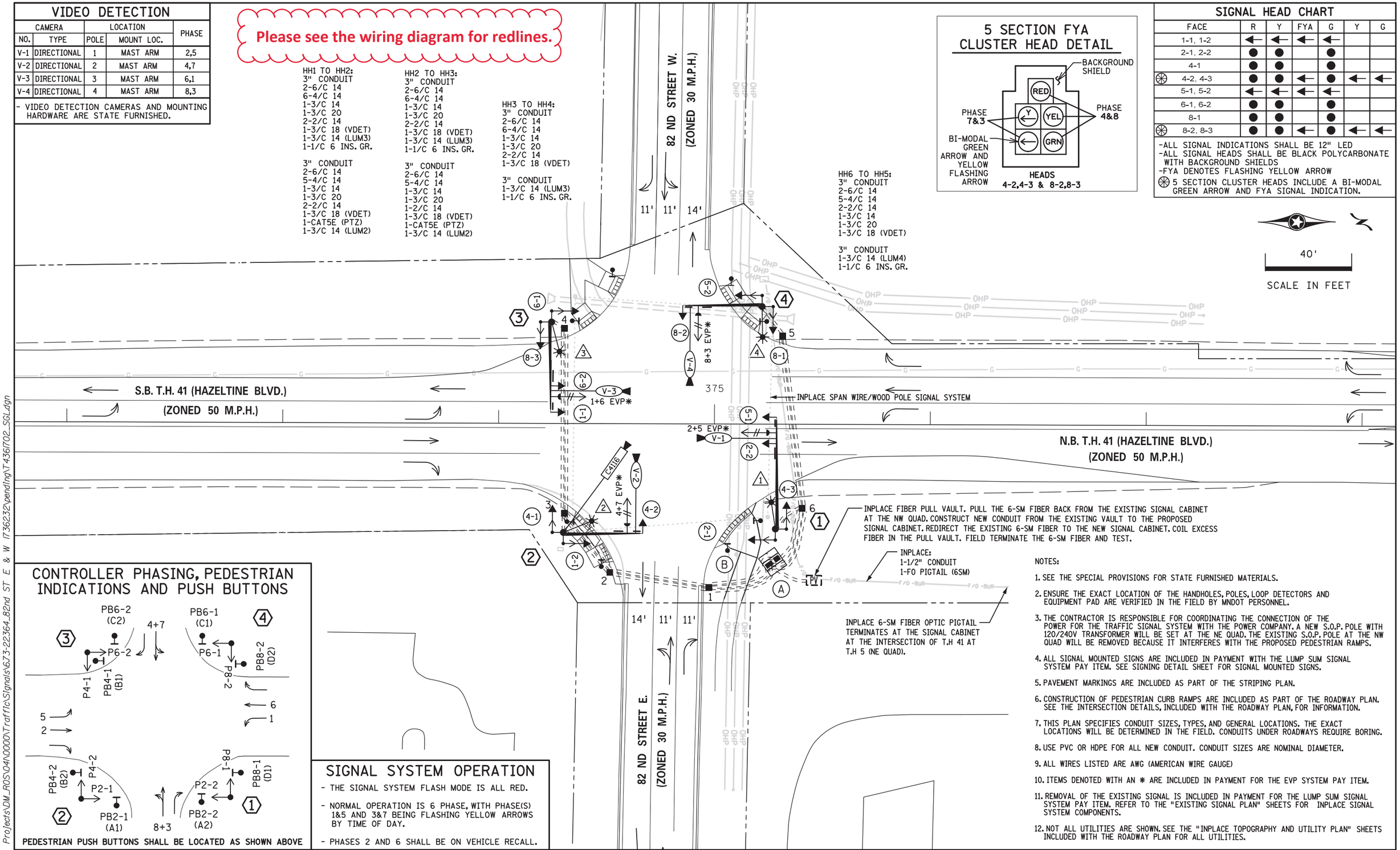
3" CONDUIT
2-6/C 14
5-4/C 14
1-3/C 14
1-3/C 20
1-2/C 14
1-3/C 18 (VDET)
1-CAT5E (PTZ)
1-3/C 14 (LUM2)

HH3 TO HH4:
3" CONDUIT
2-6/C 14
6-4/C 14
1-3/C 14
1-3/C 20
2-2/C 14
1-3/C 18 (VDET)

3" CONDUIT
1-3/C 14 (LUM3)
1-1/C 6 INS. GR.

HH6 TO HH5:
3" CONDUIT
2-6/C 14
5-4/C 14
2-2/C 14
1-3/C 14
1-3/C 20
1-3/C 18 (VDET)

3" CONDUIT
1-3/C 14 (LUM4)
1-1/C 6 INS. GR.



5 SECTION FYA CLUSTER HEAD DETAIL

SIGNAL HEAD CHART

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

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
-FYA DENOTES FLASHING YELLOW ARROW
⊛ 5 SECTION CLUSTER HEADS INCLUDE A BI-MODAL GREEN ARROW AND FYA SIGNAL INDICATION.

40'
SCALE IN FEET

INPLACE FIBER PULL VAULT. PULL THE 6-SM FIBER BACK FROM THE EXISTING SIGNAL CABINET AT THE NW QUAD. CONSTRUCT NEW CONDUIT FROM THE EXISTING VAULT TO THE PROPOSED SIGNAL CABINET. REDIRECT THE EXISTING 6-SM FIBER TO THE NEW SIGNAL CABINET. COIL EXCESS FIBER IN THE PULL VAULT. FIELD TERMINATE THE 6-SM FIBER AND TEST.

INPLACE:
1-1/2" CONDUIT
1-FO PIGTAIL (6SM)

INPLACE 6-SM FIBER OPTIC PIGTAIL TERMINATES AT THE SIGNAL CABINET AT THE INTERSECTION OF T.H 41 AT T.H 5 (NE QUAD).

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION

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

NOTES:

1. SEE THE 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 PERSONNEL.
3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY. A NEW S.O.P. POLE WITH 120/240V TRANSFORMER WILL BE SET AT THE NE QUAD. THE EXISTING S.O.P. POLE AT THE NW QUAD WILL BE REMOVED BECAUSE IT INTERFERES WITH THE PROPOSED PEDESTRIAN RAMPS.
4. ALL SIGNAL MOUNTED SIGNS ARE INCLUDED IN PAYMENT WITH THE LUMP SUM SIGNAL SYSTEM PAY ITEM. SEE SIGNING DETAIL SHEET FOR SIGNAL MOUNTED SIGNS.
5. PAVEMENT MARKINGS ARE INCLUDED AS PART OF THE STRIPING PLAN.
6. CONSTRUCTION OF PEDESTRIAN CURB RAMPS ARE INCLUDED AS PART OF THE ROADWAY PLAN. SEE THE INTERSECTION DETAILS, INCLUDED WITH THE ROADWAY PLAN, FOR INFORMATION.
7. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER ROADWAYS REQUIRE BORING.
8. USE PVC OR HDPE FOR ALL NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
9. ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE)
10. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
11. REMOVAL OF THE EXISTING SIGNAL IS INCLUDED IN PAYMENT FOR THE LUMP SUM SIGNAL SYSTEM PAY ITEM. REFER TO THE "EXISTING SIGNAL PLAN" SHEETS FOR INPLACE SIGNAL SYSTEM COMPONENTS.
12. NOT ALL UTILITIES ARE SHOWN. SEE THE "INPLACE TOPOGRAPHY AND UTILITY PLAN" SHEETS INCLUDED WITH THE ROADWAY PLAN FOR ALL UTILITIES.

BY	DATE	REVISIONS

SYSTEM ID: 4361702 T.E. 54895
METER ADDRESS: TH 41 AT 82ND ST
OLD SYSTEM ID: 22364/ 1736232

TRAFFIC CONTROL SIGNAL SYSTEM INTERSECTION LAYOUT
T.H. 41 (HAZELTINE BLVD) AT 82ND ST. W.
IN CHASKA AND CHANHASSEN CARVER COUNTY

S.A.P. NO. 196-114-001, 194-121-001 | DRAWN BY:CDB | CKD BY:CDB | DATE:12/21/22

CERTIFIED BY Gregory Kern LICENSED PROFESSIONAL ENGINEER LIC. NO. 26829 DATE: 04/04/23

STATE PROJ.NO. 1008-96 (T.H.41) SHEET NO. SS8 OF SS19 SHEETS

DISTRICT *: Metro
IPLOT NAME: 82 LAYOUT
FILENAME: Projects\DM_ROS\04\0000\Traffic\Signals\673-22364_82nd ST E & W 1736232\pending\T4361702_SGL.dgn

PLOTTED/REVISED: 4-APR-2023

DISTRICT *: Metro
IPLOT NAME: 82 NOTES
FILENAME: Projects\DM_ROS\04\0000\Traffic\Signals\673-22364_82nd ST E & W 1736232\pending\T4361702_SGL.dgn

③ X=543917.5506 Y=178893.9263
PA100 POLE FOUNDATION
TYPE PA100-A-40-D30-9 (DAVIT AT 350 DEG)
1-PAIR SWING AWAY HINGES
1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-VIDEO DETECTION CAMERA (V-3) (STATE FURNISHED)
MOUNTED ON 6' EXTENSION AT 8' FROM END OF MAST ARM
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (1-1)
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11' (6-2)
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (8-3) (6-1)
2-ANGLE MOUNT C. D. PED HEADS AT 90 AND 180 DEG (P4-1, P6-2)
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)
1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
1-SIGN (D-1) (82nd ST) (SEE SIGN DETAILS)
3" CONDUIT INTO HH 4:
2-6/C 14
6-4/C 14
✱1-3/C 14
✱1-3/C 20
1-3/C 14 (LUM)
1-VDET CABLE (3/C 18) (VID DET V-3)
1-1/C 6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB6-2)
EXTEND INTO HH 4:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB6-1)
EXTEND INTO HH 5:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

④ X=543908.1182 Y=178987.4537
PA100 POLE FOUNDATION
TYPE PA90-A-35-D30-9 (DAVIT AT 270 DEG)
1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-VIDEO DETECTION CAMERA (V-4) (STATE FURNISHED)
MOUNTED ON 6' EXTENSION AT 2' FROM END OF MAST ARM
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (8-2)
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (5-2) (8-1)
2-ANGLE MOUNT C. D. PED HEADS AT 90 AND 180 DEG (P6-1, P8-2)
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 8+3)
1-R10-X12 SIGN ADJACENT TO HEAD (8-2)
1-SIGN (D-2) (MN41) (SEE SIGN DETAILS)
3" CONDUIT INTO HH 5:
2-6/C 14
5-4/C 14
✱1-3/C 14
✱1-3/C 20
1-3/C 14 (LUM)
1-VDET CABLE (3/C 18) (VID DET V-4)
1-1/C 6 INS. GR.

Ⓐ EQUIPMENT PAD (SEE STANDARD PLAN SHEET NO. 5-297.869)
SERVICE CABINET (SSB) NO BATTERY BACKUP SYSTEM OR BATTERIES
CONTROLLER AND CABINET (STATE FURNISHED)

3" CONDUIT TO HH 6:
2-6/C 14
5-4/C 14
2-2/C 14
✱ 1-3/C 14
✱ 1-3/C 20
1-3/C 18 (VDET)

3" CONDUIT TO HH 6:
2-6/C 14
6-4/C 14
1-3/C 14
✱ 1-3/C 20
✱ 2-2/C 14
1-3/C 18 (VDET)
1-1/C 6 INS. GR.

3" CONDUIT TO HH 1:
2-6/C 14
6-4/C 14
✱ 1-3/C 14
✱ 1-3/C 20
2-2/C 14
1-3/C 18 (VDET)
1-1/C 6 INS. GR.

3" CONDUIT TO HH 1:
2-6/C 14
5-4/C 14
✱ 1-3/C 14
✱ 1-3/C 20
2-2/C 14
1-3/C 18 (VDET)
1-CAT5E (PTZ)

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 INPLACE PULL VAULT:
1-FO PIGTAIL (6-SM) (INPLACE CABLE - FIELD TERMINATE)

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

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

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

SERVICE CABINET TO EXTERNAL GR. RD.:
1" CONDUIT
1-1/C 6 INS. GR.
(SEE EQUIPMENT PAD LAYOUT

PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB4-1)
EXTEND INTO HH 4:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB8-2)
EXTEND INTO HH 5:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB4-2)
EXTEND INTO HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB8-1)
EXTEND INTO HH 6:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

② X=544013.9455 Y=178900.1113
PA100 POLE FOUNDATION
TYPE PA90-A-35-X6-300/CAM 400 EXTENSION (MOUNTED
AT 350 DEG) (INCLUDES LIGHTNING ROD, 7/16" GROUND
BRAID AND GROUND ROD)
1-PTZ VIDEO CAMERA (STATE FURNISHED)
1-VIDEO DETECTION CAMERA (V-2) (STATE FURNISHED)
MOUNTED ON 6' EXTENSION AT 2' FROM END OF MAST ARM
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (4-2)
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (1-2) (4-1)
2-ANGLE MOUNT C. D. PED HEADS AT 90 AND 180 DEG (P2-1, P4-2)
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 4+7)
1-R10-X12 SIGN ADJACENT TO HEAD (4-2)
1-SIGN (D-2) (MN41) (SEE SIGN DETAILS)
3" CONDUIT INTO HH 3:
2-6/C 14
5-4/C 14
✱ 1-3/C 14
✱ 1-3/C 20
1-3/C 14 (LUM)
1-COM CABLE (CAT 5E) (PTZ)
1-VDET CABLE (3/C 18) (VID DET V-2)
1-7/16" GROUNDING BRAID (LIGHTNING ROD TO GROUND ROD)
1-1/C 6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB2-1)
EXTEND INTO HH 2:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

Ⓑ SOP- MINNESOTA VALLEY ELECTRIC CO-OP (MVEC)
WILL SET NEW POLE WITH 120/240V POLE
MOUNTED TRANSFORMER
THE CITY OF CHANHASSEN WILL BE RESPONSIBLE
PARTY FOR POWER PAYMENT

2" CONDUIT RISER, WEATHERHEAD AND
CONDUIT INTO SERVICE CABINET
3-1/C#2
(COIL CABLES AT TOP FOR MVEC TO HOOK-UP)

PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB2-2)
EXTEND INTO HH 6:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

① X=543907.6836 Y=178991.3861
PA100 POLE FOUNDATION
TYPE PA100-A-50-D30-9 (DAVIT AT 350 DEG)
1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-PAIR SWING AWAY HINGES
1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-VIDEO DETECTION CAMERA (V-1) (STATE FURNISHED)
MOUNTED ON 6' EXTENSION AT 8' FROM END OF MAST ARM
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (5-1)
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11' (2-2)
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (4-3) (2-1)
2-ANGLE MOUNT C. D. PED HEADS AT 90 AND 180 DEG (P8-1, P2-2)
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 5+2)
1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
1-SIGN (D-1) (82nd ST) (SEE SIGN DETAILS)
3" CONDUIT INTO HH 6:
2-6/C 14
6-4/C 14
✱1-3/C 14
✱1-3/C 20
1-3/C 14 (LUM)
1-VDET CABLE (3/C 18) (VID DET V-1)
1-1/C 6 INS. GR.

BY	DATE	REVISIONS

SYSTEM ID: 4361702 T.E. 54895
METER ADDRESS: TH 41 AT 82ND ST
OLD SYSTEM ID: 22364/ 1736232

TRAFFIC CONTROL SIGNAL SYSTEM
INTERSECTION NOTES
T.H. 41 (HAZELTINE BLVD) AT 82ND ST. W.
IN CHASKA AND CHANHASSEN CARVER COUNTY

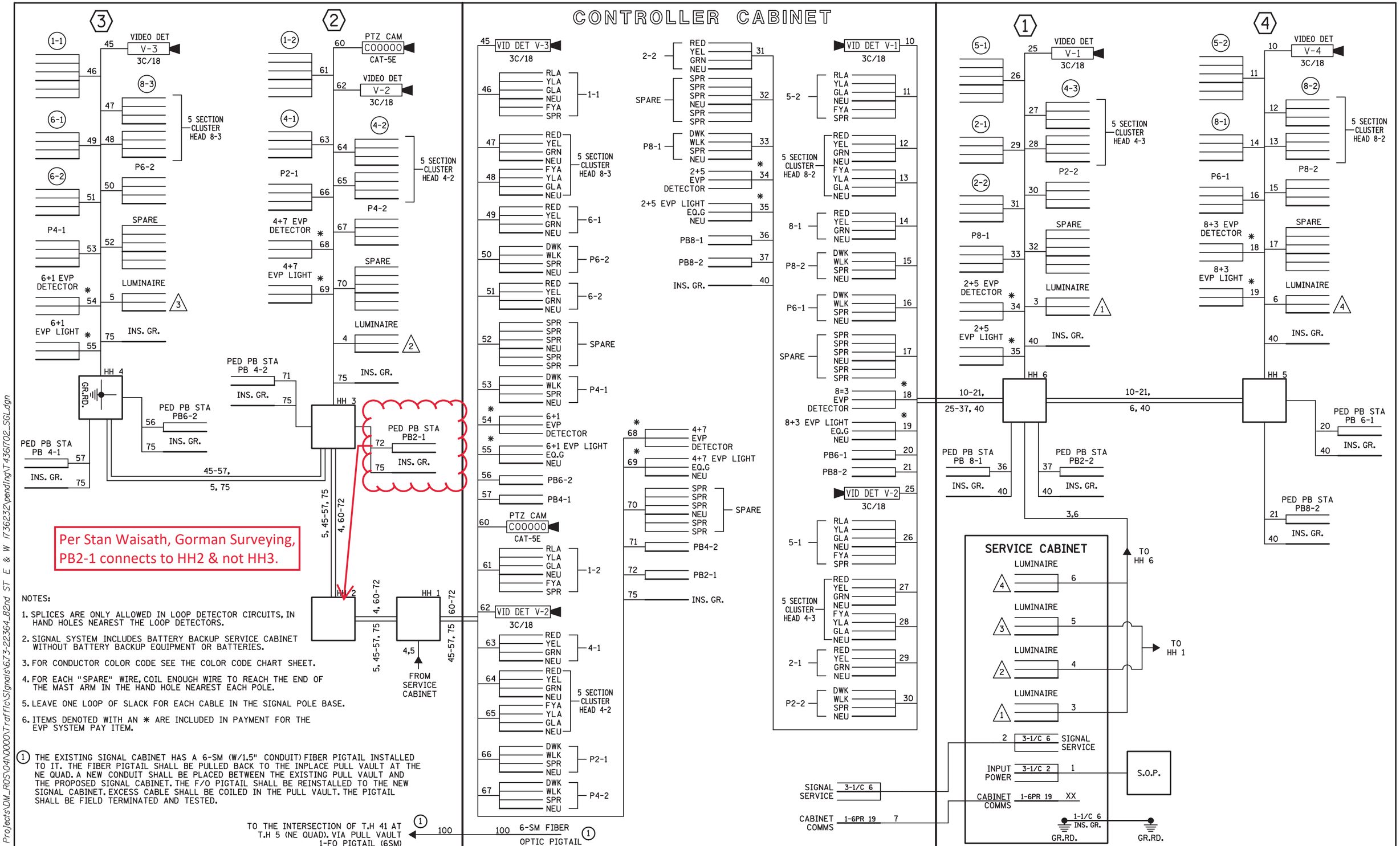
S.A.P. NO. 196-114-001, 194-121-001 | DRAWN BY: CDB | CKD BY: CDB | DATE: 04/04/23

CERTIFIED BY Gregory Kern LICENSED PROFESSIONAL ENGINEER LIC. NO. 26829 DATE: 04/04/23

STATE PROJ.NO. 1008-96 (T.H.41) SHEET NO. SS10 OF SS19 SHEETS

PLOTTED/REVISED: 4-APR-2023

CONTROLLER CABINET



NOTES:

1. SPLICES ARE ONLY ALLOWED IN LOOP DETECTOR CIRCUITS, IN HAND HOLES NEAREST THE LOOP DETECTORS.
2. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET WITHOUT BATTERY BACKUP EQUIPMENT OR BATTERIES.
3. FOR CONDUCTOR COLOR CODE SEE THE COLOR CODE CHART SHEET.
4. FOR EACH "SPARE" WIRE, COIL ENOUGH WIRE TO REACH THE END OF THE MAST ARM IN THE HAND HOLE NEAREST EACH POLE.
5. LEAVE ONE LOOP OF SLACK FOR EACH CABLE IN THE SIGNAL POLE BASE.
6. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

(1) THE EXISTING SIGNAL CABINET HAS A 6-SM (W/1.5" CONDUIT) FIBER PIGTAIL INSTALLED TO IT. THE FIBER PIGTAIL SHALL BE PULLED BACK TO THE INPLACE PULL VAULT AT THE NE QUAD. A NEW CONDUIT SHALL BE PLACED BETWEEN THE EXISTING PULL VAULT AND THE PROPOSED SIGNAL CABINET. THE F/O PIGTAIL SHALL BE REINSTALLED TO THE NEW SIGNAL CABINET. EXCESS CABLE SHALL BE COILED IN THE PULL VAULT. THE PIGTAIL SHALL BE FIELD TERMINATED AND TESTED.

BY	DATE	REVISIONS

SYSTEM ID: 4361702 T.E. 54895
METER ADDRESS: TH 41 AT 82ND ST
OLD SYSTEM ID: 22364/ 1736232

TRAFFIC CONTROL SIGNAL SYSTEM
FIELD WIRING DIAGRAM
T.H. 41 (HAZELTINE BLVD) AT 82ND ST. W.
IN CHASKA AND CHANHASSEN CARVER COUNTY

S.A.P. NO. 196-114-001, 194-121-001 | DRAWN BY:CDB | CKD BY:CDB | DATE:04/04/23

CERTIFIED BY Gregory Kern LICENSED PROFESSIONAL ENGINEER LIC. NO. 26829 DATE: 04/04/23

STATE PROJ.NO. 1008-96 (T.H.41) SHEET NO. SS11 OF SS19 SHEETS

DISTRICT *: Metro
IPLOT NAME: 82 WIRING
FILENAME: Projects\DM_ROS\04\0000\Traffic\Signals\673-22364_82nd ST E & W I736232\pending\T4361702_SGL.dgn