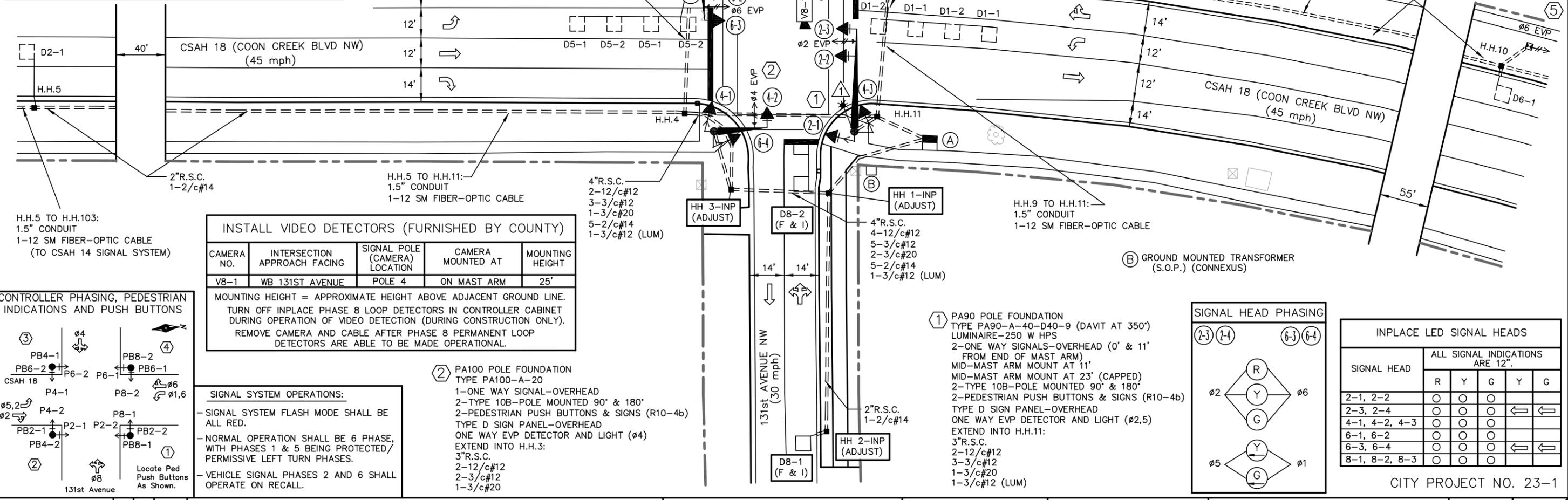


- LOOP DETECTOR REPLACEMENT NOTES:**
- ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE & SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
 - CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING HANDHOLES IN THE VICINITY OF CONSTRUCTION, AND SHALL ADJUST HANDHOLES 1, 2, AND 3 AS NECESSARY TO MATCH FINISHED SURROUNDING GRADE AFTER ROAD AND SIDEWALK WORK HAS BEEN COMPLETED. SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES.
 - LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) 12 AWG IN 3/4" NMC. NEW LOOP DETECTORS D8-1 AND D8-2 SHALL BE FURNISHED, INSTALLED AND MADE OPERATIONAL BY CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AND THE ANOKA COUNTY HIGHWAY DEPARTMENT. SEE DETAILS AND SPECIAL PROVISIONS.
 - ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.) SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE CITY.
 - CONTRACTOR SHALL MAINTAIN OPERATION OF SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER AND THE COUNTY.
 - SEE STATEMENT OF ESTIMATED QUANTITIES FOR BID ITEMS FOR WORK AT THIS SIGNAL SYSTEM.
 - CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING LOOP DETECTOR SPLICE KITS (FOR LOOP DETECTORS D8-1 AND D8-2), AND SHALL FURNISH AND INSTALL NEW LOOP DETECTOR SPLICE KITS IN THE ADJACENT HANDHOLE FOR D8-1 AND D8-2 AS CALLED FOR IN THE SPECIAL PROVISIONS.
 - F & I = ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR.
 - SEE SPECIAL PROVISIONS REGARDING VIDEO DETECTION SYSTEM TO BE FURNISHED BY THE COUNTY, INSTALLED & MADE OPERATIONAL BY THE CONTRACTOR DURING CONSTRUCTION, AND SALVAGED BY THE CONTRACTOR AFTER ALL PERMANENT Ø8 LOOP DETECTORS ARE MADE OPERATIONAL (TO BE MEASURED AND PAID FOR UNDER ITEM NO. 2565-VIDEO DETECTOR SYSTEM). SEE STATEMENT OF ESTIMATED QUANTITIES AND DIVISION SS SPECIAL PROVISIONS.
 - VIDEO DETECTOR CABLES TO BE FURNISHED & INSTALLED BY THE CONTRACTOR FOR USE DURING CONSTRUCTION SHALL BE FULLY COMPATIBLE WITH VIDEO CAMERA AND CABINET EQUIPMENT.
 - MOVEMENT/REAIMING OF VIDEO CAMERA AND ALL LABOR AND MATERIALS NEEDED TO MAINTAIN Ø8 VEHICULAR DETECTION DURING CONSTRUCTION ARE INCIDENTAL.

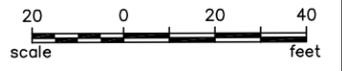
NMC LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1-1	2-6x6	20' & 50'	1	INPLACE
D1-2	2-6x6	5' & 35'	3	INPLACE
D2-1	6x6	300'	1	INPLACE
D4-1	6x6	120'	2	INPLACE
D4-2	2-6x6	0' & 15'	3	INPLACE
D5-1	2-6x6	20' & 50'	1	INPLACE
D5-2	2-6x6	5' & 35'	3	INPLACE
D6-1	6x6	300'	1	INPLACE
D8-1	6x6	120'	2	F & I
D8-2	2-6x6	0' & 15'	3	F & I

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

- LOOP DETECTORS FUNCTIONS:**
- CALL AND EXTEND
 - EXTEND ONLY
 - DELAYED CALL, IMMEDIATE EXTEND



INSTALL VIDEO PROCESSOR AND INTERNAL VIDEO EQUIPMENT (FURNISHED BY COUNTY)



(A) EQUIPMENT PAD FOUNDATION
CONTROLLER AND CABINET
SIGNAL SERVICE CABINET

CONTROLLER CABINET TO SERVICE CABINET:
METERED SIGNAL SERVICE
2"R.S.C.
3-1/c#6

CONTROLLER CABINET TO H.H.1:
4"R.S.C.
4-12/c#12
5-3/c#12
2-3/c#20
7-2/c#14

CONTROLLER CABINET TO H.H.11:
4"R.S.C.
4-12/c#12
5-3/c#12
3-3/c#20
3-2/c#14

STUB OUT 2-3"R.S.C. FROM CABINET TO WEST (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

SERVICE CABINET TO H.H.1:
2"R.S.C.
1-3/c#12 (LUM)

SERVICE CABINET TO H.H.11:
2"R.S.C.
1-3/c#12 (LUM)

STUB OUT 2"R.S.C. FROM SERVICE CABINET TO EAST (FOR POWER BY CONNEXUS)

H.H.9 TO H.H.104:
1.5" CONDUIT
1-12 SM FIBER-OPTIC CABLE
(TO 133RD AVENUE SIGNAL SYSTEM)



INSTALL VIDEO DETECTORS (FURNISHED BY COUNTY)

CAMERA NO.	INTERSECTION APPROACH FACING	SIGNAL POLE (CAMERA) LOCATION	CAMERA MOUNTED AT	MOUNTING HEIGHT
V8-1	WB 131ST AVENUE	POLE 4	ON MAST ARM	25'

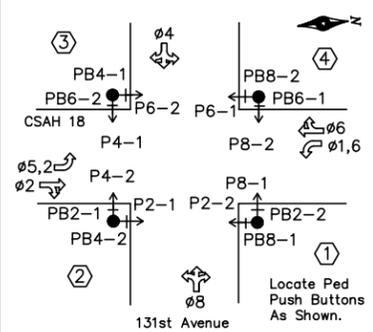
MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.
TURN OFF INPLACE PHASE 8 LOOP DETECTORS IN CONTROLLER CABINET DURING OPERATION OF VIDEO DETECTION (DURING CONSTRUCTION ONLY).
REMOVE CAMERA AND CABLE AFTER PHASE 8 PERMANENT LOOP DETECTORS ARE ABLE TO BE MADE OPERATIONAL.

SIGNAL SYSTEM OPERATIONS:

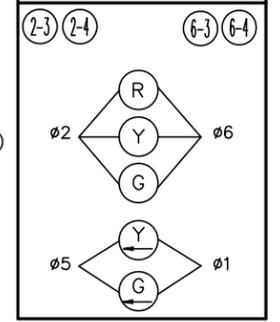
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

- (2) PA100 POLE FOUNDATION
TYPE PA100-A-20
1-ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 90° & 180°
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (Ø4)
EXTEND INTO H.H.3:
3"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL HEAD PHASING



INPLACE LED SIGNAL HEADS

SIGNAL HEAD	ALL SIGNAL INDICATIONS ARE 12"				
	R	Y	G	Y	G
2-1, 2-2	○	○	○		
2-3, 2-4	○	○	○	←	←
4-1, 4-2, 4-3	○	○	○		
6-1, 6-2	○	○	○		
6-3, 6-4	○	○	○	←	←
8-1, 8-2, 8-3	○	○	○		

CITY PROJECT NO. 23-1

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

John M. Gray
Name: John M. Gray, PE
Lic. No. 22457
Date: March 1, 2023

PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110



COON RAPIDS,
MINNESOTA

LOOP DETECTOR REPLACEMENT
INTERSECTION LAYOUT
CSAH 18 (COON CREEK BLVD)
AT 131ST AVENUE NW

FILE NO. COONR 116823
SIGNAL SHEET 2 OF 5

