

LOOP DETECTOR REPLACEMENT NOTES:

- ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND 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, 9, 10, 11, 12, 13 & 14 AS NECESSARY TO MATCH FINISHED SURROUNDING GRADE AFTER ROAD WORK HAS BEEN COMPLETED. SEE SPECIAL PROVISIONS & STATEMENT OF ESTIMATED QUANTITIES.
- LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) 12 AWG IN 3/4" NMC. NEW LOOP DETECTORS D4-1, D4-2 AND D4-3 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 D4-1, D4-2 AND D4-3) & SHALL FURNISH AND INSTALL NEW LOOP DETECTOR SPLICE KITS IN THE ADJACENT HANDHOLE FOR D4-1, D4-2 AND D4-3 AS CALLED FOR IN THE SPECIAL PROVISIONS.
- NEW LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR ARE BOXED IN AND DENOTED BY F & I (FURNISH AND INSTALL).
- SEE SPECIAL PROVISIONS REGARDING VIDEO DETECTION SYSTEM TO BE FURNISHED, INSTALLED & MADE OPERATIONAL BY CONTRACTOR DURING CONSTRUCTION, AND REMOVED BY CONTRACTOR AFTER THE PERMANENT LOOP DETECTORS ARE MADE OPERATIONAL (TO BE MEASURED AND PAID FOR UNDER ITEM NO. 2565-VIDEO DETECTOR SYSTEM). SEE STATEMENT OF ESTIMATED QUANTITIES AND THE 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/REPAIRING OF VIDEO CAMERA AND ALL LABOR AND MATERIALS NEEDED TO REVISE THIS SIGNAL SYSTEM DURING CONSTRUCTION ARE INCIDENTAL.

PVC LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D2-1	6x6	250'	1	INPLACE
D4-1	6x6	120'	3,8	F & I
D4-2	2-6x6	0' & 15'	7	F & I
D4-3	2-6x6	0' & 15'	7	F & I
D5-1	2-6x6	20' & 50'	10,11	INPLACE
D5-2	2-6x6	5' & 35'	10,11	INPLACE
D6-1	6x6	260'	1	INPLACE
D8-1	6x6	120'	3,8	INPLACE
D8-2	2-6x6	AS SHOWN	7	INPLACE

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

LOOP DETECTORS FUNCTIONS:

- CALL AND EXTEND
- EXTEND ONLY
- DELAYED CALL, IMMEDIATE EXTEND
- CARRY OVER
- CALL PHASE 5 DURING PHASES 4/8 GREEN
- EXTEND PHASES 2/5

④ TYPE PA90-A25-D30-9 PA90 POLE FOUNDATION ONEWAY SIGNALS OVERHEAD ONEWAY EVP DETECTOR AND LIGHT (6' FROM END OF MAST ARM).
TYPE 10B - AT 90°
TYPE 10B - AT 180°
2-PEDESTRIAN PUSH BUTTONS EXTEND INTO HH 10
3" RSC
2-12/C #12
2-3/C #12
1-3/C #20
1-3/C #12 (LUM)
LUMINAIRE-200 w HPS

F & I VIDEO CAMERA-MAST ARM MOUNTED (FACING EB TRAFFIC) (V4-1)
POLE HUB & 6-FOOT EXTENSION FOR VIDEO CAMERA (MOUNT ON MAST ARM AT LOCATION DETERMINED BY ENGINEER)
1-VIDEO CABLE (CAMERA TO CABINET)

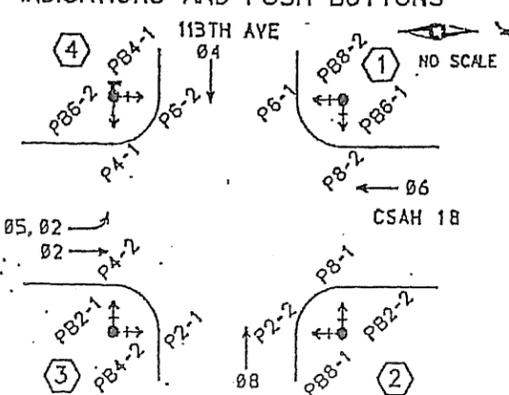
③ TYPE PA90-A20-PA90 POLE FOUNDATION ONEWAY SIGNAL OVERHEAD TWOWAY EVP DETECTOR AND ONEWAY EVP LIGHT (6' FROM END OF MAST ARM)

TYPE 10B - AT 90°
TYPE 10B - AT 180°
2-PEDESTRIAN PUSH BUTTONS EXTEND TO HH 7
3" RSC
2-12/C #12
2-3/C #12
2-3/C #20

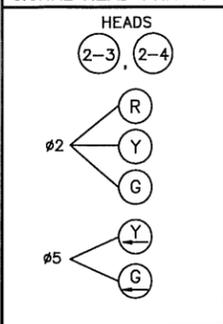
SIGNAL SYSTEM OPERATIONS:

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

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL HEAD PHASING



INPLACE LED SIGNAL HEADS

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

CITY PROJECT NO. 20-2

S:\NEW\COONR\COMMON SIGNALS-LED\2020\LOOPS\2020-BASE.DWG

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE

RECORD DRAWING

REVISIONS

I 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.
Date: February 18, 2020 Name: John M. Gray, PE Lic. No. 22457

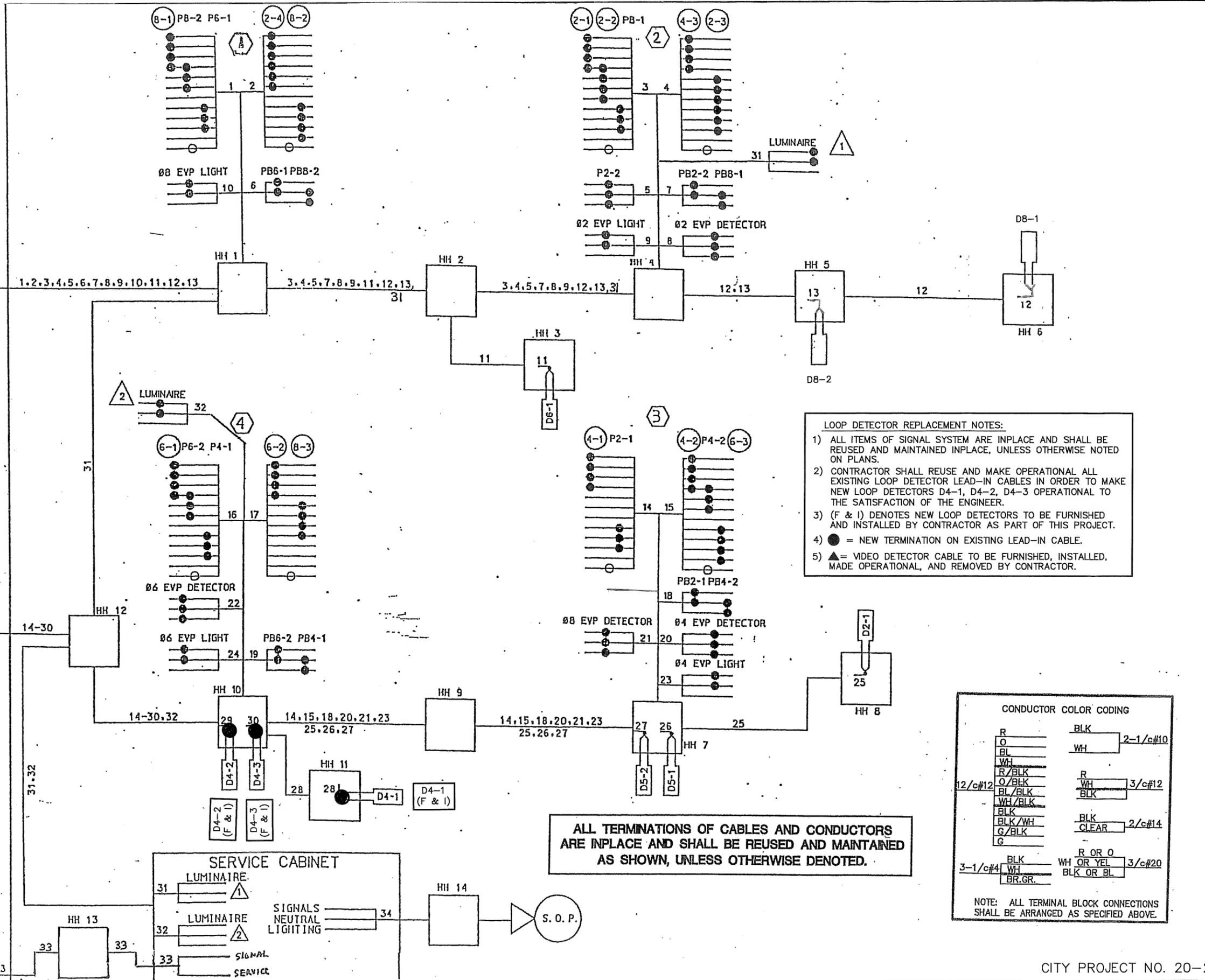
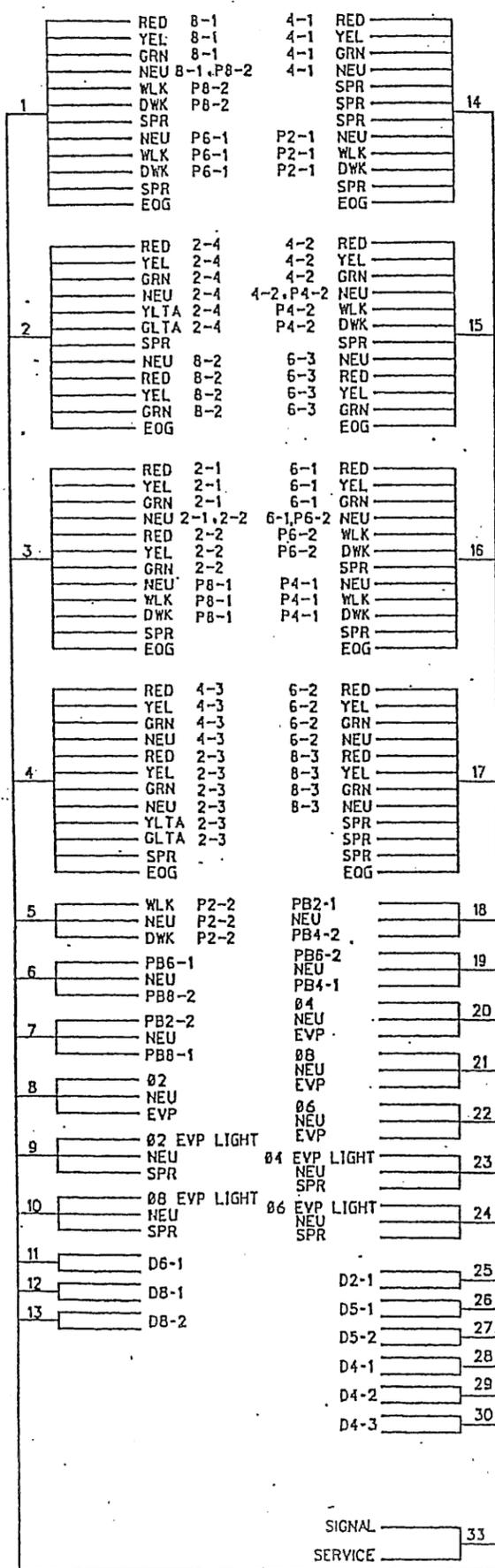
SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

COON RAPIDS, MINNESOTA

LOOP DETECTOR REPLACEMENT INTERSECTION LAYOUT CSAH 18 (COON CREEK BOULEVARD) AT 113TH AVENUE NW

FILE NO. COONR 116823
SIGNAL SHEET 4 OF 9

CONTROLLER CABINET



LOOP DETECTOR REPLACEMENT NOTES:

- 1) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
- 2) CONTRACTOR SHALL REUSE AND MAKE OPERATIONAL ALL EXISTING LOOP DETECTOR LEAD-IN CABLES IN ORDER TO MAKE NEW LOOP DETECTORS D4-1, D4-2, D4-3 OPERATIONAL TO THE SATISFACTION OF THE ENGINEER.
- 3) (F & I) DENOTES NEW LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
- 4) ● = NEW TERMINATION ON EXISTING LEAD-IN CABLE.
- 5) ▲ = VIDEO DETECTOR CABLE TO BE FURNISHED, INSTALLED, MADE OPERATIONAL, AND REMOVED BY CONTRACTOR.

ALL TERMINATIONS OF CABLES AND CONDUCTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED AS SHOWN, UNLESS OTHERWISE DENOTED.

CONDUCTOR COLOR CODING	
R	BLK 2-1/c#10
O	WH
BL	
WH	
R/BLK	R
O/BLK	WH 3/c#12
BL/BLK	BLK
WH/BLK	
BLK	BLK CLEAR 2/c#14
BLK/WH	
G/BLK	
G	
	R OR O
3-1/c#4	WH OR YEL 3/c#20
	BLK OR BL
	BR.OR.

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

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 CHECKED BY: JMG
 DESIGN TEAM

NO.	BY	DATE	REVISIONS
1	JMG	11/20	RECORD DRAWING

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 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

COON RAPIDS, MINNESOTA

LOOP DETECTOR REPLACEMENT FIELD WIRING DIAGRAM
 CSAH 18 (COON CREEK BOULEVARD) AT 113TH AVENUE NW

FILE NO. COONR 116823
 SIGNAL SHEET 5 OF 9

CITY PROJECT NO. 20-2