

NMC LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1-1	2-6x6	15' & 45'	1	F & I
D1-2	2-6x6	0' & 30'	1	F & I
D2-1, D2-2	6x6	475'	1	INPLACE
D4-1	6x6	120'	3,8	INPLACE
D4-2	2-6x6	5' & 20'	7	INPLACE
D4-3	2-6x6	5' & 20'	1	INPLACE
D4-4	2-6x6	20' & 50'	1	INPLACE
D4-5	2-6x6	5' & 35'	1	INPLACE
D5-1	2-6x6	10' & 40'	1	1
D5-2	2-6x6	-5' & 25'	1	2
D6-1, D6-2	6x6	475'	1	F & I
D8-1	6x6	120'	3,8	INPLACE
D8-2	2-6x6	5' & 20'	7	INPLACE
D8-3	2-6x6	20' & 50'	7	INPLACE
D8-4	2-6x6	5' & 35'	7	INPLACE

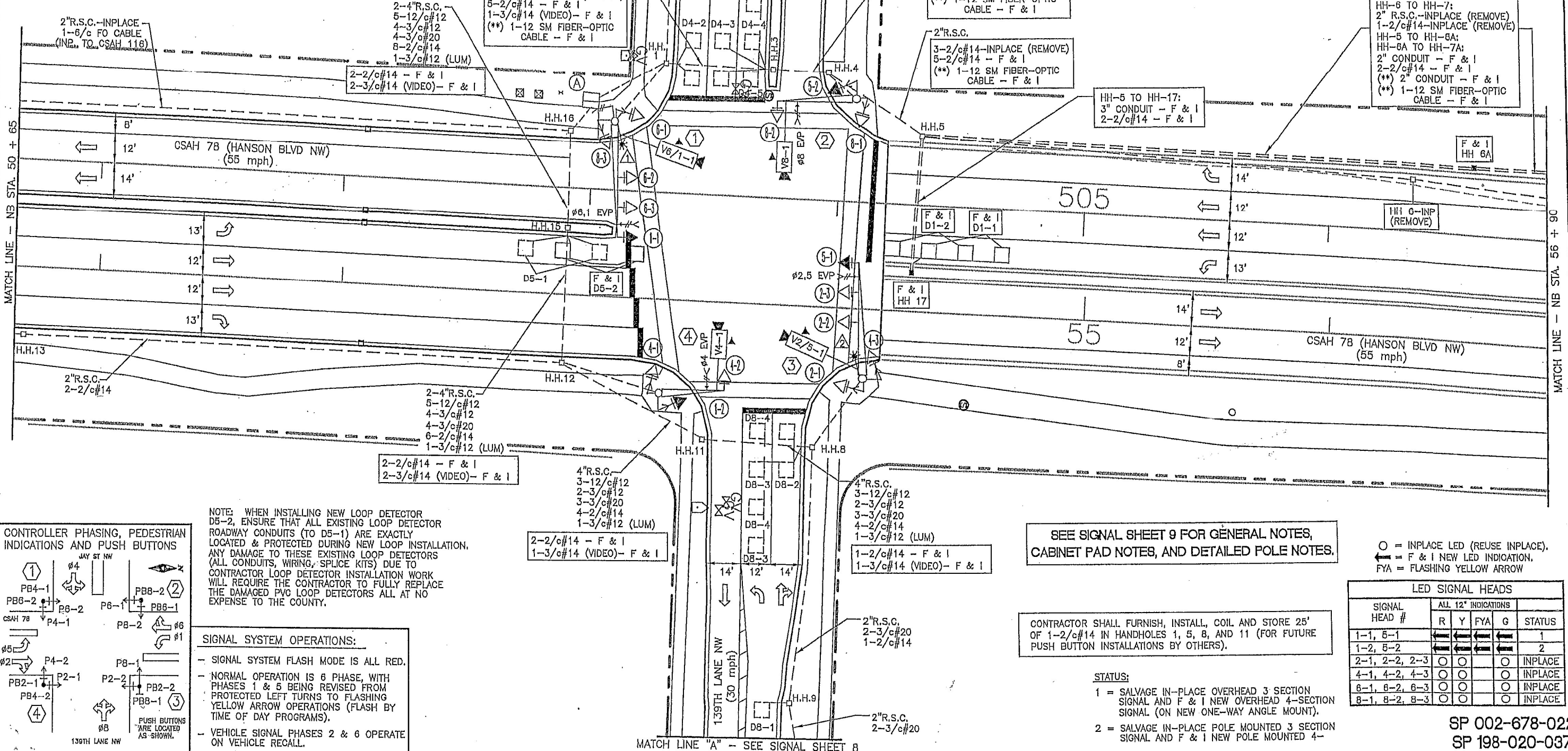
LOOP DETECTORS FUNCTIONS:

- 1) CALL AND EXTEND
- 3) EXTEND ONLY
- 7) DELAYED CALL, IMMEDIATE EXTEND
- 8) CARRY OVER (STRETCH)

LOOP DETECTOR STATUS:

- 1 = DETACH EXISTING FRONT (10') LOOP DETECTOR FROM EXISTING LEAD-IN CABLE AND SPLICE TO EXISTING BACK (40') LOOP DETECTOR AND BACK LEAD-IN CABLE (F & I NEW SPLICE KIT). PROTECT EXISTING 10'/40' LOOP DETECTORS IN ROADWAY.
- 2 = FURNISH & INSTALL NEW PVC LOOP DETECTORS AT -5' AND 25' FROM STOP BAR. SPLICE THESE NEW LOOP DETECTORS TO EXISTING FRONT LEAD-IN CABLE (F & I NEW SPLICE KIT).

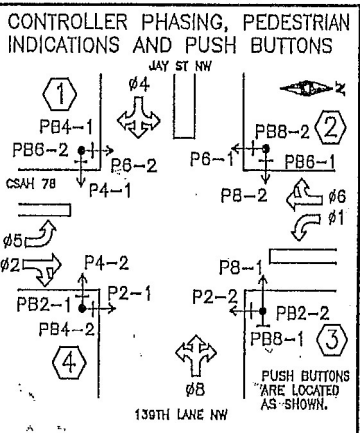
LOCATION = DISTANCE FROM STOP BAR TO FRONT OF DETECTOR.



INSTALL VIDEO DETECTORS (FURNISHED BY COUNTY)

CAMERA NO.	INTERSECTION APPROACH FACING	SIGNAL POLE (CAMERA) LOCATION	CAMERA MOUNTED AT	MOUNTING HEIGHT
V2/B-1	NB CSAH 78	POLE 3	ON LUM EXTENSION	40'
V4-1	EB JAY STREET	MAST ARM 4	ON MAST ARM (2' FROM LEFT END)	25'
V6/1-1	SB CSAH 78	POLE 1	ON LUM EXTENSION	30'
V8-1	WB 139TH LANE	MAST ARM 2	ON MAST ARM (2' FROM LEFT END)	25'

NOTE: MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.
 TURN OFF INPLACE LOOP DETECTORS IN CONTROLLER CABINET DURING OPERATION OF VIDEO DETECTION (DURING CONSTRUCTION ONLY).
 SALVAGE CAMERAS BACK TO COUNTY AFTER ALL PERMANENT LOOP DETECTORS ARE ABLE TO BE MADE OPERATIONAL.



NOTE: WHEN INSTALLING NEW LOOP DETECTOR D5-2, ENSURE THAT ALL EXISTING LOOP DETECTOR ROADWAY CONDUITS (TO D5-1) ARE EXACTLY LOCATED & PROTECTED DURING NEW LOOP INSTALLATION. ANY DAMAGE TO THESE EXISTING LOOP DETECTORS (ALL CONDUITS, WIRING, SPLICE KITS) DUE TO CONTRACTOR LOOP DETECTOR INSTALLATION WORK WILL REQUIRE THE CONTRACTOR TO FULLY REPLACE THE DAMAGED PVC LOOP DETECTORS ALL AT NO EXPENSE TO THE COUNTY.

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 & 5 BEING REVISED FROM PROTECTED LEFT TURNS TO FLASHING YELLOW ARROW OPERATIONS (FLASH BY TIME OF DAY PROGRAMS).
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON VEHICLE RECALL.

SEE SIGNAL SHEET 9 FOR GENERAL NOTES, CABINET PAD NOTES, AND DETAILED POLE NOTES.

CONTRACTOR SHALL FURNISH, INSTALL, COIL AND STORE 25' OF 1-2/c#14 IN HANDHOLES 1, 5, 8, AND 11 (FOR FUTURE PUSH BUTTON INSTALLATIONS BY OTHERS).

○ = INPLACE LED (REUSE INPLACE).
 ◀ = F & I NEW LED INDICATION.
 FYA = FLASHING YELLOW ARROW

LED SIGNAL HEADS

SIGNAL HEAD #	ALL 12" INDICATIONS				STATUS
	R	Y	FYA	G	
1-1, 5-1	◀	◀	◀	◀	1
1-2, 5-2	◀	◀	◀	◀	2
2-1, 2-2, 2-3	○	○	○	○	INPLACE
4-1, 4-2, 4-3	○	○	○	○	INPLACE
6-1, 6-2, 6-3	○	○	○	○	INPLACE
8-1, 8-2, 8-3	○	○	○	○	INPLACE

STATUS:

- 1 = SALVAGE IN-PLACE OVERHEAD 3 SECTION SIGNAL AND F & I NEW OVERHEAD 4-SECTION SIGNAL (ON NEW ONE-WAY ANGLE MOUNT).
- 2 = SALVAGE IN-PLACE POLE MOUNTED 3 SECTION SIGNAL AND F & I NEW POLE MOUNTED 4-

DESIGN TEAM

NO.	BY	DATE

REVISIONS

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: December 8, 2018

SEH
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ANOKA COUNTY, MINNESOTA
 CITY OF ANDOVER

REVISE SIGNAL SYSTEM 'A'
 INTERSECTION LAYOUT
 CSAH 78 (HANSON BLVD NW) AT
 139TH LANE NW/JAY STREET NW

FILE NO. ANOKA 144178
 SIGNAL SHEET 7 OF 27
394

SP 002-678-022
 SP 198-020-037

SYSTEM "A" NOTES:

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
2) LOCATION OF NEW HANDHOLES AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
3) CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING HANDHOLES IN THE VICINITY OF CONSTRUCTION; SHALL ADJUST HANDHOLES 4, 5, AND 8 TO MATCH FINISHED SURROUNDING MATCH FINISHED SURROUNDING SIDEWALK/MEDIAN/BOULEVARD GRADE; SHALL REMOVE INPLACE HANDHOLES 6 AND 7; AND SHALL FURNISH AND INSTALL NEW HANDHOLES 6A, 7A, AND 17 (PVC HANDHOLES WITH METAL FRAMES & COVERS) (INCIDENTAL). SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION.
4) ALL LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AND OPERATIONAL, EXCEPT AS FOLLOWS: CONTRACTOR SHALL FURNISH AND INSTALL NEW LOOP DETECTORS D1-1, D1-2, D5-2, D6-1, AND D6-2 IN PVC PER DETAILS INCLUDED ELSEWHERE IN THESE PLANS. LOOP DETECTOR WIRES FOR NEW LOOP DETECTORS SHALL BE CROSS-LINKED POLY-ETHYLENE (XLP) #12 AWG IN 3/4" NMC (SEE SPECIAL PROVISIONS)
5) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), EITHER DUE TO TRAFFIC SIGNAL REVISION WORK OR SIDEWALK/MEDIAN/ROAD CONSTRUCTION WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
6) CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY ENGINEER.
7) ALL PEDESTRIAN SIGNAL HEADS ARE ONE-SECTION PEDESTRIAN SIGNAL HEADS AND SHALL BE REUSED AS FOLLOWS: MAINTAIN INPLACE HOUSINGS AND VISORS, REMOVE INPLACE ONE-SECTION "HAND/WALKING PERSON" LENSES, AND FURNISH AND INSTALL NEW ONE SECTION COUNTDOWN TIMER LED "HAND/WALKING PERSON" LENSES IN THEIR PLACE.
8) EACH NEW SIGNAL HEAD SHALL HAVE BACKGROUND SHIELD.
9) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM A").
10) F & I = NEW, FURNISH AND INSTALL.
S & I = INPLACE, SALVAGE AND INSTALL.
11) ALL CONDUIT, CABLES AND CONDUCTORS, HANDHOLES, AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED OTHERWISE.
12) CONTRACTOR SHALL PROTECT ALL INPLACE SOLID STATE PUSH BUTTONS DURING SALVAGING AND REINSTALLATION WORK ON EACH MAST ARM POLE AND SHALL REPLACE ANY PUSH BUTTON DAMAGED DUE TO PROJECT WORK AT NO EXPENSE TO OWNER.
13) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
14) SEE SPECIAL PROVISIONS REGARDING VIDEO DETECTION SYSTEM TO BE FURNISHED BY COUNTY, INSTALLED AND MADE OPERATIONAL BY CONTRACTOR DURING CONSTRUCTION, AND SALVAGED BY THE CONTRACTOR BACK TO COUNTY AFTER PERMANENT LOOP DETECTORS ARE MADE OPERATIONAL (INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM A").
15) VIDEO DETECTOR CABLES (3/C#14) TO BE FURNISHED & INSTALLED BY CONTRACTOR FOR USE DURING CONSTRUCTION SHALL BE COILED IN EACH POLE BASE BY CONTRACTOR AFTER VIDEO DETECTORS ARE SALVAGED BY CONTRACTOR (FOR FUTURE USE BY OTHERS).
16) MOVEMENT/REMAINING OF VIDEO CAMERAS, DAGING AND UNBAGGING SIGNAL HEADS AS NOTED, AND ALL LABOR AND MATERIALS NEEDED TO REVISE SIGNAL SYSTEM DURING CONSTRUCTION SHALL BE INCLUDED IN THE PAY ITEM FOR "REVISE SIGNAL SYSTEM A".
17) SEE CHART ON THIS PLAN SHEET FOR INPLACE SIGNAL HEADS TO BE COVERED AND MADE INOPERATIONAL DURING VARIOUS STAGES OF CONSTRUCTION, AND FOR THESE SAME SIGNAL HEADS TO BE UNCOVERED AND MADE OPERATIONAL PRIOR TO NEXT STAGE OF CONSTRUCTION (INCIDENTAL).

1 INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG) PA100 SWING-AWAY HINGES 2-ONE WAY SIGNALS-OVERHEAD (11', 23' FROM END OF MAST ARM) (6-3, 6-2) 2-ONE WAY SIGNALS-POLE MOUNTED 45/225 DEG 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45/225 DEG 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG TYPE D SIGN PANEL-OVERHEAD ONE WAY EVP DETECTOR AND LIGHT (#6,1) ONE WAY EVP DETECTOR-POLE MOUNTED 135 DEG (#2,5) EXTENDED INTO H.H.1: 3"R.S.C. 3-12/c#12 2-3/c#12 1-3/c#12 (LUM)

INPLACE (REMOVE) 1-ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 1-1) LUMINAIRE-250 W HPS 2-SETS PED SIGNAL LENSES (HAND/WALKING PERSON) (LEAVE HOUSINGS AND VISORS INPLACE) 2-PED PUSH BUTTON INSTRUCTION SIGNS (R10-4b) INPLACE (S & I) 2-PEDESTRIAN PUSH BUTTONS (REINSTALL ON SAME SIDES OF MAST ARM POLE AFTER SIDEWALK WORK IS COMPLETED, SO THAT PUSH BUTTONS ARE LOCATED 42" ABOVE FINISHED ADJACENT SIDEWALK GRADE-CAP ANY OLD HOLES ON POLE) F & I 1-ONE WAY SIGNAL & ANGLE MOUNT-OVERHEAD AT 0' (NEW 1-1) LUMINAIRE-LED 2-SETS LED C.D. "HAND/WALKING PERSON" LENSES (FOR P4-1, P6-2) 2-PED PUSH BUTTON INSTRUCTION SIGNS (R10-3e) R10-X12 SIGN PANEL-ADJACENT TO 1-1 POLE HUB & LUM EXTENSION MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING NEAR TOP OF LUM EXTENSION) 1-3/c#14 (VIDEO) INSTALL VIDEO CAMERA-LUM EXTENSION MOUNTED (FACING SB TRAFFIC) (FURNISHED BY COUNTY) (V6/1-1)

3 INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION TYPE PA100-A-45-D30-9 (DAVIT AT 350 DEG) PA100 SWING-AWAY HINGES 2-ONE WAY SIGNALS-OVERHEAD (11', 23' FROM END OF MAST ARM) (2-3, 2-2) 2-ONE WAY SIGNALS-POLE MOUNTED 45/225 DEG 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45/225 DEG 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG TYPE D SIGN PANEL-OVERHEAD ONE WAY EVP DETECTOR AND LIGHT (#2,5) EXTENDED INTO H.H.8: 3"R.S.C. 3-12/c#12 2-3/c#12 1-3/c#20 1-3/c#12 (LUM)

INPLACE (REMOVE) 1-ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 5-1) LUMINAIRE-250 W HPS 2-SETS PED SIGNAL LENSES (HAND/WALKING PERSON) (LEAVE HOUSINGS AND VISORS INPLACE) 2-PED PUSH BUTTON INSTRUCTION SIGNS (R10-4b) INPLACE (S & I) 2-PEDESTRIAN PUSH BUTTONS (SALVAGE FROM 0/270 DEGREE SIDES OF MAST ARM POLE AND REINSTALL ON 180/270 DEGREE SIDES OF MAST ARM POLE AFTER SIDEWALK WORK IS COMPLETED, SO THAT PUSH BUTTONS ARE LOCATED 42" ABOVE FINISHED ADJACENT SIDEWALK GRADE-CAP ANY OLD HOLES ON POLE) F & I 1-ONE WAY SIGNAL & ANGLE MOUNT-OVERHEAD AT 0' (NEW 5-1) LUMINAIRE-LED 2-SETS LED C.D. "HAND/WALKING PERSON" LENSES (FOR P2-2, P8-1) 2-PED PUSH BUTTON INSTRUCTION SIGNS (R10-3e) R10-X12 SIGN PANEL-ADJACENT TO 5-1 POLE HUB & LUM EXTENSION MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING NEAR TOP OF LUM EXTENSION) 1-3/c#14 (VIDEO) INSTALL VIDEO CAMERA-LUM EXTENSION MOUNTED (FACING NB TRAFFIC) (FURNISHED BY COUNTY) (V2/5-1)

2 INPLACE (MAINTAIN INPLACE) PA90 POLE FOUNDATION TYPE PA90-A-30 ONE WAY SIGNAL-OVERHEAD 1-ONE WAY SIGNAL-POLE MOUNTED 225 DEG (8-1) 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45/225 DEG 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG TYPE D SIGN PANEL-OVERHEAD ONE WAY EVP DETECTOR AND LIGHT (#8) EXTENDED INTO H.H.4: 3"R.S.C. 2-12/c#12 2-3/c#12 1-3/c#20

INPLACE (REMOVE) 1-ONE WAY SIGNAL AND MOUNT-POLE MTD 45 DEG (OLD 5-2) 2-SETS PED SIGNAL LENSES (HAND/WALKING PERSON) (LEAVE HOUSINGS AND VISORS INPLACE) 2-PED PUSH BUTTON INSTRUCTION SIGNS (R10-4b) INPLACE (S & I) 2-PEDESTRIAN PUSH BUTTONS (REINSTALL ON SAME SIDES OF MAST ARM POLE AFTER SIDEWALK WORK IS COMPLETED, SO THAT PUSH BUTTONS ARE LOCATED 42" ABOVE FINISHED ADJACENT SIDEWALK GRADE-CAP ANY OLD HOLES ON POLE) F & I 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 45 DEG (NEW 5-2) 2-SETS LED C.D. "HAND/WALKING PERSON" LENSES (FOR P6-1, P8-2) 2-PED PUSH BUTTON INSTRUCTION SIGNS (R10-3e) 5-FOOT EXTENSION, MAST ARM HUB, & MOUNTING HARDWARE FOR VIDEO CAMERA-LOCATE AT 2' FROM LEFT END OF MAST ARM (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM) 1-3/c#14 (VIDEO) INSTALL VIDEO CAMERA-MAST ARM MOUNTED (FACING WB TRAFFIC) (FURNISHED BY COUNTY) (V8-1)

4 INPLACE (MAINTAIN INPLACE) PA85 POLE FOUNDATION TYPE PA85-A-25 ONE WAY SIGNAL-OVERHEAD 1-ONE WAY SIGNAL-POLE MOUNTED 225 DEG (4-1) 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45/225 DEG TYPE D SIGN PANEL-OVERHEAD ONE WAY EVP DETECTOR AND LIGHT (#4) EXTENDED INTO H.H.12: 3"R.S.C. 2-12/c#12 2-3/c#12 1-3/c#20

INPLACE (REMOVE) 1-ONE WAY SIGNAL AND MOUNT-POLE MTD 45 DEG (OLD 1-2) 2-SETS PED SIGNAL LENSES (HAND/WALKING PERSON) (LEAVE HOUSINGS AND VISORS INPLACE) 2-PED PUSH BUTTON INSTRUCTION SIGNS (R10-4b) INPLACE (S & I) 2-PEDESTRIAN PUSH BUTTONS (REINSTALL ON SAME SIDES OF MAST ARM POLE AFTER SIDEWALK WORK IS COMPLETED, SO THAT PUSH BUTTONS ARE LOCATED 42" ABOVE FINISHED ADJACENT SIDEWALK GRADE-CAP ANY OLD HOLES ON POLE) F & I 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 45 DEG (NEW 1-2) 2-SETS LED C.D. "HAND/WALKING PERSON" LENSES (FOR P2-1, P4-2) 2-PED PUSH BUTTON INSTRUCTION SIGNS (R10-3e) 5-FOOT EXTENSION, MAST ARM HUB, & MOUNTING HARDWARE FOR VIDEO CAMERA-LOCATE AT 2' FROM LEFT END OF MAST ARM (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM) 1-3/c#14 (VIDEO) INSTALL VIDEO CAMERA-MAST ARM MOUNTED (FACING EB TRAFFIC) (FURNISHED BY COUNTY) (V4-1)

A INSTALL VIDEO PROCESSOR, MONITOR, AND ALL REQUIRED VIDEO EQUIPMENT (FURNISHED BY COUNTY) INPLACE (MAINTAIN INPLACE) EQUIPMENT PAD FOUNDATION CONTROLLER AND CABINET CONTROLLER CABINET TO SERVICE CABINET: METERED SIGNAL SERVICE 2"R.S.C. 3-1/c#8 CONTROLLER CABINET TO H.H.1: 4"R.S.C. 4"R.S.C. 3-12/c#12 2-12/c#12 2-3/c#12 2-3/c#12 2-3/c#20 1-3/c#20 2-2/c#14 3-2/c#14 CONTROLLER CABINET TO H.H.16: 4"R.S.C. 4"R.S.C. 2-12/c#12 3-12/c#12 2-3/c#12 2-3/c#12 1-3/c#20 3-3/c#20 4-2/c#14 4-2/c#14 1-6/c FO CABLE 3-2/c#14-INPLACE (REMOVE) 6-2/c#14 - F & I 2-3/c#14 (VIDEO)- F & I (** 1-12 SM FIBER-OPTIC CABLE - F & I) INPLACE (MAINTAIN INPLACE) CONTROLLER CABINET TO H.H.16: 4"R.S.C. 4"R.S.C. 2-12/c#12 3-12/c#12 2-3/c#12 2-3/c#12 1-3/c#20 3-3/c#20 4-2/c#14 4-2/c#14 1-6/c FO CABLE 2-2/c#14 - F & I 2-3/c#14 (VIDEO)- F & I

INPLACE (REMOVE) SIGNAL SERVICE CABINET F & I BBU SIGNAL SERVICE CABINET (INSTALL ON EXISTING FOUNDATION, USING EXISTING ANCHOR RODS WHERE POSSIBLE)

INPLACE (MAINTAIN INPLACE) 2-3"R.S.C. STUBBED OUT FROM CONTROLLER CABINET TO EAST (BOTH ENDS THREADED & CAPPED) 1"N.M.C. STUBBED OUT FROM CONTROLLER CABINET (FOR FUTURE PHONE LINE BY OTHERS) SERVICE CABINET TO H.H.1: UNMETERED STREET LIGHT SERVICE 2"R.S.C. 1-3/c#12 (LUM) SERVICE CABINET TO H.H.16: UNMETERED STREET LIGHT SERVICE 2"R.S.C. 1-3/c#12 (LUM) 2"R.S.C. STUBBED OUT FROM SERVICE CABINET TO SOUTH (FOR POWER BY CONNEXUS)

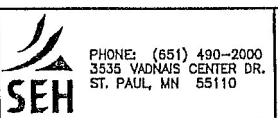
WORK BY CONTRACTOR ON VEHICLE SIGNAL HEADS FOR CONSTRUCTION STAGING (INCIDENTAL) Table with columns: SIGNAL HEAD, STAGE 1A, STAGE 1A (ALT), STAGE 1B, STAGE 2A, STAGE 2B, STAGE 3. Rows 1-1 to 6-3.

WORK BY CONTRACTOR: 1 = MAINTAIN INPLACE AND FULLY OPERATIONAL. 2 = COVER SIGNAL HEAD AND MAKE INOPERATIONAL DURING THIS STAGE OF CONSTRUCTION. ALL SIGNAL HEADS NOT LISTED SHALL BE REUSED AND MAINTAINED INPLACE & IN OPERATION FOR ALL STAGES OF CONSTRUCTION. ALL WORK BY CONTRACTOR TO COVER SIGNAL HEADS AND MAKE INOPERATIONAL FOR EACH STAGE NOTED ABOVE, AND ALL WORK TO UNCOVER AND MAKE SIGNAL HEADS OPERATIONAL PRIOR TO NEXT STAGE OF CONSTRUCTION IS CONSIDERED INCIDENTAL TO THE REVISE SIGNAL SYSTEM "A" BID ITEM.

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

Table with columns: NO., BY, DATE, 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: December 6, 2018 Name: John M. Gray, PE Lic. No. 22457

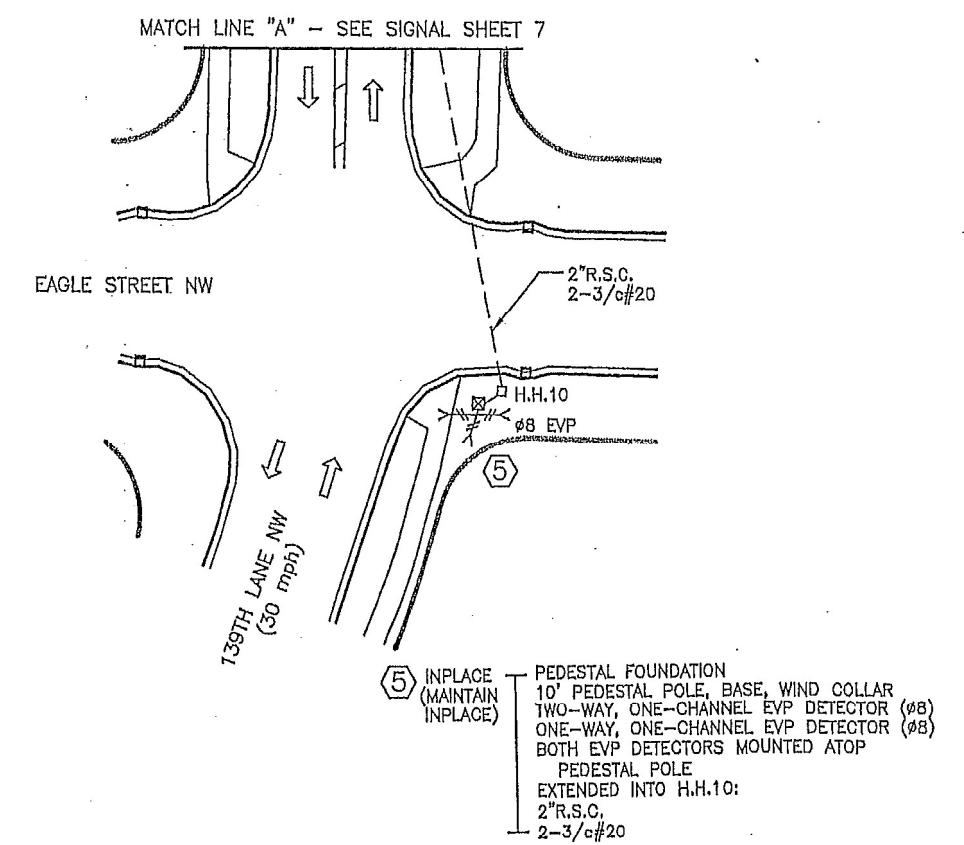
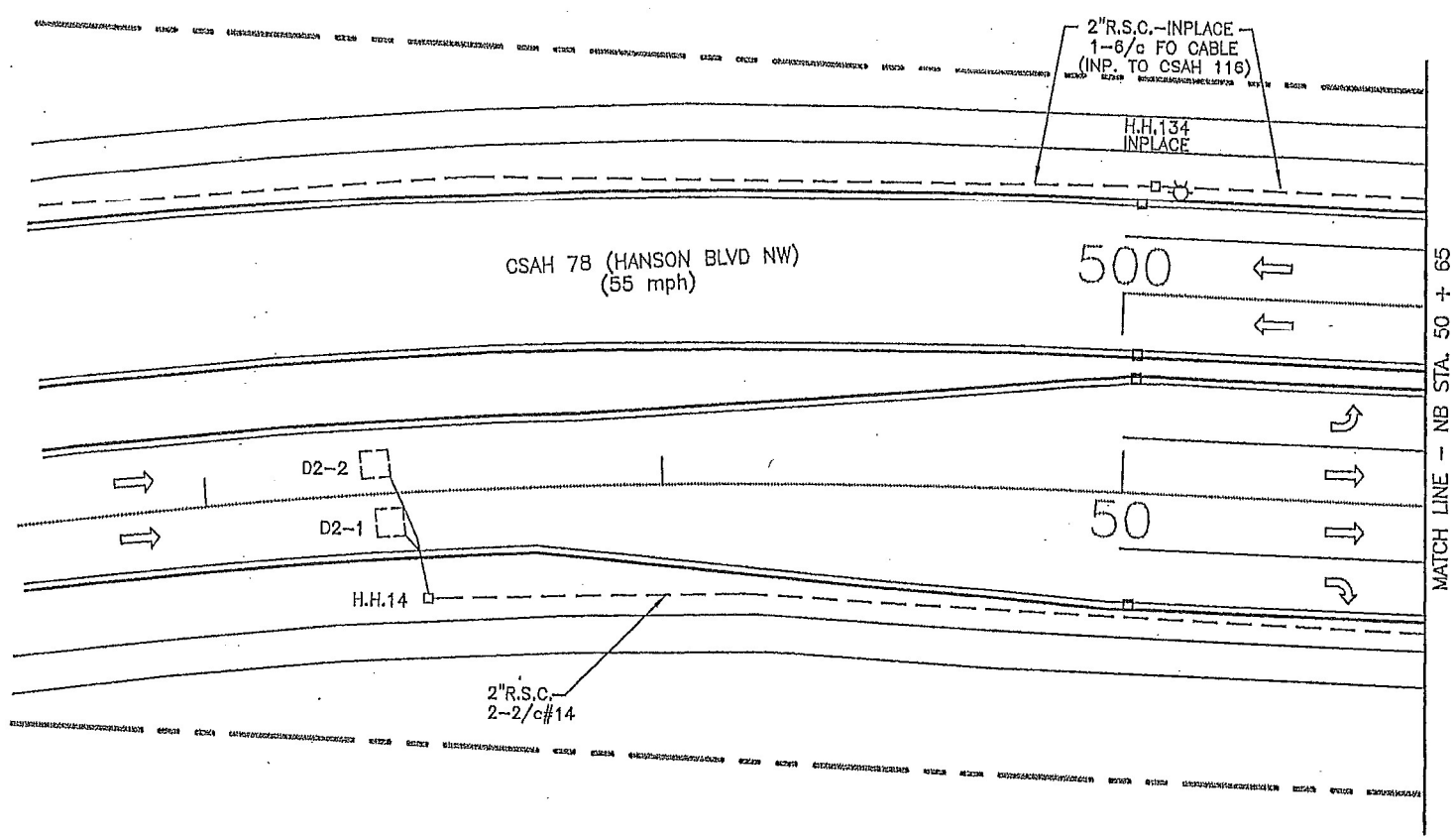


ANOKA COUNTY, MINNESOTA CITY OF ANDOVER

REVISE SIGNAL SYSTEM "A" NOTES CSAH 78 (HANSON BLVD NW) AT 139TH LANE NW/JAY STREET NW

FILE NO. ANOKC 144176 SIGNAL SHEET 9 OF 27 336 394

SP 002-678-022 SP 198-020-037



5 INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION
 10' PEDESTAL POLE, BASE, WIND COLLAR
 TWO-WAY, ONE-CHANNEL EVP DETECTOR (ø8)
 ONE-WAY, ONE-CHANNEL EVP DETECTOR (ø8)
 BOTH EVP DETECTORS MOUNTED ATOP
 PEDESTAL POLE
 EXTENDED INTO H.H.10:
 2\"/>

SP 002-678-022
 SP 198-020-037

DRAWN BY: JMG			
DESIGNER: JMG			
CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS

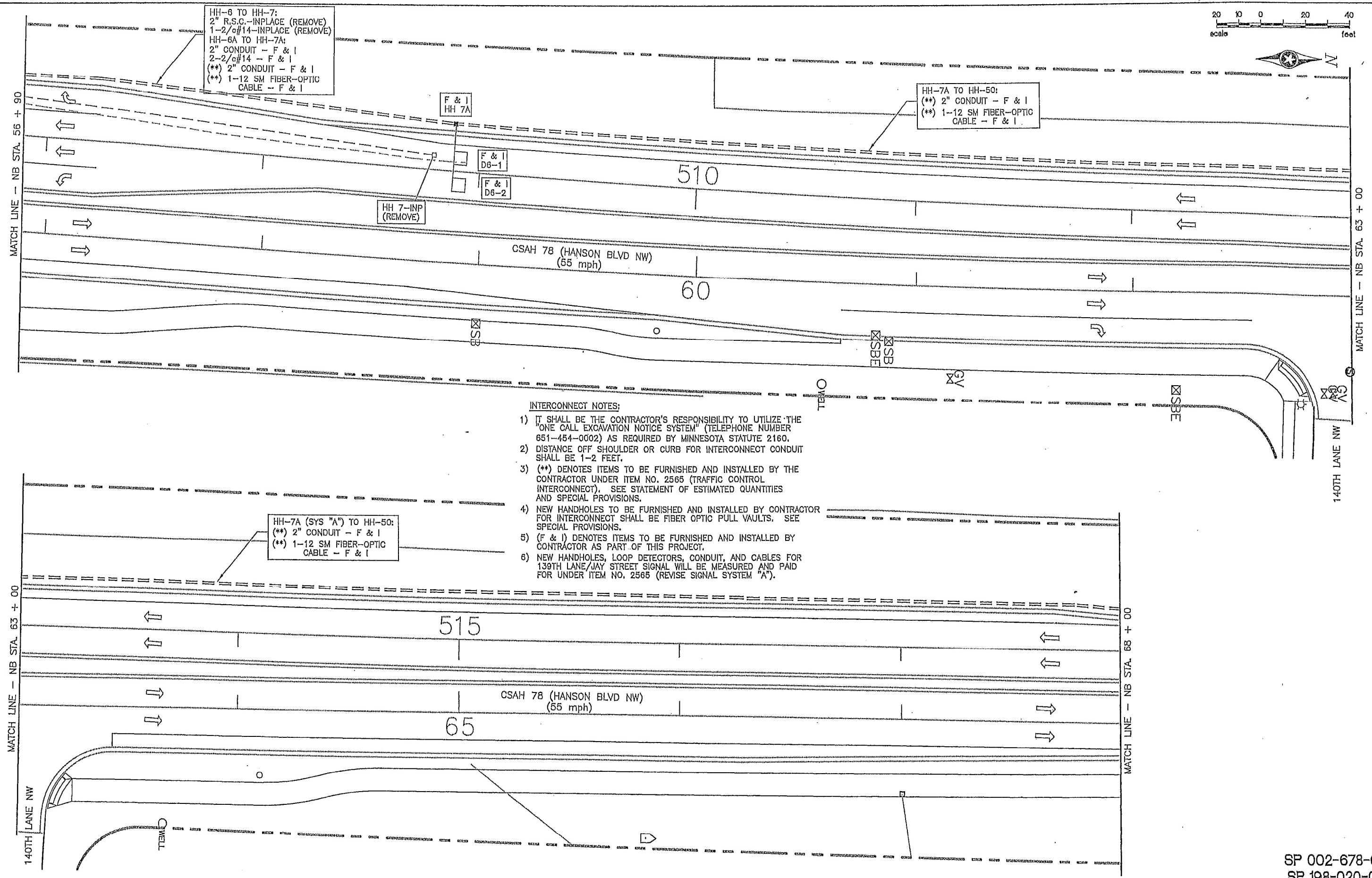
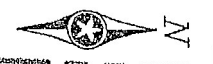
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 Date: December 6, 2018
 Name: John M. Gray, PE
 Lic. No. 22457

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ANOKA COUNTY,
 MINNESOTA
 CITY OF ANDOVER

REVISE SIGNAL SYSTEM 'A'
 MATCH LINES
 CSAH 78 (HANSON BLVD NW) AT
 139TH LANE NW/JAY STREET NW

FILE NO. ANOKG 144176	335
SIGNAL SHEET 8 OF 27	394



HH-6 TO HH-7:
2" R.S.C.-INPLACE (REMOVE)
1-2/c#14-INPLACE (REMOVE)
HH-6A TO HH-7A:
2" CONDUIT - F & I
2-2/c#14 - F & I
(**) 2" CONDUIT - F & I
(**) 1-12 SM FIBER-OPTIC CABLE - F & I

HH-7A TO HH-50:
(**) 2" CONDUIT - F & I
(**) 1-12 SM FIBER-OPTIC CABLE - F & I

HH-7A (SYS "A") TO HH-50:
(**) 2" CONDUIT - F & I
(**) 1-12 SM FIBER-OPTIC CABLE - F & I

INTERCONNECT NOTES:

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
- 3) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 4) NEW HANDHOLES TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR INTERCONNECT SHALL BE FIBER OPTIC PULL VAULTS. SEE SPECIAL PROVISIONS.
- 5) (F & I) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
- 6) NEW HANDHOLES, LOOP DETECTORS, CONDUIT, AND CABLES FOR 139TH LANE/JAY STREET SIGNAL WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 2565 (REVISE SIGNAL SYSTEM "A").

DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	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.

John M. Gray
Name: John M. Gray, PE
Date: December 6, 2018
Lic. No. 22457

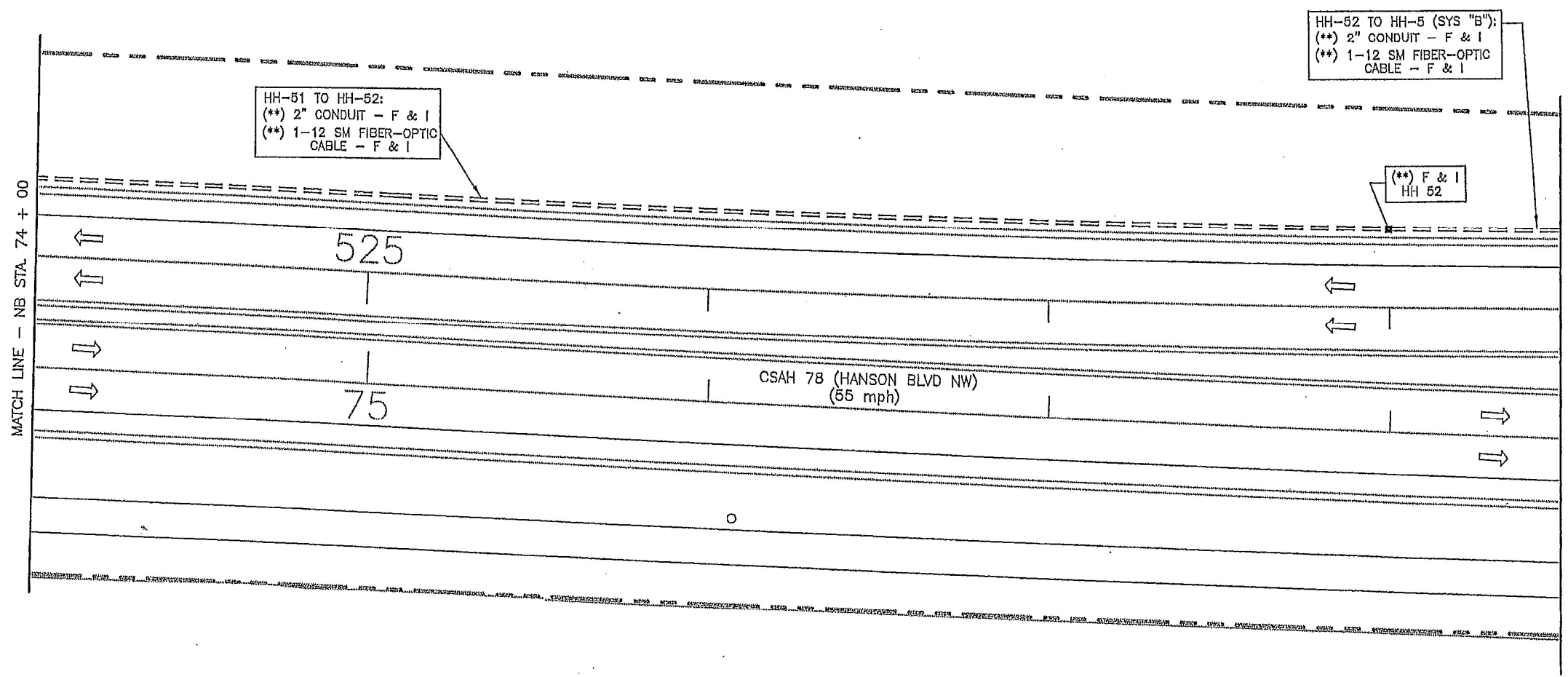
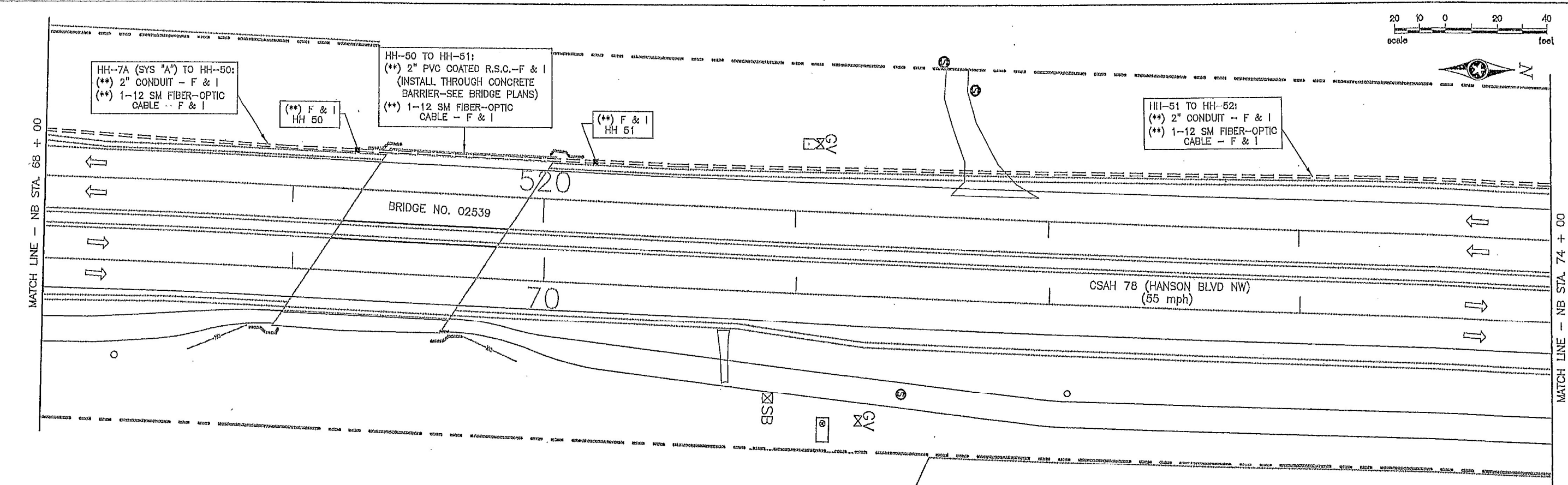
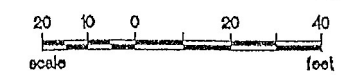
SEH
PHONE: (651) 480-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF ANDOVER

REVISE SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
CSAH 78 (HANSON BLVD NW) AT
139TH LANE NW/JAY STREET NW

FILE NO. ANOKC 144176	338
SIGNAL SHEET 11 OF 27	394

SP 002-678-022
SP 198-020-037



- INTERCONNECT NOTES:**
- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
 - 3) (** DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 4) NEW HANDHOLES TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR INTERCONNECT SHALL BE FIBER OPTIC PULL VAULTS, SEE SPECIAL PROVISIONS.
 - 5) (F & I) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.

DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	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.

John M. Gray
 Name: John M. Gray, PE
 Date: December 6, 2018
 Lic. No. 22487

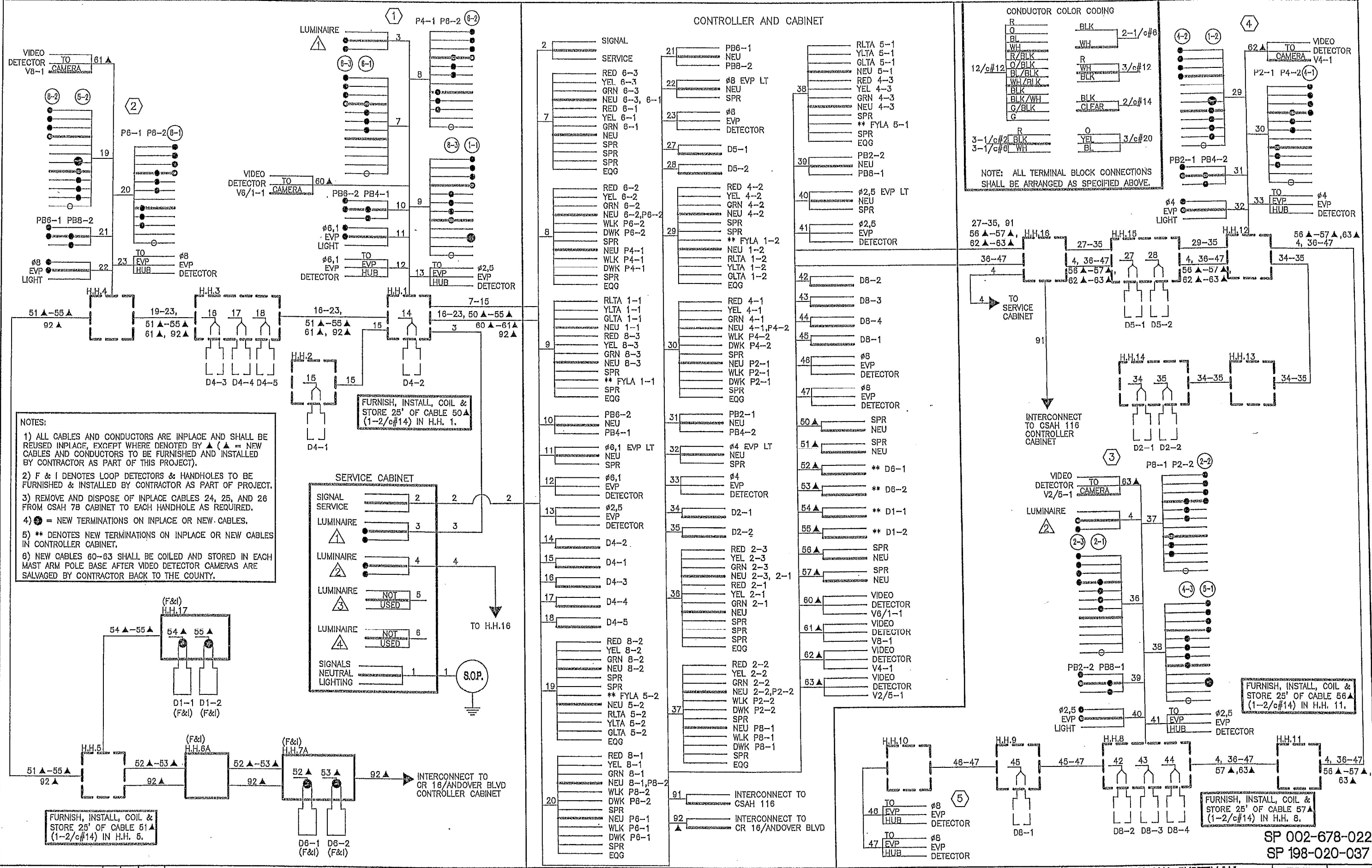
SEH
 PHONE: (651) 490-2000
 3535 WADSWORTH CENTER DR.
 ST. PAUL, MN 55110

**ANOKA COUNTY,
 MINNESOTA
 CITY OF ANDOVER**

**TRAFFIC SIGNAL INTERCONNECT
 INTERSECTION LAYOUT
 CSAH 78 (HANSON BLVD NW)
 (139TH LANE TO ANDOVER BLVD)**

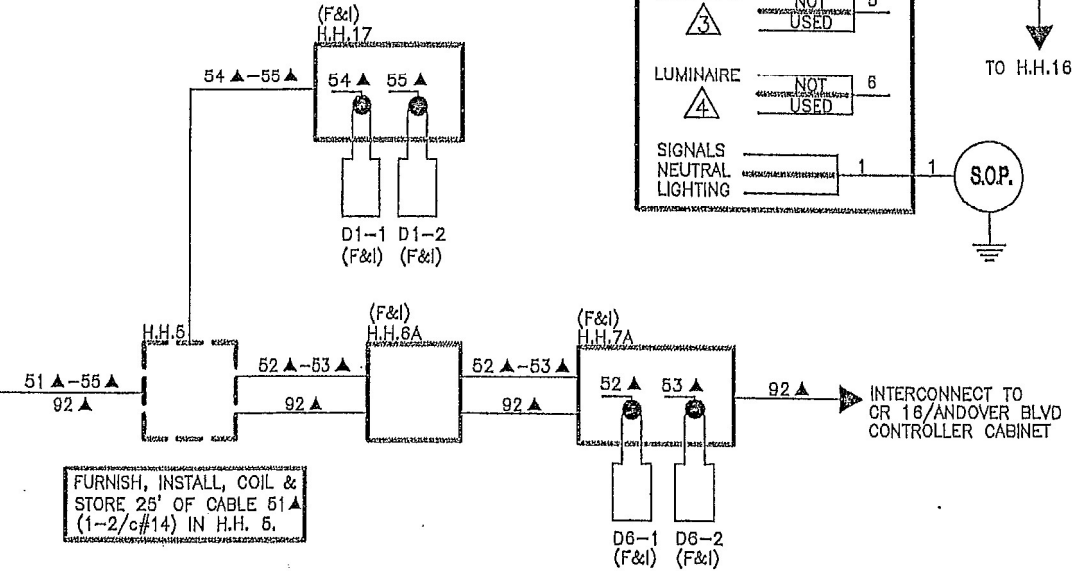
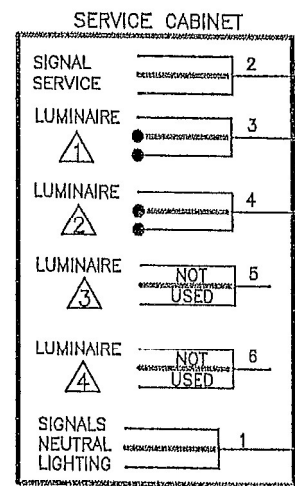
FILE NO. ANOKA 144176	339
SIGNAL SHEET 12 OF 27	394

SP 002-678-022
 SP 198-020-037



NOTES:

- 1) ALL CABLES AND CONDUCTORS ARE INPLACE AND SHALL BE REUSED INPLACE, EXCEPT WHERE DENOTED BY ▲ (▲ = NEW CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT).
- 2) F & I DENOTES LOOP DETECTORS & HANDHOLES TO BE FURNISHED & INSTALLED BY CONTRACTOR AS PART OF PROJECT.
- 3) REMOVE AND DISPOSE OF INPLACE CABLES 24, 25, AND 26 FROM CSAH 78 CABINET TO EACH HANDHOLE AS REQUIRED.
- 4) ● = NEW TERMINATIONS ON INPLACE OR NEW CABLES.
- 5) ** DENOTES NEW TERMINATIONS ON INPLACE OR NEW CABLES IN CONTROLLER CABINET.
- 6) NEW CABLES 60-63 SHALL BE COILED AND STORED IN EACH MAST ARM POLE BASE AFTER VIDEO DETECTOR CAMERAS ARE SALVAGED BY CONTRACTOR BACK TO THE COUNTY.



DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

NO.	BY	DATE	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.

John M. Gray
 Name: John M. Gray, PE
 Lic. No. 22457

Date: December 6, 2018

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

ANOKA COUNTY,
 MINNESOTA
 CITY OF ANDOVER

REVISE SIGNAL SYSTEM 'A'
 FIELD WIRING DIAGRAM
 CSAH 78 (HANSON BLVD NW) AT
 139TH LANE NW/JAY STREET NW

FILE NO.
 ANOKA 144176
 SIGNAL SHEET
 10 OF 27

337
 394