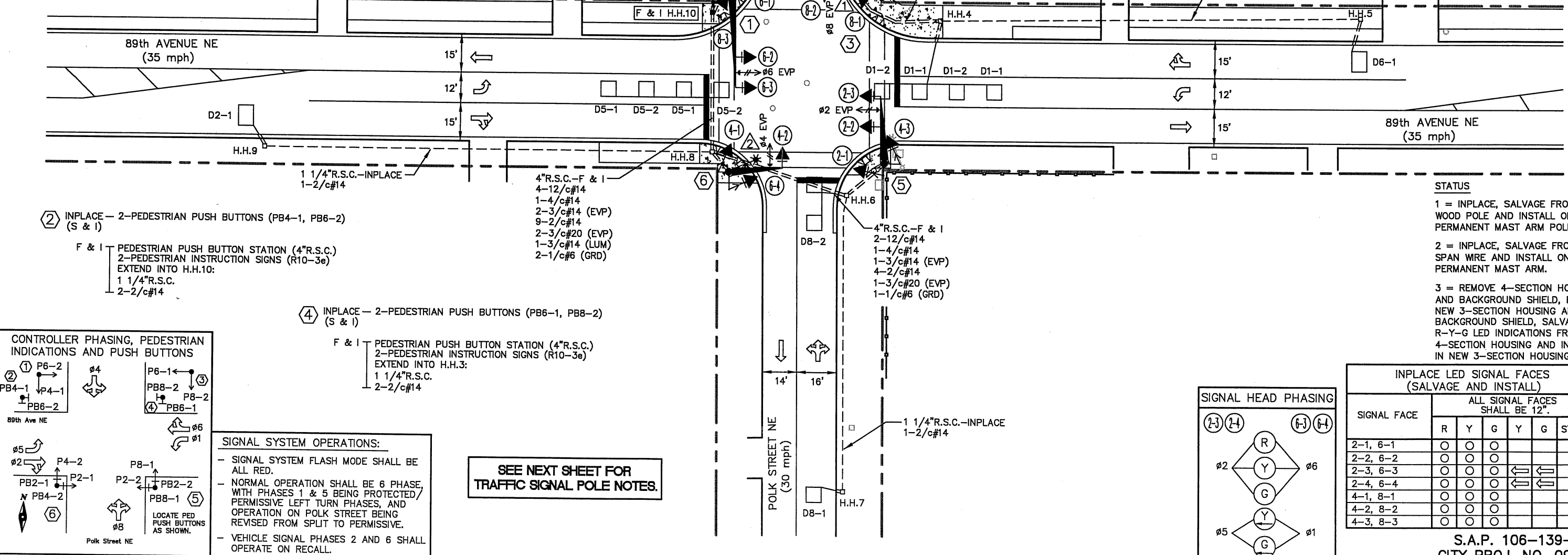


- NOTES:
- LOCATION OF FOUNDATIONS, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS AND REGARDING ITEMS TO BE SALVAGED FROM WOOD POLE SIGNAL SYSTEM AND INSTALLED ON NEW PERMANENT SYSTEM.
 - LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
 - NEW HANDHOLES 3 AND 10 SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS AND SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR. INPLACE HANDHOLES 1, 2, 4, 5, 6, 7, 8, 9, 11, AND 12 ARE PVC HANDHOLES WITH METAL FRAMES AND COVERS (REUSE AND MAINTAIN INPLACE).
 - NEW BACKGROUND SHIELDS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR FOR ALL INPLACE AND NEW VEHICLE SIGNAL FACES.
 - CONTRACTOR SHALL SALVAGE FROM WOOD POLE SYSTEM AND INSTALL ON NEW PERMANENT SIGNAL SYSTEM EIGHT (8) ONE-SECTION PEDESTRIAN SIGNAL HOUSINGS AND VISORS. CONTRACTOR SHALL REMOVE THE INPLACE "HAND/WALKING PERSON" LENSES AND SHALL FURNISH AND INSTALL NEW LED COUNTDOWN TIMER "HAND/WALKING PERSON" LENSES IN THEIR PLACE.
 - ALL VEHICLE SIGNAL INDICATIONS ARE LED INDICATIONS AND ARE INPLACE (REUSE AND MAKE OPERATIONAL AS SHOWN).
 - CONTRACTOR SHALL FURNISH AND INSTALL EXTENDED BRACKETING FOR ALL POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACES (TO ALLOW FOR ROTATION WITHIN BRACKETING).
 - (EVP) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - SEE DETAILS, SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING SIGNS, CONCRETE WALK, PEDESTRIAN CURB RAMP, AND STRIPING TO BE F & I BY CONTRACTOR.
 - SEE SPECIAL PROVISIONS REGARDING REMOVAL OF WOOD POLE AND SPAN WIRE SIGNAL SYSTEM, TRAFFIC CONTROL DURING PERMANENT SIGNAL CONSTRUCTION, AND ALLOWABLE SIGNAL DOWNTIME.
 - (F & I) = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR. (S & I) = ITEMS TO BE SALVAGED FROM WOOD POLE AND SPAN WIRE SIGNAL SYSTEM BY CONTRACTOR AND INSTALLED ON NEW PERMANENT SIGNAL SYSTEM.

| F & I NMC LOOP DETECTORS | | | |
|--------------------------|------------|----------|----------|
| NUMBER | SIZE (FT.) | LOCATION | FUNCTION |
| D1-1 | 2-6x6 | 5' & 35' | 3 |
| D1-2 | 2-6x6 | 5' & 20' | 3 |
| D2-1 | 6x6 | 180' | 1 |
| D4-1 | 6x6 | 120' | 2 |
| D4-2 | 2-6x6 | 0' & 15' | 3 |
| D5-1 | 2-6x6 | 5' & 35' | 3 |
| D5-2 | 2-6x6 | 5' & 20' | 3 |
| D6-1 | 6x6 | 180' | 1 |
| D8-1 | 6x6 | 120' | 2 |
| D8-2 | 2-6x6 | 0' & 15' | 3 |

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

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



(A) INPLACE (MAINTAIN INPLACE) CABINET FOUNDATION CONTROLLER AND CABINET EXTENDED INTO H.H.12: METERED SIGNAL SERVICE 1 1/4" R.S.C.

F & I - 3-1/c#6

(B) INPLACE (MAINTAIN INPLACE) CONTROLLER CABINET TO H.H.1: 4" R.S.C.

F & I - 2-12/c#14
1-3/c#14 (EVP)
7-2/c#14
1-3/c#20 (EVP)

(C) INPLACE (MAINTAIN INPLACE) CONTROLLER CABINET TO H.H.11: 2-4" R.S.C.

F & I - 6-12/c#14
2-4/c#14
3-3/c#14 (EVP)
11-2/c#14
3-3/c#20 (EVP)

(C) INPLACE WOOD POLE (S.O.P.)-CONNEXUS

INPLACE (MAINTAIN INPLACE) 2" R.S.C. RISER AND WEATHERHEAD

F & I - 3-1/c#2

INPLACE (MAINTAIN INPLACE) EXTEND INTO H.H.14: 2" R.S.C.

F & I - 3-1/c#2

(B) F & I SERVICE CABINET FOUNDATION (TO BE F & I AT SAME LOCATION AS EXISTING SERVICE CABINET FOUNDATION)

BATTERY BACK-UP SERVICE CABINET EXTEND INTO H.H.12: METERED SIGNAL SERVICE 1 1/4" R.S.C. (CUT BACK FROM EXISTING FOUNDATION & EXTEND TO NEW FOUNDATION) 3-1/c#6

UNMETERED STREET LIGHT SERVICE 1-3/c#14 (LUM) 1-1/c#6 (GRD)

EXTEND INTO H.H.11: UNMETERED STREET LIGHT SERVICE 1 1/4" R.S.C. (CUT BACK FROM EXISTING FOUNDATION & EXTEND TO NEW FOUNDATION) 1-3/c#14 (LUM) 3-1/c#6 (GRD)

EXTEND INTO H.H.13: 2" R.S.C. (CUT BACK FROM EXISTING FOUNDATION & EXTEND TO NEW FOUNDATION) 3-1/c#2

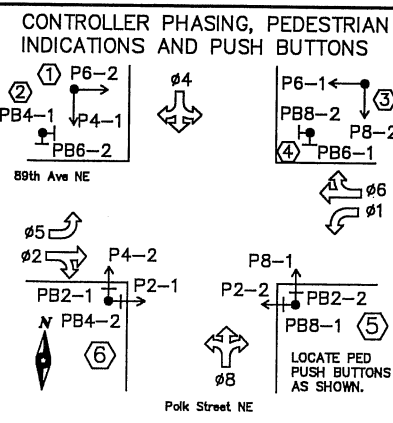
BETWEEN H.H.1 AND H.H.12: 2" R.S.C. 1-3/c#14 (LUM) 1-1/c#6 (GRD)

(2) INPLACE - 2-PEDESTRIAN PUSH BUTTONS (PB4-1, PB6-2) (S & I)

F & I PEDESTRIAN PUSH BUTTON STATION (4" R.S.C.) 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e) EXTEND INTO H.H.10: 1 1/4" R.S.C. 2-2/c#14

(4) INPLACE - 2-PEDESTRIAN PUSH BUTTONS (PB6-1, PB8-2) (S & I)

F & I PEDESTRIAN PUSH BUTTON STATION (4" R.S.C.) 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e) EXTEND INTO H.H.3: 1 1/4" R.S.C. 2-2/c#14



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, AND OPERATION ON POLK STREET BEING REVISED FROM SPLIT TO PERMISSIVE.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

SEE NEXT SHEET FOR TRAFFIC SIGNAL POLE NOTES.

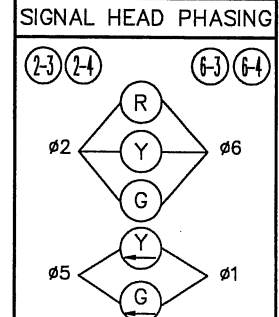
STATUS

1 = INPLACE, SALVAGE FROM WOOD POLE AND INSTALL ON PERMANENT MAST ARM POLE.

2 = INPLACE, SALVAGE FROM SPAN WIRE AND INSTALL ON PERMANENT MAST ARM.

3 = REMOVE 4-SECTION HOUSING AND BACKGROUND SHIELD, F & I NEW 3-SECTION HOUSING AND BACKGROUND SHIELD, SALVAGE R-Y-G LED INDICATIONS FROM 4-SECTION HOUSING AND INSTALL IN NEW 3-SECTION HOUSING.

| INPLACE LED SIGNAL FACES (SALVAGE AND INSTALL) | | | | | | |
|--|-------------------------------|---|---|---|---|--------|
| SIGNAL FACE | ALL SIGNAL FACES SHALL BE 12" | | | | | STATUS |
| | R | Y | G | Y | G | |
| 2-1, 6-1 | ○ | ○ | ○ | | | 1 |
| 2-2, 6-2 | ○ | ○ | ○ | | | 2 |
| 2-3, 6-3 | ○ | ○ | ○ | ← | ← | 2 |
| 2-4, 6-4 | ○ | ○ | ○ | ← | ← | 1 |
| 4-1, 8-1 | ○ | ○ | ○ | | | 1 |
| 4-2, 8-2 | ○ | ○ | ○ | | | 3 |
| 4-3, 8-3 | ○ | ○ | ○ | | | 3 |



| | | |
|---------------|---------------|-----------------|
| 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, PE
Lic. No. 22457

Date: January 27, 2010

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

BLAINE, MINNESOTA

TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT
89TH AVENUE NE AT POLK STREET NE

FILE NO. 7
BLAIN 110715
DATE 01/27/2010
11

S:\NEW BLAIN COMMON SIGNALS-MISCELLANEOUS\89TH-POLK SIGNALS\DRAWING 01/26/2010

① INSTALL — TYPE PA90-A-40 MAST ARM AND POLE
(FURNISHED BY COUNTY)

INPLACE (S & I)
 2—ONE WAY VEHICLE SIGNAL HOUSINGS—OVERHEAD (0' AND 11' FROM END OF MAST ARM) (6-3, 6-2)
 1—VEHICLE SIGNAL HOUSING (12"-3 SECTION)—POLE MOUNTED 180' (6-1)
 LED R-Y-G AND R-Y-G-YLTA-GLTA INDICATIONS (FOR SIGNAL FACES 6-1, 6-2, 6-3, AND 8-3)
 2—SETS PEDESTRIAN INDICATIONS (HOUSINGS AND VISORS)—POLE MOUNTED 90' & 180' (P4-1, P6-2)

F & I
 PA90 POLE FOUNDATION (WITH NEW ANCHOR RODS, NUTS, AND WASHERS FOR COUNTY FURNISHED POLE)
 NEW HARDWARE TO MOUNT COUNTY FURNISHED MAST ARM TO COUNTY FURNISHED MAST ARM POLE
 MID MAST ARM MOUNT AT 11' FROM END OF MAST ARM
 NEW MOUNTING HARDWARE AND NEW BACKGROUND SHIELDS FOR 2—ONE WAY SIGNALS—OVERHEAD (6-3, 6-2)
 NEW BACKGROUND SHIELD FOR 1-3 SECTION SIGNAL—POLE MOUNTED 180' (FOR 6-1)
 1-12" 3-SECTION VEHICLE SIGNAL HOUSING AND BACKGROUND SHIELD—POLE MOUNTED 90' (8-3)
 2—TYPE 10B BRACKETING—POLE MOUNTED 90' & 180'
 2—SETS LED "COUNTDOWN TIMER" PEDESTRIAN SIGNAL LENSES—(RETROFIT INTO EXISTING PEDESTRIAN SIGNAL HOUSINGS)
 R10-12 SIGN PANEL—ADJACENT TO 6-3
 TYPE D SIGN PANEL—OVERHEAD (D-1)
 ONE WAY EVP DETECTOR AND LIGHT—OVERHEAD (#6) (EVP)
 EXTEND INTO H.H.11:
 3"R.S.C. (CONNECT TO EXISTING 3"R.S.C. AT H.H.11)
 2-12/c#14
 1-4/c#14
 1-3/c#14 (EVP)
 1-3/c#20 (EVP)
 1-1/c#6 (GRD)

③ INSTALL — TYPE PA85-A-20-D40-9 MAST ARM AND POLE
(FURNISHED BY COUNTY) (DAVIT AT 350')

INPLACE (S & I)
 2—ONE WAY VEHICLE SIGNAL HOUSINGS (12"-5 SECTION AND 12"-3 SECTION)—POLE MOUNTED 90' & 180' (2-4, 8-1)
 LED R-Y-G AND R-Y-G-YLTA-GLTA INDICATIONS (FOR SIGNAL FACES 8-1, 8-2, AND 2-4)
 2—SETS PEDESTRIAN INDICATIONS (HOUSINGS AND VISORS)—POLE MOUNTED 90' & 180' (P6-1, P8-2)

F & I
 PA85 POLE FOUNDATION (WITH NEW ANCHOR RODS, NUTS, AND WASHERS FOR COUNTY FURNISHED POLE)
 NEW HARDWARE TO MOUNT COUNTY FURNISHED MAST ARM TO COUNTY FURNISHED MAST ARM POLE, AND TO MOUNT COUNTY FURNISHED LUMINAIRE EXTENSION TO POLE
 LUMINAIRE—250 W HPS
 1-12" 3-SECTION VEHICLE SIGNAL HOUSING, BACKGROUND SHIELD AND MOUNTING HARDWARE—OVERHEAD AT 0' (8-2)
 NEW BACKGROUND SHIELDS FOR 1-5 SECTION SIGNAL AND 1-3 SECTION SIGNAL—POLE MOUNTED 90' & 180' (FOR 2-4, 8-1)
 2—TYPE 10B BRACKETING—POLE MOUNTED 90' & 180'
 2—SETS LED "COUNTDOWN TIMER" PEDESTRIAN SIGNAL LENSES—(RETROFIT INTO EXISTING PEDESTRIAN SIGNAL HOUSINGS)
 TYPE D SIGN PANEL—OVERHEAD (D-2)
 ONE WAY EVP DETECTOR AND LIGHT—OVERHEAD (#8) (EVP)
 EXTEND INTO H.H.3:
 3"R.S.C.
 2-12/c#14
 1-3/c#14 (EVP)
 1-3/c#20 (EVP)
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

⑤ INSTALL — TYPE PA85-A-25 MAST ARM AND POLE
(FURNISHED BY COUNTY)

INPLACE (S & I)
 2—ONE WAY VEHICLE SIGNAL HOUSINGS—OVERHEAD (0' AND 11' FROM END OF MAST ARM) (2-3, 2-2)
 1—VEHICLE SIGNAL HOUSING (12"-3 SECTION)—POLE MOUNTED 180' (2-1)
 LED R-Y-G AND R-Y-G-YLTA-GLTA INDICATIONS (FOR SIGNAL FACES 2-1, 2-2, 2-3, AND 4-3)
 2—SETS PEDESTRIAN INDICATIONS (HOUSINGS AND VISORS)—POLE MOUNTED 90' & 180' (P8-1, P2-2)
 2—PEDESTRIAN PUSH BUTTONS (PB8-1, PB2-2)

F & I
 PA85 POLE FOUNDATION (WITH NEW ANCHOR RODS, NUTS, AND WASHERS FOR COUNTY FURNISHED POLE)
 NEW HARDWARE TO MOUNT COUNTY FURNISHED MAST ARM TO COUNTY FURNISHED MAST ARM POLE
 MID MAST ARM MOUNT AT 11' FROM END OF MAST ARM
 NEW MOUNTING HARDWARE AND NEW BACKGROUND SHIELDS FOR 2—ONE WAY SIGNALS—OVERHEAD (2-3, 2-2)
 NEW BACKGROUND SHIELD FOR 1-3 SECTION SIGNAL—POLE MOUNTED 180' (FOR 2-1)
 1-12" 3-SECTION VEHICLE SIGNAL HOUSING AND BACKGROUND SHIELD—POLE MOUNTED 90' (4-3)
 2—TYPE 10B BRACKETING—POLE MOUNTED 90' & 180'
 2—SETS LED "COUNTDOWN TIMER" PEDESTRIAN SIGNAL LENSES—(RETROFIT INTO EXISTING PEDESTRIAN SIGNAL HOUSINGS)
 2—PEDESTRIAN INSTRUCTION SIGNS (R10-3e)
 R10-12 SIGN PANEL—ADJACENT TO 2-3
 TYPE D SIGN PANEL—OVERHEAD (D-3)
 ONE WAY EVP DETECTOR AND LIGHT—OVERHEAD (#2) (EVP)
 EXTEND INTO H.H.6:
 3"R.S.C.
 2-12/c#14
 1-4/c#14
 1-3/c#14 (EVP)
 2-2/c#14
 1-3/c#20 (EVP)
 1-1/c#6 (GRD)

⑥ INSTALL — TYPE PA85-A-20-D40-9 MAST ARM AND POLE
(FURNISHED BY COUNTY) (DAVIT AT 350')

INPLACE (S & I)
 2—ONE WAY VEHICLE SIGNAL HOUSINGS (12"-5 SECTION AND 12"-3 SECTION)—POLE MOUNTED 90' & 180' (6-4, 4-1)
 LED R-Y-G AND R-Y-G-YLTA-GLTA INDICATIONS (FOR SIGNAL FACES 4-1, 4-2, AND 6-4)
 2—SETS PEDESTRIAN INDICATIONS (HOUSINGS AND VISORS)—POLE MOUNTED 90' & 180' (P2-1, P4-2)
 2—PEDESTRIAN PUSH BUTTONS (PB2-1, PB4-2)

F & I
 PA85 POLE FOUNDATION (WITH NEW ANCHOR RODS, NUTS, AND WASHERS FOR COUNTY FURNISHED POLE)
 NEW HARDWARE TO MOUNT COUNTY FURNISHED MAST ARM TO COUNTY FURNISHED MAST ARM POLE, AND TO MOUNT COUNTY FURNISHED LUMINAIRE EXTENSION TO POLE
 LUMINAIRE—250 W HPS
 1-12" 3-SECTION VEHICLE SIGNAL HOUSING, BACKGROUND SHIELD AND MOUNTING HARDWARE—OVERHEAD AT 0' (4-2)
 NEW BACKGROUND SHIELDS FOR 1-5 SECTION SIGNAL AND 1-3 SECTION SIGNAL—POLE MOUNTED 90' & 180' (FOR 6-4, 4-1)
 2—TYPE 10B BRACKETING—POLE MOUNTED 90' & 180'
 2—SETS LED "COUNTDOWN TIMER" PEDESTRIAN SIGNAL LENSES—(RETROFIT INTO EXISTING PEDESTRIAN SIGNAL HOUSINGS)
 2—PEDESTRIAN INSTRUCTION SIGNS (R10-3e)
 TYPE D SIGN PANEL—OVERHEAD (D-4)
 ONE WAY EVP DETECTOR AND LIGHT—OVERHEAD (#4) (EVP)
 EXTEND INTO H.H.8:
 3"R.S.C.
 2-12/c#14
 1-3/c#14 (EVP)
 2-2/c#14
 1-3/c#20 (EVP)
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

S:\VE\BLAIN\COMMON SIGNALS—MISCELLANEOUS\BOTH—POLK\SIGBASE1.DWG 01/26/2010

| | | | | |
|-------------|-----|----|------|-----------|
| 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
 Lic. No. 22457
 Date: January 27, 2010

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

**BLAINE,
MINNESOTA**

**TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
89TH AVENUE NE AT POLK STREET NE**

FILE NO.
BLAIN 110715
DATE
01/27/2010

8
11

S.A.P. 106-139-002
CITY PROJ. NO. 09-09

**REVISE SIGNAL SYSTEM A
89TH AVE. & POLK ST.**

THE FOLLOWING IS A DETAILED RECORD OF ALL PROPOSED WORK TO BE COMPLETED ON THE SIGNAL SYSTEM AT THE INTERSECTION OF 89TH AVE. AND POLK ST.

ALL WORK SHALL BE PAID FOR UNDER THE LUMP SUM BID ITEM "REVISE SIGNAL SYSTEM A".

REFERENCE THE "FOR INFORMATION ONLY" SHEETS FOR ALL AS-BUILT RECORDS. NOTE, THESE "FOR INFORMATION ONLY" SHEETS ARE FOR REFERENCE ONLY, ALL WORK TO BE COMPLETED UNDER "REVISE SIGNAL SYSTEM: IS DETAILED BELOW.

SEE SPECIAL PROVISIONS (DIVISION SS) FOR ADDITIONAL INFORMATION.

1. SIGNAL REMOVALS

1.1 DISCONNECT THE FOLLOWING EXISTING LOOP CONDUCTORS FROM LOOP LEAD-IN CABLES AT ADJACENT HANDHOLES:

- D4-2
- D1-1 & D1-2
- D6-1
- D8-2
- D5-1 & D5-2
- D2-1

PROTECT HANDHOLES AND EXISTING LOOP LEAD-IN CONDUIT/CONDUCTORS. LABEL EXISTING LEAD-IN TO FACILITATE CONNECTION OF REPLACEMENT LOOPS. REMOVE EXISTING LOOP DETECTOR CONDUIT AND CONDUCTORS BETWEEN ADJACENT HANDHOLE AND CURB.

1.2 DISCONNECT & REMOVE ALL EXISTING PUSHBUTTONS AND PUSH BUTTON STATIONS. SEAL ALL MOUNTING HOLES ON SIGNAL POLES BY ENGINEER APPROVED METHOD. ENSURE SEAL IS PAINTABLE.

- PB2-1 AND PB4-2 (MOUNTED ON SIGNAL POLE 6 - SW QUADRANT)
- PB4-1 AND PB6-2 AND PB STATION 2 (NW QUADRANT)
- PB6-1 AND PB8-2 AND PB STATION 4 (NE QUADRANT)
- PB2-2 AND PB8-1 (MOUNTED ON SIGNAL POLE 5 - SE QUADRANT)

REMOVE ALL IN-PLACE PUSHBUTTON CONDUCTORS BETWEEN EXISTING PUSHBUTTON MOUNTING LOCATIONS AND THE CONTROLLER CABINET. REMOVE CONDUIT BETWEEN PUSHBUTTON STATION AND NEAREST HANDHOLE.

1.3 REMOVE THE FOLLOWING SIGNAL POLE MOUNTED PEDESTRIAN HEADS AND ASSOCIATED LOWER BRACKETS:

- P8-1 (SIGNAL POLE 5)
- P8-2 (SIGNAL POLE 3)
- P2-1 (SIGNAL POLE 6)
- P2-2 (SIGNAL POLE 5)

SEAL ALL MOUNTING HOLES ON SIGNAL POLES BY ENGINEER APPROVED METHOD. ENSURE SEAL IS PAINTABLE.

REMOVE ALL ASSOCIATED IN-PLACE PEDESTRIAN HEAD CONDUCTORS BETWEEN EXISTING PEDESTRIAN HEAD BEING REMOVED AND THE CONTROLLER CABINET.

2. SIGNAL REVISIONS

2.1 PULL BACK LOOP LEAD-IN CABLES FROM HH 5 TO HH 3 AND PROTECT CABLES. SALVAGE HH 4 PRIOR TO UNDERGROUND AND GRADING OPERATIONS.

COORDINATE WITH UNDERGROUND AND GRADING CONTRACTOR(S) TO REMOVE IN-PLACE CONDUIT AS NEEDED TO FACILITATE UNDERGROUND AND GRADING WORK IN THIS QUADRANT. FURNISH & INSTALL NEW CONDUIT AS NEEDED TO RESTORE IN-PLACE CONDUIT RUNS BETWEEN HH 3, HH 4, AND HH 5.

REINSTALL HH 4 IN ITS ORIGINAL LOCATION. REINSTALL LOOP LEAD-IN CABLES FROM HH 3 TO HH 5.

2.2 SALVAGE AND RELOCATE IN-PLACE HH 10 OUTSIDE OF SIDEWALK SURFACE.

OBTAIN APPROVALS FROM THE ENGINEER AND CITY PRIOR TO IMPACTING SIGNAL OPERATIONS. INSTALL TEMPORARY STOP CONTROL AS DIRECTED BY THE ENGINEER FOR THE DURATION OF SIGNAL OUTAGE. DURATION OF OUTAGE TO BE APPROVED BY THE ENGINEER.

LABEL AND DISCONNECT ALL SIGNAL CONTROL CABLES RUNNING THROUGH HH 10 AND PULL EXISTING CABLING TO ADJACENT HANDHOLE OF CONTRACTOR'S CHOICE. BASED ON AVAILABLE SLACK, SELECT A LOCATION TO FACILITATE RE-USE OF THE EXISTING CONDUCTORS. ENGINEER TO APPROVE FINAL HANDHOLE LOCATION.

CUT AND EXTEND EXISTING RSC CONDUITS INTO THE RELOCATED HANDHOLE.

REINSTALL AND TERMINATE ALL DISCONNECTED SIGNAL CONTROL CABLING TO RESTORE ORIGINAL FUNCTIONALITY.

2.3 FURNISH & INSTALL APS PUSH BUTTON EQUIPMENT AS FOLLOWS:
-APS SOUND SYSTEM TO BE DISABLED, CONTRACTOR TO SUPPLY THE AUDIBLE PEDESTRIAN CONTROL UNIT

SIGNAL POLE 1: (PB6-2) 1-APS PB WITH APS BUTTON BRACKET EXTENSION & R10-3e(R) SIGN AT 270 DEG

2.4 FURNISH & INSTALL 1-APS PUSH BUTTON STATION AS FOLLOWS (SEE INTERSECTION DETAILS FOR PLACEMENT):

- PB4-2: 1 - APS PB STATION WITH R10-3e(L) SIGN & EXTEND 1" CONDUIT INTO HH 8
- PB4-1: 1 - APS PB STATION WITH R10-3e(L) SIGN & EXTEND 1" CONDUIT INTO HH 10
- PB6-1: 1 - APS PB STATION WITH R10-3e(R) SIGN & EXTEND 1" CONDUIT INTO HH 3

FURNISH & INSTALL (1) FIELD WIRING INTERFACE BOARD AND (1) CENTRAL CONTROL UNIT. SEE SPECIAL PROVISIONS FOR APS ORDER FORM.

2.5 INSTALL PREFORM RIGID PVC CONDUIT LOOP DETECTOR AT LOCATIONS WHERE EXISTING LOOP DETECTORS WERE REMOVED. SPLICE TO EXISTING LOOP LEAD-IN AT ADJACENT HANDHOLE, TEST AND COMPLETE LOOP DETECTOR TEST REPORT.

- D4-2
- D1-1 & D1-2
- D6-1
- D8-2
- D5-1 & D5-2
- D2-1

2.6 REPAINT SIGNAL BASES, POLES, MAST ARMS AND DAVITS AT THE FOLLOWING LOCATIONS:

- SIGNAL POLE 1
- SIGNAL POLE 3
- SIGNAL POLE 5
- SIGNAL POLE 6

PAINT COLORS:
BASE: DARK GREEN - FED STD 595 #14062
POLE: YELLOW - FED STD 595 #13538
MAST ARM AND LIGHTING DAVIT: ALUMINUM GREY - FED STD 595 #26493

MAINTAIN SIGNAL OPERATION AT ALL TIMES.

3. COMPLETE AS-BUILT RECORD DRAWINGS (CONTRACTOR REDLINES) OF REVISED SIGNAL SYSTEM ONCE COMPLETE, INCLUDING BUT NOT LIMITED TO: NOTING FURNISHED / INSTALLED EQUIPMENT AND ANY CORRECTIONS TO THE MOST CURRENT "FOR INFORMATION ONLY" SHEETS TO DEPICT THIS INPLACE SIGNAL. THIS SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER.

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REVISE SIGNAL SYSTEM A



12224 NICOLLET AVENUE
BURNSVILLE, MINNESOTA 55337
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Email: Burnsville@bolton-menk.com
www.bolton-menk.com

| REV. | BY | DATE |
|------|----|------|
| | | |
| | | |
| | | |

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT 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.

Maury J. Hooper
MAURY J. HOOPER
LIC. NO. 26435 DATE 04/01/2024

DESIGNED
DLR
DRAWN
JDR
CHECKED
MJH

SAP 106-139-004
2024 SOUTHWEST AREA STREET RECONSTRUCTION
SIGNAL PLAN

SHEET
C7.32