

ROUTED: Tuesday, September 03, 2019 @ 04:22PM  
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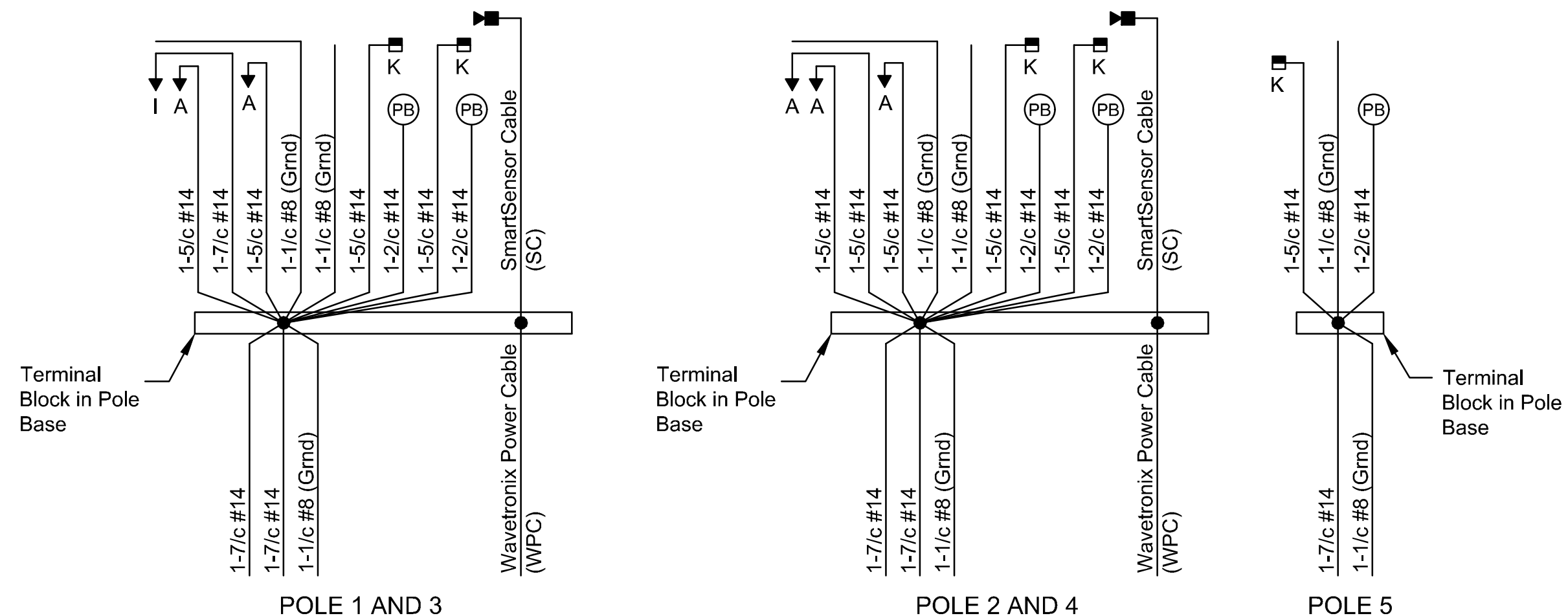
**BILL OF MATERIALS (For Information Only)**

| ITEM   | UNIT     | QUANT.    |
|--|----------|-----------|
| PAD MOUNTED CONTROLLER & CABINET   | EACH     | 1         |
| TRAFFIC SIGNAL HEAD (SEE CHART A) W/MOUNTING HARDWARE                        | EACH     | 19        |
| TRAFFIC SIGNAL POLE (SEE CHART B) STEEL                                      | EACH     | 4         |
| PEDESTAL POLE (SEE CHART B)(10' ALUMINUM)                                    | EACH     | 1         |
| CONCRETE CONTROLLER PAD  | EACH     | 1         |
| CONCRETE FOOTING - POLE  | EACH     | 5         |
| CONDUIT ELBOW 90 2"  | EACH     | AS NEEDED |
| CONDUIT ELBOW 90 3"  | EACH     | AS NEEDED |
| SERVICE BOX  | EACH     | 4         |
| GROUND ROD & CLAMP   | EACH     | 6         |
| TRAFFIC SIGNAL LAMP RED LED KIT  | EACH     | 12        |
| TRAFFIC SIGNAL LAMP YELLOW LED KIT   | EACH     | 12        |
| TRAFFIC SIGNAL LAMP GREEN LED KIT  | EACH     | 12        |
| TRAFFIC SIGNAL LAMP GREEN ARROW LED KIT                                      | EACH     | 2         |
| TRAFFIC SIGNAL LAMP YELLOW ARROW LED KIT                                     | EACH     | 2         |
| TRAFFIC SIGNAL LAMP LED (12" COMBINATION)                                    | EACH     | 8         |
| BACKPLATE W/ RETROREFLECTIVE TAPE ALONG THE OUTSIDE FOR SIGNAL HEAD (TYPE A) | EACH     | 6         |
| BACKPLATE W/ RETROREFLECTIVE TAPE ALONG THE OUTSIDE FOR SIGNAL HEAD (TYPE I) | EACH     | 2         |
| ENTRANCE HEAD  | EACH     | 1         |
| CIRCUIT BREAKER & BOX 70 AMP   | EACH     | 1         |
| PEDESTRIAN PUSHBUTTON W/SIGN   | EACH     | 8         |
| LEAD-IN-WIRE NO. 6 A.W.G. 1/C  | LIN. FT. | 35        |
| NO. 8 A.W.G. 1/C (GROUND)  | LIN. FT. | 600       |
| MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 2/C                                      | LIN. FT. | 30        |
| MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 5/C                                      | LIN. FT. | 365       |
| MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 7/C                                      | LIN. FT. | 1250      |
| CONDUIT 1" RGC   | LIN. FT. | 7         |
| CONDUIT 2" RGC   | LIN. FT. | 90        |
| CONDUIT 3" RGC   | LIN. FT. | 365       |
| CONDUIT 2" PVC   | LIN. FT. | 305       |
| WAVETRONIX SMARTSENSOR   | EACH     | 4         |
| WAVETRONIX MOUNTING HARDWARE (MOUNT BRACKET)                                 | EACH     | 4         |
| WAVETRONIX POLE MOUNT CABINET  | EACH     | 4         |
| SMARTSENSOR CABLE (SC)   | LIN. FT. | 230       |
| WAVETRONIX POWER CABLE (WPC)   | LIN. FT. | 500       |
| STREET NAME SIGNS W/ MOUNTING HARDWARE (D-3)                                 | EACH     | 4         |
| LEFT TURN YIELD ON GREEN W/ MOUNTING HARDWARE (R10-12)                       | EACH     | 2         |
| REMOVAL OF EXISTING TRAFFIC CONTROL EQUIPMENT*                               | EACH     | 1         |

**EQUIPMENT SPECIFICATIONS 2070 CONTROLLER**  
 Controller Units: The 2070L controllers supplied shall meet the requirements  
 2 2070-1B CPU module with RJ-45 Ethernet port connector.  
 4 2070-3B 8X40 front panel with LCD display.  
 5 2070-4A 10 amp power supply.  
 6 2070-7A asynchronous serial communications module (RS-232).  
 7 Any unused slot position shall have a cover plate.

B. Conflict monitors:  
 The Conflict Monitors supplied shall be 2010 ECL conflict monitors.  
 C. 1-Loop-back cable for 2070-2A Field I/O (Type 170, 104 pin and 37 pin connector).  
 D. 1-Loop-back cable for 2070-7A port.

Note: The Contractor shall supply and install all necessary material and equipment for the installation of the Traffic Signal System shown in these plans.



**TRAFFIC SIGNAL POLE SUMMARY (CHART B)**

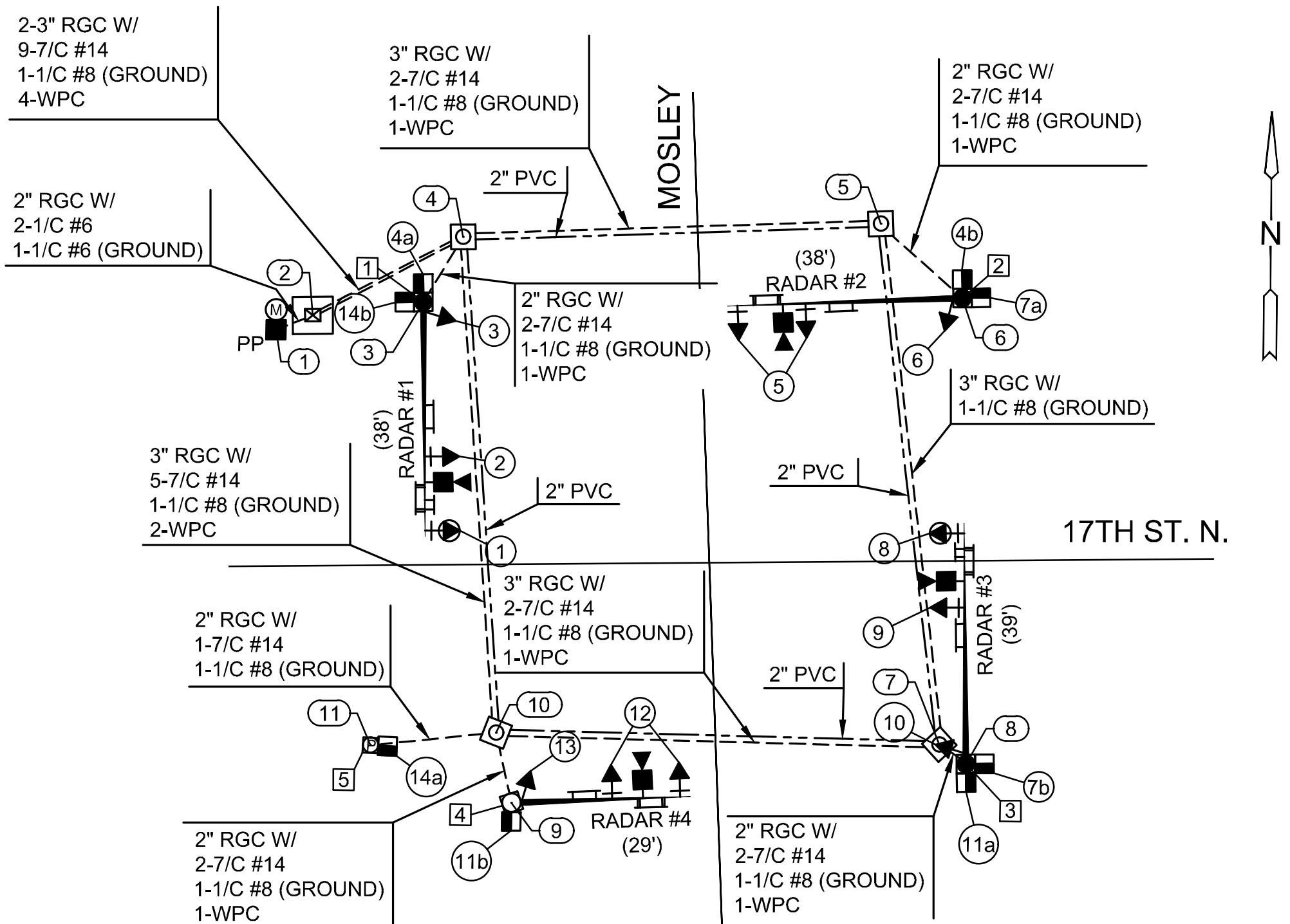
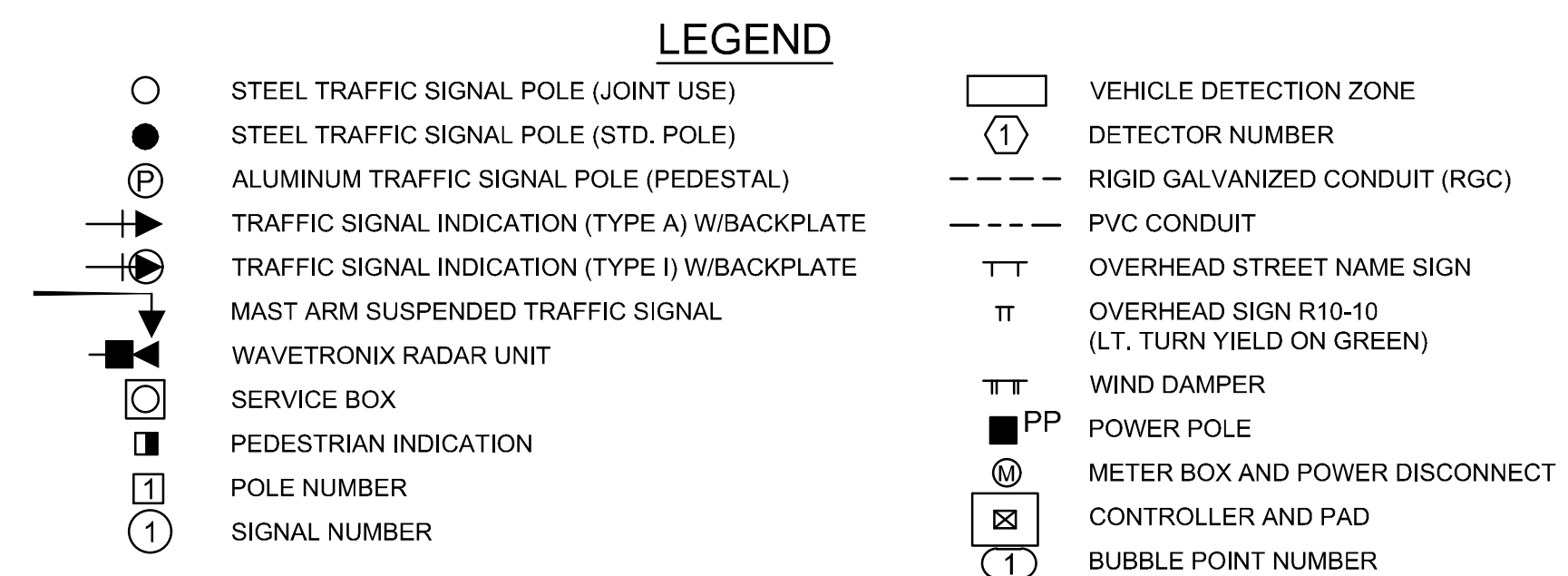
| POLE NO. | STATION            | TYPE | ARM LENGTH | SIGNALS ON ARM | X1 X2 X3 X4 | OTHER EQUIPMENT ON ARM | SIGNALS ON POLE | SIGNS ON POLE |
|----------|--------------------|------|------------|----------------|-------------|------------------------|-----------------|---------------|
| 1        | 42+42.3, 42.5' LT. | B    | 38'        | 2-E            | 12' 25'     | 1-D, 1-G, 1-H, 1-I     | 1-E, 2-F        |               |
| 2        | 43+29.5, 42.5' LT. | B    | 38'        | 2-E            | 11' 25'     | 1-G, 1-H, 1-I          | 1-E, 2-F        |               |
| 3        | 43+29.5, 32.9' RT. | B    | 39'        | 2-E            | 12' 25'     | 1-D, 1-G, 1-H, 1-I     | 1-E, 2-F        |               |
| 4        | 42+55.9, 38.6' RT. | A    | 29'        | 2-E            | 11' 16'     | 1-G, 1-H, 1-I          | 1-E, 1-F        |               |
| 5        | 42+33.2, 29.1' RT. | C    |            |                |             |                        | 1-F             |               |

A - Joint Use Steel Pole with Mast Arm  
 B - Standard Steel Pole with Mast Arm  
 C - Pedestal Pole (15' Aluminum)  
 D - Left Turn Sign (R10-12)  
 E - Traffic Signal  
 F - Pedestrian Signal with Push Button  
 G - Street Name Sign  
 H - Video Detection Camera  
 I - Wind Damper

**STREET NAME SIGN SUMMARY**

| LEGEND        | QUANTITY |
|---------------|----------|
| 17th St 800 E | 1        |
| 17th St 900 E | 1        |
| Mosley 1700 N | 1        |
| Mosley 1800 N | 1        |
| TOTAL         | 4        |

Letters shall be series "E" Modified



| SIGNAL POINTS |                   |             |             |            |
|---------------|-------------------|-------------|-------------|------------|
| Point #       | Station/Offset    | Northing    | Easting     | Desc.      |
| 1             | 42+18.4/38.2' LT. | 1696552.604 | 1651559.091 | PP         |
| 2             | 42+24.4/40.5' LT. | 1696555.002 | 1651565.032 | CONTROLLER |
| 3             | 42+42.3/42.5' LT. | 1696557.294 | 1651582.897 | POLE #1    |
| 4             | 42+48.8/53.0' LT. | 1696567.893 | 1651589.243 | SB #1      |
| 5             | 43+16.4/54.6' LT. | 1696570.609 | 1651656.790 | SB #2      |
| 6             | 43+29.5/42.5' LT. | 1696558.691 | 1651670.083 | POLE #2    |
| 7             | 43+25.2/29.7' RT. | 1696486.439 | 1651666.953 | SB #3      |
| 8             | 43+29.5/32.9' RT. | 1696483.319 | 1651671.290 | POLE #3    |
| 9             | 42+55.9/38.6' RT. | 1696476.386 | 1651597.837 | POLE #4    |
| 10            | 42+53.5/27.3' RT. | 1696487.727 | 1651595.270 | SB #4      |
| 11            | 42+33.2/29.1' RT. | 1696485.504 | 1651574.972 | POLE #5    |

Note: The contractor shall supply and install all necessary materials and equipment for the complete installation and operation of the traffic signal system whether specifically mentioned or not.

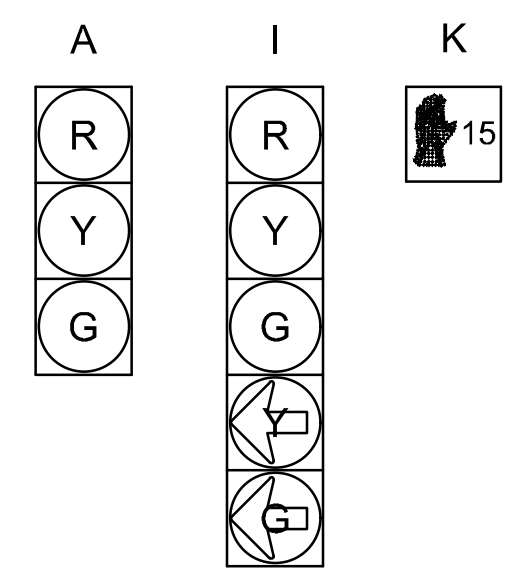
\* Removal of existing traffic signal equipment shall include removal of foundations, service boxes, and junction boxes. See construction traffic control regarding removal of existing signals.

**TRAFFIC SIGNAL HEAD SUMMARY (CHART A)**

| SIGNAL NO. | TYPE | SIZE  | MOUNTING BRACKET | QUANTITY |
|------------|------|-------|------------------|----------|
| 1          | I    | 5-12" | TYPE I           | 1        |
| 2          | A    | 3-12" | TYPE I           | 1        |
| 3          | A    | 3-12" | TYPE III         | 1        |
| 4          | K    | 1-12" | TYPE II          | 2        |
| 5          | A    | 3-12" | TYPE I           | 2        |
| 6          | A    | 3-12" | TYPE III         | 1        |
| 7          | K    | 1-12" | TYPE II          | 2        |
| 8          | I    | 5-12" | TYPE I           | 1        |
| 9          | A    | 3-12" | TYPE I           | 1        |
| 10         | A    | 3-12" | TYPE III         | 1        |
| 11         | K    | 1-12" | TYPE II          | 2        |
| 12         | A    | 3-12" | TYPE I           | 2        |
| 13         | A    | 3-12" | TYPE III         | 1        |
| 14         | K    | 1-12" | TYPE II          | 1        |

All Signal Heads to be L.E.D.

**SIGNAL HEAD ARRANGEMENT**



**STREET IMPROVEMENTS FOR**  
**17TH ST - BROADWAY TO I-135**  
 FROM BROADWAY TO I-135

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**WIRING PLAN - 17TH & MOSLEY**

|             |              |         |
|-------------|--------------|---------|
| PROJECT NO. | 87 N-0662-01 |         |
| DATE        | 8/30/2019    |         |
| SCALE       | NA           |         |
| DESIGNED    | DRAWN        | CHECKED |
| JRA         | WNJ          | JRA     |
| NO.         | REVISION     | DATE    |