

J:\CIVIL\18139\DWG\18139-SD02A.DWG  
 PLOTTED: Friday, August 23, 2019 @ 08:53PM

| BILL OF MATERIALS (For Information Only)                                     |          |           |
|--|----------|-----------|
| ITEM   | UNIT     | QUANT.    |
| PAD MOUNTED CONTROLLER & CABINET   | EACH     | -         |
| TRAFFIC SIGNAL HEAD (SEE CHART A) W/MOUNTING HARDWARE                        | EACH     | 24        |
| TRAFFIC SIGNAL POLE (SEE CHART B) STEEL                                      | EACH     | 4         |
| PEDESTAL POLE (SEE CHART B) 15' ALUMINUM                                     | EACH     | 2         |
| CONCRETE CONTROLLER PAD  | EACH     | -         |
| CONCRETE FOOTING - POLE  | EACH     | 6         |
| 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     | 14        |
| TRAFFIC SIGNAL LAMP YELLOW LED KIT   | EACH     | 14        |
| TRAFFIC SIGNAL LAMP GREEN LED KIT  | EACH     | 14        |
| TRAFFIC SIGNAL LAMP GREEN ARROW LED KIT                                      | EACH     | 3         |
| TRAFFIC SIGNAL LAMP YELLOW ARROW LED KIT                                     | EACH     | 3         |
| TRAFFIC SIGNAL LAMP LED (12" COMBINATION)                                    | EACH     | 8         |
| TRAFFIC SIGNAL PERMISSIVE BLANKOUT SIGN X (NO RIGHT TURN)(30"x30")           | EACH     | 1         |
| TRAFFIC SIGNAL PERMISSIVE BLANKOUT SIGN Y (NO LEFT TURN)(30"x30")            | EACH     | 1         |
| BACKPLATE W/ RETROREFLECTIVE TAPE ALONG THE OUTSIDE FOR SIGNAL HEAD (TYPE A) | EACH     | 7         |
| BACKPLATE W/ RETROREFLECTIVE TAPE ALONG THE OUTSIDE FOR SIGNAL HEAD (TYPE I) | EACH     | 3         |
| ENTRANCE HEAD  | EACH     | -         |
| CIRCUIT BREAKER & BOX 125 AMP  | EACH     | -         |
| PEDESTRIAN PUSHBUTTON W/SIGN   | EACH     | 8         |
| LEAD-IN-WIRE NO. 6 A.W.G. 1/C  | LIN. FT. | -         |
| NO. 8 A.W.G. 1/C (GROUND)  | LIN. FT. | 865       |
| 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. | 630       |
| MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 7/C                                      | LIN. FT. | 1720      |
| CONDUIT 1" RGC   | LIN. FT. | -         |
| CONDUIT 1.5" RGC   | LIN. FT. | -         |
| CONDUIT 2" RGC   | LIN. FT. | 101       |
| CONDUIT 3" RGC   | LIN. FT. | 505       |
| CONDUIT 2" PVC   | LIN. FT. | 467       |
| WAVETRONIX SMARTSENSOR   | EACH     | 4         |
| WAVETRONIX MOUNTING HARDWARE (MOUNT BRACKET)                                 | EACH     | 4         |
| WAVETRONIX POLE MOUNT CABINET  | EACH     | 4         |
| SMARTSENSOR CABLE (SC)   | LIN. FT. | 185       |
| WAVETRONIX POWER CABLE (WPC)   | LIN. FT. | 640       |
| STREET NAME SIGNS W/ MOUNTING HARDWARE (D-3)                                 | EACH     | 4         |
| LEFT TURN YIELD ON GREEN W/ MOUNTING HARDWARE (R10-12)                       | EACH     | 3         |
| REMOVAL OF EXISTING TRAFFIC CONTROL EQUIPMENT**                              | EACH     | 1         |

Note:  
Contractor shall use the existing controller, controller equipment, controller cabinet and pad.

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

| RECAPITULATION OF TRAFFIC SIGNAL QUANTITIES                 |          |      |
|---|----------|------|
| BID ITEM  | QUANTITY | UNIT |
| TRAFFIC SIGNALIZATION, MT. VERNON AND SOUTHEAST             | 1        | L.S. |
| TRAFFIC SIGNALIZATION, MT. VERNON AND SOUTHEAST (TEMPORARY) | 1        | L.S. |

| TRAFFIC SIGNAL POLE SUMMARY (CHART B) |                    |      |            |                |             |                         |                 |               |  |
|---------------------------------------|--------------------|------|------------|----------------|-------------|-------------------------|-----------------|---------------|--|
| POLE NO.                              | STATION            | TYPE | ARM LENGTH | SIGNALS ON ARM | X1 X2 X3    | OTHER EQUIPMENT ON ARM  | SIGNALS ON POLE | SIGNS ON POLE |  |
| 5                                     | 91+47.5, 62.2' LT. | B    | 58'        | 2-E            | 11'         | 1-G, 1-H, 1-I           | 1-E, 2-F        |               |  |
| 6                                     | 91+87.9, 30.6' RT. | C    |            |                |             |                         | 1-F             |               |  |
| 7                                     | 92+10.6, 50.0' RT. | A    | 39'        | 3-E            | 11.8' 11.5' | 1-D, 1-G, 1-H, 1-I, 1-J | 1-E, 1-F        |               |  |
| 8                                     | 92+63.5, 53.3' LT. | B    | 48'        | 3-E            | 11.8' 11.5' | 1-D, 1-G, 1-H, 1-I, 1-J | 1-E, 1-F        |               |  |
| 9                                     | 92+86.9, 31.3' LT. | C    |            |                |             |                         | 1-F             |               |  |
| 10                                    | 93+25.1, 56.1' RT. | A    | 52'        | 2-E            | 11'         | 1-D, 1-G, 1-H, 1-I      | 1-E, 2-F        |               |  |

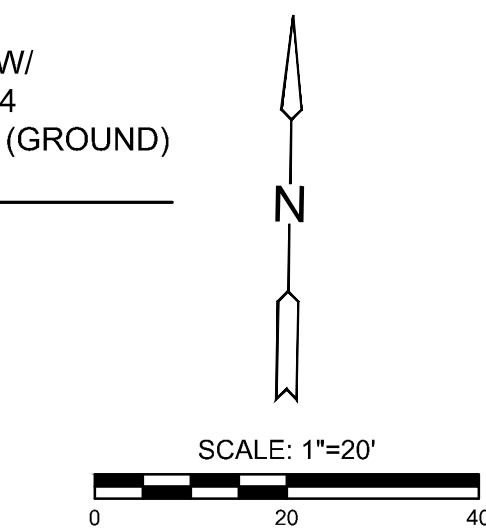
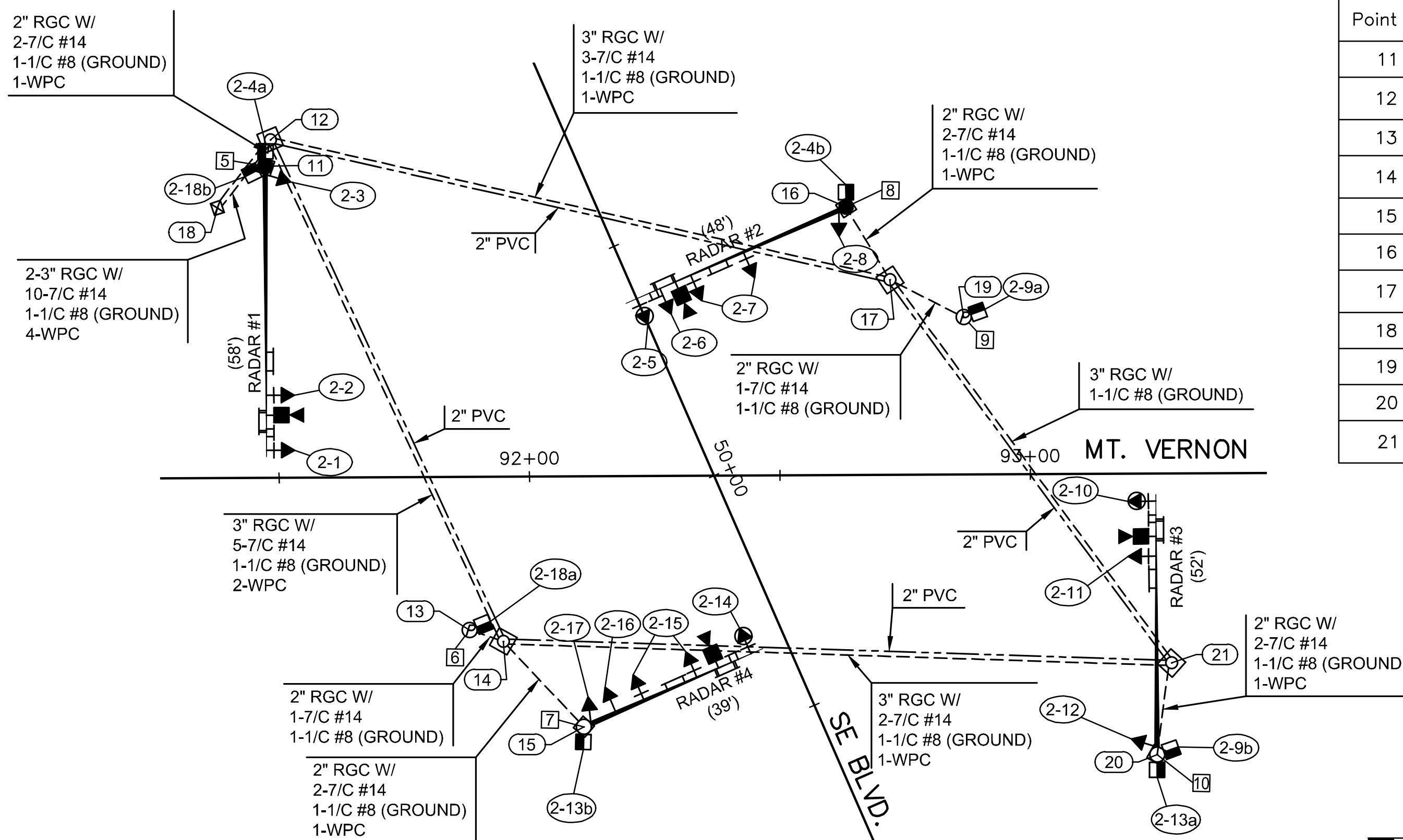
- A - Joint Use Steel Pole with Mast Arm
- B - Standard Steel Pole with Mast Arm
- C - Pedestal Pole (15' Aluminum)
- D - Left Turn Sign (R10-12)
- E - Traffic Signal
- F - Pedestrian Signal with Push Button
- G - Street Name Sign
- H - Radar Detection Sensor
- I - Wind Damper
- J - Permissive Blankout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

| STREET NAME SIGN SUMMARY |   |
|--------------------------|---|
| LEGEND                   |   |
| Mt Vernon 1500 E         | 2 |
| SE Blvd 1900 S           | 1 |
| SE Blvd 2000 S           | 1 |
| TOTAL                    | 4 |

Letters shall be series "E" Modified

- LEGEND**
- STEEL TRAFFIC SIGNAL POLE (JOINT USE)
  - STEEL TRAFFIC SIGNAL POLE (STD. POLE)
  - ⊕ ALUMINUM TRAFFIC SIGNAL POLE (PEDESTAL)
  - ⊖ TRAFFIC SIGNAL INDICATION (TYPE A) W/BACKPLATE
  - ⊖ TRAFFIC SIGNAL INDICATION (TYPE C) W/BACKPLATE
  - ⊖ MAST ARM SUSPENDED TRAFFIC SIGNAL
  - ⊖ WAVETRONIX RADAR UNIT
  - ⊖ SERVICE BOX
  - ⊖ PEDESTRIAN INDICATION
  - ⊖ POLE NUMBER
  - ⊖ SIGNAL NUMBER
  - ▭ VEHICLE DETECTION ZONE
  - ⊖ DETECTOR NUMBER
  - RIGID GALVANIZED CONDUIT (RGC)
  - PVC CONDUIT
  - ⊖ OVERHEAD STREET NAME SIGN
  - ⊖ OVERHEAD SIGN R10-10 (LT. TURN YIELD ON GREEN)
  - ⊖ WIND DAMPER
  - ⊖ PP POWER POLE
  - ⊖ M METER BOX AND POWER DISCONNECT
  - ⊖ EXISTING CONTROLLER
  - ⊖ BUBBLE POINT #

| SIGNAL POINTS |                   |             |             |                |
|---------------|-------------------|-------------|-------------|----------------|
| Point #       | Station/Offset    | Northing    | Easting     | Desc.          |
| 11            | 91+47.5/62.2' LT. | 1675411.630 | 1654118.210 | POLE 5         |
| 12            | 91+48.5/67.5' LT. | 1675416.919 | 1654119.111 | SB #5          |
| 13            | 91+87.9/30.6' RT. | 1675319.762 | 1654160.644 | POLE 6         |
| 14            | 91+94.6/32.9' RT. | 1675317.627 | 1654167.401 | SB #7          |
| 15            | 92+10.6/50.0' RT. | 1675300.840 | 1654183.796 | POLE 7         |
| 16            | 92+63.5/53.5' LT. | 1675405.525 | 1654234.334 | POLE 8         |
| 17            | 92+72.2/38.9' LT. | 1675391.145 | 1654243.364 | SB #8          |
| 18            | 91+37.9/54.0' LT. | 1675403.192 | 1654108.820 | EX. CONTROLLER |
| 19            | 92+86.8/31.4' LT. | 1675383.974 | 1654258.192 | POLE 9         |
| 20            | 93+25.1/56.1' RT. | 1675297.274 | 1654298.352 | POLE 10        |
| 21            | 93+28.0/37.8' RT. | 1675315.643 | 1654300.916 | SB #10         |



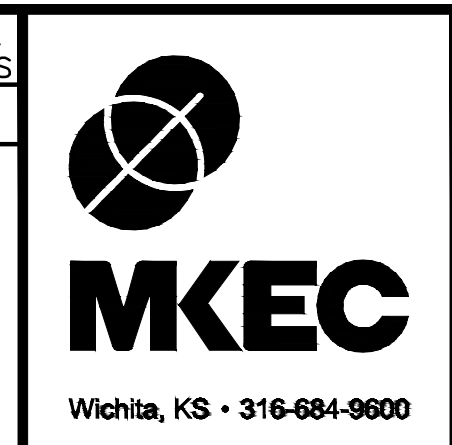
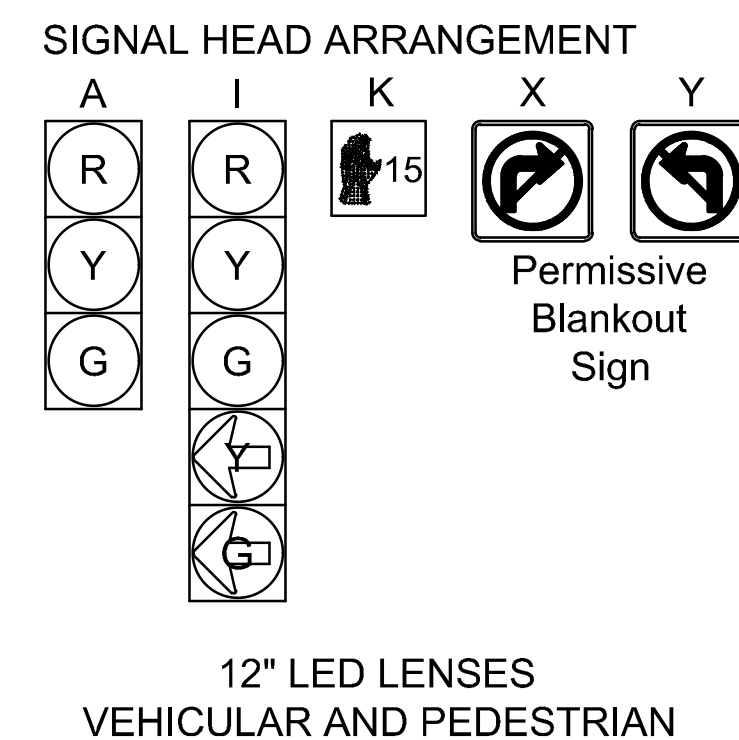
Note: The contractor shall supply and install all necessary materials and equipment for the complete installation and operation of the traffic signal system whether specifically mentioned or not.

\* Subscript "P" indicates programmed signals. Subscript "D" indicates dual-mode green/yellow arrow section.

\*\* Removal of existing traffic signal equipment shall include removal of foundations, service boxes, and junction boxes. Removals paid for as part of "Removal of Existing Structures". Existing Controller and Cabinet shall remain.

| TRAFFIC SIGNAL HEAD SUMMARY (CHART A) |      |       |                  |          |
|---------------------------------------|------|-------|------------------|----------|
| SIGNAL NO.                            | TYPE | SIZE  | MOUNTING BRACKET | QUANTITY |
| 2-1                                   | A    | 3-12" | TYPE I           | 1        |
| 2-2                                   | A    | 3-12" | TYPE I           | 1        |
| 2-3                                   | A    | 3-12" | TYPE III         | 1        |
| 2-4                                   | K    | 1-12" | TYPE II          | 2        |
| 2-5                                   | I    | 5-12" | TYPE I           | 1        |
| 2-6                                   | Y    | 1-30" | TYPE I           | 1        |
| 2-7                                   | A    | 3-12" | TYPE I           | 2        |
| 2-8                                   | A    | 3-12" | TYPE III         | 1        |
| 2-9                                   | K    | 1-12" | TYPE II          | 2        |
| 2-10                                  | I    | 5-12" | TYPE I           | 1        |
| 2-11                                  | A    | 1-12" | TYPE I           | 1        |
| 2-12                                  | A    | 3-12" | TYPE III         | 1        |
| 2-13                                  | K    | 3-12" | TYPE II          | 2        |
| 2-14                                  | I    | 5-12" | TYPE I           | 1        |
| 2-15                                  | A    | 3-12" | TYPE I           | 2        |
| 2-16                                  | X    | 1-30" | TYPE I           | 1        |
| 2-17                                  | A    | 3-12" | TYPE III         | 1        |
| 2-18                                  | K    | 1-12" | TYPE II          | 2        |

ALL SIGNAL HEADS TO BE LED



STREET IMPROVEMENTS FOR  
**MT. VERNON IMPROVEMENTS**  
 BROADWAY TO SOUTHEAST BLVD.

©2019 MKEC Engineering All Rights Reserved  
 These drawings and their contents, including, but not limited to, all concepts, designs, & ideas are the exclusive property of MKEC Engineering (MKEC), and may not be used or reproduced in any way without the express consent of MKEC.

| TRAFFIC WIRING PLAN - MT. VERNON AND SE BLVD. |              |      |
|---|--------------|------|
| PROJECT NO.                                   | 87 N-0660-01 |      |
| DATE  | 8/19/2019    |      |
| SCALE   | NONE         |      |
| DESIGNED                                      | JRA          |      |
| DRAWN   | WNJ          |      |
| CHECKED                                       | JRA          |      |
| NO.   | REVISION     | DATE |
| SHEET NO.                                     |              |      |
| 124 OF 198                                    |              |      |