

# PROJECT DESCRIPTION

## I. GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL OF US 29 (GEORGIA AVE) AT SLIGO AVENUE. THE INTERSECTION WILL BE UPGRADED TO APS/CPS AND ALL HANDICAP RAMPS WILL BE RECONSTRUCTED TO ADA STANDARDS. INTERSECTION LIGHTING WILL ALSO BE ADDED. US 29 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

## II. INTERSECTION OPERATION

THE INTERSECTION CURRENTLY OPERATES IN A NEMA FOUR PHASE, SEMI-ACTUATED MODE. THERE IS AN EXCLUSIVE/PERMISSIVE LEFT TURN FOR THE SB GEORGIA AVENUE. THE THROUGH MOVEMENTS ALONG GEORGIA AVENUE OPERATE CONCURRENTLY WITH A PEDESTRIAN MOVEMENT TO CROSS SLIGO AVENUE. THE SIDE STREET MOVEMENTS ALLOW FOR ALTERNATE PHASING TO CROSS PEDESTRIANS ALONG THE NB APPROACH OF US 29 (GEORGIA AVENUE). THIS INTERSECTION IS PREEMPTED BY THE FIRE HOUSE LOCATED NORTHWEST OF THIS LOCATION. UPON PREEMPTION THE SOUTHBOUND THROUGH AND LEFT TURN MOVEMENTS ARE SHOWN AS GREEN, ALL OTHER APPROACHES WILL SHOW RED. DURING PREEMPTION THE FIREHOUSE INDICATIONS ARE SHOWN AS FLASHING YELLOW. DURING NORMAL OPERATION THE FIREHOUSE WILL FLASH RED.

## III. SPECIAL NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABEL EACH CABLE. THE CONTRACTOR SHALL NOTIFY MR. KAMAL HAMUD AT (240) 777-8761 72 HOURS IN ADVANCE OF ALL WORK. THE APS PUSHBUTTONS SHALL BE DELIVERED TO MR. KEITH LORD (301) 674-8965 AT THE MONTGOMERY COUNTY TECHNICAL CENTER, SIX(6) WEEKS PRIOR TO INSTALLATION.

## IV. INTERCONNECT:

THIS INTERSECTION WILL BE INTERCONNECTED TO THE ADJACENT INTERSECTIONS NORTH AND SOUTH ALONG US 29. SEE INTERCONNECT PLANS FOR DETAILS.

# EQUIPMENT LIST

### A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

| CAT. CODE | QUANTITY | UNIT | DESCRIPTION  |
|-----------|----------|------|--|
| 900000    | 1        | EA   | CONTROLLER CABINET, NEMA SIZE 6 AND CONTROLLER ASC II WITH TELEMETRY |
| 900000    | 1        | EA   | VIDEO DETECTION INTERFACE EQUIPMENT (MONTGOMERY COUNTY)              |
| 900000    | H5-121   | SF   | SHEET ALUMINUM SIGN  |
|           | 3        | EA   | D-3(I) (VAR. X 16") MAST ARM MOUNTED                                 |
|           | 1        | EA   | M1-5 (30" X 24") GROUND MOUNTED                                      |
|           | 1        | EA   | M3-2 (24" X 12") GROUND MOUNTED                                      |
|           | 1        | EA   | M3-4 (24" X 12") GROUND MOUNTED                                      |
|           | 2        | EA   | M4-5 (24" X 12") GROUND MOUNTED                                      |
|           | 1        | EA   | M6-1 (21" X 15") GROUND MOUNTED                                      |
|           | 1        | EA   | M6-3 (21" X 15") GROUND MOUNTED                                      |
|           | 2        | EA   | R10-1IB (30" X 30") MAST ARM MOUNTED                                 |
|           | 4        | EA   | R10-3(I) (9" X 15") GROUND MOUNTED                                   |
|           | 1        | EA   | R1-1 (36" X 36") GROUND MOUNTED                                      |
|           | 1        | EA   | R3-4 (30" X 30") MAST ARM MOUNTED                                    |
|           | 1        | EA   | R3-5(L) (30" X 36") MAST ARM MOUNTED                                 |
|           | 1        | EA   | R3-5(MOD) (30" X 36") MAST ARM MOUNTED                               |
|           | 4        | EA   | R4-7 (24" X 30") GROUND MOUNTED                                      |

### B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

| CAT. CODE | QUANTITY | UNIT | DESCRIPTION  |
|-----------|----------|------|--|
| 120510    | 1        | EA   | MAINTENANCE OF TRAFFIC   |
| 201032    | 1        | CY   | CLASS 2 EXCAVATION   |
| 203030    | 2        | CY   | TEST PIT EXCAVATION  |
| 504322    | 5        | SY   | HMA SUPP'V 19.0mm FDP PG 64-22 LEV 4   |
| 585621    | 367      | LF   | 12" WHITE PREF THERMO PAV'T MARKING LINES  |
| 585625    | 137      | LF   | 24" WHITE PREF THERMO PAV'T MARKING LINES  |
| 585700    | 544      | LF   | REM EXIST PAVM'T MARKING LINES, ANY WIDTH  |
| 600000    | 160      | SF   | REMOVE AND RESET DECORATIVE BRICK  |
| 634300    | 346      | LF   | STD TYPE A COMB CURB AND GUTTER 12" X 8"   |
| 655105    | 1074     | SF   | 5 INCH CONCRETE SIDEWALK   |
| 655120    | 88       | SF   | DETECTABLE WARNING SURFACES  |
| 800000    | 1        | EA   | FURNISH AND INSTALL 2 WIRE CENTRAL CONTROL UNIT  |
| 800000    | 4        | EA   | FURNISH AND INSTALL AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS                  |
| 800000    | 4        | EA   | FURNISH AND INSTALL LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD                             |
| 800000    | 175-185  | LF   | FURNISH AND INSTALL 2 - 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED IN ONE TRENCH         |
| 800000    | 1        | EA   | FURNISH AND INSTALL 10' PEDESTAL POLE w/BREAKAWAY COUPLINGS (TIGER DRYLACK GREEN RAL 6009)   |
| 800000    | 1        | EA   | FURNISH AND INSTALL STEEL POLE WITH A SINGLE 38' MAST ARM (TIGER DRYLACK GREEN RAL 6009)     |
| 800000    | 1        | EA   | FURNISH AND INSTALL STEEL POLE WITH A SINGLE 60' MAST ARM (TIGER DRYLACK GREEN RAL 6009)     |
| 800000    | 1        | EA   | FURNISH AND INSTALL STEEL POLE WITH TWIN 50' MAST ARM (TIGER DRYLACK GREEN RAL 6009)         |
| 800000    | 2        | EA   | FURNISH AND INSTALL 15 FOOT LIGHTING ARM FOR SIGNAL STRUCTURE (TIGER DRYLACK GREEN RAL 6009) |
| 800000    | 29       | EA   | 8 INCH VEHICLE TRAFFIC SIGNAL HEAD SECTION   |
| 800000    | 29       | EA   | 12 INCH (R, Y, G) LED SIGNAL HEAD SECTION  |
| 800000    | H5-121   | SF   | INSTALL SHEET ALUMINUM SIGN OVERHEAD OR GROUND MOUNT   |
| 800000    | 2        | EA   | VIDEO DETECTION CAMERA AND CABLE   |
| 801130    | 6        | EA   | 50 PERF TUB ST SIGN POSTS  |
| 801135    | 6        | EA   | 50 TUB STEEL ANCHOR BASES  |
| 805118    | 209-335  | LF   | 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED   |
| 805135    | 136      | LF   | 3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED  |
| 805140    | 155      | LF   | 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED  |
| 805155    | 109-115  | LF   | 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED   |
| 807405    | 1        | EA   | ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLT 100 AMP                                    |
| 810022    | 50       | LF   | ELECTRICAL CABLE - 1 CONDUCTOR NO.8 AWG-THHN/THWN  |
| 811001    | 7        | EA   | FURNISH AND INSTALL ELECTRICAL HANDHOLE  |
| 813022    | 48       | SF   | REM EXIST GR MOUNTED SIGN & SUP  |
| 816110    | 1        | EA   | INSTALL CONTROLLER AND CABINET - BASE MOUNT  |
| 816110    | 2        | EA   | 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE   |
| 832020    | 783-815  | LF   | NO. 6 AWG STRANDED BARE COPPER GROUND WIRE   |
| 861105    | 504-700  | LF   | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)  |
| 861106    | 625      | LF   | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)  |
| 861107    | 623-805  | LF   | ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)  |
| 861108    | 794-1300 | LF   | ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)  |
| 861116    | 367-475  | LF   | ELECTRICAL CABLE - 2 CONDUCTOR (TC, NO. 12 AWG)  |

C. IF THE CABINET IS TO BE REMOVED SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

| QUANTITY | UNIT | DESCRIPTION         |
|----------|------|---------------------|
| 1        | EA   | BASE CABINET SIZE 6 |

# PROJECT CONTACTS

THE CONTACT PERSONS ARE AS FOLLOWS:

Mr. Jeffrey Wentz  
Assistant District Engineer - Traffic  
Phone: (301) 513-7358

Mr. Vernon StInnett, Jr.  
Assistant District Engineer - Maintenance  
Phone: (301) 513-7304

Mr. Augle Rebish  
Utility Engineer  
Phone: (301) 513-7350

Mr. Richard L. Daff, Sr.  
Chief, Traffic Operations Division  
Phone: (410) 787-7630

Mr. Ed Rodenhizer  
Supervisor, Signal Operations  
Phone: 410-787-7650

Mr. Kamal Hamud  
Montgomery County  
Phone: 240-777-8761

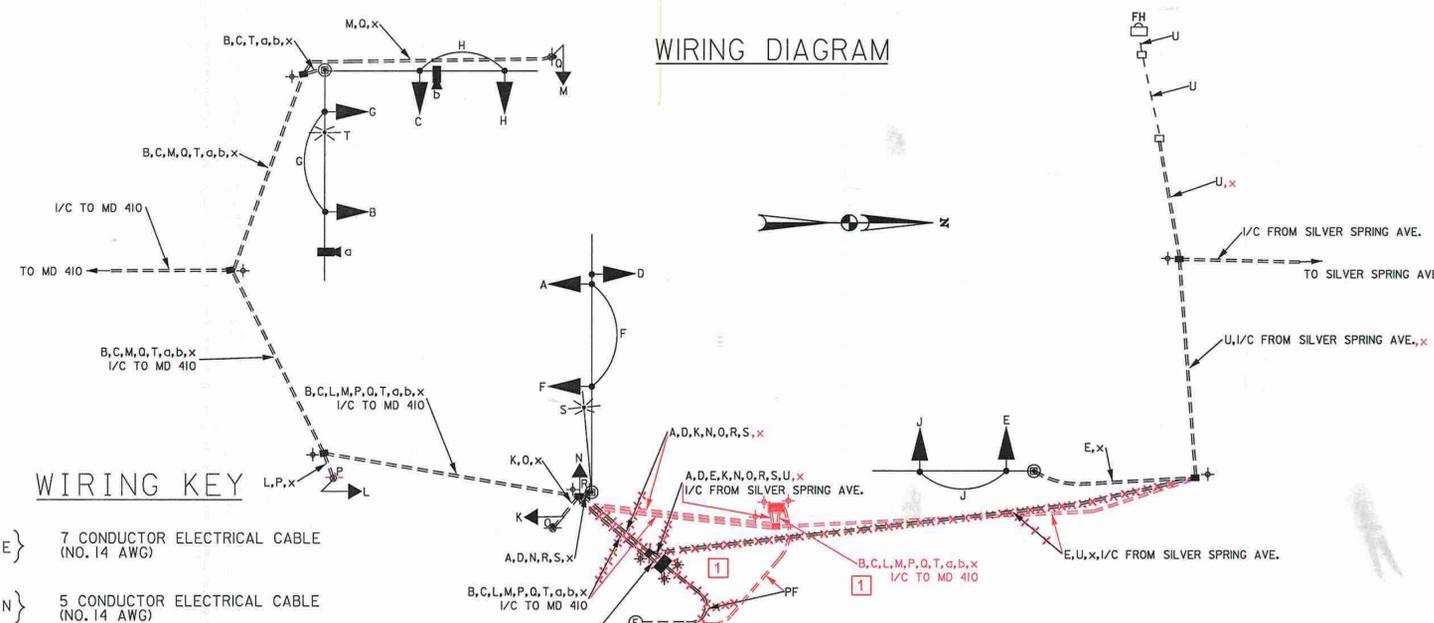
Mr. Eugene Bailey  
Supervisor, Sign Shop  
Phone: 410-787-7676

# PHASE CHART

| PHASE                       | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10    | 11    | 12    | 13    |
|-----------------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| PHASE 1 AND 6               | R    | R    | G    | G    | G    | FL/R | FL/R | R    | R    | DW    | DW    | DW    | DW    |
| PHASE 1 AND 6 CHANGE        | R    | R    | G    | G    | G    | FL/R | FL/R | R    | R    | DW    | DW    | DW    | DW    |
| PHASE 2 AND 6               | G    | G    | G    | G    | G    | FL/R | FL/R | R    | R    | WK    | WK    | DW    | DW    |
| PED CLEARANCE               | G    | G    | G    | G    | G    | FL/R | FL/R | R    | R    | FL/DW | FL/DW | DW    | DW    |
| PHASE 2 AND 6 CHANGE        | Y    | Y    | Y    | Y    | Y    | FL/R | FL/R | R    | R    | DW    | DW    | DW    | DW    |
| PHASE 4                     | R    | R    | R    | R    | R    | FL/R | FL/R | G    | G    | DW    | DW    | DW    | DW    |
| PHASE 4 CHANGE              | R    | R    | R    | R    | R    | FL/R | FL/R | Y    | Y    | DW    | DW    | DW    | DW    |
| PHASE 4 ALT                 | R    | R    | R    | R    | R    | FL/R | FL/R | G    | G    | DW    | DW    | WK    | WK    |
| PED CLEARANCE               | R    | R    | R    | R    | R    | FL/R | FL/R | G    | G    | DW    | DW    | FL/DW | FL/DW |
| PHASE 4 ALT CHANGE          | R    | R    | R    | R    | R    | FL/R | FL/R | Y    | Y    | DW    | DW    | DW    | DW    |
| EMERGENCY PRE-EMPTION CLEAR | R    | R    | G    | G    | G    | FL/R | FL/R | R    | R    | DW    | DW    | DW    | DW    |
| PRE-EMPTION                 | R    | R    | G    | G    | G    | FL/Y | FL/Y | R    | R    | DW    | DW    | DW    | DW    |
| PRE-EMPTION CHANGE          | R    | R    | G    | G    | G    | Y    | Y    | R    | R    | DW    | DW    | DW    | DW    |
| FLASH OPERATION             | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/R | FL/R | FL/R | FL/R | DARK  | DARK  | DARK  | DARK  |

NOTE:

1. DEPENDING ON THE OPERATING PHASES AT ACTIVATION, ALL PHASES OTHER THAN 1 AND 6 WILL GO TO PHASE CHANGE.
2. IT IS ASSUMED THAT AFTER PRE-EMPTION CHANGE THE CONTROLLER WILL RETURN TO PHASE 2 AND 6.



# WIRING KEY

- A, B, C, D, E } 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- F, G, H, J, K, L, M, N } 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- O, P, Q, R } 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- S, T } 2 CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) TRAY CABLE
- U } 3 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- a, b } VIDEO DETECTION CABLE
- x } 1 CONDUCTOR (NO. 6 AWG) STRANDED COPPER GROUND WIRE
- 12 PAIR INTERCONNECT CABLE
- PE } POWER SERVICE UNDERGROUND 3 WIRE 1 CONDUCTOR (NO. 4 AWG) (NO. 8 AWG)
- + } GROUND ROD

| REVISIONS                                     | GENERAL INFORMATION PLAN SHEET |           |              |
|---|--------------------------------|-----------|--------------|
| 1 RED LINE NO. 1 05/20/2010 MODIFY QUANTITIES | SCALE                          | DATE      | CONTRACT NO. |
|   | DESIGNED BY                    | COUNTY    | MONTGOMERY   |
|   | DRAWN BY                       | LOGMILE   | 15002900.39  |
|   | CHECKED BY                     | TIMS NO.  | J721         |
|   | F.A.P. NO.                     | TOD NO.   |              |
|   | TS NO. 4285B GI                | DRAWING   | 3 OF 3       |
|   |                                | SHEET NO. | 16 OF 26     |