

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE CONSTRUCTION OF A FULL-COLOR TRAFFIC SIGNAL AT THE INTERSECTION OF MD 586 AT CLARIDGE ROAD INCLUDING LED TRAFFIC SIGNAL HEADS, VIDEO DETECTION, COUNTDOWN PEDESTRIAN SIGNAL HEADS, ACCESSIBLE PEDESTRIAN PUSHBUTTONS AND SIGNS, AND MODIFICATION OF THE HAZARD IDENTIFICATION BEACONS ALONG EASTBOUND AND WESTBOUND MD 586. UPS BATTERY BACKUP WILL BE INSTALLED AT THIS INTERSECTION. OVERHEAD INTERCONNECT WILL BE INSTALLED AT THIS LOCATION. MD 586 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE FULL-TRAFFIC-ACTUATED MODE WITH AN ALTERNATE PEDESTRIAN PHASE FOR THE EAST LEG AND CONCURRENT PEDESTRIAN PHASE FOR THE NORTH LEG OF THE INTERSECTION. THE MD 586 EASTBOUND LEFT TURNS WILL OPERATE IN EXCLUSIVE-PERMISSIVE PHASING.

CONTROLLER REQUIREMENTS

THE EXISTING FULL-TRAFFIC-ACTUATED EIGHT-PHASE TRAFFIC SIGNAL CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL REMAIN. A 2-WIRE APS CENTRAL CONTROL UNIT SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY MONTGOMERY COUNTY. VIDEO DETECTION INTERFACE EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY MONTGOMERY COUNTY. A NEMA SIZE 5 CABINET WITH UPS BATTERY BACKUP WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THE EXISTING MODEL X CENTRAL CONTROL UNIT SHALL BE REMOVED BY MONTGOMERY COUNTY AND RETURNED TO SHA BY THE CONTRACTOR.

SPECIAL NOTES

APS WILL FUNCTION AS FOLLOWS:

TO CROSS MD 586 (VEIRS MILL ROAD):

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS VEIRS MILL AT CLARIDGE. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS CLARIDGE ROAD:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS CLARIDGE AT VEIRS MILL. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

MR. CEDRIC WARD ASSISTANT DISTRICT ENGINEER-TRAFFIC PHONE: (301) 513-7498
MR. KEVIN NOWAK ASSISTANT DISTRICT ENGINEER-CONSTRUCTION (301) 513-7336

MR. VERNON STINNETT ASSISTANT DISTRICT ENGINEER-MAINTENANCE (301) 513-7304

CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

MR. RICHARD L. DAFF, SR. CHIEF, TRAFFIC OPERATIONS DIVISION PHONE: (410)787-7630
MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF TRAFFIC OPERATIONS (410)787-7630
MR. ED RODENHIZER CHIEF, SIGNAL OPERATIONS (410)787-7650
MR. EUGENE BAILEY CHIEF, SIGN OPERATIONS (410)787-7676

CONTACT PERSONS FOR MONTGOMERY COUNTY ARE AS FOLLOWS:

MR. KAMAL HAMUD TRAFFIC ENGINEER PHONE: (240) 777-8761
MR. ROBERT RICKETTS (240) 876-3681

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

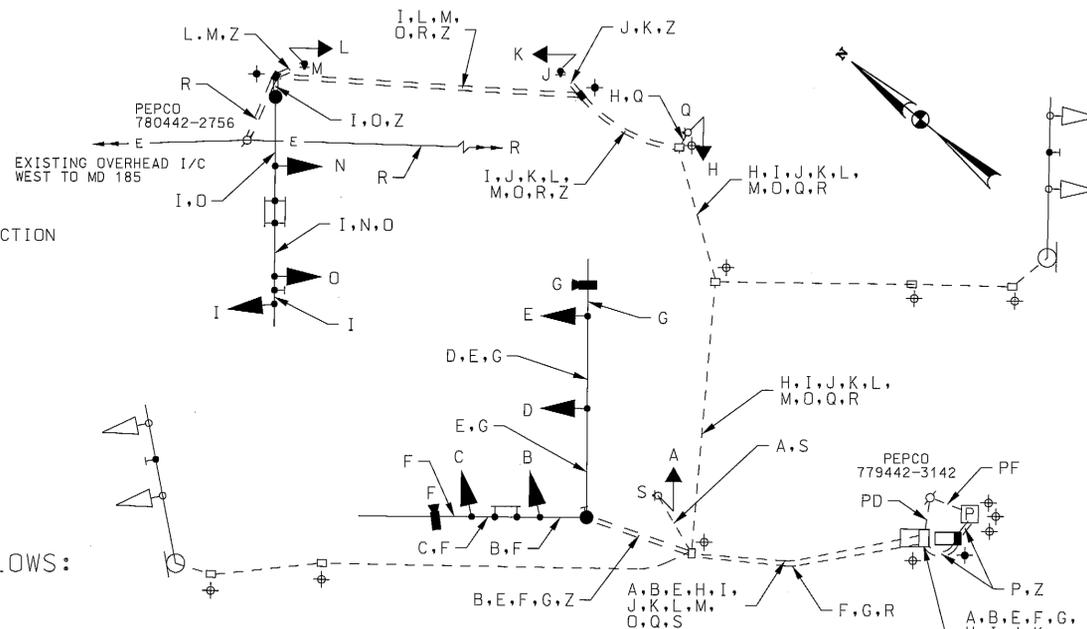
| ITEM NO. | DESCRIPTION | UNIT | QUANTITY |
|----------|--|------|----------|
| 9000 | IP-BASED VIDEO DETECTION INTERFACE EQUIPMENT | EA | 1 |
| 9570 | SHEET ALUMINUM SIGNS - GROUND MOUNTED 1 - M1-5(6) 30"x48" | SF | 10 |
| 9571 | SHEET ALUMINUM SIGNS - MAST ARM/POLE MOUNTED 4 - R10-3(1) 9"x15" 2 - W16-14(1) FY 24"x24" 1 - R3-4 36"x36" 2 - W3-3 FY 30"x30" 1 - D-3(1) 78"x16" | SF | 182 |
| | 2 - W3-3a(1) FY 120"x48" 1 - D-3(1) 72"x16" 1 - M1-5(6) 48"x72" 2 - D-3(2) FY 62"x12" 2 - D-3(1) 78"x16" (DUAL FACED) | | |

EQUIPMENT LIST "B & C"

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

| ITEM NO. | DESCRIPTION | UNIT | QUANTITY |
|----------|---|------|----------|
| 1001 | MAINTENANCE OF TRAFFIC | EA | 2 |
| 2001 | CLASS 2 EXCAVATION | CY | 2 |
| 2002 | TEST PIT EXCAVATION | CY | 2 |
| 5002 | 5" HEAT APPLIED WHITE OR YELLOW PERMANENT PAVEMENT MARKINGS | LF | 25 |
| 5003 | REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS | LF | 425 |
| 5004 | 12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES | LF | 100 |
| 5005 | 24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES | LF | 105 |
| 6001 | STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH | LF | 65 |
| 6002 | 5 INCH CONCRETE SIDEWALK | SF | 280 |
| 6003 | DETECTABLE WARNING SURFACE FOR CURB RAMPS | SF | 14 |
| 8001 | 12 INCH LED SIGNAL HEAD SECTION | EA | 25 |
| 8002 | 2-WIRE CENTRAL CONTROL UNIT | EA | 1 |
| 8008 | AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS | EA | 4 |
| 8009 | BREAKAWAY PEDESTAL POLE (ANY SIZE) | EA | 2 |
| 8016 | LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD | EA | 4 |
| 8019 | MAST ARM POLE & 50' MAST ARM ANY 'T' DIMENSION | EA | 1 |
| 8024 | REMOVE & DISPOSE OF EQUIPMENT (PER ASSIGNMENT) | EA | 1 |
| 8026 | TWIN MAST ARM POLE & 50'/60' MAST ARMS ANY 'T' DIMENSION | EA | 1 |
| 8028 | UNINTERRUPTIBLE POWER SUPPLY SYSTEM W/ NEMA SIZE 5 CABINET | EA | 1 |
| 8029 | VIDEO DETECTION CAMERA AND CABLE ANY LENGTH | EA | 2 |
| 8032 | 12-PAIR COMMUNICATION CABLE, SELF-SUPPORTING, JELLY-FILLED/UNDERGROUND | LF | 935 |
| 8038 | UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED | LF | 75 |
| 8040 | UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED | LF | 105 |
| 8041 | WOOD SIGN SUPPORTS UP TO 4' X 6' | LF | 32 |
| 8042 | INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE) | SF | 192 |
| 8044 | NO. 6 AWG STRANDED BARE COPPER GROUND WIRE | LF | 170 |
| 8045 | WEATHER HEAD, 3 INCH | EA | 1 |
| 8047 | ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN | LF | 70 |
| 8048 | FURNISH AND INSTALL ELECTRICAL HANDHOLE | EA | 2 |
| 8052 | 3 INCH DIAMETER POLYVINYL CHLORIDE CONDUIT, SCHEDULE 80, RISER | LF | 30 |
| 8053 | CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE | EA | 1 |
| 8055 | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG) | LF | 790 |
| 8057 | ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG) | LF | 860 |
| 8058 | ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG) | LF | 975 |

C. THE MODEL X PUSHBUTTONS AND CENTRAL CONTROL UNIT SHALL BE RETURNED TO SHA. ALL MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.



WIRING KEY

| | |
|----------------|---|
| J.M,Q,S | 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) |
| A,C,D,H, K,L,N | 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) |
| B,E,I,O | 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) |
| P | 1-CONDUCTOR ELECTRICAL CABLES (NO. 8 AWG-THHN/THWN), 3 RUNS |
| R | 12-PAIR SELF SUPPORTING COMMUNICATION CABLE (NO. 19 AWG) (REFER TO INTERCONNECT PLAN FOR DETAILS) |
| Z | STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG) |
| F,G | VIDEO DETECTION CAMERA CABLE |
| PF | EXISTING UNDERGROUND POWER FEED |
| PD | EXISTING PHONE DROP |
| | PROPOSED GROUND ROD |
| | EXISTING GROUND ROD |

TOD NO: XX439-04
SHA NO: MO242B52
MD 586 @ Claridge Road



PHASING CHART

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| PHASE 1 AND 6 | DARK | DARK | 4G/G | 4G/G | G | FL/Y | FL/Y | R | R | R | R | DW | DW | DW | DW |
| 1 AND 6 CHANGE | DARK | DARK | 4Y/G | 4Y/G | G | FL/Y | FL/Y | R | R | R | R | DW | DW | DW | DW |
| PHASE 2 AND 6 | DARK | DARK | G | G | G | DARK | DARK | G | G | R | R | DW | DW | WK | WK |
| PED CLEARANCE/COUNTDOWN | DARK | DARK | G | G | G | DARK | DARK | G | G | R | R | DW | DW | FL/DW | FL/DW |
| 2 AND 6 CHANGE | FL/Y | FL/Y | Y | Y | Y | FL/Y | FL/Y | Y | Y | R | R | DW | DW | DW | DW |
| PHASE 4 | FL/Y | FL/Y | R | R | R | FL/Y | FL/Y | R | R | G | G | DW | DW | DW | DW |
| 4 CHANGE | FL/Y | FL/Y | R | R | R | FL/Y | FL/Y | R | R | Y | Y | DW | DW | DW | DW |
| PHASE 4 ALT | FL/Y | FL/Y | R | R | R | FL/Y | FL/Y | R | R | G | G | WK | WK | DW | DW |
| PED CLEARANCE/COUNTDOWN | FL/Y | FL/Y | R | R | R | FL/Y | FL/Y | R | R | G | G | FL/DW | FL/DW | DW | DW |
| PHASE 4 ALT CHANGE | FL/Y | FL/Y | R | R | R | FL/Y | FL/Y | R | R | Y | Y | DW | DW | DW | DW |
| FLASHING OPERATION | DARK | DARK | FL/Y | FL/Y | FL/Y | DARK | DARK | FL/Y | FL/Y | FL/R | FL/R | DARK | DARK | DARK | DARK |

GENERAL NOTES

- THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL CABLES, EXCLUDING INTERCONNECT, TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE. ALL DISCONNECTING AND SPLICING OF INTERCONNECT CABLE IS TO BE DONE BY MONTGOMERY COUNTY FORCES.
- ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
- ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
- ALL PEDESTAL FOUNDATION TOPS SHALL BE INSTALLED FLUSH WITH SIDEWALK GRADE.
- MONTGOMERY COUNTY SIGNAL SHOP SHALL INSTALL APS CENTRAL CONTROL UNIT INTO CONTROLLER CABINET. APS PUSHBUTTONS SHALL BE PROGRAMMED BY THE MANUFACTURER.
- LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SECTION 4E.09 AND FIGURE 4E.2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
- PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
- THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER OF POLE TO CENTER OF POLE.
- PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARELLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
- THE CONTRACTOR SHALL CAP AND ABANDON CONDUIT FEEDING SIGNAL EQUIPMENT THAT IS REMOVED.
- ALL CONTROLLER CABINET WIRING WILL BE PERFORMED BY MONTGOMERY COUNTY FORCES. CONTACT KAMAL HAMUD AT (240) 777-8761, 72 HOURS IN ADVANCE OF INTENDED WORK.

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 586 (VEIRS MILL RD) AT CLARIDGE RD
SILVER SPRING, MARYLAND

| REVISIONS | | GENERAL INFORMATION SHEET | |
|--------------|-------------|---------------------------|---------------|
| SCALE | NONE | DATE | DECEMBER 2011 |
| CONTRACT NO. | XX4395185 | DESIGNED BY | WFW |
| COUNTY | MONTGOMERY | DRAWN BY | WFW |
| LOGMILE | I5058604.38 | CHECKED BY | BJG |
| TIMS NO. | L053 | FAP NO. | |
| TOD NO. | | TS NO. | 4763A-GI |
| DRAWING | SP-2 | OF | 2 |
| SHEET NO. | 2 | OF | 3 |