

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE CONSTRUCTION OF A PROPOSED TRAFFIC CONTROL SIGNAL WITH STREET LIGHTING AND INTERCONNECT AT THE INTERSECTION OF MD 108 (OLNEY LAYTONSVILLE RD) AND BOWIE MILL RD IN MONTGOMERY COUNTY. THE CONSTRUCTION WILL ADD A FULL TRAFFIC SIGNAL WITH APS/CPIS AT THE INTERSECTION. MD 108 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

- THE INTERSECTION SHALL OPERATE IN A NEMA FIVE (5) PHASE, SEMI-ACTUATED MODE. THE MD 108 (OLNEY LAYTONSVILLE RD) EASTBOUND AND WESTBOUND MOVEMENTS AND A PEDESTRIAN MOVEMENT ACROSS BOWIE MILL RD SHALL OPERATE CONCURRENTLY. AN ACTUATED AUDIBLE PEDESTRIAN PHASE SHALL BE PROVIDED TO CROSS BOWIE MILL RD. A LEADING EXCLUSIVE-PERMISSIVE LEFT TURN PHASE SHALL BE PROVIDED FOR WESTBOUND MD 108 WITH A NORTHBOUND RIGHT TURN OVERLAP. THE NORTHBOUND BOWIE MILL RD MOVEMENT OPERATES AS ITS OWN PHASE. AN ALTERNATE PEDESTRIAN PHASE WITH AUDIBLE PEDESTRIAN SIGNALS SHALL BE PROVIDED TO CROSS MD 108 CONCURRENT WITH THE WESTBOUND LEFT TURN AND NORTHBOUND RIGHT TURN OVERLAP.
- A PROPOSED NEMA FULL-TRAFFIC-ACTUATED, EIGHT (8) PHASE CONTROLLER IN A NEMA SIZE "6" BASE MOUNTED CABINET WITH APS PANEL AND 2-WIRE CENTRAL CONTROL UNIT, VIDEO DETECTION PANEL AND LAU SHALL BE INSTALLED AT THIS LOCATION.

III. SPECIAL NOTES

- CONTRACTOR SHALL DELIVER APS PUSHBUTTONS AND CENTRAL CONTROL UNIT TO MR. ROBERT RICKETTS AT MONTGOMERY COUNTY TECHNICAL CENTER AT 1283 SEVEN LOCKS ROAD, ROCKVILLE, MD 20854 AT LEAST 3 WEEKS PRIOR TO BEGINNING WORK. CONTRACTOR SHALL HAVE THE APS MESSAGES PROGRAMMED FROM THE FACTORY AND DELIVER THE APS WAVE FILES TO MR. ROBERT RICKETTS.
- CONTRACTOR SHALL NOTIFY MR. KAMAL HAMUD AND MR. ROBERT RICKETTS 72 HOURS PRIOR TO BEGINNING WORK.
- APS WILL FUNCTION AS FOLLOWS:
TO CROSS MD 108 (OLNEY LAYTONSVILLE RD) - CURBSIDE PUSHBUTTONS
 - WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS OLNEY LAYTONSVILLE AT BOWIE MILL. SECOND PUSHBUTTON IN MEDIAN, WAIT."
 - WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
 TO CROSS MD 108 (OLNEY LAYTONSVILLE RD) - MEDIAN PUSHBUTTONS
 - WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS OLNEY LAYTONSVILLE AT BOWIE MILL. WAIT."
 - WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
 TO CROSS BOWIE MILL RD
 - WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS BOWIE MILL AT OLNEY LAYTONSVILLE. WAIT."
 - WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACTS

DISTRICT (DISTRICT 3)

MR. BRIAN YOUNG
DISTRICT ENGINEER
301-513-7311

MR. CEDRIC WARD
ASSISTANT DISTRICT ENGINEER - TRAFFIC
301-513-7318

MR. VICTOR GRAFTON
DISTRICT UTILITY ENGINEER
301-513-7350

MR. KEVIN NOWAK & MR. DUANE BERNARD
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
301-513-7336

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

MONTGOMERY COUNTY DOT

MR. KAMAL HAMUD
TRAFFIC ENGINEER
240-777-8761

MR. ROBERT RICKETTS
SIGNAL SHOP
301-279-1291

OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF SR.
CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ED RODENHIZER
TEAM LEADER SIGNAL OPERATIONS
410-787-7650

MR. EUGENE BAILEY
TEAM LEADER SIGN OPERATIONS
410-787-7670

MR. MICHAEL STOCKER
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
410-787-7668

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

ITEM NO.	QUANTITY	DESCRIPTION
9042	1EA	[UPDATED] CONTROLLER ASC III WITH TELEMETRY
9044	1EA	[UPDATED] CONTROLLER CABINET, SIZE 6
9087	1EA	[UPDATED] VIDEO DETECTION INTERFACE EQUIPMENT: 5-8 CAMERAS
9570	64 SF	[UPDATED] SHEET ALUMINUM GROUND MOUNTED SIGN
	1EA	D3-2(1) 'Bowie Mill Rd / RIGHT AT SIGNAL' (VAR.x24")
	1EA	D3-2(1) 'Bowie Mill Rd / LEFT AT SIGNAL' (VAR.x24")
	2EA	D11-1 (24"x18")
	1EA	W1-7 (48"x24")
	2EA	W16-14(1) (24"x24")
	2EA	W3-3 (36"x36")
9571	71 SF	[UPDATED] SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN
	2EA	R10-3(1) 'BOWIE MILL RD' (9"x5")
	4EA	R10-3(1) 'OLNEY LAYTONSVILLE RD' (9"x5")
	2EA	D-3(1) 'Bowie Mill Rd ->' / '<' - Bowie Mill Rd' (VAR.x16") DUAL FACED
	1EA	D-3(1) 'Olney Laytonsville Rd' (VAR.x16")
	1EA	M1-5(6) 'EAST / MD 108 / ->' (30"x48")
	1EA	M1-5(6) 'WEST / MD 108 / <' (48"x72")

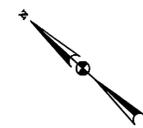
EQUIPMENT LIST (CONT'D)

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

ITEM NO.	QUANTITY	DESCRIPTION
203030	7 CY	TEST PIT EXCAVATION
585405	430 LF	5 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
585407	735 LF	5 INCH YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
585621	250 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585625	100 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585700	90 LF	REMOVAL OF EXISTING PAVEMENT MARKING LINES, ANY WIDTH
800000	4 EA	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION PEDESTAL POLE MOUNT
800000	1 EA	2-WIRE CENTRAL CONTROL UNIT
800000	6 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGN
800000	170 LF	CABLE-1 CONDUCTOR, 250 KCMIL, CU, USE 600V
800000	75 LF	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN
800000	5 EA	VIDEO DETECTION CAMERA AND CABLE
801004	12 CY	CONCRETE FOR SIGNAL FOUNDATION
801104	85 LF	WOOD SIGN SUPPORTS 4"x4"
801106	95 LF	WOOD SIGN SUPPORTS 4"x6"
801130	1 EA	SQUARE PERFORATED TUBULAR STEEL SIGN POSTS
801135	1 EA	SQUARE TUBULAR STEEL ANCHOR BASES
802501	430 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805050	1 EA	WEATHER HEAD, 3 INCH
805118	195 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED
805125	125 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805135	55 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	60 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
807500	1 EA	EMBEDDED METERED SERVICE PEDESTAL
811001	5 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
811002	1 EA	REMOVE ELECTRICAL HANDHOLE
813014	64 SF	INSTALL GROUND MOUNTED SIGN
813015	71 SF	INSTALL OVERHEAD SIGN
813022	84 SF	REMOVE EXISTING GROUND MOUNTED SIGNS
813023	11 SF	RELOCATE EXISTING GROUND MOUNTED SIGNS
818004	6 EA	10 FOOT BREAKAWAY PEDESTAL POLE
818050	1 EA	STEEL POLE WITH TWIN 50 FOOT AND 60 FOOT MAST ARMS
818052	1 EA	STEEL POLE WITH SINGLE 70 FOOT MAST ARM (SPECIAL 'T')
831010	1 EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
833060	30 LF	3 INCH DIAMETER POLYVINYL CHLORIDE CONDUIT, SCHEDULE 80, RISER
837001	8 EA	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
860284	30 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860292	2 EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
861105	685 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	510 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	1410 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	230 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) TC
866103	1 EA	15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
871202	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

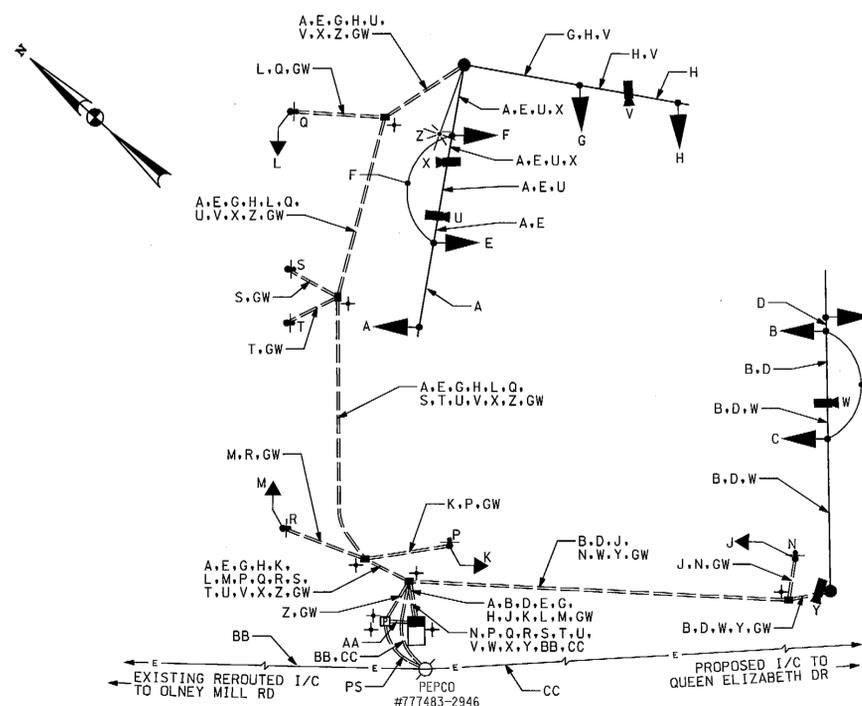
C. ALL MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE SIGNAL CONTRACTOR UPON COMPLETION OF THE NEW SIGNAL.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11
PHASE 2 AND 5	R	R	←G-G	←G-G	G	R	R-Y	DW	DW	DW	DW
5 CHANGE	R	R	←Y-G	←Y-G	G	R	R-Y	DW	DW	DW	DW
PHASE 2 AND 6	G	G	G	G	G	R	R	WK	WK	DW	DW
PED CLEAR /COUNTDOWN	G	G	G	G	G	R	R	FLDW	FLDW	DW	DW
2 AND 6 CHANGE	Y	Y	Y	Y	Y	R	R	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	G	G	DW	DW	DW	DW
3 CHANGE	R	R	R	R	R	Y	Y	DW	DW	DW	DW
PHASE 4 ALT AND 5	R	R	←G-G	←G-G	R	R	R-G	DW	DW	WK	WK
PED CLEAR /COUNTDOWN	R	R	←G-G	←G-G	R	R	R-G	DW	DW	FLDW	FLDW
4 ALT AND 5 MAY CHANGE TO PHASE 2 AND 5 OR PHASE 2 AND 6											
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLR	FLR	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

- A,B,D,E,G,H - 7 CONDUCTOR ELECTRICAL CABLE (NO.14 AWG)
- C,F,J,K,L,M - 5 CONDUCTOR ELECTRICAL CABLE (NO.14 AWG)
- N,P,Q,R,S,T - 2 CONDUCTOR ELECTRICAL CABLE (NO.14 AWG)
- U,V,W,X,Y - VIDEO DETECTION CABLE
- Z - 2 CONDUCTOR ELECTRICAL CABLE (NO.12 AWG TRAY)
- AA - 3-1 CONDUCTOR ELECTRICAL CABLE (#8AWG THHN/THWN)
- BB - EXISTING REROUTED INTERCONNECT TO OLNEY MILL RD (12-PAIR COMMUNICATION CABLE)
- CC - PROPOSED INTERCONNECT TO QUEEN ELIZABETH DR (12-PAIR COMMUNICATION CABLE)
- GW - 1 CONDUCTOR STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
- PS - 3-1 CONDUCTOR ELECTRICAL CABLE (250 KCMIL OR AS DIRECTED BY PEPCO)
- + - PROPOSED GROUND ROD

- NOTES: 1. REFER TO THE INTERCONNECT PLAN FOR MODIFICATIONS TO THE INTERCONNECT.
2. REFER TO THE INTERCONNECT PLAN FOR INTERCONNECT QUANTITIES.
3. CONTRACTOR SHALL COORDINATE WITH PEPCO ON THE TYPE OF SERVICE FEED CABLE.



PARSONS BRINCKERHOFF
100 S. Clinton Street
Tower 1, 10th Floor
Baltimore, MD 21201
(PH) 410 727 5000
(FAX) 410 727 4408

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC AND SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

**MD 108 AT BOWIE MILL RD
SIGNAL INSTALLATION**
OLNEY, MD

GENERAL INFORMATION SHEET

SCALE: N.T.S. DATE: JULY 13, 2011 CONTRACT NO.: M05985187

DESIGNED BY: M. FUKUI COUNTY: MONTGOMERY
DRAWN BY: M. FUKUI LOGMILE: 1510B12.49
CHECKED BY: K. PERMISOHN TMS NO.: K050
F.A.P. NO.: SEE TITLE SHEET TOD NO.:

TS NO. 4786-GI DRAWING **SG-03** OF 03 SHEET NO. 03 OF 03

BY: fukui-