PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 124 (MONTGOMERY VILLAGE AVENUE) AND CHRISTOPHER AVENUE / LOST KNIFE ROAD IN MONTGOMERY COUNTY, MARYLAND. THE MODIFICATION INCLUDES THE INSTALLATION OF A NEW CONTROLLER HOUSED IN A TYPE 'S' CABINET, APS PUSHBUTTONS FOR ALL MARKED CROSSWALKS, CONSTRUCTION OF ADA-COMPLIANT CURB RAMPS, AND THE CONVERSION OF THE EXISTING EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING FOR NORTHBOUND MD 124 TO EXCLUSIVE ONLY. MD 124 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA EIGHT PHASE, SEMI-TRAFFIC-ACTUATED MODE WITH THE MD 124 APPROACHES OPERATING CONCURRENTLY AND THE CHRISTOPHER AVENUE / LOST KNIFE ROAD APPROACHES OPERATING CONCURRENTLY. EXCLUSIVE LEFT-TURN PHASING WILL BE PROVIDED FOR ALL LEGS OF THIS INTERSECTION. PUSHBUTTON ACTUATION ACROSS MD 124 WILL REMAIN. NEW PUSHBUTTON ACTUATION WILL BE INSTALLED ACROSS CHRISTOPHER AVENUE AND LOST KNIFE ROAD. ALL PEDESTRIAN PUSHBUTTONS WILL BE APS.

APS MESSAGE FOR CROSSING MD 124 (MONTGOMERY VILLAGE AVENUE):

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS MONTGOMERY VILLAGE AT CHRISTOPHER AND LOST KNIFE, WAIT"
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

APS MESSAGE FOR CROSSING CHRISTOPHER AVENUE:

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

APS MESSAGE FOR CROSSING LOST KNIFE ROAD:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS LOST KNIFE AT MONTGOMERY VILLAGE, WAIT"
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTROLLER REQUIREMENTS

A NEW TYPE 'S' BASE MOUNTED CABINET AND EIGHT-PHASE CONTROLLER AND ALL ASSOCIATED EQUIPMENT WILL BE INSTALLED.

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. CEDRIC WARD
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 513-7358

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

MR. ED RODENHIZER
SUPERVISOR - SIGNAL SHOP
PHONE: (410) 787-7650

MR. VICTOR GRAFTON
ASSISTANT DISTRICT ENGINEER - UTILITY
PHONE: (301) 513-7350

MR. RICHARD L. DAFF
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. PAUL WILSON
PEPCO
PHONE: (301) 548-4332

THE CONTACT PERSON FOR MCDPWT IS AS FOLLOWS:

MR. KAMUL HAMUD
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
PHONE: (240) 777-8761

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY SHA:

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
9042	1	EA	[UPDATED] CONTROLLER ASC III WITH TELEMETRY
9044	1	EA	[UPDATED] CONTROLLER CABINET, TYPE 'S'
9086	1	EA	[UPDATED] VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
9570	66	SF	[UPDATED] SHEET ALUMINUM GROUND MOUNTED SIGN - 8 EACH W11-2 (30"x30") - 4 EACH W16-7p(R) (24"x12") - 4 EACH W16-7p(L) (24"x12")
9571	8	SF	[UPDATED] SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN - 8 EACH R10-3(1) (9"x15")

EQUIPMENT LIST "B"

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

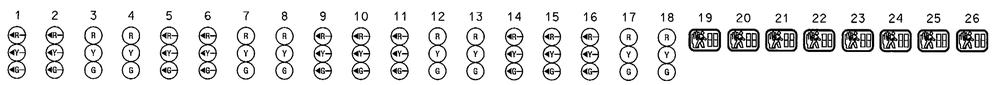
ITEM NO.	QUANTITY	UNIT	DESCRIPTION
1001	1	EA	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
2001	20	CY	CLASS 2 EXCAVATION
2002	4	CY	TEST PIT EXCAVATION
5001	1600	LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE EMARKINGS - ANY WIDTH
5005	1500	LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
5006	100	LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
6001	700	LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
6002	2200	SF	5 INCH CONCRETE SIDEWALK
8001	54	EA	12 INCH LED SIGNAL HEAD SECTION
8002	1	EA	2 WIRE CENTRAL CONTROL UNIT
8006	1	EA	ADJUST HANDHOLE TO GRADE
8007	8	EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION & SIGNS
8008	5	EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8013	1	EA	REMOVE & DISPOSE OF EQUIPMENT (PER ASSIGNMENT)
8015	1000	LF	DISCONNECT, PULL-BACK & REROUTE CABLES
8018	250	LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
8019	250	SF	DETECTABLE WARNING SURFACES
8023	1400	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8025	1600	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8028	1	EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT
8030	4	EA	NEG - APPROVED - RELOCATE EXISTING OVERHEAD SIGN
8031	128	LF	NEG - APPROVED - FURNISH & INSTALL WOOD SIGN POSTS UP TO 4" X 6"
8033	100	LF	NEG - APPROVED - FURNISH & INSTALL #6 BARE COPPER GROUND WIRE
8034	74	SF	NEG - APPROVED - INSTALL OVERHEAD OR GROUND MOUNTED SIGN
8037	1	EA	NEG - APPROVED - FURNISH & INSTALL EMBEDDED METERED SERVICE PEDESTAL
8038	450	LF	NEG - APPROVED - FURNISH & INSTALL CONDUCTOR 250 KCML CU USE 600 V
8039	50	LF	NEG - APPROVED - FURNISH & INSTALL 1 CONDUCTOR NO. 4 AWG THHN / THWN

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA:

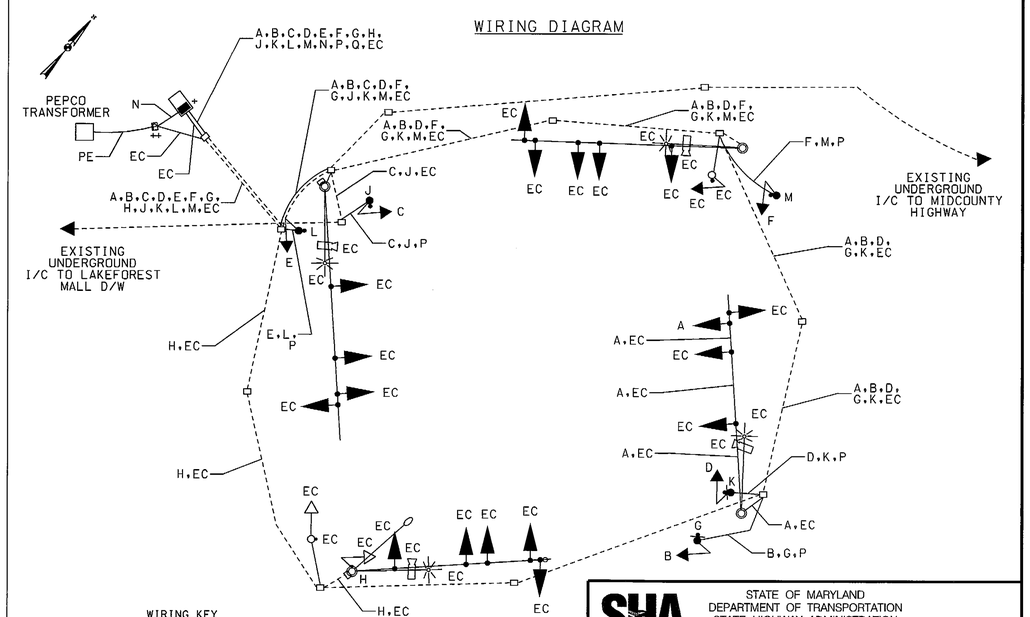
CONTROLLER AND CABINET TO BE RETURNED TO MONTGOMERY COUNTY SIGNAL SHOP.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
PHASE 1 + 5	←G—	←G—	R	R	←G—	←G—	R	R	←R—	←R—	←R—	R	R	←R—	←R—	←R—	R	R	DW	DW	DW	DW	DW	DW	DW	DW
1 + 5 CHANGE	1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5, OR PHASE 2 + 6																									
PHASE 1 + 6	←G—	←G—	G	G	←R—	←R—	R	R	←R—	←R—	←R—	R	R	←R—	←R—	←R—	R	R	DW	WK	WK	DW	DW	DW	DW	DW
1 + 6 CHANGE	←Y—	←Y—	G	G	←R—	←R—	R	R	←R—	←R—	←R—	R	R	←R—	←R—	←R—	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 + 5	←R—	←R—	R	R	←G—	←G—	G	G	←R—	←R—	←R—	R	R	←R—	←R—	←R—	R	R	WK	DW	DW	WK	DW	DW	DW	DW
2 + 5 CHANGE	←R—	←R—	R	R	←Y—	←Y—	G	G	←R—	←R—	←R—	R	R	←R—	←R—	←R—	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 + 6	←R—	←R—	G	G	←R—	←R—	G	G	←R—	←R—	←R—	R	R	←R—	←R—	←R—	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEARANCE	←R—	←R—	G	G	←R—	←R—	G	G	←R—	←R—	←R—	R	R	←R—	←R—	←R—	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 + 6 CHANGE	←R—	←R—	Y	Y	←R—	←R—	Y	Y	←R—	←R—	←R—	R	R	←R—	←R—	←R—	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 + 7	←R—	←R—	R	R	←R—	←R—	R	R	←G—	←G—	←G—	R	R	←G—	←G—	←G—	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 + 7 CHANGE	3 + 7 MAY CHANGE TO PHASE 3 + 8, PHASE 4 + 7, OR PHASE 4 + 8																									
PHASE 3 + 8	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	←R—	R	R	←G—	←G—	←G—	G	G	DW	DW	DW	DW	DW	DW	DW	DW
3 + 8 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	←R—	R	R	←Y—	←Y—	←Y—	G	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 + 7	←R—	←R—	R	R	←R—	←R—	R	R	←G—	←G—	←G—	G	G	←R—	←R—	←R—	R	R	DW	DW	DW	DW	DW	DW	DW	DW
4 + 7 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	←Y—	←Y—	←Y—	G	G	←R—	←R—	←R—	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 + 8	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	←R—	G	G	←R—	←R—	←R—	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 + 8 CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	←R—	Y	Y	←R—	←R—	←R—	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 + 8 ALT	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	←R—	R	R	←G—	←G—	←G—	G	G	DW	DW	DW	DW	WK	DW	DW	WK
3 + 8 ALT CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	←R—	R	R	←Y—	←Y—	←Y—	G	G	DW	DW	DW	DW	WK	DW	DW	WK
PHASE 4 + 7 ALT	←R—	←R—	R	R	←R—	←R—	R	R	←G—	←G—	←G—	G	G	←R—	←R—	←R—	R	R	DW	DW	DW	DW	DW	WK	WK	DW
4 + 7 ALT CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	←Y—	←Y—	←Y—	G	G	←R—	←R—	←R—	R	R	DW	DW	DW	DW	DW	WK	WK	DW
PHASE 4 + 8 ALT	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	←R—	G	G	←R—	←R—	←R—	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEARANCE	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	←R—	G	G	←R—	←R—	←R—	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 + 8 ALT CHANGE	←R—	←R—	R	R	←R—	←R—	R	R	←R—	←R—	←R—	Y	Y	←R—	←R—	←R—	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/←R	FL/←R	FL/Y	FL/Y	FL/←R	FL/←R	FL/Y	FL/Y	FL/←R	FL/←R	FL/←R	FL/R	FL/R	FL/←R	FL/←R	FL/←R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A,B,C,D,E,F } 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)

G,H,J,K,L,M } 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)

N } 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 AWG)

P } STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)

EC } EXISTING CABLE

LEGEND

PE - PROPOSED UNDERGROUND ELECTRICAL SERVICE (250 KCML CU USE 600 V)

+ - 3/4 IN. X 10 FT. GROUND ROD

McCormick Taylor
Engineers & Planners Since 1946
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

BY: PNKenney

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

MD 124 (MONTGOMERY VILLAGE AVENUE) AT CHRISTOPHER AVENUE /LOST KNIFE ROAD
MONTGOMERY VILLAGE, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE OCTOBER 27, 2011 CONTRACT NO. XX4275185

DESIGNED BY BSH COUNTY MONTGOMERY
DRAWN BY MER LOGMILE 15012404.16
CHECKED BY MAS T.I.M.S. NO. K840
F.A.P. NO. T.O.D. NO.

T.S. NO. 4203C-GI SG-03 OF SG-03 SHEET NO. 3 OF 3

PLOTTED: Thursday, October 27, 2011 AT 12:02 PM
FILE: I:\52112 - TEDD\34 - MD 124 Signal\DESIGN\Engineering\PlanSet\p8G-N002_TS4203C.dgn