PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF LED COUNTDOWN PEDESTRIAN SIGNAL HEADS, APS PUSHBUTTONS AND SIGNS AT THE INTERSECTIONS OF MD 26 (LIBERTY ROAD) AT CROYDON ROAD AND MD 26 (LIBERTY ROAD) AT BUCKINGHAM ROAD. NON-INVASIVE MICROLOOP PROBES WILL BE INSTALLED FOR THE EAST (OF BUCKINGHAM ROAD) APPROACH AND WEST (OF CROYDON ROAD) APPROACH. THE METERED SERVICE PEDESTAL WILL BE SHIFTED TO ALLOW FOR FULL WIDTH SIDEWALK TO BE INSTALLED.
MD 26 IS ASSUMED TO RUN IN A EAST-WEST DIRECTION.

INTERSECTION OPERATION

THESE INTERSECTIONS CURRENTLY OPERATES IN A NEMA FIVE-PHASE FULL-TRAFFIC-ACTUATED MODE WITH CONCURRENT PEDESTRIAN PHASES FOR BOTH NORTH LEGS AND THE SOUTH LEG OF CROYDON ROAD, AND ALTERNATE PEDESTRIAN PHASES FOR BOTH EAST LEGS AND THE WEST LEG OF CROYDON ROAD. THE MD 26 EASTBOUND LEFT TURN OPERATES IN EXCLUSIVE-PERMISSIVE PHASING. THE CONTROLLER FOR BOTH INTERSECTIONS IS LOCATED AT THE MD 26 AT CROYDON ROAD INTERSECTION.

CONTROLLER REQUIREMENTS

THE EXISTING FULL-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL REMAIN. THE EXISTING UPS BATTERY BACKUP HOUSED IN A BASE MOUNTED CABINET SHALL REMAIN. TWO 2-WIRE APS CENTRAL CONTROL UNITS SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY SHA. CABINETS ARE LOCATED AT THE MD 26 AT CRODYON ROAD INTERSECTION.

SPECIAL NOTE

APS WILL FUNCTION AS FOLLOWS:

TO CROSS LIBERTY ROAD AT CROYDON ROAD:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS LIBERTY AT CROYDON, 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 LIBERTY ROAD AT BUCKINGHAM ROAD:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS LIBERTY AT BUCKINGHAM, 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 CROYDON ROAD AT LIBERTY ROAD:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS CROYDON AT LIBERTY, 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 BUCKINGHAM ROAD AT LIBERTY:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS BUCKINGHAM AT LIBERTY, 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 #4 ARE AS FOLLOWS:

MS. ERIN KUHN
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 229-2381

MR. ANDRE FUTRELL
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
(410) 229-2361

MR. DONALD SCHAEFER
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
(410) 229-2421

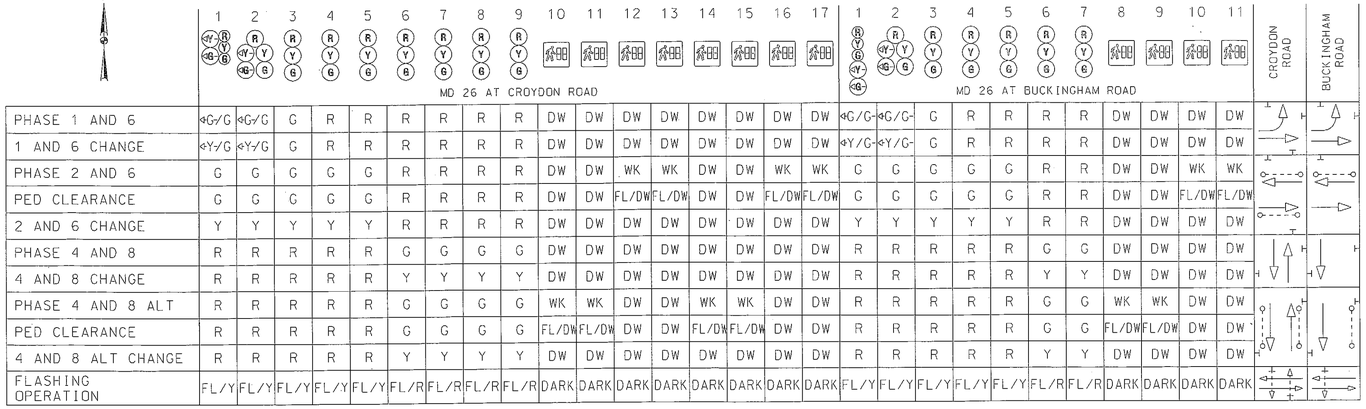
CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

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

MR. ED RODENHIZER
SIGNAL OPERATIONS MANAGER
(410)787-7650

MR. EUGENE BAILEY
SIGN OPERATIONS MANAGER
(410)787-7676

PHASING CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	MD 26 AT CROYDON ROAD																
PHASE 1 AND 6	G/G	G/G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
1 AND 6 CHANGE	Y/G	Y/G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 AND 6	G	G	G	G	G	R	R	R	R	DW	DW	WK	WK	DW	DW	WK	WK
PED CLEARANCE	G	G	G	G	G	R	R	R	R	DW	DW	FL/DW	FL/DW	DW	DW	FL/DW	FL/DW
2 AND 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 AND 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8 ALT	R	R	R	R	R	G	G	G	G	WK	WK	DW	DW	WK	WK	DW	DW
PED CLEARANCE	R	R	R	R	R	G	G	G	G	FL/DW	FL/DW	DW	DW	FL/DW	FL/DW	DW	DW
4 AND 8 ALT CHANGE	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

	1	2	3	4	5	6	7	8	9	10	11
	MD 26 AT BUCKINGHAM ROAD										
PHASE 1 AND 6	G/C	G/C	G	R	R	R	R	DW	DW	DW	DW
1 AND 6 CHANGE	Y/C	Y/C	G	R	R	R	R	DW	DW	DW	DW
PHASE 2 AND 6	G	G	G	G	G	R	R	DW	DW	WK	WK
PED CLEARANCE	G	G	G	G	G	R	R	DW	DW	FL/DW	FL/DW
2 AND 6 CHANGE	Y	Y	Y	Y	Y	R	R	DW	DW	DW	DW
PHASE 4 AND 8	R	R	R	R	R	G	G	DW	DW	DW	DW
4 AND 8 CHANGE	R	R	R	R	R	Y	Y	DW	DW	DW	DW
PHASE 4 AND 8 ALT	R	R	R	R	R	G	G	WK	WK	DW	DW
PED CLEARANCE	R	R	R	R	R	G	G	FL/DW	FL/DW	DW	DW
4 AND 8 ALT CHANGE	R	R	R	R	R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK	DARK	DARK

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION. ALL LOCATIONS SHALL BE APPROVED BY THE ENGINEER BEFORE INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
3. ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
4. 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.
5. ALL PEDESTAL FOUNDATION TOPS SHALL BE INSTALLED FLUSH WITH FINAL SIDEWALK GRADE.
6. ACCESSIBLE PEDESTRIAN CONTROL EQUIPMENT SHALL BE DELIVERED TO THE SHA SIGNAL SHOP FOR TESTING AND PROGRAMMING PRIOR TO INSTALLATION. CONTACT MR. EDWARD RODENHIZER AT 410-787-7652 TO COORDINATE.
7. 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.
8. 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%.
9. 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.
10. PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
11. THE CONTRACTOR SHALL CAP AND ABANDON CONDUIT FEEDING SIGNAL EQUIPMENT THAT IS REMOVED.
12. IN LOCATIONS WHERE SLOTTED CONDUIT IS SPECIFIED, BORED CONDUIT MAY BE USED AS AN ALTERNATE, AS APPROVED BY THE ENGINEER. HOWEVER, NO ADDITIONAL COMPENSATION WILL BE PROVIDED TO THE CONTRACTOR.

EQUIPMENT LIST "A,B & C"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

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

ITEM NO.	DESCRIPTION	UNIT	CROYDON RD QUANTITY	BUCKINGHAM RD QUANTITY
203030	TEST PIT EXCAVATION	CY	2	2
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	455	215
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	115	95
800000	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD	EA	8	4
800000	100 AMP EMBEDDED METERED SERVICE PEDESTAL	EA	1	-
800000	2-WIRE APS CENTRAL CONTROL UNIT	EA	1	1
800000	AUDIBLE / TACTILE PEDESTRIAN PUSHBUTTON STATION & SIGN	EA	8	4
800000	DISCONNECT, PULLBACK & REROUTE CABLES	LF	230	-
800000	RE-AIM EXISTING VIDEO DETECTION CAMERAS	EA	3	2
800000	REMOVE AND DISPOSAL OF EXISTING SIGNAL EQUIPMENT	LS	1	1
800000	SHEET ALUMINUM PEDESTRIAN EDUCATION SIGN, R10-3(1) 9"x15" & MOUNTING HARDWARE	EA	8	4
800000	ADJUST EXISTING HANDHOLE, AND REPLACE FRAME AND COVER	EA	5	2
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	2	1
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	90	50
805115	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	-	20
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	-	165
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	85	55
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	70	155
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	20	-
805150	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED	LF	40	70
810601	NONINVASIVE DETECTOR, 500 FOOT LEAD IN CABLE	EA	2	-
810605	NONINVASIVE DETECTOR, 1000 FOOT LEAD IN CABLE	EA	-	2
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	2	4
818004	10 FOOT BREAKAWAY PEDESTAL POLE	EA	8	4
832017	CABLE - 1 CONDUCTOR, NO 4 AWG, TYPE USE, 600V	LF	45	-
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	EA	3	-
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	890	2315
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	930	2335

C. ALL MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

BY: BJG

RK&K
Rummel, Klepper & Kahl, LLP
81 MOSHER STREET | BALTIMORE, MD 21217
PH: (410) 728-2900 FAX: (410) 728-2160
Engineers · Construction Managers · Planners · Scientists
www.rkk.com

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

MD 26 (LIBERTY RD) AT CROYDON RD AND
MD 26 (LIBERTY RD) AT BUCKINGHAM RD
LOCHEARN, MARYLAND

REVISIONS

GENERAL INFORMATION SHEET

SCALE NONE DATE AUGUST 2012 CONTRACT NO. BA5965177

DESIGNED BY WFW
DRAWN BY WFW
CHECKED BY BJG
FAP NO.

COUNTY BALTIMORE
LOGMILE 03002608.65 03002608.72
TIMS NO. K-983 / K-986
TOD NO.

TS NO. 4436F-GI 4437F-GI | DRAWING SP-3 OF 10 | SHEET NO. 41 OF 62

PLOTTED: Tuesday, September 18, 2012 AT 03:01 PM
FILE: \\rkm\v2008\2008\08148_tcdcies\Task 60_MD 26 APS\CADD\pSG-0003_MD26@Croydon-Buckingham-GI.dgn