

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 3 BUSINESS (CRAIN HIGHWAY) AND CRAINMONT DRIVE/SHOPPING CENTER ENTRANCE IN ANNE ARUNDEL COUNTY, MARYLAND. MODIFICATIONS INCLUDE THE INSTALLATION OF 16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEADS AND AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTONS FOR THE NORTH AND SOUTH LEGS OF MD 3 BUSINESS AND THE EAST AND WEST LEGS OF CRAINMONT DRIVE. MD 3 BUSINESS IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA SIX-PHASE, SEMI-TRAFFIC-ACTUATED MODE WITH THE MD 3 BUSINESS APPROACHES OPERATING CONCURRENTLY AND THE CRAINMONT DRIVE/SHOPPING CENTER ENTRANCE APPROACHES OPERATING CONCURRENTLY. EXISTING PROTECTED LEFT-TURN PHASING IS PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 3 BUSINESS. INTERCONNECT IS PROVIDED ALONG MD 3 BUSINESS BETWEEN HOSPITAL DRIVE TO THE NORTH AND THE NORTHBOUND I-97 OFF RAMP TO THE SOUTH.

NEW ALTERNATE AUDIBLE PUSHBUTTON ACTUATED PEDESTRIAN PHASES WILL BE PROVIDED ACROSS THE NORTH AND SOUTH LEGS OF MD 3 BUSINESS, THE EAST LEG OF THE SHOPPING CENTER ENTRANCE, AND THE WEST LEG OF CRAINMONT DRIVE.

APS MESSAGE FOR CROSSING MD 3 BUSINESS (CRAIN HIGHWAY) FROM WEST LEG:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS CRAIN AT CRAINMONT/SHOPPING CENTER, 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 MD 3 BUSINESS (CRAIN HIGHWAY) FROM EAST LEG:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS CRAIN AT SHOPPING CENTER/CRAINMONT, 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 CRAINMONT DRIVE:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS CRAINMONT AT CRAIN, 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 SHOPPING CENTER ENTRANCE:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS SHOPPING CENTER AT CRAIN, 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

THE EXISTING NEMA SIZE '6' BASE MOUNTED CABINET AND EIGHT-PHASE CONTROLLER AND ALL ASSOCIATED EQUIPMENT WILL CONTINUE TO BE USED. A 2-WIRE CENTRAL CONTROL UNIT WILL BE ADDED TO THE CABINET.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY SHA:

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
9570	8	SF	[UPDATED] SHEET ALUMINUM GROUND 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
2002	4	CY	TEST PIT EXCAVATION
5005	950	LF	12 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
8001	8	EA	FURNISH AND INSTALL AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
8002	7	EA	FURNISH AND INSTALL BREAKAWAY PEDESTAL POLE - ANY SIZE
8003	8	EA	FURNISH AND INSTALL 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEADS
8005	1	EA	REMOVE AND DISPOSE PER ASSIGNMENT
8007	250	LF	FURNISH AND INSTALL UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
8008	125	LF	FURNISH AND INSTALL UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8012	300	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8013	25	LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8014	2	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8015	8	SF	INSTALL GROUND MOUNTED SIGN
8018	2	EA	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
8020	1100	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8021	1600	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8024	1	EA	TO BE NEGOTIATED - CONDUIT BEND IN EXISTING FOUNDATION (UP TO 4 INCHES)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

- MS. KIMBERLY TRAN  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (410) 841-1019
- MR. MIKE HUBER  
ASSISTANT DISTRICT ENGINEER - UTILITY  
PHONE: (410) 841-1039
- MR. JOHN MAYS  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (410) 841-1013
- MR. ROBERT SNYDER  
ASSISTANT CHIEF, TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630
- MR. ED RODENHIZER  
SUPERVISOR - SIGNAL SHOP  
PHONE: (410) 787-7650

EQUIPMENT LIST "C"

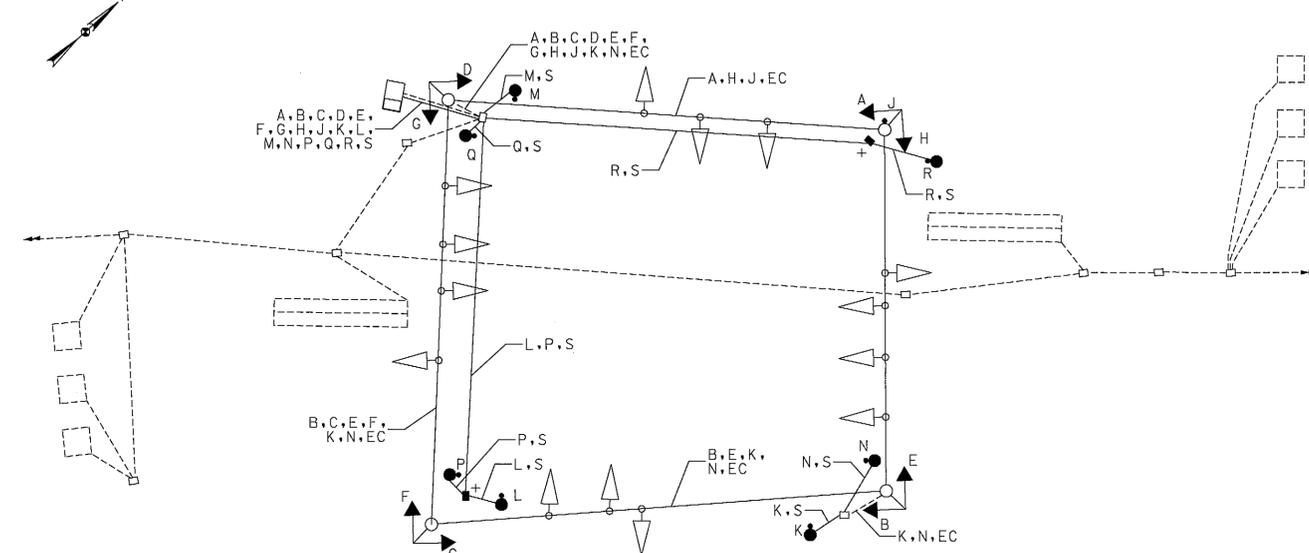
C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA:

NONE.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
PHASE 1 + 5	←G	←G	R	R	←G	←G	R	R	R	R	R	R	R	R	DW							
I + 5 CHANGE	←G	←G	G	G	←R	←R	R	R	R	R	R	R	R	R	DW	W	W	DW	DW	DW	DW	DW
PHASE 1 + 6	←G	←G	G	G	←R	←R	R	R	R	R	R	R	R	R	DW	W	W	DW	DW	DW	DW	DW
PED CLEARANCE	←G	←G	G	G	←R	←R	R	R	R	R	R	R	R	R	DW	FL/DW	FL/DW	DW	DW	DW	DW	DW
I + 6 CHANGE	←Y	←Y	G	G	←R	←R	R	R	R	R	R	R	R	R	DW							
PHASE 2 + 5	←R	←R	R	R	←G	←G	G	G	R	R	R	R	R	R	W	DW	DW	W	DW	DW	DW	DW
PED CLEARANCE	←R	←R	R	R	←G	←G	G	G	R	R	R	R	R	R	W	DW	DW	W	DW	DW	DW	DW
2 + 5 CHANGE	←R	←R	R	R	←Y	←Y	G	G	R	R	R	R	R	R	W	DW	DW	W	DW	DW	DW	DW
PHASE 2 + 6	←R	←R	G	G	←R	←R	G	G	R	R	R	R	R	R	W	W	W	W	DW	DW	DW	DW
PED CLEARANCE	←R	←R	G	G	←R	←R	G	G	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	DW							
PHASE 4 + 8	←R	←R	R	R	←R	←R	R	R	G	G	G	G	G	G	DW							
4 + 8 CHANGE	←R	←R	R	R	←R	←R	R	R	Y	Y	Y	Y	Y	Y	DW							
PHASE 4 + 8 ALT	←R	←R	R	R	←R	←R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	W	W	W	W
PED CLEARANCE	←R	←R	R	R	←R	←R	R	R	G	G	G	G	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	Y	Y	Y	Y	Y	Y	DW							
PRE-EMPTION	←R	←R	R	R	←G	←G	G	G	R	R	R	R	R	R	DW							
PRE-EMPTION CHANGE	←R	←R	R	R	←Y	←Y	G	G	R	R	R	R	R	R	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	DARK							

WIRING DIAGRAM



WIRING KEY

- A,B,C,D,E } 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- F,G,H,J,K,L,M,N,P,Q,R,S } 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- S } STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
- EC } EXISTING CABLE

LEGEND

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

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

**MD 3 BUSINESS (CRAIN HIGHWAY) AT CRAINMONT DRIVE  
GLEN BURNIE, MARYLAND**

**GENERAL INFORMATION SHEET**

SCALE: NONE DATE: OCTOBER 16, 2012 CONTRACT NO.: AX6445378

DESIGNED BY: NJM COUNTY: ANNE ARUNDEL  
DRAWN BY: NJM LOGMILE: 02800300.98  
CHECKED BY: BSH T.I.M.S. NO.: L344  
F.A.P. NO.: NA T.O.D. NO.:

T.S. NO. 1650F-GI SG-02 OF 6G-02 SHEET NO. 9 OF 9

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