

**PROJECT DESCRIPTION**

**GENERAL**

THIS PORTION OF THE PROJECT INVOLVES TRAFFIC SIGNAL MODIFICATIONS TO SUPPORT WIDENING OF THE SIDE STREET AT THE INTERSECTION OF MD 210 (INDIAN HEAD HIGHWAY) AND MD 227 (LIVINGSTON ROAD/MARSHALL HALL ROAD) IN CHARLES COUNTY. THE WESTBOUND APPROACH WILL BE WIDENED AND THE PEDESTRIAN POLE WILL BE RELOCATED IN THE NORTH EAST QUADRANT TO SUPPORT THE EAST LEG CROSSING. MD 210 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

**INTERSECTION OPERATION**

THE INTERSECTION WILL OPERATE IN A NEMA EIGHT-PHASE, FULL-TRAFFIC ACTUATED MODE.

**CONTROLLER REQUIREMENTS**

THE SHA SIGNAL SHOP WILL INSTALL ONE (1) VIDEO DETECTION INTERFACE UNIT

**APS WILL CONTINUE TO FUNCTION AS FOLLOWS:**

TO CROSS INDIAN HEAD HWY:

- A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS INDIAN HEAD AT LIVINGSTON AND MARSHALL HALL, WAIT".
- B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

TO CROSS LIVINGSTON RD:

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

TO CROSS MARSHALL HALL RD:

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

**THE CONTACT PERSONS FOR DISTRICT #5/OOTS ARE AS FOLLOWS:**

District #5  
Ms. Kimberly Tran  
Assistant District Engineer - Traffic  
Phone: 410-841-1019

Mr. Mike Huber  
District Utility Engineer  
Phone: 410-841-1039

Mr. John S. Mays  
Assistant District Engineer - Maintenance  
Phone: 410-841-1013

Mr. John S. Mays  
Assistant District Engineer - Construction  
Phone: 410-841-1013

**Office of Traffic & Safety**

Mr. Richard L. Daff Sr.  
Chief, Traffic Operations Division  
Phone: 410-787-7630

Mr. Robert Snyder  
Assistant Division Chief, Traffic Operations  
Phone: 410-787-7630

Mr. Edward Rodenhizer  
Chief, SHA Traffic Signal Shop  
Phone: 410-787-7650

Mr. Eugene Bailey  
Chief, SHA Sign Operation  
410-787-7670

The Power Company Representative Is:  
Southern Maryland Electric Cooperative  
901 Dares Beach Road  
Prince Frederick, MD 20678  
Phone: 410-535-4400

**EQUIPMENT LIST 'A'**

EQUIPMENT TO BE SUPPLIED BY THE SHA

CAT CODE QUANTITY DESCRIPTION

NONE

**EQUIPMENT LIST 'B'**

APPROVED SHA EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

CAT CODE QUANTITY DESCRIPTION

800000	1 EA	VIDEO DETECTION CAMERA INTERFACE (1-4 CAMERAS)
800000	9 SF	FURNISH AND INSTALL SHEET ALUMINUM SIGNS - MAST ARM/GROUND MOUNT 1 EA - R3-5(L) (30"x36") 1 EA - R3-5(R) (30"x36")
816001	1 EA	VIDEO DETECTION CAMERA
816005	1 EA	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818004	1 EA	10 FOOT BREAKAWAY PEDESTAL POLE

**EQUIPMENT LIST 'C'**

EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

CAT CODE QUANTITY DESCRIPTION

120500	1 LS	MAINTENANCE OF TRAFFIC
203030	1 CY	TEST PIT EXCAVATION
585621	200 LF	12 INCH PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585625	40 LF	24 INCH PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
800000	1 EA	RELOCATE EXISTING PUSHBUTTON AND SIGN
801004	1 CY	CONCRETE FOR SIGNAL FOUNDATION
802501	150 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805135	10 LF	3 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
822500	1 EA	AS BUILT FOR SHA ON CADD
860292	1 EA	CUT, CLEAN, GALVANIZE, AND CAP TRAFFIC SIGNAL STRUCTURE
861105	150 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)

**EQUIPMENT LIST 'D'**

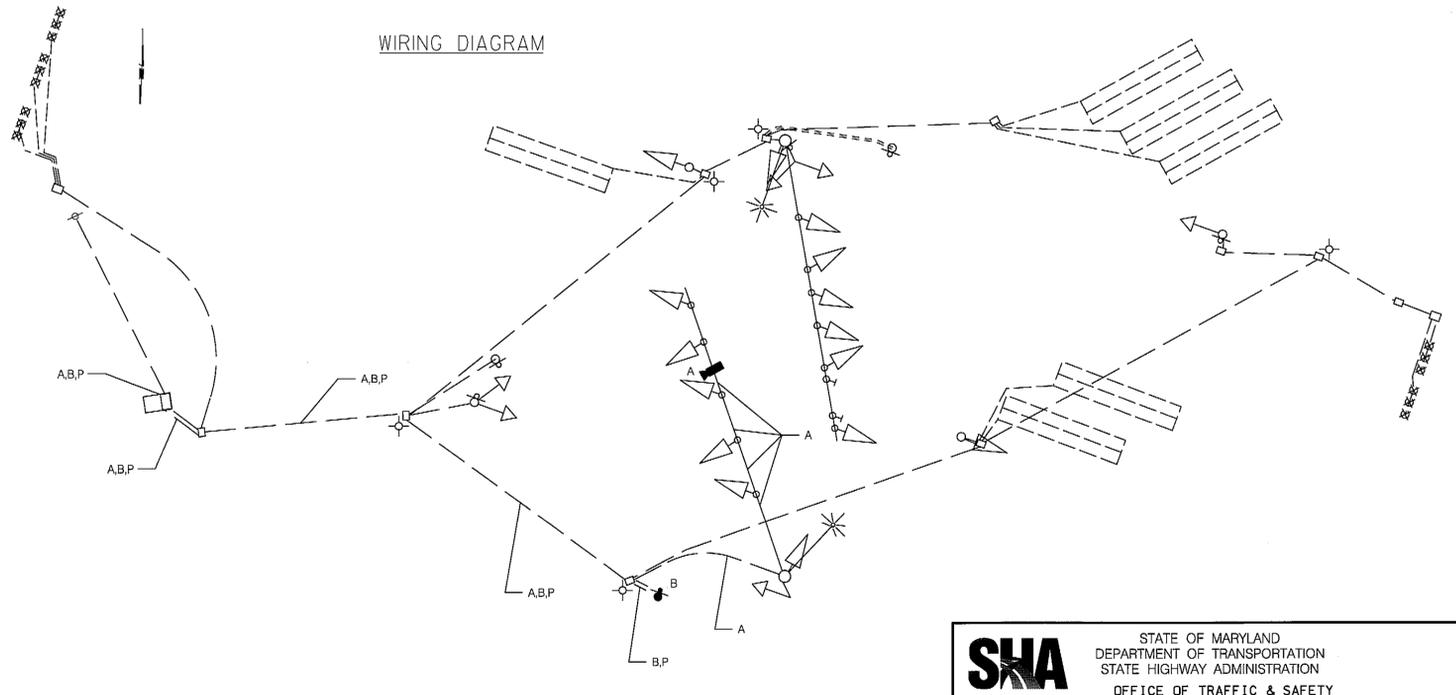
EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

CAT CODE QUANTITY DESCRIPTION

NONE - ALL EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR

**PHASE CHART**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
PHASE 1 + 5	-G	-G	R	R	-G	-G	-G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 1 + 5 CHANGE	THE CONTROLLER MAY SKIP TO PHASE 1 + 6, 2 + 5 OR 2 + 6															DW	DW	DW	DW	DW	DW
PHASE 1 + 6	-G	-G	G	G	-R	-R	-G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 1 + 6 CHANGE	-Y	-Y	G	G	-R	-R	-R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 + 5	-R	-R	R	R	-G	-G	-G	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 + 5 CHANGE	-R	-R	R	R	-Y	-Y	-Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 + 6	-R	-R	G	G	-R	-R	-R	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEARANCE	-R	-R	G	G	-R	-R	-R	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
PHASE 2 + 6 CHANGE	-R	-R	Y	Y	-R	-R	-R	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3 + 7	-R	-R	R	R	-R	-R	-R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3 + 7 CHANGE	THE CONTROLLER MAY SKIP TO PHASE 3 + 8, 4 + 7 OR 4 + 8															DW	DW	DW	DW	DW	DW
PHASE 3 + 8	-R	-R	R	R	-R	-R	-R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3 + 8 CHANGE	-R	-R	R	R	-R	-R	-R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 + 7	-R	-R	R	R	-R	-R	-R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 + 7 CHANGE	-R	-R	R	R	-R	-R	-R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 + 8	-R	-R	R	R	-R	-R	-R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW
PHASE 4 + 8 CHANGE	-R	-R	R	R	-R	-R	-R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 + 8 ALT	-R	-R	R	R	-R	-R	-R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK
PED CLEARANCE	-R	-R	R	R	-R	-R	-R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW
PHASE 4 + 8 ALT CHANGE	-R	-R	R	R	-R	-R	-R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/RA	FL/RA	FL/Y	FL/Y	FL/RA	FL/RA	FL/RA	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK



- A - CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
- B - ELECTRICAL CABLE, 2 CONDUCTOR (NO. 14 AWG)
- P - NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
- NML - PROPOSED NON-INVASIVE MICROLOOP PROBE SET
- ⊕ - EXISTING GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH

**NOTE:**

THESE PLANS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF ONE (1) YEAR. SHOULD CONSTRUCTION NOT BEGIN WITHIN THIS TIME FRAME, THESE PLANS SHALL BE NULL AND VOID WITH A RE-REVIEW REQUIRED FROM THE TRAFFIC ENGINEERING DESIGN DIVISION.

EAPD PERMIT NO. \_\_\_\_\_

**LENHART TRAFFIC CONSULTING**  
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING  
331 Redwood Grove Court Millersville, Maryland 21108  
Tel: (410) 957-5885 Fax: (410) 782-2286

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION  
MD (210) INDIAN HEAD HIGHWAY AT  
MD 227 (LIVINGSTON ROAD /MARSHALL HALL ROAD)

GENERAL INFORMATION			
SCALE	NONE	DATE	JULY 2011
CONTRACT NO.	BW996M82	DESIGNED BY	MMI
COUNTY	CHARLES	DRAWN BY	MMI
LOGMILE	08021005.33	CHECKED BY	MMI
T. I. M. S. NO.	K928	F. A. P. NO.	N/A
TOD NO.		DRAWING NO.	TS-1H-G1
OF		SHEET NO.	OF