

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF LED SIGNAL HEADS, LED COUNTDOWN PEDESTRIAN SIGNAL HEADS, ACCESSIBLE PEDESTRIAN PUSHBUTTONS AND SIGNS AT THE INTERSECTION OF MD 355 (FREDERICK ROAD AT MD 27 (RIDGE ROAD)). MD 355 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE FULL-TRAFFIC-ACTUATED MODE WITH AN ALTERNATE PEDESTRIAN PHASE FOR THE NORTH AND SOUTH LEGS AND CONCURRENT PEDESTRIAN PHASES FOR THE EAST AND WEST LEGS OF THE INTERSECTION. THE MD 355 NORTHBOUND AND SOUTHBOUND LEFT TURNS OPERATE IN EXCLUSIVE PHASING. THE MD 27 EASTBOUND AND WESTBOUND APPROACHES OPERATE IN SPLIT PHASING.

CONTROLLER REQUIREMENTS

THE EXISTING FULL-TRAFFIC-ACTUATED EIGHT-PHASE TRAFFIC SIGNAL CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL REMAIN. A 2-WIRE APS CENTRAL CONTROL UNIT SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY MONTGOMERY COUNTY FORCES. THE EXISTING IP-BASED VIDEO DETECTION INTERFACE EQUIPMENT AND 4-CHANNEL DETECTOR AMPLIFIER SHALL REMAIN.

EQUIPMENT LIST "A, B & C"

A. EQUIPMENT TO BE SUPPLIED BY SHA.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
900000	SHEET ALUMINUM GROUND MOUNTED SIGNS 8 - W11-2 FY 36"x36" 2 - DM1-3 FY 18"x18"	SF	117
900000	SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGNS 8 - R10-3(1) 9"x15"	SF	8
900000	SHEET ALUMINUM SPAN MOUNTED SIGNS 4 - D-3(1) 60"x16" (DUAL FACE) 6 - R3-5L 30"x36"	SF	114

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

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
203030	TEST PIT EXCAVATION	CY	2
585405	5 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	185
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	355
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	55
585700	REMOVAL OF EXISTING PAVEMENT MARKING LINES, ANY WIDTH	LF	830
800000	REMOVE AND DISPOSE OF EQUIPMENT AND MATERIALS	LS	1
800000	DISCONNECT, PULL BACK & REROUTE EXISTING CABLE	LF	100
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGN	EA	8
800000	2-WIRE APS CENTRAL CONTROL UNIT	EA	1
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	2
801104	WOOD SIGN SUPPORTS 4 INCH X 4 INCH	LF	24
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	350
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	165
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	155
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	1
812002	WOOD SIGN SUPPORT 6 INCH X 6 INCH	LF	156
813014	INSTALL GROUND MOUNTED SIGN	SF	125
813015	INSTALL OVERHEAD SIGN	SF	114
818004	10 FOOT BREAKAWAY PEDESTAL POLE	EA	8
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	EA	1
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	49
860292	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	EA	8
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	2090
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	100
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	860

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

SPECIAL NOTES

APS WILL FUNCTION AS FOLLOWS:

TO CROSS MD 355 (FREDERICK ROAD):

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS FREDERICK AT RIDGE. 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 MD 27 (RIDGE ROAD):

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

PHASING CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PHASE 1 AND 5	<G-	<G-	<G-	R	R	<G-	<G-	R	R	R	R	R	R	R	R	DW							
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																							
PHASE 1 AND 6	<G-	<G-	<G-	G	G	<R-	<R-	R	R	R	R	R	R	R	R	DW							
1 CHANGE	<Y-	<Y-	<Y-	G	G	<R-	<R-	R	R	R	R	R	R	R	R	DW							
PHASE 2 AND 5	<R-	<R-	<R-	R	R	<G-	<G-	G	G	R	R	R	R	R	R	DW							
2 CHANGE	<R-	<R-	<R-	R	R	<Y-	<Y-	G	G	R	R	R	R	R	R	DW							
PHASE 2 AND 6	<R-	<R-	<R-	G	G	<R-	<R-	G	G	R	R	R	R	R	R	DW	DW	WK	WK	DW	DW	WK	WK
PED CLEARANCE	<R-	<R-	<R-	G	G	<R-	<R-	G	G	R	R	R	R	R	R	DW	DW	FL/DW	FL/DW	DW	DW	FL/DW	FL/DW
2 AND 6 CHANGE	<R-	<R-	<R-	Y	Y	<R-	<R-	Y	Y	R	R	R	R	R	R	DW							
PHASE 3	<R-	<R-	<R-	R	R	<R-	<R-	R	R	R	R	R	R	R	R	DW							
3 CHANGE	<R-	<R-	<R-	R	R	<R-	<R-	R	R	R	R	R	R	R	R	DW							
PHASE 3 ALT	<R-	<R-	<R-	R	R	<R-	<R-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	WK	WK	DW	DW
PED CLEARANCE	<R-	<R-	<R-	R	R	<R-	<R-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	FL/DW	FL/DW	DW	DW
3 ALT CHANGE	<R-	<R-	<R-	R	R	<R-	<R-	R	R	R	R	R	R	R	R	DW							
PHASE 4	<R-	<R-	<R-	R	R	<R-	<R-	R	R	<G-	<G-	G	R	R	R	DW							
4 CHANGE	<R-	<R-	<R-	R	R	<R-	<R-	R	R	Y	Y	Y	R	R	R	DW							
PHASE 4 ALT	<R-	<R-	<R-	R	R	<R-	<R-	R	R	<G-	<G-	G	R	R	R	WK	WK	DW	DW	DW	DW	DW	DW
PED CLEARANCE	<R-	<R-	<R-	R	R	<R-	<R-	R	R	<G-	<G-	G	R	R	R	FL/DW	FL/DW	DW	DW	DW	DW	DW	DW
4 ALT CHANGE	<R-	<R-	<R-	R	R	<R-	<R-	R	R	Y	Y	Y	R	R	R	DW							
FLASHING OPERATION	FL/	FL/	FL/	FL/Y/FL/Y	FL/	FL/	FL/Y/FL/Y	FL/	FL/	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							

GENERAL NOTES

- THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
- ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- 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.
- ALL PEDESTAL FOUNDATION TOPS SHALL BE INSTALLED FLUSH WITH SIDEWALK GRADE.
- LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SECTION 4E.10, MUTCD FIGURES 4E.3 AND 4E.4, 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.
- 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%.
- 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.
- PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
- VIDEO DETECTION CAMERA REALIGNMENT SHALL BE COORDINATED WITH THE ENGINEER.
- THE CONTRACTOR SHALL CONTACT ED RODENHIZER AT THE SIGNAL SHOP (410) 787-7652 TO DELIVER APS EQUIPMENT FOR TESTING.

CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 513-7404

MR. AUGUSTINE REBISH
DEPUTY DISTRICT ENGINEER - MAINTENANCE
(301) 513-7331

MR. DUANE BERNARD
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
(301) 513-7341

CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

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

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

MR. EUGENE BAILEY
CHIEF, SIGNAL OPERATIONS
(410)787-7676

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 355 (FREDERICK ROAD) AT
MD 27 (RIDGE ROAD)
GERMANTOWN, MARYLAND

REVISIONS	GENERAL INFORMATION SHEET		
	SCALE	DATE	CONTRACT NO.
	NONE	OCTOBER 2012	MD1315577
	DESIGNED BY	COUNTY	
	WFW	MONTGOMERY	
	DRAWN BY	LOGMILE	
	WFW	15035519.70	
	CHECKED BY	TIMS NO.	
	BJG	L707	
	FAP NO.	TOD NO.	
	TS NO.	DRAWING	SHEET NO.
	870D-G1	SP-2 OF 7	2 OF 7

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