

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF APS PUSHBUTTON STATIONS ON THE NORTH LEG, UPGRADING TO VIDEO DETECTION, INSTALLING NON-INVASIVE PROBES AND UPGRADING TO LED SIGNAL HEADS AT THE INTERSECTION OF MD 27 (RIDGE ROAD) AND TWIN ARCH ROAD/PARK AVENUE IN CARROLL COUNTY.

INTERSECTION OPERATION

THE INTERSECTION SHALL CONTINUE TO OPERATE IN A FULLY ACTUATED MODE USING 6 NEMA PHASES.

GENERAL NOTES

- FOR FINAL PAVEMENT MARKINGS, REFER TO THE PAVEMENT MARKING PLANS, AS APPLICABLE; OTHER THAN THOSE DETAILED ON THE PLAN. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH ADMINISTRATION STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE.
- ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN THE APPROPRIATE 800 SERIES STANDARD PLATES. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
- ALL UNDERGROUND AND OVERHEAD 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.
- THE CONTRACTOR SHALL MAINTAIN THE CONTINUOUS OPERATION OF ALL INTERCONNECT, VEHICULAR, PEDESTRIAN DETECTORS, AND LIGHTING DEVICES. IF ANY DEVICE IS DAMAGED BY THE CONTRACTOR, IT SHALL BE REPAIRED WITHIN 72 HOURS BY THE CONTRACTOR AT NO COST TO THE ADMINISTRATION AFTER NOTIFICATION BY THE ENGINEER.
- APS WILL FUNCTION AS FOLLOWS:
TO CROSS RIDGE ROAD
A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS RIDGE AT TWIN ARCH & PARK."
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
7. 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%.
8. THE 10' SEPERATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
9. PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
10. LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 AND FIG. 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.
11. THE CONTRACTOR SHALL CONTACT ED RODENHIZER (410-787-7650) AT LEAST 72 HOURS IN ADVANCE OF BEGINING OF THE WORK AT THE INTERSECTION.

SPECIAL NOTES

- THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:
PROJECT CONTACTS:

MR. JOHN CONCANNON, ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: 301-6248140/8141
MR. ERIC ECKHARDT, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: 301-624-8200/8201
MR. RAYMOND F. JOHNSON, ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: 301-624-8105/8106
MS. ANDREA ABEND, UTILITY ENGINEER
PHONE: 301-624-8115/8116
MR. RICHARD L. DAFF, SR. CHIEF TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

- MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR USING THE MSHA STANDARD PLATES FOR TRAFFIC CONTROL.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY	DESCRIPTION	UNITS	QUANTITY
CODE NO.			
900000	VIDEO DETECTION ACCESS POINT	EA	1
900000	VIDEO DETECTION INTERFACE PANEL	EA	1
973023	FLAT SHEET ALUMINUM SIGNS CONSISTING OF: R10-3(1) (9"x15") POLE MOUNT SIGN TO READ "PUSHBUTTON TO CROSS RIDGE ROAD" SIGN TO READ "LANE ENDS MERGE LEFT" SHIELD ASSEMBLY (30"x51"), GROUND MOUNT SHIELD ASSEMBLY (48"x75"), GROUND MOUNT	EA EA EA	73.25 2 2

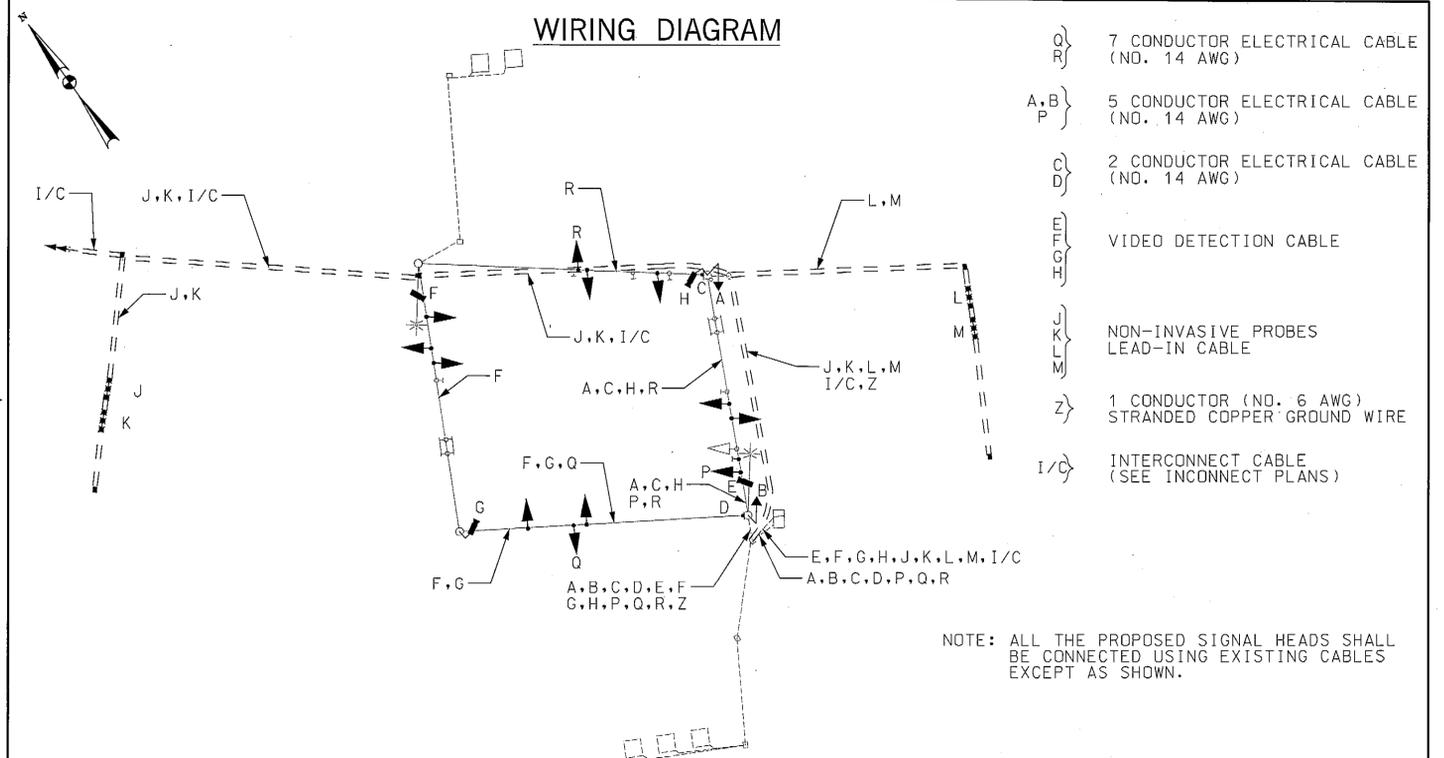
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM	DESCRIPTION	UNITS	QUANTITY
CODE NO.			
585621	12 INCH WHITE HEAT APPLIED THERMO. PAVEMENT MARKING	LF	150
585625	24 INCH WHITE HEAT APPLIED THERMO. PAVEMENT MARKING	LF	165
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	50
805150	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	170
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	650
805155	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED	LF	220
810605	NON-INVASIVE DETECTORS, 1000 FOOT LEAD-IN CABLE	EA	4
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	8
813015	INSTALL OVERHEAD SIGN	SF	73.25
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	36
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 A.W.G.)	LF	160
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)	LF	300
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)	LF	300
800000	2-WIRE CENTRAL CONTROL UNIT	EA	1
800000	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION	EA	2
800000	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT	EA	1
800000	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	12
800000	VIDEO DETECTION CAMERA	EA	4

NOTE:
THE CONTRACTOR SHALL DELIVER AUDIBLE TACTILE PEDESTRIAN PUSHBUTTON STATION AND BASE UNIT TO THE SHA SIGNAL SHOP PRIOR TO LOCATION INSTALLATION FOR PROGRAMMING. SHA FORCES SHALL INSTALL AUDIBLE TACTILE PEDESTRIAN PUSH BUTTON BASE UNIT IN THE CABINET.

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

WIRING DIAGRAM



NOTE: ALL THE PROPOSED SIGNAL HEADS SHALL BE CONNECTED USING EXISTING CABLES EXCEPT AS SHOWN.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12
PHASE 1 AND 5	←GG	←GG	R	←GG	←GG	R	R	R	R	R	DW	DW
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6												
PHASE 1 AND 6	←GG	←GG	G	R	R	R	R	R	R	R	DW	DW
1 AND 6 CHANGE	←YG	←YG	G	R	R	R	R	R	R	R	DW	DW
PHASE 2 AND 5	R	R	R	←GG	←GG	G	R	R	R	R	DW	DW
2 AND 5 CHANGE	R	R	R	←YG	←YG	G	R	R	R	R	DW	DW
PHASE 2 AND 6	G	G	G	G	G	G	R	R	R	R	DW	DW
2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW
PHASE 3	R	R	R	R	R	R	R	R	R	←G	G	DW
3 CHANGE	R	R	R	R	R	R	R	R	Y	Y	DW	DW
PHASE 4	R	R	R	R	R	R	←G	G	R	R	DW	DW
4 CHANGE	R	R	R	R	R	R	Y	Y	R	R	DW	DW
PHASE 4 ALT	R	R	R	R	R	R	←G	G	R	R	WK	WK
PED CLEARANCE	R	R	R	R	R	R	G	G	R	R	FLDW	FLDW
4 CHANGE	R	R	R	R	R	R	Y	Y	R	R	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FL/R	FL/Y	FLY	FL/R	FL/R	FL/R	FL/R	DARK	DARK

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 27(RIDGE ROAD) AT
TWIN ARCH ROAD/PARK AVENUE
MOUNT AIRY, MARYLAND

GENERAL INFORMATION SHEET

SCALE 1" = 20' DATE 11/02/09 CONTRACT NO. CL3265176

DESIGNED BY J. PALADUGU COUNTY CARROLL
DRAWN BY J. PALADUGU LOGMILE 08002701.47
CHECKED BY K. RINKER TMS NO. I-954
FAP NO. SEE TITLE SHEET TOD NO.

TS NO. 2179B DRAWING PSG OF N001 SHEET NO. 80 OF 87

SABRA, WANG & ASSOCIATES, INC.
1504 JOH AVENUE
SUITE 160
BALTIMORE, MD 21227
(410) 797-9564
WWW.SABRA-WANG.COM