

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES INSTALLING APS/CPS PEDESTRIAN EQUIPMENT ON THE EAST AND WEST LEGS OF THE INTERSECTION OF MD 943 (WARREN ROAD) AT BEAVER DAM ROAD IN BALTIMORE COUNTY. MD 943 (WARREN ROAD) IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

1. THE INTERSECTION OPERATES IN A NEMA EIGHT-PHASE, FULL-TRAFFIC-ACTUATED MODE, WITH THE MD 943 (WARREN ROAD) APPROACHES OPERATING CONCURRENTLY AND THE BEAVER DAM ROAD APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE LEFT-TURN PHASING EXISTS FOR THE EASTBOUND AND WESTBOUND MD 943 (WARREN ROAD) APPROACHES. EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING EXISTS FOR THE SOUTHBOUND AND NORTHBOUND BEAVER DAM ROAD APPROACHES.

ALTERNATE PEDESTRIAN PHASES EXIST ACROSS BOTH LEGS OF MD 943 (WARREN ROAD).

III. PEDESTRIAN OPERATION

NAVIGATOR AUDIBLE PEDESTRIAN PUSHBUTTONS TO CROSS THE WEST AND EAST LEGS OF THE INTERSECTION ARE TO BE PROVIDED. WHEN THE PEDESTRIAN LOCATES AND PASSES THE PUSHBUTTON FOR AN EXTENDED PERIOD OF TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE:

EAST: "WAIT TO CROSS WARREN AT BEAVER DAM. WAIT."

WEST: WAIT TO CROSS WARREN AT BEAVER DAM. WAIT."

WHEN THE WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

1. CONTACT PERSONS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

DISTRICT 4		OFFICE OF TRAFFIC AND SAFETY	
MS. ERIN KUHN ASSISTANT DISTRICT ENGINEER - TRAFFIC 410-229-2381	MR. CORREN JOHNSON CHIEF, TRAFFIC OPERATIONS 410-787-7630		
MR. MICHAEL PASQUARIELLO UTILITY ENGINEER 410-229-2341	MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS 410-787-7630		
MR. ANDRE FUTRELL ASSISTANT DISTRICT ENGINEER - MAINTENANCE 410-229-2361	MR. ED RODENHIZER MANAGER SIGNAL OPERATIONS 410-787-7650		
MR. JESSE FREE ASSISTANT DISTRICT ENGINEER - CONSTRUCTION 410-229-2421	MR. EUGENE BAILEY MANAGER SIGN OPERATIONS 410-787-7670		
BALTIMORE GAS AND ELECTRIC		MR. MIKE STOCKER SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE) 410-787-7668	
GAS AND ELECTRIC NEW BUSINESS DEPT. 410-850-4620			

MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: MD 104.03-11, MD 104.04-13 THROUGH MD 104.04-16.

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
9000	91	SF	SHEET ALUMINUM SIGNS CONSISTING OF: W11-2, (36"x36"), POST MOUNT, 5-EACH W16-2(1)(MOD.), (30"x24"), POST MOUNT, 1-EACH W16-7PR, (30"x18"), POST MOUNT, 1-EACH W16-7PL, (30"x18"), POST MOUNT, 2-EACH W16-9P, (30"x18"), POST MOUNT, 1-EACH W11-2, (36"x36"), POLE MOUNT, 2-EACH W16-7PL, (30"x18"), POLE MOUNT, 1-EACH W16-9P, (30"x18"), POLE MOUNT, 1-EACH

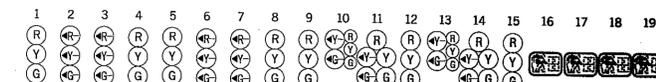
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
2001	20	CY	CLASS 2 EXCAVATION
2002	1	CY	TEST PIT EXCAVATION
5003	870	LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS
5004	677	LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
5005	258	LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
6001	148	LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
6002	663	SF	5 INCH CONCRETE SIDEWALK
6003	66	SF	DETECTABLE WARNING SURFACE FOR CURB RAMP
8002	1	EA	2-WIRE CENTRAL CONTROL UNIT
8005	1	EA	ADJUST HANDHOLE TO GRADE INCLUDING FRAME AND COVER
8008	4	EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
8009	2	EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8040	30	LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
8041	82	LF	WOOD SIGN SUPPORTS UP TO 4"x6"
8042	91	SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8044	40	LF	NO. 6 AWG STRANDED BARE COPPER WIRE
8055	420	LF	ELECTRICAL CABLE 2 CONDUCTOR (NO. 14 AWG)

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA
ALL EQUIPMENT TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.



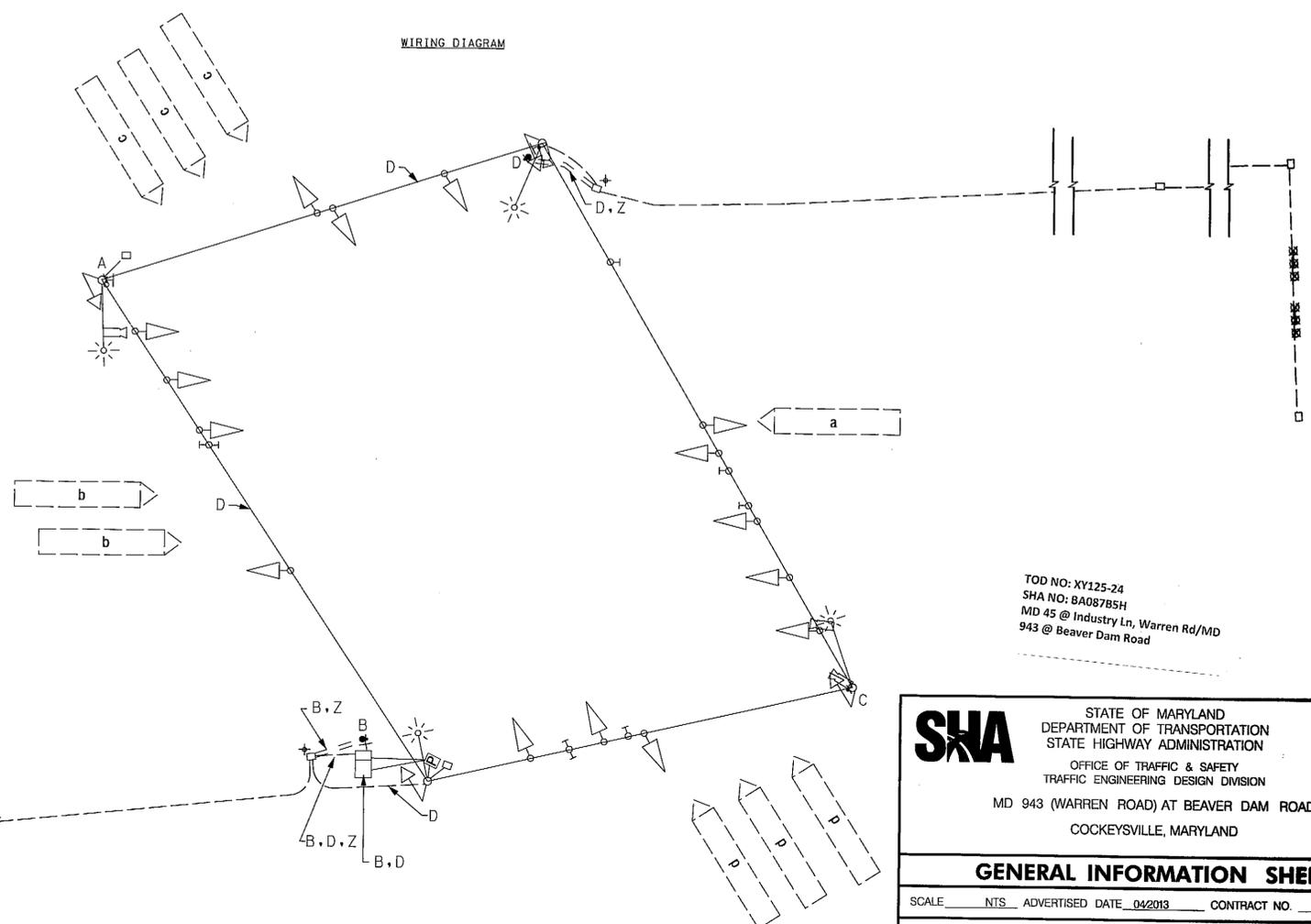
PHASE CHART



PHASE 1 AND 5	R	+G-	+G-	R	R	+G-	+G-	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 AND 5 CHANGE	THE CONTROLLER MAY CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																					
PHASE 1 AND 6	R	+R-	+R-	R	R	+G-	+G-	G	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 AND 6 CHANGE	R	+R-	+R-	R	R	+Y-	+Y-	G	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 AND 5	G	+G-	+G-	G	G	+R-	+R-	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
2 AND 5 CHANGE	G	+Y-	+Y-	G	G	+R-	+R-	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 AND 6	G	+R-	+R-	G	G	+R-	+R-	G	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
2 AND 6 CHANGE	Y	+R-	+R-	Y	Y	+R-	+R-	Y	Y	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 3 AND 7	R	+R-	+R-	R	R	+R-	+R-	R	R	+GR	+GR	R	+GR	+GR	R	+GR	+GR	R	DW	DW	DW	DW
3 AND 7 CHANGE	THE CONTROLLER MAY CHANGE TO 3 AND 8, 4 AND 7, OR 4 AND 8																					
PHASE 3 AND 8	R	+R-	+R-	R	R	+R-	+R-	R	R	R	R	R	R	R	+GG	+GG	G	DW	DW	DW	DW	
3 AND 8 CHANGE	R	+R-	+R-	R	R	+R-	+R-	R	R	R	R	R	R	R	+YG	+YG	G	DW	DW	DW	DW	
PHASE 4 AND 7	R	+R-	+R-	R	R	+R-	+R-	R	R	+GG	+GG	G	R	R	R	R	R	R	DW	DW	DW	DW
4 AND 7 CHANGE	R	+R-	+R-	R	R	+R-	+R-	R	R	+YG	+YG	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 4 AND 8	R	+R-	+R-	R	R	+R-	+R-	R	R	G	G	G	G	G	G	G	G	G	DW	DW	DW	DW
4 AND 8 CHANGE	R	+R-	+R-	R	R	+R-	+R-	R	R	Y	Y	Y	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 4 AND 8 ALT	R	+R-	+R-	R	R	+R-	+R-	R	R	G	G	G	G	G	G	G	G	G	WK	WK	WK	WK
PED CLEARANCE	R	+R-	+R-	R	R	+R-	+R-	R	R	G	G	G	G	G	G	G	G	G	FLDW	FLDW	FLDW	FLDW
4 AND 8 ALT CHANGE	R	+R-	+R-	R	R	+R-	+R-	R	R	Y	Y	Y	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FLY	+FLR	+FLR	FLY	FLY	+FLR	+FLR	FLY	FLY	FLR	DARK	DARK	DARK	DARK								



WIRING DIAGRAM



WIRING KEY

A,C-CONNECT TO EXISTING CABLE
B,D-ELECTRICAL CABLE-2 CONDUCTOR (NO. 14 AWG)
Z-NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
+ -GROUND ROD

TOD NO: XY125-24
SHA NO: BA087B5H
MD 45 @ Industry Ln, Warren Rd/MD
943 @ Beaver Dam Road

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 943 (WARREN ROAD) AT BEAVER DAM ROAD
COCKEYSVILLE, MARYLAND

GENERAL INFORMATION SHEET

SCALE: NTS ADVERTISED DATE: 04/2013 CONTRACT NO: XY125185

DESIGNED BY: JAB COUNTY: BALTIMORE
DRAWN BY: JAB LOGMILE: 03094300.59
CHECKED BY: JFL TIMS NO.: L674
F.A.P. NO.: TOD NO.:

TS NO. 3818D DRAWING SG-3 OF 3 SHEET NO. 9 OF 9

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818

BY: John Borkowski Division: P068 Highway Traff GIMA Emp