

**PROJECT DESCRIPTION**

**GENERAL**

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF U.S. 1 (BELAIR ROAD) AND WHOLESALE CLUB DRIVE IN BALTIMORE COUNTY, MARYLAND. U.S. 1 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

**INTERSECTION OPERATION**

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE U.S. 1 APPROACHES OPERATING CONCURRENTLY AND THE WHOLESALE CLUB DRIVE/SHOPPING ENTRANCE APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE SOUTHBOUND U.S. 1 APPROACH. AN ALTERNATE PEDESTRIAN PHASE IS PROVIDED ACROSS THE NORTH LEG OF U.S. 1.

**TYPICAL MESSAGES FOR ACCESSIBLE PED SIGNALS**

U.S. 1 (BELAIR ROAD) AND WHOLESALE DRIVE - NORTH LEG

**STREETS AT 90 DEGREES**

WAIT: "WAIT TO CROSS BELAIR AT WHOLESALE. WAIT." \*

WALK: RAPID TICK

\* MESSAGE USED IF DISTANCE FROM NEAREST PUSHBUTTON FOR PERPENDICULAR CROSSING IS < 10'  
 \*\* MESSAGE USED IF CROSSWALK DIVERGES FROM OR CONVERGES WITH PARALLEL TRAFFIC

NOTE: MESSAGES FOR INTERSECTION CONFIGURATIONS, VARYING FROM THE ABOVE ARE TO BE APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.

**CONTROLLER REQUIREMENTS**

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, SYSTEM PACKAGE, VIDEO INTERFACE EQUIPMENT (1-8 CAMERAS), INTERSECTION MONITOR WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSSES HOUSED IN A NEMA SIZE "S" BASE MOUNTED CABINET.

**PHONE DROP**

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

**MAINTENANCE OF TRAFFIC**

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT. ADDITIONAL TRAFFIC CONTROL STANDARDS MAY BE USED AS DIRECTED BY THE ENGINEER.

STANDARD NO. MD-104.04-01 (SHOULDER WORK)      STANDARD NO. MD-104.02-13 (INTERSECTION FLAGGING OPERATION)  
 STANDARD NO. MD-104.04-03 (LEFT LANE CLOSURE)      STANDARD NO. MD-104.04-13 (LEFT TURN BAY CLOSURE)  
 STANDARD NO. MD-104.04-05 (RIGHT LANE CLOSURE)

**PROJECT CONTACTS**

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MS. ERIN KUHN  
 ASSISTANT DISTRICT ENGINEER - TRAFFIC  
 PHONE: (410) 229-2381

MR. ROBERT SYNDER  
 ASSISTANT CHIEF, TRAFFIC OPERATIONS DIVISION  
 PHONE: (410) 787-7631

MR. ANDRE FUTRELL  
 ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
 PHONE: (410) 229-2361

MR. RICHARD L. DAFF, SR.  
 CHIEF, TRAFFIC OPERATIONS DIVISION  
 PHONE: (410) 787-7630

MR. MIKE PASQUARIELLO  
 DISTRICT UTILITY ENGINEER  
 PHONE: (410) 229-2341

**EQUIPMENT LIST "A"**

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

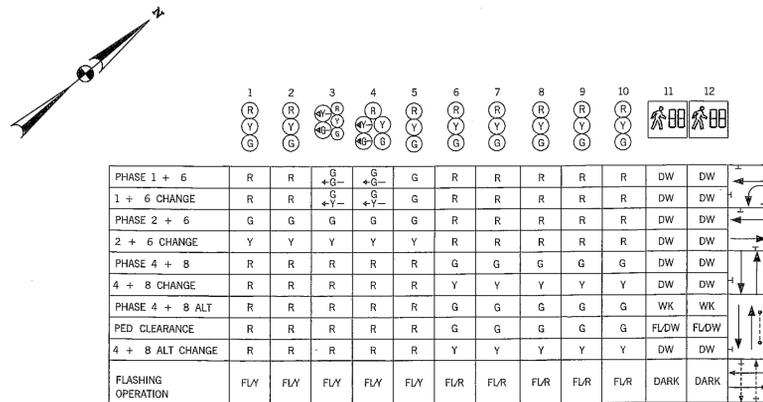
ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED ASC III CONTROLLER
9000	1 EACH	NEMA SIZE "S" BASE MOUNTED CABINET WITH INTERSECTION MONITOR
9571	80 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF (POLE MOUNT):
	- 4 EACH	D-3(1) SIGN (VARIABLE X 16 IN.) DUAL FACED - MAST ARM MOUNT
	- 1 EACH	ASSOCIATED SHIELD ASSEMBLY "NORTH, US 1, RIGHT ARROW" (24 IN. X 48 IN.) - POLE MOUNT
	- 1 EACH	ASSOCIATED SHIELD ASSEMBLY "SOUTH, US 1, LEFT ARROW" (36 IN. X 72 IN.) - POLE MOUNT
	- 1 EACH	R3-5(R) (30 IN. X 36 IN.) - MAST ARM MOUNT
	- 2 EACH	R10-3(1) SIGN (9 IN. X 15 IN.) TO READ "PUSHBUTTON TO CROSS BELAIR ROAD"

**EQUIPMENT LIST "C"**

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

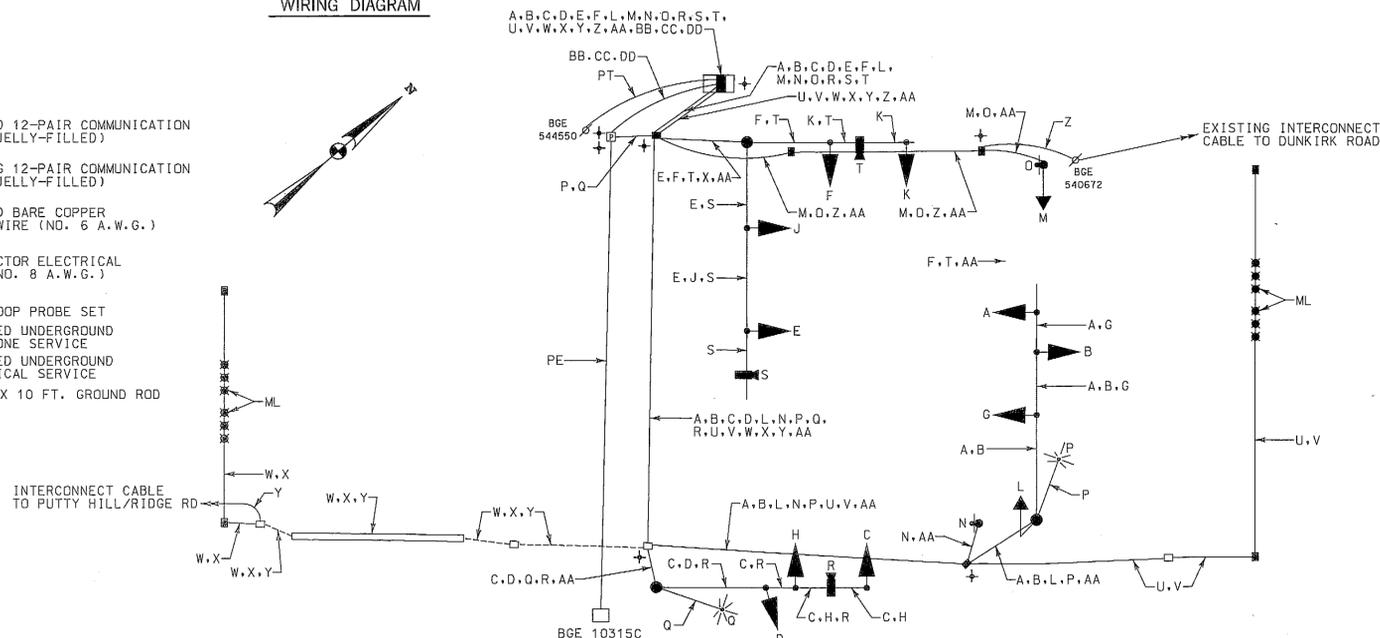
**PHASE CHART**



**WIRING DIAGRAM**

**WIRING KEY**

- A, B, C, D, E, F, L, M, N, O, R, S, T, U, V, W, X, Y, Z, AA, BB, CC, DD
- 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) - TRAY CABLE
- VIDEO CAMERA DETECTION LEAD-IN CABLE
- MICROLOOP PROBE LEAD-IN
- PROPOSED 12-PAIR COMMUNICATION CABLE (JELLY-FILLED)
- EXISTING 12-PAIR COMMUNICATION CABLE (JELLY-FILLED)
- STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- 1-CONDUCTOR ELECTRICAL CABLE (NO. 8 A.W.G.)
- ML - MICROLOOP PROBE SET
- PT - PROPOSED UNDERGROUND TELEPHONE SERVICE
- PE - PROPOSED UNDERGROUND ELECTRICAL SERVICE
- 3/4 IN. X 10 FT. GROUND ROD



**EQUIPMENT LIST "B"**

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	3 EACH	MAINTENANCE OF TRAFFIC
2001	3 C.Y.	CLASS 2 EXCAVATION
2002	6 C.Y.	TEST PIT EXCAVATION
5003	50 L.F.	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
5004	395 L.F.	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5005	25 L.F.	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
6001	250 L.F.	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
6002	925 S.F.	5 INCH CONCRETE SIDEWALK
6003	60 S.F.	DETECTABLE WARNING SURFACES FOR CURB RAMPS
8001	31 EACH	12 INCH LED SIGNAL HEAD SECTION
8002	1 EACH	2 WIRE CENTRAL CONTROL UNIT
8004	3 EACH	8 INCH LED SIGNAL HEAD SECTION
8005	1 EACH	ADJUST HANDHOLE TO GRADE WITH NEW FRAME AND COVER
8007	2 EACH	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP & LUMINAIRE
8008	2 EACH	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION & SIGNS
8009	2 EACH	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8012	1 EACH	EMBEDDED METERED SERVICE PEDESTAL
8015	2 EACH	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEADS
8018	1 EACH	MAST ARM POLE & 50 FT MAST ARM ANY 'T' DIMENSION
8019	1 EACH	MAST ARM POLE & 60 FT MAST ARM ANY 'T' DIMENSION
8022	4 EACH	NONINVASIVE DETECTOR (ANY LENGTH) LEAD IN CABLE UP TO 1000 FT
8023	1 EACH	REM & DISPOSE MAT & EQUIP PER ASSIGN
8025	1 EACH	TWIN MAST ARM POLE & 50'/60' MAST ARMS ANY 'T' DIMENSION
8028	3 EACH	VIDEO DETECTION CAMERA & CABLE UP TO 500 FT
8031	1000 L.F.	12 - PAIR COMMUNICATION CABLE, SELF-SUPPORTING OR JELLY FILLED
8033	360 L.F.	DISCONNECT, PULL-BACK & REROUTE CABLES
8034	520 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) TC
8036	105 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - BORED
8037	355 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - SLOTTED
8038	575 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED
8040	80 S.F.	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8042	470 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8045	90 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG - THHN/THWN
8046	8 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8050	30 L.F.	3 INCH ELECTRICAL CONDUIT-PVC RISER
8051	1 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8053	430 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8055	535 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8056	1390 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8064	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT

TOD NO: XX645-21  
 SHA NO: BA93885H  
 US 1 @ Wholesale Club Drive

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 OFFICE OF TRAFFIC & SAFETY  
 TRAFFIC ENGINEERING DESIGN DIVISION  
 US 1 (Belair Road) and Wholesale Club Drive  
 Perry Hall, MD

**GENERAL INFORMATION SHEET**

SCALE NONE ADVERTISED DATE 6/30/2012 CONTRACT NO. XX6455185  
 DESIGNED BY S. Bloss COUNTY Baltimore  
 DRAWN BY S. Bloss LOGMILE 03000105.98  
 CHECKED BY N. Leary TMS NO. K660  
 F.A.P. NO. \_\_\_\_\_ TOD NO. \_\_\_\_\_

**WR&A**  
**WHITMAN, REQUARDT & ASSOCIATES, LLP**  
 801 South Caroline Street, Baltimore, Maryland 21231

PLOTTED: June 29, 2012  
 FILE: N:\31668-161\CADD\p595-N005\_0080.dgn

TS NO. 3286C DRAWING TSP-5 OF 5 SHEET NO. 5 OF 5

BY: sbloss