PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE INSTALLATION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF US 1 (BELAIR ROAD) AT PERRY HALL SHOPPING CENTER DRIVE IN BALTIMORE COUNTY, DUE TO GEOMETRIC CHANGES ALONG US 1. THE TRAFFIC SIGNAL WILL INCLUDE LED SIGNAL HEADS, APS FOR CROSSING US 1, AND COUNTDOWN PEDESTRIAN SIGNAL HEADS. VIDEO DETECTION CAMERAS WILL BE INSTALLED FOR PRESENCE DETECTION ON ALL APPROACHES AND SAMPLING DETECTION ON US 1. NON-INVASIVE PROBES WILL BE INSTALLED FOR SET BACK DETECTION ON US 1. US 1 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 NORTH- AND SOUTHBOUND EXCLUSIVE/PERMISSIVE LEFT TURN PHASES WITH A WESTBOUND RIGHT TURN OVERLAP, AND SIDE STREET SPLIT PHASING. A SIDE STREET ALTERNATE PEDESTRIAN PHASE IS PROPOSED.

CONTROLLER REQUIREMENTS

INSTALL A NEMA SIZE "6" BASE MOUNTED CABINET. THE SHA SIGNAL SHOP WILL INSTALL A NEW EIGHT-PHASE FULLY ACTUATED TRAFFIC CONTROLLER WITH TELEMETRY, ASSOCIATED HARNESSES, ONE (1) 2 WIRE CENTRAL CONTROL UNIT, ONE (1) VIDEO INTERFACE EQUIPMENT, AND ONE (1) FOUR CHANNEL LOOP DETECTOR AMPLIFIER WITHIN THE CABINET.

APS WILL FUNCTION AS FOLLOWS:

TO CROSS NORTH LEG

A. WHEN THE PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS BELAIR ROAD AT SHOPPING CENTER"
B. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

PHONE DROP

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

THE CONTACT PERSONS FOR DISTRICT #4 ARE AS FOLLOWS:

Ms. Erin Kuhn
Assistant District Engineer - Traffic
Phone: 410-321-2781

Mr. Michael Pasquariello
District Utility Engineer
Phone: 410-321-2841

Mr. Andre Futrell
Assistant District Engineer - Maintenance
Phone: 410-321-2761

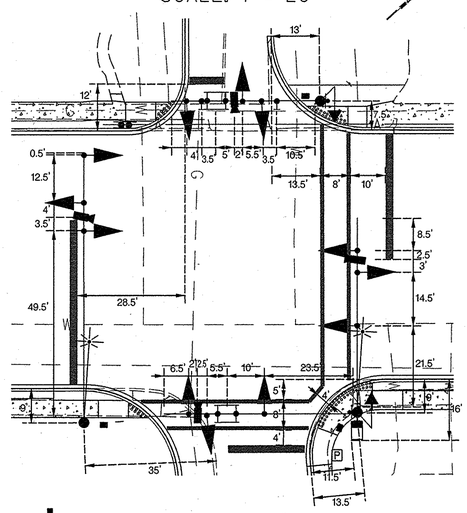
Mr. Richard L. Daff Sr.
Chief, Traffic Operations Division
Phone: 410-787-7630

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

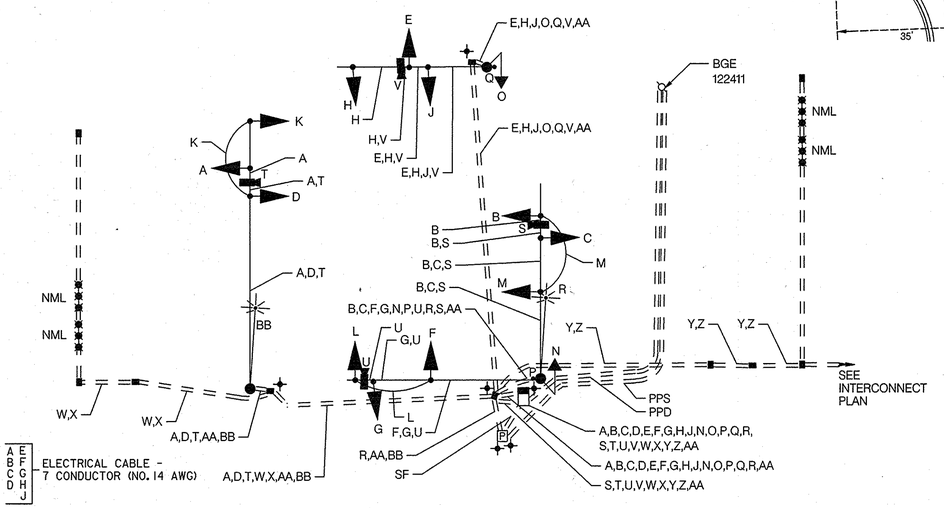
The Power Company Representative is:
Baltimore Gas & Electric Company
7317 Parkway Drive South
Hanover, MD 21076
Phone: 410-859-9062

PROPOSED SIGNAL EQUIPMENT LAYOUT

SCALE: 1" = 20'



WIRING DIAGRAM



A B C D E F G H J — ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

K L M N O — ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

P Q — ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)

R BB — ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC

S T U V — CONTROL CABLE, 250 FT. VIDEO DETECTION CAMERA TO CONTROLLER

W X Y Z — NONINVASIVE DETECTOR, 500 FOOT LEAD-IN CABLE

AA — NO. 6 STRANDED BARE COPPER WIRE

NML — NONINVASIVE MICROLOOP PROBE SET

PPD — PROPOSED UNDERGROUND PHONE DROP TO BE INSTALLED BY OTHERS

PPS — PROPOSED UNDERGROUND POWER SERVICE TO BE INSTALLED BY BG&E

SF — SERVICE FEED (ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG - THHN/THWN)

PROPOSED GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH.

P — PROPOSED METERED SERVICE PEDESTAL

STV Incorporated
engineers/architects/planners/construction managers
7125 Ambassador Road Baltimore, MD 21244-2722 (410) 944-9112

BY: thompsma

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

CATEGORY CODE	QUANTITY	DESCRIPTION
900000	1 EA	TELEMETRY I/O BLOCK W/ HARNESS AND QUICK CONNECT BLOCK
900000	1 EA	VIDEO DETECTION INTERFACE EQUIPMENT; 1-4 CAMERAS
963010	1 EA	4 CHANNEL LOOP DETECTOR AMPLIFIER - RACK MOUNT
971017	1 EA	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT
973023	117 SF	SHEET ALUMINUM SIGNS:
		2 EA - W3-3 (36 IN. x 36 IN.) + D95-25 (24 IN. x 24 IN.)
		2 EA - D-3(1) (96 IN. x 16 IN.) BELAIR RD, DUAL FACED
		1 EA - R3-5(L) (30 IN. x 36 IN.) LANE USE CONTROL - LEFT ONLY
		1 EA - R3-6MOD (30 IN. x 36 IN.) LANE USE CONTROL - SHARED LEFT/THRU/RIGHT
		1 EA - M3-3 (24 IN. x 12 IN.) + M1-4(a) (24 IN. x 24 IN.) + M6-1 (21 IN. x 15 IN.)
		1 EA - M3-3 (30 IN. x 15 IN.) + M1-4(a) (36 IN. x 36 IN.) + M6-1 (30 IN. x 24 IN.)
		1 EA - ASSOCIATED SHIELD ASSEMBLY (24 IN. x 51 IN.), "NORTH, US 1, RIGHT ARROW"
		1 EA - ASSOCIATED SHIELD ASSEMBLY (36 IN. x 75 IN.), "NORTH, US 1, LEFT ARROW"
		2 EA - R10-3(1) (9 IN. x 15 IN.) "PUSH BUTTON TO CROSS BELAIR ROAD"

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

CATEGORY CODE	QUANTITY	DESCRIPTION
203030	3 CY	TEST PIT EXCAVATION
800000	1 EA	2 WIRE CENTRAL CONTROL UNIT
800000	12 EA	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
800000	2 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGN
800000	2 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION - POLE MOUNTED
801004	12 CY	CONCRETE FOR SIGNAL FOUNDATION
801106	90 LF	WOOD SIGN SUPPORTS 4 IN. X 6 IN.
802501	225 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805125	90 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805135	500 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805140	135 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805145	70 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
805150	140 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
805155	260 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
807202	1 EA	METERED SERVICE PEDESTAL
810010	20 LF	ELECTRICAL CABLE 1-CONDUCTOR NO.4 AWG - THHN/THWN
810601	4 EA	NONINVASIVE DETECTOR, 500 FOOT LEAD IN CABLE
811001	10 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813014	51 SF	INSTALL GROUND MOUNTED SIGN
813015	66 SF	INSTALL OVERHEAD SIGN
816001	4 EA	VIDEO DETECTION CAMERA
816005	4 EA	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818021	1 EA	STEEL POLE WITH TWIN 50 FOOT MAST ARMS
818030	1 EA	STEEL POLE WITH A SINGLE 38 FOOT MAST ARM
818052	1 EA	STEEL POLE WITH A SINGLE 70 FOOT MAST ARM
831010	2 EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
837001	6 EA	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
860284	38 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861105	130 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	210 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	1,260 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	215 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC
866104	2 EA	20 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
871202	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

CATEGORY CODE	QUANTITY	DESCRIPTION
NONE - ALL REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR		

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PHASE 1 AND 5	G/R	G/R	R	G/R	G/R	R	R	R	R	R	R	R/G	DW	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	DW	DW
1 CHANGE	Y/G	Y/G	G	R	R	R	R	R	R	R	R	R	DW	DW
PHASE 2 AND 5	R	R	R	G/G	G/G	G	R	R	R	R	R	R/G	DW	DW
5 CHANGE	R	R	R	Y/G	Y/G	G	R	R	R	R	R	R/Y	DW	DW
PHASE 2 AND 6	G	G	G	G	G	G	R	R	R	R	R	R	DW	DW
2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW
PHASE 3	R	R	R	R	R	R	G/G	G/G	G	R	R	R	DW	DW
PHASE 3 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW
PHASE 4	R	R	R	R	R	R	R	R	R	G/G	G/G	G	DW	DW
PHASE 4 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW
PHASE 4 ALT	R	R	R	R	R	R	R	R	R	G/G	G/G	G	W	W
PHASE 4 PED CLEARANCE	R	R	R	R	R	R	R	R	R	G/G	G/G	G	FL/DW	FL/DW
PHASE 4 ALT CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

US 1 (BELAIR ROAD) AT
PERRY HALL SHOPPING CENTER DRIVE

GENERAL INFORMATION

SCALE 1" = 20' DATE MARCH 2008 CONTRACT NO. BA4855187

DESIGNED BY SBS COUNTY BALTIMORE
DRAWN BY SBS LOGMILE 03000119.59
CHECKED BY BAB TIMS NO. I-425
FAP NO. SEE TITLE SHEET TOD NO.

TS NO. 4645 | DRAWING SG - 2 OF 6 | SHEET NO. 23 OF 38

PLOTTED: Tuesday, May 06, 2008 AT 11:33 AM
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