PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal at the intersection of Alt. US 1 (Washington Blvd.) and Commerce Dr./ Wal*Mart South Entrance in Baltimore County, Maryland.
Alt. US 1 is considered to run in a north/south direction.

Add east leg to intersection.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA six (6) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phase for both the north and southbound movements of Alt. US 1. The Alt US 1 through movements will operate concurrently with a concurrent/actuated audible pedestrian movement across the east leg of the intersection. The Commerce Dr./ Shopping Center South Entrance through movements will operate in a side street split phase mode with an actuated audible pedestrian movement across the north leg of the intersection.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, video detection equipment, hardwire telemetry equipment and (1) four-channel rack mounted time delay output loop detector amplifier housed in a base mounted cabinet are to be installed at this location.

III. SPECIAL NOTE:

The Contractor shall notify Mr. Robert Snyder of SHA at 410-787-7635 to arrange for the phone drop installation.

The Contractor is to provide Mr. Snyder with the nearest street number, zip code, and telephone number.

CONTACT LIST

The contact persons for District •4 are as follows:

Mr. Randall Scott
Assistant District Engineer - Traffic
410-321-2781

Mr. Mike Pasquariello
Assistant District Engineer - Utility
410-321-3460

Mr. Steve Markiszewski
Assistant District Engineer - Maintenance
410-321-2761

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

The Power Company Representative is:
Baltimore Gas and Electric Company
Mr. Keith Mayle
7317 Parkway Drive South
Hanover, Maryland 21076
410-859-9070

EQUIPMENT LIST cont.

C. 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.

EQUIPMENT LIST

A. S.H.A. furnished equipment material.
None.

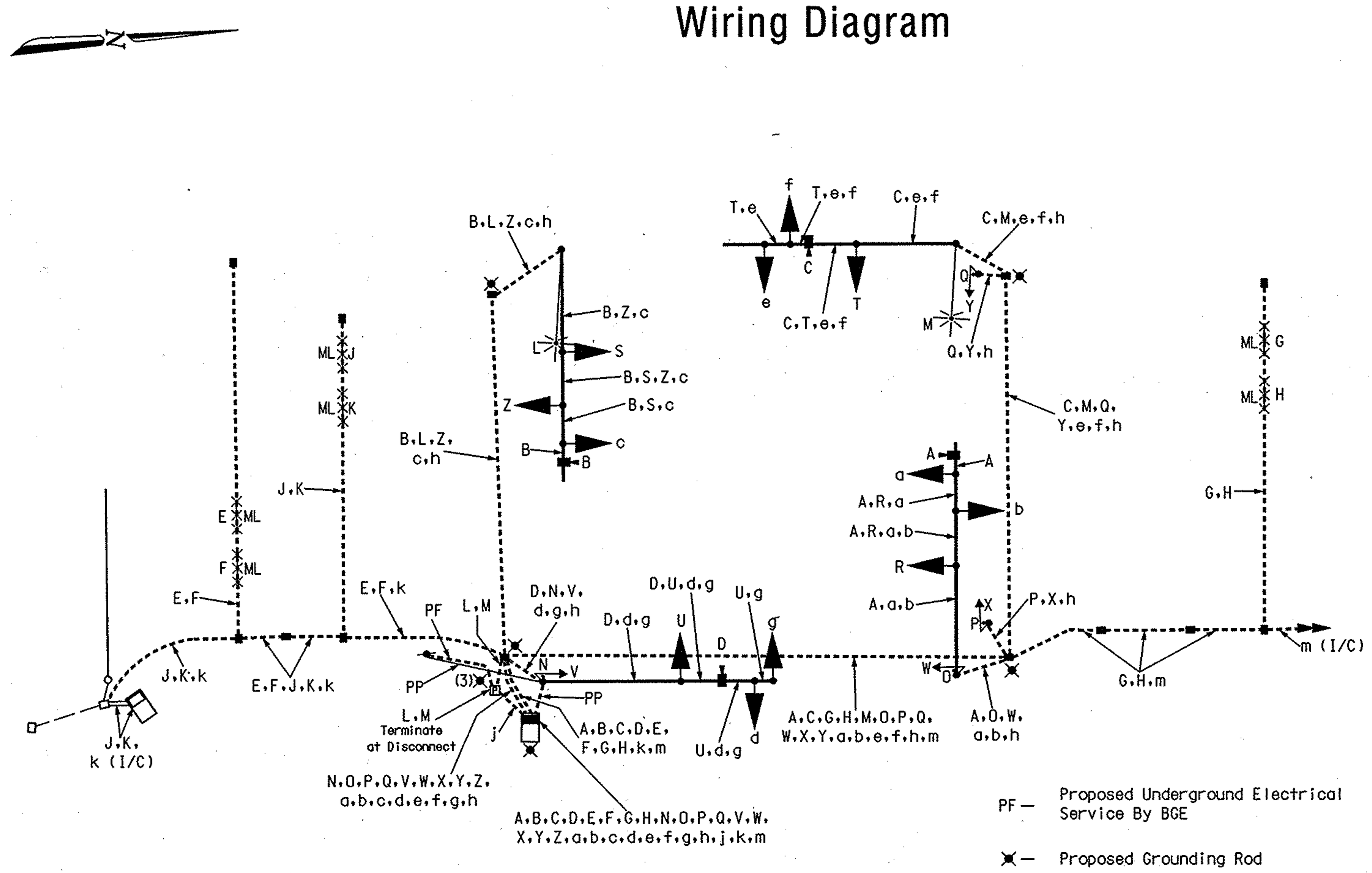
B. Equipment to be furnished and installed by the Contractor.
All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
4	EA	818	27 ft. steel mast arm pole with a 50 ft. mast arm.
2	EA	818	10 ft. steel pedestal pole with break away transformer base.
1	EA	816	Standard S.H.A. traffic signal controller, base mounted cabinet, video detection equipment, hardwire telemetry equipment, and one (1) four-channel loop detector amplifier [Note: Controller and cabinet shall be purchased from Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650].
4	EA	814	12 in., one-way, three section L.E.D. (R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, four section L.E.D. (R,Y,G,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in./8 in., one-way, four section L.E.D. (12 in. GA/ 8 in. R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, five section L.E.D. (R,Y,YA,G,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in./8 in., one-way, five section L.E.D. (12 in. YA, GA/ 8 in. R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	16 in.,one-way, one section L.E.D. (Countdown indications) adjustable pedestrian signal head with pole mounting hardware and cut-away visors.
2	EA	814	16 in.,one-way, one section L.E.D. (Countdown indications) adjustable pedestrian signal head with post top mounting hardware and cut-away visors.
4	EA	---	Video Detection Camera and cable. (1 - 100 LF, 1 - 200 LF, 2 - 300 LF)
1	EA	813	16 in. x Var. D-3(1) (Dual Face) sign with mast arm mounting hardware.
2	EA	813	30 in. x 36 in. R 3-5 (R) sign with mast arm mounting hardware.
2	EA	813	30 in. x 36 in. R 3-6 (L) sign with mast arm mounting hardware.
2	EA	813	72 in. x 24 in. M-95-1 sign with mast arm mounting hardware.
2	EA	813	36 in. x 36 in. W 3-3 "NEW" sign for ground mounting.
1	EA	---	Central Control Unit for audible pedestrian pushbutton.
4	EA	---	Audible pedestrian pushbutton assembly with pushbutton sign.
4	EA	---	Non-invasive probe (set of 3) with 500 ft. lead-in cable.
2	EA	---	Non-invasive probe (set of 3) with 1000 ft. lead-in cable.
1	EA	806	15 ft. luminaire arm.
1	EA	806	20 ft. luminaire arm.
2	EA	806	250 W H.P.S. lamp and luminaire.
5	CY	205	Test pit excavation.
13	EA	811	Handhole.
45	LF	810	1-conductor electrical cable (No. 4 A.W.G.).
465	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
555	LF	810	2-conductor electrical cable (No. 14 A.W.G.).
705	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
1650	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
375	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
35	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
230	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
820	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
50	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
195	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
85	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
15	CY	801	Concrete foundation for traffic signal equipment.
8	EA	804	Ground rod -3/4 in. diameter x 10 ft. length.
1	EA	807	Electrical utility service equipment (120/240 V, one phase, three wire system) for an underground electrical power service as per MD-SHA Typical No. (807.05-01) (200 amp. electrical pedestal).
320	LF	549	12 in. wide HAPPTPM - white for crosswalk.
140	LF	549	24 in. wide HAPPTPM - white for stop line.
30	LF	812	4 in. x 4 in. wood sign support.
15	LF	812	4 in. x 6 in. wood sign support.
Lump Sum	LS	805	1 in. galvanized riser with weatherhead for phone drop.
2	EA	---	Cut, clean, and cap mast arm pole.
Lump Sum	LS	---	As-built for S.H.A. [on CADD].

Phase Chart

	1	2	3	4	5	6	7	8	9	10	8	9	11-14	15-18
Phase 1 & 5	R ←G—	R ←G—	R	R ←G—	R ←G—	R	R	R	R	R	R	R	DW	DW
1 & 5 Change to Phase 1 & 6 or Phase 2 & 5 or Phase 2 & 6														
Phase 1 & 6	G ←G—	G ←G—	G	R	R	R	R	R	R	R	R	R	DW	DW
1 Change	G ←Y—	G ←Y—	G	R	R	R	R	R	R	R	R	R	DW	DW
Phase 2 & 5	R	R	R	G ←G—	G ←G—	G	R	R	R	R	R	R	DW	DW
5 Change	R	R	R	G ←Y—	G ←Y—	G	R	R	R	R	R	R	DW	DW
Phase 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	DW
Ped Clearance	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	DW
2 & 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
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
4 Change	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW
Phase Alt 3	R	R	R	R	R	R	G ←G—	G ←G—	G	R	R	R	DW	WK
Ped Clearance	R	R	R	R	R	R	G	G	G	R	R	R	DW	FL/DW
Alt 3 Change	R	R	R	R	R	R	Y	Y	Y	R	R	R	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

Wiring Diagram



A, B, C, D — Video Detector Cable

E, F, G, H, J, K — Non-Invasive Micro-loop Detector Lead-in Cable

L, M — 2-Conductor Tray Cable (No. 12 A.W.G.)

N, O, P, Q — 2-Conductor Electrical Cable (No. 14 A.W.G.)

R V, S W, T X, U Y — 5-Conductor Electrical Cable (No. 14 A.W.G.)

Z d, a e, b f, c g — 7-Conductor Electrical Cable (No. 14 A.W.G.)

h — Bare Copper Ground Wire (No. 6 A.W.G.)

j — 1-Conductor (No. 4 A.W.G.) (3 pieces) for Traffic Signal Electrical Service

k — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Victory Lane - Commerce Dr. Run)

m — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Commerce Dr.- Robert Young Way Run)

PF — Proposed Underground Electrical Service By BGE

✕ — Proposed Grounding Rod

ML — Micro-loop Detector (Non-Invasive)

PP — Proposed Phone Service

The Traffic Group

The Traffic Group, Inc.
410-931-6600
Fax 410-931-6601

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information Plan)

*Alt. US 1 (Washington Blvd. at Commerce Dr./ Wal*Mart South Entrance*

DRAWN BY:	J. Storck	F.A.P. NO.	N/A	TS. NO. 4496-GI	SHEET NO.
CHECKED BY:		S.H.A. NO.	BW996M82		
SCALE:	N/A	COUNTY:	Baltimore	T.I.M.S. NO. H147	
DATE:	JuLY 19, 2006	LOG MILE:	03001AL001.96		2 OF 2

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