PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a traffic control signal for the realignment of the intersection of MD 28 and West Gude Dr./ Fallsgrove Dr. in Montgomery County, Maryland. MD 28 is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA six (6) phase, semi-traffic-actuated mode. There will be an exclusive left turn phase for both the east and westbound movements of MD 28. The MD 28 through movements will operate concurrently with a concurrent pedestrian movement across the north and south legs of the intersection. The W. Gude Dr./ Fallsgrove Dr. through movements will operate concurrently with an actuated pedestrian movement across the east leg of the intersection.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, and a video camera detection system housed in a base mounted cabinet are to be installed at this location.

All existing traffic signal equipment shall be removed once the new traffic signal installation is complete.

New interconnect cable shall be installed from the existing signal cabinet to the new signal cabinet.

CONTACT LIST

The contact persons for District #3 are as follows:

Mr. Charles Watkins
District Engineer
301-513-7311

Mr. Majib Shakib
Assistant District Engineer - Traffic
301-513-7358

Mr. Augie Rebish
Assistant District Engineer - Utility
301-513-7350

Mr. Randy Brown
Assistant District Engineer - Maintenance
301-513-7304

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

The Power Company Representative is:

Potomac Electric Power Company
Robyn Law
Supv Customer Engineer
4061 Powder Mill Rd.
Calverton, MD 20705
301-931-2876

EQUIPMENT LIST

A. Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

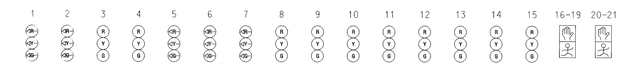
Quantity	Units	Specification Section	Description
1	EA	818	27 ft. steel twin mast arm pole with 50 ft. mast arms.
1	EA	818	27 ft. steel twin mast arm pole with 50 ft. and 70 ft. mast arms.
4	EA	818	10 ft. steel pedestal pole with break away transformer base.
2	EA	818	14 ft. steel pedestal pole with break away transformer base.
1	EA	816	Standard S.H.A. traffic signal controller and base mounted cabinet [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].
6	EA	---	Video camera detection (to include all necessary cables).
2	EA	814	12 in., black faced, one-way, three section (RA,YA,GA) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	12 in., black faced, one-way, three section (RA,YA,GA) adjustable traffic signal head with pole mounting hardware and tunnel visors.
1	EA	814	12 in., black faced, two-way, three section (RA,YA,GA) adjustable traffic signal head with pole mounting hardware and tunnel visors.
8	EA	814	12 in., black faced, one-way, three section (R,Y,G) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in., black faced, one-way, three section (R,Y,G) adjustable traffic signal head with post top mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, two section (symbolic DW, WK) adjustable pedestrian signal head with post top mounting hardware and cut-away visors.
2	EA	814	12 in., two-way, two section (symbolic DW, WK) adjustable pedestrian signal head with post top mounting hardware and cut-away visors.
4	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
2	EA	813	32 in. x Var. D-3(1) sign with mast arm mounting hardware.
2	EA	813	16 in. x Var. D-3(1) (Dual Face) sign with under mast arm mounting hardware.
2	EA	813	24 in. x 51 in. Shield Assembly sign for ground mounting.
2	EA	813	36 in. x 75 in. Shield Assembly sign for ground mounting.
2	EA	817	Pedestrian pushbutton assembly with pushbutton sign.
2	EA	806	15 ft. luminaire arm.
2	EA	806	250 W H.P.S. lamp and luminaire.

B. Equipment to be furnished and/or 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.
9	CY	205	Test pit excavation.
9	EA	811	Handhole.
410	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
235	LF	810	2-conductor electrical cable (No. 14 A.W.G.).
515	LF	810	3-conductor electrical cable (No. 14 A.W.G.).
1725	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
870	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
320	LF	810	12-pair (No. 19 A.W.G.) voice grade telemetry interconnect cable.
15	LF	810	3-wire (No. 4 A.W.G.) electrical cable.
590	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
150	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
15	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
20	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
10	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
450	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
100	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
15	CY	801	Concrete foundation for traffic signal equipment.
9	EA	804	Ground rod - 3/4 in. diameter x 10 ft. length.
1	EA	807	Control and distribution equipment (120/240 V, one phase, three wire system) for a type B-16 underground electrical service.
80	LF	812	4 in. x 4 in. wood sign support.
1060	LF	556	12 in. wide HAPPTPM - white for crosswalk.
240	LF	556	24 in. wide HAPPTPM - white for stop line.
Lump Sum	LS	---	Remove existing traffic signal equipment.
Lump Sum	LS	---	As-built for S.H.A. [on CADD].

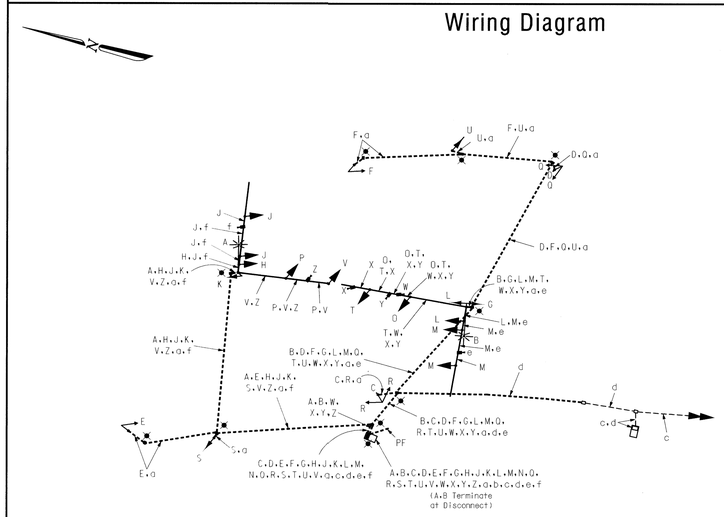
C. SHA forces shall remove the controller and all auxiliary equipment from the controller cabinet. The cabinet and all other materials to be removed by the contractor shall become the property of the contractor.

Phase Chart



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-19	20-21
Phase 1 & 5	G	G	R	R	G	G	G	R	R	R	R	R	R	R	R	DW	DW
1 & 5 Change to Phase 1 & 6 or Phase 2 & 5 or Phase 2 & Alt. 5 or Phase 2 & 6																	
Phase 1 & 6	G	G	G	G	R	R	R	R	R	R	R	R	R	R	R	DW	DW
1 Change	Y	Y	G	G	R	R	R	R	R	R	R	R	R	R	R	DW	DW
Phase 2 & 5	R	R	R	R	G	G	G	G	G	R	R	R	R	R	R	DW	DW
5 Change	R	R	R	R	Y	Y	Y	G	G	R	R	R	R	R	R	DW	DW
Phase 2 & 6	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	WK	DW
Ped Clearance	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	FL/DW	DW
2 & 6 Change	R	R	Y	Y	R	R	R	Y	Y	R	R	R	R	R	R	DW	DW
Phase 4 & 8	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW
4 & 8 Change	R	R	R	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW
Phase Alt 4 & 8	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	DW	WK
Ped Clearance	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	DW	FL/DW
Alt 4 & 8 Change	R	R	R	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW
Flashing Operation	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

Wiring Diagram



A, B } 2-Conductor Tray Cable (No. 12 A.W.G.)

C, D } 2-Conductor Electrical Cable (No. 14 A.W.G.)

E, F } 3-Conductor Electrical Cable (No. 14 A.W.G.)

G, H, J, K, L, M, N, O, P, Q, R } 5-Conductor Electrical Cable (No. 14 A.W.G.)

S, T, U, V } 7-Conductor Electrical Cable (No. 14 A.W.G.)

W, Z, X, e, Y, f } Video Detector Cable

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

b — 3-Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service

c — Existing Interconnect Wire

d — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.)

PF — Proposed Electrical Service By PEPCO. (To be determined in the field)

✱ — Proposed Grounding Rod

Revision "A"

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)

MD 28 at West Gude Dr./ Fallsgrove Dr.

DRAWN BY: J. Storck	F.A.P. NO. N/A	TS NO. 3340A	SHEET NO. 2 OF 2
CHECKED BY:	S.H.A. NO. BW996M82		
SCALE: N/A	COUNTY: Montgomery	T.I.M.S. NO. E183-GI	
DATE: Septmeber 20, 2001	LOG MILE: 15002824.09		

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