PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of the existing traffic control signal at the intersection of MD 28 (Darnestown Road) and Muddy Branch Road in Montgomery County, Maryland. MD 28 is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection currently operates in NEMA seven (7) phase, semi-traffic-actuated mode. There is an exclusive/permissive left turn phase for both the eastbound and westbound movements of MD 28. The MD 28 through movements operate concurrently with a concurrent pedestrian phase across the north and south legs of the intersection. There is an exclusive\permissive left turn phase for the southbound movement of Muddy Branch Road The Muddy Branch Road through movements operate concurrently with an actuated pedestrian phase across the west leg of the intersection.

The traffic signal phasing is to be modified. There will be an exclusive left turn phase for both the eastbound and westbound movements of MD 28. The MD 28 through movements operate concurrently with a concurrent pedestrian phase across the north and south legs of the intersection. There is an exclusive\permissive left turn phase for the southbound movement of Muddy Branch Road. The Muddy Branch Road through movements operate concurrently with an actuated pedestrian phase across the west leg of the intersection.

The existing cabinet/controler will be utilized. An additional loop-detector amplifier will be installed.

EQUIPMENT LIST

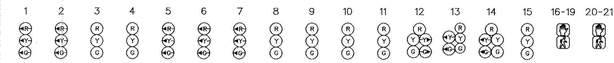
A. Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
3	EA	818	12 in., one-way, three section (R,Y,G) adjustable traffic signal head with span wire mounting hardware and tunnel visors.
5	EA	818	12 in., one-way, three section (RA,YA,GA) adjustable traffic signal head with span wire mounting hardware and tunnel visors.
3	EA	813	30 in. x 36 in. R 3-5(L) sign with span wire mounting hardware.
1	EA	---	Detector rack retrofit.
1	EA	---	Detector rack power supply.
5	EA	---	4-channel rack mounted loop detector amplifier.

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.

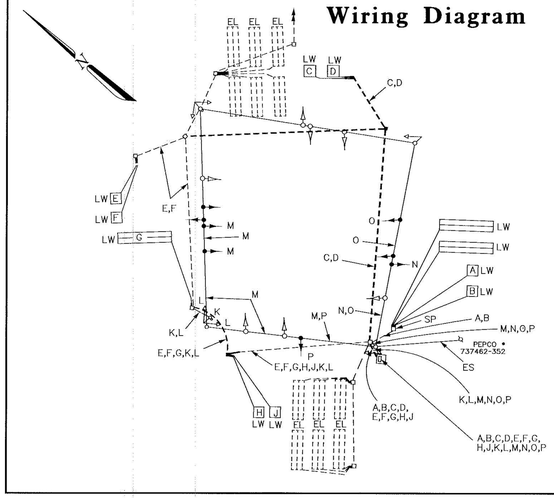
Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
3	EA	811	Handhole.
915	LF	815	Sawcut for signal loop detector.
2700	LF	810	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
1300	LF	810	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
150	LF	810	2-conductor electrical cable (No. 14 A.W.G.).
850	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
100	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
60	LF	805	1 in. liquid tight flexible non-metalic conduit for loop detector sleeve.
35	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
40	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
235	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
20	LF	500	12 in. wide HAPPTPM - white for crosswalk.
10	LF	500	24 in. wide HAPPTPM - white for stop line.
1	EA	---	Relocate existing sign.
Lump Sum	LS	---	Remove existing Traffic Signal equipment.
1	EA	---	As-built for S.H.A. (on CADD).

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 G	R	R	R	DW	DW
1 & 5 Change	Y	Y	R	R	Y	Y	Y	R	R	R	R	R Y	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 & 7	R	R	R	R	R	R	R	R	R	R	R	R	G G	G G	G	DW	DW
7 Change	R	R	R	R	R	R	R	R	R	R	R	R	G Y	G Y	G	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 C D E F G H J — 2-Conductor Cable (Aluminum Shielded)

K — 2-Conductor Electrical Cable (No. 14 A.W.G.)

L M N O — 5-Conductor Electrical Cable (No. 14 A.W.G.)

P — 7-Conductor Electrical Cable (No. 14 A.W.G.)

EL — Existing Loop Detector Wire

LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing

ES — Existing Overhead Electrical Service by PEPCO

SP — Splice Loop Wire To Existing Aluminum Shielded Cable

The Traffic Group

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MDOT – STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

(General Information)

MD 28 (Darnestown Road) at Muddy Branch Road

DATE: July 2, 1998 — LOG MILE * 15002817.77

DRAWN BY: Jamie Storck	F.A.P. NO.	N/A	PLAN SHEET NO.:	SHEET NO.
CHK. BY: J. Dirndorfer	S.H.A. NO.	BW996M82	1915B-GI	2 of 2
SCALE: N/A	COUNTY:	MONTGOMERY		

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