PROJECT DESCRIPTION

I. GENERAL

This portion of the project involves the reconstruction of the existing traffic control signal at the intersection of MD 144 and Ingleside Avenue/Bloomsbury Avenue in Baltimore County, Maryland. MD 144 is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection presently operates in a NEMA four (4) phase, full-traffic-actuated mode. The MD 144 through movements operate concurrently. The Ingleside Ave./Bloomsbury Ave. movements operate concurrently. There is an actuated exclusive pedestrian phase for all legs of the intersection.

The intersection is to be modified to operate in a MEMA six (6) phase full-traffic actuated operation mode. The MD 144 through movements will operate concurrently with an exclusive/premisive left turn phase for both the east and westbound movements. The MD 144 through movements will operate concurrently with a concurrent pedestrian phase across the north and south legs of the intersection. The Ingleside Ave./Bloomsburry Ave. movements will operate concurrently with an actuated pedestrian phase across both the east and west legs of the intersection.

The existing controller is to be relocated to new base mounted cabinet with one 4-channel rack mounted time delay output loop detector amplifers.

EQUIPMENT LIST

A. Equipment to be supplied by MD-S.H.A. and installed by Contractor.

Item No.	Quantity	Units	Description
9079	1	EA	Standard S.H.A. traffic base mounted cabinet.
9090	105.33	SF	Seet aluminum sign with mast arm mounting hardware. [2 each 16 in. x var. D-3(1)] (dual Faced). [2 each 16 in. x Var. D-3(1)]. [4 each 30 in. x 42 in. R 3-2(Mod.)]. [4 each 30 in. x 30 in. R 10-11b]. [2 each 24 in. x 72 in. M 95-1]
9090	3.0	SF	Sheet aluminum sign with pole mounting hardware [4 each 9 in. x 12 in. R 10-4(1)] (Sign to read: Pushbuttun To Cross Frederick Rd.).
9090	5	SF	Sheet aluminum sign with ground mounting hardware. [2 each 24 in. x 30 in. R 10-6]
9096	4	EA	Pedestrian pushbutton assembly.
9097	6	EA	Sign hardware-24 in. form tube.
9104	2	EA	Sign hardware - under mast arm astro bracket 84 in. cable.

B. Equipment to be furnished and/or installed by the Contractor.

Item No.	Quantity	Units	Description
1001	2	EA	Maintenance of traffic.
1003	Lump Sum	LS	Mobilization.
2001	3	CY	Test pit excavation.
2004	84	EA	Class II exvation (4 in. sidewalk remove/replace).
5003	975	EA	12 in. HAPPTPM - white for crosswalk.
5004	100	SF	24 in. HAPPTPM - white for stop line.
8001	13.25	CY	Concrete foundation for signal equipment.
8003	2	SF	10 ft. pedestal pole on break away transformer base.
8006	4	EA	Cut, clean, galvanize, and cap traffic signal structure.
8016	2	EA	Microloop probe set with 500 ft. lead-in .
8018	4	EA	Install pushbuton with sign.
8020	1	EA	Install cabinet and controller base mount.
8021	1065	LF	Sawcut for signal loop detector.
8023	35	LF	1 in liquid flexible non-metalic conduit loop detector sleeve.
8024	45	LF	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
8027	25	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
8028	165	LF	3 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
8030	30	LF	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
8031	160	LF	4 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
8033	4	EA	Handhole.
8034	5	EA	Ground rod -3/4in. diameter x 10 ft. length.
8040	1945	LF	Loop detector wire (No. 14 A.W. G. encased in flexible tubing.
8041	650	LF	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
8042	350	LF	2-conductor electrical cable (No 14 A.W.G.).
8044	385	LF	5-conductor electrical cable (No. 14 A.W.G.).
8045	845	LF	7-conductor electrical cable (No. 14 A.W.G.).
8047	100	LF	Electrical cable - 1 - conductor (No. 4 A.W.G.) THHN/THWN.
8048	240	LF	Bare copper stranded ground wire (6 A.W.G.).
8051	15	LF	4 in. x 6 in. wood post support.
8052	5	LF	Install ground mounted sign.
8053	105.3	SF	Install overhead sign.
8060	1	EA	Remove/dispose of existing material/equipment per assignment.
8066	1	EA	Control and distribution equipment (120/240 V, one phase, three wire system) for a type B-7 overhead electrical service.
8071	4	EA	Paint structure (Installed) all mast arm poles, mast arms, and pedestal poles (Black Color of Federal # 595a-27047) unless other specified.
8076	2	EA	Mast arm pole and 38 ft. mast arm.
8077	2	EA	Mast arm pole and 50 ft. mast arm.
8084	24	EA	12 in. black faced vehicular traffic signal head section with mast arm mounting hardware.
8085	24	EA	8 in. black faced vehicular traffic signal head section with mast arm mounting hardware.
8087	4	EA	12 in. pedestrian signal head section with pole mounting hardware.
8087	12	EA	12 in. pedestrian signal head section with post top mounting hardware.
Neg.	Lump Sum	LS	Brick paver replacement/repair work.

CONTACT LIST

The contact persons for District #4 are as follows:

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410-787-7630

The Power Company Representative is:
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Mr. Keith Mayle
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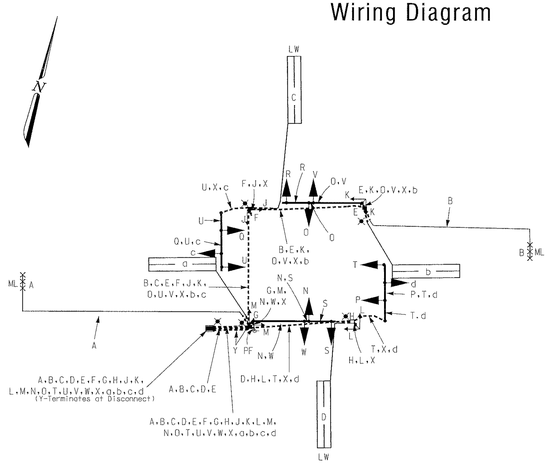
Hanover, Maryland 21076
410-859-9070

Phase Chart

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 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G		DW	
4 & 8 Change	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	
Phase Alt 3 & Alt 4	R	R	R	R	R	R	G	G	G	G	G	G	DW	WK	
Ped Clearance	R	R	R	R	R	R	G	G	G	G	G	G	DW	FL/DW	
Alt 3 & Alt 4 Change	R	R	R	R	R	R	Y	Y	Y	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	

Wiring Diagram



A, B } Microloop Probe Lead-in Cable

C, D, a, b } 2-Conductor Cable (Aluminum Shielded)

E, F, G, H } 2-Conductor Electrical Cable (No. 14 A.W.G.)

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

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

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

Y — (3) 1-conductor Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service

ML — Microloop Probe

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

PF — Proposed Overhead Electrical Service By BGE

✱ — Proposed Grounding Rod

PRELIMINARY/ FINAL REVIEW

Revision "A"

The Traffic Group

The Traffic Group, Inc.
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APPROVALS

TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION

ASST. CHIEF TRAFFIC ENGINEERING DESIGN DIVISION

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY

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

MD 144 (Frederick Road) at Ingleside Avenue/Bloomsbury Avenue

DRAWN BY:	Frank Hoeckel	F.A.P. NO.	N/A	TS NO. 882 A	SHEET NO.
CHECKED BY:		S.H.A. NO.	BA358A5E/B5E		
SCALE:	N/A	COUNTY:	Baltimore	T.I.M.S. NO.	
DATE:	February 21, 2000	LOG MILE:	03014403.67	C808GG4	4 OF 4

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