FHWA REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD			

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal at the intersection of MD 140 and Cockeys Mill Road in Baltimore County, Maryland. MD 140 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA Four (4) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phase for the northbound movement of MD 140. The MD 140 through movements will operate concurrently. The Cockeys Mill Road through movements will operate alone with an actuated pedestrian phase 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, and two 4-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

EQUIPMENT LIST

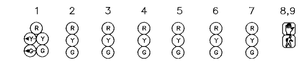
A. Equipment to be furnished by S.H.A.

Item No.	Quantity	Units	Description
9014	5	EA	(Mast arm) 12 in., one-way, three section signal [aluminum].
9016	1	EA	(Mast arm) 12 in., one-way, five section signal [aluminum].
9027	1	EA	(Ped pole) 12 in., one-way, two section ped. signal [aluminum].
9035	1	EA	(Side of pole) 12 in., one-way, two section ped. signal [aluminum].
9036	1	EA	(Side of pole) 12 in., one-way, three section signal [aluminum].
9086	1	EA	Cabinet with telemetry (system cab.), size 6.
9087	1	EA	Controller ASC II with telemetry.
9089	10.5	SF	Flat sheet aluminum sign - R 10-12.
9089	39	SF	Flat sheet aluminum sign - W 3-3 "NEW".
9090	18.67	SF	Flat sheet aluminum sign - D 3-2.
9094	1	EA	Pedestal pole 10 ft. with T-base and anchor bolts.
9096	2	EA	Pushbutton and sign.
9100	1	EA	Sign hardware - astro bracket 84 in. cable.
9104	1	EA	Sign hardware - under mast arm mount astro bracket 84 in. cable.
9112	1	EA	Twin mast arm pole - 27 ft. with 50 ft./ 50 ft. series with achor bolts.

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

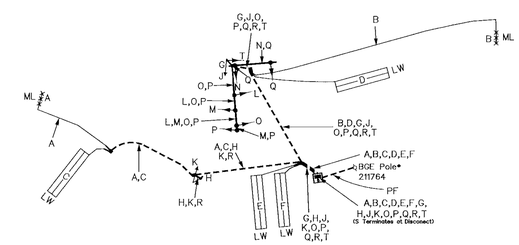
Item No.	Quantity	Units	Description
1001	1	EA	Maintenance of traffic per assignment.
2001	3	CY	Test pit excavation.
2005	.4	CY	Removal of existing sidewalk.
5005	100	LF	24 in. white permanent preformed pavement marking tape.
6001	32	SF	4 in. concrete sidewalk.
8001	4.5	CY	Concrete for signal foundation.
8006	2	EA	Cut, clean, galvanize, and cap traffic signal structure.
8011	9	EA	Install signal head (any type).
8016	2	EA	Install pushbutton with sign.
8019	1	EA	Install controller and cabinet - base mount.
8022	1015	LF	Sawcut for signal loop detector.
8023	25	LF	1 in. electrical conduit - galvanized sleeve.
8024	20	LF	1 in. liquid tight flexible non-metalic conduit - sleeve.
8025	85	LF	2 in. electrical conduit - PVC [Schedule 40] - buried (trenched).
8028	5	LF	3 in. electrical conduit - PVC [Schedule 40] - buried (trenched).
8029	130	LF	3 in. electrical conduit - PVC [Schedule 80] - encased (slotted in roadway).
8031	15	EA	4 in. electrical conduit - PVC [Schedule 40] - buried (trenched).
8035	5	EA	Electrical handhole.
8037	4	LF	Ground rod (3/4 in. diameter x 10 ft. length).
8043	1810	LF	Loop detector wire (No. 14 A.W.G.) - THWN.
8044	275	LF	Electrical cable - 2-conductor (aluminum shielded).
8045	200	LF	Electrical cable - 2-conductor (No. 14 A.W.G.).
8046	200	LF	Electrical cable - 3-conductor (No. 14 A.W.G.).
8047	55	LF	Electrical cable - 5-conductor (No. 14 A.W.G.).
8048	430	LF	Electrical cable - 7-conductor (No. 14 A.W.G.).
8052	175	LF	Stranded bare copper ground wire (No. 6 A.W.G.).
8053	15	LF	Electrical cable - 1-conductor (No. 4 A.W.G.) THHN/THWN.
8055	54	LF	Wood sign supports 4 in. x 6 in..
8056	39	SF	Install ground mounted sign.
8057	29.17	SF	Install overhead sign.
8067	1	EA	Use existing plan or disk and as-built traffic control device.
8076	1	EA	Control and distribution equipment.
8093	1	EA	Install breakaway pedestal pole (any size).
8096	1	EA	Install mast arm pole and twin mast arms (any size).
8107	2	EA	Microloop probe set with 500 ft. lead-in.

Phase Chart



	1	2	3	4	5	6	7	8,9	
Phase 1 & 6	G	G	G	R	R	R	R	DW	
1 Change	G	G	G	R	R	R	R	DW	
Phase 2 & 6	G	G	G	G	G	R	R	DW	
2 & 6 Change	Y	Y	Y	Y	Y	R	R	DW	
Phase 4	R	R	R	R	R	G	G	DW	
4 Change	R	R	R	R	R	Y	Y	DW	
Phase Alt 4	R	R	R	R	R	G	G	WK	
Ped Clearance	R	R	R	R	R	G	G	FL/DW	
Alt 4 Change	R	R	R	R	R	Y	Y	DW	
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DARK	

Wiring Diagram



A, B — Microloop Probe Lead-in Cable

C, D, E, F — 2-Conductor Cable (Aluminum Shielded)

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

J, K — 3-Conductor Electrical Cable (No. 14 A.W.G.)

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

O, P, Q, T — 7-Conductor Electrical Cable (No. 14 A.W.G.)

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

S — 3-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 Underground Electrical Service By BGE.

The Traffic Group

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Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

DRAWN BY: Frank Hoeckel
DES. BY: Frank Hoeckel
CHK. BY:

(General Information)

MD 140 at Cockeys Mill Road

COUNTY: BALTIMORE LOG MILE *03014009.56

DATE: August 6, 1997 F.A.P. NO. N/A TS/STD. NO. SHEET NO.
SCALE: N/A S.H.A. NOS: AW103A5P, AW103A6P, AW103A5R TS-3736-GI 2 of 2