DRILL HOLES

BORDER REV: DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal with street lighting and interconnect at the intersection of MD 3 and MD 450 (East) in Anne Arundel County. The existing span wire Traffic Signal shall be replaced with a mast arm Traffic Signal. Video detection shall be used for the southbound left turns and the MD 450 approach. Interconnect cable along MD 3 shall be replaced from MD 450 (West) thru MD 450 (East) to Cronson Blvd / Crawford Blvd. MD 3 is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA four-phase, fully-actuated mode, with the MD 3 approaches running concourrently. An Exclusive left turn phase shall remain in operation for the southbound approach of MD 3. The MD 450 (East) approach shall continue to run in its own phase..

2. A full-traffic-actuated, eight-phase controller with four (4) four channel, rack mount loop detector amplifiers, video interface and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

1. The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.

2. All controller cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7650 seventy-two hours in advance of intended work.

3. All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

The contact persons for District #5 are as follows:

Ms. Kim Tran
Assistant District Engineer - Traffic
Phone: (410) 841-1003

Mr. Charles George
Assistant District Engineer - Maintenance
Phone: (410) 841-1002

Mr. John Mays
Assistant District Engineer - Utility
Phone: (410) 841-1005

Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

Mr. Ed Rodenhizer
Signal Shop
410-787-7652

Mr. Sonny Bailey
Sign Shop
410-787-7670

The power company representative is:
Mr. Steve Schneider
Baltimore Gas and Electric
7317 Parkway Drive South
Hanover, MD 21076
410-859-9310

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

ITEM NO.	DESCRIPTION	QUANTITY
9042	CController ASC II with telemetry	1 EA
9044	Controller cabinet, size "6" with four 4 channel detector racks.	1 EA
9086	Video detection interface equipment: 1-4 cameras (To be installed by signal shop).	1 EA
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	59 SF
	D3-2 "Defense Hwy (arrow)/ (arrow) Defense Hwy" sign (variable x 16")	2 EA
	R3-5L "LEFT TURN ONLY" sign, (30" x 36").	3 EA
	M95-1 (MOD) "SOUTH (arrow) / MD 3 / NORTH (arrow)" sign	1 EA

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	3 EA
2002	Test Pit Excavation	5 C.Y.
5005	24" white heat applied permanent preformed thermoplastic pavement marking.	155 L.F.
8003	Pre-manufactured camera to controller (500' length) cable	2 EA
8013	Furnish and install 15' bracket arm for traffic signal structure.	2 EA
8014	Furnish and install 250 watt HPS Luminaire with photocell.	2 EA
8023	Furnish and install 27' mast arm pole and 60' mast arm.	2 EA
8024	Furnish and install 27' mast arm pole and 70' mast arm	1 EA

EQUIPMENT LIST (CONT.)

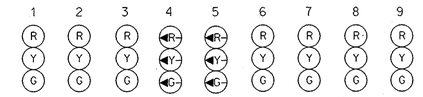
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
8043	Furnish and install non-invasive probe set with 1000' lead-in cable.	6 EA
8044	Furnish and install non-invasive probe set with 500' lead-in cable.	3 EA
8047	Remove and dispose of existing foundation 12" below grade.	4 EA
8048	Remove and dispose of existing material and equipment per assignment.	1 EA
8049	Furnish and install video detector camera.	2 EA
8051	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trenched	90 L.F.
8052	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - bored.	400 L.F.
8053	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - trenched.	95 L.F.
8057	Furnish and install concrete for signal foundation.	16 C.Y.
8060	Furnish and install No. 6 AWG stranded bare copper ground wire.	575 L.F.
8062	Furnish and install 1" electrical conduit galvanized sleeve.	90 L.F.
8064	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - bored.	225 L.F.
8069	Metered service pedestal.	1 EA
8070	Furnish and install electrical cable 1-conductor No. 4 AWG THHN/THWN.	25 L.F.
8072	Furnish and install electrical handhole.	10 EA
8075	Install overhead sign.	59 S.F.
8076	Furnish and install 12-pair communication cable, jelly-filled, (underground).	9000 L.F.
8080	Furnish and install ground rod -¾" x 10'.	7 EA
8081	Furnish and install electrical cable - 2 conductor (aluminum shielded) (No. 14 AWG)	3600 L.F.
8084	Furnish and install electrical cable - 5 conductor (No. 14 AWG).	95 L.F.
8085	Furnish and install electrical cable - 7 conductor (No. 14 AWG).	1325 L.F.
8086	Furnish and install tray cable - 2 conductor (No. 12 AWG).	425 L.F.
8087	Furnish and install loop wire encased in flexible tubing (No. 14 AWG).	900 L.F.
8088	Furnish and install saw cut for signal (loop detector).	290 L.F.
8091	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched	15 L.F.
8093	Install controller and cabinet base mount.	1 EA
8174A	Furnish and install Red or Green LED Traffic Signal Head Section	18 EA
8175A	Furnish and install Yellow LED Traffic Signal Head Section	9 EA
8104A	Cut and pull back electrical cable	610 L.F.

C. EQUIPMENT TO BE REMOVED

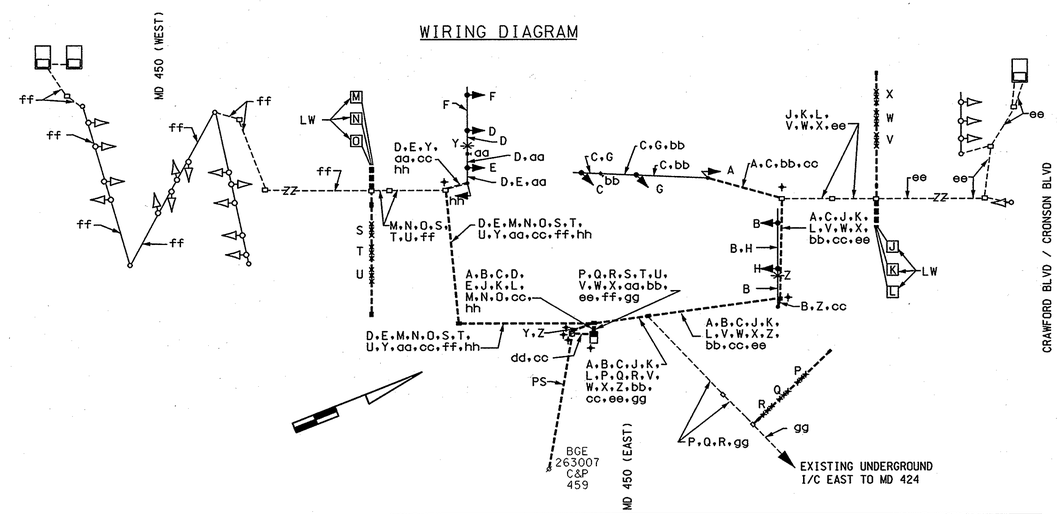
SHA Forces shall remove the controller and all auxilliary equipment from the controller cabinet. The cabinet and all other removed signal materials are to become property of the contractor.

PHASE CHART



	1	2	3	4	5	6	7	8	9
PHASE 2 & 5	R	R	R	◄G-	◄G-	G	G	R	R
5 CHANGE	R	R	R	◄Y-	◄Y-	G	G	R	R
PHASE 2 & 6	G	G	G	◄R-	◄R-	G	G	R	R
2 & 6 CHANGE	Y	Y	Y	◄R-	◄R-	Y	Y	R	R
PHASE 4	R	R	R	◄R-	◄R-	R	R	G	G
4 CHANGE	R	R	R	◄R-	◄R-	R	R	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/◄R-	FL/◄R-	FL/Y	FL/Y	FL/R	FL/R

WIRING DIAGRAM



WIRING KEY

- A, B, C, D, E, hh } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- F, G, H } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- J, K, L, M, N, O } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED
- P, Q, R } NON INVASIVE MICRO PROBE LEADIN CABLE (500')
- S, T, U, V, W, X } NON INVASIVE MICRO PROBE LEADIN CABLE (1000')
- Y, Z } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G)
- aa- CONTROL CABLE (300')
- bb- CONTROL CABLE (400')
- cc- STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- dd- 2-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- ee, ff } PROPOSED 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED)
- gg- EXISTING 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED)
- LW-LOOP WIRE (NO. 14 A.W.G.)
- PS -PROPOSED POWER SERVICE BY BGE
- + - GROUND ROD

TOD No: XX10654-62
SHA: AA287A5Q/B5Q

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 3 AND MD 450 (EAST)

CROFTON, MARYLAND

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy. N.W.
Glen Burnie, MD 21061
Ph (410) 590-5500
Fax (410) 590-6637

4855GI.dgn D6-34

SCALE NONE	DATE 8-9-05	CONTRACT NO. AT7175185	
DESIGNED BY JA		COUNTY ANNE ARUNDEL	
DRAWN BY RC		LOGMILE 02000300.22	
CHECKED BY		TIMS NO. H017	
F.A.P. NO.		TOD NO.	
TS NO. 624 E	DRAWING NO. OF	SHEET NO. 2 OF 2	

PLOTTED: $DATETIME$
FILE: $FILE$