DRILL HOLES

BORDER REV. DATE: June 1, 2004

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PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting and interconnect at the intersection of MD 3 Business (Crain Hwy) and Central Avenue / Post 40 Road in Anne Arundel County. The existing mast arm structure is old and shall be replaced with a new mast arm signal with metered pedestal service and Countdown pedestrian signals audible pushbuttons. MD 3 Business (Crain Hwy) is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA five-phase, semi-actuated mode, with the MD 3 Business (Crain Hwy) approaches running concurrently. The Exclusive/Permissive left turn phase for the northbound approach of MD 3 Business (Crain Hwy) shall continue to be provided The pedestrian phase across the south leg of MD 3 Business (Crain Hwy) shall now be a Countdown pedestrain phase with audible pushbutton actuation. The pedestrain phases on recall across Central Avenue / Post 40 Road shall now be Countdown pedestrain phase with audible pushbuttons. The Central Avenue / Post 40 Road shall also continue to run concurrently. The firehouse pre emption for the Central Avenue approach shall remain in operation.

2. The existing full-traffic-actuated, eight-phase controller with 2-wire Control Unit and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be utilized at this intersection.

3. SHA signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the SHA Signal Shop for testing and programming.

III. SPECIAL NOTES

1. The Contractor shall be responsible for terminating all signal cables, excluding 5 conductor "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.

4. APS will function as follows:

FOR CRAIN HIGHWAY

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Crain Highway."

b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

FOR CENTRAL AVENUE

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Central Avenue."

b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

FOR POST 40 ROAD

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Post 40 Road."

b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

The contact persons for District #5 are as follows:

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

Mr. Andre Futrell
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

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
9014	38' mast arm with 27' pole	1 EA
9017	40' mast arm with 21' pole	2 EA
9018	40' mast arm with 27' pole	1 EA
9066	Pedestal pole 10' w/T-base and anchor bolts.	3 EA

EQUIPMENT LIST (CONT.)

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

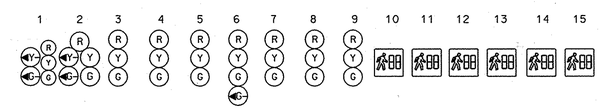
ITEM NO.	DESCRIPTION	QUANTITY
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	6 SF
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS CRAIN HIGHWAY" (9"X15").	2 EA
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS CRAIN HWY" (9"X15").	2 EA
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS POST 40 ROAD" (9"X15").	2 EA

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

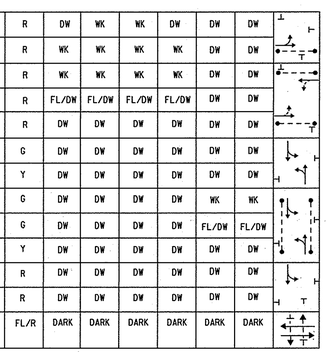
ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	2 EA
2002	Test Pit Excavation	3 C.Y.
5004	12" heat applied white permanent preformed thermoplastic pavement marking.	90 L.F.
1 6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	~~45 L.F.~~ 75 LF
1 6002	4" concrete sidewalk.	~~775 S.F.~~ 875 SF
8001	12" LED signal head section.	29 EA
8002	2 wire Central Control unit	1 EA
8004	8" LED signal head section.	3 EA
8005	Adjust existing handhole to grade including collar.	1 EA
8007	Any size lighting arm on signal pole with 250 watt HPS lamp & luminaire.	2 EA
8008	Audible/tactile pedestrian pushbutton station & signs.	6 EA
8012	Install Breakaway Pedestal pole (any size).	3 EA
8013	Install mast arm pole with single or twin mast arm.	4 EA
8014	LED 16" countdown pedestrian signal head.	6 EA
8022	Remove and dispose of existing material and equipment per assignment.	1 EA
8026	Video detection camera & cable up to 500'	1 EA
8032	Disconnect, pull back and reroute cable.	110 L.F.
1 8034	Schedule 80 rigid PVC conduit up tp 4" - slotted.	~~200 L.F.~~ 160 LF
8035	Schedule 80 rigid PVC conduit up tp 4" - trenched.	200 L.F.
8038	Detectable warning surfaces	130 S.F.
8039	Install overhead mounted sign. (includes existing signs to be relocated).	90 S.F.
8040	Remove and reinstall decorative brick sidewalk	250 S.F.
8041	No. 6 AWG stranded bare copper ground wire.	500 L.F.
8043	Metered service pedestal embedded.	1 EA
8045	Electrical cable 1-conductor No. 4 AWG THHN/THWN.	130 L.F.
8047	Furnish and install electrical handhole.	1 EA
8053	Electrical cable - 2 conductor (aluminium shielded)	770 L.F.
8054	Electrical cable - 2 conductor (No. 14 AWG).	800 L.F.
8056	Electrical cable - 5 conductor (No. 14 AWG).	955 L.F.
8057	Electrical cable - 7 conductor (No. 14 AWG).	890 L.F.
8058	Electrical cable - 2 conductor (No. 12 AWG) tray cable.	340 L.F.
8000 Neg	Painted Structure	7 EA

C. EQUIPMENT TO BE REMOVED

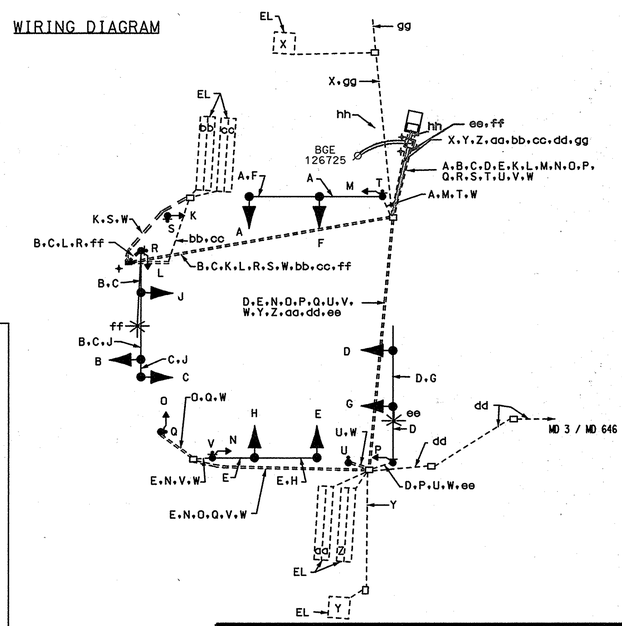
Any removed materials are to become property of the contractor.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PHASE 1 & 6	G-/G	G-/G	G	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
1 & 6 CHANGE	Y-/G	Y-/G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PHASE 2 & 6	G	G	G	G	G	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEAR / COUNTDOWN	G	G	G	G	G	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 & 8 ALT	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW	WK	WK
PED CLEAR / COUNTDOWN	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PRE EMPT 1	R	R	R	R	R	G/G-	G	R	R	DW	DW	DW	DW	DW	DW
PRE EMPT 1 CHANGE	R	R	R	R	R	Y	Y	R	R	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK



WIRING DIAGRAM



WIRING KEY

A, B, C, E } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

F, G, H, J, K, L, M, N, O, P } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

Q, S, T, U, V } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

W - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

X - EXISTING 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED

Y, Z, aa, bb, cc } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED SPLICED TO EXISTING LOOP WIRE

dd - EXISTING 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) TO CONTROLLER AT MD 3 / MD 648

ee, ff } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G)

gg - EXISTING FIREHOUSE PUSHBUTTON CABLE

hh - 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

EL - LOOP WIRE (NO. 14 A.W.G.) EXISTING

+ - GROUND ROD

REVISION "B"

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

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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

SHA

MD 3 BUSINESS (CRAIN HIGHWAY) AND CENTRAL AVENUE / POST 40 ROAD

GENERAL INFORMATION SHEET

SCALE NONE DATE 5/31/07 CONTRACT NO. AT9155185

DESIGNED BY JWA
DRAWN BY RC
CHECKED BY
F.A.P. NO.

COUNTY ANNE ARUNDEL
LOGMILE 02B00303.26
TIMS NO. 1130
TOD NO.

TS NO. 2375B | DRAWING NO. 2 OF 2 | SHEET NO. OF

PLOTTED: WEDNESDAY, JANUARY 02, 2008 AT 10:40 AM
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