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, interconnect and traffic surveillance camera at the intersection of MD 355 (Frederick Rd) and Redland Blvd / Redland Rd in Montgomery County. Countdown pedestrian signal heads with audible pushbuttons along with LED traffic signal heads shall replace the existing signal equipment. MD 355 (Frederick Rd) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA seven-phase, semi-actuated mode, with the MD 355 (Frederick Rd) approaches running concurrently. Exclusive/Permissive left turn phases shall remain in operation for both approaches of MD 355 (Frederick Rd). The pedestrian phase across the north leg of MD 355 (Frederick Rd) shall now be a Countdown pedestrian phase with audible pushbutton actuation. A new Countdown pedestrian phase with audible pushbutton actuation shall be provided across the south leg of this intersectioin. The pedestrian phases on recall across Redland Blvd / Redland Rd shall now be Countdown pedestrian phases with audible pushbuttons. Farside sampling stations on all legs of this intersection shall remain in operation. The Exclusive/Permissive left turn phase for the eastbound approach of Redland Blvd shall continue to be provided. The Redland Blvd / Redland Rd approaches shall also continue to run concurrently.

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

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

III. SPECIAL NOTES

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

2. All controller cabinet wiring will be performed by the Montgomery County Signal Shop Contact Mr. Keith Lord at (301) 674-8965 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 #3 (Montgomery County) are as follows:

Mr. Jeff Wentz
Assistant District Engineer - Traffic
Phone: (301) 513-7318

Mr. Wayne Mowdy
Assistant District Engineer - Maintenance
Phone: (301) 513-7304

Mr. Augie Rebish
District Engineer - Utility
Phone: (301) 513-7350

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

Mr. Keith Lord
Signal Shop (Mont Co.)
301-674-8965

Mr. Sonny Bailey
Sign Shop
410-787-7670

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9570	Sheet aluminum signs to consist of: (ground mount w/ hardware)	5 SF
	R4-7 "Keep Right (Symbolic)" sign, (24"x30")	1 EA
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	6 SF
	Pedestrian education R10-4(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS REDLAND BLVD").	2 EA
	Pedestrian education R10-4(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS REDLAND RD").	2 EA
	Pedestrian education R10-4(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS FREDERICK RD").	4 EA

EQUIPMENT LIST (CONT.)

B EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	2 EA
2001	Class 2 Excavation.	1.5 C.Y.
2002	Test Pit Excavation	8 C.Y.
5003	12" white heat applied permanent preformed thermoplastic pavement marking.	740 L.F.
5004	24" white heat applied permanent preformed thermoplastic pavement marking.	190 L.F.
5005	Removal of existing permanent pavement line markings	1350 L.F.
6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	125 L.F.
6002	4" concrete sidewalk.	650 S.F.
8001	12" LED (R,Y,G) signal head section.	50 EA
8002	15' lighting arm on existing structure.	1 EA
8003	2 wire Central Control unit	1 EA
8009	Adjust existing handhole to grade.	1 EA
8010	Audible/tactile pedestrian pushbutton station & signs.	8 EA
8011	Breakaway pedestal pole (10').	6 EA
8011	Breakaway pedestal pole (5').	2 EA
8014	LED 16" countdown pedestrian signal heads.	8 EA
8017	Remove and dispose of existing material & equipment per assignment.	1 EA
8023	Electrical cable - 2 conductor (No. 12 AWG). tray cable.	240 L.F.
8026	Schedule 80 rigid PVC conduit up tp 4" - trenched.	160 L.F.
8027	Detectable warning surfaces	64 S.F.
8029	Remove - reset decorative brick sidewalk.	315 SF
8030	Concrete for signal foundation.	5 CY
8033	No. 6 AWG stranded bare copper ground wire.	305 L.F.
8036	1" liquid tight flexible non-metallic conduit (detr sleeve).	10 L.F.
8044	Furnish and install electrical handhole.	1 EA
8046	Install overhead or ground mounted sign.	11 SF
8051	250 watt HPS lamp and luminare.	1 EA
8058	Electrical cable - 2 conductor (No. 14 AWG).	1790 L.F.
8060	Electrical cable - 5 conductor (No. 14 AWG).	1810 L.F.
8062	Loop wire encased in flexible tubing (No. 14 AWG).	410 L.F.
8063	Saw cut for signal (loop detector).	110 L.F.

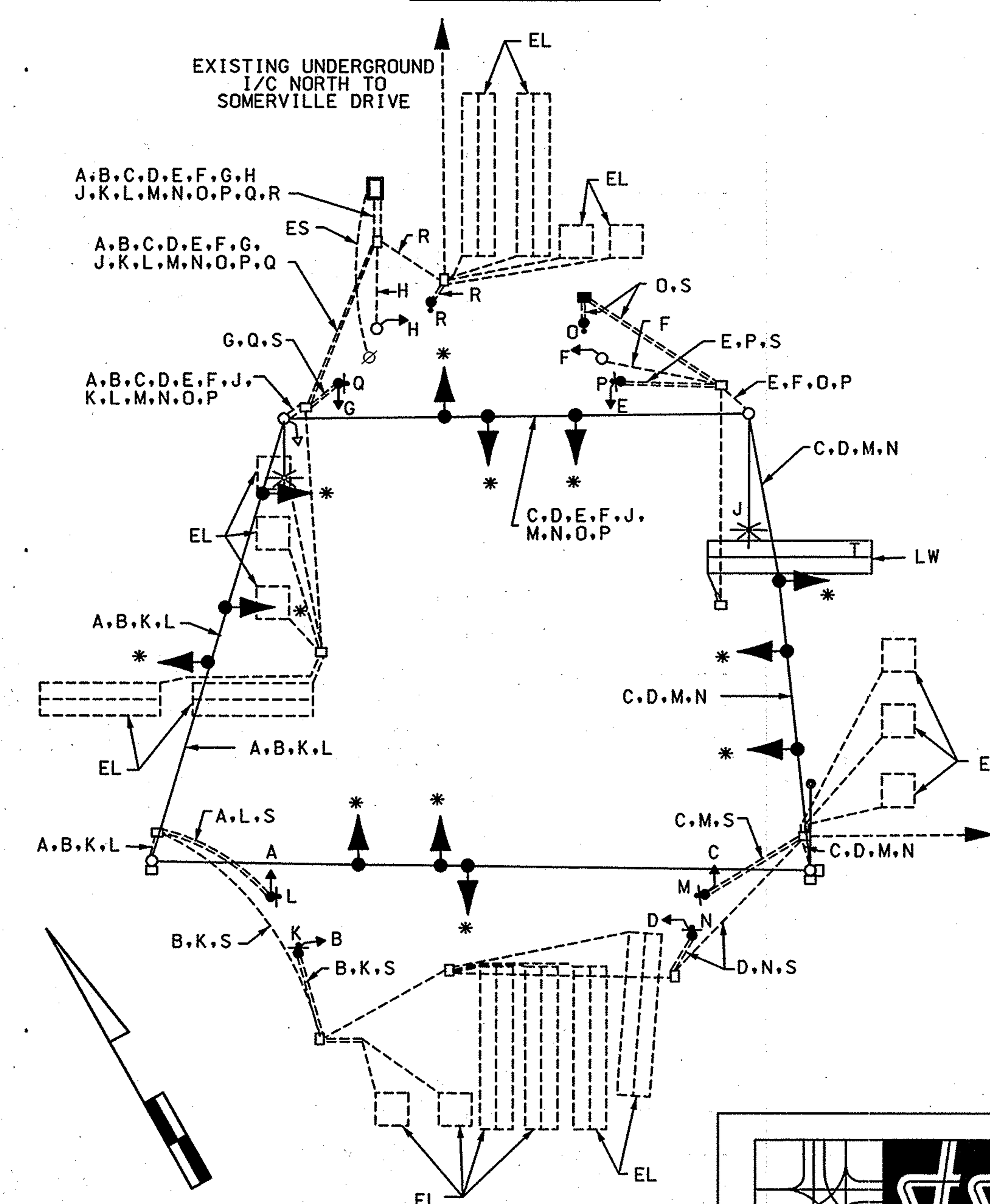
C. EQUIPMENT TO BE REMOVED

All removed signal materials are to become property of the contractor.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PHASE 1 & 5	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	R	R	R/-G►	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6																				
PHASE 1 & 6	R	R	R	◄G-/G	◄G-/G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
1 & 6 CHANGE	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 & 5	◄G-/G	◄G-/G	G	R	R	R	R	R	R/-G►	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
2 & 5 CHANGE	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R/-Y►	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEAR / COUNTDOWN	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 & 8	R	R	R	R	R	R	◄G-/G	◄G-/G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 & 8 CHANGE	R	R	R	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 & 8 ALT	R	R	R	R	R	R	◄G-/G	◄G-/G	G	R	R	R	DW	DW	DW	DW	DW	WK	WK	DW
3 & 8 ALT CHANGE	R	R	R	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	DW	DW	DW	DW	DW	WK	WK	DW
PHASE 4 & 8 ALT	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEAR / COUNTDOWN	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	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	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A B C D E F G H - 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

J - 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G)

K L M N O P Q R - 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

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

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

* - USE EXISTING CABLE

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

LW - LOOP WIRE (NO. 14 A.W.G.)

ES - PROPOSED UNDERGROUND SERVICE TO BE MAINTAINED BY PEPCO

TOD NO: AT925-03
SHA No.: MO281A53/B53
MD 355 @ Reland Blvd; Watkins Pond Blvd

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

5081aGI.dgn D6-87

PLOTTED: $DATETIME$
FILE: $FILE$

SHA
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 355 (FREDERICK ROAD) AND REDLAND BLVD./ REDLAND ROAD

GENERAL INFORMATION SHEET

SCALE NONE DATE 10/31/06 CONTRACT NO. AT9255185

DESIGNED BY J. ALLEN COUNTY MONTGOMERY
DRAWN BY R. C. LOGMILE 15035511.95
CHECKED BY ____ TIMS NO. G055
F.A.P. NO. ____ TOD NO. ____

TS NO. 3665C DRAWING NO. 2 OF 2 SHEET NO. OF

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