DRILL HOLES

BORDER REV. DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing strain pole Traffic Control Signal with street lighting at the intersection of MD 189 (Falls Rd) and Wootton Pkwy in Montgomery County. The existing pedestrian equipment shall be replaced by Countdown pedestrian signal heads and audible pushbuttons. MD 189 (Falls Rd) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA eight-phase, semi-actuated mode, with the MD 189 (Falls Rd) approaches running concurrently. Exclusive left turn phases for both approaches of MD 189 (Falls Rd) shall remain in operation. The pedestrian phases across both legs of MD 189 (Falls Rd) shall now be Countdown pedestrian phases with audible pushbutton actuation. The pedestrian phases across Wootton Pkwy on recall shall now be Countdown pedestrian phases with audible pushbuttons. The Exclusive/Permissive left turn phases for both approaches of Wootton Pkwy shall remain in operation. The Wootton Pkwy 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.

3. 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 Montgomery County Forces. Contact Kamal Hamud at (240) 777-8761 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 MD 189 (FALLS RD)

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

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

FOR WOOTTON PARKWAY

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

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 #3 (Montgomery County) are as follows:

Mr. Jeff Wentz
Assistant District Engineer - Traffic
Phone: (301) 513-7358

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
Montgomery County Signal Shop
(301) 674-8965

Mr. Sonny Bailey
Sign Shop
410-787-7676

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9570	Sheet aluminum signs to consist of: (ground mount)	25 SF
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS FALLS ROAD")	4 EA
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS WOOTTON PKWY")	4 EA
	W11-2 "PEDESTRIAN CROSSING (SYMBOLIC)" sign, (30" x 30") ground with hardware	2 EA
	W16-7P(L) "arrow (symbolic)" diagonal sign, (15" x 21") pole mounted.	2 EA

EQUIPMENT LIST (CONT.)

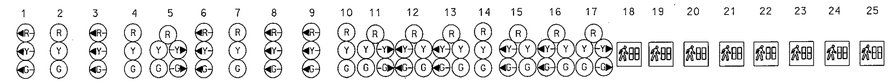
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	1 EA
2001	Class 2 Excavation.	2 C.Y.
2002	Test Pit Excavation	9 C.Y.
6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	400 L.F.
6002	5" concrete sidewalk.	1850 S.F.
8001	12" LED signal head section.	59 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')	5 EA
8011	Breakaway pedestal pole (5')	3 EA
8012	Conduit bend in existng base.	1 EA
8014	LED 16" countdown pedestrian signal heads.	8 EA
8016	Remove and dispose of existing material & equipment per assignment.	1 EA
8025	Schedule 80 rigid PVC conduit up tp 4" - bored.	175 L.F.
8027	Schedule 80 rigid PVC conduit up tp 4" - trenched.	230 L.F.
8028	Detectable warning surfaces	160 S.F.
8031	Wood sign supports 4"x4".	55 L.F.
8033	No. 6 AWG stranded bare copper ground wire.	170 L.F.
8044	Furnish and install electrical handhole.	3 EA
8045	Install ground mounted sign.	25 SF
8055	Electrical cable - 2 conductor (No. 14 AWG).	2315 L.F.
8057	Electrical cable - 5 conductor (No. 14 AWG).	2320 L.F.
8058	Electrical cable - 7 conductor (No. 14 AWG).	150 L.F.

C. EQUIPMENT TO BE REMOVED

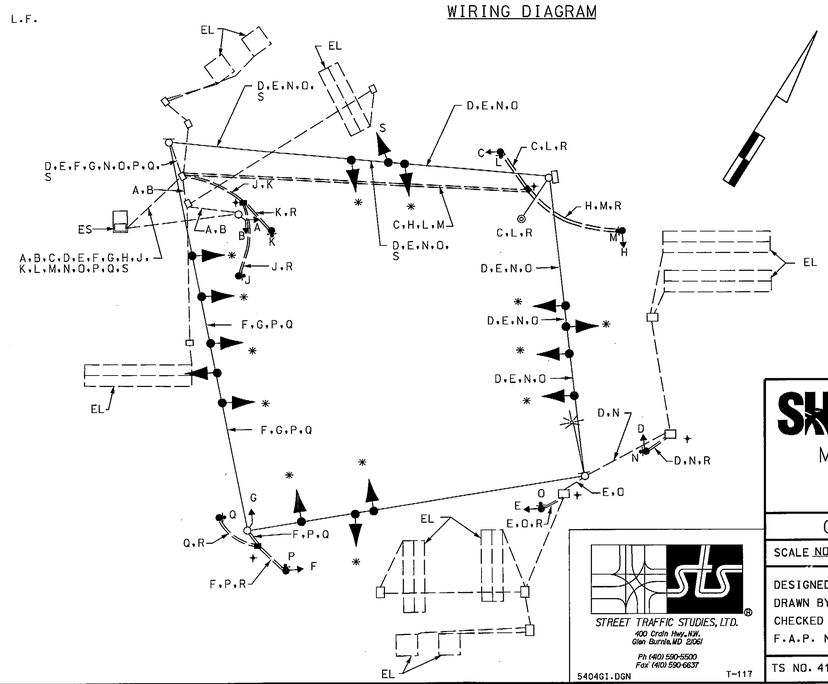
All removed signal materials are to become property of the contractor.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
PHASE 1 & 5	◄G-		◄G-	R	R	◄G-		◄G-	◄G-	R	R	R	R	R	R	R	R/-G►	DW	DW	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6																									
PHASE 1 & 6	◄G-	REMOVED FROM SPAN WIRE	◄G-	G	G	◄R-	REMOVED FROM SPAN WIRE	◄R-	◄R-	R	G	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
1 & 6 CHANGE	◄Y-		◄Y-	G	G	◄R-		◄R-	◄R-	R	G	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 & 5	◄R-		◄R-	R	R	◄G-		◄G-	◄G-	G	R	R	R	R	R	R	R/-G►	WK	DW	DW	WK	DW	DW	DW	DW
2 & 5 CHANGE	◄R-		◄R-	R	R	◄Y-		◄Y-	◄Y-	G	R	R	R	R	R	R	R/-Y►	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 & 6	◄R-		◄R-	G	G	◄R-		◄R-	◄R-	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEAR / COUNTDOWN	◄R-		◄R-	G	G	◄R-		◄R-	◄R-	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	◄R-		◄R-	Y	Y	◄R-		◄R-	◄R-	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 & 7	◄R-		◄R-	R	R/-G►	◄R-		◄R-	◄R-	R	R/-G►	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	DW	DW	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 3 & 8, 4 & 7 OR 4 & 8																									
PHASE 3 & 8	◄R-	REMOVED FROM SPAN WIRE	◄R-	R	R/-G►	◄R-	REMOVED FROM SPAN WIRE	◄R-	◄R-	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW	DW	DW	DW	DW
3 & 8 CHANGE	◄R-		◄R-	R	R/-Y►	◄R-		◄R-	◄R-	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 7	◄R-		◄R-	R	R	◄R-		◄R-	◄R-	R	R/-G►	◄G-/G	◄G-/G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
4 & 7 CHANGE	◄R-		◄R-	R	R	◄R-		◄R-	◄R-	R	R/-Y►	◄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-	◄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-	◄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/-G►	◄R-		◄R-	◄R-	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW	WK	DW	DW	WK
3 & 8 ALT CHANGE	◄R-		◄R-	R	R/-Y►	◄R-		◄R-	◄R-	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW	WK	DW	DW	WK
PHASE 4 & 7 ALT	◄R-		◄R-	R	R	◄R-		◄R-	◄R-	R	R/-G►	◄G-/G	◄G-/G	G	R	R	R	DW	DW	DW	DW	DW	WK	WK	DW
4 & 7 CHANGE ALT	◄R-		◄R-	R	R	◄R-		◄R-	◄R-	R	R/-Y►	◄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-	◄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-	◄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-	◄R-	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/◄R		FL/◄R	FL/Y	FL/Y	FL/◄R		FL/◄R	FL/◄R	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

S } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

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

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

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

✱ - USE EXISTING CABLE

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

ES - EXISTING SERVICE TO BE MAINTAINED BY PEPCO

+ - GROUND ROD

TOD NO: XX4942
SHA NO: M0205456/854
MD 189@ WOOTTON PKWY

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 189 (FALLS RD) AND WOOTTON PARKWAY

ROCKVILLE, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 10/28/08 CONTRACT NO.

DESIGNED BY James Allen Jr. COUNTY MONTGOMERY
DRAWN BY James Allen Jr. LOGMILE 15018906.41
CHECKED BY TIMS NO. 1644
F.A.P. NO. TOD NO.

TS NO. 4179C | DRAWING NO. 2 OF 2 | SHEET NO. OF

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

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