DRILL HOLES

BORDER REV: DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing mast arm Traffic Control Signal with street lighting and interconnect at the intersection of MD 190 (River Rd) and Beech Tree Rd / Nevis Rd in Montgomery County. The existing traffic signals shall be replaced by LED traffic signals. Also, the existing pedestrian signals shall be replaced by Countdown pedestrian signals with audible pushbuttons. Video detection shall be installed for all approaches.
MD 190 (River Rd) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA six-phase, semi-actuated mode, with the MD 190 (River Rd) approaches running concurrently. The Exclusive/Permissive left turn phases for both approaches of MD 190 (River Rd) shall continue to be provided. The pedestrian phase across the east leg of MD 190 (River Rd) shall now be a Countdown pedestrian phase with audible pushbutton actuation. The Beech Tree Rd / Nevis Rd approaches shall also continue to run concurrently.

2. Video interface and 2-wire Control Unit shall be installed into the existing full-traffic-actuated, eight-phase controller housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

3. Montgomery County Signal Shop shall install APS control unit into controller cabinet. The APS push buttons should be delivered to Bob Ricketts at Montgomery County Traffic for programming at least two weeks prior to the beginning of work.

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.

The contacts for Montgomery County and SHA are as follows:

Ms. Anyesha Mookherjee
Assistant District Engineer - Traffic
Phone: (301) 513-7318

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

Mr. Vernon Stinnett
Assistant District Engineer - Maintenance
Phone: (301) 513-7304

Mr. Mike Kinney
Signal Shop (Mont Co.)
240-777-8760

Mr. Victor Grafton
Assistant District Engineer - Utility
Phone: (301) 513-7350

Mr. Sonny Bailey
Manager, Sign Shop Operations
410-787-7670

Mr. Bob Ricketts
Mont. County Traffic
240-876-3681

Mr. Kamal Hamud
Mont. County TMC Center
240-777-8761

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9086	Video detection interface equipment: 1-4 cameras (To be installed by signal shop).	1 EA
9570	Sheet aluminum signs to consist of: (ground mount)	16.5 SF
	S1-1 "SCHOOL" sign, (30" x 30") FY/G	2 EA
	W16-7P(L) "arrow (symbolic)" diagonal sign, (12" x 24") pole mounted.	2 EA
9571	Sheet aluminum signs to consist of: (pole mount)	2 SF
	Pedestrian education R10-3(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS CROSS RIVER ROAD".)	2 EA

EQUIPMENT LIST (CONT.)

B EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

	ITEM NO.	DESCRIPTION	QUANTITY
	1003	Maintenance of traffic per assignment.	2 EA
1	2001	Class 2 Excavation.	3 ~~2~~ C.Y.
	2002	Test Pit Excavation	2 C.Y.
	5003	Removal of existing pavement line markings.	675 L.F.
1	5004	12" white permanent preformed thermoplastic pavement marking.	540 ~~510~~ L.F.
	5005	24" white permanent preformed thermoplastic pavement marking.	140 L.F.
1	6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	170 ~~130~~ L.F.
1	6002	5" concrete sidewalk.	565 ~~410~~ S.F.
1	6003	Detectable warning surfaces for curb ramps.	64 ~~44~~ S.F.
	6004	Traffic barrier "W" beam using 6 foot post	10 L.F.
	6006	Type K traffic barrier end treatment.	1 EA
	8001	12" LED signal head section.	44 EA
	8002	2 wire Central Control unit	1 EA
	8008	Audible/tactile pedestrian pushbutton station & signs.	2 EA
	8009	Breakaway pedestal pole (10')	2 EA
	8016	LED 16" countdown pedestrian signal head.	2 EA
	8024	Remove and dispose of existing material & equipment per assignment.	1 EA
	8028	Video detector camera & cable any length.	4 EA
	8036	Schedule 80 rigid PVC conduit up to 4" - trenched.	60 L.F.
	8038	Install overhead or ground mounted sign.	18.5 SF
	8040	No. 6 AWG stranded bare copper ground wire.	70 L.F.
	8051	Electrical cable - 2 conductor (No. 14 AWG).	220 L.F.
	8053	Electrical cable - 5 conductor (No. 14 AWG).	230 L.F.
	8054	Electrical cable - 7 conductor (No. 14 AWG).	95 L.F.

C. EQUIPMENT TO BE REMOVED

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

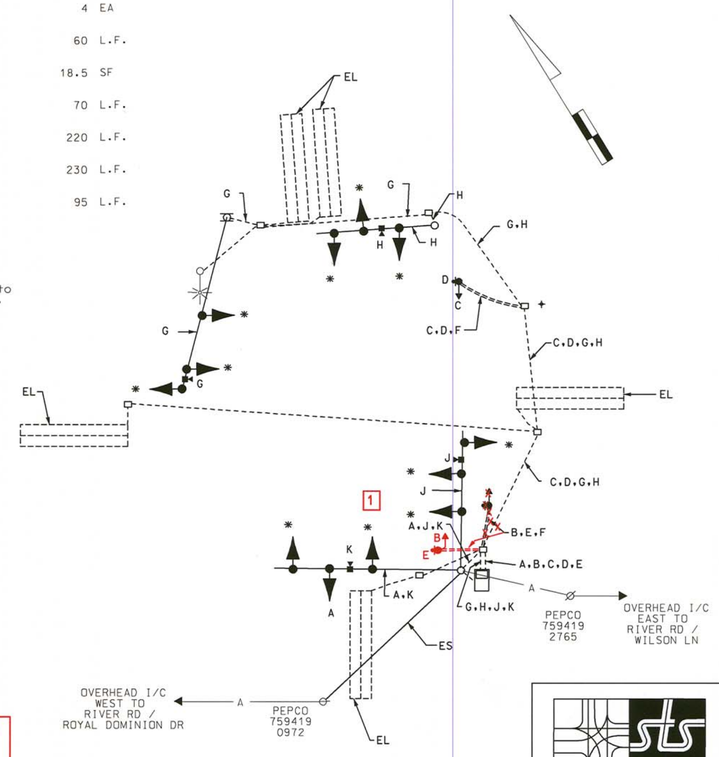
1 Redline Revision
Dated October 18, 2011

SHA MDOT - SHA O.O.T.S.
10/18/11
S.H.A. Approval Date
T.S. # 2540E T.I.M.S. # K514

PHASE CHART

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

WIRING DIAGRAM



WIRING KEY

A - 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
B, C - 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
D, E - 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
F - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
G, H, J, K - CONTROL CABLE (CAMERA TO CONTROLLER) ANY LENGTH
* - USE EXISTING CABLE
EL - LOOP WIRE (NO. 14 A.W.G.) EXISTING
ES - EXISTING OVERHEAD SERVICE TO BE MAINTAINED BY PEPCO
+ - GROUND ROD

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 190 (RIVER RD) AND BEECH TREE RD./ NEVIS RD.

BETHESDA, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 2/9/11 CONTRACT NO. XX3545168R

DESIGNED BY J.W.A. COUNTY MONTGOMERY
DRAWN BY R.C. LOGMILE 15019012.35
CHECKED BY TIMS NO. K514
F.A.P. NO. TOD NO.

TS NO. 2504E | DRAWING NO. 3 OF 3 | SHEET NO. OF

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

589761.dgn T-72

PLOTTED: $DATETIME$
FILE: $FILE$