DRILL HOLES

BORDER REV. DATE: June 1, 2004

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PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal with interconnect at the intersection of MD 187 (Old Georgetown Road) and Executive Blvd in Montgomery County. At Executive Blvd, the existing strain pole Traffic Signal shall be replaced with a new mast arm Traffic Signal. Video detection shall be used for all directions. MD 187 (Old Georgetown Road) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

MD 187 (Old Georgetown Road) / Executive Blvd

1. The intersection is to operate in a NEMA six-phase, semi-actuated mode, with the MD 187 (Old Georgetown Road) approaches running concurrently. An Exclusive/Permissive left turn phase shall be provided for the northbound approach and an Exclusive phase for southbound approach of MD 187 (Old Georgetown Road). Countdown Pedestrian phases with pushbutton actuation shall be provided across both legs of MD 187 (Old Georgetown Road). The pedestrian phases across Executive Blvd shall be on recall with countdown peds. An Exclusive/Permissive left turn phase shall be provided for the eastbound approach of Executive Blvd. The Executive Blvd approaches shall also run concurrently.

2. A full-traffic-actuated, eight-phase controller with 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. Disconnecting and splicing of interconnect cable shall be performed by Montgomery County Forces. The contractor shall run the interconnect cable into the base of each cabinet and properly tag the cable. Contact Dr. Wilhelm DerMinassian at (240) 777-8795 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. Contact Mr. Mike Kinney at (240) 777-8760 seventy-two hours in advance of intended work for wiring of traffic surveillance camera.

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9042	Controller ASC 2 with telemetry	1 EA
9044	Controller cabinet, size "6"	1 EA
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)	44 SF
	W16-7p "Arrow" sign (24"x12")	4 EA
	S1-1 "SCHOOL CROSSING (Symbolic)" sign (36" x 36")	4 EA
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	109 SF
	D3-2 "Executive Blvd" sign, (variable x 16") mast arm mount.	2 EA
	D3-2 "Old Georgetown" sign, (variable x 16") mast arm mount.	2 EA
	R10-10L "LEFT TURN SIGNAL" sign (24" x 30")	1 EA
	R3-2 "NO LEFT TURN (Symbolic)" sign, (30" X 30") mast arm mount.	1 EA
	GUIDE SHIELD ASSEMBLY (36"x75") pole mounted. M3-3 "SOUTH"(30"X15") M1-5 "MD 187"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (36"x75") pole mounted. M3-1 "NORTH"(30"X15") M1-5 "MD 187"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (24"x51") pole mounted. M3-3 "SOUTH"(24"X12") M1-5 "MD 187"(30"X24") M6-1 "right arrow "(21"X15")	1 EA
	GUIDE SHIELD ASSEMBLY (24"x51") pole mounted. M3-1 "NORTH"(24"X12") M1-5 "MD 187"(30"X24") M6-1 "right arrow "(21"X15")	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
2001	Class 2 Excavation.	5 C.Y.
2002	Test Pit Excavation	13 C.Y.

EQUIPMENT LIST (CONT.)

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

ITEM NO.	DESCRIPTION	QUANTITY
5005	12" white heat applied permanent preformed thermoplastic pavement marking.	180 L.F.
6002	Depressed curb and gutter.	60 L.F.
6003	Standard type A combination curb and gutter 12" gutter pan 8" depth.	10 L.F.
6005	4" concrete sidewalk.	690 S.F.
8001	Furnish and install concrete for signal foundation.	22 C.Y.
8014	Pre-manufactured camera to controller (200' length) cable	1 EA
8015	Pre-manufactured camera to controller (300' length) cable	2 EA
8016	Pre-manufactured camera to controller (400' length) cable	1 EA
8078	Furnish and install steel pole with a Single 60 Foot mast arm	4 EA
8021	LED 16" Countdown pedestrian signal head	8 EA
8027	Furnish and install breakaway pedestal pole (10').	3 EA
8029	Remove and dispose of existing material and equipment per assignment.	1 EA
8037	Furnish and install electrical cable - 3 wire, 1 conductor (no. 250 KCMIL)	140 L.F.
8040	Detectable warning system (truncated domes).	96 SF
8043	Furnish and install wood sign supports 4" x 6".	68 L.F.
8044	Furnish and install No. 6 AWG stranded bare copper ground wire.	1305 L.F.
8050	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - bored.	345 L.F.
8051	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched.	25 L.F.
8052	Furnish and install 3" schedule 80 rigid polyvinyl chloride - trenched.	460 L.F.
8053	Furnish and install 4" schedule 80 rigid polyvinyl chloride - trenched.	65 L.F.
8056	Furnish and install 4" schedule 80 rigid polyvinyl chloride - slotted.	250 L.F.
8057	Furnish and install 1" liquid tight flexible non-metallic conduit for detector sleeve.	10 L.F.
8058	Metered service pedestal.	1 EA
8061	Furnish and install electrical cable 1-conductor No. 4 AWG THHN/THWN.	30 L.F.
8067	Furnish and install electrical handhole.	7 EA
8069	Install ground mounted sign.	44 S.F.
8070	Install overhead sign.	109 S.F.
8071	Furnish and install video detector camera.	4 EA
8091	Furnish and install ground rod -3/4" x 10'.	9 EA
8093	Furnish and install 12" vehicular traffic signal head section	47 EA
8098	Furnish and install electrical cable - 2 conductor (aluminum shielded) (No. 14 AWG)	590 L.F.
8099	Furnish and install electrical cable - 2 conductor (No. 14 AWG).	720 L.F.
8101	Furnish and install electrical cable - 5 conductor (No. 14 AWG).	1540 L.F.
8102	Furnish and install electrical cable - 7 conductor (No. 14 AWG).	2360 L.F.
8104	Furnish and install loop wire encased in flexible tubing (No. 14 AWG).	480 L.F.
8105	Furnish and install saw cut for signal (loop detector).	150 L.F.
8106	Pedestrian pushbutton and R10-4(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS OLD GEORGETOWN RD").	4 EA
8112	Install controller and cabinet base mount.	1 EA

C. EQUIPMENT TO BE REMOVED

MCDPW&T 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.

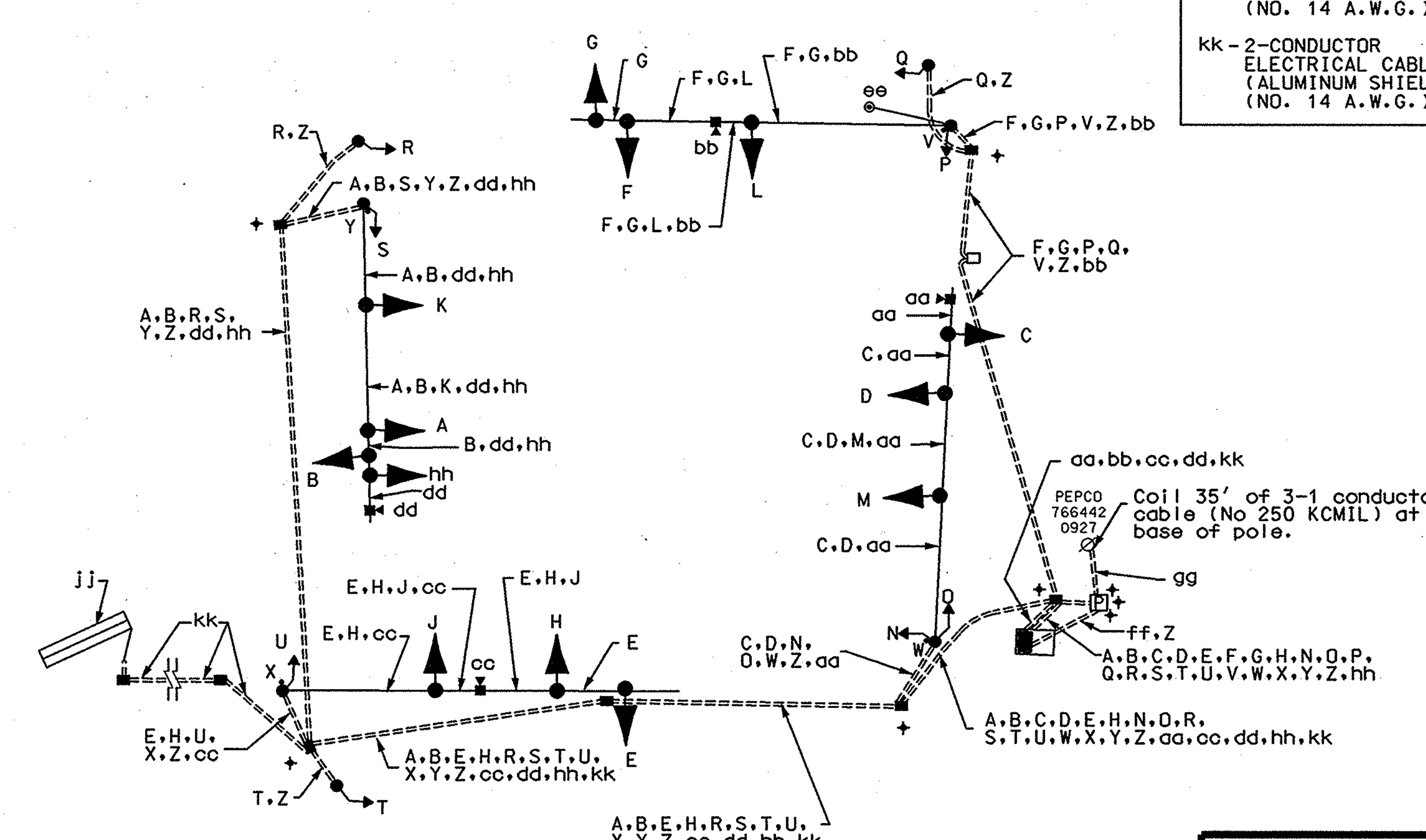
PHASE CHART

MD 187 (OLD GEORGETOWN RD)
AND EXECUTIVE BLVD

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
PHASE 1 & 5	◄G-/R	◄G-/R	R	◄G-	◄G-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	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	R	DW	WK	WK	DW	DW	DW	DW	DW
1 & 6 CHANGE	◄Y-/G	◄Y-/G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	◄G-	◄G-	G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
2 & 5 CHANGE	R	R	R	◄Y-	◄Y-	G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEAR	G	G	G	◄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	Y	Y	Y	◄R-	◄R-	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 7	R	R	R	◄R-	◄R-	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 & 7 CHANGE	R	R	R	◄R-	◄R-	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	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	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 7 ALT	R	R	R	◄R-	◄R-	R	R	R	R	R	◄G-/G	◄G-/G	G	DW	DW	DW	DW	DW	WK	WK	DW
4 & 7 ALT CHANGE	R	R	R	◄R-	◄R-	R	R	R	R	R	◄Y-/G	◄Y-/G	G	DW	DW	DW	DW	DW	WK	WK	DW
PHASE 4 & 8 ALT	R	R	R	◄R-	◄R-	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEARANCE	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	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	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

MD 187 (OLD GEORGETOWN RD)
AND EXECUTIVE BLVD



WIRING KEY

A B C D E F G H hh — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

J K L M N O P Q R S T U — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

V W X Y — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

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

aa - PRE MANUFACTURED CAMERA TO CONTROLLER CABLE (200')

bb, cc - PRE MANUFACTURED CAMERA TO CONTROLLER CABLE (300')

dd - PRE MANUFACTURED CAMERA TO CONTROLLER CABLE (400')

ee - TRAFFIC SURVEILLANCE CABLE TO BE WIRED BY MONTGOMERY COUNTY FORCES

ff - 2-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

gg - 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 250 KCMIL)

+ - GROUND ROD

WIRING KEY (CONTINUED)

jj - LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)

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

The contact persons for District #3 (Montgomery County) are as follows:

Mr. Lee Starkloff
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

Dr. Wilhelm DerMinassian
Montgomery County DPW&T
(240) 777-8795

Mr. Ed Rodenhizer
Signal Shop
410-787-7652

Mr. Sonny Bailey
Sign Shop
410-787-7670

The power company representative is:

Mr. Steve Custer
PEPCO Customer Design
201 W Guide Dr.,
Rockville, MD 20850
Phone: 301 548-4333

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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PLOTTED: $DATETIME$
FILE: $FILE$

SHA
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 187 (OLD GEORGETOWN RD) AND EXECUTIVE BLVD

SCALE NONE DATE 6/13/05 CONTRACT NO. AT7185185

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

COUNTY MONTGOMERY
LOGMILE 15018705.04
TIMS NO. G672
TOD NO. AT 718-10

TS NO. 4382AGI DRAWING NO. OF SHEET NO. 2 OF 2

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