DRILL HOLES

BORDER REV. DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal with interconnect at the intersection of MD 185 (Connecticut) and Beach Drive in Montgomery County. The existing strain pole signal shall be replaced with a new mast arm signal. Video detection shall be used for all approaches. MD 185 (Connecticut Ave) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA ~~six~~ five-phase, semi-actuated mode, with the MD 185 (Connecticut Ave) approaches continuing to run concurrently. An Exclusive/Permissive left turn phase shall be maintained for the northbound approach of MD 185 (Connecticut Ave). ~~A new Exclusive/Permissive left turn phase shall be provided for the southbound approach of MD 185 (Connecticut Ave).~~ The pedestrian phase with pushbutton actuation ~~shall be maintained~~ across the south leg of MD 185 (Connecticut Ave) shall now be a Countdown pedestrian phase. [1] **A new Countdown pedestrian phase shall be installed across the west leg of Beach Drive.** Farside sampling stations shall be provided on both legs of MD 185 (Connecticut Ave) at this intersection. The Beach Drive approaches shall also continue to 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 Mr. 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.

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

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

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9042	Controller ASC II 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
[1] 9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	~~111 SF~~ 97 SF
	D3-2 "Beach Drive" sign, (variable x16") (dual faced) mast arm.	2 EA
	R3-5L "LEFT TURN ONLY" sign, (30" x 36") mast arm	1 EA
	[1] ~~R10-12 "LEFT TURN YIELD ON GREEN (BALL)" sign, (36" x 42") mast arm.~~	~~2 EA~~
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-1 "NORTH"(30"X15") M1-5 "MD 185"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") pole mounted. M3-3 "SOUTH"(24"X12") M1-5 "MD 185"(30"X24") M6-1 "right arrow "(21"X15")	1 EA
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-3 "SOUTH"(30"X15") M1-5 "MD 185"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") pole mounted. M3-1 "NORTH"(24"X12") M1-5 "MD 185"(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

EQUIPMENT LIST

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

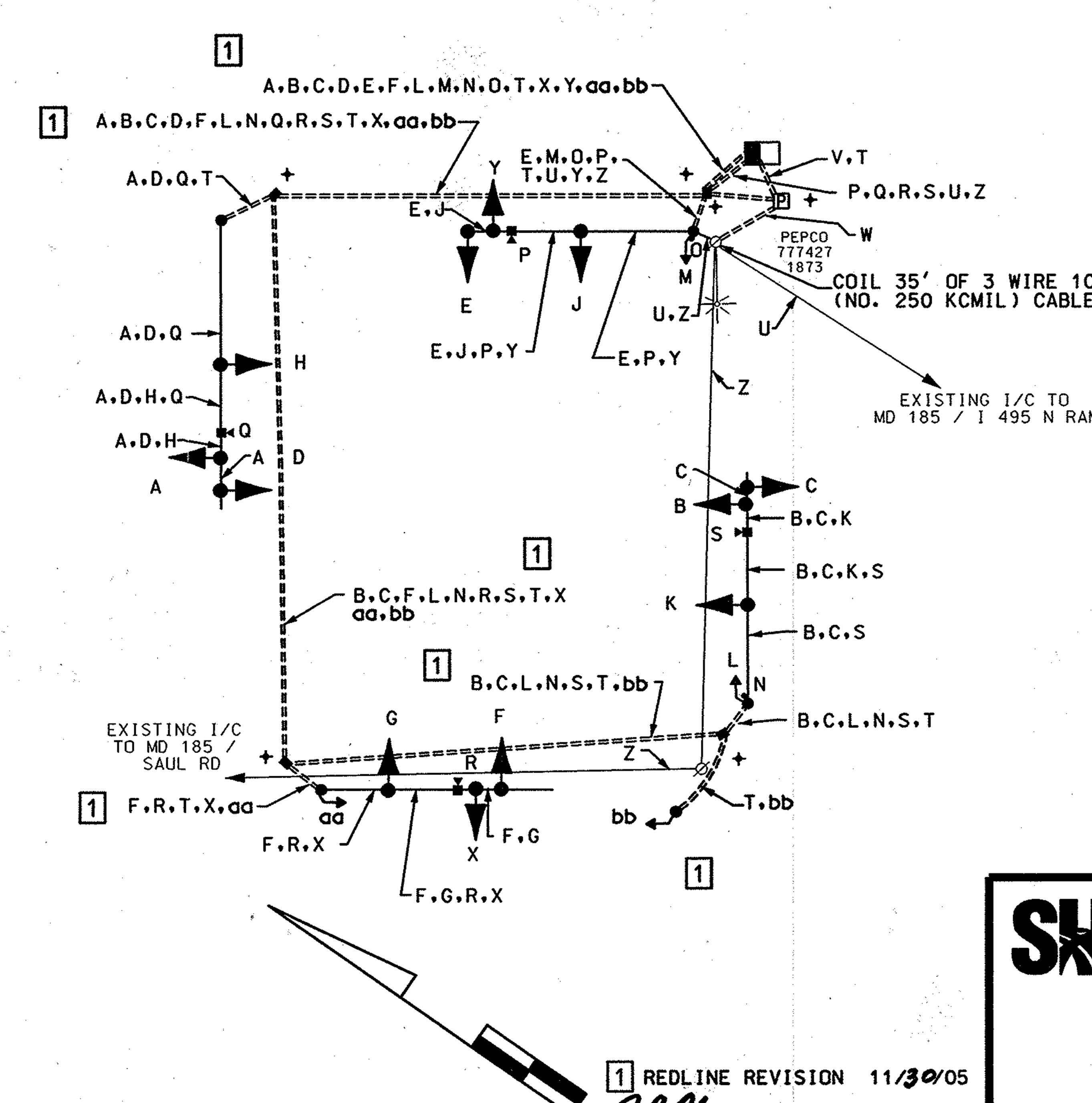
ITEM NO.	DESCRIPTION	QUANTITY
2001	Class 2 Excavation.	1.5 C.Y.
2002	Test Pit Excavation	7 C.Y. ~~6 C.Y.~~
5003	Removal of existing permanent pavement line markings	480 L.F.
5004	Removal of existing permanent marking arrow	2 EA
[1] 5005	12" white heat applied permanent preformed thermoplastic pavement marking.	~~505 L.F.~~ 215 LF
6002	Depress curb & gutter.	10 L.F.
6003	Standard type A combination curb and gutter 12" gutter pan 8" depth.	30 L.F.
[1] 8001	Furnish and install concrete for signal foundation.	16 C.Y. ~~15 C.Y.~~
[1] ~~8002~~	~~Furnish and install 12" pedestrian signal head section~~	~~4 EA~~
8013	Pre-manufactured camera to controller (100' length) cable	1 EA
8014	Pre-manufactured camera to controller (200' length) cable	1 EA
8015	Pre-manufactured camera to controller (300' length) cable	1 EA
8016	Pre-manufactured camera to controller (400' length) cable	1 EA
[1] **8021**	**LED 16" countdown pedestrian signal head.**	**4 EA**
[1] **8027**	**Breakaway pedestal pole (10').**	**1 EA**
8029	Remove and dispose of existing material and equipment per assignment.	1 EA
8037	Furnish and install electrical cable - 1 conductor (No. 250 KCMIL)	50 L.F.
8038	Disconnect, pull back and reroute cable.	90 L.F.
8040	Detectable warning surface (truncated domes).	32 S.F.
[1] 8044	Furnish and install No. 6 AWG stranded bare copper ground wire.	~~750 L.F.~~ 790 LF
8047	Weatherhead, 3 inch	1 EA
8050	Furnish and install 4" schedule 80 rigid polyvinyl chloride - bored.	320 L.F.
8051	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched.	25 L.F.
[1] 8052	Furnish and install 3" schedule 80 rigid polyvinyl chloride - trenched.	~~55 L.F.~~ 70 LF
8053	Furnish and install 4" schedule 80 rigid polyvinyl chloride - trenched.	25 L.F.
8058	Metered pedestal service.	1 EA
8061	Furnish and install electrical cable 1-conductor No. 4 AWG THHN/THWN.	35 L.F.
8067	Furnish and install electrical handhole.	5 EA
[1] 8070	Install overhead sign.	97 SF ~~119 SF~~
8071	Video detector camera.	4 EA
8077	Furnish and install 27'(cut to21') mast arm pole and 50' mast arm.	3 EA
8077	Furnish and install 27' mast arm pole and 50 (cut to 40') mast arm.	1 EA
8091	Furnish and install ground rod -3/4" x 10'.	6 EA
[1] 8093	Furnish and install 12" vehicular traffic signal head section	40 EA ~~44 EA~~
8096	Cut, clean, galvanize and cap traffic signal structure.	3 EA
8099	Furnish and install electrical cable - 2 conductor (No. 14 AWG).	365 L.F.
[1] 8101	Furnish and install electrical cable -5 conductor (No. 14 AWG).	~~470 L.F.~~ 1080 LF
8102	Furnish and install electrical cable -7 conductor (No. 14 AWG).	2025 L.F.
8106	Pedestrian pushbutton and R10-4(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS CONNECTICUT AVE".)	2 EA
8112	Install controller and cabinet base mount.	1 EA

PHASE CHART

[1]

	1	2	3	~~4~~	~~5~~	6	7	8	9	10	11	12	13	14	15	16
PHASE 1 & 5	◄G-/R	◄G-/R	R	R	R	R	R	R	R	R	R	R	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	DW	DW	DW	DW
1 & 6 CHANGE	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
~~PHASE 2 & 5~~	~~R~~	~~R~~	~~R~~	~~◄G-/G~~	~~◄G-/G~~	~~G~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~				
~~2 & 5 CHANGE~~	~~R~~	~~R~~	~~R~~	~~◄Y-/G~~	~~◄Y-/G~~	~~G~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~				
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	DW	DW
PED CLEAR / **COUNTDOWN**	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 4 & 8 ALT	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	WK	WK
PED CLEAR / **COUNTDOWN**	R	R	R	R	R	R	G	G	G	G	G	G	DW	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
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

WIRING DIAGRAM



[1] REDLINE REVISION 11/30/05
JAH

WIRING KEY

A B C D E F X Y } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

G H J K L M } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

N O } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

P - PRE MANUFACTURED CAMERA TO CONTROLLER CABLE (100')

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

R - PRE MANUFACTURED CAMERA TO CONTROLLER CABLE (300')

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

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

U Z } EXISTING 12-PAIR INTERCONNECT CABLE (SELF SUPPORTING)

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

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

aa bb } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

+ - GROUND ROD

C. EQUIPMENT TO BE REMOVED

SHA 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.

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 185 AND BEACH DRIVE

SCALE NONE	DATE 4/15/05	CONTRACT NO. AT7175185	
DESIGNED BY JA		COUNTY MONTGOMERY	
DRAWN BY RC		LOGMILE 15018502.83	
CHECKED BY		TIMS No: F106	
F.A.P. NO.			
DRAWING NO. TS 4386A - OF		SHEET NO. 2 OF 2	

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