

PROJECT DESCRIPTION

I. GENERAL

This portion of the project involves the reconstruction of existing Traffic Control Signals at the intersection of US 1 and MD 410 (East West Hwy) in Prince George's County. US 1 is assumed to run a north-south direction. The signal shall be interconnected to the adjacent traffic signal to the south at Queensbury Road.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA eight-phase, semi-actuated mode, with the US 1 approaches running concurrently. Exclusive/Permissive left turn phases shall be provided for both approaches of US 1. Pedestrian phases with pushbutton actuation shall be provided across both legs of US 1. The pedestrian phases across MD 410 (East West Hwy) shall be on recall. For side sampling stations shall be provided on both legs of US 1 at this intersection. Exclusive left turn phases shall be provided for both approaches of MD 410 (East West Hwy). The MD 410 (East West Hwy) approaches shall also run concurrently. Detection shall be provided via video detection.
- A full-traffic-actuated, eight-phase controller with all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.
- All contractor cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7650 seven-two hours in advance of intended work.
- 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.

EQUIPMENT LIST

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

ITEM NO.	DESCRIPTION	QUANTITY
9016	Detector amplifier 4-channel rack mount (To be installed into the cabinet by S.H.A. Forces).	1 EA
9042	Controller ASC II with telemetry	1 EA
9044	Controller cabinet, size "6"	1 EA
9087	Video detection interface equipment: 5-8 cameras (To be installed by signal shop).	1 EA
9570	Sheet aluminum signs to consist of: (ground mount)	52 SF
	GUIDE SIGN	
	M3-4 "WEST" (24"x12")	2 EA
	M1-5 "MD 410" (30"x24")	
	M6-1 "Right arrow" (21"x15")	
	GUIDE SIGN	
	M3-2 "EAST" (24"x12")	2 EA
	M1-5 "MD 410" (30"x24")	
	M6-1 "Left arrow" (21"x15")	
	GUIDE SIGN	
	M4-5A "10'" (24"x12")	1 EA
	M3-1 "NORTH" (24"x12")	
	M1-4 "US 1" (24"x24")	
	M6-1 "Left arrow" (21"x15")	
	R4-7 "KEEP RIGHT" (symbolic) sign, (24" x 30")	1 EA
9571	Sheet aluminum signs to consist of: (mast arm or pole mount)	130 SF
	D3-2 "East West Hwy" sign, (variable x 16") (dual faced) mast arm mounted.	2 EA
	D3-2 "Baltimore Ave" sign, (variable x 16") (dual faced) mast arm mounted.	2 EA
	R3-5R "RIGHT TURN ONLY" sign, (30" x 36") mast arm mounted.	2 EA
	R10-12 "LEFT TURN YIELD ON GREEN (BALL)" sign, (36" x 42") mast arm mounted.	2 EA
	R10-11b "NO TURN ON RED" sign, (24"x24"), mast arm mounted.	2 EA
	GUIDE SHIELD ASSEMBLY (36"x75") pole mounted.	1 EA
	M3-3 "SOUTH" (30"x15")	
	M1-4 "US 1" (36"x36")	
	M6-1 "Left arrow" (30"x24")	
	GUIDE SHIELD ASSEMBLY (36"x75") pole mounted.	1 EA
	M3-1 "NORTH" (30"x15")	
	M1-4 "US 1" (24"x24")	
	M6-1 "Right arrow" (21"x15")	

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

ITEM NO.	DESCRIPTION	QUANTITY
2001	Class 2 Excavation.	2.5 C.Y.
2002	Test Pit Excavation	11 C.Y.
5003	Remove existing pavement markings - any width.	1135 L.F.
5005	12" white heat applied permanent preformed thermoplastic pavement marking.	1180 L.F.
5006	24" white heat applied permanent preformed thermoplastic pavement marking.	165 L.F.
6001	Furnish and install depressed curb and gutter.	60 L.F.

EQUIPMENT LIST (CONT.)

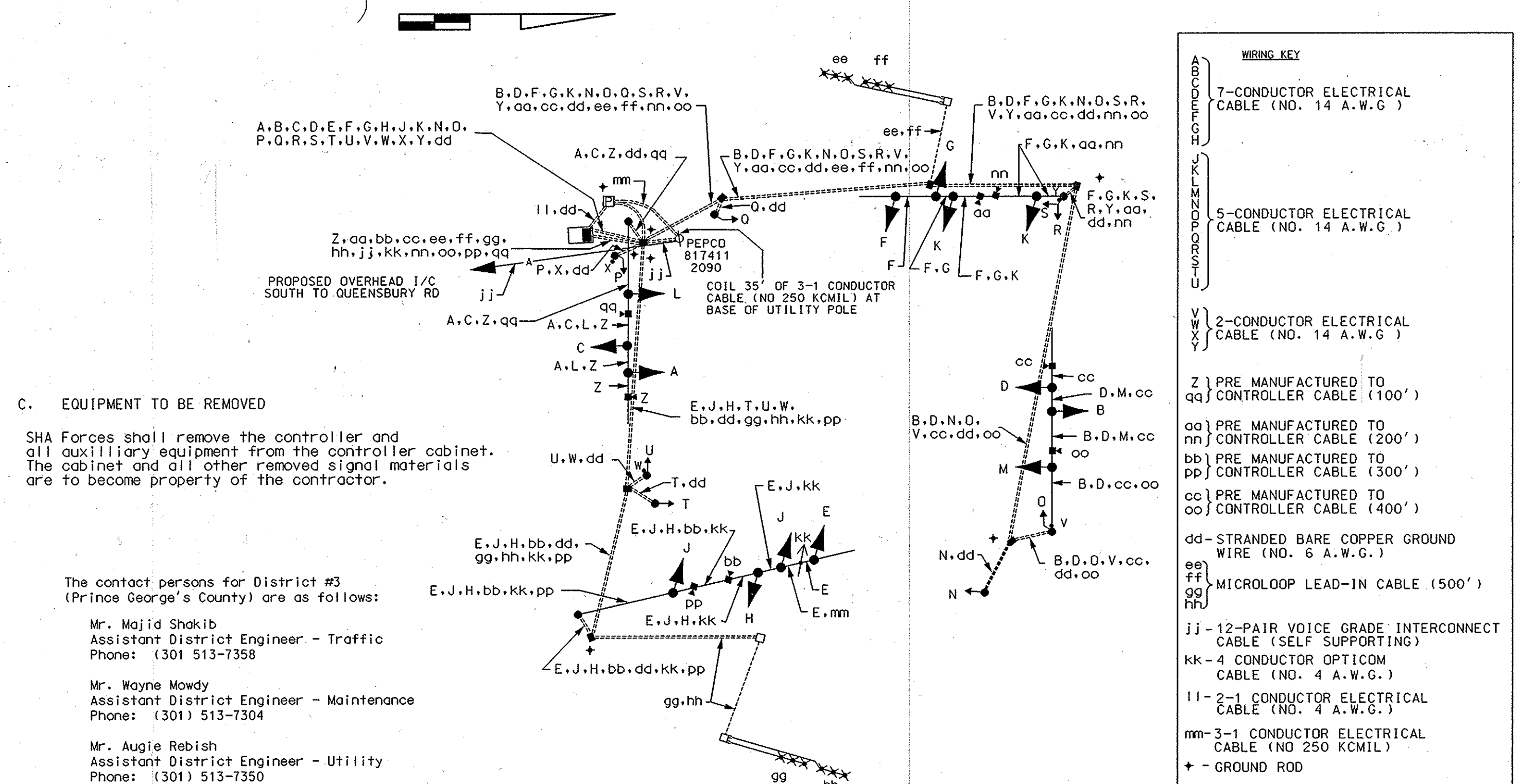
EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
6002	Standard type A combination curb and gutter, 12" gutter pan 8" depth.	40 L.F.
6003	Monolithic concrete median 4" type A-1.	5 L.F.
6004	4" concrete sidewalk.	430 S.F.
8001	Furnish and install concrete for signal foundation.	21 C.Y.
8002	Furnish and install 12" pedestrian signal head section.	16 EA
8007	Pre-manufactured camera to controller (100' length) cable.	2 EA
8008	Pre-manufactured camera to controller (200' length) cable.	2 EA
8009	Pre-manufactured camera to controller (300' length) cable.	2 EA
8010	Pre-manufactured camera to controller (400' length) cable.	2 EA
8018	Furnish and install breakaway pedestal pole (10').	5 EA
8019	Remove and dispose of existing material and equipment per assignment.	1 EA
8027	Detectable warning system (truncated domes).	96 SF
8030	Furnish and install wood sign supports 4" x 6".	110 L.F.
8031	Furnish and install No. 6 AWG stranded bare copper ground wire.	1110 L.F.
8034	Furnish and install 3" electrical conduit - galvanized riser.	70 L.F.
8035	Furnish and install 3" weatherhead.	2 EA
8038	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - bored.	365 L.F.
8039	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched.	35 L.F.
8040	Furnish and install 3" schedule 80 rigid polyvinyl chloride - trenched.	95 L.F.
8041	Furnish and install 4" schedule 80 rigid polyvinyl chloride - trenched.	75 L.F.
8045	Furnish and install 1" liquid tight flexible non-metallic conduit for detector sleeve.	20 L.F.
8046	Metered service pedestal.	1 EA
8048	Furnish and install electrical cable 1-conductor No. 4 AWG THHN/THWN.	30 L.F.
8050	Furnish and install microloop probe set with 500' lead-in.	4 EA
8054	Furnish and install electrical handhole.	7 EA
8056	Install ground mounted sign.	52 S.F.
8057	Install overhead sign.	130 S.F.
8058	Furnish and install video detector camera.	8 EA
8059	Furnish and install 3M opticom #76 discrimination module-4 channel.	1 EA
8061	Furnish and install 3M opticom #721 detector eye.	1 EA
8064	Furnish and install 27' (cut to 21') mast arm pole and 50' mast arm.	3 EA
8068	Furnish and install 27' (cut to 21') mast arm pole and 70' mast arm.	1 EA
8075	Furnish and install ground rod - 3/4" x 10'.	11 EA
8076	Furnish and install 8" vehicular traffic signal head section.	6 EA
8077	Furnish and install 12" vehicular traffic signal head section.	44 EA
8079	Furnish and install 4-conductor opticom detector cable.	225 L.F.
8080	Cut, clean, galvanize and cap traffic signal structure.	4 EA
8083	Furnish and install electrical cable - 2 conductor (No. 14 AWG).	530 L.F.
8085	Furnish and install electrical cable - 5 conductor (No. 14 AWG).	1625 L.F.
8086	Furnish and install electrical cable - 7 conductor (No. 14 AWG).	1675 L.F.
8089	Furnish and install saw cut for signal (loop detector).	100 L.F.
8090	Pedestrian pushbutton and R10-4(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS BALTIMORE AVE".)	4 EA
8096	Install controller and cabinet base mount.	1 EA
Neg.	Furnish and install electrical cable - 1 conductor (No. 250 KCMIL)	165 L.F.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
PHASE 1 & 5	←G-R	←G-R	R	←G-R	←G-R	R	←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-R	←G-R	G	R	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	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	←G-R	←G-R	G	←R	←R	R	R	←R	←R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
2 & 5 CHANGE	R	R	R	←Y-G	←Y-G	G	←R	←R	R	R	←R	←R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	←R	←R	R	R	←R	←R	R	R	WK	WK	WK	DW	DW	DW	DW	DW
PED CLEAR	G	G	G	G	G	G	←R	←R	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	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 & 7	R	R	R	R	R	R	←G	←G	R	R	←G	←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	R	R	R	R	R	←R	←R	R	R	←G	←G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
3 & 8 CHANGE	R	R	R	R	R	R	←R	←R	R	R	←Y	←Y	G	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 7	R	R	R	R	R	R	←G	←G	G	G	←R	←R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
4 & 7 CHANGE	R	R	R	R	R	R	←Y	←Y	G	G	←R	←R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	←R	←R	G	G	←R	←R	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	←R	←R	Y	Y	←R	←R	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 & 8 ALT	R	R	R	R	R	R	←R	←R	R	R	←G	←G	G	G	DW	DW	DW	DW	WK	DW	DW	WK
3 & 8 ALT CHANGE	R	R	R	R	R	R	←R	←R	R	R	←Y	←Y	G	G	DW	DW	DW	DW	WK	DW	DW	WK
PHASE 4 & 7 ALT	R	R	R	R	R	R	←G	←G	G	G	←R	←R	R	R	DW	DW	DW	DW	WK	WK	WK	WK
PHASE 4 & 8 ALT	R	R	R	R	R	R	←R	←R	G	G	←R	←R	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEARANCE	R	R	R	R	R	R	←R	←R	G	G	←R	←R	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	Y	Y	←R	←R	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PRE EMP	R	R	R	R	R	R	←G	←G	G	G	←R	←R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PRE EMP CHANGE	R	R	R	R	R	R	←Y	←Y	Y	Y	←R	←R	R	R	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	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



C. EQUIPMENT TO BE REMOVED

SHA Forces shall remove the controller and all auxiliary equipment from the controller cabinet. The cabinet and all other removed signal materials are to become property of the contractor.

The contact persons for District #3 (Prince George's County) are as follows:

Mr. Majid Shakib
Assistant District Engineer - Traffic
Phone: (301) 513-7358

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

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

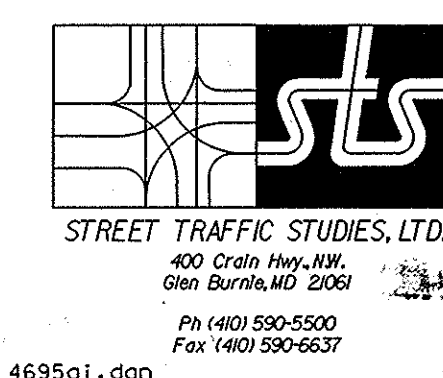
Mr. Richard L. Doff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

Mr. Ed Rodenhizer
Signal Shop
410-787-7652

Mr. Sonny Bailey
Signal Shop
410-787-7670

The power company representative is:

Mr. Richard Chilcoat
PEPCO
8300 Old Marlboro Pike
Upper Marlboro, MD 20772
Ph (410) 590-5500
Fax (410) 590-6637



Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

US 1 AND MD 410 (EAST WEST HWY)

DRAWN BY: RC	F.A.P. NO.	TS NO.	SHEET NO.
CHECKED BY: J. J. J.	S.H.A. NO. AT5665185	299	2 OF 2
SCALE: NONE	COUNTY: PRINCE GEORGE'S	T.I.M.S. NO. G633	
DATE: 2/15/05	LOG MILE: 16000102.61		