PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal, Signing and Marking at the intersection of MD 404 and MD 309 in Queen Anne's County. Left turn lanes shall be added in both directions along MD 404 at MD 309. MD 404 is assumed to run in an east-west direction.

II. INTERSECTION OPERATION

1. The intersection shall operate in a NEMA six-phase, fully-actuated mode, with the MD 404 approaches running concurrently. Exclusive/Permissive left turn phases shall be added on each approach of MD 404. The MD 309 approaches shall continue to run concurrently. An opticom detector eye shall be placed in the WB MD 404 direction, the existing NB MD 309 opticom detector eye shall remain.

2. One (4) four-channel loop detector amplifier shall be added to the existing full-traffic-actuated, eight-phase controller with all necessary equipment housed in a NEMA size "6" base-mounted cabinet.

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 the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7650 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.

EQUIPMENT LIST

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

CATEGORY CODE	DESCRIPTION	QUANTITY
963010	4 channel loop detector amplifier	1 EA
973023	SHEET ALUMINUM SIGNS	50 SF
	D3-2 "Starr RD" sign, (var x 16") span wire mounted.	2 EA
	D3-2 "Queen Anne's HWY" sign, (varx16") span wire mounted.	2 EA
	R10-12 "LEFT TURN YIELD ON GREEN" sign, (36"x42") span wire mounted.	2 EA

EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

CATEGORY CODE	DESCRIPTION	QUANTITY
585424	24 INCH LEAD FREE REFLECTIVE THERMOPLASTIC	120 LF
800000	RELOCATE EXISTING SIGNAL HEAD (USE EXISTING WIRING IF NECESSARY)	3 EA
800000	REMOVE AND DISPOSE EXISTING EQUIPMENT	1 LS
801607	INSTALL SHEET ALUMINUM SIGN	50 SF
802145	ADJUST EXISTING HANDHOLE	1 EA
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	50 LF
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	850 LF
805160	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE	120 LF
810550	MICROLOOP PROBE, 500 FOOT LEAD IN CABLE	2 EA
810555	MICROLOOP PROBE, 1000 FOOT LEAD IN CABLE	2 EA
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	7 EA
816215	OPTICOM NO. 721 DETECTOR EYE	1 EA
860270	8 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION	6 EA
860272	12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION	14 EA
860288	FURNISH AND INSTALL 4 CONDUCTOR OPTICOM CABLE	250 LF
861104	ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)	900 LF
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	1000 LF
862101	LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)	1600 LF
862102	SAW CUT FOR SIGNAL (LOOP DETECTOR)	800 LF

The contact persons for District #2 are as follows:

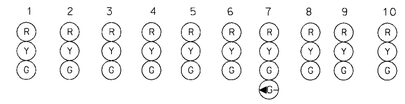
Mr. Robert Kiel
Assistant District Engineer - Traffic
Phone: (410) 810-3240

Mr. Terry Wright
Assistant District Engineer - Maintenance
Phone: (410) 810-3250

Mr. Barry Clothier
Assistant District Engineer - Utility
Phone: (410) 810-3060

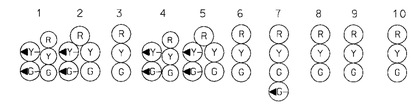
Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

MOT PHASE 1 CHART



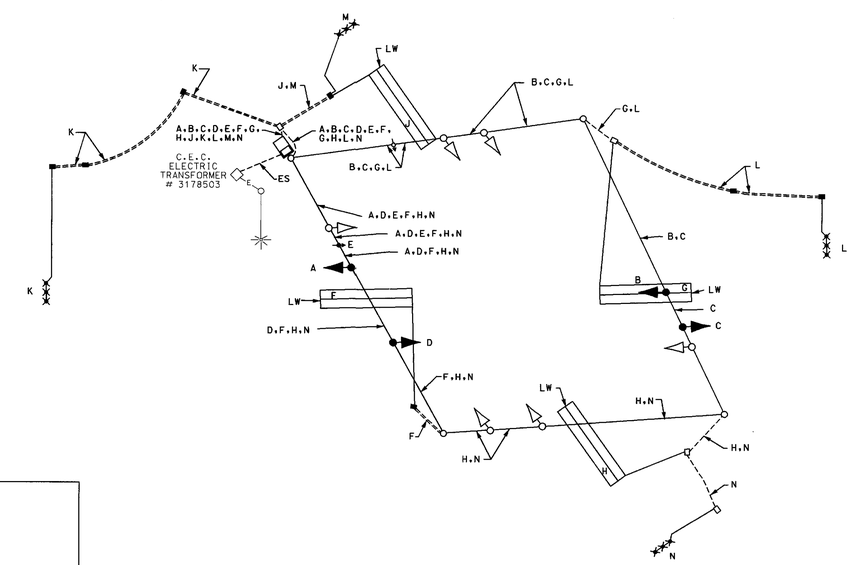
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y
EMERGENCY PRE-EMPTION PHASE 8	R	R	R	R	R	R	G / ◄G-	G	R	R
PRE-EMPTION PHASE 8 CHANGE	R	R	R	R	R	R	Y	Y	R	R
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

PHASE CHART (ULTIMATE SIGNAL)



PHASE 1 & 5	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	R	R	R	R
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
1 & 6 CHANGE	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R	R
PHASE 2 & 5	R	R	R	◄G-/G	◄G-/G	G	R	R	R	R
2 & 5 CHANGE	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	R
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y
EMERGENCY PRE-EMPTION PHASE 2 & 6	R/G	R/G	G	R/G	R/G	G	R	R	R	R
PRE-EMPTION PHASE 2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R
EMERGENCY PRE-EMPTION PHASE 8	R	R	R	R	R	R	◄G- / G	G	R	R
PRE-EMPTION PHASE 8 CHANGE	R	R	R	R	R	R	Y	Y	R	R
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

WIRING DIAGRAM



WIRING KEY

A, B, C, D } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

E - 4-CONDUCTOR OPTICOM DETECTOR CABLE (NO. 20 A.W.G.)

F, G, H, J } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED

K, L } MICROLOOP LEAD-IN CABLE (1000')

M, N } MICROLOOP LEAD-IN CABLE (500')

LW - LOOP WIRE (NO. 14 A.W.G.)

ES - EXISTING UNDERGROUND SERVICE TO BE MAINTAINED BY CHOPTANK ELECTRIC

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

4297GI.dgn

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 404 AND MD 309
GENERAL INFORMATION

DRAWN BY:	ROB CICCHINI	F.A.P. NO.	SEE TITLE SHEET	TS NO. 2428D-GI	SHEET NO.
CHECKED BY:	J. ALLEN Jr.	S.H.A. NO.	QA2375130		
SCALE:	NONE	COUNTY:	QUEEN ANNE'S	T.I.M.S. NO. F-507	OF
DATE:	11-18-02	LOG MILE:	17040400.48		