F.A.P. NO.	STATE	FEDERAL PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD	SEE TITLE SHEET	354	465

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE FINAL MODIFICATION FOR THE INSTALLATION OF THE ULTIMATE TRAFFIC SIGNAL CONTROL EQUIPMENT AT THE INTERSECTION OF MD 450 (ANNAPOLIS ROAD) AND FORBES BLVD. IN PRINCE GEORGES COUNTY. MD 450 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THIS INTERSECTION IS TO BE MODIFIED TO OPERATE IN A NEMA SEVEN-PHASE, FULLY-TRAFFIC-ACTUATED MODE. THERE WILL BE EXCLUSIVE/PERMISSIVE LEFT TURNS ON BOTH MD 450 APPROACHES. THE THROUGH MOVEMENTS ON MD 450 WILL OPERATE CONCURRENTLY WITH A CONCURRENT PEDESTRIAN PHASE ACROSS THE NORTH LEG OF THE INTERSECTION. THERE WILL BE AN EXCLUSIVE/PERMISSIVE LEFT TURN ON THE FORBES BLVD. NORTHBOUND APPROACH. THE THROUGH MOVEMENTS ON FORBES BLVD. WILL OPERATE CONCURRENTLY.

CONTROLLER REQUIREMENTS

THE EXISTING CONTROLLER AND CABINET ARE TO BE UTILIZED.

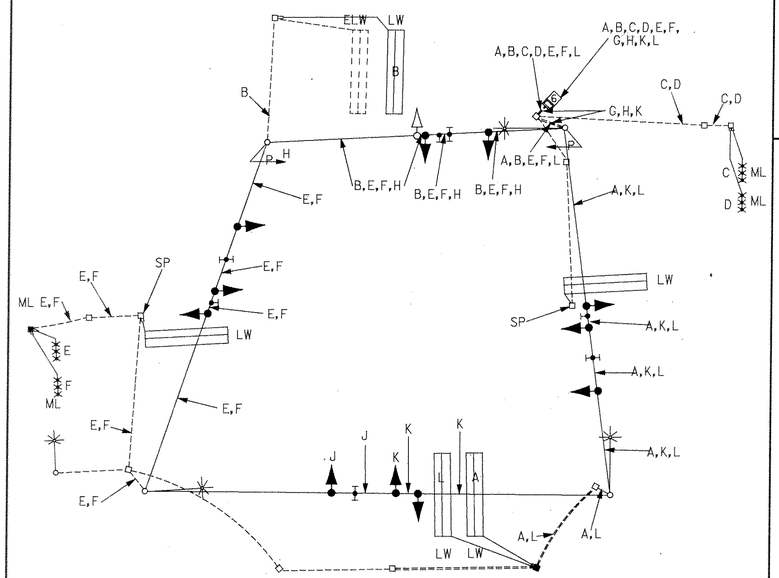
SPECIAL NOTE

72 HOURS PRIOR TO ANY WORK ON THE TRAFFIC SIGNALS, THE CONTRACTOR SHALL NOTIFY THE DISTRICT 3 TRAFFIC SECTION REPRESENTATIVE, MR. RICHARD BUETTNER (301-513-7316) AND THE SIGNAL OPERATIONS SUPERVISOR, MR. EDWARD RODENHIZER (410-787-7652).

ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE BECAUSE THESE UNDERGOUND AND OVERHEAD UTILITIES MAY BE MODIFIED PRIOR TO AND DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES 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 EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7631 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND TELEPHONE NUMBER.

WIRING DIAGRAM



A,B,L — 2-CONDUCTOR CABLE (ALUMINUM SHIELDED)

C,D,E,F — MICRO LOOP PROBE LEAD-IN

G,H — 3-CONDUCTOR CABLE (NO. 14 A.W.G.)

J — 5-CONDUCTOR CABLE (NO. 14 A.W.G.)

K — 7-CONDUCTOR CABLE (NO. 14 A.W.G.)

LW — LOOP WIRE (NO. 14 A.W.G.) IN FLEXIBLE TUBING

ML — MICRO LOOP PROBE

ELW — EXISTING LOOP WIRE

SP — SPLICE EXISTING ALUMINUM SHIELDED CABLE TO NEW LOOP WIRE

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION

CATEGORY CODE NO.	SPEC. SECTION	QUANTITY	DESCRIPTION
960015	814	2 EA.	12 IN. 1 WAY 3 SECTION (R,Y,G) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS
960068	814	2 EA.	12 IN. 1 WAY 2 SECTION PEDESTRIAN SIGNAL HEAD WITH POLE MOUNTING HARDWARE AND TUNNEL VISORS.
973023	813	22.83 S.F.	SHEET ALUMINUM SIGNS - 2 EACH D3-2 (VAR. X 16") 2 EACH R10-3 (9" X 12")
900000	810	2 EA.	MICRO LOOP PROBE SET WITH 1000 FT. LEAD-IN
900000	810	2 EA.	MICRO LOOP PROBE SET WITH 500 FT. LEAD-IN

PHASE DIAGRAM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PHASE 1 + 5	R G	R G	R	R G	R G	R	R	R	R	R	R	R	DW	DW
1 + 5 CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6														
PHASE 1 + 6	G G	G G	G	R	R	R	R	R	R	R	R	R	DW	DW
1 CHANGE	G Y	G Y	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	WK	WK
5 CHANGE	R	R	R	G Y	G Y	G	R	R	R	R	R	R	WK	WK
PHASE 2 + 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK
PED CLEAR	G	G	G	G	G	G	R	R	R	R	R	R	FL / DW	FL / DW
2 + 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW
PHASE 3 + 8	R	R	R	R	R	R	G G	G G	G	R	R	R	DW	DW
3 CHANGE	R	R	R	R	R	R	G Y	G Y	G	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
FLASHING OPERATION	F / Y	F / Y	F / Y	F / Y	F / Y	F / Y	F / R	F / R	F / R	F / R	F / R	F / R	DARK	DARK

EQUIPMENT LIST "B"

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

CATEGORY CODE NO.	SPEC. SECTION	QUANTITY	DESCRIPTION
585443	XXX	148 L.F.	12 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
585445	XXX	148 L.F.	24 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
805011	805	25 L.F.	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT - GALVANIZED SLEEVE
805125	805	33 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805160	805	30 L.F.	FURNISH AND INSTALL 1 IN. LIQUID-TIGHT NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
811001	811	1 EA.	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813010	813	2 E.A.	BAND SIGN TO SIGN SUPPORT
813015	813	21.33 S.F.	INSTALL OVERHEAD SIGN
822500	XXX	1 E.A.	AS-BUILT FOR TRAFFIC SIGNAL
860015	814	2 EA.	INSTALL 12 IN. 1 WAY 3 SECTION (R,Y,G) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
860068	814	2 E.A.	INSTALL 12 IN. 1 WAY 2 SECTION PEDESTRIAN SIGNAL HEAD - POLE MOUNT
860265	814	9 E.A.	RELOCATE EXISTING SIGNAL HEAD
861104	810	506 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861106	810	246 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 A.W.G.)
861107	810	31 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
861108	810	284 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
862101	810	2220 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
862102	815	712 L.F.	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
800000	805	54 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
800000	813	5 EA.	RELOCATE EXISTING OVERHEAD SIGN
800000	810	4 EA.	INSTALL MICRO LOOP PROBE SET
800000	XXX	LUMP SUM	REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

ULTIMATE SIGNAL	DWG. NO. TS-8

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS
OWINGS MILLS, MARYLAND

REVISIONS

(A) AUGUST 1996 - WTB
MODIFY EXISTING SIGNAL
SHA NO. PG9005171

JDM

APPROVAL

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, OFFICE OF TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

MD 450 (ANNAPOLIS ROAD) AT FORBES BLVD.

LOG MILE NO. 16045006.59 DATE: 8 - 96

DRAWN BY: S. BLOSS	DESIGN NO. N/A		SHEET NO.	TOTAL SHEETS
CHECKED BY: T. HANNAN	CONTR. NO. N/A			
SCALE: NONE	COUNTY: PRINCE GEORGES	TS-3600-GI	354 OF	354

FILE NO. SS5253450.DGN
09-30-96 TBM/AS