F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD			

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A PRE-TIMED TRAFFIC CONTROL SIGNAL AND STREET LIGHTING AT MD 22 (FULFORD AVE.) AND MAITLAND STREET IN HARFORD COUNTY. MD 22 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

1. NORMAL OPERATION
   THE INTERSECTION WILL OPERATE IN A THREE-PHASE, PRE-TIMED MODE WITH THE MD 22 APPROACH RUNNING ALONE AND THE MAITLAND STREET APPROACHES RUNNING CONCURRENTLY.

2. SPECIAL OPERATION
   THE INTERSECTION WILL OPERATE AS INDICATED ABOVE UNLESS A PUSH BUTTON IS ACTUATED WITHIN BEL AIR VOLUNTEER FIRE DEPARTMENT, COMPANY 3 WHICH WILL PRE-EMPT THE TRAFFIC SIGNAL AND STOP ALL APPROACHES EXCEPT SOUTBOUND MAITLAND STREET. THIS OPERATION WILL BE ACCOMPLISHED THROUGH A HARDWIRE CONNECTION TO THE EXISTING TRAFFIC SIGNAL AT MD 22 (CHURCHVILLE ROAD) AND MAITLAND STREET.

CONTROLLER REQUIREMENTS

INSTALL AN EIGHT-PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER AND INTERSECTION MONITOR WITH BATTERY BACK UP FOR PHONE DROP HOUSED IN A NEMA SIZE '5' POLE-MOUNTED CABINET.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410)787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT #4 ARE AS FOLLOWS:

MR. DAVE MALKOWSKI
DISTRICT ENGINEER
PHONE: (410) 321-3461

MR. RANDALL SCOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 321-3514

MR. RUSS YUREK
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 321-3468

MR. JOSEPH MCMAHON
ASSISTANT DISTRICT ENGINEER - UTILITY
PHONE: (410) 321-3456

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9001	6 EACH	12 IN., ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
9006	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER AND INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, HOUSED IN A NEMA SIZE "5" POLE MOUNTED CABINET.
9010	2 EACH	RELAY (110/120 VOLT)
9012	81 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 3 EACH W3-3 SIGN (36 IN. X 36 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND FLAGS-GROUND MOUNT. - 1 EACH R3-1 SIGN (30 IN. X 30 IN.) - MAST ARM MOUNT - 1 EACH R3-2 SIGN (30 IN. X 30 IN.) - MAST ARM MOUNT - 1 EACH D3-2 SIGN SIGN (VARIABLE X 16 IN.) - MAST ARM MOUNT. - 1 EACH R3-1 SIGN (24 IN. X 24 IN.) - GROUND MOUNT - 1 EACH R3-2 SIGN (24 IN. X 24 IN.) - GROUND MOUNT

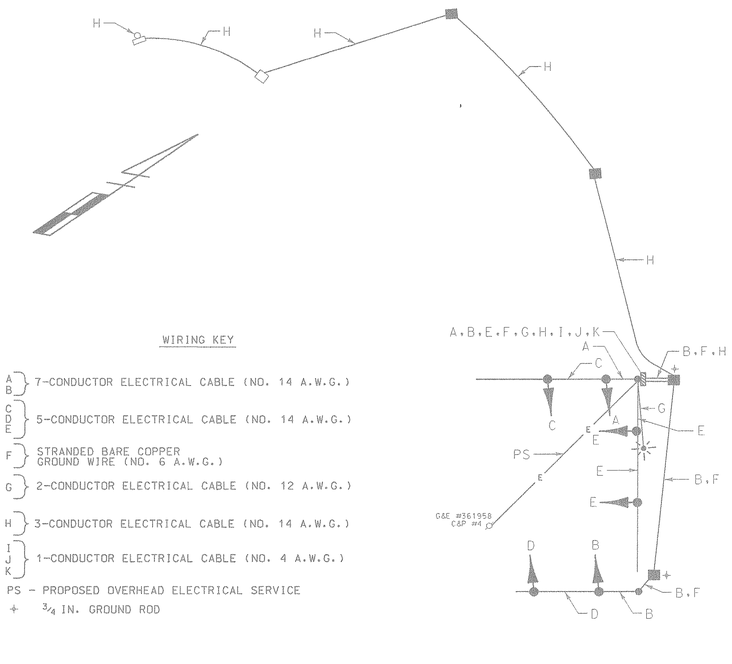
NOTE: SHA SIGNAL SHOP WILL BE RESPONSIBLE FOR CABINET RELAY WIRING FOR EMERGENCY PRE-EMPTION

EQUIPMENT LIST "B"

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
2001	2 C.Y.	TEST PIT EXCAVATION
5001	690 L.F.	6 IN. YELLOW PERMANENT PREFORMED PAVEMENT MARKING TAPE
5002	100 L.F.	6 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5004	20 L.F.	16 IN. YELLOW PERMANENT PREFORMED PAVEMENT MARKING TAPE
5005	85 L.F.	24 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5007	1 EACH	PERMANENT PREFORMED PAVEMENT MARKING ARROW
5008	410 L.F.	REMOVE EXISTING PAVEMENT MARKINGS - ANY WIDTH
5009	1 EACH	REMOVE EXISTING PAVEMENT MARKING ARROW
8001	8 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8006	3 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8011	6 EACH	INSTALL SIGNAL HEAD
8018	1 EACH	INSTALL CONTROLLER AND CABINET-POLE MOUNT
8025	235 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
8027	185 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8031	30 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
8035	4 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8037	2 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
8046	485 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 A.W.G.)
8047	120 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8048	160 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
8049	50 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.)
8050	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN 50 FT./50 FT. MAST ARMS
8052	80 L.F.	FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
8053	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE 1 CONDUCTOR - THHN/THWN (NO. 4 A.W.G.)
8054	108 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS (4 IN. X 4 IN.)
8056	56 S.F.	INSTALL GROUND MOUNTED SIGN
8057	25 S.F.	INSTALL OVERHEAD SIGN
8059	1 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8060	1 EACH	FURNISH AND INSTALL LIGHTING BRACKET FOR TRAFFIC SIGNAL STRUCTURE
8064	LUMP SUM	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT
8067	1 EACH	USE EXISTING DISK AND AS-BUILT TRAFFIC CONTROL DEVICES
8076	1 EACH	CONTROL AND DISTRIBUTION EQUIPMENT
8097	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 38 FT. MAST ARM

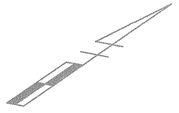
WIRING DIAGRAM



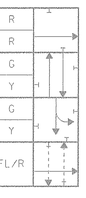
WIRING KEY

- A, B — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- C, D, E — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- F — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- G — 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
- H — 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- I, J, K — 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- PS - PROPOSED OVERHEAD ELECTRICAL SERVICE
- ⏚ 3/4 IN. GROUND ROD

PHASE CHART



	1	2	3	4	5	6
PHASE 6	G	G	R	R	R	R
6 CHANGE	Y	Y	R	R	R	R
PHASE 4 + 8	R	R	G	G	G	G
4 + 8 CHANGE	R	R	Y	Y	Y	Y
EMERGENCY	R	R	R	R	G	G
PRE-EMPTION	R	R	R	R	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R



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REVISIONS	APPROVALS	REVISIONS
	ASSISTANT DIVISION CHIEF	
	ASST. DISTRICT ENGINEER, TRAFFIC	
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION	
	DIRECTOR, OFFICE OF TRAFFIC & SAFETY	

WR&A
Whitman, Requardt and Associates
Engineers and Planners
2315 Saint Paul Street
Baltimore, Maryland 21218
(410) 235-3450

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
MD 22 (FULFORD AVE.) AND MAITLAND STREET

DATE:	12-5-96	DRAWN BY:	S. BLOSS	F.A.P. NO.	AW103ASJ	PLAN SHEET NO.:	SHEET NO.
SCALE:	NONE	DESIGNED BY:	N. LEARY	S.H.A. NO.	AW103ASJ	TS-3621	2 OF 2
APPROVED BY:		CHECKED BY:	T. HANNAN	COUNTY	HARFORD		

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