

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW SEMI-TRAFFIC-ACTUATED SIGNAL AND STREET LIGHTING AT MD 124 AND SOUTHBOUND I-270 OFF RAMP IN MONTGOMERY COUNTY. MD 124 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A THREE-PHASE, SEMI-TRAFFIC ACTUATED MODE, WITH THE MD 124 APPROACHES RUNNING CONCURRENTLY AND THE I-270 RAMP APPROACH RUNNING ALONE. THIS SIGNAL WILL BE INTERCONNECTED TO THE EXISTING SYSTEM ALONG MD 124.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH TWO (2), FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER WITH L.A.U., L.A.U. PANEL AND ASSOCIATED HARNESS, HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

SPECIAL NOTE

SPLICING OF INTERCONNECT CABLE SHALL BE PERFORMED BY MONTGOMERY COUNTY FORCES. THE CONTRACTOR SHALL RUN THE INTERCONNECT CABLE FROM THE BASE OF THE CABINET TO THE EXISTING SPLICE CABINET, AND PROPERLY TAG THE CABLE. CONTACT MR. EMIL WOLANIN AT (301) 217-2208 SEVENTY-TWO (72) HOURS IN ADVANCE OF THE INTENDED WORK.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
900000	6 EACH	12 IN., ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
900000	1 EACH	12 IN., ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR POST TOP MOUNTING AND TUNNEL VISORS.
900000	1 EACH	12 IN., ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR POLE MOUNTING AND TUNNEL VISORS.
971017	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH L.A.U., L.A.U. PANEL AND ASSOCIATED HARNESS, HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.
960022	2 EACH	FOUR-CHANNEL, TIME DELAY OUTPUT, LOOP DETECTOR AMPLIFIER.
973023	121 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF: - 3 EACH W3-3 SIGN (48 IN. X 48 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND FLAGS - GROUND MOUNT. - 2 EACH R3-3 SIGN (36 IN. X 36 IN.) - MAST ARM MOUNT - 2 EACH R4-7 (24 IN. X 30 IN.) - GROUND MOUNT - 2 EACH R3-3 (24 IN. X 24 IN.) - GROUND MOUNT - 2 EACH R3-SL (30 IN. X 36 IN.) - MAST ARM MOUNT

EQUIPMENT LIST "B"

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

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
120500	1 EACH	MAINTENANCE OF TRAFFIC
120610	7 U.D.	ARROW PANEL
120625	300 S.F.	TEMPORARY TRAFFIC SIGNS
130850	1 EACH	MOBILIZATION
230030	4 C.Y.	TEST PIT EXCAVATION
585445	90 L.F.	24 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
800000	2 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
800000	2 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCCELL
800000	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 38 FT. MAST ARM
800000	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN 50 FT./70 FT. MAST ARMS
800000	1 EACH	REMOVE AND DISPOSE OF EXISTING LIGHT POLE
800000	1 EACH	FURNISH AND INSTALL 3 IN. WEATHERHEAD
800000	280 L.F.	FURNISH AND INSTALL 12-PAIR COMMUNICATION CABLE, JELLY-FILLED SELF-SUPPORTING (OVERHEAD)
800000	2 EACH	FURNISH AND INSTALL PEPCO SPLICE BOX
800000	1 EACH	FURNISH AND INSTALL PEPCO SINGLE PHASE LOW PROFILE PADMOUNT
800000	LUMP SUM	FURNISH AND INSTALL BUMPER PIPES
801004	11 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
801104	136 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS (4 IN. X 4 IN.)
802501	275 L.F.	FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
833010	50 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
805115	200 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
805118	75 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805125	610 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805140	280 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80, RIGID PVC CONDUIT - SLOTTED
805155	40 L.F.	FURNISH AND INSTALL 1 IN. LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT DETECTOR SLEEVE
805160	1 EACH	CONTROL AND DISTRIBUTION EQUIPMENT
807205	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 1-CONDUCTOR (NO. 4 A.W.G. - THN/THWN)
810010	7 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
811011	87 S.F.	INSTALL GROUND MOUNTED SIGN
813011	34 S.F.	INSTALL OVERHEAD SIGN
813015	1 EACH	FURNISH AND INSTALL 14 FT. BREAKAWAY PEDESTAL POLE
818010	190 L.F.	FURNISH AND INSTALL 12-PAIR COMMUNICATION CABLE, JELLY-FILLED (UNDERGROUND)
822002	1 EACH	USE EXISTING DISK AND AS-BUILT TRAFFIC CONTROL DEVICES
822500	4 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
837001	6 EACH	INSTALL 12 IN., ONE-WAY THREE SECTION (R,Y,G) SIGNAL HEAD - MAST ARM MOUNT
860022	1 EACH	INSTALL 12 IN., ONE-WAY THREE SECTION (R,Y,G) SIGNAL HEAD - PEDESTAL MOUNT
860041	1 EACH	INSTALL 12 IN., ONE-WAY THREE SECTION (R,Y,G) SIGNAL HEAD - POLE MOUNT
860161	1000 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2-CONDUCTOR ALUMINUM SHIELDED (NO. 14 A.W.G.)
861104	500 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5-CONDUCTOR (NO. 14 A.W.G.)
861107	380 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7-CONDUCTOR (NO. 14 A.W.G.)
861108	280 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2-CONDUCTOR (NO. 12 A.W.G.)
861116	1525 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
862101	430 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
862102	2 EACH	FURNISH AND INSTALL 20 FT. LIGHTING BRACKET FOR TRAFFIC SIGNAL STRUCTURE
866104	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT

MAINTENANCE OF TRAFFIC

THE FOLLOWING WORK ZONE TRAFFIC CONTROL STANDARDS SHALL BE USED FOR THE PROJECT.

STANDARD NO. MD-105.00	STANDARD NO. MD-105.311 (SHOULDER WORK)
STANDARD NO. MD-105.01	STANDARD NO. MD-105.301 (LEFT LANE CLOSURE)
STANDARD NO. MD-105.02	STANDARD NO. MD-105.303 (RIGHT LANE CLOSURE)
STANDARD NO. MD-105.101 (FLAGGING OPERATION)	STANDARD NO. MD-105.305 (CENTER LANE CLOSURE)
	STANDARD NO. MD-107.007 (MOBILE INTERSECTION WORK)

NOTE: STANDARDS TO BE MODIFIED, BY REPLACING W21-5 SIGN (ROAD CONSTRUCTION) WITH A W20-1 SIGN (ROAD WORK AHEAD).

PROJECT CONTACTS

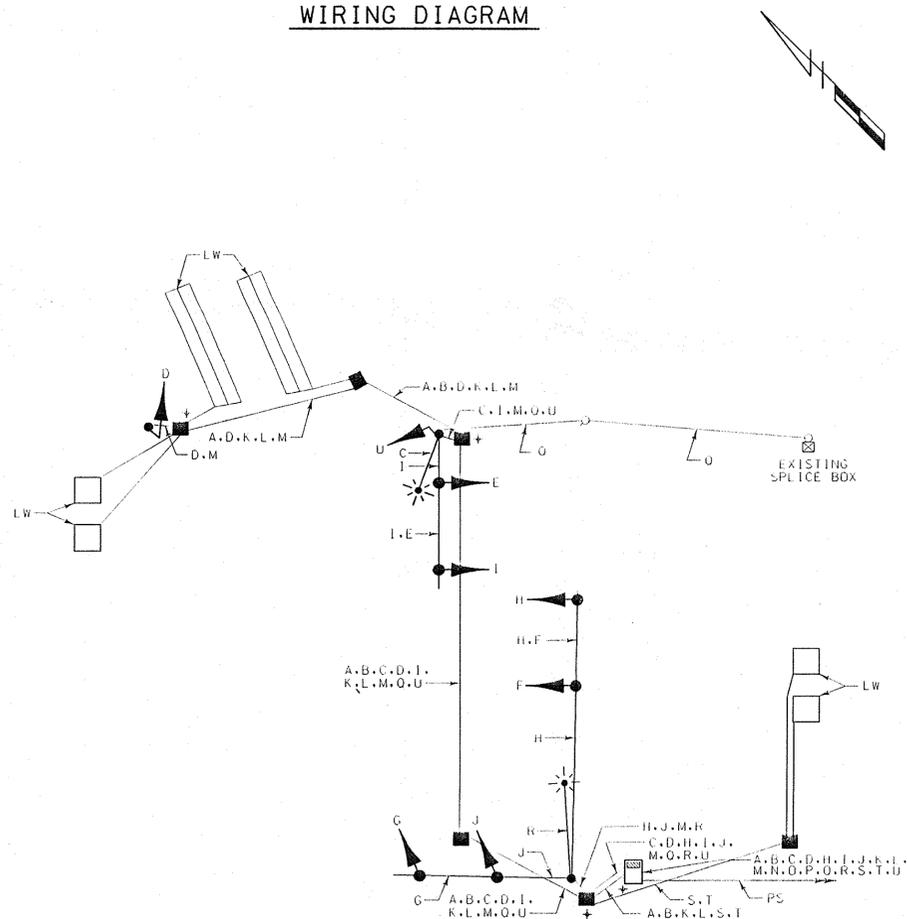
THE CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

MR. CHARLES WATKINS DISTRICT ENGINEER PHONE: (301) 513-7311	MR. FRANCIS LAUER ASSISTANT DISTRICT ENGINEER - UTILITY PHONE: (301) 513-7350
MR. MAJIB SHAKIB ASSISTANT DISTRICT ENGINEER - TRAFFIC PHONE: (301) 513-7358	MR. RICHARD L. DAFF, SR. CHIEF, TRAFFIC OPERATIONS DIVISION PHONE: (410) 787-7630
MR. CARTER WILSON ASSISTANT DISTRICT ENGINEER - MAINTENANCE PHONE: (301) 513-7304	

PHASE CHART

	1	2	3	4	5	6	7	8
	(R)							
	(Y)							
	(G)							
PHASE 2 + 6	G	G	G	G	G	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	Y	R	R	R
PHASE 4	R	R	R	R	R	G	G	G
4 CHANGE	R	R	R	R	R	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R

WIRING DIAGRAM



WIRING KEY

T-OPT-K&B-A	2-CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED; NO. 14 A.W.G.)	M	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
C-R	2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)	N-D-P	1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
U-C-THIN-D	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)	Q	12-PAIR COMMUNICATION CABLE
H-J	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)	LW	LOOP WIRE (NO. 14 A.W.G.)
		PS	PROPOSED OVERHEAD ELECTRICAL SERVICE
		+	3/4 IN. X 10 FT. GROUND ROD

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

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



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
MD 124 AND I-270 RAMP 'E' SPUR

DATE: 1-22-97	DRAWN BY: S. BLOSS	F.A.P. NO. _____	PLAN SHEET NO. _____	SHEET NO. _____
SCALE: NONE	DESIGNED BY: N. LEARY	S.H.A. NO. _____	COUNTY: MONTGOMERY	TS-3635 GJ
APPROVED BY: _____	CHECKED BY: T. HANNAN			3 OF 3