PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF U.S. 1 AND ROWANBERRY ROAD/PINE AVENUE IN HOWARD COUNTY, MARYLAND. U.S. 1 IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE U.S. 1 APPROACHES OPERATING CONCURRENTLY AND THE ROWANBERRY DRIVE/PINE AVENUE APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASES WILL BE PROVIDED ON THE NORTHBOUND AND SOUTHBOUND U.S. 1 APPROACHES.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH THREE (3), FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS. INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE 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.

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

STANDARD NO. MD-104.00 - 104.00-12
STANDARD NO. MD-104.31-01 (FLAGGING OPERATION)
STANDARD NO. MD-104.43-01 (SHOULDER WORK)
STANDARD NO. MD-104.37-01 (LEFT-LANE CLOSURE)
STANDARD NO. MD-104.38-01 (RIGHT-LANE CLOSURE)
STANDARD NO. MD-104.35-01 (LANE SHIFT)
STANDARD NO. MD-104.33-02 (SHOULDER WORK)
STANDARD NO. MD-104.32-01 (INTERSECTION FLAGGING OPERATION)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. ROBERT FISHER
DISTRICT ENGINEER
PHONE: (301) 624-8140

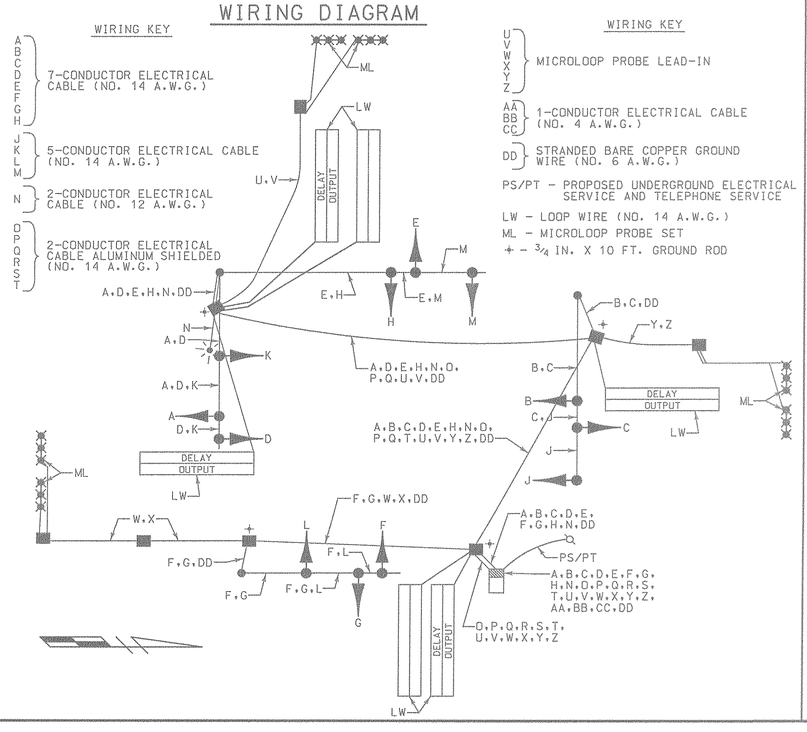
MR. JOHN CONCANNON
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 624-8141

MR. LEON KERNS
ACTING ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 624-8140

MR. JOHN WRIGHT
DISTRICT UTILITIES ENGINEER
PHONE: (301) 624-8140

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

WIRING DIAGRAM

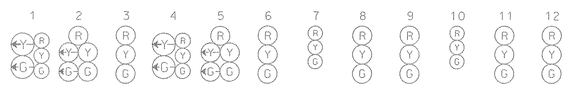


EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY SHA

ITEM NO.	QUANTITY	DESCRIPTION
9002	3 EACH	FOUR-CHANNEL, LOOP DETECTOR AMPLIFIER (DELAY OUTPUT).
9081	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER AND INTERSECTION MONITOR II WITH BATTERY BACK-UP FOR PHONE DROP HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.
9089	192 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF :
	- 2 EACH	R10-12 SIGN (36 IN. X 42 IN.) - MAST ARM MOUNT.
	- 1 EACH	D-3(1) SIGN "PINE AVE" (VARIABLE X 16 IN.) DUAL FACED - MAST ARM MOUNT
	- 1 EACH	D-3(1) SIGN "ROWANBERRY DR" (VARIABLE X 16 IN.) DUAL FACED - MAST ARM MOUNT
	- 2 EACH	D-3(1) SIGN "WASHINGTON AVE" (VARIABLE X 16 IN.) DUAL FACED - MAST ARM MOUNT
	- 2 EACH	D-3(2) SIGN BLACK ON YELLOW (VARIABLE X 32 IN.) - GROUND MOUNT. Use 6"/4.5" letters.
	- 2 EACH	W3-3 SIGN (48 IN. X 48 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND FLAGS - GROUND MOUNT
	- 1 EACH	ASSOCIATED SHIELD ASSEMBLY "SOUTH, U.S. 1, RIGHT ARROW" (24 IN. X 51 IN.) - POLE MOUNT
	- 1 EACH	ASSOCIATED SHIELD ASSEMBLY "NORTH, U.S. 1, LEFT ARROW" (36 IN. X 75 IN.) - GROUND MOUNT
	1 EACH	R3-5 (R) SIGN (30 IN. X 36 IN.) - MAST ARM MOUNT

PHASE CHART



PHASE 1 + 5	R G	R G	R	R G	R G	R	R	R	R	R	R	R	
1 + 5 CHANGE	1 + 5 MAY CHANGE TO PHASE 1 + 6, 2 + 5, OR PHASE 2 + 6												
PHASE 1 + 6	G G	G G	G	R	R	R	R	R	R	R	R	R	
1 + 6 CHANGE	G Y	G Y	G	R	R	R	R	R	R	R	R	R	
PHASE 2 + 5	R	R	R	G G	G G	G	R	R	R	R	R	R	
2 + 5 CHANGE	R	R	R	G Y	G Y	G	R	R	R	R	R	R	
PHASE 2 + 6	G	G	G	G	G	G	R	R	R	R	R	R	
2 + 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	
PHASE 4 + 8	R	R	R	R	R	R	G	G	G	G	G	G	
4 + 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	
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	

EQUIPMENT LIST "B"

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
2001	4 C.Y.	TEST PIT EXCAVATION
5001	200 L.F.	5 IN. YELLOW THERMOPLASTIC PAVEMENT MARKINGS
5002	100 L.F.	5 IN. WHITE THERMOPLASTIC PAVEMENT MARKINGS
5003	180 L.F.	12 IN. WHITE THERMOPLASTIC PAVEMENT MARKINGS
5004	150 L.F.	24 IN. WHITE THERMOPLASTIC PAVEMENT MARKINGS
5007	230 L.F.	REMOVE EXISTING PAVEMENT MARKINGS - ANY WIDTH
5008	5 EACH	REMOVE EXISTING PAVEMENT MARKING LETTER OR ARROW
8001	15 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8006	1 EACH	CUT, CLEAN, GALVANIZE SIGNAL STRUCTURE
8016	2 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 500 FT. LEAD-IN
8017	4 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 1000 FT. LEAD-IN
8020	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
8021	1200 L.F.	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
8023	70 L.F.	FURNISH AND INSTALL 1 IN. LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8024	720 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8027	40 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8030	70 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8031	275 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8033	8 EACH	FURNISH AND INSTALL HANDHOLE
8034	4 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
8040	2900 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
8041	750 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8044	120 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8045	2050 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
8046	320 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.)
8048	320 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
8049	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR NO. 4 A.W.G. - THHN/THWN
8050	100 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 IN. X 4 IN.
8051	40 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 IN. X 6 IN.
8052	109 S.F.	INSTALL GROUND MOUNTED SIGN
8053	83 S.F.	INSTALL OVERHEAD SIGN
8055	1 EACH	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LUMINAIRE WITH PHOTOCELL
8056	1 EACH	FURNISH AND INSTALL 15 FT. STREET LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8057	1 EACH	REMOVE AND DISPOSE OF EXISTING FOUNDATION 12 IN. BELOW GRADE
8060	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT PER ASSIGNMENT
8066	1 EACH	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240V, 1 PHASE 3 WIRE SYST)
8076	2 EACH	FURNISH AND INSTALL MAST ARM POLE AND 38 FT. MAST ARM
8079	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 70 FT. MAST ARM
8082	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN (50 FT/70 FT) MAST ARMS
8084	38 EACH	FURNISH AND INSTALL 12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8085	6 EACH	FURNISH AND INSTALL 8 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION

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

REVISIONS

APPROVALS

ASST. TRAFFIC ENGINEERING DESIGN DIVISION

ASST. DISTRICT ENGINEER, TRAFFIC

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
U.S. 1 @ ROWANBERRY DR./PINE AVE.

DRAWN BY: M.LARSON	F.A.P. NO.	TS NO. TS-3939	SHEET NO.
CHECKED BY: N.LEARY	S.H.A. NO.		
SCALE: NONE	COUNTY: HOWARD	T.I.M.S. NO. D-237	2 OF 2
DATE: 7-30-99	LOG MILE: 13010009.03		

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