

**PROJECT DESCRIPTION**

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 26 AND TIVERTON ROAD IN BALTIMORE COUNTY. MD 26 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION. THE RECONSTRUCTION WILL ALSO INCLUDE THE ADDITION OF PEDESTRIAN PHASES TO THIS INTERSECTION.

**INTERSECTION OPERATION**

THE INTERSECTION WILL OPERATE IN A NEMA THREE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH A PEDESTRIAN ALTERNATE PHASE ACROSS THE WEST LEG OF MD 26 AND A CONCURRENT PHASE ACROSS TIVERTON ROAD.

**CONTROLLER REQUIREMENTS**

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE, VIDEO DETECTION INTERFACE EQUIPMENT, AND ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

**CONTACT PERSONS FOR DISTRICT 4 ARE AS FOLLOWS:**

MR. RANDALL SCOTT  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
(410) 321-2781

MR. STEVE MARCISZEWSKI  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
(410) 321-2761

MS. SUENETTE POPE  
ASSISTANT DISTRICT ENGINEER - UTILITIES  
(410) 321-2841

**CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY**

MR. RICHARD DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS  
(410) 787-7630

MR. EUGENE BAILEY  
TEAM LEADER SIGN OPERATIONS  
(410) 787-7676

MR. ROBERT SNYDER  
ASSISTANT DIVISION CHIEF,  
TRAFFIC OPERATIONS  
(410) 787-7631

MS. DARLENE EIDE  
SUPPLY OFFICE  
SIGNAL SHOP WAREHOUSE  
(410) 787-7688

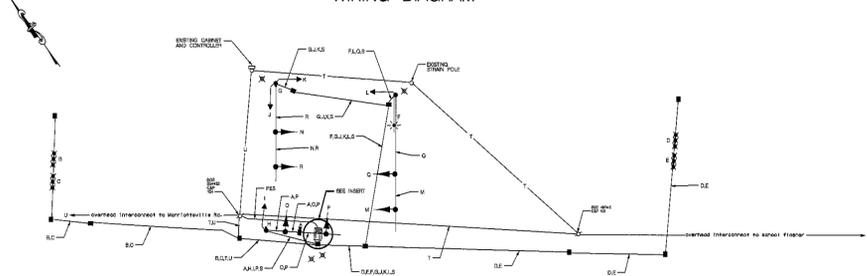
MR. ED RODENHIZER  
TEAM LEADER SIGNAL OPERATIONS  
(410) 787-7652

**EQUIPMENT LIST "B" CONTINUED**

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

ITEM NO.	QUANTITY	DESCRIPTION
8039	70 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL CONDUIT - TRENCHED
8045	1 EA	FURNISH AND INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS
8046	50 LF	FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR NO. 4 A.W.G.-THHN/THWN
8050	4 EA	FURNISH AND INSTALL NON-INVASIVE MICRO-LOOP PROBE WITH 500 FT. LEAD-IN CABLE
8052	11 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8055	34 SF	INSTALL OVERHEAD SIGN
8056	1 EA	FURNISH AND INSTALL VIDEO DETECTION CAMERA
8061	1 EA	FURNISH AND INSTALL 27 FT. STEEL POLE WITH A SINGLE 38 FT. MAST ARM
8062	1 EA	FURNISH AND INSTALL 27 FT. STEEL POLE WITH A SINGLE 50 FT. MAST ARM
8066	1 EA	FURNISH AND INSTALL 27 FT. STEEL POLE WITH A SINGLE 70 FT. MAST ARM
8069	1 EA	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
8073	4 EA	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT.
8075	18 EA	FURNISH AND INSTALL 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8078	1 EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8081	260 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 14 A.W.G.)
8082	550 LF	FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR (NO. 14 A.W.G.)
8083	60 LF	FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 A.W.G.)
8084	600 LF	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 A.W.G.)
8085	175 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 12 A.W.G.)
8087	40 LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8088	2 EA	FURNISH AND INSTALL PUSHBUTTON AND SIGN
8089	1 EA	FURNISH AND INSTALL 15 FT. LIGHTING ARM FOR SIGNAL STRUCTURE
8094	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

**WIRING DIAGRAM**



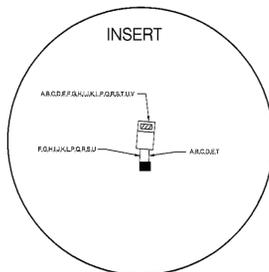
**SPECIAL NOTE**

- DISCONNECT CABLE "T" FROM EXISTING CABINET AND CONTROLLER. PULL BACK TO UTILITY POLE (BGE 954432 C&P 104) AND RE-ROUTE TO POLE BGE 497415-C&P 103, DOWN POLE THROUGH PROPOSED CONDUIT, AND RE-ROUTE TO PROPOSED BASE MOUNTED CABINET AND CONTROLLER (AS SHOWN)
- DISCONNECT CABLE "U" FROM EXISTING CABINET AND CONTROLLER. PULL BACK TO UTILITY POLE (BGE 497415-C&P 103) AND RE-ROUTE DOWN POLE, THROUGH PROPOSED CONDUIT, AND RE-CONNECT TO PROPOSED BASE MOUNTED CABINET AND CONTROLLER (AS SHOWN)

**WIRING KEY**

- A VIDEO DETECTION 100 FT. PREMANUFACTURED CABLE
- B-E MICRO-LOOP PROBE
- F (NO. 12 A.W.G.)
- G-H 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- I-L 3 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- M-O 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- P-R 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- S STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- T-U EXISTING 12-PAIR OVERHEAD COMMUNICATION INTERCONNECT CABLE
- PES PROPOSED ELECTRICAL SERVICE
- ML MICRO-LOOP PROBE
- X GROUND ROD

**INSERT**



**PHASING CHART**

	1	2	3	4	5	6	7	8	9	10
PHASE 2 & 6	G	G	G	R	R	R	WK	WK	DW	DW
PED CLEAR	G	G	G	R	R	R	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	R	R	R	DW	DW	DW	DW
PHASE 4	R	R	R	R	G	G	DW	DW	DW	DW
4 CHANGE	R	R	R	R	Y	Y	DW	DW	DW	DW
PHASE 4 ALT.	R	R	R	R	G	G	DW	DW	WK	WK
PED CLEAR	R	R	R	R	G	G	DW	DW	FL/DW	FL/DW
4 ALT. CHANGE	R	R	R	R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FL/R	FL/R	DARK	DARK	DARK	DARK

**EQUIPMENT LIST "A"**

A. EQUIPMENT TO BE FURNISHED BY MSHA AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
9016	1 EA	FOUR CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER
9042	1 EA	CONTROLLER ASC II WITH TELEMETRY
9044	1 EA	BASE MOUNTED CABINET NEMA SIZE 6 WITH SYSTEM PACKAGE
9086	1 EA	VIDEO DETECTION INTERFACE EQUIPMENT 1-4 CAMERAS
9571	34 SF	ALUMINUM SHEET 1 EA D3-1 DUAL FACE SIGN (VAR. X 16") "TIVERTON RD" WITH LIBERTY BELL SYMBOL MAST ARM MOUNT 1 EA M85-1 (72" X 24") "EASTWEST" MAST ARM MOUNT 1 EA D3-1 SINGLE FACE SIGN (VAR. X 16") "LIBERTY RD" MAST ARM MOUNT

**EQUIPMENT LIST "B"**

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	3 EA	MAINTENANCE OF TRAFFIC
2002	4 EA	TEST PIT EXCAVATION
5005	185 LF	FURNISH AND INSTALL 12 IN. HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5006	20 LF	FURNISH AND INSTALL 24 IN. HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
6001	80 LF	FURNISH AND INSTALL DEPRESSED CURB AND GUTTER
6002	80 LF	FURNISH AND INSTALL STANDARD TYPE "A" COMBINATION CURB AND GUTTER 12 IN. GUTTER, 8 IN. PAN
6004	60 SF	FURNISH AND INSTALL 4 IN. SIDEWALK
8001	13 CY	FURNISH AND INSTALL CONCRETE FOUNDATION FOR SIGNAL EQUIPMENT
8002	8 EA	FURNISH AND INSTALL 12 IN. PEDESTRIAN SIGNAL HEAD SECTION
8006	1 EA	FURNISH AND INSTALL 3 IN. CONDUIT BEND INTO EXISTING FOUNDATION
8007	1 EA	FURNISH AND INSTALL CONTROL CABLE, 100 FT. FOR VIDEO DETECTION CAMERA
8019	LS	REMOVE AND DISPOSE OF MATERIAL AND EQUIPMENT PER ASSIGNMENT
8024	750 LF	DISCONNECT, PULL-BACK, AND REROUTE CABLE
8029	400 LF	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER WIRE
8032	30 LF	FURNISH AND INSTALL 3 IN. ELECTRICAL CONDUIT - GALVANIZED RISER
8033	1 EA	FURNISH AND INSTALL 3 IN. WEATHER HEAD
8035	500 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL CONDUIT - BORED
8036	125 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL CONDUIT - BORED
8038	400 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL CONDUIT - TRENCHED

**EQUIPMENT LIST "C"**

C. MSHA FORCES SHALL REMOVE CONTROLLER AND ALL AUXILIARY EQUIPMENT, CABINET AND ALL OTHER MATERIAL TO BE REMOVED BY THE CONTRACTOR AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

SHA# BA445A5F/B5F 100#AT357-41

**SHA** MARYLAND DOT - STATE HIGHWAY ADMINISTRATION  
Office of Traffic & Safety  
TRAFFIC ENGINEERING DESIGN DIVISION  
GENERAL INFORMATION SHEET  
MD 26 (LIBERTY ROAD) AND TIVERTON ROAD

**TRAFFIC CONCEPTS, INC.**  
325 Gambrills Road  
Suite E  
Gambrills, MD 21054  
(410) 923-7101

DRAWN BY: M. HOWELL	F.A.P. NO. N/A	TS NO. 4344A-G1
CHECKED BY:	S.H.A. NO. AT3575185	SHEET NO.
SCALE: 1" = 20'	COUNTY: T.I.M.S. NO. G345	2 OF 2
DATE: 8/16/2004	LOG MILE: 03026003.71	