

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW FULLY-TRAFFIC-ACTUATED SIGNAL AT THE INTERSECTION OF BELLONA AVE. (EAST) AND THE OFF-RAMP FROM WEST-BOUND I-695 IN BALTIMORE COUNTY. BELLONA AVE. IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE BELLONA AVE. (EAST) AT WEST-BOUND I-695 OFF-RAMP INTERSECTION WILL OPERATE IN A NEMA THREE-PHASE FULL-TRAFFIC-ACTUATED MODE WITH CONCURRENT PHASES FOR EAST AND WESTBOUND BELLONA AVE. AND A SEPARATE PHASE FOR THE OFF-RAMP.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER ASC II WITH TELEMETRY, VIDEO DETECTION INTERFACE EQUIPMENT, INTERSECTION MONITOR, PHONE DROP AND FOUR CHANNEL LOOP DETECTOR AMPLIFIER RACK WITH ASSOCIATED HARNESS HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET. THE CONTRACTOR SHALL FURNISH AND INSTALL UPS SYSTEM HOUSED IN A NEMA SIZE "5" BASE MOUNTED CABINET.

SPECIAL NOTE

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 PHONE NUMBER.

CONTACT PERSONS FOR DISTRICT #4 ARE AS FOLLOWS:

MS. ERIN KUHN ASSISTANT DISTRICT ENGINEER-TRAFFIC UTILITY ENGINEER PHONE: (410)321-2781
 MR. MICHAEL PASQUARIELLO UTILITY ENGINEER PHONE: (410)321-2841

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

CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

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

MR. ED RODENHIZER CHIEF, SIGNAL OPERATIONS (410)787-7650
 MR. EUGENE BAILEY CHIEF, SIGN OPERATIONS (410)787-7676

THE POWER COMPANY

BGE
 GAS & ELECTRIC NEW BUSINESS DEPT.
 (410) 850-4620

EQUIPMENT LIST "A"

B. EQUIPMENT TO BE FURNISHED BY SHA AND INSTALLED BY CONTRACTOR.			
CATAGORY CODE	DESCRIPTION	UNIT	QUANTITY
900000	VIDEO DETECTION INTERFACE EQUIPMENT	EA	1
963010	FOUR CHANNEL LOOP DETECTOR AMPLIFIER RACK MOUNT	EA	1
971017	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT	EA	1
973023	SHEET ALUMINUM SIGNS	SF	41.5
	1 - R3-1 (30"X30") - MAST ARM MOUNT		
	1 - R3-2 (30"X30") - MAST ARM MOUNT		
	1 - D3(1) (VAR.X16") - MAST ARM MOUNT		
	1 - R3-6(MOD) (42"X36") - MAST ARM MOUNT		
	1 - R3-5(L) (30"X36") - MAST ARM MOUNT		

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.			
CATAGORY CODE	DESCRIPTION	UNIT	QUANTITY
203030	TEST PIT EXCAVATION	CY	1
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	120
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	82
800000	METERED SERVICE PEDESTAL - EMBEDDED	EA	1
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	6.7
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	80
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	150
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	100
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	505
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	75
810010	ELECTRICAL CABLE 1-CONDUCTOR NO 4 AWG THHN/THWN	LF	75
810601	NON-INVASIVE DETECTOR, 500 FT. LEAD IN CABLE	EA	1
810605	NON-INVASIVE DETECTOR, 1000 FT. LEAD IN CABLE	EA	3
810610	NONINVASIVE DETECTOR, CARRIER PIPE	LF	110
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	8
813015	INSTALL OVERHEAD SIGN	SF	41.5
816005	CONTROL CABLE, 250 FT. VIDEO DETECTION CAMERA TO CONTROLLER	EA	2
818052	STEEL POLE WITH A SINGLE 70 FT. MAST ARM	EA	1
831010	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINIARE	EA	1
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FT. LENGTH	EA	5
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	21
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	419
861116	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)	LF	95
866103	15 FT. LIGHTING ARM ON SIGNAL STRUCTURE	EA	1
816001	VIDEO DETECTION CAMERA	EA	2
871117	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT	EA	1
800000	USP SYSTEM WITH BASE MOUNTED CABINET SIZE #5	EA	1

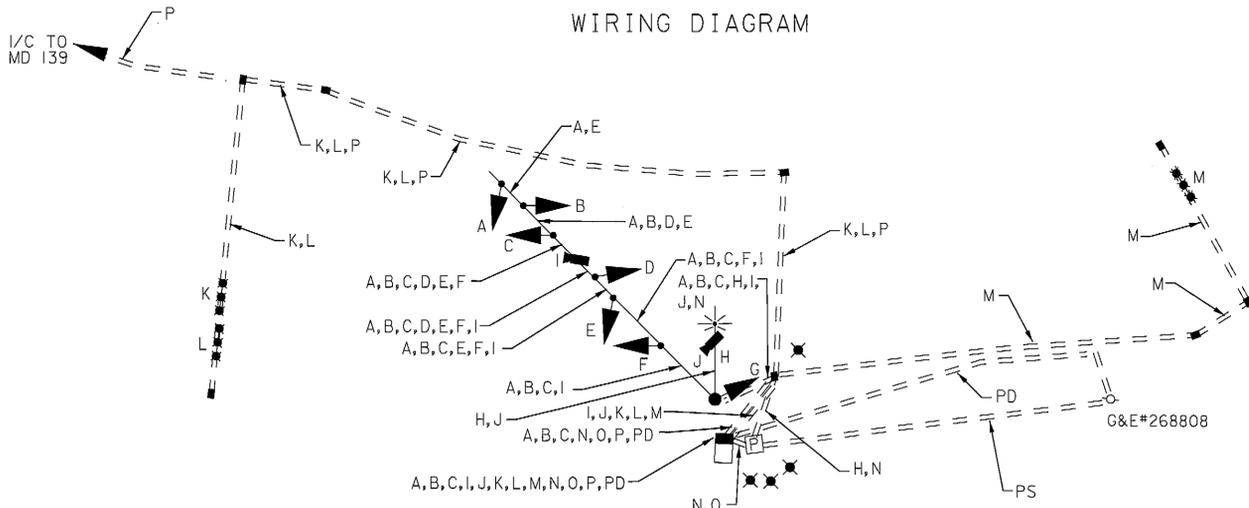
PHASE CHART

	1	2	3	4	5	6	7	
	(R) (Y) (G)							
Phase 2 & 6	G	G	G	G	G	R	R	←
Phase 2 & 6 Change	Y	Y	Y	Y	Y	R	R	→
Phase 4	R	R	R	R	R	G	G	↑
Phase 4 Change	R	R	R	R	R	Y	Y	↓
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	↕

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND RETURNED TO SHA.
 ALL MATERIALS AND EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

WIRING DIAGRAM



WIRING KEY

- A-G 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- H 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) TC
- I-J 250 FT. VIDEO DETECTION CAMERA CONTROL CABLE
- J-L NON-INVASIVE MICRO-LOOP PROBE 1000' LEAD IN CABLE
- M NON-INVASIVE MICRO-LOOP PROBE 500' LEAD IN CABLE
- N STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- O 1-CONDUCTOR ELECTRICAL CABLE NO.4 AWG - THHN/THWN (3 RUNS)
- P 12-PAIR COMMUNICATION CABLE (SEE INTERCONNECT PLAN FOR DETAIL)
- PS UNDERGROUND POWER SERVICE TO BE INSTALLED BY BGE
- PD UNDERGROUND PHONE DROP TO BE INSTALLED BY VERIZON
- ⊗ GROUND ROD

Rummel, Klepper & Kahl, LLP
 Consulting Engineers Since 1923
 81 Mosher Street
 Baltimore, Maryland 21217
 www.rkk.com
 Ph: 410.728.2900 Fax: 410.728.3160

SHA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 OFFICE OF TRAFFIC & SAFETY
 TRAFFIC ENGINEERING DESIGN DIVISION
BELLONA AVE (EAST AND WB I-695 OFF-RAMP)
 LUTHERVILLE, MARYLAND
GENERAL INFORMATION SHEET

SCALE NONE DATE MAY 2008 CONTRACT NO. BA9775A72

DESIGNED BY MLH COUNTY BALTIMORE
 DRAWN BY MLH LOGMILE 03000000.19
 CHECKED BY DAE TMS NO. I-572
 FAP NO. SEE TITLE SHEET TOD NO.

TS NO. 4669 DRAWING SP-15 OF 15 SHEET NO. 286 OF