PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL AT MD 70 (ROWE BOULEVARD) AND MELVIN AVENUE/FARRAGUT ROAD IN ANNE ARUNDEL COUNTY, MARYLAND. THIS PROJECT ALSO INVOLVES GEOMETRIC IMPROVEMENTS INCLUDING NEW HANDICAP RAMPS WTIH APS AND CPS. MD 70 IS CONSIDERED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL BE EQUIPPED WITH AN EIGHT PHASE FULLY-TRAFFIC-ACTUATED CONTROLLER HOUSED IN A BASE MOUNTED CABINET AND WILL OPERATE IN A NEMA SIX (6) PHASE FULLY-TRAFFIC-ACTUATED MODE. THE LEFT TURN PHASES WILL OPERATE CONCURRENTLY AS EXCLUSIVE MOVEMENTS; HOWEVER UPON DEMAND PHASE 1 WILL ALSO OPERATE AS A LAG LEFT. THE MD 70 APPROACHES WILL OPERATE CONCURRENTLY WITH A CONCURRENT RIGHT TURN PHASE FOR THE SOUTH TO WEST MOVEMENT. THE MELVIN AVE./ FARRAGUT ROAD MOVEMENTS WILL OPERATE AS A SIDE STREET SPLIT. PEDESTRIAN PHASES WITH APS/CPS WILL OPERATE CONCURRENTLY WITH PHASES 2 AND 6 ALONG THE NORTH AND SOUTH LEGS. PHASE 4 WILL HAVE AN ALTERNATE PEDESTRIAN PHASE FOR THE WEST LEG.

EQUIPMENT LIST FOR SHA CONTRACT XX4475185

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
9042	1	EA	CONTROLLER ASC II WITH TELEMETRY
9044	1	EA	CONTROLLER CABINET, SIZE 6
9086	1	EA	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
9571	200	SF	SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN
	2	EA	D3-2 (96"x 32") (<- Farragut Road),(Melvin Avenue ->) MAST ARM MOUNTED
	2	EA	D3-2 (96"x 32") (<- Melvin Avenue),(Farragut Road ->) MAST ARM MOUNTED
	1	EA	R3-4(30"X30") MAST ARM MOUNTED
	1	EA	R3-5(R) (30"x 36") MAST ARM MOUNTED
	2	EA	R3-5(L) (30"x 36") MAST ARM MOUNTED
	1	EA	R3-6(MOD) (30"x 36") MAST ARM MOUNTED
	2	EA	SHIELD ASSEMBLY (30"x51") POLE MOUNTED
	2	EA	SHIELD ASSEMBLY (48"x75") POLE MOUNTED
	6	EA	R10-3 (1) (9"X15") POLE MOUNT

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

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
1003	1	EA	MAINTENANCE OF TRAFFIC
2001	1 ~~110~~ 111	CY	CLASS 2 EXCAVATION
2002	3	CY	TEST PIT EXCAVATION
5006	200	LF	5 INCH HEAT APPLIED WHITE OR YELLOW PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
5007	1500	LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
5003	2	EA	REMOVAL OF EXISTING PERMANENT PAVEMENT MARKING LETTERS, SYMBOLS, ARROWS AND NUMBERS
5004	420	LF	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5005	70	LF	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5001	3	EA	HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING ARROWS
6001	1 ~~175~~ 190	LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
6002	1500	SF	5 INCH CONCRETE SIDEWALK
8001	1	EA	2 WIRE CENTRAL CONTROL UNIT
8050	48	EA	12 INCH LED SIGNAL HEAD SECTION R Y G
8006	3	EA	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP AND LUMINAIRE
8807	6	EA	AUDIBLE / TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
8008	3	EA	BREAKAWAY PEDESTAL POLE ANY SIZE
8013	6	EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEADS
8015	1	EA	MAST ARM POLE AND 38 FOOT MAST ARM ANY T DIMENSION
8017	1	EA	MAST ARM POLE AND 70 FOOT MAST ARM ANY T DIMENSION
8020	4	EA	NONINVASIVE DETECTOR ANY LENGTH LEAD IN CABLE UP TO 1000 FEET
8021	1	EA	REMOVE AND DISPOSE MATERIAL AND EQUIPMENT PER ASSIGNMENT
8024	1	EA	TWIN MAST ARM POLE AND 50 FOOT / 70 FOOT MAST ARMS ANY T DIMENSION
8025	4	EA	VIDEO DETECTION CAMERA AND CABLE UP TO 500 FEET
8026	50	LF	1 INCH DETECTOR SLEEVE GALVANIZED OR FLEXIBLE LIQUID TIGHT
8031	250	LF	DISCONNECT, PULL BACK AND REROUTE CABLES
8035	225	LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED
8033	450	LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - BORED
8037	125	SF	DETECTABLE WARNING SURFACES
8038	200	SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN INCLUDING ALL HARDWARE
8040	525	LF	NO 6 AWG STRANDED BARE COPPER GROUND WIRE
8044	75	LF	ELECTRICAL CABLE 1 CONDUCTOR NO 4 AWG - THHN / THWN
8046	9	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8053	1000	LF	ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8054	1100	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO 14 AWG)
8056	1100	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO 14 AWG)
8057	3100	LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO 14 AWG)
8058	650	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO 12 AWG) TC
8059	750	LF	LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)
8060	275	LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)
8064	1	EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT
NEG	100	SY	4" TOP SOIL (CATEGORY CODE 704345)
NEG	100	SY	SEED & MULCH (CATEGORY CODE 707355)

PROJECT CONTACTS

The contact persons for District #5 are as follows:

Kimberly Tran
Assistant District Engineer - Traffic
Phone: (410) 841-1019

Mr. John S. Mays
Assistant District Engineer - Maintenance
Phone: (410) 841-1002

Mr. Joe Horty
Assistant District Engineer - Utility
Phone: (410) 841-1005

Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

Mr. Ed Rodenhizer
Signal Shop
Phone: (410) 787-7652

SPECIAL NOTES

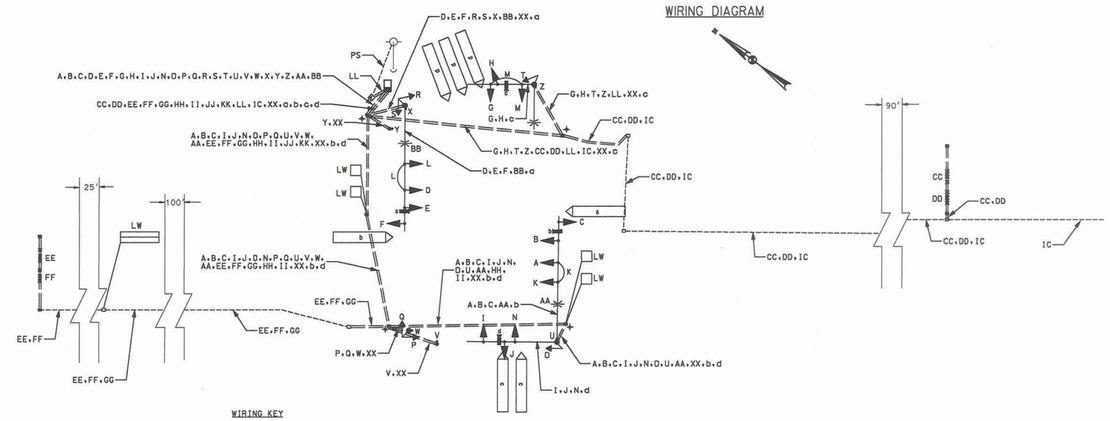
THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABEL EACH CABLE.

ALL CONTROLLER CABINET WIRING WILL BE PERFORMED BY THE S.H.A. SIGNAL SHOP CONTACT MR. ED RODENHIZER AT (410) 787-7650 SEVENTY-TWO HOURS IN ADVANCE OF INTENDED WORK.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PHASE 1 AND 5	←G–	←G–	R	R	←G–	←G–	R	R	R	R	R	R	R	–G→	DW	DW	DW	DW	DW	DW
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																				
PHASE 1 AND 6	←G–	←G–	G	G	←R–	←R–	R	R	R	R	R	R	R	–G→	DW	W/K	W/K	DW	DW	DW
PED CLEARANCE	←G–	←G–	G	G	←R–	←R–	R	R	R	R	R	R	R	–G→	DW	FL/DW	FL/DW	DW	DW	DW
1 AND 6 CHANGE	←Y–	←Y–	Y	Y	←R–	←R–	R	R	R	R	R	R	R	–Y→	DW	DW	DW	DW	DW	DW
PHASE 2 AND 5	←R–	←R–	R	R	←G–	←G–	G	G	R	R	R	R	R	R	W/K	DW	DW	W/K	DW	DW
PED CLEARANCE	←R–	←R–	R	R	←G–	←G–	G	G	R	R	R	R	R	R	FL/DW	DW	DW	FL/DW	DW	DW
2 AND 5 CHANGE	←R–	←R–	R	R	←Y–	←Y–	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 AND 6	←R–	←R–	G	G	←R–	←R–	G	G	R	R	R	R	R	R	W/K	W/K	W/K	W/K	D/W	D/W
PED CLEARANCE	←R–	←R–	G	G	←R–	←R–	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 AND 6 CHANGE	←R–	←R–	Y	Y	←R–	←R–	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 7	←G–	←G–	G	G	←R–	←R–	R	R	R	R	R	R	R	–G→	DW	W/K	W/K	DW	DW	DW
7 CHANGE	←Y–	←Y–	Y	Y	←R–	←R–	R	R	R	R	R	R	R	–Y→	DW	DW	DW	DW	DW	DW
PHASE 3	←R–	←R–	R	R	←R–	←R–	R	R	←G G–	←G G	G	R	R	R	DW	DW	DW	DW	DW	DW
3 CHANGE	←R–	←R–	R	R	←R–	←R–	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4	←R–	←R–	R	R	←R–	←R–	R	R	R	R	R	←G G–	←G G–	G/G→	DW	DW	DW	DW	DW	DW
4 CHANGE	←R–	←R–	R	R	←R–	←R–	R	R	R	R	R	Y	Y	Y/Y→	DW	DW	DW	DW	DW	DW
PHASE 4 ALT	←R–	←R–	R	R	←R–	←R–	R	R	R	R	R	←G G–	←G G–	G/G→	DW	DW	DW	DW	WK	WK
PED CLEARANCE	←R–	←R–	R	R	←R–	←R–	R	R	R	R	R	←G G–	←G G–	G/G→	DW	DW	DW	DW	FL/DW	FL/DW
4 ALT CHANGE	←R–	←R–	R	R	←R–	←R–	R	R	R	R	R	Y	Y	Y/Y→	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A B C D E F G H I J K L M N O P T	7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	K L M N O P T V	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
U V W X Y Z	2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	AA BB LL	2 CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) TC
CC DD EE FF	NON-INVASIVE LOOP LEAD-IN	GG HH II JJ KK	2 CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED)
LL	1 CONDUCTOR ELECTRICAL CABLE (NO. 4 AWG) - THHN/THWN	XX	1 CONDUCTOR (NO. 6 AWG) STRANDED BARE COPPER GROUND WIRE
a b	VIDEO DETECTION CABLE	IC	EXISTING INTERCONNECT
PS	POWER SERVICE UNDERGROUND	LW	LOOP WIRE
+	GROUND ROD		

1 RED LINE REVISION NO. 1 8/18/2010

REMOVE RAMP AND INSTALL CURB TO CLOSE RAMP

TEDD APPROVAL: 9/22/2010

BY: XIAOYU -

BRUDIS & ASSOCIATES, INC.
Consulting Engineers
9220 Rumsey Road; Suite 110
Columbia, Maryland 21045
Phone 410-964-9607
www.brudis.com

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 70 (ROWE BOULEVARD)
AT MELVIN AVENUE / FARRAGUT ROAD

GENERAL INFORMATION SHEET

SCALE N.T.S. DATE March, 2008 CONTRACT NO. XX4475185

DESIGNED BY J.B. COUNTY ANNE ARUNDEL
DRAWN BY X.Q. LOGMILE 02007000.98
CHECKED BY J.B. T.I.M.S. NO. I447
F.A.P. NO. TOD NO.

DRAWING NO. TS-1198J SHEET NO. 3 OF 3

PLOTTED: ****** ** 21, 2010 AT 01:51 ****
FILE: P:\04-005 SIGNALS\MD 70 @ MELVIN AVE\DRAWINGS\CADD\RED-LINES\PGG-P000_MD70_R.DGN