

# PROJECT DESCRIPTION

## I. GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL OF US 29 (GEORGIA AVE) AT SILVER SPRING AVENUE. THE INTERSECTION WILL BE UPGRADED TO APS/CPS AND ALL HANDICAP RAMPS WILL BE RECONSTRUCTED TO ADA STANDARDS. INTERSECTION LIGHTING WILL ALSO BE ADDED. US 29 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

## II. INTERSECTION OPERATION

THE INTERSECTION CURRENTLY OPERATES IN A NEMA FOUR PHASE, SEMIACTUATED MODE. THE THROUGH MOVEMENTS ALONG GEORGIA AVENUE OPERATE CONCURRENTLY WITH PEDESTRIAN CROSSINGS FOR SILVER SPRING AVE. THE THROUGH MOVEMENTS ALONG SILVER SPRING AVE. OPERATE CONCURRENTLY AND ALLOW ALTERNATE PHASING FOR PEDESTRIAN CROSSING OF THE SOUTHBOUND APPROACH OF US 29 (GEORGIA AVE.) MAINLINE PEDESTRIAN CROSSING WILL NOW OCCUR ON THE NORTHBOUND APPROACH OF US 29 (GEORGIA AVE.) PEDESTRIAN SIDE STREET CROSSING WILL NOW OCCUR ON THE WESTBOUND APPROACH OF SILVER SPRING AVE. US 29 (GEORGIA AVE.) IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

## III. SPECIAL NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABEL EACH CABLE. THE CONTRACTOR SHALL NOTIFY MR. KAMAL HAMUD AT (240) 777-8761 72 HOURS IN ADVANCE OF ALL WORK. THE APS PUSHBUTTONS SHALL BE DELIVERED TO MR. KEITH LORD (301) 674-8965 AT THE MONTGOMERY COUNTY TECHNICAL CENTER, SIX(6) WEEKS PRIOR TO INSTALLATION.

## IV. INTERCONNECT:

THIS INTERSECTION WILL BE INTERCONNECTED TO THE ADJACENT INTERSECTIONS NORTH AND SOUTH ALONG US 29. SEE INTERCONNECT PLANS FOR DETAILS.

# EQUIPMENT LIST

## A. EQUIPMENT TO BE FURNISHED BY THE STATE HIGHWAY ADMINISTRATION

CAT. CODE	QUANTITY	UNIT	DESCRIPTION
900000	1	EA	CONTROLLER CABINET, SIZE 6, CONTROLLER ASC II WITH TELEMETRY
900000	2-1	EA	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
900000	91 112	SF	SHEET ALUMINUM SIGN
	6-8	EA	D-3(I) (VAR. X 16") MAST ARM MOUNTED
	2-1	EA	R4-7(I) (18" X 30") GROUND MOUNTED
	2	EA	R10-11B (30" X 30") MAST ARM MOUNTED
	4	EA	R10-3(I) (9" X 15") POLE MOUNTED
	1	EA	R4-7 (24" X 30") GROUND MOUNTED

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

CAT. CODE	QUANTITY	UNIT	DESCRIPTION
120510	1	HD-EA	MAINTENANCE OF TRAFFIC
201032	1	CY	CLASS 2 EXCAVATION
203030	2	CY	TEST PIT EXCAVATION
585619	200-220	LF	5" YELLOW PREF THERMO PAV'T MARK LINES
585619	40	LF	5" WHITE PREF THERMO PAV'T MARK LINES
585621	350-290	LF	12" WHITE PREF THERMO PAV'T MARKING LINES
585623	150-115	LF	24" WHITE PREF THERMO PAV'T MARKING LINES
585700	500-510	LF	REM EXIST PAVMT MARKING LINES, ANY WIDTH
600000	1000	SF	REMOVE AND RESET DECORATIVE BRICK
634300	600	LF	STD TYPE A COMB CURB AND GUTTER 12" X 8"
655105	H00-2200	SF	5 INCH CONCRETE SIDEWALK
655120	60	SF	DETECTABLE WARNING SURFACES
800000	1	EA	FURNISH AND INSTALL 2 WIRE CENTRAL CONTROL UNIT
800000	4	EA	FURNISH AND INSTALL AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
800000	4	EA	FURNISH AND INSTALL LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	125-135	LF	FURNISH AND INSTALL 2 - 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED IN ONE TRENCH
800000	4	EA	FURNISH AND INSTALL 10' PEDESTAL POLE w/BREAKAWAY COUPLINGS (TIGER DRYLACK GREEN RAL 6009)
800000	1	EA	FURNISH AND INSTALL STEEL POLE WITH TWIN 50' MAST ARM (TIGER DRYLACK GREEN RAL 6009)
800000	1	EA	FURNISH AND INSTALL STEEL POLE WITH TWIN 50' AND 60' MAST ARMS (TIGER DRYLACK GREEN RAL 6009)
800000	2	EA	FURNISH AND INSTALL 15 FOOT LIGHTING ARM FOR SIGNAL STRUCTURE (TIGER DRYLACK GREEN RAL 6009)
800000	30	EA	12 INCH (R, Y, G) LED SIGNAL HEAD SECTION
800000	2	EA	VIDEO DETECTION CAMERA AND CABLE
800000	91-112	SF	INSTALL SHEET ALUMINUM SIGN OVERHEAD OR GROUND MOUNT
807405	1	EA	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLT 100 AMP
801130	2	EA	50 PERFT TUB ST SIGN POSTS
801135	2	EA	50 TUB STEEL ANCHOR BASES
805135	75-100	LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	45-85	LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805155	115	LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
810022	50	LF	ELECTRICAL CABLE - 1 CONDUCTOR NO.8 AWG-THHN/THWN
811001	4	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
816010	2	EA	CONT CAB 500-VID-DET CAMERA CNTRLR
816110	1	EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT
831010	2	EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
832020	250-320	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
861105	375	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861106	600	LF	ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 AWG) - ASSUMES SLACK FOR FIRE HOUSE
861107	500	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	1250	LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	350	LF	ELECTRICAL CABLE - 2 CONDUCTOR (TC, NO. 12 AWG)
561116	180	SY	8 INCH PORTLAND CEMENT CONCRETE FOR DRIVEWAY MIX 6

## C. EQUIPMENT TO BE RETURNED TO MR. KEITH LORD (Phone: 301-279-1291) AT MONTGOMERY COUNTY SIGNAL SHOP ADDRESS- 1283, BUILDING C, SEVEN LOCKS ROAD, ROCKVILLE, MARYLAND 20854

QUANTITY	UNIT	DESCRIPTION
1	EA	BASE CABINET SIZE 6
4	EA	VIDEO DETECTION CAMERA

# CONTACTS

THE CONTACT PERSONS ARE AS FOLLOWS:

Mr. Jeffery Wentz  
Assistant District Engineer - Traffic  
Phone: (301) 513-7358

Mr. Vernon StInnett, Jr  
Assistant District Engineer - Maintenance  
Phone: (301) 513-7304

Mr. Augle Robish  
Utility Engineer  
Phone: (301) 513-7350

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

Mr. Ed Rodenhizer  
Supervisor, Signal Operations  
Phone: 410-787-7650

Mr. Kamal Hamud  
Montgomery County  
Phone: 240-777-8761

Mr. Eugene Bailey  
Supervisor, Sign Shop  
Phone: 410-787-7676

# PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PHASE 2 AND 6	G	G	G	G	R	R	R	R	R	R	WK	WK	DW	DW
PED CLEARANCE	G	G	G	G	R	R	R	R	R	R	FLDW	FLDW	DW	DW
2 AND 6 CHANGE	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 4 AND 8	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW
4 AND 8 CHANGE	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 4 ALT	R	R	R	R	G	G	G	G	G	G	DW	DW	WK	WK
PED CLEARANCE	R	R	R	R	G	G	G	G	G	G	DW	DW	FLDW	FLDW
4 ALT CHANGE	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
PRE-EMPTION	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PRE-EMPTION CHANGE	Y	Y	R	R	R	R	R	R	R	R	DW	DW	DW	DW
FLASHING OPERATION	FL/R FL/Y	FL/R FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK

## NOTE:

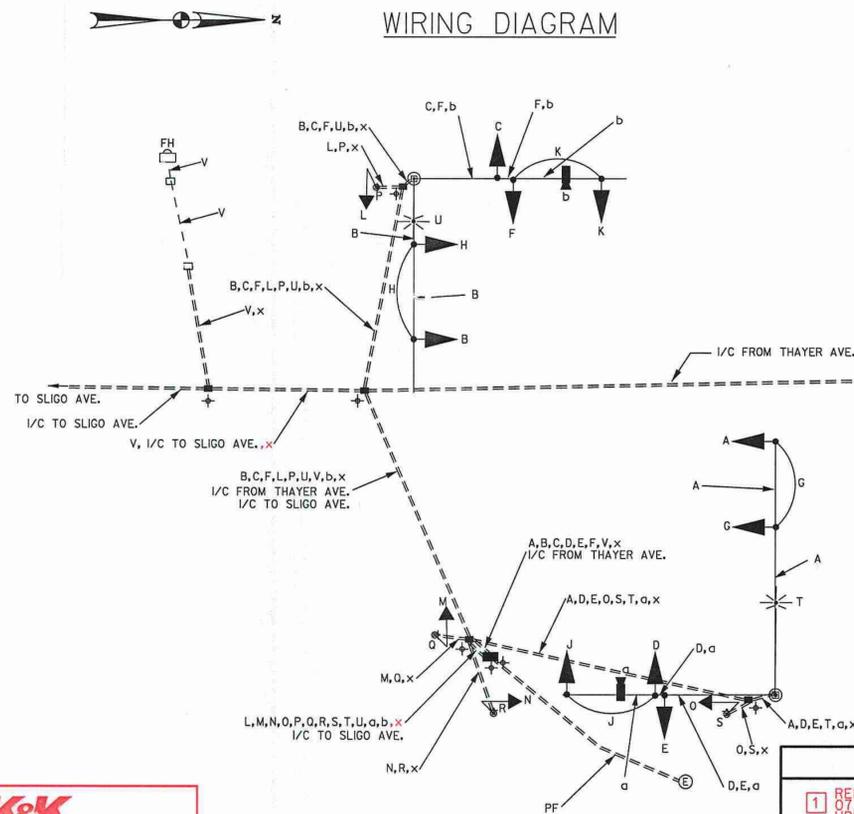
1. DEPENDING ON THE OPERATING PHASES AT ACTIVATION, ALL PHASES OTHER THAN 6 WILL GO TO PHASE CHANGE.
2. IT IS ASSUMED THAT AFTER PRE-EMPTION CHANGE THE CONTROLLER WILL RETURN TO PHASE 2 AND 6.



# WIRING KEY

- A, B, C, D, E, F } 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- G, H, J, K, L, M, N, O } 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- P, Q, R, S } 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- T, U } 2 CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) TRAY CABLE
- V } 3 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- a, b } VIDEO DETECTION CABLE
- x } 1 CONDUCTOR (NO. 6 AWG) STRANDED COPPER GROUND WIRE
- I/C FROM THAYER AVE. } 12 PAIR INTERCONNECT CABLE
- I/C FROM THAYER AVE. / I/C TO SLIGO AVE. }
- PF } POWER SERVICE UNDERGROUND (NO. 4 AWG) 3 WIRE 1 CONDUCTOR (NO. 8 AWG)
- + } GROUND ROD

# WIRING DIAGRAM



**SUA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION  
US 29 (GEORGIA AVE) AT SILVER SPRING AVE  
TRAFFIC SIGNAL DESIGN  
SILVER SPRING, MD

## GENERAL INFORMATION PLAN SHEET

SCALE	NTS	DATE	07/20/09	CONTRACT NO.	MO2165168
DESIGNED BY		COUNTY	MONTGOMERY		
DRAWN BY	DT	LOGMILE	15002900.48		
CHECKED BY	JB	TIMS NO.	J721		
F.A.P. NO.		TOD NO.			
TS NO. 4286C GI	DRAWING	3 OF 3	SHEET NO. 13 OF 26		

1 REDLINE NO. 1  
07/20/2010  
UPDATE QUANTITIES

**RK&K**  
Rummel, Klepper & Kahl, LLP  
81 MOSHER STREET | BALTIMORE, MD 21217  
PH: (410) 728-9900 FAX: (410) 728-3160

**BAI** BRUDIS & ASSOCIATES, INC.  
Consulting Engineers  
9240 Rumsey Road, Suite C  
Columbia, Maryland 21045  
Phone 410-864-3007  
www.brudis.com

BY: BJG