

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic signal at the intersection of MD 97 (Georgia Avenue) with WB MD 200 On- and Off-Ramps in Montgomery County.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA 2-phase, semi-actuated mode. Northbound through traffic on MD 97 will not be signalized. The left turn phase along northbound MD 97 shall operate with exclusive left turn phasing while overlapping with the eastbound Ramp E right turns (in the ultimate condition). Video detection will be installed at this location. Queue detection will be provided along Ramp E (in the ultimate condition).

NOTES

- For final pavement markings, refer to the pavement marking plans, as applicable; other than those detailed on the plan. All pavement markings shall be installed in accordance with Administration standards.
- The contractor shall be responsible for terminating all signal cable to the appropriate terminals and properly labeling each cable.
- All traffic signal foundations shall be installed at the final sidewalk or curb grade for closed sections.
- The contractor shall be responsible for delivering the video interface equipment to the Montgomery County Signal Shop. County forces will complete the retrofit of all signal equipment.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.
- Controller, cabinet, and APS equipment shall be purchased from Econolite and delivered to the Montgomery County Signal Shop for wiring and testing prior to installation.
- The contractor shall maintain interconnect throughout all construction phases.
- APS will function as follows:
 - When pedestrian locates and presses pushbutton for extended time, the audible message will be "Wait to cross Ramp at Georgia Avenue."
 - When Walk phase begins, the message will be a rapid tick which will last for the duration of the Walk phase.
- Pushbuttons are to be located so that they can be activated by a person in a wheelchair reaching less than 18" from a 60" X 60" level landing area with a cross slope of less than or equal to 2%. The 10' separation between pushbuttons is to be measured from face of pushbutton to face of pushbutton, not center of pole to center of pole.
- Pushbutton arrows are to be parallel to the crossing for which they are intended.
- Location of accessible pedestrian signal pushbuttons must meet location requirements of MD MUTCD Sec. 4E.09 and Fig. 4E.2 and the NCHRP publication "Accessible pedestrian signals: Guide to best practice." If not met, the contractor is to stop work on pushbutton locations until a design waiver is obtained, approved by the Director, Office of Traffic & Safety.

CONTACTS

DISTRICT (THREE)

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MONTGOMERY COUNTY

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OFFICE OF TRAFFIC AND SAFETY

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TEAM LEADER SIGN OPERATIONS
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MS. DARLENE EIDE
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
410-787-7668

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

CAT CODE UNITS QUANTITY DESCRIPTION

NONE

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

CAT CODE UNITS QUANTITY DESCRIPTION

203030	CY	3	TEST PIT EXCAVATION
500000	LF	375	12 INCH WHITE PERMANENT PREFORMED THERMO. PAVEMENT MARKING
500000	LF	150	24 INCH WHITE PERMANENT PREFORMED THERMO. PAVEMENT MARKING
800000	EA	2	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION PEDESTAL POLE MOUNT
800000	EA	1	AUDIBLE TACTILE PEDESTRIAN PUSH BUTTON BASE UNIT
800000	EA	2	AUDIBLE TACTILE PEDESTRIAN PUSH BUTTON STATION
800000	EA	1	CONTROL CABLE 200 FOOT VIDEO DETECTION CAMERA TO CONTROLLER
800000	EA	2	CONTROL CABLE 500 FOOT VIDEO DETECTION CAMERA TO CONTROLLER
800000	EA	1	ECONOLITE CABINET AND CONTROLLER WITH VIDED INTERFACE
801004	CY	11	CONCRETE FOR SIGNAL FOUNDATIONS
801605	SF	36	SHEET ALUMINUM SIGNS
802501	LF	480	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805125	LF	20	2 INCH SCHEDULE 80 PVC CONDUIT - TRENCHED
805135	LF	20	3 INCH SCHEDULE 80 PVC CONDUIT - TRENCHED
805140	LF	1820	4 INCH SCHEDULE 80 PVC CONDUIT - TRENCHED
805160	LF	20	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
807202	EA	1	METERED SERVICE PEDESTAL
811001	EA	12	FURNISH AND INSTALL ELECTRICAL HANDHOLE
816001	EA	3	VIDEO DETECTION CAMERA
818004	EA	2	10 FOOT BREAKAWAY PEDESTAL POLE
818036	EA	1	STEEL POLE WITH A SINGLE 50 FOOT MAST ARM
818050	EA	1	STEEL POLE WITH TWIN 50 FOOT AND 60 FOOT MAST ARMS
821003	EA	2	BREAKAWAY BASE SUPPORT SYSTEM FOR SIGNAL STRUCTURE
831010	EA	1	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
837001	EA	10	GROUND ROD - 3/4 INCH DIA. X 10 FOOT LENGTH

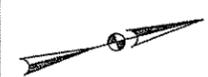
EQUIPMENT LIST CONTINUED

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

CAT CODE UNITS QUANTITY DESCRIPTION

860284	EA	24	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861104	LF	1275	ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861105	LF	325	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	LF	390	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	LF	1560	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	LF	225	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)
861117	LF	30	ELECTRICAL CABLE - 3 WIRE (NO. 4 AWG)
862101	LF	440	LDDP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
862102	LF	110	SAW CUT FOR SIGNAL (LDDP DETECTOR)
866104	EA	1	20 FOOT LIGHTING ARM DN SIGNAL STRUCTURE

NOTE: THE CONTRACTOR SHALL DELIVER AUDIBLE TACTILE PEDESTRIAN PUSH BUTTON STATION AND BASE UNIT TO THE MONTGOMERY COUNTY SIGNAL SHOP FOR PROGRAMMING PRIOR TO THE INSTALLATION.



PHASE CHART (INTERIM)

		1	2	3	4	5	6	7	8	9	10	
PHASE 1	+G-	G	G	R	R	B	B	B	DW	DW		
1 CHANGE	+Y-	Y	Y	R	R	A	A	A	DW	DW		
PHASE 2	+R-	R	R	G	G	G	G	G	WK	WK		
PED CLEARANCE	+R-	R	R	G	G	G	G	G	FLOW	FLDW		
2 CHANGE	+R-	R	R	Y	Y	E	E	E	DW	DW		
FLASHING OPERATION	FL/R	FL/R	FL/R	FL/Y	FL/Y	D	D	D	DARK	DARK		

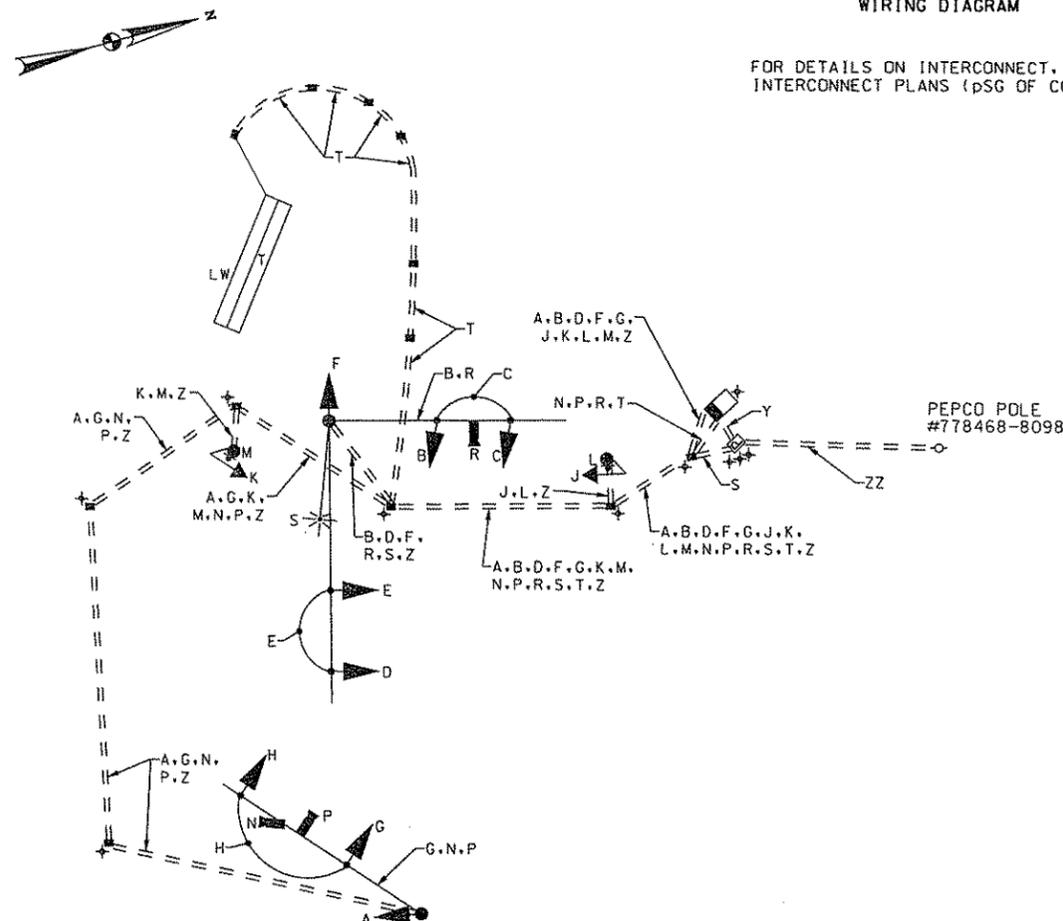


PHASE CHART (ULTIMATE)

		1	2	3	4	5	6	7	8	9	10	
PHASE 1	+G-	G	G	R	R	-G+	-G+	-G+	DW	DW		
1 CHANGE	+Y-	Y	Y	R	R	-Y+	-Y+	-Y+	DW	DW		
PHASE 2	+R-	R	R	G	G	-R+	-R+	-R+	WK	WK		
PED CLEARANCE	+R-	R	R	G	G	-R+	-R+	-R+	FLOW	FLDW		
2 CHANGE	+R-	R	R	Y	Y	-R+	-R+	-R+	DW	DW		
FLASHING OPERATION	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	DARK	DARK		

WIRING DIAGRAM

FOR DETAILS ON INTERCONNECT, REFER TO INTERCONNECT PLANS (pSG OF C009 THRU C013).



KEY

- A) 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- B) 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- C) 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- D) 2 CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) TRAY CABLE
- E) VIDEO DETECTION CABLE
- F) 2 CONDUCTOR ELECTRICAL CABLE ALUMINUM SHIELDED
- G) LOOP WIRE
- H) 1 CONDUCTOR (NO. 6 AWG) STRANDED COPPER GROUND WIRE
- I) 3 WIRE 1 CONDUCTOR (NO. 4 AWG THHN/THWN)
- J) 3 WIRE 250 KCMIL TYPE USE
- K) GROUND ROD

**SEGMENT D
APPROVED FOR
CONSTRUCTION**

Released For Construction
APR 17 2009
Montgomery County
MDOT

SNA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 97 (GEORGIA AVENUE) AT
MD 200 WB RAMPS (RAMPS "E" AND "F")
NORBECK, MARYLAND



TWO TAFT COURT • ROCKVILLE, MARYLAND 20850 • 301-354-8600

REVISIONS	GENERAL INFORMATION SHEET
0 SDSRW-FFD0-40F	SCALE NOT TO SCALE. DATE OCT. 2007. CONTRACT NO. AT3765960
	DESIGNED BY A. GRIFFIN COUNTY MONTGOMERY
	DRAWN BY A. GRIFFIN LOGMILE 15009709.58
	CHECKED BY K. RINKER T.I.M.S. NO. 3367X
	F.A.P. NO. AC-NH-ICC-1(1)N TOD NO.
	TS NO. 4699 DRAWING pSG OF N004 SHEET NO. OF

BY: C0038660