

**PROJECT DESCRIPTION**

**GENERAL**

THIS PROJECT INVOLVES MODIFICATION OF THE TRAFFIC SIGNAL AT THE INTERSECTION OF MD 355 (S FREDERICK ROAD) AT SUMMIT AVENUE IN GAITHERSBURG, MARYLAND. THE TRAFFIC SIGNAL MODIFICATION IS IN CONJUNCTION WITH ROADWAY IMPROVEMENTS FOR AN ADDITIONAL WESTBOUND LANE. MD 355 IS ASSUMED TO RUN IN A NORTH - SOUTH DIRECTION.

**INTERSECTION OPERATIONS**

AN EXISTING NEMA SIZE 6 BASE MOUNTED CABINET AND CONTROLLER WILL BE USED AT THIS LOCATION. MONTGOMERY COUNTY DOT SHALL RETROFIT CONTROLLER EQUIPMENT TO OPERATE VIDEO DETECTION EQUIPMENT. THE INTERSECTION OPERATES IN A FULLY ACTUATED MODE WITH FIVE (5) NEMA PHASES.

**SPECIAL NOTES**

- ALL UNDERGROUND 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE SO THAT SHA FORCES CAN MAKE THE FINAL CONNECTIONS. CONTACT THE TRAFFIC SIGNAL OPERATIONS SUPERVISOR, AT LEAST 72 HOURS PRIOR TO INSTALLATION.
- THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

**PROJECT CONTACTS:**

MR. BRIAN YOUNG DISTRICT ENGINEER - #3 PHONE: (301) 513-7311	MR. KEITH LOAD SIGNAL SHOP (MONTGOMERY COUNTY) PHONE: (301) 674-8966
ASSISTANT DISTRICT ENGINEER - TRAFFIC PHONE: (301) 513-7358	MR. KAMAL HAMUD MONTGOMERY COUNTY TMC CENTER PHONE: (240) 777-8761
MR. KEVIN NOWAK ASSISTANT DISTRICT ENGINEER - CONSTRUCTION PHONE: (301) 513-7336	MR. SONNY BAILEY MANAGER SIGN SHOP PHONE: (410) 787-7670
MR. VERNON STINNETT ASSISTANT DISTRICT ENGINEER - MAINTENANCE PHONE: (301) 513-7304	
MR. AUGIE REBISH UTILITY ENGINEER PHONE: (301) 513-7350	
MR. RICHARD DAFF, SR. CHIEF TRAFFIC SIGNAL OPERATIONS DIVISION PHONE: (410) 787-7630	

**EQUIPMENT LIST**

**A. EQUIPMENT TO BE SUPPLIED BY THE STATE HIGHWAY ADMINISTRATION.**

NONE

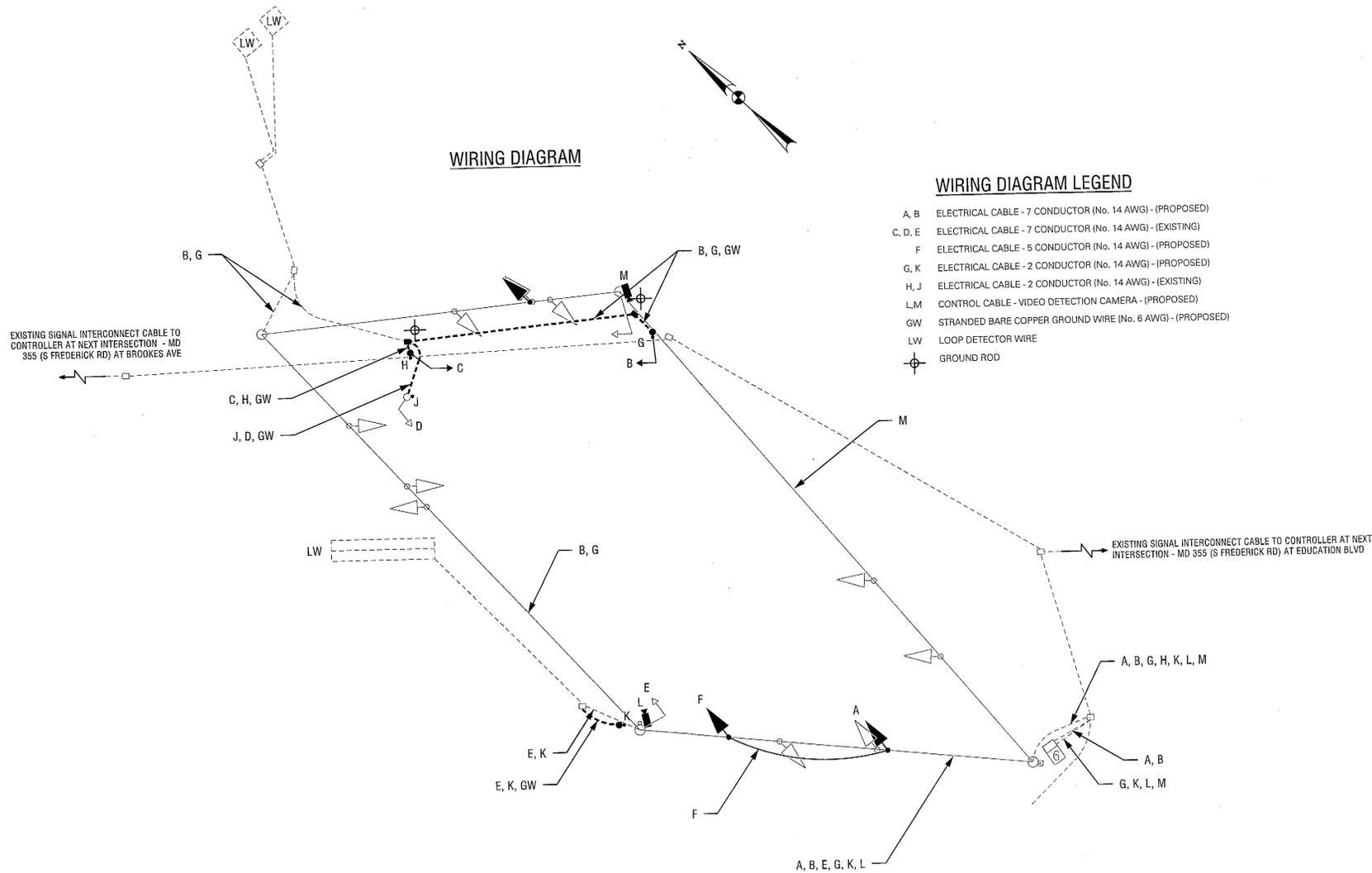
**B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.**

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
120500	MAINTENANCE OF TRAFFIC	LS	1
130850	MOBILIZATION	LS	1
203030	TEST PIT EXCAVATION	LS	3
585602	10 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	200
585617	5 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	45
585619	5 INCH YELLOW PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	25
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	250
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	135
585627	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS	SF	85
655120	DETECTABLE WARNING SURFACE FOR CURB RAMPS	SF	70
800000	U-CHANNEL POST	EA	1
800000	2 WIRE CENTRAL CONTROL UNIT (APS)	EA	1
800000	5 FOOT BREAKAWAY PEDESTAL POST	EA	1
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	5
801605	SHEET ALUMINUM SIGNS	SF	18
	1 EACH R3-SL (30' x 36") MAST ARM MOUNT (LEFT ONLY)		
	1 EACH R3-B (30' x 36") MAST ARM MOUNT (LEFT-THRU)		
	1 EACH R3-S(4) MOD (24' x 18") GROUND MOUNT (PRIVATE DRIVEWAY)		
801706	REMOVE SIGNS FROM EXISTING OVERHEAD STRUCTURE	SF	15
802501	STRANDED BARE COPPER GROUND WIRE (No. 6 AWG)	LF	85
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	75
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	45
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	2
811002	REMOVE ELECTRICAL HANDHOLE	EA	2
813023	RELOCATE EXISTING GROUND MOUNTED SIGNS	SF	12
816001	VIDEO DETECTION CAMERA	EA	2
816005	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER	EA	2
816015	VIDEO INTERFACE EQUIPMENT	EA	1
818004	10 FOOT BREAKAWAY PEDESTAL POLE	EA	2
837001	GROUND ROD - 3/4 INCH x 10 FOOT LENGTH	EA	2
860000	16" LED COUNTDOWN PEDESTRIAN SIGNAL HEAD	EA	11
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	11
861105	ELECTRICAL CABLE - 2 CONDUCTOR (No. 14 AWG)	LF	1150
861107	ELECTRICAL CABLE - 5 CONDUCTOR (No. 14 AWG)	LF	45
861108	ELECTRICAL CABLE - 7 CONDUCTOR (No. 14 AWG)	LF	850
865000	APS PUSH BUTTON AND SIGN	EA	4
873001	REMOVE & SALVAGE EXISTING EQUIPMENT	LS	1

**C. EQUIPMENT TO BE REMOVED AND RETURNED TO STATE HIGHWAY ADMINISTRATION.**

NONE

**WIRING DIAGRAM**



**WIRING DIAGRAM LEGEND**

- A, B ELECTRICAL CABLE - 7 CONDUCTOR (No. 14 AWG) - (PROPOSED)
- C, D, E ELECTRICAL CABLE - 7 CONDUCTOR (No. 14 AWG) - (EXISTING)
- F ELECTRICAL CABLE - 5 CONDUCTOR (No. 14 AWG) - (PROPOSED)
- G, K ELECTRICAL CABLE - 2 CONDUCTOR (No. 14 AWG) - (PROPOSED)
- H, J ELECTRICAL CABLE - 2 CONDUCTOR (No. 14 AWG) - (EXISTING)
- L, M CONTROL CABLE - VIDEO DETECTION CAMERA - (PROPOSED)
- GW STRANDED BARE COPPER GROUND WIRE (No. 6 AWG) - (PROPOSED)
- LW LOOP DETECTOR WIRE
- ⊕ GROUND ROD

**PHASE CHART**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase 01 + 06	R	R	←G	←G	R	R	R	R	R	R	R	R	DW	DW	DW	DW
Phase 01 + 06 Change	R	R	←Y	←Y	R	R	R	R	R	R	R	R	DW	DW	DW	DW
Phase 02 + 06	G	G	G	G	G	R	R	R	R	R	R	R	FLDW	FLDW	DW	DW
Phase 02 + 06 Ped Clear	G	G	G	G	G	R	R	R	R	R	R	R	FLDW	FLDW	DW	DW
Phase 02 + 06 Change	Y	Y	Y	Y	Y	R	R	R	R	R	R	R	DW	DW	DW	DW
Phase 03	R	R/←G	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW
Phase 03 Change	R	R/←Y	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW
Phase 04	R	R	R	R	R	←G	←G	R	R	R	R	R	DW	DW	DW	DW
Phase 04 Change	R	R	R	R	R	←Y	←Y	R	R	R	R	R	DW	DW	DW	DW
Phase 03 Alt	R	R/←G	R	R	R	R	R	R	←G	←G	←G	←G	DW	DW	FLDW	FLDW
Phase 03 Alt Ped Clear	R	R/←Y	R	R	R	R	R	R	←G	←G	←G	←G	DW	DW	FLDW	FLDW
Phase 03 Alt Change	R	R/←Y	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW
Flashing Operation	FLY	FLY	FLY	FLY	FLY	FL/R	DARK	DARK	DARK	DARK						

**WELLS + ASSOCIATES, INC.**  
 TRANSPORTATION, TRAFFIC AND PARKING CONSULTANTS  
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 Phone: 703/442-1442 Fax: 703/443-1225  
 1420 Spring Hill Road, Suite 600, McLean, Virginia 22102  
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**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 OFFICE OF TRAFFIC & SAFETY  
 TRAFFIC ENGINEERING DESIGN DIVISION  
**MD 355 (S FREDERICK ROAD)  
 AT SUMMIT AVENUE**  
 GAITHERSBURG, MARYLAND

**GENERAL INFORMATION SHEET**

SCALE: N/A DATE: 24 MAR 2010 CONTRACT NO. \_\_\_\_\_

DESIGNED BY: NDG COUNTY: MONTGOMERY  
 DRAWN BY: APV LOGMILE: 15095514.02  
 CHECKED BY: LES T.J.M.S. NO.: J614  
 F.A.P. NO. \_\_\_\_\_ TOD NO. \_\_\_\_\_

DRAWING NO. TS - 135D-G1 SHEET NO. 2 OF 2

PLOTTED: FILE: L:\PROJECTS\4001 - 4500\4290 - MD 355 @ SUMMIT\DESIGN\MD355\_SUMMIT\_G1.DGN

BY: WELLS + ASSOCIATES, INC.