PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES MODIFICATION TO THE TRAFFIC SIGNAL AT THE INTERSECTION OF MD 119 (GREAT SENECA HIGHWAY) AT SAM EIG HIGHWAY IN CONJUNCTION WITH PROPOSED GEOMETRIC IMPROVEMENTS. ACCESSIBLE PEDESTRIAN SIGNAL EQUIPMENT WILL BE INSTALLED TO SERVE THE EAST LEG CROSSING AND SLIP RAMP CROSSING. THE PROJECT IS LOCATED IN MONTGOMERY COUNTY, MARYLAND. MD 119 (GREAT SENECA HIGHWAY) IS ASSUMED TO RUN IN A NORTH - SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION OPERATES IN A NEMA FOUR-PHASE, FULLY ACTUATED MODE, WITH THE MD 119 (GREAT SENECA HIGHWAY) APPROACHES CONTINUING TO RUN CONCURRENTLY. THE EXCLUSIVE LEFT TURN PHASE FOR THE SOUTHBOUND APPROACH OF MD 119 (GREAT SENECA HIGHWAY) SHALL REMAIN OPERATIONAL. THE PEDESTRIAN PHASE ACROSS THE EAST LEG OF SAM EIG HIGHWAY SHALL REMAIN IN OPERATION. A DUAL RIGHT PHASE FOR THE WESTBOUND SAM EIG HIGHWAY APPROACH SHALL REMAIN OPERATIONAL. THE DUAL RIGHT TURN PHASE SHALL OPERATE IN CONJUNCTION WITH THE WESTBOUND SAM EIG HIGHWAY LEFT TURN PHASE AND THE SOUTHBOUND MD 119 PHASE. OPTICALLY PROGRAMMED SIGNAL HEADS ARE PROVIDED ON NORTHBOUND MD 119 APPROACHING THE MERGE AREA OF THE DUAL RIGHT TURN RAMP. A CONCURRENT PEDESTRIAN PHASE IS PROVIDED ACROSS THE DUAL RIGHT TURN PHASE ON THE RAMP.

CONTROLLER REQUIREMENTS

A NEW NEMA 8 BASE MOUNTED CABINET AND 8 PHASE CONTROLLER ASSEMBLY COMPLETE WITH SYSTEM PACKAGE, VIDEO INTERFACE EQUIPMENT AND AUXILARY EQUIPMENT TO PROVIDE THE INTENDED OPERATION SHOWN WILL BE INSTALLED AT THIS LOCATION. ALL INTERNAL WIRING TO BE DONE BY SHA.

SPECIAL NOTES

1. ALL UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC 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 ENGINEER IN THE FIELD IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
2. 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. ALL UNUSED SIGNAL CABLES SHALL BE REMOVED AND DISPOSED. CONTACT THE TRAFFIC SIGNAL OPERATIONS SUPERVISOR AT LEAST 72 HOURS PRIOR TO INSTALLATION.
3. THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT IN DISTRICT #3 ARE AS FOLLOWS:

MR. BRIAN YOUNG
DISTRICT ENGINEER - #3
PHONE: (301) 513-7311

MR. CEDRIC WARD
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 513-7358

MR. KEVIN NOWAK
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: (301) 513-7339

MR. VERNON STINNETT
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 513-7304

MR. RICHARD DAFF, SR.
CHIEF TRAFFIC SIGNAL OPERATIONS DIVISION
PHONE: (410) 787-7690

MR. ROBERT RICKETTS
SIGNAL SHOP (MONTGOMERY COUNTY)
PHONE: (301) 674-8965

MR. KAMAL HAMUD
MONTGOMERY COUNTY TMC CENTER
PHONE: (240) 777-8761

MR. SONNY BAILEY
CHIEF SIGN SHOP
PHONE: (410) 787-7670

MR. MIKE KINNEY
MONTGOMERY COUNTY TMC CENTER
PHONE: (240) 777-8760

MESSAGES FOR ACCESSIBLE PEDESTRIAN SIGNAL

LEG	WAIT MESSAGE WHEN PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:	WALK MESSAGE WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE EITHER (1) A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE OR (2) THE FOLLOWING MESSAGE:
NORTH	"WAIT TO CROSS SAM EIG AT GREAT SENECA"	RAPID TICK
RAMP	"WAIT TO CROSS SAM EIG"	RAPID TICK

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY STATE HIGHWAY ADMINISTRATION

NONE

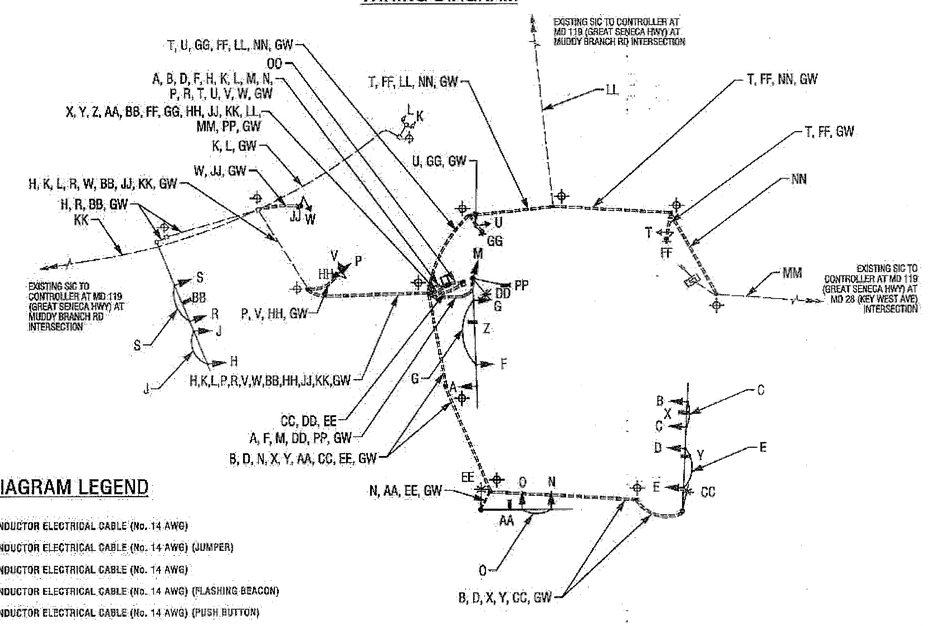
B. EQUIPMENT TO BE FURNISHED AND /OR INSTALLED BY THE CONTRACTOR

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
114280	REMOVE EXISTING PAVEMENT MARKING LINES, ANY WIDTH	LF	500
120500	MAINTENANCE OF TRAFFIC	LS	1
130650	MOBILIZATION	LS	1
203030	TEST PIT EXCAVATION	CY	10
585621	12" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	200
585625	24" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	150
800000	2 WIRE CENTRAL CONTROL UNIT (APS)	EA	1
800000	AUDIBLE / TACTILE PEDESTRIAN PUSHBUTTON AND SIGN	EA	4
800000	16" LED COUNTDOWN PEDESTRIAN SIGNAL HEAD	EA	4
800000	CONTROL CABLE, 150', VIDEO DETECTION CAMERA TO CONTROLLER	EA	1
800000	10' LIGHTING ARM ON SIGNAL STRUCTURE	EA	3
800000	RELOCATE CCTV EQUIPMENT AND REWIRE	LS	1
800000	SPLICE EXISTING INTERCONNECT CABLES TO NEW COMMUNICATION CABLE	EA	1
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	16
801605	SHEET ALUMINUM SIGNS	SF	125
	2 EA D-3(1) OVERHEAD STREET NAME PANEL (VAR. x 18") MAST ARM MOUNTED (SAM EIG HWY)		
	1 EA D-3(1) OVERHEAD STREET NAME PANEL (VAR. x 18") MAST ARM MOUNTED (GREAT SENECA HWY)		
	1 EA R3-1 NO RIGHT TURN (30" X 30") MAST ARM MOUNTED (NO RIGHT TURN)		
	1 EA R3-4 U-TURN PROHIBITED (24" x 24") MAST ARM MOUNTED (NO U-TURN)		
	4 EA R3-5L MANDATORY LANE CONTROL (30" x 36") MAST ARM MOUNTED (LEFT TURN ONLY)		
	1 EA R10-11B MANDATORY LANE CONTROL (30" x 30") MAST ARM MOUNTED (NO TURN ON RED)		
	1 EA GUIDE SHIELD ASSEMBLY (48" x 75") POLE MOUNTED (SOUTH MD 119 LEFT ARROW)		
802145	ADJUST EXISTING HANDHOLE	EA	1
802601	STRANDED BARE COPPER GROUND WIRE (No. 6 AWG)	LF	1140
805118	4" SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	250
805125	2" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	15
805135	3" SCHEDULE 80 PVC RIGID CONDUIT - TRENCHED	LF	575
807202	METERED SERVICE PEDESTAL - EMBEDDED (100 AMP)	EA	1
810014	ELECTRICAL CABLE 1 CONDUCTOR NO. 8	LF	60
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	7
816001	VIDEO DETECTION CAMERA WITH ARM AND CLAMP	EA	5
816005	CONTROL CABLE, 250', VIDEO DETECTION CAMERA TO CONTROLLER	EA	1
816010	CONTROL CABLE, 500', VIDEO DETECTION CAMERA TO CONTROLLER	EA	3
816015	VIDEO INTERFACE EQUIPMENT	EA	1
818004	10' BREAKAWAY PEDESTAL POLE	EA	3
818010	14' BREAKAWAY PEDESTAL POLE	EA	1
818036	27' STEEL POLE WITH A SINGLE 60" MAST ARM	EA	1
818052	27' STEEL POLE WITH A SINGLE 70" MAST ARM	EA	2
822002	12 PAIR COMMUNICATION CABLE (UNDERGROUND)	LF	250
831010	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE	EA	3
857001	GROUND ROD - 3/4 " DIAMETER x 10' LENGTH	EA	7
860274	12" OPTICAL PROGRAMMABLE SIGNAL HEAD SECTION	EA	6
860284	12" VEHICULAR SIGNAL HEAD SECTION	EA	41
861105	ELECTRICAL CABLE - 2 CONDUCTOR (No. 14 AWG)	LF	900
861107	ELECTRICAL CABLE - 5 CONDUCTOR (No. 14 AWG)	LF	2300
861108	ELECTRICAL CABLE - 7 CONDUCTOR (No. 14 AWG)	LF	2200
861116	ELECTRICAL CABLE - 2 CONDUCTOR (No. 12 AWG)	LF	600
866104	20' LIGHTING ARM ON SIGNAL STRUCTURE	EA	1
871202	ECONOLITE EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "S" BASE MOUNTED CABINET WITH BATTERY BACKUP PER MSHA SPECIFICATIONS. CABINET TO BE DELIVERED TO MONTGOMERY COUNTY SIGNAL SHOP FOR WIRING PRIOR TO INSTALLATION. CONTACT ROBERT RICKETTS 72 HOURS PRIOR TO DELIVERY.	EA	1
873001	REMOVE AND SALVAGE EXISTING EQUIPMENT	LS	1

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

NONE

WIRING DIAGRAM



WIRING DIAGRAM LEGEND

A, B, D, F, H, M, N, P, R	7 CONDUCTOR ELECTRICAL CABLE (No. 14 AWG)
C, E, G, J, O, S	5 CONDUCTOR ELECTRICAL CABLE (No. 14 AWG) (JUMPER)
T, U, V, W	5 CONDUCTOR ELECTRICAL CABLE (No. 14 AWG)
K, L	5 CONDUCTOR ELECTRICAL CABLE (No. 14 AWG) (FLASHING BEACON)
FF, GG, HH, JJ	2 CONDUCTOR ELECTRICAL CABLE (No. 14 AWG) (PUSH BUTTON)
X, Y, Z, AA, BB	VIDEO DETECTION CAMERA CONTROL CABLE
CC, DD, EE	2 CONDUCTOR ELECTRICAL CABLE (No. 12 AWG) TYPE T/C
KK, LL, MM	EXISTING SIGNAL INTERCONNECT CABLE (ROUTE KK & LL THROUGH NEW CONDUIT)
NN	12 PAIR COMMUNICATION CABLE (JELLY FILLED)
OO	3 ELECTRICAL CABLES - 1 CONDUCTOR (NO. 4 AWG)
PP	CCTV CABLES
GW	STRANDED BARE COPPER GROUND WIRE (No. 6 AWG)
	POWER SOURCE
	GROUND ROD

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
PHASE 2+5 (3 OVERLAP)	R	R	R	R	+G-	+G-	+G-	G	G	DARK	DARK	R	R	R	G	G	G	DW	DW	DW	DW
PHASE 2+5 CHANGE	R	R	R	R	+Y-	+Y-	+Y-	Y	Y	FL / Y	FL / Y	R	R	R	Y	Y	Y	DW	DW	DW	DW
PHASE 2+6	G	G	G	G	+R-	+R-	+R-	G	G	FL / Y	FL / Y	R	R	R	R	R	R	W	W	W	W
PHASE 2+6 PED CLEAR	G	G	G	G	+R-	+R-	+R-	G	G	FL / Y	FL / Y	R	R	R	R	R	R	FLDW	FLDW	FLDW	FLDW
PHASE 2+6 CHANGE	Y	Y	Y	Y	+R-	+R-	+R-	Y	Y	FL / Y	FL / Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 4	R	R	R	R	+R-	+R-	+R-	R	R	DARK	DARK	G	G	G	G	G	G	DW	DW	DW	DW
PHASE 4 CHANGE	R	R	R	R	+R-	+R-	+R-	R	R	FL / Y	FL / Y	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL / Y	FL / Y	FL / Y	FL / Y	FL / R	FL / R	FL / R	FL / Y	FL / Y	FL / Y	FL / Y	FL / R	FL / R	FL / R	FL / R	FL / R	FL / R	DARK	DARK	DARK	DARK

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

MD 119 (GREAT SENECA HIGHWAY) AT SAM EIG HIGHWAY

ROCKVILLE, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 18 FEB 2011 CONTRACT NO. BW996M82

DESIGNED BY NG COUNTY MONTGOMERY
DRAWN BY AV LOGMILE 15002818.91
CHECKED BY LS T.I.M.S. NO. 1409
F.A.P. NO. TOD NO.

DRAWING NO. TS-4059D-GI SHEET NO. 2 OF 2

WELLS + ASSOCIATES, INC
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BY: WELLS + ASSOCIATES, INC.