PROJECT DESCRIPTION

I. GENERAL

THE PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT MD 97 (GEORGIA AVE) AND SPARTAN RD / MORNINGWOOD DR. THE MODIFICATION INVOLVES THE INSTALLATION OF A NEW NEMA SIZE "S" BASE MOUNTED CABINET ON THE EXISTING CABINET FOUNDATION. ALL EXISTING PEDESTRIAN SIGNALS WILL BE UPGRADED TO ACCESSIBLE PEDESTRIAN SIGNALS AND LED COUNTDOWN PEDESTRIAN SIGNAL HEADS.ALL EXISTING SIGNAL HEADS WILL BE UPGRADED TO LED SIGNAL HEADS. ALL EXISTING CURB RAMPS WILL BE UPGRADED TO CURRENT ADA STANDARDS. ALL EXISTING LOOP DETECTORS WILL BE REPLACED WITH VIDEO DETECTION. MD 97 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION SHALL CONTINUE TO OPERATE IN A NEMA SIX-PHASE, FULLY-ACTUATED MODE, WITH THE MD 97 (GEORGIA AVE) APPROACHES RUNNING CONCURRENTLY. THE NORTHBOUND AND SOUTHBOUND LEFT TURN MOVEMENTS RUN AS A EXCLUSIVE-PERMISSIVE LEFT TURN PHASES. SPARTAN RD AND MORNINGWOOD DR WILL CONTINUE TO OPERATE IN SPLIT PHASE FOR THE EASTBOUND AND WESTBOUND APPROACHES. THE EAST AND WEST LEG CROSSINGS SHALL HAVE AN ALTERNATE PEDESTRIAN PHASE.

III. CONTROLLER REQUIREMENTS

A NEMA EIGHT-PHASE, FULL-ACTUATED CONTROLLER WITH VIDEO DETECTOR INTERFACE UNIT, 2-WIRE CENTRAL CONTROL UNIT, UPS BATTERY BACKUP, AND ALL OTHER NECESSARY EQUIPMENT HOUSED IN A NEMA SIZE "S" BASE-MOUNTED CABINET SHALL BE INSTALLED AT THE INTERSECTION.

IV. SPECIAL NOTES:

1. APS WILL FUNCTION AS FOLLOWS:

TO CROSS MD 97 (GEORGIA AVE)

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS GEORGIA AT SPARTAN/MORNINGWOOD. WAIT."
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS SPARTAN RD

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS SPARTAN AT GEORGIA. WAIT."
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS MORNINGWOOD DR

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS MORNINGWOOD AT GEORGIA. WAIT."
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERING THE SIGNAL CABINET VIDEO DETECTION INTERFACE EQUIPMENT TO THE MONTGOMERY COUNTY SIGNAL SHOP. THE CONTRACTOR SHALL DELIVER APS PUSHBUTTON AND CENTRAL CONTROL UNIT TO MR. ROBERT RICKETTS AT MONTGOMERY COUNTY TECHNICAL CENTER AT 1283 SEVEN LOCKS ROAD, ROCKVILLE, MD 20854 AT LEAST 3 WEEKS PRIOR TO BEGINING WORK. THE CONTRACTOR SHALL HAVE THE APS MESSAGES PROGRAMMED FROM THE FACTORY AND DELIVER THE APS WAVE FILE TO MR. ROBERT RICKETTS.

THE CONTACT PERSONS FOR DISTRICT #3 (MONTGOMERY COUNTY) ARE AS FOLLOWS:

DISTRICT (DISTRICT 3 - MONTGOMERY)

MR. BRIAN YOUNG
DISTRICT ENGINEER
301-513-7311

MS. ANYESHA MOOKHERJEE
ASSISTANT DISTRICT ENGINEER - TRAFFIC
301-513-7358

MR. VICTOR GRAFTON
DISTRICT UTILITY ENGINEER
301-513-7350

MR. KEVIN NOWAK & MR. DUANE BERNARD
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
301-513-7385

MR. TOM FOUNTAIN
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
301-513-7304

MONTGOMERY COUNTY DOT

MR. KAMAL HAMUD
TRAFFIC ENGINEER
240-777-8761

MR. ROBERT RICKETTS
SIGNAL SHOP
301-279-1291

OFFICE OF TRAFFIC AND SAFETY

MS. CORREN JOHNSON
CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. EDWARD RODENHIZER
CHIEF, SIGNAL OPERATIONS SECTION
410-787-7650

MR. EUGENE BAILEY
CHIEF, SIGN OPERATIONS SECTION
410-787-7670

MR. MICHAEL STOCKER
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
410-787-7696

UTILITY CONTACT

PEPCO
PAUL WILSON
(301)548-4332
201 W GUDE DRIVE
ROCKVILLE, MD 20850-0850

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

CATEGORY CODE	QTY	UNITS	DESCRIPTION
900000	1	EA	CONTROLLER CABINET, SIZE "S" W/CTRL, VIDEO INT. 1-8 CAM
900000	1	EA	UPS EQUIPMENT FOR "S" CABINET
900000	1	EA	CABINET EXTENSION BASE, SIZE "S"
900000	8	SF	SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN 8 EA - R10-3(1) (9 IN. X 15 IN.)
900000	14	SF	SHEET ALUMINUM GROUND MOUNTED SIGN 1 EA - R3-4 (30 IN. X 30 IN.) 1 EA - R4-7 (24 IN. X 30 IN.) 1 EA - OM1-3 FL/Y (18 IN. X 18 IN.)

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

CATEGORY CODE	QTY	UNITS	DESCRIPTION
100000	1	EA	MAINTENANCE OF TRAFFIC (PER INTERSECTION)
201032	20	CY	CLASS 2 EXCAVATION
203030	3	CY	TEST PIT EXCAVATION
504150	1	TON	HOT MIX ASPHALT SUPERPAVE 9.5MM FOR SURFACE, PG76-22, LEVEL-3
520109	20	SY	3 INCH GRADED AGGREGATE BASE COURSE
585617	10	LF	5 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585619	20	LF	5 INCH YELLOW PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585621	520	LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585625	140	LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585700	1090	LF	REMOVAL OF EXISTING PAVEMENT MARKING LINES, ANY WIDTH
600000	225	LF	TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH
600000	190	LF	TYPE A CURB ANY HEIGHT OR DEPTH
655105	1690	SF	5 INCH CONCRETE SIDEWALK
655120	160	SF	DETECTABLE WARNING SURFACE FOR CURB RAMPS
704345	180	SY	PLACING FURNISHED TOPSOIL 4 INCH DEPTH
708220	90	SY	TURFGRASS SOD ESTABLISHMENT
800000	1	EA	ADJUST HANDHOLE TO GRADE AND REPLACE FRAME AND COVER
800000	835	LF	DISCONNECT, PULL-BACK & REROUTE CABLES
800000	1	EA	2 WIRE CENTRAL CONTROL UNIT
800000	8	EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
800000	8	EA	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	4	EA	IP-BASED VIDEO DETECTION CAMERA & ANY LENGTH LEAD-IN CABLE
800000	7	EA	5 FOOT OR 10 FOOT PEDESTAL POLE WITH BREAKAWAY COUPLINGS, FOUNDATION & GROUND ROD
800000	1	EA	REMOVE & DISPOSE OF EXISTING SIGNAL EQUIPMENT (PER SIGNALIZED INTERSECTION LOCATION)
800000	1	EA	INSTALL CONTROLLER AND CABINET BASE MOUNT (ANY SIZE) INCLUDING F&I FOUNDATION & GROUND ROD
800000	140	LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT- TRENCHED
800000	22	SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
800000	1	EA	THIRD PARTY CONCRETE TESTING (PER INTERSECTION)
800000	1	EA	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH LED ROADWAY LUMINAIRE
800000	305	LF	UP TO 4 INCH SCHEDULE 80 RIGID CONDUIT - BORED OR SLOTTED
800000	28	LF	WOOD SIGN SUPPORTS UP TO 4 INCH X 6 INCH
802501	460	LF	NO.6 AWG STRANDED BARE COPPER GROUND WIRE
811001	4	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
860284	48	EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861105	1190	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	1235	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

C. EQUIPMENT TO BE RETURNED TO SHA UPON COMPLETION OF THE SIGNAL RECONSTRUCTION.

CATEGORY CODE	QTY	UNITS	DESCRIPTION
800000	2	EA	EXISTING SOLO CAMERA

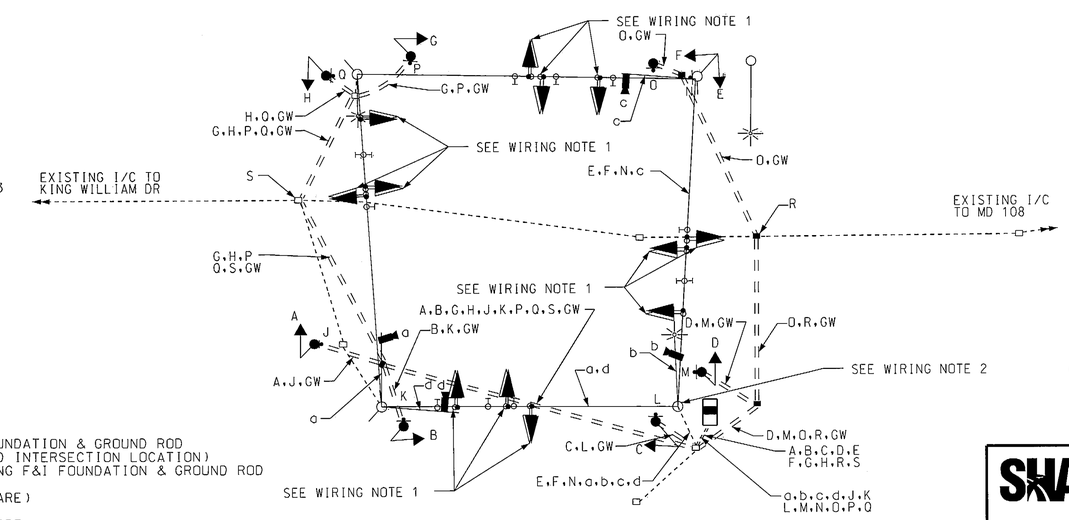
NOTE: ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

T3 DESIGN CORP
3927 OLD LEE HWY
SUITE 101-C
FAIRFAX, VA 22030
PHONE: 703-359-5861
www.t3design.us

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PHASE 1 & 5	G-/R	G-/R	R	G-/R	G-/R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6																				
PHASE 1 & 6	G-/G	G-/G	G	R	R	R	R	R	R	R	R	R	WK	WK	DW	DW	DW	DW	DW	DW
1 & 6 CHANGE	Y-/G	Y-/G	G	R	R	R	R	R	R	R	R	R	WK	WK	DW	DW	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	G-/G	G-/G	G	R	R	R	R	R	R	DW	DW	WK	WK	DW	DW	DW	DW
2 & 5 CHANGE	R	R	R	Y-/G	Y-/G	G	R	R	R	R	R	R	DW	DW	WK	WK	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEAR / COUNTDOWN	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	G-/G-	G-/G-	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	R	R	R	G-/G-	G-/G-	G	DW	DW	DW	DW	DW	DW	DW	DW
4 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 ALT	R	R	R	R	R	R	G-/G-	G-/G-	G	R	R	R	DW	DW	DW	DW	DW	DW	WK	WK
PED CLEAR / COUNTDOWN	R	R	R	R	R	R	G-/G-	G-/G-	G	R	R	R	DW	DW	DW	DW	DW	DW	FL/DW	FL/DW
3 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 ALT	R	R	R	R	R	R	R	R	R	G-/G-	G-/G-	G	DW	DW	DW	DW	WK	WK	DW	DW
PED CLEAR / COUNTDOWN	R	R	R	R	R	R	R	R	R	G-/G-	G-/G-	G	DW	DW	DW	DW	FL/DW	FL/DW	DW	DW
4 ALT CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

a, b, c, d } 250' VIDEO DETECTION CAMERA LEAD-IN CABLE

A, B, C, D, E, F, G, H } 5-CONDUCTOR ELECTRICAL CABLE, NO. 14 AWG

J, K, L, M, N, O, P, Q } 2-CONDUCTOR ELECTRICAL CABLE, NO.14 AWG

R } PULL BACK EXISTING INTERCONNECT CABLE FROM MD 108 AND RE-ROUTE TO PROPOSED CABINET

S } PULL BACK EXISTING INTERCONNECT CABLE FROM MD KING WILLIAM DR AND RE-ROUTE TO PROPOSED CABINET

GW } NO. 6 AWG STRANDED BASE COPPER GROUND WIRE

WIRING NOTES:

1. DISCONNECT EXISTING ELECTRICAL CABLE FROM EXISTING SIGNAL HEADS TO BE REMOVED AND RE-CONNECT TO PROPOSED SIGNAL HEADS. ANY SIGNAL OUTAGE SHALL BE SCHEDULED DURING NON-PEAK HOURS AS DIRECTED BY THE ENGINEER.

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

MD 97 (GEORGIA AVENUE) AND SPARTAN RD /MORNINGWOOD DR
OLNEY, MD

GENERAL INFORMATION SHEET

SCALE NONE | DATE 3-19-13 | CONTRACT NO. XY1515185

DESIGNED BY SJW | COUNTY MONTGOMERY
DRAWN BY SJW | LOGMILE 15009711.70
CHECKED BY AJM | TIMS NO. 1,803
FAP NO. | TOD NO.

TS NO.2452G-GI | DRAWING SG-03 OF 03 | SHEET NO. 3 OF 3

PLOTTED: $DATETIME$
FILE: $FILE$

BY: $USERNAME$