PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE TRAFFIC SIGNAL AT THE INTERSECTION OF MD 193 (UNIVERSITY BOULEVARD) AND DENNIS AVENUE IN MONTGOMERY COUNTY. IN ADDITION, ACCESSIBLE PUSHBUTTONS AND COUNTDOWN PEDESTRIAN SIGNALS WILL BE INSTALLED FOR THE NORTH, SOUTH AND WEST LEG PEDESTRIAN CROSSINGS.

MD 193 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX PHASE, SEMI-ACTUATED TRAFFIC MODE. THE EXISTING MAINLINE EXCLUSIVE/PERMISSIVE PHASING WILL REMAIN. THE EXISTING SIDE STREET CONCURRENT PHASING WILL REMAIN. THE EXISTING ALTERNATE SIDE STREET PEDESTRIAN PHASES WILL REMAIN. MAINLINE PEDESTRIAN PHASES ARE PROPOSED.

CONTROLLER REQUIREMENTS

INSTALL NEW BASE MOUNTED CABINET AND FOUNDATION. THE MONTGOMERY COUNTY TECH CENTER WILL INSTALL THE CONTROLLER, ALL ASSOCIATED HARNESSES, ONE (1) 2 WIRE CENTRAL CONTROL UNIT AND ONE (1) VIDEO DETECTION INTERFACE EQUIPMENT WITHIN THE CABINET.

APS WILL FUNCTION AS FOLLOWS:

TO CROSS UNIVERSITY BOULEVARD:

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS UNIVERSITY AT DENNIS".

B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

TO CROSS DENNIS AVENUE:

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS DENNIS AT UNIVERSITY".

B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

THE CONTACT PERSONS FOR DISTRICT #3 / OOTS / MONT. CO. ARE AS FOLLOWS:

District #3

Ms. Anyesha Mookherjee
Assistant District Engineer - Traffic
Phone: 301-513-7318

District Utility Engineer
Phone: 301-513-7350

Mr. Vernon Stinnett, Jr.
Assistant District Engineer - Maintenance
Phone: 301-513-7304

Mr. Kevin Nowak
Assistant District Engineer - Construction
Phone: 301-513-7336

Office Of Traffic & Safety

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

Mr. Robert Snyder
Assistant Division Chief, Traffic Operations
410-787-7630

Mr. Edward Rodenhizer
Team Leader Signal Operations
Phone: 410-787-7650

Mr. Eugene Bailey
Team Leader Sign Operations
410-787-7670

The Power Company Representative is:
Potomac Electric Power Company
8300 Old Marlboro Pike
Upper Marlboro, Maryland 20772
Phone: 301-961-5325

Montgomery County

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

Mr. Keith Lord
Montgomery County Tech Center
Phone: 301-279-1291

Mr. Michael Kinney
Montgomery County Traffic Engineering
Phone: 240-777-8760

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

CATEGORY CODE	QUANTITY	DESCRIPTION
900000	1 EA	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
971017	1 EA	EIGHT-PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT
973023	194 SF	SHEET ALUMINUM SIGNS:
		1 EA - SHIELD ASSEMBLY (30 IN. x 51 IN.) "WEST, MD 193, RIGHT ARROW"
		1 EA - SHIELD ASSEMBLY (30 IN. x 51 IN.) "EAST, MD 193, RIGHT ARROW"
		1 EA - SHIELD ASSEMBLY (48 IN. x 75 IN.) "WEST, MD 193, LEFT ARROW"
		1 EA - SHIELD ASSEMBLY (48 IN. x 75 IN.) "WEST, MD 193, LEFT ARROW"
		2 EA - R10-3(1) (9 IN. x 15 IN.) "PUSH BUTTON TO CROSS UNIVERSITY BLVD."
		4 EA - R10-3(1) (9 IN. x 15 IN.) "PUSH BUTTON TO CROSS DENNIS AVE."
		2 EA - D-3(1) (96 IN. x 16 IN.) "UNIVERSITY BLVD." DUAL FACED
		2 EA - D-3(1) (96 IN. x 16 IN.) "DENNIS AVE." DUAL FACED
		2 EA - R3-5(L) (30 IN. x 36 IN.)
		1 EA - R3-5(R) (30 IN. x 36 IN.)
		1 EA - R3-5(1) (30 IN. x 36 IN.)
		2 EA - S1-1 (36 IN. x 36 IN.)
		2 EA - M6-2(MOD) FYG (21 IN. x 15 IN.)
		1 EA - R3-7(R) (30 IN. x 30 IN.)
		1 EA - R5-1 (30 IN. x 30 IN.)
		1 EA - R10-11b (24 IN. x 24 IN.)
		1 EA - R4-7 (24 IN. x 30 IN.)

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

	CATEGORY CODE	QUANTITY	DESCRIPTION
	203030	5 CY	TEST PIT EXCAVATION
	585621	705 LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
	585625	160 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
	800000	1 EA	2 WIRE CENTRAL CONTROL UNIT
	800000	6 EA	ACCESSIBLE PEDESTRIAN PUSHBUTTON
	800000	800 LF	DISCONNECT, PULL-BACK AND REROUTE EXISTING CABLE
	800000	80 LF	ELECTRICAL CABLE - 1 CONDUCTOR, 250 KCML, CU, USE
	800000	2 EA	INSTALL INTERCONNECT SPLICE CABINET
	800000	6 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION - POLE MOUNT
	800000	1 LS	REMOVE AND DISPOSE OF TRAFFIC SIGNAL EQUIPMENT
	801004	14 CY	CONCRETE FOR SIGNAL FOUNDATION
	801104	240 LF	WOOD SIGN SUPPORTS 4 INCH x 4 INCH
1	802501	665 ~~650~~ LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
	805050	2 EA	WEATHER HEAD, 3 INCH
	805118	925 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
	805125	45 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
1	805135	100 ~~85~~ LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
	805140	50 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
	807500	1 EA	EMBEDDED METERED SERVICE PEDESTAL
	810010	40 LF	ELECTRICAL CABLE 1-CONDUCTOR NO.4 AWG THHN/THWN
	811001	5 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
	811002	4 EA	REMOVE ELECTRICAL HANDHOLE
	813014	111 SF	INSTALL GROUND MOUNTED SIGN
	813015	83 SF	INSTALL OVERHEAD SIGN
	813022	34 SF	REMOVE EXISTING GROUND MOUNTED SIGNS
	816001	4 EA	VIDEO DETECTION CAMERA
	816005	2 EA	CONTROL CABLE, 250 FT., VIDEO DETECTION CAMERA TO CONTROLLER
	816010	2 EA	CONTROL CABLE, 500 FT., VIDEO DETECTION CAMERA TO CONTROLLER
1	818004	4 ~~3~~ EA	10 FOOT BREAKAWAY PEDESTAL POLE
	818030	1 EA	STEEL POLE & 38 FT MAST ARM
	818036	2 EA	STEEL POLE & 50 FT MAST ARM
	818041	1 EA	STEEL POLE & 60 FT MAST ARM
	822003	865 LF	50-PAIR COMMUNICATION CABLE, SELF-SUPPORTING (OVERHEAD)
	833060	60 LF	3 IN. DIAMETER POLYVINYL CHLORIDE CONDUIT SCHEDULE 80 RISER
	837001	8 EA	GROUND ROD - 3/4 INCH DIAMETER x 10 FOOT LENGTH
	860284	44 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
1	860292	1 EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
1	861105	1065 ~~1050~~ LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
	861107	1200 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
	861108	1700 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
	871117	1 EA	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	(B) (Y) (G)	(B) (Y) (G)	(R) (Y) (G)	(B) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(B) (Y) (G)	(B) (Y) (G)	(B) (Y) (G)	(B) (Y) (G)	(B) (Y) (G)	(B) (Y) (G)
PHASE 1 AND 5	+GR	+GR	R	+GR	+GR	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
	PHASE 1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																	
PHASE 1 AND 6	+GG	+GG	G	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
PHASE 1 CHANGE	+YG	+YG	G	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
PHASE 2 AND 5	R	R	R	+GG	+GG	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW
PHASE 5 CHANGE	R	R	R	+YG	+YG	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW
PHASE 2 AND 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEARANCE	G	G	G	G	G	G	R	R	R	R	R	R	FLDW	FLDW	FLDW	FLDW	DW	DW
PHASE 2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8 ALT.	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK
PED CLEARANCE	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FLDW	FLDW
PHASE 4 AND 8 ALT. CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

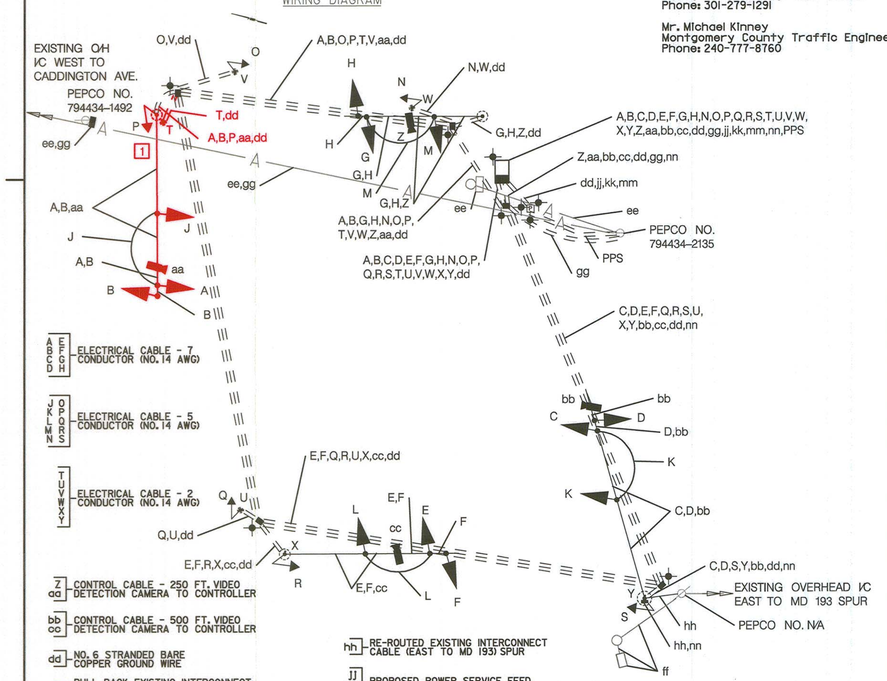
EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

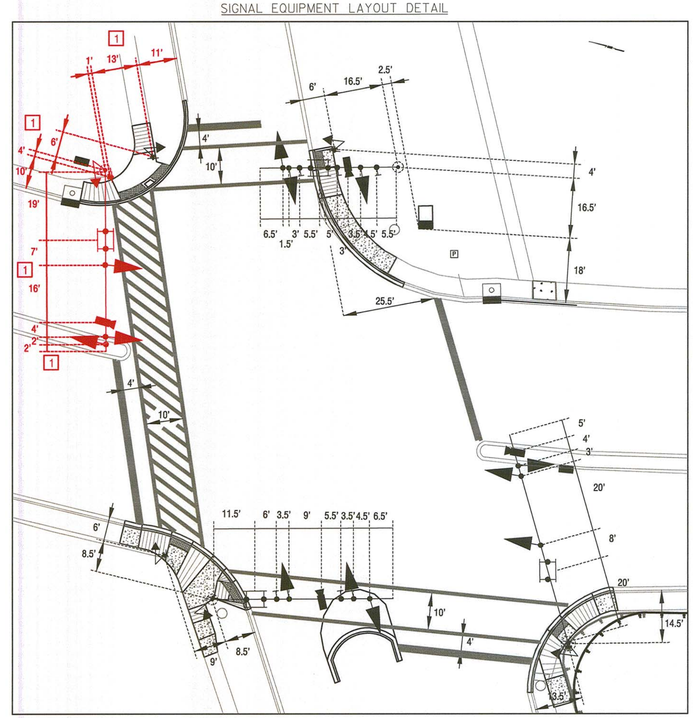
CATEGORY CODE	QUANTITY	DESCRIPTION

NONE - ALL REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR

WIRING DIAGRAM



SIGNAL EQUIPMENT LAYOUT DETAIL



STV

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www.stvinc.com

BY: guiliamc -

UTILITY LEGEND

E	ELECTRIC CABLES	SD	STORM DRAIN
A	AERIAL CABLES	G	GAS MAIN
T	TELEPHONE CABLES	W	WATER MAIN
F	FIBER-OPTIC	S	SEWER MAIN

1 REDLINE REVISION NO. 1 — OCTOBER 2011

TEDD APPROVAL — SHA NO. MO2945177

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 193 (UNIVERSITY BOULEVARD)

AT DENNIS AVENUE

GENERAL INFORMATION

SCALE 1" = 20' ADVERTISED DATE 3/2009 CONTRACT NO. MO2945177

DESIGNED BY MCG — COUNTY MONTGOMERY
DRAWN BY MCG — LOGMILE 15019303.73
CHECKED BY BAB — TIMS NO. J118
F.A.P. NO. SEE TITLE SHEET — TOD NO.

TS NO. 4168B-GI | DRAWING SG-02 OF 04 | SHEET NO. OF

PLOTTED: Wednesday, October 12, 2011 AT 03:14 PM
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