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

Mr. Jeff Wentz
Assistant District Engineer - Traffic
Phone: 301-513-7358

Mr. Augie Rebish
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
Montgomer 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	166 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
		1 EA - R3-5(L) (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 - 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.

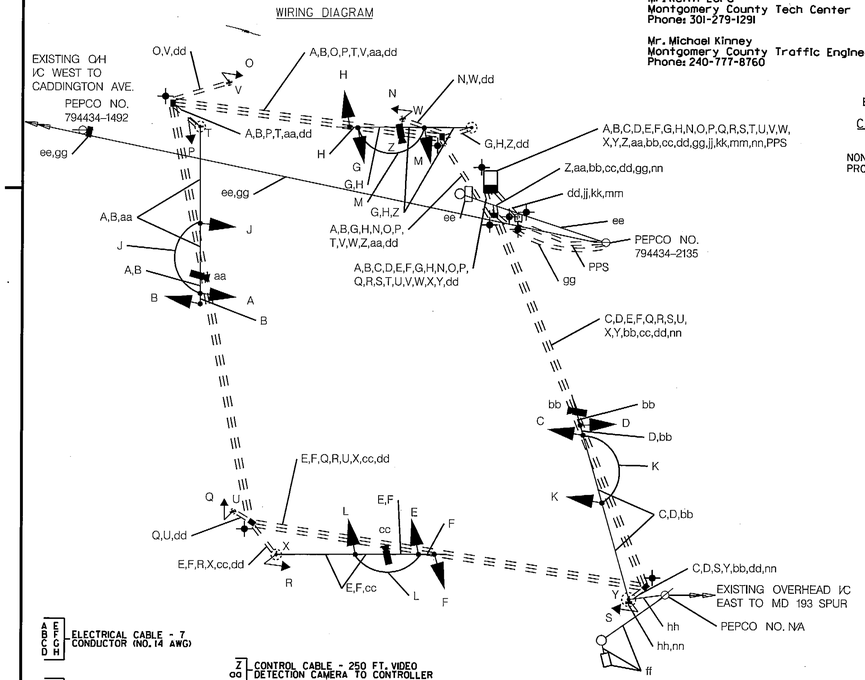
CATEGORY CODE	QUANTITY	DESCRIPTION
203030	5 CY	TEST PIT EXCAVATION
585621	705 LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585625	160 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
800000	1 EA	2 WIRE CENTRAL CONTROL UNIT
800000	6 EA	ACCESSIBLE PEDESTRIAN PUSHBUTTON
800000	800 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
802501	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
805135	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	105 SF	INSTALL GROUND MOUNTED SIGN
813015	61 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
818004	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
861105	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

EQUIPMENT LIST 'C'

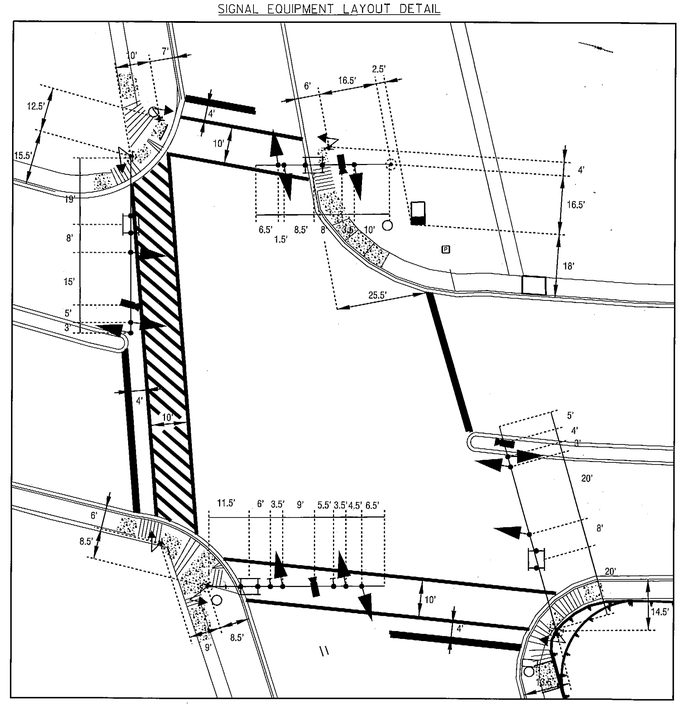
EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

CATEGORY CODE	QUANTITY	DESCRIPTION
NONE - ALL REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR		

WIRING DIAGRAM



SIGNAL EQUIPMENT LAYOUT DETAIL



PHASE CHART	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	R G G	R G G	R Y G	R G G	R G G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	DW WK	DW WK	DW WK	DW WK	DW WK	DW WK
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/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

A B C D E F G H — ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

J K L M N O P Q R S — ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

T U V W X Y — ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)

Z aa — CONTROL CABLE - 250 FT. VIDEO DETECTION CAMERA TO CONTROLLER

bb cc — CONTROL CABLE - 500 FT. VIDEO DETECTION CAMERA TO CONTROLLER

dd — NO. 6 STRANDED BARE COPPER GROUND WIRE

ee — PULL BACK EXISTING INTERCONNECT CABLE (WEST TO CADDINGTON AVE.) TO PEPCO POLE NO. 794434-1492

ff — PULL BACK EXISTING INTERCONNECT CABLE (EAST TO MD 193 SPUR) TO PEPCO POLE NO. N/A

gg — 50-PAIR COMMUNICATION CABLE, SELF-SUPPORTING (OVERHEAD) TO BE INSTALLED BY MONTGOMERY COUNTY FORCES

hh — RE-ROUTED EXISTING INTERCONNECT CABLE (EAST TO MD 193) SPUR

jj kk mm — PROPOSED POWER SERVICE FEED, ELECTRICAL CABLE - 1 CONDUCTOR, NO. 4 AWG

nn — 50-PAIR COMMUNICATION CABLE, SELF-SUPPORTING (OVERHEAD)

PPS — PROPOSED POWER SERVICE, ELECTRICAL CABLE - 1 CONDUCTOR, 250 KCML, CU, USE

PROPOSED GROUND ROD - 3/4 IN. DIAMETER X 10 FOOT LENGTH

STV Incorporated
engineers /architects /planners /construction managers
7125 Ambassador Road Baltimore, MD 21244-2722 (410) 944-9112

BY: $USERNAME$

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. MQ2045177

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

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

PLOTTED: $DATETIME$
FILE: $FILE$