PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING SPAN WIRE TO A MAST ARM TRAFFIC SIGNAL WITH APS AND CPS UPGRADES AT THE INTERSECTION OF MD 193 (UNIVERSITY BLVD) AT NEWPORT MILL RD/LEXINGTON ST IN MONTGOMERY COUNTY. VIDEO PRESENCE DETECTION IS TO BE USED ON THE EASTBOUND, NORTHBOUND AND SOUTHBOUND APPROACHES AS WELL AS, NON-INVASIVE MICRO-LOOP PROBES FOR PASSAGE DETECTION EASTBOUND AND WESTBOUND.

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

INTERSECTION OPERATION

A SYSTEM CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL BE INSTALLED AT THIS LOCATION. THE INTERSECTION WILL OPERATE IN A SEMI-ACTUATED MODE USING 8 NEMA PHASES. THE EASTBOUND LEFT TURNS AND SOUTHBOUND RIGHT TURNS WILL OPERATE WITH PROTECTED/PERMISSIVE PHASING. AUDIBLE PEDESTRIAN SIGNALS SHALL BE INSTALLED IN THE NORTHEAST, NORTHWEST AND SOUTHEAST QUADRANTS OF THE INTERSECTION AND SHALL CONTROL CROSSING ALONG THE NORTH AND EAST LEGS OF THE INTERSECTION ONLY. NEW CURB AND GUTTER AND SIDEWALK WITH ADA RAMPS AND DETECTABLE WARNING SURFACE MATERIAL SHALL BE INSTALLED IN THE NORTHEAST, NORTHWEST AND SOUTHWEST QUADRANTS OF THE INTERSECTION.

SPECIAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES, EXCLUDING INTERCONNECT, TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABEL EACH CABLE.
2. DISCONNECTING AND SPLICING OF INTERCONNECT CABLE SHALL BE PERFORMED BY MONTGOMERY COUNTY FORCES. THE CONTRACTOR SHALL RUN THE INTERCONNECT CABLE INTO THE BASE OF EACH CABINET AND PROPERLY TAG THE CABLE. ALL CONTROLLER CABINET WIRING WILL BE PERFORMED BY MONTGOMERY COUNTY FORCES. CONTACT KAMAL HAMUD AT (240) 777-8761 SEVENTY-TWO HOURS IN ADVANCE OF INTENDED WORK.
3. ALL UNDERGROUND AND OVERHEAD 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.
4. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: 104.00 - 30, 104.12 - 01, 104.13 - 01, 104.31 - 01, 104.32 - 01, 104.81- 02.
5. APS WILL FUNCTION AS FOLLOWS:

TO CROSS MD 193
- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTION UNIT WILL BE "WAIT TO CROSS UNIVERSITY AT LEXINGTON AND NEWPORT MILL".
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

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

6. THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MR. JEFFREY WENTZ, ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 513-7318

MR. AUGIE REBISH, ASSISTANT DISTRICT ENGINEER - UTILITY
PHONE: (301) 513-7350

MR. WAYNE MOWDY, ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 513-7304

MR. RICHARD L. DAFF SR., CHIEF - TRAFFIC OPERATIONS DIVISIONS
PHONE: (410) 787-7630

THE POWER COMPANY REPRESENTATIVE IS:
MR. STEVE CUSTER
POTOMAC ELECTRIC POWER COMPANY
8300 OLD MARLBORO PIKE
UPPER MARLBORO, MARYLAND 20772
PHONE: (301) 548-4333

MR. KAMAL HAMUD, CHIEF TRAFFIC OPERATIONS DIVISION
PHONE: (240) 777-8761

MR. KEITH LORD
MONTGOMERY COUNTY
PHONE: (301) 279-1291

MR. EUGENE BAILEY
SIGN SHOP
PHONE: (410) 787-7676

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
900000	MASTER LOCAL CONTROLLER AND CABINET SIZE 6 W/ VIDEO DETECTION INTERFACE EQUIP.	EA	1
973023	FLAT SHEET ALUMINUM GROUND MOUNTED SIGNS:	SF	11
	GUIDE SHIELD ASSEMBLY (30" X 51") WEST, MD 193, RIGHT ARROW	EA	1
	FLAT SHEET ALUMINUM POLE/MAST ARM MOUNTED	SF	167
	R10-3(1) (9"X15") SIGN TO READ, "UNIVERSITY BLVD" POLE MOUNT	EA	2
	R10-3(1) (9"X15") SIGN TO READ, "NEWPORT MILL RD" POLE MOUNT	EA	2
	GUIDE SHIELD ASSEMBLY (30" X 51") POLE MOUNT EAST, MD 193, RIGHT ARROW	EA	1
	GUIDE SHIELD ASSEMBLY (48" X 75") POLE MOUNT EAST, MD 193, LEFT ARROW	EA	1
	GUIDE SHIELD ASSEMBLY (48" X 75") POLE MOUNT WEST, MD 193, LEFT ARROW	EA	1
	S1-1 "SCHOOL (SYMBOL)" (36" X 36") POLE MOUNT	EA	2
	M6-2 "DIRECTIONAL ARROW (DIAGONAL)" (30" X 24") BLK/FYG, POLE MOUNT	EA	2
	R10-7 "DO NOT BLOCK INTERSECTION" (24" X 30") POLE MOUNT	EA	1
	R3-5R (30" X 36") MAST ARM MOUNT	EA	1
	D-3(1) "LEXINGTON ST, ARROW RIGHT" (84" X 16") MAST ARM MOUNT	EA	1
	D-3(1) "ARROW LEFT, LEXINGTON ST" (84" X 16") MAST ARM MOUNT	EA	1
	D-3(1) "NEWPORT MILL RD, ARROW RIGHT" (108" X 16") MAST ARM MOUNT	EA	1
	D-3(1) "ARROW LEFT, NEWPORT MILL RD" (108" X 16") MAST ARM MOUNT	EA	1
	D-3(1) "UNIVERSITY BLVD" (84" X 16") MAST ARM MOUNT	EA	2

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

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
203030	TEST PIT EXCAVATION	CY	5
800000	REROUTED 12 PAIR INTERCONNECT CABLE	LF	300
800000	REMOVE AND DISPOSE OF EXISTING EQUIPMENT	LS	1
801004	CONCRETE FOR SIGNAL FOUNDATIONS	CY	18
801104	WOOD SIGN SUPPORTS 4 INCH X 4 INCH	LF	34
801607	INSTALL SHEET ALUMINUM SIGN	SF	167
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	600
805029	2 INCH U-GUARD-PVC RISER	LF	20
805118	4 INCH SCHED. 80 PVC CONDUIT-BORED	LF	600
805125	2 INCH SCHED. 80 PVC CONDUIT-TRENCHED	LF	20
805135	3 INCH SCHED. 80 PVC CONDUIT-TRENCHED	LF	200
805140	4 INCH SCHED. 80 PVC CONDUIT-TRENCHED	LF	20
805150	3 INCH SCHED. 80 PVC CONDUIT-SLOTTED	LF	535
807202	METERED SERVICE PEDESTAL	EA	1
810601	NON-INVASIVE 500 FOOT LEAD IN CABLE	EA	3
810605	NON-INVASIVE 1000 FOOT LEAD IN CABLE	EA	3
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	8
813014	INSTALL GROUND MOUNTED SIGN	SF	11
816001	VIDEO DETECTION CAMERA	EA	3
816005	CONTROL CABLE, 250 FOOT VIDEO DETECTION CAMERA TO CONTROLLER	EA	2
816010	CONTROL CABLE, 500 FOOT VIDEO DETECTION CAMERA TO CONTROLLER	EA	1
818004	10 FOOT BREAKAWAY PEDESTAL POLE	EA	3
818036	STEEL POLE WITH A SINGLE 50 FOOT MAST ARM	EA	2
818041	STEEL POLE WITH A SINGLE 60 FOOT MAST ARM	EA	1
800000	15 FOOT 'T' STEEL POLE WITH A SINGLE 50 FOOT MAST ARM	EA	1
837001	GROUND ROD - 3/4 INCH DIA. X 10 FOOT LENGTH	EA	6
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	39
800000	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION	EA	4
860292	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	EA	3
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	950
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	1100
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	2000
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON AND SIGN	EA	4
871202	INSTALL CONTROLLER AND CABINET - BASE MOUNT	EA	1
800000	ELECTRICAL CABLE - 1 CONDUCTOR (NO. 4 AWG THHN/THWN)	LF	15
800000	2-WIRE CENTRAL CONTROL UNIT	EA	1
800000	3-WIRE, 1 CONDUCTOR 250 KCML ELECTRICAL CABLE	LF	140

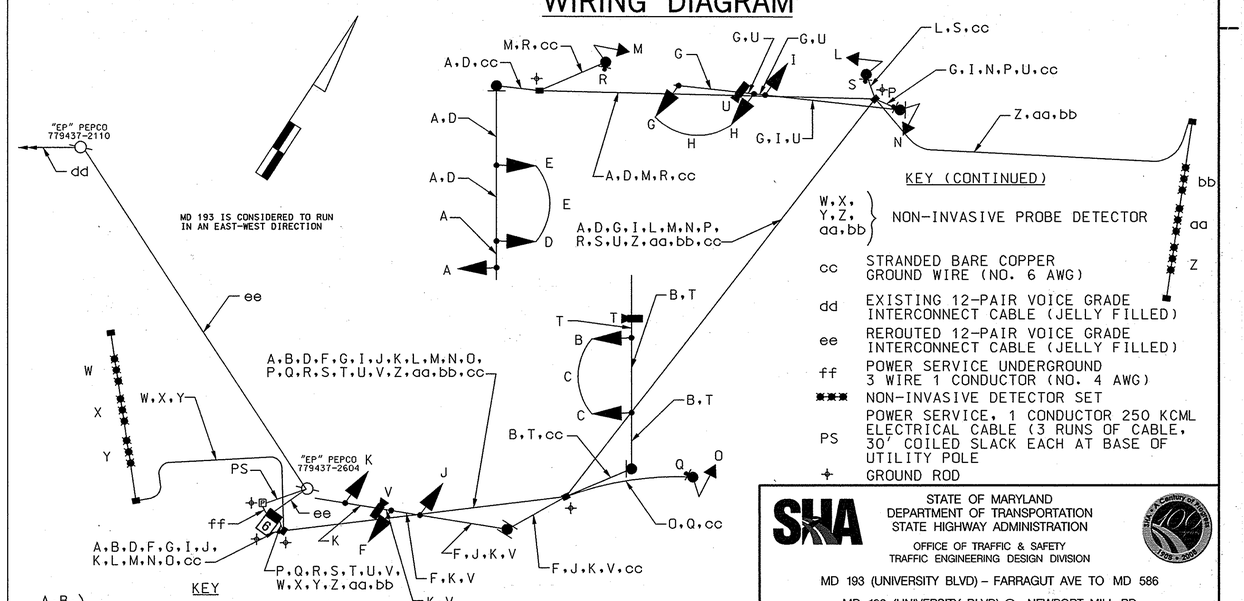
C. SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILLIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
	CONTROLLER	EA	1

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PHASE 1 AND 6	G ←G–	G ←G–	G	R	R	R	R	R	R	R	R –G→	DW	DW	DW	DW
1 CHANGE	G ←Y–	G ←Y–	G	R	R	R	R	R	R	R	R –Y→	DW	DW	DW	DW
PHASE 2 AND 6	G	G	G	G	G	R	R	R	R	R	R –R→	WK	WK	DW	DW
PED CLEARANCE	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	DW	DW
2 AND 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 4 AND 8	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW
4 AND 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 8 ALT.	R	R	R	R	R	G	G	G	G	G	G	DW	DW	WK	WK
PED CLEARANCE	R	R	R	R	R	G	G	G	G	G	G	DW	DW	FL/DW	FL/DW
8 ALT. CHANGE	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK	DARK	DARK

WIRING DIAGRAM



KEY

A,B, D,F G,I, J,K } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)

C,E, H,L, M,N, O } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)

P,Q, R,S } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) {PUSHBUTTON}

T,U, V } VIDEO DETECTION CAMERA LEAD-IN CABLE

KEY (CONTINUED)

W,X, Y,Z, aa,bb } NON-INVASIVE PROBE DETECTOR

cc — STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)

dd — EXISTING 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED)

ee — REROUTED 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED)

ff — POWER SERVICE UNDERGROUND 3 WIRE 1 CONDUCTOR (NO. 4 AWG)

✱✱✱ — NON-INVASIVE DETECTOR SET

PS — POWER SERVICE, 1 CONDUCTOR 250 KCML ELECTRICAL CABLE (3 RUNS OF CABLE, 30' COILED SLACK EACH AT BASE OF UTILITY POLE

+ — GROUND ROD

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

MD 193 (UNIVERSITY BLVD) - FARRAGUT AVE TO MD 586

MD 193 (UNIVERSITY BLVD) @ NEWPORT MILL RD

WHITNEY BAILEY COX & MAGNANI, LLC
849 Fairmount Ave. Suite 100 Baltimore, MD 21286
Tel. 410-512-4500 Fax. 410-324-4100
www.wbcm.com
WBCM ARCHITECTURE ENGINEERING CONSTRUCTION

TRAFFIC SIGNAL - GENERAL INFORMATION

SCALE NTS ADVERTISED DATE 05/02/2008 CONTRACT NO. MO5785177

DESIGNED BY JEH — COUNTY MONTGOMERY
DRAWN BY JEH — LOGMILE 15019300.21
CHECKED BY DSU — TIMS NO. F966
F.A.P. NO. SEE TITLE SHEET — TOD NO.

TS NO. 3355 | DRAWING SG-2 OF 8 | SHEET NO. 39 OF 45

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BY: jholloway