DRILL HOLES

BORDER REV: DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of a Traffic Control Signal with interconnect at the intersection of MD 355 (Wisconsin Ave.) and Wisconsin Circle/Willard Ave. in Montgomery County. Video detection shall be used for all directions and CPS / APS shall be installed across of legs of this intersection. MD 355 (Wisconsin Ave.) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA six-phase, semi-actuated mode, with the MD 355 (Wisconsin Ave.) approaches running concurrently. Exclusive left turn phases shall continue to be provided for both approaches of MD 355 (Wisconsin Ave.). Countdown pedestrian phases with pushbutton actuation shall remain in operation across both legs MD 355 (Wisconsin Ave.). Countdown pedestrian phases across Wisconsin Cir. and Willard Ave shall remain on recall. The Wisconsin Circle/Willard Ave approaches shall also continue to run concurrently. A right turn overlap phase shall continue to be provided for the Willard Avenue approach.

2. The existing full-traffic-actuated, eight-phase controller with 2-wire Control Unit, L.A.U. and L.A.U. Panel housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

3. The APS push buttons should be delivered to Bob Ricketts at the Montgomery County Traffic for programming at least two weeks prior to the beginning of work.

III. 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. Montgomery County shall assist with installation of video interface. 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. The proposed traffic signal poles must be painted brown (Federal Standard Number 595a-20040 as described in the MSHA Special Provision for Painting New Galvanized Structures.

4. 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.

5. Contractor may need to hand dig all pole foundations. This is incidential to signal equipment installation.

6. Signal Contractor shall coordinate the installation of the signal equipment with the installation of the handicapped ramps and sidewalk.

7. APS will function as follows:

TO CROSS MD 355 (WISCONSIN AVENUE)

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Wisconsin at Wisconsin Circle and Willard wait"

b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

FOR WILLARD AVENUE

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Willard at Wisconsin wait."

b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

FOR WISCONSIN CRICLE

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Wisconsin Circle at Wisconsin wait."

b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

The contacts for Montgomery County and SHA are as follows:

Mr. Cedric Ward
Assistant District Engineer - Traffic
Phone: (301) 513-7404

Mr. Vernon Stinnett
Assistant District Engineer - Maintenance
Phone: (301) 513-7304

Mr. Victor Grafton
Assistant District Engineer - Utility
Phone: (301) 513-7350

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

Mr. Bob Ricketts
Signal Shop (Mont Co.)
240-876-3681

Mr. Sonny Bailey
Manager, Sign Shop Operations
410-787-7670

Mr. Kamal Hamud
Mont. County TMC Center
240-777-8761

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A.

CAT NO.	DESCRIPTION	QUANTITY
900000	Fail-safe Interconnect Board (to be installed by the SHA)	1 EA
973023	SHEET ALUMINUM SIGNS	92.5 SF
	D-3 "(arrow) Willard AVE/ Willard AVE (arrow)" sign, (variable x 16") mast arm mount dual faced.	1 EA
	D-3 "(arrow) Wisconsin CIR/ Wisconsin CIR (arrow)" sign, (variable x 16") mast arm mount dual faced.	1 EA
	M95-1 (mod) 'Wisconsin Ave/ NORTH (arrow) / 355 / SOUTH (arrow)" sign, (78" x 40") mast arm mount.	1 EA
	R3-5(3) "EXCEPT TRANSIT VEHICLES" sign, (24"x18") pole mounted.	1 EA

EQUIPMENT LIST (CONT.)

A. EQUIPMENT TO BE SUPPLIED BY S.H.A.

CAT NO.	DESCRIPTION	QUANTITY
	M95-1 (mod) "Wisconsin Ave/ SOUTH (arrow) / 355 / NORTH (arrow)" sign, (78" x 40") mast arm mount.	1 EA
	R10-11b "NO TURN ON RED" sign, (24"x24").	2 EA
	R3-2 "No Left Turn (Symbolic)" sign, (24"x24") pole mounted.	1 EA
	R3-5(1) mod "RIGHT TURN ON GREEN ARROW ONLY" sign, (30"x36") mast arm mounted.	1 EA
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS WISCONSIN AVENUE") pole mount	4 EA
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS WISCONSIN CIRCLE") pole mount	2 EA
	Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS WILLARD AVENUE") pole mount	2 EA

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

CAT NO.	DESCRIPTION	QUANTITY
120500	MAINTENANCE OF TRAFFIC	LUMP SUM
203030	TEST PIT EXCAVATION	12 CY
655105	5 INCH CONCRETE SIDEWALK	75 SF
800000	AUDIBLE / TACTILE pushbutton station & sign	8 EA
800000	16" COUNTDOWN PEDESTRIAN signal head .	8 EA
800000	DISCONNECT, PULLBACK AND REROUTE CABLE.	250 LF
800000	2-WIRE CONTROL UNIT	1 EA
800000	REMOVE & DISPOSE OF EXISTING EQUIPMENT	1 EA
801004	CONCRETE FOR SIGNAL FOUNDATION	17 CY
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	95 LF
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	105 LF
805155	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED	480 LF
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	9 EA
813015	INSTALL OVERHEAD SIGN	92.5 SF
816001	VIDEO DETECTION CAMERA	4 EA
816005	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER	3 EA
816010	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER	1 EA
816015	VIDEO INTERFACE EQUIPMENT	1 EA
818004	10 FOOT BREAKAWAY PEDESTAL POLE	6 EA
818010	14 FOOT BREAKAWAY PEDESTAL POLE	1 EA
818036	STEEL POLE WITH SINGLE 50 FOOT MAST ARM (Note: Paint Federal Brown std 595A-20040)	2 EA
818036	STEEL POLE WITH SINGLE 50 FOOT MAST ARM (Note: Paint Federal Brown std 595A-20040. Mast arm shall be cut to 30')	2 EA
822002	12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)	300 LF
832020	BARE COPPER GROUND WIRE, NO 6 AWG	720 LF
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	8 EA
860272	12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION	48 EA
860292	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	2 EA
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	1150 LF
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	2030 LF
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	2170 LF
871201	INSTALL CONTROLLER AND CABINET - POLE MOUNT	1 EA

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR

All removed signal materials are to become property of the contractor.

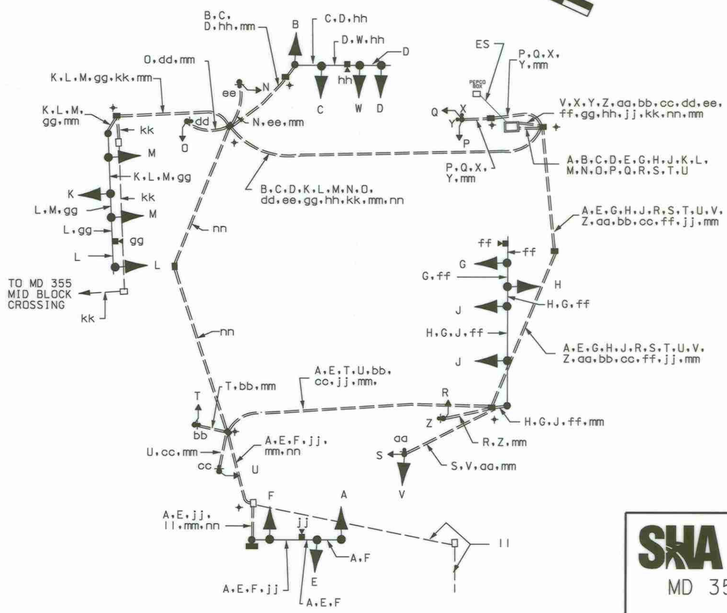
D. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY

CAT NO.	DESCRIPTION	QUANTITY
900000	SPLICE CABINET	1 EA

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PHASE 1 & 5	◄G-	◄G-	R	R	◄G-	◄G-	R	R	R	-G►	R	R	-G►	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6																								
PHASE 1 & 6	◄R-	◄R-	R	R	◄G-	◄G-	G	G	R	-G►	R	R	-G►	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
1 & 6 CHANGE	◄R-	◄R-	R	R	◄Y-	◄Y-	G	G	R	-Y►	R	R	-Y►	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 & 5	◄G-	◄G-	G	G	◄R-	◄R-	R	R	R	-R►	R	R	-R►	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
2 & 5 CHANGE	◄Y-	◄Y-	G	G	◄R-	◄R-	R	R	R	-R►	R	R	-R►	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 & 6	◄R-	◄R-	G	G	◄R-	◄R-	G	G	R	-R►	R	R	-R►	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEAR / COUNTDOWN	◄R-	◄R-	G	G	◄R-	◄R-	G	G	R	-R►	R	R	-R►	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	◄R-	◄R-	Y	Y	◄R-	◄R-	Y	Y	R	-R►	R	R	-R►	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G	-R►	G	G	-R►	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	Y	-R►	Y	Y	-R►	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 8 ALT	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G	-R►	G	G	-R►	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEAR / COUNTDOWN	◄R-	◄R-	R	R	◄R-	◄R-	R	R	G	-R►	G	G	-R►	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	◄R-	◄R-	R	R	◄R-	◄R-	R	R	Y	-R►	Y	Y	-R►	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/◄R	FL/◄R	FL/Y	FL/Y	FL/◄R	FL/◄R	FL/Y	FL/Y	FL/R	FL/R►	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 E G H K L } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

F J M N P Q R S T U V W } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

X Y Z aa bb cc dd ee } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

ff gg hh } CONTROL CABLE (CAMERA TO CONTROLLER) UP TO 250'

jj - CONTROL CABLE (CAMERA TO CONTROLLER) UP TO 500'

kk ll } EXISTING 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED)

mm - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

nn - 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED)

ES - EXISTING UNDERGROUND SERVICE TO BE MAINTAINED BY PEPCO

+ - GROUND ROD

Redline Revision No. 1
/ /11
NEW SHEET

SHA MDOT - SHA O.O.T.S.
S.H.A. Approval Date
T.S. # 4348C T.I.M.S. # K329

STREET TRAFFIC STUDIES, LTD.
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 355 AND WISCONSIN CIR/ WILLARD AVE

CHEVY CHASE, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 3/23/11 CONTRACT NO. MO5335177

DESIGNED BY J.W.A.. COUNTY MONTGOMERY
DRAWN BY R.C. LOGMILE 15035500.06
CHECKED BY TIMS NO. K329
F.A.P. NO. TOD NO.

TS NO. 4348C | DRAWING NO. OF | SHEET NO.192B OF

PLOTTED: TUESDAY, MARCH 29, 2011 AT 08:02 AM
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