DRILL HOLES

DRILL HOLES

DRILL HOLES

BORDER REV. DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal with street lighting and interconnect at the intersection of MD 189 (Falls Rd) and Dunster Rd / Falls Chapel Way in Montgomery County. The existing strain pole structure shall be replaced by a new mast arm signal with video detection. Also Countdown pedestrian signal heads with audible pushbuttons shall be installed at this location. MD 189 (Falls Rd) is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

1. The intersection shall continue to operate in a NEMA five-phase, semi-actuated mode, with the MD 189 (Falls Rd) approaches running concurrently. The Exclusive/Permissive left turn phase for the southbound approach of MD 189 (Falls Rd) shall remain in operation. The pedestrian phase with pushbutton actuation across the south leg of MD 189 (Falls Rd) shall now be a Countdown pedestrian phase with audible pushbutton actuation. A new Countdown pedestrian phase with audible pushbutton actuation shall be installed across the north leg of MD 189 (Falls Rd). The pedestrian phase on recall across Dunster Road shall now be a Countdown pedestrian phase with audible pushbuttons. Farside sampling stations shall continue to be provided on both legs of MD 189 (Falls Rd) at this intersection. The Dunster Rd / Falls Chapel Way approaches shall shall also continue to run concurrently.

2. A full-traffic-actuated, eight-phase controller with video interface, 2-wire Control unit and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

3. Montgomery County signal shop shall instal APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the Montgomery County Signal Shop for testing and programming.

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. 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. APS will function as follows:

TO CROSS MD 189 (FALLS ROAD)

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Falls at Dunster and Falls Chapel."

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

TO CROSS DUNSTER ROAD

a When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be " Wait to cross Dunster at Falls, crosswalk angles left."

b. When 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 (Montgomery County) are as follows:

Mr. Brian Young
Assistant District Engineer - Traffic
Phone: (301) 513-7318

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

Mr. Augie Rebish
Assistant District Engineer - Utility
Phone: (301) 513-7350

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

Mr. Ed Rodenhizer
Manager, Signal Operations Section
410-787-7652

Sonny Bailey
Manager, Sign Shop Operations
410-787-7676

The power company representative is:

Mr. Steve Custer
PEPCO Customer Design
201 W Guide Dr.,
Rockville, MD 20850
Phone: 301 548-4333

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
8088	D3-2 "(arrow) Dunster Rd (arrow) / (arrow) Dunster Rd" sign, (dual faced) (variable x 36") mast arm mounted	1 Each
8088	D3-2 "(arrow) Falls Chapel Way <8700/ Falls Chapel Way 8700>" sign, (dual faced) (variable x 16") mast arm mounted.	1 Each
8088	D3-2 "Falls Rd 12600> / Falls Rd <12600" (dual faced) (variable x 16").	2 Each
8088	R3-5L "LEFT TURN ONLY" sign, (30" x 36") mast arm mounted.	2 Each
8088	W16-7p ARROW SYMBOL, sign (24"x12") ground mounted.	4 Each
8088	R9-5(mod) "Bike (symbol) USE / PED SIGNAL" sign, (12" x 18") ground mounted with hardware.	2 Each
8088	R1-2 (mod) "YIELD / TO BIKES/PEDS IN CROSSWALK", sign (30"x40") ground mounted.	2 Each
	Pedestrian pushbutton and pedestrian education R10-3(1) sign. (Note: Sign to read "PUSH BUTTON TO CROSS FALLS RD")	4 Each

EQUIPMENT LIST (cont.)

A. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
	Pedestrian pushbutton and pedestrian education R10-3(1) sign. (Note: Sign to read "PUSH BUTTON TO CROSS DUNSTER RD")	2 EACH

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

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of Traffic	3 Day
2002	Test pit excavation.	12 C.Y.
8001	Concrete foundation.	17 C.Y.
8019	2" polyvinyl chloride electrical conduit (Schedule 80) (trenched).	15 L.F.
8023	3" polyvinyl chloride electrical conduit (Schedule 80) (trenched).	170 L.F.
8027	4" polyvinyl chloride electrical conduit (Schedule 80) (trenched).	105 L.F.
8028	4" polyvinyl chloride electrical conduit (Schedule 80) (pushed). (To be bored).	215 L.F.
8043	Ground rod, ¾" diameter x 10' length with clamp.	9 Each
8052	12-pair telemetry cable - jelly-filled (underground).	65 L.F.
8063	Canoga 4-conductor electrical cable (No. 14 A.W.G.) (shielded).	800 L.F.
8064	2-conductor electrical cable (No. 14 A.W.G.).	680 L.F.
8066	5-conductor electrical cable (No. 14 A.W.G.).	745 L.F.
8067	7-conductor electrical cable (No. 14 A.W.G.).	925 L.F.
8070	2-conductor electrical cable (No. 12 A.W.G.) copper type TC.	100 L.F.
8075	1-conductor electrical cable (No. 6 A.W.G.) stranded bare copper ground wire.	570 L.F.
8078	3-wire electrical cable (No. 4 A.W.G.)	20 L.F.
8095	20' lighting arm.	1 Each
8097	250W-HPS luminaire.	1 Each
8106	Furnish and install NEMA size "6" traffic signal controller cabinet.	1 Each
8114	3" weatherhead.	1 Each
8136	Traffic signal handbox (pullbox).	8 Each
8153	Removal and salvage of signs less than 50 S.F.	4 Each
8157	Removal of electrical service.	1 Each
8158	Removal of span and associated wiring.	4 Each
8161	Removal and salvage of strain pole including foundation.	4 Each
8164	Removal and salvage of cabinet, base-mounted.	1 Each
8166	Removal of handbox.	5 Each
8167	Removal and salvage of any signal head.	16 Each
9001	Signal technician labor. reroute cable	5 HRS
Neg.	Remove existing pavement markings.	770 L.F.
Neg.	12" white heat applied permanent preformed thermoplastic pavement marking.	670 L.F.
Neg.	24" white heat applied permanent preformed thermoplastic pavement marking.	50 L.F.
	16.5' Steel pole with 15' "T" and 34' mast arm. (Note: Anchor bolts will be 1½" x 54".)	1 EA
	16.5' Steel pole with 15' "T" and 50' mast arm. (Note: Anchor bolts will be 1¾" x 66".)	1 EA
	27' Steel pole with 15' "T" and 50' (cut to 46') mast arm. (Note: Anchor bolts will be 1¾" x 66".)	1 EA
	16.5' Steel pole with 15' "T" and 32' mast arm. (Note: Anchor bolts will be 1½" x 54".)	1 EA
	10' breakaway pedestal pole with transformer base.	2 EA
	5' breakaway pedestal pole with transformer base.	4 EA
	Furnish and install 12" vehicular LED traffic signal head (R,Y,G)	7 Each
	Furnish and install 12" vehicular LED traffic signal head (R,Y,G,YA.GA)	2 Each
Neg.	Furnish and install 16" LED Countdown pedestrian signal head.	6 Each
Neg.	Video detector camera w/ coaxial cable (to be installed by County Forces)	5 Each
Neg.	Splice cabinet with telemetry equipment, pole or post mounted.	1 Each
Neg.	Furnish and install electrical cable - 1 conductor (No. 250 KCMIL)	380 L.F.
	Metered pedestal service	1 EA
	Tubular steel post.	2 EA
	2 wire Central Control unit	1 EA
	Audible/tactile pedestrian pushbutton station & signs.	6 EA

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 2 & 5	R	R	◄G-/G	◄G-/G	G	R	R	R	R	R	DW	DW	DW	DW	DW	DW
2 & 5 CHANGE	R	R	◄Y-/G	◄Y-/G	G	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	R	R	R	R	R	WK	WK	DW	DW	DW	DW
PED CLEAR / COUNTDOWN	G	G	G	G	G	R	R	R	R	R	FL/DW	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	G	G	G	G	G	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 & 8 ALT	R	R	R	R	R	G	G	G	G	G	DW	DW	WK	WK	WK	WK
PED CLEAR / COUNTDOWN	R	R	R	R	R	G	G	G	G	G	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	R	R	R	R	R	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	DARK	DARK	DARK	DARK	DARK	DARK

WIRING KEY

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

G,H,J,K,L,M,N,O,P,Q — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

R,S,T,U,V,W — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

X,Y,Z,aa,jj — 4-CONDUCTOR CANOGA CABLE (NO. 14 A.W.G) SHIELDED

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

cc,dd — EXISTING 12-PAIR VOICE GRADE INTERCONNECT CABLE

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

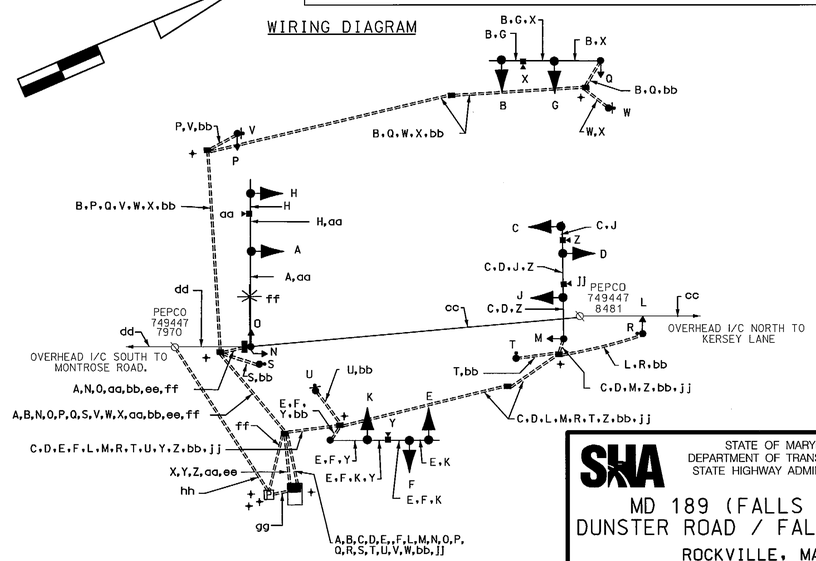
ff - 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)

gg - 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

hh - 3-1 CONDUCTOR ELECTRICAL CABLE (NO 250 KCMIL)

+ - GROUND ROD

WIRING DIAGRAM



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 189 (FALLS ROAD) AND DUNSTER ROAD / FALLS CHAPEL WAY

ROCKVILLE, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 11/30/09 CONTRACT NO.

DESIGNED BY RRZ COUNTY MONTGOMERY
DRAWN BY RC LOGMILE 15018905.80
CHECKED BY 12/09 TIMS NO. 1807
F.A.P. NO. TOD NO.

TS NO. 3879D | DRAWING NO. 2 OF 2 | SHEET NO. OF

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy. NW.
Glen Burnie, MD 21061
Ph (410) 590-5500
Fax (410) 590-6637

5151gGI.DGN

PLOTTED: @DATETIME@
FILE: @FILE@

\5151\5151g\5151g1.dgn 11/30/2009 12:26:36 AM