

DRILL HOLES

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a half Traffic Control Signal with street lighting and interconnect at the intersection of MD 355 (Rockville Pike) and North Wood Road in Montgomery County. Northbound MD 355 (Rockville Pike) and the southbound MD 355 (Rockville Pike) left turn approaches shall be signalized. The North Wood Road approach shall operate as a triple right turn during the PM peak. MD 355 (Rockville Pike) is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA two-phase, semi-actuated mode, with the MD 355 (Rockville Pike) northbound approach running in its own phase. Southbound MD 355 (Rockville Pike) shall have an Exclusive Flashing RED left turn phase. The North Wood Road approach operate as a westbound concurrent phase. A countdown pedestrian phase with audible pushbuttons on recall shall be provided across the North Wood Road approach.
- A full-traffic-actuated, eight-phase controller with video interface, L.A.U. and L.A.U. Panel and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.
- Montgomery County Signal Shop shall install APS control unit into controller cabinet. The APS push buttons should be delivered to Bob Ricketts at the Montgomery County Technical Center for programming at least two weeks prior to the beginning of work.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.
- 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.
- 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.
- APS will function as follows:
TO CROSS NORTH WOOD ROAD
a. When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message "Wait to cross North Wood at Rockville Pike wait."
b. When the WALK phase begins, the pushbutton unit will provide 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. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630 |
| Mr. Vernon Stinnett
Assistant District Engineer - Maintenance
Phone: (301) 513-7304 | Mr. Bob Ricketts
Signal Shop (Mont Co.)
240-876-3681 |
| Mr. Victor Grafton
Assistant District Engineer - Utility
Phone: (301) 513-7350 | Mr. Sonny Bailey
Manager, Sign Shop Operations
410-787-7670 |
| Mr. Kamal Hamud
Mont. County TMC Center
240-777-8761 | The power company representative is:
Mr. Steve Custer
PEPCO Customer Design
201 W Guide Dr.,
Rockville, MD 20850
Phone: 301 548-4333 |

EQUIPMENT LIST

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

DESCRIPTION	QUANTITY	LUMP SUM
Maintenance of traffic	6 C.Y.	
Test Pit Excavation	6 C.Y.	
Concrete foundation.	13 C.Y.	
12" LED signal head section (R,Y or G).	9 EA	
12" LED signal head section (R,A,YA or GA) Left	6 EA	
12" LED signal head section (R,A,YA or GA) Right	6 EA	
16.5' steel pole with a special 15' T with 70' mast arm.	1 EA	
27' steel pole with a 60' mast arm and flange plate.	1 EA	
Schedule 80 rigid PVC conduit 4" - bored.	195 L.F.	
Schedule 80 rigid PVC conduit 3" - trenched.	60 L.F.	
Schedule 80 rigid PVC conduit 2" - trenched.	35 L.F.	
Schedule 80 rigid PVC conduit 4" - trenched.	25 L.F.	
3" weatherhead.	1 EA	
3" PVC riser.	30 L.F.	
Metered Service pedestal (100 amp).	1 EA	

EQUIPMENT LIST

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

DESCRIPTION	QUANTITY
No. 6 AWG stranded bare copper ground wire.	325 L.F.
Electrical cable 1-conductor No. 8 AWG THHN/THWN.	50 L.F.
Cable - 1 conductor, No. 250 KCMIL, Cu, Use (for electrical use).	200 LF
Furnish and install electrical handhole.	3 EA
250 watt HPS lamp and luminaire.	1 EA
15' lighting arm.	1 EA
Ground rods	6 EA
Electrical cable - Tray 2 conductor (No. 12 AWG).	145 L.F.
Electrical cable - 2 conductor (No. 14 AWG).	150 L.F.
Electrical cable - 5 conductor (No. 14 AWG).	700 L.F.
Electrical cable - 7 conductor (No. 14 AWG).	1100 L.F.
Video camera and cable (up to 500').	2 EA
Remove and dispose of existing material & equipment per assignment (handhole and wiring)	LUMP SUM
Disconnect, pull back and reroute cable. (interconnect cable). (Note: includes delashing & relashing fiber optic cable).	630 L.F.
LED 16" countdown pedestrian signal heads.	2 EA
Breakaway pedestal pole (14')	1 EA
Breakaway pedestal pole (10') with breakaway coupling system & modified foundation.	1 EA
Audible/tactile pedestrian pushbutton station & signs.	2 EA
Remove existing pavement markings.	55 L.F.
12" white preformed thermoplastic pavement marking lines	140 L.F.
24" white preformed thermoplastic pavement marking lines.	90 L.F.
Sheet aluminum signs to consist of: (mast arm)	56 SF
D-3(1) "(arrow) N. WOOD RD / N. WOOD RD (arrow)" dual faced sign (variable x 16") mast arm mounted	1 EA
D-3(1) "Rockville PK" sign. (variable x 16") mast arm mounted.	1 EA
R3-2 "NO LEFT TURN (SYMBOLIC)" sign. (24" x 24") mast arm mounted	1 EA
R3-5R "RIGHT TURN ONLY" sign. (30"x36") mast arm mounted	1 EA
R10-12(2) "YIELD ON FLASHING RED ARROW AFTER STOP" sign (48"x36") mast arm mounted	2 EA
Pedestrian education R10-3(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS CROSS NORTH WOOD ROAD".) (9"x15") pole mounted	2 EA
Ground mounted sheet aluminum signs to consist of:	69 SF
R4-7 "KEEP RIGHT" sign. (24"x30")	1 EA
W3-3 NEW "SIGNAL AHEAD" sign. (48" x 48")	4 EA
Furnish and install wood sign supports (4"x4").	16 LF
Furnish and install wood sign supports (4"x6").	128 LF
Fiber Optic Blank Out Sign "Right Turn Only"	2 EA
Fiber Optic Blank Out Sign "NO TURN ON RED"	1 EA
Controller ASC II with telemetry	1 EA
Controller cabinet, size "6" including video interface, 2-wire control unit, LAU and LAU panel and all necessary equipment.	1 EA
5" white permanent thermoplastic pavement marking.	65 L.F.

EQUIPMENT LIST

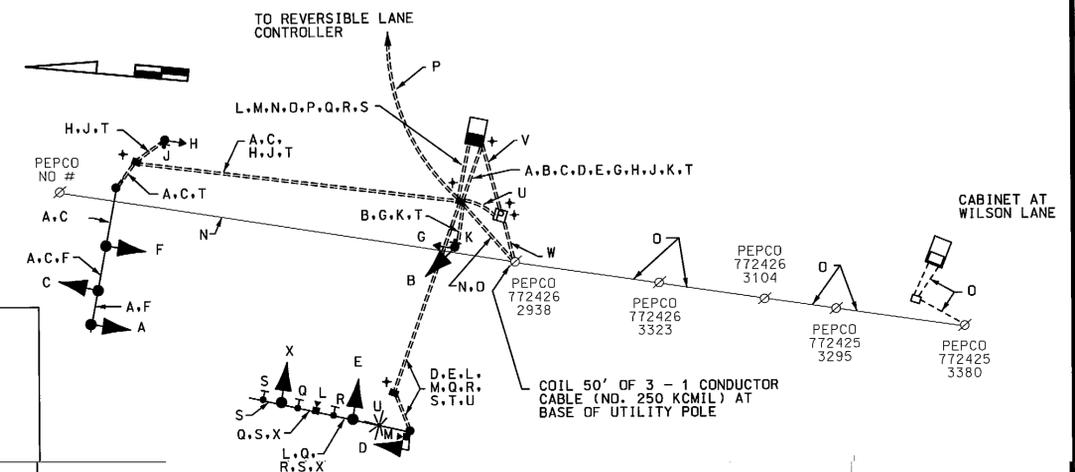
EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

DESCRIPTION	QUANTITY
Quick Curb with flex post.	40 L.F.
Furnish and install 12-pair communication cable, self-supporting (overhead).	725 L.F.

PHASE CHART

	1	2	3	4	5	6	7	8	9	20	21	22
AM PEAK	(R) (Y) (G)											
PHASE 1 + CONC WBR	R	R	G	G	G	G	DW	DW	OFF	OFF	OFF	OFF
1 + CONC WBR CHANGE	R	R	Y	Y	Y	Y	DW	DW	OFF	OFF	OFF	OFF
PHASE 2	G	G	FL/R	FL/R	FL/R	FL/R	WK	WK	OFF	OFF	OFF	OFF
PED CLEAR / COUNTDOWN	G	G	FL/R	FL/R	FL/R	FL/R	FL/DW	FL/DW	OFF	OFF	OFF	OFF
2 CHANGE	Y	Y	FL/R	FL/R	FL/R	FL/R	DW	DW	OFF	OFF	OFF	OFF
PM PEAK	(R) (Y) (G)											
PHASE 1 + CONC WBR	R	R	G	G	G	G	DW	DW	ON	ON	ON	ON
1 + CONC WBR CHANGE	R	R	Y	Y	Y	Y	DW	DW	ON	ON	ON	ON
PHASE 2	G	G	FL/R	FL/R	FL/R	FL/R	WK	WK	ON	ON	ON	ON
PED CLEAR / COUNTDOWN	G	G	FL/R	FL/R	FL/R	FL/R	FL/DW	FL/DW	ON	ON	ON	ON
2 CHANGE	Y	Y	FL/R	FL/R	FL/R	FL/R	DW	DW	ON	ON	ON	ON
FLASHING OPERATION/ OFF-PEAK OPERATION	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	ON	OFF	OFF	OFF

WIRING DIAGRAM



WIRING KEY

A	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
F	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
J	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
L	CONTROL CABLE (CAMERA TO CONTROLLER) UP TO 500'
N	EXISTING 12-PAIR VOICE GRADE INTERCONNECT CABLE (SELF SUPPORTING)
O	12-PAIR VOICE GRADE INTERCONNECT CABLE (SELF SUPPORTING)
P	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
Q	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) FOR FIBER OPTIC SIGN
T	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
U	2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
V	3-1 CONDUCTOR ELECTRICAL CABLE (NO. 8 A.W.G.)
W	3-1 CONDUCTOR ELECTRICAL (NO. 250 KCMIL)
+	GROUND ROD

ST
STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy., N.W.
Glen Burnie, MD 21061
Ph (410) 590-5500
Fax (410) 590-6637
595961.DGN

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 355 (ROCKVILLE PIKE) AND NORTH WOOD ROAD
BETHESDA, MD

GENERAL INFORMATION SHEET

SCALE NONE DATE 3/15/11 CONTRACT NO. BW996M82

DESIGNED BY R.R.Z. COUNTY MONTGOMERY
DRAWN BY R.C. LOGMILE 15035503.15
CHECKED BY _____ TMS NO. K837
F.A.P. NO. _____ TOD NO. _____

TS NO. 4755 DRAWING NO. 2 OF 2 SHEET NO. OF

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