PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF CRESTWOOD BOULEVARD AT CORPORATE DRIVE/ CORPORATE COURT IN FREDERICK COUNTY, MARYLAND. THIS MODIFICATION IS DUE TO THE ADDITION OF A SECOND NORTHBOUND LEFT TURN LANE AS WELL AS THE WIDENING OF THE WEST SIDE OF CRESTWOOD BOULEVARD. CRESTWOOD BOULEVARD IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION SHALL OPERATE IN A NEMA SIX (6) PHASE FULLY ACTUATED MODE WITH THE NORTHBOUND AND SOUTHBOUND LEFT TURNS OPERATING CONCURRENTLY IN AN EXCLUSIVE PHASE. THE SIDE STREETS WILL OPERATE SPLIT PHASE WITH THE EASTBOUND RIGHT TURN OPERATING ON AN OVERLAP WITH THE NB LEFT TURNS.

III. CONTROLLER REQUIREMENTS

THE CONTROLLER ASSEMBLY WILL BE AN EIGHT PHASE FULLY ACTUATED NEMA CONTROLLER COMPLETE WITH THE SYSTEM PACKAGE, VIDEO INTERFACE EQUIPMENT, AND MISCELLANEOUS AUXILIARY EQUIPMENT AS REQUIRED. A NEMA SIZE "6" BASE MOUNTED CABINET IS TO BE USED.

IV. SPECIAL NOTES

1. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING MD STANDARD PLATES FOR TRAFFIC CONTROL: 104.00 – 104.00–30, 104.31–01 (FLAGGING OPERATION), 104.33–01 (SHOULDER WORK), 104.35 (LANE SHIFT), 104.32–01 (INTERSECTION FLAGGING OPERATION).

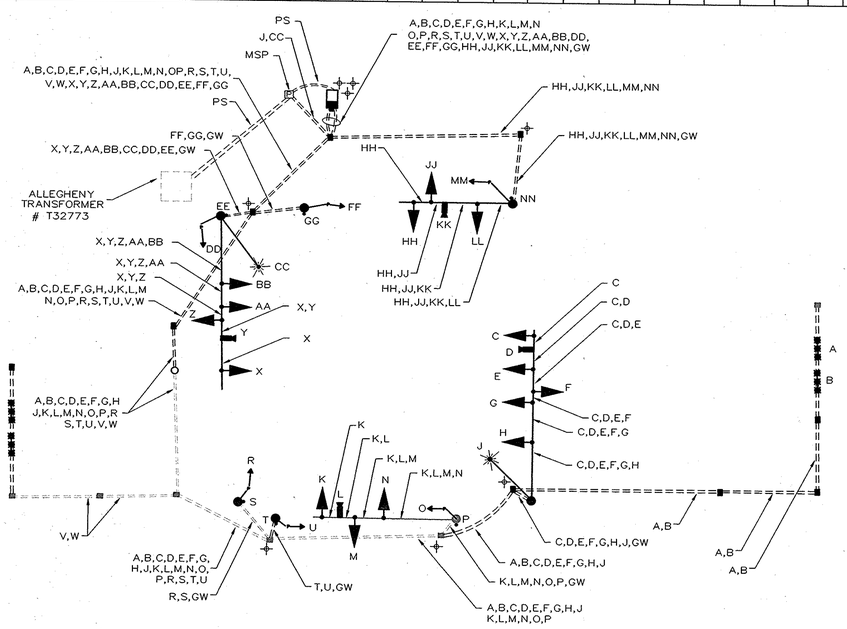
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PULLING ALL CABLE TO THE CABINET AND SHALL PROPERLY LABEL EACH CABLE.

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. CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SHA SIGNAL OPERATIONS SECTION TO DELIVER THE SIZE 6 NEMA SIGNAL CONTROLLER TO MR ED RODENHIZER FOR PROGRAMMING AT LEAST 72 HOURS IN ADVANCE.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G	R, Y, G						
PHASE 1 + 5	←G	←G	←G	R	R	←G	←G	R	R	R	R	R/G→	R	R	R	DW	DW	DW	DW	DW	DW
1 + 5 CHANGE	←Y	←Y	←Y	R	R	←Y	←Y	R	R	R	R	R/Y→	R	R	R	DW	DW	DW	DW	DW	DW
NOTE: PHASE 1 + 5 CAN CHANGE TO 1 + 6, 2 + 6, OR 2 + 5.																					
PHASE 1 + 6	←G	←G	←G	G	G	←R	←R	R	R	R	R	R/G→	R	R	R	DW	W	W	DW	DW	DW
1 + 6 PED CLEAR	←G	←G	←G	G	G	←R	←R	R	R	R	R	R/G→	R	R	R	DW	FLDW	FLDW	DW	DW	DW
1 + 6 CHANGE	←Y	←Y	←Y	Y	Y	←R	←R	R	R	R	R	R/Y→	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 + 5	←R	←R	←R	R	R	←G	←G	G	G	R	R	R	R	R	R	W	DW	DW	W	DW	DW
2 + 5 PED CLEAR	←R	←R	←R	R	R	←G	←G	G	G	R	R	R	R	R	R	FLDW	DW	DW	FLDW	DW	DW
2 + 5 CHANGE	←R	←R	←R	R	R	←Y	←Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 + 6	←R	←R	←R	G	G	←R	←R	G	G	R	R	R	R	R	R	W	W	W	W	DW	DW
2 + 6 PED CLEAR	←R	←R	←R	G	G	←R	←R	G	G	R	R	R	R	R	R	FLDW	FLDW	FLDW	FLDW	DW	DW
2 + 6 CHANGE	←R	←R	←R	Y	Y	←R	←R	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3	←R	←R	←R	R	R	←R	←R	R	R	R	R	R	←G ←G	G ←G	G	DW	DW	DW	DW	DW	DW
PHASE 3 CHANGE	←R	←R	←R	R	R	←R	←R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4	←R	←R	←R	R	R	←R	←R	R	R	←G ←G	←G ←G	G/G→	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 CHANGE	←R	←R	←R	R	R	←R	←R	R	R	Y	Y	Y/Y→	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 ALT	←R	←R	←R	R	R	←R	←R	R	R	←G ←G	←G ←G	G	R	R	R	DW	DW	DW	DW	W	W
PHASE 4 ALT PED CLEAR	←R	←R	←R	R	R	←R	←R	R	R	←G ←G	←G ←G	G	R	R	R	DW	DW	DW	DW	FLDW	FLDW
PHASE 4 ALT CHANGE	←R	←R	←R	R	R	←R	←R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/R	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	DARK	DARK	DARK	DARK	DARK	DARK



EQUIPMENT LIST

A. FREDERICK COUNTY FURNISHED EQUIPMENT MATERIAL AND INSTALLED BY THE CONTRACTOR.

NONE

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR (ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.)

QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
1	LS	104	Maintenance of traffic.
1	LS	108	Mobilization
5	CY	205	Test pit excavation.
450	LF	xxx	12 in. white reflective thermoplastic pavement marking.
125	LF	xxx	24 in. white reflective thermoplastic pavement marking.
1	EA	xxx	Relocation of exisiting ground mounted signs.
18	CY	801	Furnish and install concrete for signal foundation.
8	EA	804	Ground rod –¾ in. diameter X 10 ft.
120	LF	804	Stranded bare copper ground wire (#6 AWG)
450	LF	805	3 in. schedule 80 rigid PVC conduit (trenched).
170	LF	805	3 in. schedule 80 rigid PVC conduit (bored).
160	LF	805	4 in. schedule 80 rigid PVC conduit (bored).
80	LF	805	4 in. schedule 80 rigid PVC conduit (trenched).
1	EA	807	Electrical service equipment. (Metered Service Pedestal)
2	EA	812	4"x4" wood post
590	LF	810	2 conductor electrical cable (No. 12 AWG).
1600	LF	810	2 conductor electrical cable (No. 14 AWG).
3200	LF	810	5 conductor electrical cable (No. 14 AWG).
2380	LF	810	7 conductor electrical cable (No. 14 AWG).
4	EA	810	Non–invasive micro–loop probe set with 1000' lead in cable.
9	EA	811	Electrical handhole
2	EA	813	Luminaire – 250 watt HPS with photocell.
53	SF	813	Sheet aluminum signs consisting of: 3 ea. R3–5(L) 30"x36" –(MAST ARM MOUNT) 1 ea. R3–5(R) 30"x36" –(MAST ARM MOUNT) 1 ea. R4–7 30"x36" –(MAST ARM MOUNT) 5 ea. R10–3(1) 9"x15" –(POLE MOUNT) 4 ea. D–3(1) 16"xVAR –(MAST ARM MOUNT) 1 ea. R10–11a 24"x30" –(MAST ARM MOUNT)
2	EA	814	15 ft. lighting arm on signal pole.

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

QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
2	EA	814	8 in./12 in. 1 way 4 section (R,Y,G,GA) signal head–mast arm mount.
5	EA	814	12 in. 1 way 3 section (RA,YA,GA) signal head–mast arm mount.
5	EA	814	12 in. 1 way 3 section (R,Y,G) signal head–mast arm mount.
1	EA	814	12 in. 1 way 5 section (R,Y,G,YA,GA) signal head–mast arm mount.
2	EA	814	12 in. 1 way 4 section (R,Y,G,GA) signal head–mast arm mount.
3	EA	814	16 in. one–way (WALK/DON'T WALK) LED countdown pedestrian signal head for pole mounting.
3	EA	814	16 in. one–way (WALK/DON'T WALK) LED countdown pedestrian signal head for pedestal mounting.
1	EA	816	Video detection interface equipment for 1–4 cameras.
4	EA	816	Video detection camera with arm and clamp.
2	EA	816	250' Video cable for detection unit.
2	EA	816	500' Video cable for detection unit.
1	EA	816	Econolite eight–phase, full–traffic–actuated controller with system package housed in a NEMA size "6" base mounted cabinet per MSHA specifications. Cabinet to be delivered to SHA Signal Shop for wiring and testing prior to installation.
6	EA	817	Pedestrian push button.
1	EA	818	27' steel pole with 38' mast arm.
1	EA	818	27' steel pole with 60' mast arm.
1	EA	818	27' steel pole with 70' mast arm.
2	EA	818	Furnish and install 10' breakaway pedestal pole.
80	SF	818	Detectable Warning Surface.

C. ALL EQUIPMENT AND/OR MATERIAL REMOVED AND NOT LISTED ABOVE SHALL BECOME PROPERTY OF THE CONTRACTOR.

D. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY FREDERICK COUNTY. AS A FIRST ORDER OF BUSINESS, CONTRACTOR IS TO CONTACT MR. DONNIE CRUM AT (301) 694–1565 TO COORDINATE THIS WORK

WIRING LEGEND

D,L,Y,KK	VIDEO DETECTOR LEAD–IN
P,S,T,EE,GG,NN	2 CONDUCTOR ELECTRICAL CABLE (#14 AWG) (PUSH BUTTON)
J,CC	2 CONDUCTOR ELECTRICAL CABLE TYPE T/C (#12 AWG) (LUMINAIRES)
E,G,H,O,R,U,AA, BB,DD,FF,LL,MM	5 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
C,F,K,M,N,X,Z,HH,JJ	7 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
A,B,V,W	MICROLOOP LEAD–IN CABLE
GW	STRANDED BARE COPPER GROUND WIRE (#6 AWG)
⊕	GROUND ROD (IN HANDHOLE)
PS	POWER SOURCE

PROJECT CONTACTS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MR. GREGORY JONES
ENGINEERING SUPERVISOR
PHONE: (301) 631–2379

MR. ROBERT SHEN
ENGINEERING MANAGER
OFFICE OF TRANSPORTATION ENGINEERING
PHONE: (301) 696–2928

MR. TOM MEUNIER
DEPARTMENT HEAD
PHONE: (301) 696–2950

MR. BILL ROUTZHAN
SUPERINTENDENT
OFFICE OF HIGHWAY OPERATIONS
PHONE: (301) 694–1555

MR. RICH BAKER
CHIEF
MARYLAND STATE HIGHWAY ADMIN, TCDIS
PHONE: (410) 787–7643

ALLEGHANY POWER REPRESENTITIVE:
MR. BRANDON WARRENFELTZ
PHONE: (301) 694–4420

WELLS & ASSOCIATES, LLC
TRANSPORTATION, TRAFFIC, AND PARKING CONSULTANTS
1420 Spring Hill Road, Suite 600 • McLean, VA 22102
Phone: (703) 917–6620 Fax: (703) 917–0739
5 Wirt Street SW., Suite 300 • Leesburg, VA 20175
Phone: (703) 443–1442 Fax: (703) 443–1225

FREDERICK COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
BUREAU OF HIGHWAYS AND TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

TRAFFIC SIGNAL MODIFICATION PLAN
CRESTWOOD BLVD. @ CORPORATE DRIVE / CORPORATE COURT

SCALE 1"=20' DATE 1/98 CONTRACT NO.

DESIGNED BY
DRAWN BY
CHECKED BY
PROJECT #: 4647

COUNTY Frederick
LOGMILE
T.I.M.S. NO. I 1150
TOD NO.

DRAWING NO. – OF SHEET NO. 2 OF 2