

**PROJECT DESCRIPTION**

**I. GENERAL**

This project involves the modification of a Traffic Control Signal with street lighting at the intersection of MD 410 (East/West Highway) and Blair Mill Road and Newell Street in Montgomery County. The signal is being modified to reflect widening on the north side of MD 410, and closing the southbound Blair Mill Road approach to vehicular traffic. Accordingly, the signals on the northwest corner are to be moved. The signal on the northeast corner will be relocated to the pole on the southeast corner, and the northeast pole will be removed and replaced with a pedestal pole at the relocated crosswalk. Crosswalks on East-West Highway will be reconfigured to reduce crossing distance. Push buttons are being added for the East-West Highway and Newell Street crossings. The existing cabinet on the northwest corner is being abandoned and removed and a new controller is being installed on the southwest corner. Accordingly, all of the signals are to be re-wired and cables are to be routed to the new controller. Where possible, existing conduits are to be used. However, there are several locations where the existing conduit capacity may be exceeded due to the re-wiring. In those cases, new conduit is to be installed for the cable.

**II. INTERSECTION OPERATION**

- The intersection currently operates in a NEMA five-phase, fully actuated mode, with restricted skipability with Phases 2 and 6 coordinated. Protected/permissive left turn phasing is provided with Phase 5. Pedestrian movements are fixed time.
- A new eight-phase, fully actuated controller with three (3) four channel, time-delay-output loop detector amplifiers housed in a NEMA "6" base-mounted cabinet will be installed at the intersection.

**III. SPECIAL NOTES**

- The contractor shall be responsible for terminating all signal cables excluding interconnect, 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 the cabinet and properly tag the cable. Contact Mr. Wilhelm Derminassian at (240)-777-8795 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.

**IV. CONSTRUCTION SEQUENCE**

- The contractor shall plan his work and install the new equipment such that the signal remains in operation, and there is no down time.
- The signal displays for the southbound Blair Mill Road approach shall remain in operation until the road is closed.

The contact persons for District #3 (Montgomery County) are as follows:

Mr. Lee Starkloff  
Assistant District Engineer - Traffic  
Phone: (301) 513-7318

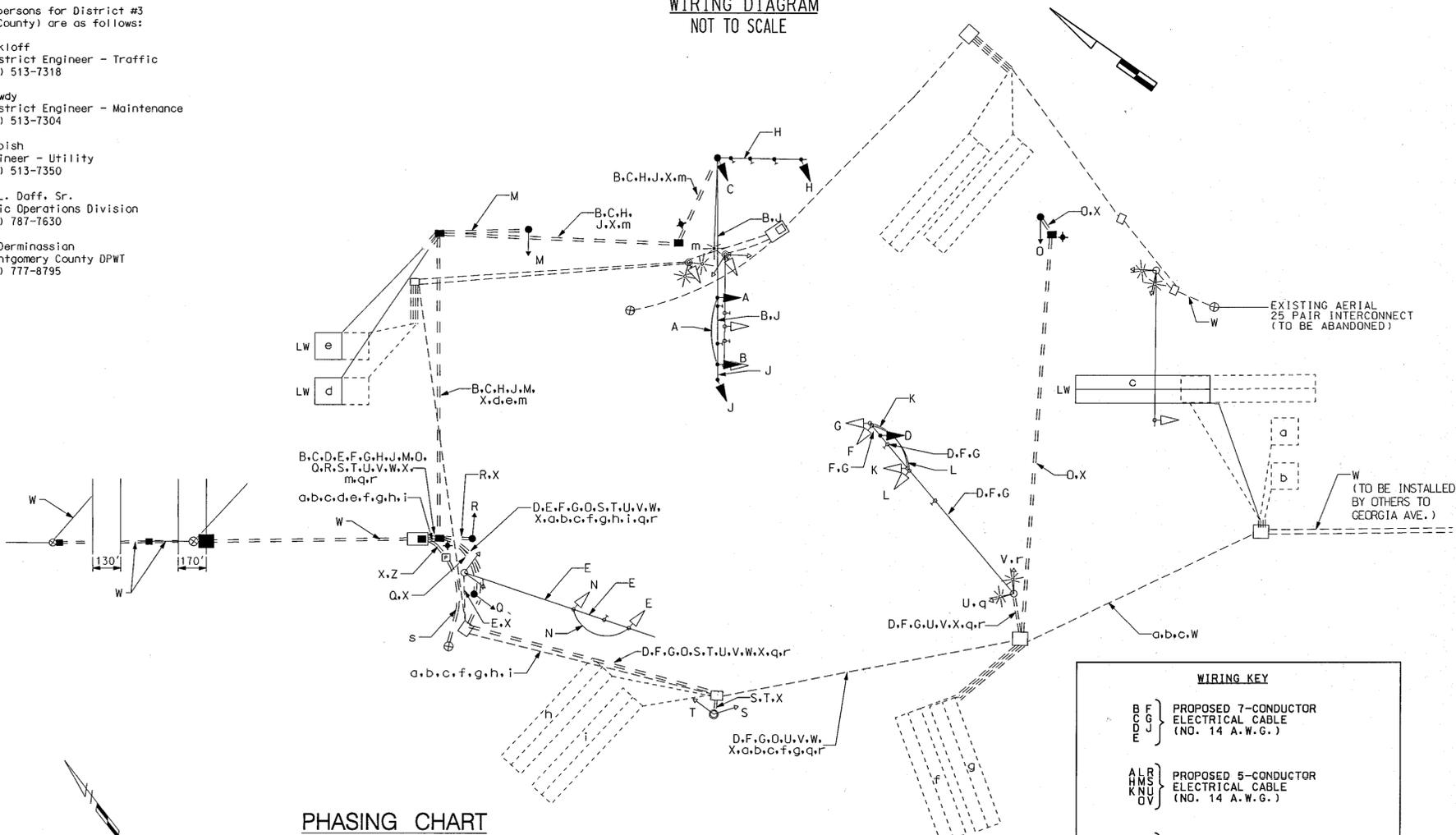
Mr. Wayne Mowdy  
Assistant District Engineer - Maintenance  
Phone: (301) 513-7304

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

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

Mr. Wilhelm Derminassian  
Engineer, Montgomery County DPWT  
Phone: (240) 777-8795

**WIRING DIAGRAM  
NOT TO SCALE**



**EQUIPMENT LIST**

All equipment is to be furnished and installed by the contractor.

**A. Equipment to be furnished by the State Highway Administration:**

NONE

**B. Equipment to be furnished and installed by the Contractor.**

All equipment in this list shall have catalog cuts submitted to the office of traffic and safety for approval prior to installation.

QUANTITY	UNITS	ITEM NO.	DESCRIPTION
1	LS	1001	MAINTENANCE OF TRAFFIC
6	CY	2002	TEST PIT EXCAVATION
250	LF	5004	12 IN. WHITE HAPTM-CROSSWALK
55	LF	5005	24 IN. WHITE HAPTM-STOP LINE
500	LF	5008	REMOVAL OF EXISTING PAVEMENT MARKING-ANY WIDTH
1	EA	8006	CUT, CLEAN AND CAP TRAFFIC SIGNAL STRUCTURE
8	EA	8010	12 IN. PEDESTRIAN SIGNAL HEAD SECTION
22	EA	8011	12 IN. VEHICULAR SIGNAL HEAD SECTION, BLACK FACED
1	EA	8020	CONTROL AND DISTRIBUTION EQUIPMENT
1	EA	8025	27 FT. STEEL TWIN MAST ARM POLE WITH TWO 50 FT ARMS
4	EA	8030	PEDESTRIAN PEDESTAL POLE
1	EA	8045	METERED SERVICE PEDESTAL
2	EA	8048	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
485	LF	8051	3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT-TRENCHED
100	LF	8053	4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT-TRENCHED
240	LF	-	4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT-BORED
12	CY	8057	CONCRETE FOR SIGNAL FOUNDATION
560	LF	8060	NO. 6 AWG STRANDED BARE COPPER WIRE
15	LF	8068	1 IN. LIQUID TIGHT, FLEXIBLE, NON METALIC CONDUIT FOR DETECTOR SLEEVE
70	LF	8070	ELECTRICAL CABLE, 1-CONDUCTOR NO. 4 AWG
180	LF	-	ELECTRICAL CABLE, 1-CONDUCTOR NO. 250 KCMIL
6	EA	8072	ELECTRICAL HAND HOLE
3	EA	8080	GROUND ROD, 3/4 IN DIAMETER X 10 FT LENGTH
1450	LF	8081	ELECTRICAL CABLE, 2-CONDUCTOR ALUMINUM SHIELDED
155	LF	8083	ELECTRICAL CABLE, 3-CONDUCTOR NO. 14 AWG
1490	LF	8084	ELECTRICAL CABLE, 5-CONDUCTOR NO. 14 AWG
1550	LF	8085	ELECTRICAL CABLE, 7-CONDUCTOR NO. 14 AWG
600	LF	8086	ELECTRICAL CABLE, 2-CONDUCTOR NO. 12 AWG TRAY CABLE
15	LF	8087	LOOP WIRE ENCASED IN 1/3 IN. FLEXIBLE TUBING (NO. 14 AWG)
240	LF	8088	SAW CUT FOR LOOP DETECTOR
630	LF	-	25 PAIR COMMUNICATION CABLE, JELLY-FILLED (UNDERGROUND)
1	EA	-	STANDARD MONTGOMERY COUNTY TRAFFIC SIGNAL CONTROLLER AND BASE MOUNTED CABINET
8	SF	-	30 IN. X 36 IN. REGULATORY CUSTOM TURN ARROW SIGN WITH MAST ARM MOUNTING HARDWARE
14	SF	-	16 IN. X VAR. D3-2 (DUAL FACED) SIGN WITH MAST ARM MOUNTING HARDWARE
1	EA	-	RELOCATED EXISTING 16 IN. X VAR. D3-2 (DUAL FACED) SIGN WITH MAST ARM MOUNTING HARDWARE
6	EA	8011	PUSH BUTTON AND SIGN
1	EA	8098	20 FT LIGHTING ARM
1	EA	-	REMOVE EXISTING TREE
1	EA	8099	250W-HPS LUMINAIRE

**PHASING CHART**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18*	19*	20
PHASE 2 & 5	R	R	G	G	R	R	R	R	R	DW	DW	R	R	R						
5 CHANGE	R	R	G	G	R	R	R	R	R	DW	DW	R	R	R						
PHASE 2 & 6	G	G	G	G	R	R	R	R	R	DW	WK	DW	WK	DW	DW	DW	DW	R	R	R
PED CLEAR	G	G	G	G	R	R	R	R	R	DW	FL/DW	DW	FL/DW	DW	DW	DW	DW	R	R	R
2 & 6 CHANGE	Y	Y	Y	Y	R	R	R	R	R	DW	DW	R	R	R						
PHASE 3	R	R	R	R	R	G	G	R	R	DW	DW	R	R	G						
PED CLEAR	R	R	R	R	R	G	G	R	R	DW	DW	R	R	G						
3 CHANGE	R	R	R	R	R	Y	Y	R	R	DW	DW	R	R	Y						
PHASE ALT. 3	R	R	R	R	R	G	G	R	R	DW	DW	DW	DW	DW	WK	WK	DW	R	R	G
PED CLEAR	R	R	R	R	R	G	G	R	R	DW	DW	DW	DW	DW	FL/DW	FL/DW	DW	R	R	G
ALT. 3 CHANGE	R	R	R	R	R	Y	Y	R	R	DW	DW	R	R	Y						
PHASE 4	R	R	R	R	R	R	R	G	G	DW	DW	G	G	R						
4 CHANGE	R	R	R	R	R	R	R	Y	Y	DW	DW	Y	Y	R						
PHASE ALT. 4	R	R	R	R	R	R	R	G	G	WK	DW	WK	DW	DW	WK	DW	WK	G	G	R
PED CLEAR	R	R	R	R	R	R	R	G	G	FL/DW	DW	FL/DW	DW	FL/DW	DW	FL/DW	DW	G	G	R
ALT. 4 CHANGE	R	R	R	R	R	R	R	Y	Y	DW	DW	Y	Y	R						
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	FL/R	FL/R	FL/R						

\* SIGNAL DISPLAYS TO BE REMOVED AFTER THE SOUTHBOUND BLAIR MILL ROAD CLOSURE

**NOTES:**

SUBMITTED: \_\_\_\_\_ CHECKED: \_\_\_\_\_ APPROVED: \_\_\_\_\_  
IN SERVICE BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**Kimley-Horn and Associates, Inc.**  
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**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
Office of Traffic & Safety  
**TRAFFIC ENGINEERING DESIGN DIVISION**  
MD 410 (EAST/WEST HIGHWAY) AND  
BLAIR MILL ROAD/NEWELL STREET

DRAWN BY: CLT	F.A.P. NO. 35388-GI	TS NO. 35388-GI	SHEET NO. 2 OF 2
CHECKED BY: KWF	S.H.A. NO. MONTGOMERY	T.I.M.S. NO. F910	
SCALE: 1"=20'	COUNTY: MONTGOMERY	LOG MILE: 15041004.02	
DATE: March 21, 2005			