PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL IN CONJUNCTION WITH CONSTRUCTION OF ARUNDEL MILLS BOULEVARD @ RIDGE ROAD RELOCATED/MAGAZINE 2, IN ANNE ARUNDEL COUNTY. ARUNDEL MILLS BOULEVARD IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION. WORK EFFORTS INCLUDE THE INSTALLATION OF NEW MAST ARMS, MAST ARM POLES, SIGNAL HEADS, AND SIGNAL RELATED EQUIPMENT.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA EIGHT-PHASE SEMI-ACTUATED MODE. ARUNDEL MILLS BOULEVARD WILL OPERATE WITH PROTECTED LEFT -TURN PHASING. THE SIDE ROADS (RIDGE ROAD RELOCATED AND MAGAZINE 2) WILL OPERATE AS SPLIT PHASE.

CONTROLLER REQUIREMENTS

INSTALL A NEW FULL-TRAFFIC ACTUATED, EIGHT-PHASE CONTROLLER WITH TIME DELAY OUTPUT LOOP, DETECTOR AMPLIFIERS, AND SYSTEM PACKAGE WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA BASE MOUNTED CABINET.

EQUIPMENT LIST "B"

B. Equipment to be Furnished and Installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval for installation.

Item No.	Specification Section	Quantity		Description
1001	104	1	EA	Maintenance of Traffic.
2001	205	3	CY	Test Pit Excavation.
5001	556	200	LF	24 in. wide HAPPTPM - white for stop line.
8001	816	7	EA	Four-channel, time delay output, loop detector amplifier.
8002	814	5	EA	12 in., one-way three section (R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
8003	814	5	EA	12 in., one-way three section (RA,YA,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
8004	813	156	SF	Furnish and install mast arm mounted sheet aluminum signs to consist of: 4 EA D3-2 "Arundel Mills Blvd." (72"x16") 2 EA D3-2 Arrow Left "Magazine 2/Ridge Rd" (72"x32") 2 EA D3-2 "Ridge Rd/Magazine 2" Arrow Right (72"x32") 2 EA R3-5R Lane use control - Right Only (30"x36") 6 EA R3-5L Lane use control-Left Only (30"x36")
8005	813	38	SF	Furnish and install pole mounted sheet aluminum signs to consist of: 2 EA R10-4AA "Push Button to Cross Arundel Mils Blvd" (9"x12"). 1 EA Associated Shield Assembly "NORTH, MD 713, RIGHT ARROW" (24"x51") 1 EA Associated Shield Assembly "NORTH, MD 713, LEFT ARROW" (36"x75") 1 EA Associated Shield Assembly "SOUTH, MD 713, STRAIGHT ARROW" (24"x51")
8006	813	112	SF	Furnish and install ground mounted sheet aluminum signs to consist of: 5 EA W3-3 Signal Ahead (48"x48") with "NEW" Panel (30"x30") ground mounted.
8007	816	1	EA	Eight-phase full-traffic actuated solid state digital controller with intersection monitor with battery back-up for phone drop, and all other necessary equipment housed in a NEMA size 6 base mounted cabinet.
8008	814	4	EA	12 in. one-way four-section (R, Y, G, GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
8009	810	9	EA	Micro-loop probe lead-in cable (500').
8010	810	2	EA	Micro-loop probe lead-in cable (1000').
8011	817	2	EA	Pedestrian pushbutton.
8012	804	1	EA	Control and distribution equipment (120/240 V, one phase, three wire system) for a type B-5 underground electrical service.
8013	810	100	LF	1-conductor electrical cable (No. 4 AWG), (power source).
8017	818	1	EA	27 ft. steel mast arm pole and 70' mast arm (Note: 4-2" dia. x 90" anchor bolts).
8018	818	1	EA	27 ft. steel mast arm pole and 60' mast arm (Note: 4-2" dia. x 90" anchor bolts).
8019	818	2	EA	21 ft. steel mast arm pole and 60' mast arm (Note: 4-2" dia. x 90" anchor bolts).
8020	806	2	EA	250 Watt HPS luminaire with photocell.
8021	805	6	EA	Ground rod -3/4in. diameter x 10 ft. lenght.
8022	810	3410	LF	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
8023	810	440	LF	2-conductor electrical cable type T/C (No. 12 A.W.G).
8024	810	1340	LF	5-conductor electrical cable (No. 14 AWG).
8025	810	1090	LF	7-conductor electrical cable (No. 14 AWG).

EQUIPMENT LIST "B"

B. Equipment to be Furnished and Installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval for installation.

Item No.	Specification Section	Quantity		Description
8026	810	5560	LF	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
8027	815	1710	LF	Saw cut for signal loop detector.
8028	811	18	EA	Handhole.
8029	810	950	LF	12-Pair interconnect cable jelley filled.
8030	805	20	LF	4 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
8031	805	1490	LF	3 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
8032	805	20	CY	Concrete foundation for traffic signal equipment.
8033	806	2	EA	20' lighting bracket for traffic signal structure.
8034	805	160	LF	1" galvanized steel electrical conduit (detector wire sleeve).
8035	805	480	LF	4 in. polyvinyl chloride (Schedule 80) electrical conduit - slotted in roadway.
8036	804	660	LF	Bare copper stranded ground wire (No. 6 A.W.G.).
8037	812	185	LF	4 in. x 4 in. wood sign support.
8042	805	200	LF	2 in. polyvinyl chloride (Schedule 80) electrical conduit - slotted in roadway.
8039	810	250	LF	2-conductor electrical cable (No. 14 A.W.G.).
8040	810	780	LF	3-conductor electrical cable (No. 14 AWG).
8041	814	1	EA	12 in. one-way five section (R,Y,G,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors
8042	805	200	LF	2 in. polyvinyl chloride (Schedule 80) electrical conduit - slotted in roadway.
8048	814	4	EA	12 in., one-way two section (symbolic don't walk, walk) pedestrian signal head with adjustable bracket for pole mounting and cutaway visors

GENERAL NOTES

1. THE UTILITIES SHOWN ON THE CONSTRUCTION PLAN ARE SCHEMATIC ONLY AND ARE NOT TO BE CONSIDERED TO BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES CAN BE LOCATED IN THE FIELD. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN THE VICINITY OF THE UTILITIES. ANY DAMAGE INCURRED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AND/OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

   MISS UTILITY 1-800-257-7777

2. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS (SHA, OCTOBER, 1993) AND ALL AMENDMENTS.

3. THE CONTACT PERSON FOR SHA DISTRICT #5 ARE AS FOLLOWS:

   MR. PAUL D. ARMSTRONG
   DISTRICT ENGINEER
   410-841-1001

   MR. LARRY ELLIOTT
   ASSISTANT DISTRICT ENGINEER - TRAFFIC
   410-841-5450

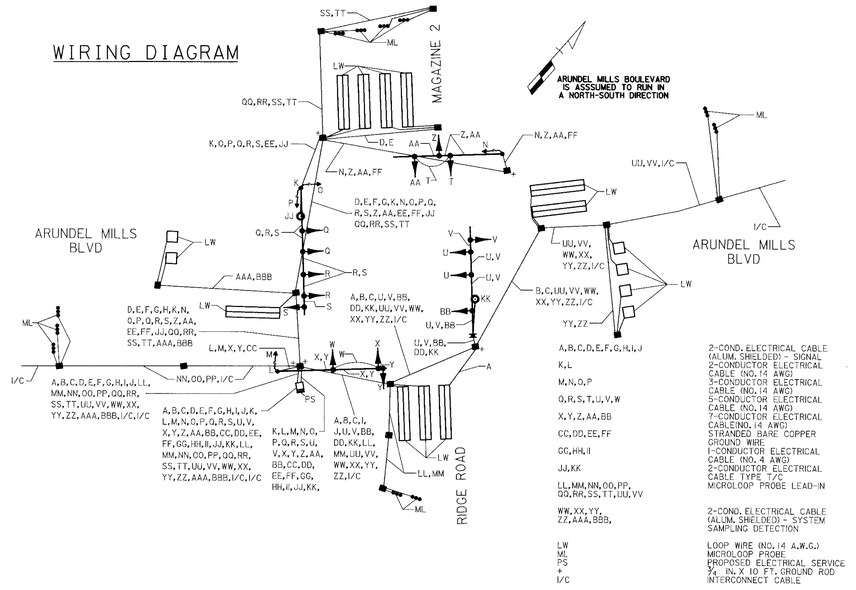
   MR. JOHN MAYS
   ASSISTANT DISTRICT ENGINEER - UTILITY
   410-841-1003

   MR. CHARLES GEORGE
   ASSISTANT DISTRICT ENGINEER - MAINTENANCE
   410-841-1005

   MR. RICHARD L. DAFF
   CHIEF, TRAFFIC OPERATIONS DIVISION
   410-787-7630

   THE POWER COMPANY REPRESENTATIVE IS:
   BGE
   MR. BERNIE THUMAN (SUPERVISOR OF ENGINEERING)
   7317 PARKWAY DRIVE SOUTH
   HANOVER, MARYLAND 21076
   410-859-9030

WIRING DIAGRAM



PHASE CHART

	1,2	3	4	5,6,7	8	9	10	11	12	13	14	15	16,17	18,19
Phase 1 & 5	←G	R	R	←G	R	R	R	R	R	R	R	R	DW	DW
1 & 5 Change	←Y	R	R	←Y	R	R	R	R	R	R	R	R	DW	DW
Phase 1 & 6	←G	G	G	←R	R	R	R	R	R	R	R	R	DW	DW
1 & 6 Change	←Y	Y	Y	←R	R	R	R	R	R	R	R	R	DW	DW
Phase 2 & 6	←R	G	G	←R	G	G	R	R	R	R	R	R	WK	DW
Ped. Clearance	←R	G	G	←R	G	G	R	R	R	R	R	R	FL/DW	DW
2 & 6 Change	←R	Y	Y	←R	Y	Y	R	R	R	R	R	R	DW	DW
Phase 2 & 5	←R	R	R	←G	G	G	R	R	R	R	R	R	WK	DW
Ped. Clearance	←R	R	R	←G	G	G	R	R	R	R	R	R	FL/DW	DW
2 & 5 Change	←R	R	R	←Y	Y	Y	R	R	R	R	R	R	DW	DW
Phase 3	←R	R	G→	←R	R	R	R	R	R	G ←G	G ←G	G	DW	DW
3 Change	←R	R	Y→	←R	R	R	R	R	R	Y	Y	Y	DW	DW
Phase 4	←R	R	R	←R	R	R	G ←G	G ←G	G	R	R	R	DW	DW
4 Change	←R	R	R	←R	R	R	Y	Y	Y	R	R	R	DW	DW
Phase 4 Alt.	←R	R	R	←R	R	R	G ←G	G ←G	G	R	R	R	DW	WK
Ped. Clearance	←R	R	R	←R	R	R	G ←G	G ←G	G	R	R	R	DW	FL/DW
4 Change Alt.	←R	R	R	←R	R	R	Y	Y	Y	R	R	R	DW	DW
Flashing Operation	←FL/R	FL/Y	FL/Y	←FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

(C) SG-2

APPROVALS

MMR
TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION

ASST. CHIEF TRAFFIC ENGINEERING DESIGN DIVISION

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
MD 713 RELOCATED (RIDGE ROAD)
AT MAGAZINE 2

DRAWN BY:	CJP/MJA	F.A.P. NO.		TS NO. 4006-GI	SHEET NO.
CHECKED BY:	JWH	S.H.A. NO.		T.I.M.S. NO.	80 OF 113
SCALE:	NTS	COUNTY:	ANNE ARUNDEL		
DATE:	MARCH, 2000	LOG MILE:			