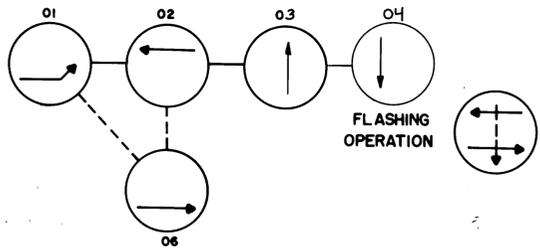


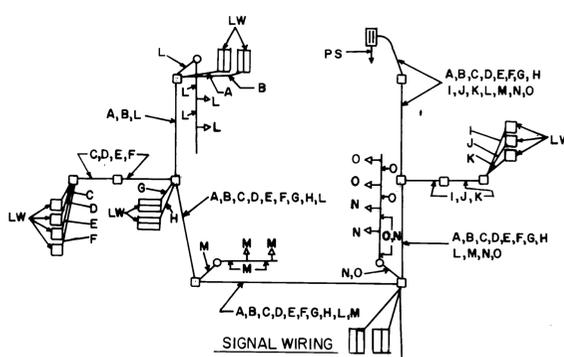
PHASE AND SEQUENCE DIAGRAM	TRAFFIC SIGNAL HEAD											
	1 2	3 4	5 6	7 8	9	10, 11						
	1+6	R	G	R	GA	R	R					
	1+6 CLEAR	R	G	R	YA	R	R					
	2+6	G	G	R	R	R	R					
	2+6 CLEAR	Y	Y	R	R	R	R					
	4	R	R	G	R	R	R					
	4 CLEAR	R	R	Y	R	R	R					
	FLASH	Y	Y	R	R	R	R					
	3	R	R	R	R	G, GA	G					

**PROPOSED NEMA PHASING**



**PHASING NOTES**

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY.



**WIRING KEY**

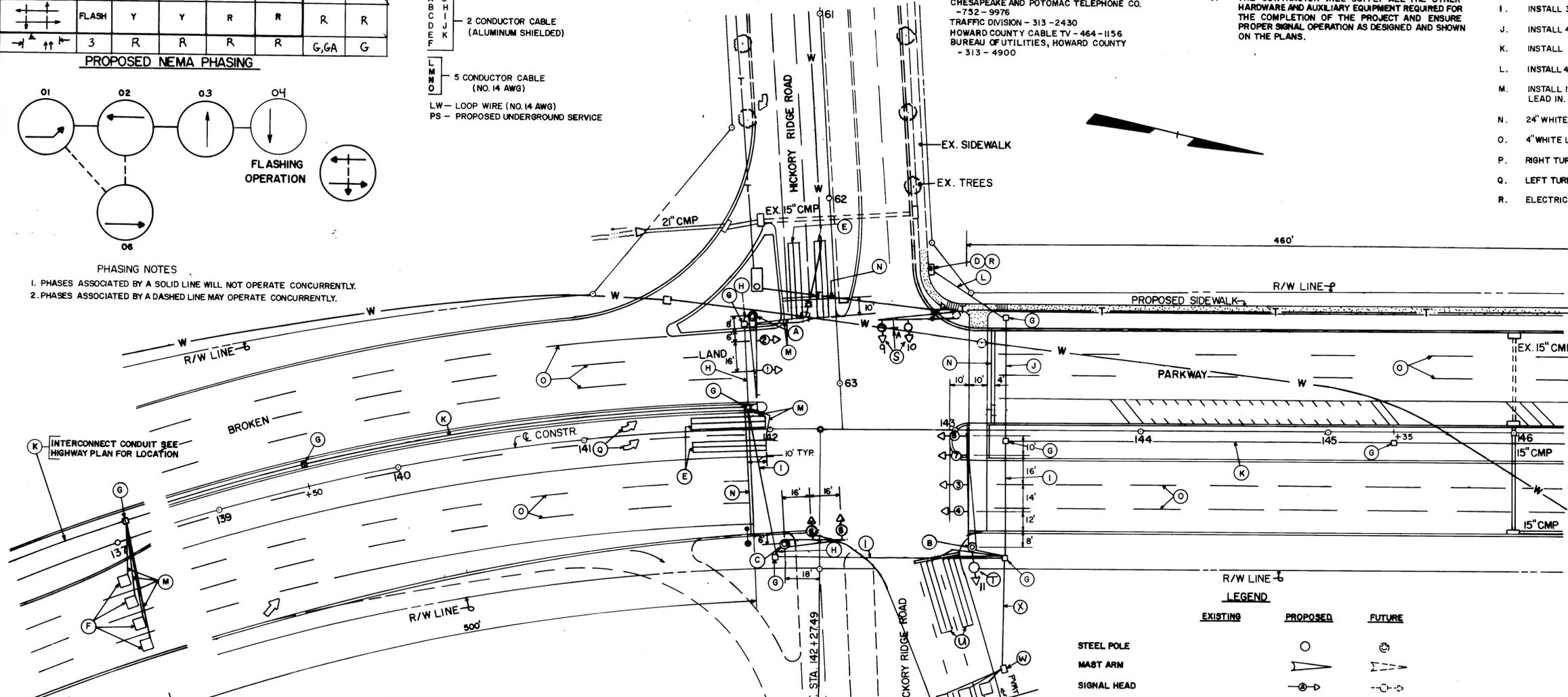
- A, B, C, D, E, F, G, H, I, J, K, L, M, N, O
- 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
- L, M, N, O
- 5 CONDUCTOR CABLE (NO. 14 AWG)
- LW - LOOP WIRE (NO. 14 AWG)
- PS - PROPOSED UNDERGROUND SERVICE

**GENERAL NOTES**

1. THE PROPOSED HIGHWAY MARKING AND SIGNING SHALL BE INSTALLED BY HOWARD COUNTY.
2. THE UTILITIES SHOWN ON THE CONSTRUCTION PLAN ARE SCHEMATIC ONLY AND ARE NOT TO BE CONSIDERED 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 WEEKS IN ADVANCE OF THE CONSTRUCTION OPERATION 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 OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:  
 MISSUTILITY-1-800-257-7777  
 BALTIMORE GAS & ELECTRIC CO. - UNDERGROUND ELECTRIC DISTRIBUTION ENGINEERING "DAMAGE CONTROL" - 234-5691  
 CHESAPEAKE AND POTOMAC TELEPHONE CO. - 752-9976  
 TRAFFIC DIVISION - 313-2430  
 HOWARD COUNTY CABLE TV - 464-1156  
 BUREAU OF UTILITIES, HOWARD COUNTY - 313-4900
3. CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATION AND DETAIL FOR CONSTRUCTION DESIGN MANUAL VOLUME IX.
4. ALL NEW SIGNAL HEADS SHALL BE SECURELY WRAPPED AND/OR BAGGED IN BURLAP, PRIOR TO SIGNAL BEING PLACED IN SERVICE.
5. THE CONTRACTOR SHALL COMPLY WITH OSHA AND MSHA CODES.
6. THE CONTRACTORS SHALL COMPLY WITH THE FOLLOWING:  
 MAINTAIN SIX INCHES MINIMUM CLEARANCE WITH ALL UNDERGROUND UTILITIES AND ALL OVERHEAD CLEARANCES SHALL BE IN ACCORDANCE WITH THE MARYLAND HIGH VOLTAGE ACT.
7. THE CONTRACTOR WILL SUPPLY ALL THE OTHER HARDWARE AND AUXILIARY EQUIPMENT REQUIRED FOR THE COMPLETION OF THE PROJECT AND ENSURE PROPER SIGNAL OPERATION AS DESIGNED AND SHOWN ON THE PLANS.

**CONSTRUCTION NOTES**

- A. INSTALL POLE WITH SUPPORT ARM WITH 44 FT. SPREAD TO SUPPORT TWO SIGNAL HEADS (NOS. 1&2) PLUS ONE FUTURE LEFT TURN SIGNAL HEAD. INSTALL 1-2" GALV. 90° ELBOW.
- B. INSTALL POLE WITH SUPPORT ARM WITH 60 FT. SPREAD TO SUPPORT FOUR SIGNAL HEADS (NOS. 3, 4, 7 & 8). INSTALL 1-2" GALV. 90° ELBOW.
- C. INSTALL POLE WITH ONE SUPPORT ARM WITH 32 FT. SPREAD TO SUPPORT TWO SIGNAL HEADS. (NOS. 5 & 6) INSTALL 1-2" GALV. 90° ELBOW.
- D. INSTALL CONTROL BASE MOUNTED CONTROLLER CABINET, CONTROLLER AND ALL NECESSARY EQUIPMENT. INSTALL 1-2" & 1-4" PVC 90° ELBOWS.
- E. INSTALL 6' X 40' QUADRUPOLE LOOP DETECTOR (2-4-2 TURNS), LOOP WIRE ENCASED IN FLEXIBLE TUBING.
- F. INSTALL 6' X 6' LOOP DETECTOR (3 TURNS), LOOP WIRE ENCASED IN FLEXIBLE TUBING.
- G. INSTALL HANDBOX.
- H. INSTALL 2" GALVANIZED STEEL ELECTRICAL CONDUIT (TRENCHED).
- I. INSTALL 3" GALVANIZED STEEL CONDUIT (TRENCHED).
- J. INSTALL 4" GALVANIZED STEEL ELECTRICAL CONDUIT (PUSHED).
- K. INSTALL 2" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (TRENCHED).
- L. INSTALL 4" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (TRENCHED).
- M. INSTALL 1" GALVANIZED STEEL CONDUIT SLEEVE FOR DETECTOR LEAD IN.
- N. 24" WHITE STOP LINE MARKING BY OTHERS
- O. 4" WHITE LANE LINE MARKING BY OTHERS.
- P. RIGHT TURN ARROW BY OTHERS.
- Q. LEFT TURN ARROW BY OTHERS.
- R. ELECTRICAL FEED AND METER BY BG & E.



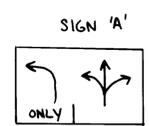
**LEGEND**

	EXISTING	PROPOSED	FUTURE
STEEL POLE	○	○	○
MAST ARM	—	—	—
SIGNAL HEAD	○	○	○
STREET LIGHT	○	○	○
SIGNS	—	—	—
HAND BOX	□	□	□
CONTROL CABINET	□	□	□
CONDUIT	—	—	—
TELEPHONE CONDUIT	—T—	—T—	—T—
ELECTRIC	—E—	—E—	—E—
SANITARY	—S—	—S—	—S—
WATER	—W—	—W—	—W—
STORMDRAIN	—SD—	—SD—	—SD—

**REVISION #1 - APRIL '93**  
**CONSTRUCTION NOTES**

S. INSTALL SIGNAL HEADS #9, 10 & SIGN 'A' ON MAST ARM  
 T. INSTALL NEAR SIDE SIGNAL HEAD #11 ON POLE B  
 U. INSTALL 6' X 40' DETECTOR  
 V. INSTALL 6' X 6' DETECTOR  
 W. INSTALL HANDBOX  
 X. INSTALL 2" POLYVINYL CHLORIDE ELEC. CONDUIT (TRENCHED)

*C. Edward Roberts* 4/2/93  
 CHIEF, TRAFFIC ENGINEERING DIVISION



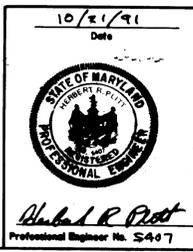
APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
<i>[Signature]</i>	DATE	11/19/91
DIRECTOR OF PUBLIC WORKS	DATE	11-19-91
<i>[Signature]</i>	DATE	11/19/91
CHIEF, BUREAU OF ENGINEERING	DATE	11/19/91
<i>[Signature]</i>	DATE	11/19/91
CHIEF, TRAFFIC ENGINEERING DIV.	DATE	11/19/91
BY NO.	REVISION	DATE

PHOENIX ENGINEERING, INC  
 CONSULTING ENGINEERS  
 BALTIMORE, MARYLAND 21228

AREA: BROKEN LAND PARKWAY

TITLE: TRAFFIC SIGNAL PLAN  
 BROKEN LAND PARKWAY AND HICKORY RIDGE ROAD

Des By H.R.P. Scale 1" = 30' Proj. No. 89-0040  
 Dwn By J.W.B. Date JAN. 1991 Drawing No.  
 Chk By S.P. Approved 1 OF 1



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