# PROJECT DESCRIPTION

I. GENERAL

This portion of the project involves the reconstruction of the existing traffic control signal at the intersection of MD 26 and Rolling Road in Baltimore County, Maryland. MD 26 is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection currently operates in a NEMA eight (8) phase, full-traffic-actuated mode. There is an exclusive/permissive left turn phase for both the east and westbound movements of MD 26. The MD 26 through movements operate concurrently with a concurrent pedestrian phase across the north and south legs of the intersection. There is an exclusive/permissive left turn phase for both the north and southbound movements of Rolling Road. The Rolling Road through movements operate concurrently with an actuated pedestrian phase across the east and west legs of the intersection.

The existing controller and phasing shall be utilized.

Four 4-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

A. Equipment to be furnished by MD-SHA and installed by Contractor.

| Category Code No. | Quantity | Units | Description |
|---|---|---|---|
| 900000 | 1 | EA | Standard S.H.A. traffic signal base mounted cabinet, with four 4-channel rack mounted loop detector amplifiers. |
| 900000 | 117.5 | SF | Sheet aluminum sign for mast arm mounting: [4 each 36 in. x 42 in. R 10-12] [2 each 30 in. x 36 in. R 3-5(L)] [1 each 30 in. x 36 in. R 3-5(R)] [2 each 16 in. x Var. D-3(1) (Dual Faced)] [2 each 24 in. x 72 in. M 95-1]. |
| 900000 | 3 | SF | Sheet aluminum sign for pole mounting: [4 each 9 in. x 12 in. R 10-4(1)] (sign to read: Push Button to Cross Liberty Rd.) |
| 900000 | 4 | EA | Pushbutton assembly. |

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.

| Category CodeNo. | Quantity | Units | Description |
|---|---|---|---|
| 203030 | 7 | CY | Test pit excavation. |
| 500000 | 860 | LF | 12 in. wide HAPPTPM - white for crosswalk. |
| 500000 | 140 | LF | 24 in. wide HAPPTPM - white for stop line. |
| 818030 | 1 | EA | 27 ft. steel mast arm pole with a 38 ft. mast arm (Note: four 1-1/2 in. x 60 in. anchor bolts). |
| 800000 | 1 | EA | 21 ft. steel mast arm pole with a 38 ft. mast arm (Note: four 1-1/2 in. x 60 in. anchor bolts). |
| 800000 | 1 | EA | 23 ft. steel twin mast arm pole with 50 ft. and 70 ft. mast arms [Note: four 2 in. x 90 in. anchor bolts]. |
| 868003 | 3 | EA | 10 ft. steel pedestal pole with break away transformer base [Note: four 1 in. x 40 in. anchor bolts]. |
| 800000 | 12 | EA | 8 in. black faced traffic signal head section with mast arm mounting hardware. |
| 800000 | 40 | EA | 12 in. black faced traffic signal head section with mast arm mounting hardware. |
| 800000 | 4 | EA | 12 in. pedestrian signal head section with pole mounting hardware. |
| 800000 | 12 | EA | 12 in. pedestrian signal head section with post top mounting hardware. |
| 871202 | 1 | EA | Install base mounted cabinet/controller. |
| 800000 | 4 | EA | Install pedestrian pushbutton assembly. |
| 800000 | 117.5 | SF | Install sign - mast arm mounted. |
| 800000 | 3 | SF | Install sign - pole mounted. |
| 811001 | 14 | EA | Handhole. |
| 862102 | 1020 | LF | Sawcut for signal loop detector. |
| 862101 | 3255 | LF | Loop detector wire (No. 14 A.W.G.) encased in flexible tubing. |
| 861116 | 245 | LF | 2-conductor tray cable (No. 12 A.W.G.). |
| 861104 | 830 | LF | 2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.). |
| 861105 | 425 | LF | 2-conductor electrical cable (No. 14 A.W.G.). |
| 861107 | 595 | LF | 5-conductor electrical cable (No. 14 A.W.G.). |
| 861108 | 1565 | LF | 7-conductor electrical cable (No. 14 A.W.G.). |
| 861117 | 5 | LF | 3-wire (No. 4 A.W.G.) electrical cable. |
| 861102 | 5 | LF | 3-wire (No. 8 A.W.G.) electrical cable. |
| 802501 | 325 | LF | Bare copper stranded ground wire (No. 6 A.W.G.). |
| 805160 | 60 | LF | 1 in. liquid tight flexible non-metalic conduit for loop detector sleeve. |
| 800000 | 470 | LF | 2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched. |
| 805105 | 100 | LF | 2 in. polyvinyl chloride [Schedule 80] electrical conduit - bored. |
| 805145 | 55 | LF | 2 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway. |
| 800000 | 215 | LF | 3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched. |
| 805115 | 70 | LF | 3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored. |
| 805150 | 195 | LF | 3 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway. |
| 800000 | 20 | LF | 4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched. |
| 805118 | 60 | LF | 4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored. |
| 805155 | 190 | LF | 4 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway. |
| 801004 | 13.3 | CY | Concrete foundation for traffic signal equipment. |
| 837001 | 5 | EA | Ground rod - 3/4 in. diameter x 10 ft. length. |
| 838003 | 1 | EA | Control and distribution equipment (120/240 V, one phase, three wire system) for a MD-SHA (Type B-6) underground electrical service. |
| 800000 | 1 | EA | 2 in. weatherhead. |
| 805023 | 30 | LF | 2 in. polyvinyl chloride [Schedule 80] electrical conduit - riser. |
| 800000 | 9 | EA | Microloop probe (set of three) with 500 ft. lead-in cable. |
| 866103 | 1 | EA | 15 ft. luminaire arm. |
| 831010 | 1 | EA | 250 W HPS lamp and luminaire. |
| 800000 | 1 | EA | Cut, clean, and cap mast arm. |
| 800000 | Lump Sum | LS | Remove and disposal of existing traffic signal equipment. |

## CONTACT LIST

The contact persons for District #4 are as follows:

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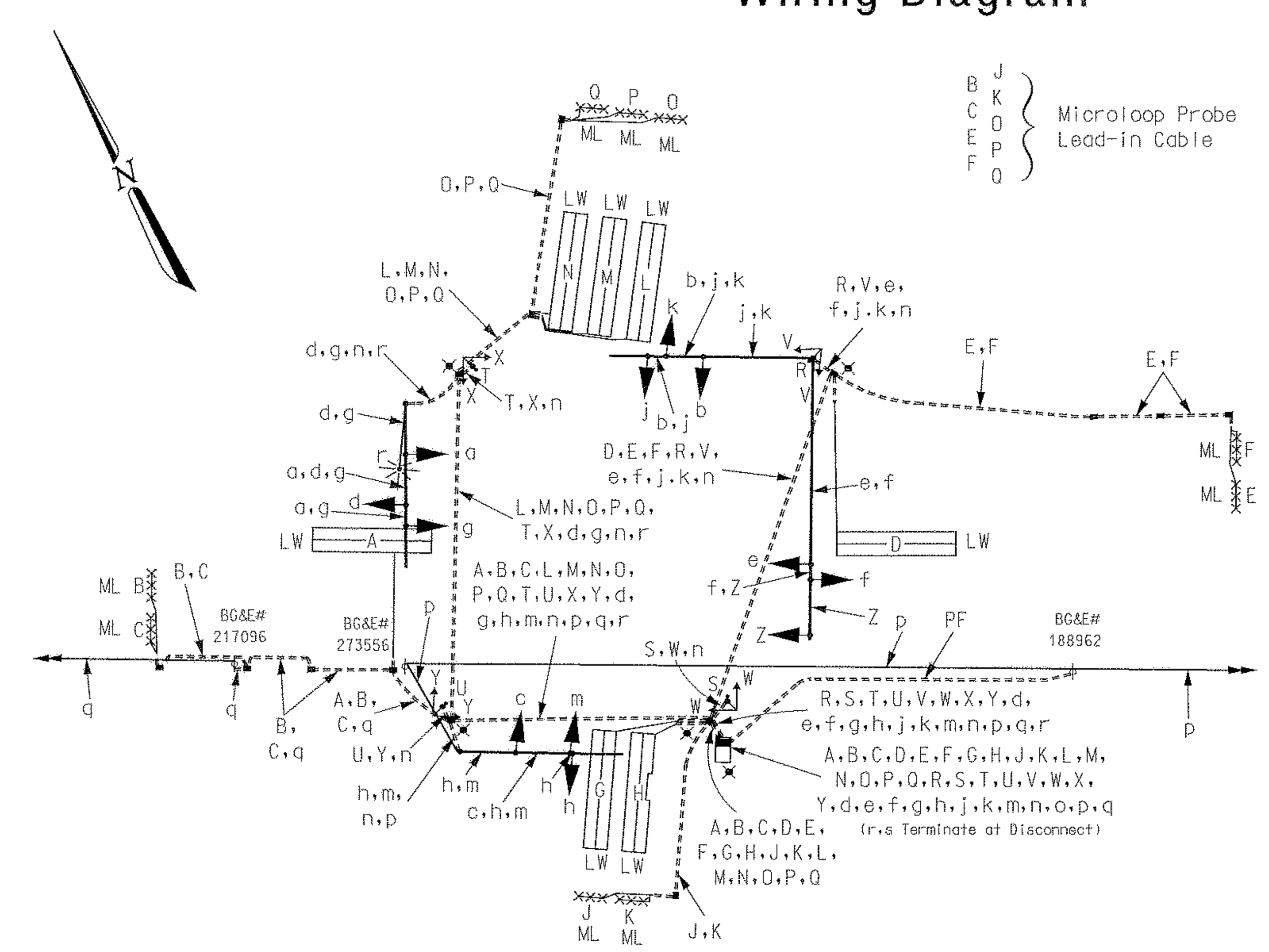
## Phase Chart

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13-16 | 17-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phase 1 & 5 | R ←G | R ←G | R | R ←G | R ←G | R | R | R | R | R | R | R | DW | DW |
| 1 & 5 Change to Phase 1 & 6 or Phase 2 & 5 or Phase 2 & 6 | | | | | | | | | | | | | | |
| Phase 1 & 6 | G ←G | G ←G | G | R | R | R | R | R | R | R | R | R | DW | DW |
| 1 Change | G ←Y | G ←Y | G | R | R | R | R | R | R | R | R | R | DW | DW |
| Phase 2 & 5 | R | R | R | G ←G | G ←G | G | R | R | R | R | R | R | DW | DW |
| 5 Change | R | R | R | G ←Y | G ←Y | G | R | R | R | R | R | R | DW | DW |
| Phase 2 & 6 | G | G | G | G | G | G | R | R | R | R | R | R | WK | DW |
| Ped Clearance | G | G | G | G | G | G | R | R | R | R | R | R | FL/DW | DW |
| 2 & 6 Change | Y | Y | Y | Y | Y | Y | R | R | R | R | R | R | DW | DW |
| Phase 3 & 7 | R | R | R | R | R | R | R ←G | R ←G | R | R ←G | R ←G | R | DW | DW |
| 3 & 7 Change to Phase 3 & 8 or Phase 4 & 7 or Phase 4 & 8 | | | | | | | | | | | | | | |
| Phase 3 & 8 | R | R | R | R | R | R | G ←G | G ←G | G | R | R | R | DW | DW |
| 3 & 8 Change | R | R | R | R | R | R | G ←Y | G ←Y | G | R | R | R | DW | DW |
| Phase 4 & 7 | R | R | R | R | R | R | R | R | R | G ←G | G ←G | G | DW | DW |
| 4 & 7 Change | R | R | R | R | R | R | R | R | R | G ←Y | G ←Y | G | DW | DW |
| Phase 4 & 8 | R | R | R | R | R | R | G | G | G | G | G | G | DW | DW |
| 4 & 8 Change | R | R | R | R | R | R | Y | Y | Y | Y | Y | Y | DW | DW |
| Phase Alt 4 & Alt 8 | R | R | R | R | R | R | G | G | G | G | G | G | DW | WK |
| Ped Clearance | R | R | R | R | R | R | G | G | G | G | G | G | DW | FL/DW |
| Alt 4 & Alt 8 Change | R | R | R | R | R | R | Y | Y | Y | Y | Y | Y | DW | DW |
| Flashing Operation | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/R | FL/R | FL/R | FL/R | FL/R | FL/R | DARK | DARK |

## Wiring Diagram




A D G H L M N — 2-Conductor Cable (Aluminum Shielded)
R S T U — 2-Conductor Electrical Cable (No. 14 A.W.G.)
r — 2-Conductor Electrical Cable (No. 12 A.W.G.)
V W X Y Z a b c — 5-Conductor Electrical Cable (No. 14 A.W.G.)
d e f g h j k m — 7-Conductor Electrical Cable (No. 14 A.W.G.)
n — Bare Copper Ground Wire (No. 6 A.W.G.)
o — 3-Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service
s — 3-Wire (No. 8 A.W.G.) for Traffic Light Electrical Service
p — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Milford Mill Rd - Rolling Rd. Run)
q — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) (Rolling Rd. - Courtleigh Dr. Run)
ML — Microloop Probe
LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing
PF — Proposed Underground Electrical Service By BG&E
✱ — Proposed Grounding Rod

The Traffic Group
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APPROVALS

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 Plan)
*MD 26 at Rolling Road*

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|---|---|---|---|---|---|
| DRAWN BY: | J.E.S. | F.A.P. NO. | SEE TITLE SHEET | TS NO. 3970 | SHEET NO. |
| CHECKED BY: | | S.H.A. NO. | BA273A22 | | |
| SCALE: | N/A | COUNTY: | Baltimore | T.I.M.S. NO. | |
| DATE: | December 15, 1999 | LOG MILE: | 03026007.08 | XXX | 4 OF 8 |

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