## PROJECT DESCRIPTION

I. GENERAL

This project involves the relocation of the traffic control signal pole in the northeast quadrant and installation of video detection, and pedestrian crossing equipment at the intersection of MD 28 (W. Montgomery Avenue) and Nelson Street in Montgomery County, Maryland.
MD 28 is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA five (5) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phase for the eastbound movement of MD 28 with a right turn overlap for southbound Nelson Street. The MD 28 through movements will operate concurrently with a concurrent pedestrian movement across the north leg of the intersection. The Nelson Street through movements will operate in a side street split phase mode with an actuated pedestrian movement across the east leg of the intersection.

The existing cabinet/controller will be utilized. Install video detection and pedestrian equipment.

## EQUIPMENT LIST

A. S.H.A. furnished equipment material.

None.

B1. Approved S.H.A. equipment to be purchased by the Developer and 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 | EA | 818 | 27 ft. steel mast arm pole with a 38 ft. mast arm |
| 1 | EA | 818 | 10 ft. steel pedestal pole with break away transformer base |
| 1 | EA | --- | Video detection equipment for existing cabinet. |
| 3 | EA | --- | Video detection camera with cable (per manufactures specification) (1 - 100 LF, 1 - 250 LF, 1 - 350 LF) |
| 2 | EA | 814 | 12 in., one-way, three section (R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors. |
| 1 | EA | 814 | 12 in./8 in., one-way, four section (12 in. GA/ 8 in. R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors. |
| 1 | EA | 814 | 12 in., two-way, two section (symbolic DW, WK) adjustable pedestrian signal head with pole mounting hardware and cut-away visors. |
| 1 | EA | 814 | 12 in., one-way, two section (symbolic DW, WK) adjustable pedestrian signal head with post top mounting hardware and cut-away visors. |
| 1 | EA | 814 | 12 in., one-way, two section (symbolic DW, WK) adjustable pedestrian signal head with pole mounting hardware and cut-away visors. |
| 2 | EA | 816 | 30 in. x 30 in. R 3-2 sign with mast arm mounting hardware. |
| 1 | EA | 816 | 30 in. x 36 in. R 3-5(R) sign with mast arm mounting hardware. |
| 3 | EA | 817 | Pedestrian pushbutton assembly with pushbutton sign. |
| 1 | EA | 806 | 15 ft. luminaire arm. |
| 1 | EA | 806 | 250 W H.P.S. lamp and luminaire. |
| 2 | EA | --- | NEMA load switch. |

B2. 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 |
|---|---|---|---|
| Lump Sum | LS | 108 | Mobilization. |
| Lump Sum | LS | 104 | Maintenance of traffic. |
| 2 | CY | 205 | Test pit excavation. |
| 4 | EA | 811 | Handhole. |
| 285 | LF | 810 | 2-conductor electrical tray cable (No. 12 A.W.G.). |
| 575 | LF | 810 | 2-conductor electrical cable (No. 14 A.W.G.). |
| 305 | LF | 810 | 3-conductor electrical cable (No. 14 A.W.G.). |
| 275 | LF | 810 | 5-conductor electrical cable (No. 14 A.W.G.). |
| 625 | LF | 810 | 7-conductor electrical cable (No. 14 A.W.G.). |
| 400 | LF | 804 | Bare copper stranded ground wire (No. 6 A.W.G.). |
| 55 | LF | 805 | 2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched. |
| 10 | LF | 805 | 3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched. |
| 15 | LF | 805 | 4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched. |
| 185 | LF | 805 | 4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored. |
| 4 | CY | 801 | Concrete foundation for traffic signal equipment. |
| 4 | EA | 804 | Ground rod - 3/4 in. diameter x 10 ft. length. |
| 1 | EA | --- | 3 in. PVC conduit bend into existing pole base. |
| Lump Sum | LS | --- | Relocate existing traffic signal cable (Approx. 315 LF). |
| Lump Sum | LS | --- | Remove and salvage traffic signal equipment. |
| Lump Sum | LS | --- | As-built for S.H.A. [on CADD]. |

## CONTACT LIST

The contact persons for District #3 are as follows:

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301-513-7359

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Assistant District Engineer - Utility
301-513-7350

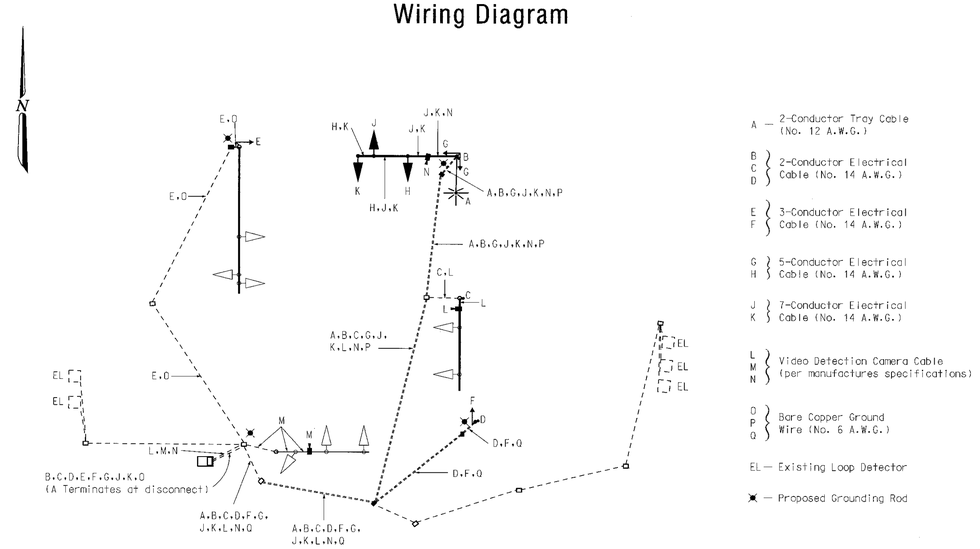
Mr. Wayne Mowdy
Assistant District Engineer - Maintenance
301-572-5166

Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

## Phase Chart

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12-13 | 14-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phase 1 & 6 | G G | G G | G | R | R | R | R | R G | R | R | R | DW | DW |
| 1 Change | G Y | G Y | G | R | R | R | R | R Y | R | R | R | DW | DW |
| Phase 2 & 6 | G | G | G | G | G | R | R | R | R | R | R | WK | DW |
| Ped Clearance | G | G | G | G | G | R | R | R | R | R | R | FL/DW | DW |
| 2 & 6 Change | Y | Y | Y | Y | Y | R | R | R | R | R | R | DW | DW |
| Phase 3 | R | R | R | R | R | R | R | R G | G | G | G | DW | DW |
| 3 Change | R | R | R | R | R | R | R | R Y | Y | Y | Y | DW | DW |
| Phase Alt 3 | R | R | R | R | R | R | R | R G | G | G | G | DW | WK |
| Ped Clearance | R | R | R | R | R | R | R | R G | G | G | G | DW | FL/DW |
| Alt 3 Change | R | R | R | R | R | R | Y | R Y | Y | Y | Y | DW | DW |
| Phase 4 | R | R | R | R | R | G G | G G | G G | R | R | R | DW | DW |
| 4 Change | R | R | R | R | R | Y | Y | Y Y | R | R | R | DW | DW |
| Flashing Operation | 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




Revision "F"

The Traffic Group
The Traffic Group, Inc.
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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
*Office of Traffic & Safety*
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information Plan)

# MD 28 (W. Montgomery Avenue) at Nelson Street / I-270 NB Off Ramp

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | F. Brownley | F.A.P. NO. | N/A | TS NO. 244F | SHEET NO. |
| CHECKED BY: | 3/04 | S.H.A. NO. | M-401-503-372 | | |
| SCALE: | N/A | COUNTY: | Montgomery | T.I.M.S. NO. D-290 | 2 OF 2 |
| DATE: | March 23, 2004 | LOG MILE: | 15002826.09 | | |

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