| F.H.W.A. REGION NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 3 | MD | SEE BELOW | 1 | 1 |

# PROJECT DESCRIPTION

## I. General

This portion of the project involves the modification of the existing intersection traffic control signals of MD 355 (Frederick Road) at the I-70 Eastbound Off/On Ramps and MD 355 (Frederick Road) at MD 85 (Buckeystown Pike) located in Frederick Maryland

## II. Intersection Operation

No change to the existing intersection operation is required for this project.

## III. Special Notes

2. Maintenance of traffic will be handled by the contractor utilizing the following plates for traffic control: 104.00.- 104.00 -30.
1. All signal work is to be performed during 9 PM 02 AM (Sun. - Mon.) period.
3. The following contact persons for District #7 are as follows:

Mr. Robert Fisher
District Engineer
301-621-8100

Mr. John Concannon
Asst. District
Engineer - Traffic
301-621-8100

Mr. Leon Kerns
Asst. - District Engineer
Maintenance
301-621-8100

Mr. Jim Buckalew
Asst. - District Engineer (Acting)
Utility
301-621-8100

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

# EQUIPMENT LIST

A. Equipment to be supplied by the Administration.

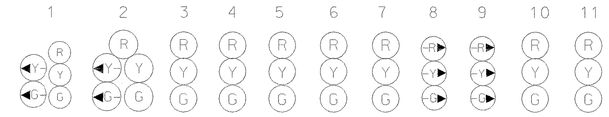
| CATEGORY CODE | QUANTITY | UNITS | SPECIFICATION SECTION | DESCRIPTION |
|---|---|---|---|---|
| 960035 | 3 | EA | 814 | 12 in. 1 way 3 section (R.Y.G) polycarbonate signal head mast arm mount. |
| 900000 | 1 | EA | 814 | 8 in/12 in. 1 way 5 section (R.Y.G.YA.GA)signal head - mast arm mount |
| 960037 | 1 | EA | 814 | 12 in. 1 way 3 section (RA.YA.GA) polycarbonate signal head mast arm mount. |
| 900000 | 1 | EA | 814 | 12 in. 1 way 3 section (RA.YA.GA) polycarbonate signal head pole mount. |
| 973023 | 32 | SF | 813 | Sheet aluminum signs consisting of: |
| | 1 | EA | xxx | R5-1. (36 in. x 36 in.) "Do Not Enter", ground mount |
| | 1 | EA | xxx | R10-12(mod.) 30 in. x 36 in. "On coming traffic has extra green" - mast arm mount. |
| | 1 | EA | xxx | M3-3 (24" x 12") Ground mount |
| | 1 | EA | xxx | M4-5 (24" x 12") Ground mount |
| | 2 | EA | xxx | M1-5 (30" x 24") Route Sign Ground Mounted |
| | 2 | EA | xxx | M7-1 (9" x 12") Ground mount |

# EQUIPMENT LIST

B. Equipment to be Furnished and/or Installed by the Contractor

| CATEGORY CODE | QUANTITY | UNITS | SPECIFICATION SECTION | DESCRIPTION |
|---|---|---|---|---|
| 120500 | 1 | EA | 104 | Maintenance of Traffic |
| 203030 | 1 | CY | 205 | Test pit excavation |
| 585407 | 100 | LF | 555 | Furnish and install 5 in. white reflective thermoplastic pavement marking. |
| 500000 | 16 | EA | 555 | Furnish and install white reflective thermoplastic pavement marking letter or arrow. |
| 585416 | 60 | LF | 555 | Furnish and install 24 in. white reflective thermoplastic pavement marking. |
| 801004 | 4.65 | CY | 801 | Furnish and install concrete for signal foundation |
| 860220 | 6 | EA | 814 | Install signal head mast arm mount |
| 800000 | 500 | LF | 805 | Furnish and install 2 in. schedule 80 rigid PVC conduit-trenched |
| 805150 | 160 | LF | 805 | Furnish and install 3 in. schedule 80 rigid PVC conduit-slotted |
| 811001 | 7 | EA | 811 | Furnish and install electrical handhole |
| 837001 | 1 | EA | 804 | Furnish and install ground rod-3/4 in. diameter x 10 ft. length |
| 861107 | 60 | LF | 810 | Furnish and install electrical cable - 5 conductor (No. 14 AWG) |
| 861108 | 740 | LF | 810 | Furnish and install electrical cable - 7 conductor (No. 14 AWG) |
| 861116 | 330 | LF | 810 | Furnish and install electrical cable - 2 conductor (No. 12 AWG) type "TC" |
| 802501 | 420 | LF | 810 | Furnish and install No. 6 AWG stranded bare copper ground wire |
| 813015 | 7.5 | SF | 813 | Install overhead sign |
| 813014 | 24.5 | SF | 813 | Install ground mounted sign |
| 831010 | 1 | EA | 806 | Furnish and install 250 watt HPS lamp and luminaire |
| 866104 | 1 | EA | 808 | Furnish and install 20 ft. lighting bracket arm for traffic signal structure |
| 800000 | 1 | LS | SP | Remove and dispose of existing material |
| 800000 | 1 | EA | SP | Remove and dispose of existing foundation 12" below grade |
| 811002 | 4 | EA | 811 | Remove existing handhole |
| 862102 | 1080 | LF | 815 | Furnish and install sawcut for signal (loop detector) |
| 801104 | 20 | LF | 812 | Furnish and install wood sign supports 4 in. x 4 in. |
| 862101 | 4320 | LF | 810 | Furnish and install loop wire encased in flexible tubing (No. 14 AWG) |
| 861104 | 5120 | LF | 810 | Furnish and install electrical cable - 2 conductor.(No. 14 AWG) - (Aluminun Shielded) |
| 805160 | 90 | LF | 805 | Furnish and install 1 in. liquid tight flexible non-metallic conduit for detector sleeve |
| 805011 | 30 | LF | 805 | Furnish and install 1 in. electrical conduit - glavanized sleeve |
| 818041 | 1 | EA | SP | Furnish and install 27 foot steel pole with a 60 ft mast arm. |

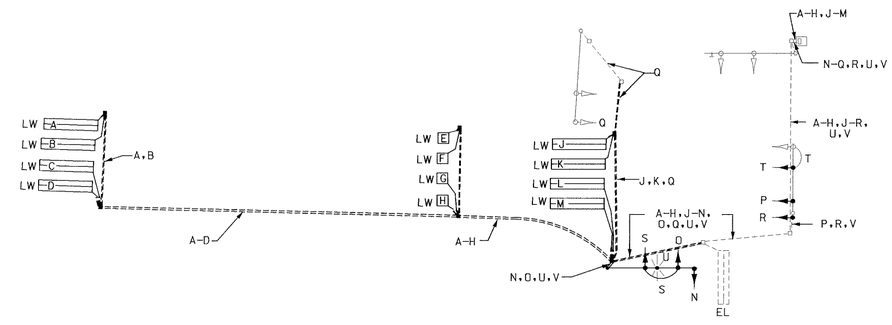
# PHASING SEQUENCE CHART




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PHASE 1 & 6 | ◄G-/G | ◄G-/G | G | R | R | R | R | -G► | -G► | R | R |
| PHASE 1 & 6 CHANGE | ◄Y-/G | ◄Y-/G | G | R | R | R | R | -Y► | -Y► | R | R |
| PHASE 2 & 6 | G | G | G | G | G | R | R | -R► | -R► | R | R |
| PHASE 2 & 6 CHANGE | Y | Y | Y | Y | Y | R | R | -R► | -R► | R | R |
| PHASE 4 & 8 | R | R | R | R | R | G | G | -G► | -G► | G | G |
| PHASE 4 & 8 CHANGE | R | R | R | R | R | Y | Y | -Y► | -Y► | Y | Y |
| FLASHING OPERATION | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/R | FL/R | FL/-R► | FL/-R► | FL/R | FL/R |

R= RED
Y= YELLOW
G= GREEN
◄Y- = YELLOW ARROW
◄G- = GREEN ARROW
FL= FLASHING

# WIRING DIAGRAM




## WIRING KEY

A-H,J-M= 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) ALUMINUM SHIELDED
N-Q= 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) FOR TRAFFIC SIGNAL HEAD
R= 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) FOR TRAFFIC SIGNAL HEAD
S,T= 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) FOR TRAFFIC SIGNAL HEAD - JUMPER CABLE
U= 2 CONDUCTOR TRAY CABLE(NO. 12 AWG)
V= 1 CONDUCTOR ELECTRICAL CABLE (NO. 6 AWG) STRANDED BARE COPPER GROUND WIRE
LW= LOOP WIRE
EL= EXISTING LOOP

REVISIONS

APPROVALS
ASST. DIVISION CHIEF, TEDD
ASST. DISTRICT ENGINEER, TRAFFIC
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
DIRECTOR, OFFICE OF TRAFFIC & SAFETY

DGL CONSULTING ENGINEERS COLUMBIA, MARYLAND

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
*Office of Traffic & Safety*
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
MD 355 AT I-70 EASTBOUND ON /OFF RAMP

DATE __/__/__

| | | | |
|---|---|---|---|
| DRAWN BY: MJF | F.A.P. NO. | TS NO: | SHEET NO. |
| CHECK BY: DHB | S.H.A. NO. | 1670-B | 3 OF 3 |
| SCALE: | COUNTY FREDERICK | | |