## PROJECT DESCRIPTION

I. GENERAL

THIS PORTION OF THE PROJECT INVOLVES INSTALLING A NEW SIGNAL AT THE INTERSECTION OF MD 7 AT COWENTON AVENUE / EBENEZER ROAD. INCLUDED WITH THIS SIGNAL WILL BE A HARDWIRE AND PUSHBUTTON FOR PREEMPTION OF THE SIGNAL TO THE COWENTON VOLUNTEER FIRE COMPANY LOCATED ON EBENEZER ROAD.
AN HIB SHALL ALSO BE INSTALLED ON MD 7 FOR WESTBOUND TRAFFIC APPROXIMATELY 625' PRIOR TO THE INTERSECTION.
MD 7 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

I. INTERSECTION OPERATION

1. THE INTERSECTION IS TO OPERATE IN A NEMA SIX-PHASE, FULLY ACTUATED MODE WITH AN EXCLUSIVE/PERMISSIVE LEFT TURN PHASE PROVIDED FOR BOTH APPROACHES OF MD 7. MD 7 APPROACHES SHALL OPERATE CONCURRENTLY. COWENTON AVE AND EBENEZER RD SHALL ALSO RUN CONCURRENTLY.

2. THE HIB SHALL OPERATE IN AN ALTERNATING FLASH MODE WHEN PHASE 2 IS NOT IN OPERATION.

3. THE FIREHOUSE PREEMPTION SHALL BE USED TO GIVE RIGHT OF WAY TO THE EMERGENCY VEHICLES AS THEY TRAVEL NORTHBOUND ON EBENEZER ROAD. THIS WILL OPERATE THE SIGNAL FOR PHASE 8 ONLY.

## PHASING CHART

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHASE 1 & 5 | G | G | R | G | G | R | R | R | R | R | R | R | FL/Y | FL/Y |
| 1 & 5 CHANGE | TO PHASE 1 & 6 OR PHASE 2 & 5 | | | | | | R | R | R | R | R | R | FL/Y | FL/Y |
| PHASE 1 & 6 | G | G | G | R | R | R | R | R | R | R | R | R | FL/Y | FL/Y |
| 1 CHANGE | Y | Y | G | R | R | R | R | R | R | R | R | R | FL/Y | FL/Y |
| PHASE 2 & 5 | R | R | R | G | G | G | R | R | R | R | R | R | DARK | DARK |
| 5 CHANGE | R | R | R | Y | Y | G | R | R | R | R | R | R | DARK | DARK |
| PHASE 2 & 6 | G | G | G | G | G | G | R | R | R | R | R | R | DARK | DARK |
| 2 & 6 CHANGE | Y | Y | Y | Y | Y | Y | R | R | R | R | R | R | FL/Y | FL/Y |
| PHASE 4 & 8 | R | R | R | R | R | R | G | G | G | G | G | G | FL/Y | FL/Y |
| 4 & 8 CHANGE | R | R | R | R | R | R | Y | Y | Y | Y | Y | Y | FL/Y | FL/Y |
| 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 |

FIREHOUSE PRE-EMPTION

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PREEMPTION PHASE 8 | R | R | R | R | R | R | R | R | R | G | G | G | FL/Y | FL/Y |
| PREEMPTION CLEARANCE | R | R | R | R | R | R | R | R | Y | Y | Y | Y | FL/Y | FL/Y |
| PHASE 2 & 6 | G | G | G | G | G | G | R | R | R | R | R | R | DARK | DARK |

A, B, C, D, E, F, G, H — 2 CONDUCTOR ALUMINUM SHIELDED

I — 2 CONDUCTOR (NO. 12 AWG) TRAY CABLE

J, K, L, M, N — 5 CONDUCTOR (NO. 14 AWG)

O, P, Q, R, S, T, U, V — 7 CONDUCTOR (NO. 14 AWG)

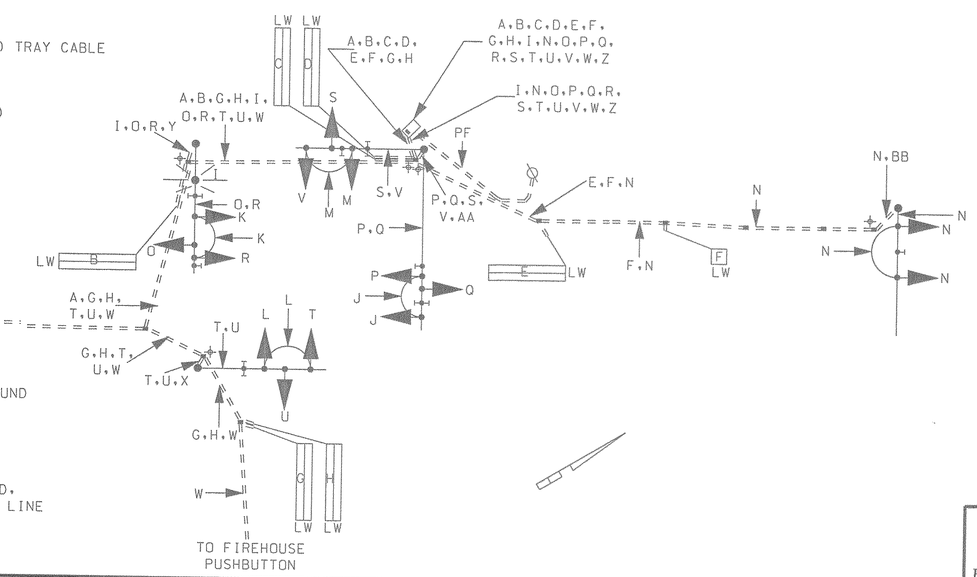
W — 3 CONDUCTOR (NO. 14 AWG)

X, Y, Z, AA, BB — STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)

LW — LOOP WIRE (NO. 14 AWG)

PF — ONE CONDUIT IS POWER FEED, ONE CONDUIT IS TELEPHONE LINE

⏚ — GROUND ROD




## EQUIPMENT LIST "A"

EQUIPMENT TO BE FURNISHED BY SHA

| SPEC. NO. | CATEGORY CODE | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 813 | 900000 | SHEET ALUMINUM SIGN WITH HARDWARE FOR ATTACHING TO MAST ARM | SF | 176 |
| | | 2 EACH - R10-12, "LEFT TURN YIELD ON GREEN (BALL)", 30"X36" | | |
| | | 1 EACH - W3-3(2), "SIGNAL AHEAD BE PREPARED TO STOP WHEN FLASHING", | | |
| | | 120"X60" | | |
| | | 2 EACH - D-3(1), "(LEFT ARROW) COWENTON AVE, EBENEZER RD (RIGHT | | |
| | | ARROW)", 84"X32" | | |
| | | 2 EACH - D-3(1), "(LEFT ARROW) EBENZER RD, COWENTON AVE (RIGHT | | |
| | | ARROW)", 84"X32" | | |
| | | 4 EACH - D-3(1), "PHILADELPHIA RD", 72"X16" | | |
| | | 1 EACH - R10-11B, "NO TURN ON RED", 24"X24" | | |
| 816 | 900000 | EIGHT PHASE FULLY ACTUATED CONTROLLER HOUSED IN A NEMA SIZE 6 BASE | EA | 1 |
| | | MOUNTED CABINET WITH INTERSECTION MONITOR WITH BATTERY BACK UP AND | | |
| | | TWO (2) 4-CHANNEL DETECTOR AMPLIFIERS (RACK MOUNT) | | |

## EQUIPMENT LIST "B"

EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

| SPEC. NO. | CATEGORY CODE | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 818 | 800000 | FURNISH AND INSTALL 27' STEEL POLE WITH 50' MAST ARM | EA | 3 |
| 818 | 800000 | FURNISH AND INSTALL 27' STEEL POLE WITH TWIN 50'-70' MAST ARMS | EA | 1 |
| 800-SP | 800000 | CUT, CLEAN, GALVANIZE AND CAP SIGNAL STRUCTURE | EA | 5 |
| 817 | 800000 | FURNISH AND INSTALL PUSHBUTTON FOR FIREHOUSE PREEMPTION | EA | 1 |
| 805 | 800000 | FURNISH AND INSTALL 1 1/2" EMT CONDUIT (FIREHOUSE) | LF | 100 |
| 805 | 800000 | FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (FIREHOUSE) | LF | 30 |
| 805 | 800000 | FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED | LF | 1600 |
| 805 | 800000 | FURNISH AND INSTALL 4" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED | LF | 120 |
| 813 | 800000 | INSTALL SHEET ALUMINUM SIGN WITH MAST ARM MOUNT HARDWARE | SF | 176 |
| 800-SP | 800000 | REMOVE AND DISPOSE OF EXISTING SIGNAL AND EQUIPMENT | LS | 1 |
| 814 | 800000 | FURNISH AND INSTALL 12" VEHICULAR SIGNAL TRAFFIC SIGNAL HEAD | EA | 42 |
| | | SECTION, BLACK FACE | | |
| 814 | 800000 | FURNISH AND INSTALL 8" VEHICULAR SIGNAL TRAFFIC SIGNAL HEAD | EA | 6 |
| | | SECTION, BLACK FACE | | |
| 801 | 801004 | FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION | CY | 14 |
| 810 | 802501 | FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE | LF | 100 |
| 805 | 805011 | FURNISH AND INSTALL 1" ELECTRICAL CONDUIT GALVANIZED SLEEVE | LF | 75 |
| 805 | 805105 | FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT - BORED | LF | 150 |
| 805 | 805150 | FURNISH AND INSTALL 3" SCHEDULE 80, RIGID PVC CONDUIT - SLOTTED | LF | 300 |
| 805 | 805160 | FURNISH AND INSTALL 1" LIQUID TIGHT, FLEXIBLE NON-METALLIC | LF | 18 |
| | | CONDUIT FOR DETECTOR SLEEVE | | |
| 807 | 807205 | FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT | EA | 1 |
| 811 | 811001 | FURNISH AND INSTALL ELECTRICAL HANDHOLE | EA | 13 |
| 806 | 831010 | FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE | EA | 1 |
| 804 | 837001 | FURNISH AND INSTALL GROUND ROD - 3/4" DIAMETER BY 10' LENGTH | EA | 5 |
| 810 | 861104 | FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR | LF | 1650 |
| | | (ALUMINUM SHIELDED) | | |
| 810 | 861106 | FURNISH AND INSTALL ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 AWG) | LF | 900 |
| 810 | 861107 | FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG) | LF | 1000 |
| 810 | 861108 | FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG) | LF | 1600 |
| 810 | 861116 | FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) | LF | 180 |
| 810 | 862101 | FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING | LF | 3200 |
| | | (NO. 14 AWG) | | |
| 815 | 862102 | FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR) | LF | 940 |
| 808 | 866104 | FURNISH AND INSTALL 20' LIGHTING ARM ON SIGNAL STRUCTURE | EA | 1 |
| 816 | 871202 | INSTALL CONTROLLER AND CABINET - BASE MOUNT | EA | 1 |



REVISIONS

PB / MTA
Parsons Brinckerhoff/McCormick, Taylor & Assoc., Inc.

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
*Office of Traffic & Safety*
TRAFFIC ENGINEERING DESIGN DIVISION
SIGNAL PLAN
MD 7 AT COWENTON AVE / EBENEZER RD

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: DMG | F.A.P. NO. SEE TITLE SHEET | TS NO. ES3944 | SHEET NO. 26 OF 30 |
| CHECKED BY: GSJ | S.H.A. NO. BA3175176 | | |
| SCALE: NOT TO SCALE | COUNTY: BALTIMORE | T.I.M.S. NO. | |
| DATE: OCTOBER 1999 | LOC. MILE: 030007.2L | | |

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