

CONSTRUCTION DETAILS

- A. INSTALL NEMA SIZE '6' BASE MOUNTED CABINET AND CONTROLLER WITH ALL NECESSARY EQUIPMENT (NOTE: 2-2 IN. AND 2-4 IN. SCHEDULE 80, 90 DEGREE PVC CONDUIT BENDS).
 B. INSTALL 27 FT. STEEL POLE WITH 75 FT. MAST ARM, TRAFFIC SIGNAL HEADS, SIGNS, VIDEO DETECTION CAMERA, AND 20 FT. LIGHTING ARM WITH 250 WATT HIGH PRESSURE SODIUM LUMINAIRE WITH PHOTOCELL (NOTE: 2-4 IN. SCHEDULE 80, 90 DEGREE PVC CONDUIT BENDS).
 C. INSTALL 14 FT. PEDESTAL POLE WITH TRAFFIC SIGNAL HEADS (NOTE: 2-3 IN. SCHEDULE 80, 90 DEGREE PVC CONDUIT BENDS).
 D. HANDHOLE INSTALLED UNDER INTERCONNECT PLAN.
 E. INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED.
 F. INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED.
 G. 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED INSTALLED UNDER INTERCONNECT PLAN.
 H. 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED INSTALLED UNDER INTERCONNECT PLAN.
 J. PROPOSED VIDEO DETECTION ZONE.
 K. ABANDON EXISTING HANDHOLE.
 L. EXISTING HANDHOLE REMOVED UNDER INTERCONNECT PLAN.
 M. ABANDON EXISTING CONDUIT.
 N. INSTALL 3 NON-INVASIVE MICRO-LOOP PROBE SETS WITH 3" NON-INVASIVE CARRIER PIPE.
 P. INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED FOR PROPOSED ELECTRICAL SERVICE.
 R. INSTALL HANDHOLE.
 S. INSTALL 24" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING (STOP LINE).
 T. INSTALL 12" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING (CROSSWALK).
 U. INSTALL METERED SERVICE PEDESTAL.
 V. INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED FOR PROPOSED ELECTRICAL SERVICE.
 W. INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED FOR PROPOSED PHONE DROP.

PROJECT DESCRIPTION

THIS PORTION OF THE PROJECT INVOLVES THE CONSTRUCTION OF A NEW TRAFFIC CONTROL SIGNAL AND STREET LIGHTING AT THE U.S. 40 (BALTIMORE NATIONAL PIKE) AND RAMP 6 (I-695 - OUTER LOOP) INTERSECTION IN BALTIMORE COUNTY. U.S. 40 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

1. NORMAL OPERATION

THE INTERSECTION WILL OPERATE IN A TWO PHASE FULL-TRAFFIC-ACTUATED MODE WITH ONLY EASTBOUND U.S. 40 AND THE LEFT TURN FROM WESTBOUND U.S. 40 WILL BE SIGNALIZED

THIS INTERSECTION WILL OPERATE AS PART OF AN INTERCONNECT SYSTEM BETWEEN INGLESIDE AVENUE AND WINTERS LANE USING 12-PAIR COMMUNICATION CABLE.

UPON COMPLETION OF THIS PROJECT THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE, AND TELEPHONE NUMBER.

CONTROLLER REQUIREMENTS

INSTALL A FULLY-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER WITH A VIDEO DETECTION SYSTEM, INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, ISOLATION BOARD, TELEMETRY EQUIPMENT, FOUR CHANNEL LOOP DETECTOR AMPLIFIERS AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

PROJECT CONTACTS

CONTACT PERSONS FOR DISTRICT 4 ARE AS FOLLOWS:

MR. RANDALL SCOTT
 ASSISTANT DISTRICT ENGINEER - TRAFFIC
 410-321-2781 OR 410-321-2885

MS. SUENETTE POPE
 UTILITY ENGINEER
 410-321-2841

MR. STEVE MARCISZEWSKI
 ASSISTANT DISTRICT ENGINEER - MAINTENANCE
 410-321-2764

THE POWER COMPANY REPRESENTATIVE:

MR. GARY SMITH
 BGE

WMS #

CONTACT PERSONS FOR THE OFFICE OF TRAFFIC AND SAFETY ARE AS FOLLOWS:

MR. RICHARD DAFF SR.
 CHIEF, TRAFFIC OPERATIONS
 410-787-7630

MR. ROBERT SNYDER
 ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS
 410-787-7630

MR. ED RODENHIZER
 CHIEF, SIGNAL OPERATIONS
 410-787-7650

MR. EUGENE BAILEY
 CHIEF, SIGN OPERATIONS
 410-787-7676

MR. MIKE STOCKER
 SIGNAL SHOP WAREHOUSE
 410-787-7696

CONSTRUCTION DETAILS (CONT.)

- X. 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED INSTALLED UNDER INTERCONNECT PLAN.
 Y. INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED.
 Z. INSTALL 1 IN. LIQUID-TIGHT, NON-METALLIC ELECTRICAL CONDUIT (DETECTOR WIRE-SLEEVE).
 AA. INSTALL 6 FT. X 20 FT. LOOP DETECTOR (3 TURNS).
 BB. INSTALL MICRO-LOOP PROBE SET AT STATION 106+27.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

| SPEC. NO. | CATEGORY CODE NO. | QUANTITY | DESCRIPTION |
|-----------|-------------------|----------|---|
| 816 | 971017 | 1 EA. | EIGHT PHASE (FULLY ACTUATED) CONTROLLED AND CABINET-BASE MOUNT SIZE SIX |
| 816 | 963010 | 2 EA. | FOUR CHANNEL LOOP DETECTOR AMPLIFIER, RACK MOUNT |
| --- | 900000 | 1 EA. | VIDEO INTERFACE EQUIPMENT |
| 813 | 973023 | 9 S.F. | SHEET ALUMINUM SIGN - 1 EACH R3-3 (36" x 36") |

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

| SPEC. NO. | CATEGORY CODE NO. | QUANTITY | DESCRIPTION |
|-----------|-------------------|----------|--|
| 104 | 120500 | L.S. | MAINTENANCE OF TRAFFIC |
| 205 | 203030 | 2 C.Y. | TEST PIT EXCAVATION |
| 556 | 585620 | 550 L.F. | 12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK) |
| 556 | 585624 | 125 L.F. | 24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS (STOP LINE) |
| 801 | 801004 | 8 C.Y. | CONCRETE FOR SIGNAL FOUNDATION |
| 810 | 802501 | 275 L.F. | NO. 6 AWG STRANDED BARE COPPER GROUND WIRE |
| 805 | 805125 | 475 L.F. | 2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED |
| 805 | 805135 | 340 L.F. | 3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED |
| 805 | 805140 | 570 L.F. | 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED |
| 805 | 805155 | 100 L.F. | 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED |
| 805 | 805160 | 20 L.F. | 1 INCH LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE |
| 807 | 807202 | 1 EA. | METERED SERVICE PEDESTAL |
| --- | 810555 | 2 EA. | MICROLOOP PROBE, 1000 FOOT LEAD IN CABLE |
| --- | 810605 | 3 EA. | NONINVASIVE DETECTOR, 1000 FOOT LEAD IN CABLE |
| --- | 810610 | 90 L.F. | NONINVASIVE DETECTOR, CARRIER PIPE |
| 811 | 811001 | 6 EA. | FURNISH AND INSTALL ELECTRICAL HANDHOLE |
| 813 | 813010 | 9 S.F. | INSTALL OVERHEAD SIGN |
| 816 | 816001 | 1 EA. | VIDEO DETECTION CAMERA |
| 816 | 816005 | 1 EA. | CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER |
| 818 | 818010 | 1 EA. | 14 FOOT BREAKAWAY PEDESTAL POLE |
| 806 | 831010 | 1 EA. | 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE |
| 810 | 832017 | 60 L.F. | CABLE - 1 CONDUCTOR, NO. 4 A.W.G., TYPE USE, 600V |
| 804 | 837001 | 7 EA. | GROUND ROD - 3/4 INCH DIAMETER X 10' FOOT LENGTH |
| 814 | 860272 | 15 EA. | 12 INCH VEHICULAR SIGNAL HEAD SECTION |
| 810 | 861104 | 250 L.F. | ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINIUM SHIELDED) |
| 810 | 861107 | 700 L.F. | ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.) |
| 810 | 861116 | 225 L.F. | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.) |
| 815 | 862101 | 250 L.F. | LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG) |
| 815 | 862102 | 150 L.F. | SAW CUT FOR SIGNAL (LOOP DETECTOR) |
| 818 | 866104 | 1 EA. | 20 FOOT LIGHTING ARM ON SIGNAL STRUCTURE |
| 816 | 871117 | 1 EA. | INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT |
| --- | 800000 | L.S. | REMOVE AND DISPOSE OF EXISTING MATERIALS AND EQUIPMENT |
| 818 | 800000 | 1 EA. | STEEL POLE WITH SINGLE 75 FOOT MAST ARM |

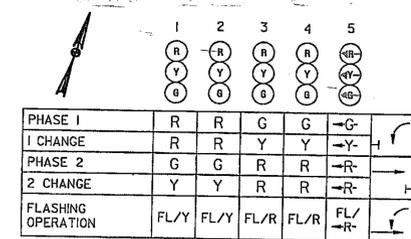
EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076.

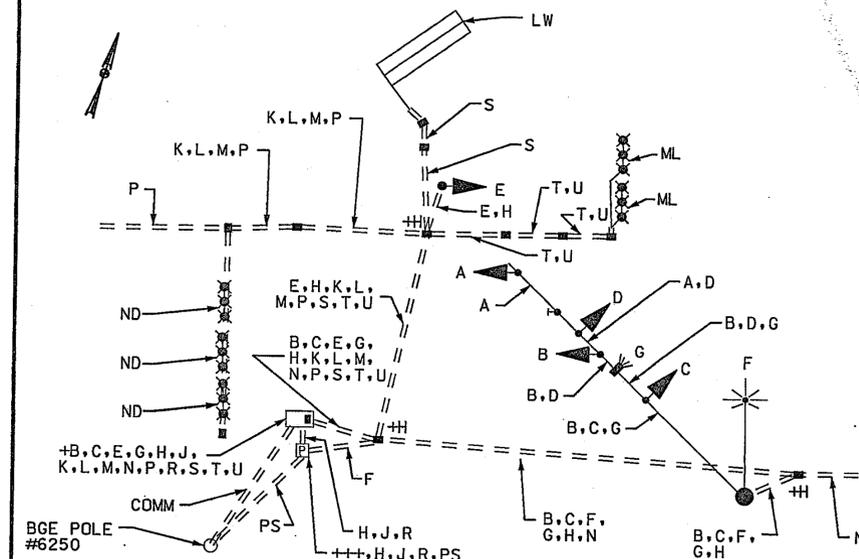
SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR

RUMMEL, KLEPPER & KAHL, LLP
 CONSULTING ENGINEERS
 81 MOSHER STREET
 BALTIMORE, MARYLAND 21217
 TELE(410)728-2900 FAX(410)383-3270

PHASE CHART



WIRE DIAGRAM



NOTE: THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL UNUSED ELECTRICAL CABLES.

WIRING LEGEND

- A,B,C,D,E } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- F } 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
- G } VIDEO DETECTION CAMERA TO CONTROLLER CABLE
- H } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- J,R } 1-CONDUCTOR (NO. 4 A.W.G.)
- K,L,M } NONINVASIVE DETECTOR LEAD-IN CABLE
- N,P } 12-PAIR JELLY-FILLED COMMUNICATION CABLE (INSTALLED UNDER INTERCONNECT PLAN)
- S } 2-CONDUCTOR ELECTRICAL CABLE (ALUMINIUM SHIELDED: NO. 14 A.W.G.)
- T,U } MICRO-LOOP PROBE LEAD-IN CABLE
- + - } 3/4" x 10' GROUND ROD
- PS - } PROPOSED POWER SERVICE UNDERGROUND
- ND - } NONINVASIVE DETECTOR
- ML - } MICRO-LOOP PROBE
- COMM - } PROPOSED PHONE DROP

SG-6 OF SG-6

REVISIONS

SHA MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
 Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
 U.S. 40 & RAMP 6 (I-695 - OUTER LOOP)

GENERAL INFORMATION SHEET

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|-------------------|----------------------------|--------------------|---------------------|
| DRAWN BY: ADL | F.A.P. NO. SEE TITLE SHEET | TS NO. 4336 | SHEET NO. 79 OF 101 |
| CHECKED BY: BLB | S.H.A. NO. BA3895172 | | |
| SCALE: NONE | COUNTY: BALTIMORE | T.I.M.S. NO. G 250 | |
| DATE: AUGUST 2004 | LOG MILE: 03004002.30 | | |

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