DRILL HOLES

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BORDER REV: DATE: June 1, 2004

BY: $USERNAME$

## PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 32 AT RELOCATED MD 851 (SPRINGFIELD AVE) AT THE NORTH END OF TOWN OF SYKESVILLE IN CARROLL COUNTY. MD 32 IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA-EIGHT-PHASE FULLY ACTUATED MODE. WITH E/P LEFTS ON NB/SB MD 32, OVERLAP FOR EB/WB MD 851 RIGHT TURN MOVEMENTS, AND AN EXCLUSIVE LEFT TURN MOVEMENT FOR MD 851/SPRINGFIELD AVENUE. THERE WILL ALSO BE A PEDESTRIAN MOVEMENT OPERATION DURING THE MD 851 THRU MOVEMENT. MOVEMENTS ON MD 32 WILL OPERATE CONCURRENTLY. THE MOVEMENTS ON THE RELOCATED MD 851 (SPRINGFIELD RD) WILL OPERATE CONCURRENTLY.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, SOLID STATE EIGHT PHASE CONTROLLER WITH SYSTEM PACKAGE, INTERSECTION MONITOR, PHONE DROP, VIDEO DETECTOR RACK, TELEMETRY MODULE, ISOLATION BOARD AND SPECIAL RELAY HOUSED IN NEMA SIZE "6" BASE MOUNTED CABINET. SHA TO INSTALL VIDEO DETECTION INTERFACE EQUIPMENT.

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

## EQUIPMENT LIST A

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

| ITEM NUMBER | SPEC SECTION | QUANTITY | DESCRIPTION |
|---|---|---|---|
| 971017 | 817 | 1 EA. | EIGHT PHASE FULL TRAFFIC ACTUATED SOLID STATE DIGITAL CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET |
| 973023 | 813 | 190 S.F. | SHEET ALUMINUM SIGNS TO CONSIST OF:<br>-6 EA. R3-5L (LANE CONTROL) 30 IN. X 36 IN. - MAST ARM MOUNT<br>-4 EA. R3-5R (LANE CONTROL) 30 IN. X 36 IN. - MAST ARM MOUNT<br>-2 EA. R10-12 (LANE USE) 36 IN. X 42 IN. - MAST ARM MOUNT<br>-4 EA. D-301 (STREET NAME) 96 IN. X 16 IN. - MAST ARM MOUNT<br>-2 EA. R10-4I (PEDESTRIAN SIGN) 9 IN. X 12 IN. - POLE MOUNT<br>-1 EA. ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 32, RIGHT ARROW" (24 IN. X 51 IN.) POLE MOUNT WITH HARDWARE<br>-1 EA. ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 32, LEFT ARROW" (36 IN. X 75 IN.) POLE MOUNT WITH HARDWARE<br>-1 EA. ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 32, RIGHT ARROW" (24 IN. X 51 IN.) POLE MOUNT WITH HARDWARE<br>-1 EA. ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 32, LEFT ARROW" (36 IN. X 75 IN.) POLE MOUNT WITH HARDWARE |

## EQUIPMENT LIST B

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

| ITEM NUMBER | SPEC SECTION | QUANTITY | DESCRIPTION |
|---|---|---|---|
| 203030 | 205 | 10 C.Y. | TEST PIT EXCAVATION |
| 585620 | 556 | 600 L.F. | 12 IN. HEAT APPLIED THERMOPLASTIC WHITE PAVEMENT MARKINGS |
| 585624 | 556 | 200 L.F. | 24 IN. HEAT APPLIED THERMOPLASTIC WHITE PAVEMENT MARKINGS |
| 801004 | 801 | 22 C.Y. | CONCRETE FOR SIGNAL FOUNDATION |
| 802501 | 805 | 2250 L.F. | NO. 6 AWG STRANDED BARE COPPER GROUND WIRE |
| 805115 | 805 | 60 L.F. | 3 IN. SCHEDULE 80 RIGID PVC CONDUIT-BORED |
| 805118 | 805 | 250 L.F. | 4 IN. SCHEDULE 80 RIGID PVC CONDUIT-BORED |
| 805125 | 805 | 80 L.F. | 2 IN. SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED |
| 805135 | 805 | 2650 L.F. | 3 IN. SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED |
| 805140 | 805 | 250 L.F. | 4 IN. SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED |
| 807202 | 807 | 1 EA. | METERED SERVICE PEDESTAL |
| 807400 | 807 | 1 EA. | ELECTRIC UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS |
| 808002 | 818 | 2 EA. | 30 FT. STEEL LIGHTING STRUCTURE, PAINTED |
| 810605 | 810 | 8 EA. | NON INVASIVE DETECTOR, 1000 FT. LEAD IN CABLE |
| 811001 | 811 | 20 EA. | ELECTRICAL HANDHOLE |
| 813010 | 813 | 190 S.F. | INSTALL OVERHEAD SIGN |
| 816001 | 810 | 4 EA. | VIDEO DETECTION CAMERA |
| 816010 | 810 | 4 EA. | CONTROL CABLE, 500 FT. VIDEO DETECTION, CAMERA TO CONTROLLER |
| 818010 | 818 | 2 EA. | 14 FT. BREAKAWAY PEDESTAL POLE |
| 818036 | 818 | 1 EA. | STEEL POLE WITH SINGLE 50 FT. MAST ARM |
| 818041 | 818 | 3 EA. | STEEL POLE WITH SINGLE 60 FT. MAST ARM |
| 821002 | 821 | 2 EA. | BREAKAWAY BASE SUPPORT SYSTEM FOR LIGHTING STRUCTURE |
| ⚠ 831010 | 806 | 2 EA. | 250 WATT HPS LAMP AND LUMINAIRE |
| 837001 | 804 | 13 EA. | GROUND ROD ¾IN. DIAMETER X 10 FT. LENGTH |
| 860270 | 814 | 6 EA. | 8 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION |
| 860272 | 814 | 60 EA. | 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION |
| 860278 | 814 | 4 EA. | 12 IN. PEDESTRIAN SIGNAL HEAD SECTION POLE MOUNT |
| 860292 | 814 | 4 EA. | CUT, CLEAN, GALVANIZE, AND CAP TRAFFIC SIGNAL STRUCTURE |
| 861105 | 810 | 670 L.F. | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG) |
| 861107 | 810 | 840 L.F. | ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG) |
| 861108 | 810 | 3800 L.F. | ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG) |
| 861116 | 810 | 1400 L.F. | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) |
| ⚠ 866104 | 818 | 2 EA. | 20 FT. LIGHTING ARM FOR TRAFFIC SIGNAL STRUCTURE |
| ⚠ 865001 | 814 | 2 EA. | PUSHBUTTON AND SIGN |
| ⚠ 871117 | 816 | 1 EA. | INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET-BASE MOUNT |
| 800000 | 806 | 2 EA. | 6 FT. LIGHTING ARM |
| 800000 | 806 | 2 EA. | 250 WATT, 240 VOLTS HPS COBRAHEAD LUMINAIRE |

## EQUIPMENT LIST C

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION 7491 CONNELLEY DR, HANOVER, MD 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

NONE

## EQUIPMENT LIST D

D. ALL EQUIPMENT REMOVED AND NOT RETURNED TO THE SHA WILL BECOME PROPERTY OF THE CONTRACTOR.

## PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT #7 ARE AS FOLLOWS:

EDWARD RODENHIZER
CHIEF, SHA TRAFFIC SIGNALS SHOP
PHONE: 410-787-7650

RICHARD DAFF, SR
CHIEF TRAFFIC OPERATIONS DIVISION
PHONE: 410-787-7630

MARK FLACK
ASSISTANT DISTRICT ENGINEER -CONSTRUCTION
PHONE: 301-624-8201

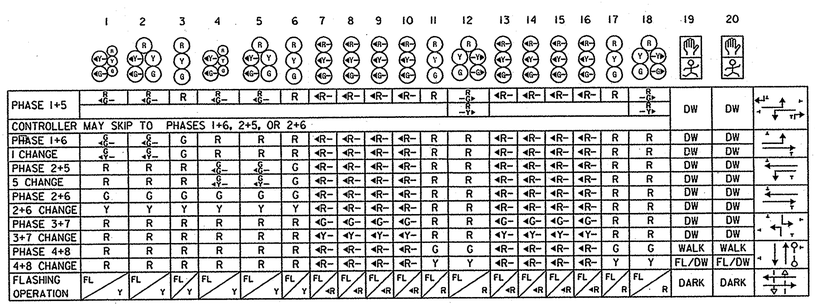
DAVE COYNE
ASSISTANT DISTRICT ENGINEER -MAINTENANCE
PHONE: 301-624-8108

JOHN CONCANNON
ASSISTANT DISTRICT ENGINEER -TRAFFIC
PHONE: 301-624-8141

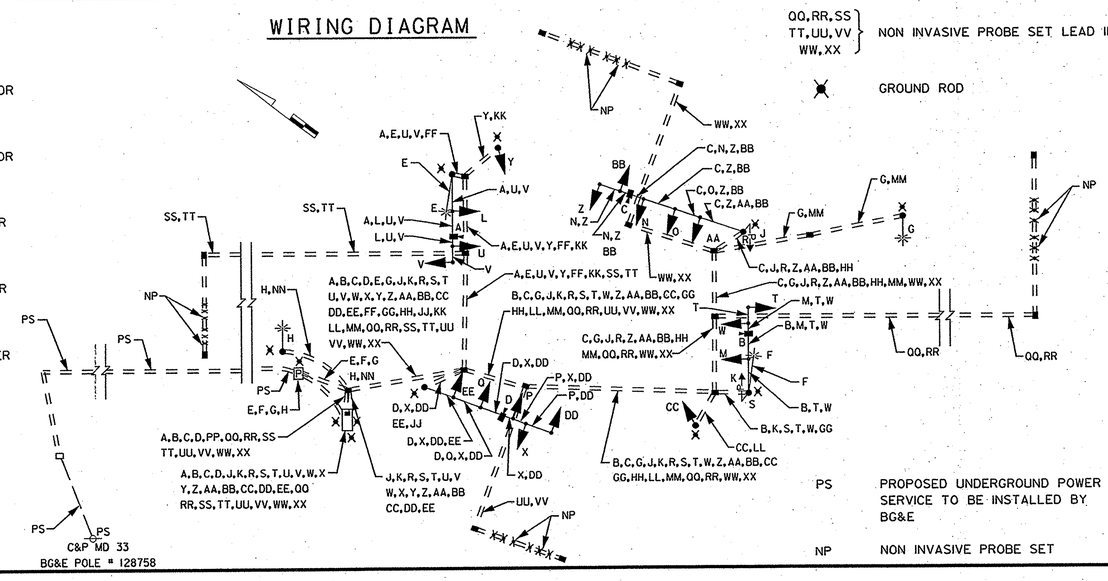
DISTRICT UTILITIES ENGINEER
PHONE: 301-624-8110

BALTIMORE GAS AND ELECTRIC CO
7317 PARKWAY DR SOUTH
HANOVER, MD 21076
PHONE:

## PHASE CHART



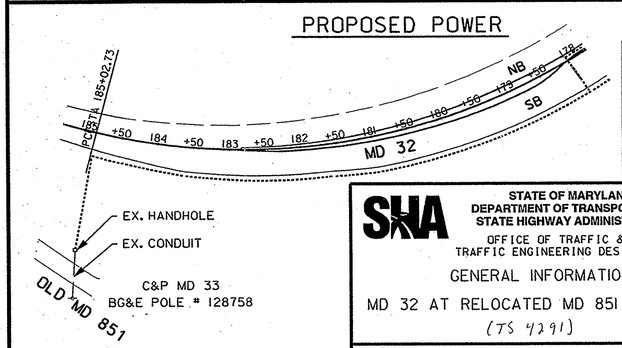

## WIRING DIAGRAM




| | |
|---|---|
| A,B<br>C,D | CONTROL CABLE VIDEO DETECTION<br>CAMERA |
| E,F<br>G,H | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) |
| J,K | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG) |
| L,M,N,O<br>P,Q,R,S | ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG) |
| T,U,V,W<br>X,Y,Z,AA<br>BB,CC,DD,EE | ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG) |
| FF,GG,HH,JJ<br>KK,LL,MM<br>NN,OO,PP | NO. 6 AWG STRANDED BARE COPPER GROUND WIRE |
| QQ,RR,SS<br>TT,UU,VV<br>WW,XX | NON INVASIVE PROBE SET LEAD IN |
| | GROUND ROD |
| PS | PROPOSED UNDERGROUND POWER SERVICE TO BE INSTALLED BY BG&E |
| NP | NON INVASIVE PROBE SET |

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS
OWINGS MILLS, MARYLAND

## PROPOSED POWER




1. USE EXISTING HANDHOLE.
2. INSTALL 3 IN. (SCH 80) PVC CONDUIT-TRENCHED FROM EXISTING HANDHOLE TO PROPOSED CONTROLLER.

REVISIONS
⚠ ADDENDUM NO.1 5/ /05

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET

MD 32 AT RELOCATED MD 851 (SPRINGFIELD AVE)

(TS 9291)

| | | | |
|---|---|---|---|
| SCALE NONE | DATE NOV 2004 | CONTRACT NO. CL711A21 | |
| DESIGNED BY MB | | COUNTY CARROLL | |
| DRAWN BY MB | | LOGMILE 06003201.12 | |
| CHECKED BY RNB | | T.I.M.S. NO. F815 | |
| F.A.P. NO. SEE TITLE SHEET | | TOD NO. | |
| DRAWING NO. TS-2 - 2 OF 4 | | SHEET NO. 174 OF 208 | |