# PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE FULL RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 202 (LANDOVER ROAD) AND PINEBROOK ROAD/PINEBROOK AVENUE IN PRINCE GEORGE'S COUNTY, MARYLAND. MD 202 IS ASSUMED TO RUN IN AN NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FIVE PHASE, FULL TRAFFIC-ACTUATED MODE WITH THE MD 202 APPROACHES OPERATING CONCURRENTLY AND THE PINEBROOK AVENUE APPROACH OPERATING INDIVIDUALLY (PINEBROOK ROAD IS CLOSED AND WILL NOT BE SIGNAL CONTROLLED). EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING WILL BE PROVIDED FOR THE NORTHBOUND AND SOUTHBOUND MD 202 APPROACHES. A PRE-EMPTION PHASE WILL BE PROVIDED FOR NORTHBOUND MD 202. INTERCONNECT IS PROVIDED ALONG MD 202 BETWEEN PENNSY DRIVE TO THE NORTH AND 75TH AVENUE/KENT TOWN PLACE TO THE SOUTH. INTERSECTION LIGHTING WILL BE PROVIDED ON THE SOUTHEAST AND SOUTHWEST CORNERS.

NEW AUDIBLE PEDESTRIAN ACTUATED PHASES WILL BE PROVIDED ACROSS THE SOUTH LEG OF MD 202 AND THE WEST LEG OF PINEBROOK AVENUE.

APS MESSAGE FOR CROSSING MD 202 (LANDOVER ROAD) FROM PINEBROOK ROAD (SOUTHEAST CORNER):

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS LANDOVER AT PINEBROOK, WAIT".
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

APS MESSAGE FOR CROSSING MD 202 (LANDOVER ROAD) FROM PINEBROOK AVENUE (SOUTHWEST CORNER):

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS LANDOVER AT PINEBROOK, WAIT".
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

APS MESSAGE FOR CROSSING PINEBROOK AVENUE:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS PINEBROOK AT LANDOVER, WAIT."
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTROLLER REQUIREMENTS

A NEW TYPE 'S' BASE MOUNTED CABINET AND EIGHT-PHASE CONTROLLER WITH VIDEO INTERFACE EQUIPMENT AND 2 WIRE CENTRAL CONTROL UNIT WILL BE INSTALLED.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL CONTACT 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 PHONE NUMBER.

# EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY SHA:

| ITEM NO. | QUANTITY | UNIT | DESCRIPTION |
|---|---|---|---|
| 900000 | 1 | EA | CONTROLLER CABINET, SIZE "S" W/CTRL, VIDEO INT. 1-8 CAM |
| 900000 | 1 | EA | CABINET EXTENSION BASE, SIZE "S" |
| 900000 | 2 | EA | 4 CHANNEL DETECTOR AMPLIFIER |
| 900000 | 28 | SF | SHEET ALUMINUM GROUND MOUNTED SIGN |
| | | | - 1 EACH D3-2(1)L (VAR.x24") "Pinebrook Ave" |
| | | | - 1 EACH D3-2(1)R (VAR.x24") "Pinebrook Ave" |
| 900000 | 63 | SF | SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN |
| | | | - 1 EACH D-3(1) (VAR.x16") DUAL FACED "Pinebrook AVE" - MAST ARM MOUNTED |
| | | | - 1 EACH D-3(1) (VAR.x16") "Landover RD" - MAST ARM MOUNTED |
| | | | - 1 EACH M1-5(6) (30"x48") "SOUTH", "202", RIGHT ARROW |
| | | | - 1 EACH M1-5(6) (48"x72") "NORTH", "202", LEFT ARROW |
| | | | - 1 EACH R3-5L (30"x36") - MAST ARM MOUNTED |
| | | | - 2 EACH R10-3(1) (9"x15") "PINEBROOK AVENUE" - POLE MOUNTED |
| | | | - 2 EACH R10-3(1) (9"x15") "LANDOVER ROAD" - POLE MOUNTED |

# PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. BRIAN YOUNG
DISTRICT ENGINEER
PHONE: (301) 513-7311

MR. VENU NEMANI
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 513-7404

MR. TOM FOUNTAIN
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 513-7304

MR. ED RODENHIZER
SUPERVISOR - SIGNAL SHOP
PHONE: (410) 787-7650

MR. VICTOR GRAFTON
DISTRICT UTILITY ENGINEER
PHONE: (301) 513-7350

MS. CORREN JOHNSON
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. ROBERT SNYDER
ASSISTANT CHIEF - TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. EUGENE BAILY
CHIEF - SIGN OPERATIONS SECTION
PHONE: (410) 787-7670

# EQUIPMENT LIST "B"

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

| ITEM NO. | QUANTITY | UNIT | DESCRIPTION |
|---|---|---|---|
| 100000 | 1 | EA | MAINTENANCE OF TRAFFIC (PER INTERSECTION) |
| 201032 | 17 | CY | CLASS 2 EXCAVATION |
| 203030 | 3 | CY | TEST PIT EXCAVATION |
| 585621 | 500 | LF | 12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES |
| 585625 | 200 | LF | 24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES |
| 585700 | 700 | LF | REMOVAL OF EXISTING PAVEMENT MARKING LINES, ANY WIDTH |
| 600000 | 140 | LF | TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH |
| 600000 | 30 | LF | TYPE A CURB ANY HEIGHT OR DEPTH |
| 655105 | 730 | SF | 5 INCH CONCRETE SIDEWALK |
| 655120 | 86 | SF | DETECTABLE WARNING SURFACE FOR CURB RAMPS |
| 704345 | 55 | SY | PLACING FURNISHED TOPSOIL 4 INCH DEPTH |
| 708220 | 30 | SY | TURFGRASS SOD ESTABLISHMENT |
| 800000 | 1 | EA | 100 AMP EMBEDDED METERED SERVICE PEDESTAL, CONCRETE COLLAR & GROUND RODS |
| 800000 | 4 | EA | 16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD |
| 800000 | 1 | EA | 2-WIRE APS CENTRAL CONTROL UNIT |
| 800000 | 300 | LF | 4 - CONDUCTOR OPTICOM DETECTOR CABLE |
| 800000 | 3 | EA | 5 FOOT OR 10 FOOT PEDESTAL POLE WITH BREAKAWAY COUPLINGS, FOUNDATION & GROUND ROD |
| 800000 | 2 | EA | ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH LED ROADWAY LUMINAIRE |
| 800000 | 4 | EA | AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS |
| 800000 | 1 | EA | CONDUIT BEND IN EXISTING FOUNDATION BASE (ANY SIZE) |
| 800000 | 250 | LF | DISCONNECT, PULL-BACK & REROUTE CABLES |
| 800000 | 200 | LF | ELECTRICAL CABLE - 3 CONDUCTOR (NO. 12 AWG) (B,W,G) TYPE TC |
| 800000 | 1 | EA | INSTALL CONTROLLER AND CABINET BASE MOUNT (ANY SIZE) INCLUDING F&I FOUNDATION & GROUND ROD |
| 800000 | 91 | SF | INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE) |
| 800000 | 3 | EA | IP-BASED VIDEO DETECTION CAMERA & ANY LENGTH LEAD-IN CABLE |
| 800000 | 1 | EA | MAST ARM POLE & 38' MAST ARM ANY 'T' DIMENSION, FOUNDATION & GROUND ROD |
| 800000 | 1 | EA | MAST ARM POLE & 50' MAST ARM ANY 'T' DIMENSION, FOUNDATION & GROUND ROD |
| 800000 | 1 | EA | MAST ARM POLE & 60' MAST ARM ANY 'T' DIMENSION, FOUNDATION & GROUND ROD |
| 800000 | 6 | EA | MICROLOOP PROBE WITH ANY LENGTH LEAD-IN CABLE UP TO 1000' |
| 800000 | 1 | EA | REMOVE & DISPOSE OF EXISTING SIGNAL EQUIPMENT (PER SIGNALIZED INTERSECTION LOCATION) |
| 800000 | 1 | EA | THIRD PARTY CONCRETE TESTING (PER INTERSECTION) |
| 800000 | 450 | LF | UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED OR SLOTTED |
| 800000 | 700 | LF | UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED |
| 800000 | 60 | LF | WOOD SIGN SUPPORTS UP TO 4 INCH X 6 INCH |
| 802501 | 500 | LF | NO. 6 AWG STRANDED BARE COPPER GROUND WIRE |
| 805050 | 1 | EA | WEATHER HEAD, 3 INCH |
| 810022 | 50 | LF | ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN |
| 811001 | 11 | EA | FURNISH AND INSTALL ELECTRICAL HANDHOLE |
| 816215 | 1 | EA | OPTICOM NO. 721 DETECTOR EYE |
| 860284 | 32 | EA | 12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION |
| 861105 | 500 | LF | ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG) |
| 861107 | 500 | LF | ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG) |
| 861108 | 1100 | LF | ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG) |

# EQUIPMENT LIST "C"

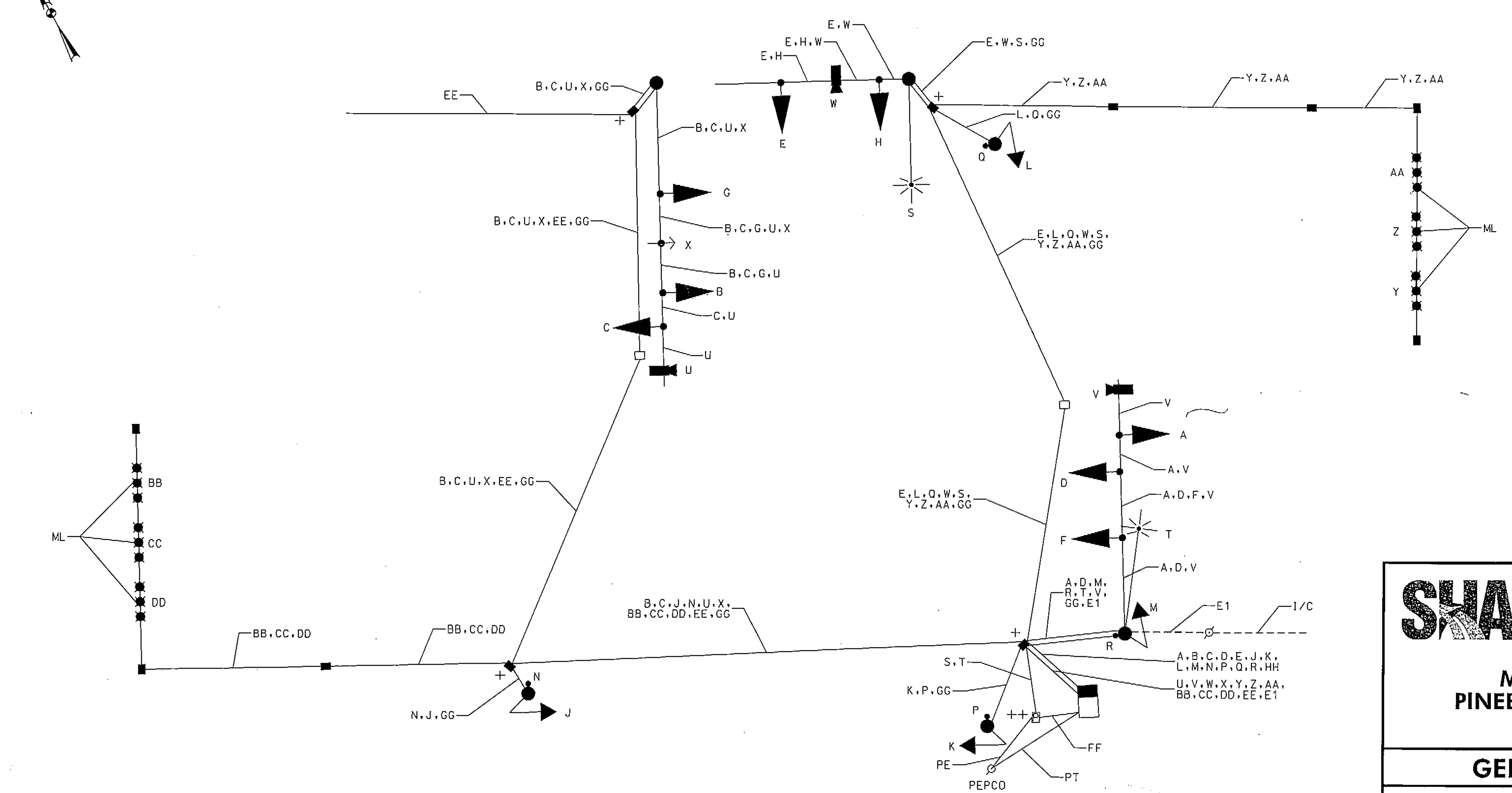
C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA:

EXISTING SIGNAL CONTROLLER AND ALL ASSOCIATED EQUIPMENT IN CABINET.

# PHASE CHART

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHASE 1 + 5 | ←G-/R | ←G-/R | R | ←G-/R | ←G-/R | R | R | R | DW | DW | DW | DW |
| 1 + 5 CHANGE | 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5, OR PHASE 2 + 6 | | | | | | | | | | | |
| PHASE 1 + 6 | ←G-/G | ←G-/G | G | R | R | R | R | R | DW | DW | DW | DW |
| 1 + 6 CHANGE | ←Y-/G | ←Y-/G | G | R | R | R | R | R | W | W | DW | DW |
| PHASE 2 + 5 | R | R | R | ←G-/G | ←G-/G | G | R | R | DW | DW | DW | DW |
| 2 + 5 CHANGE | R | R | R | ←Y-/G | ←Y-/G | G | R | R | DW | DW | DW | DW |
| PHASE 2 + 6 | G | G | G | G | G | G | R | R | WK | WK | DW | DW |
| PED CLEARANCE | G | G | G | G | G | G | R | R | FL/DW | FL/DW | DW | DW |
| 2 + 6 CHANGE | Y | Y | Y | Y | Y | Y | R | R | DW | DW | DW | DW |
| PHASE 4 + 8 | R | R | R | R | R | R | G | G | DW | DW | DW | DW |
| 4 + 8 CHANGE | R | R | R | R | R | R | Y | Y | DW | DW | DW | DW |
| PHASE 4 + 8 ALT | R | R | R | R | R | R | G | G | DW | DW | WK | WK |
| PED CLEARANCE | R | R | R | R | R | R | G | G | DW | DW | FL/DW | FL/DW |
| 4 + 8 ALT CHANGE | R | R | R | R | R | R | Y | Y | DW | DW | DW | DW |
| PRE-EMPTION | ←G-/G | ←G-/G | G | R | R | R | R | R | DW | DW | DW | DW |
| FLASHING OPERATION | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/R | FL/R | DARK | DARK | DARK | DARK |

# WIRING DIAGRAM




PROPOSED ELECTRICAL CABLE

A,B,C, D,E } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
F,G,H,J, K,L,M } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
N,P,Q,R } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
S,T } 3-CONDUCTOR ELECTRICAL TRAY CABLE (NO. 12 AWG)
U,V,W } VIDEO DETECTION LEAD-IN CABLE
X } OPTICOM CABLE
Y,Z,AA BB,CC,DD } MICROLOOP LEAD-IN CABLE
EE } 12-PAIR COMMUNICATION CABLE (FROM PENNSY DRIVE)
FF } 3 1-CONDUCTOR ELECTRICAL CABLE (NO. 8 AWG)
GG } STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)

EXISTING ELECTRICAL CABLE

I/C } INTERCONNECT CABLE TO REMAIN
E1 } PULLED BACK AND REROUTED INTERCONNECT CABLE

LEGEND

ML - MICROLOOP PROBE
PE - PROPOSED UNDERGROUND ELECTRICAL SERVICE
PT - PROPOSED UNDERGROUND TELEPHONE SERVICE
+ - 3/4 IN. X 10 FT. GROUND ROD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BY: SPMartin

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

**MD 202 (LANDOVER ROAD) AT PINEBROOK AVENUE/PINEBROOK ROAD**
**GREATER LANDOVER, MARYLAND**

**GENERAL INFORMATION SHEET**

SCALE NONE DATE MAY 2, 2013 CONTRACT NO. XY1515185

DESIGNED BY NJM COUNTY PRINCE GEORGE'S
DRAWN BY NJM LOGMILE 16020211.85
CHECKED BY BSH T.I.M.S. NO. L803
F.A.P. NO. T.O.D. NO.

T.S. NO. 662C-GI SG-03 OF SG-03 SHEET NO. 3 OF 3

PLOTTED: Thursday, May 02, 2013 AT 09:01 AM
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