

PROJECT DESCRIPTION

I. GENERAL:

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 458 (SILVER HILL ROAD) AND BROOKS DRIVE IN PRINCE GEORGE'S COUNTY.

MD 458 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION:

THE EXISTING TRAFFIC SIGNAL WILL CONTINUE TO OPERATE IN A FULLY ACTUATED MODE USING FOUR (4) NEMA PHASES.

MAINLINE MD 458 OPERATES CONCURRENTLY WITH AN EXCLUSIVE/PERMISSIVE LEFT TURN PHASE PROVIDED FOR EASTBOUND LEFT TURNS. BROOKS DRIVE OPERATES ON ITS OWN PHASE WITH A RIGHT TURN OVERLAP PHASE OPERATING CONCURRENTLY WITH THE EASTBOUND LEFT TURN. THIS INTERSECTION IS PART OF THE MD 458 INTERCONNECT SIGNAL SYSTEM.

VIDEO CAMERAS SHALL PROVIDE PRESENCE DETECTION. PEDESTRIAN CROSSINGS SHALL BE UPGRADED TO INCLUDE APS/CS SIGNALS AND ADA RAMPS. A NEW NEMA "S" CABINET SHALL BE INSTALLED WITH ALL NECESSARY EQUIPMENT. NON INVASIVE DETECTORS SHALL BE PROVIDED FOR MAINLINE PASSAGE DETECTION.

AUDIBLE PUSHBUTTON FUNCTION SHALL BE AS FOLLOWS:

- WHEN A PEDESTRIAN LOCATES AND PASSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:
FOR NORTH LEG, "WAIT TO CROSS BROOKS AT SILVER HILL, WAIT"
FOR EAST LEG, "WAIT TO CROSS SILVER HILL AT BROOKS SECOND BUTTON IN MEDIUM WAIT"
FOR EAST LEG MEDIUM "WAIT TO CROSS SILVER HILL AT BROOKS, WAIT"
- WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL CONTINUE FOR THE DURATION OF THE "WALK" PHASE.

PROJECT CONTACTS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

- | | |
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| MR. VENU NEMANI
ASST. DISTRICT ENGINEER-TRAFFIC
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CHIEF-SIGNAL OPERATIONS SECT.
PHONE: 410-787-7650 |
| MR. TOM FOUNTAIN
ASST. DISTRICT ENGINEER-MAINTENANCE
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CHIEF-SIGN SHOP
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| MR. VICTOR GRAFTON
UTILITY ENGINEER
PHONE: 301-513-7350 | MR. MIKE STOCKER
SUPERVISOR, SIGNAL WAREHOUSE
PHONE: 410-787-7668 |
| MR. AVIUT MAJI
CHIEF-TRAFFIC OPERATIONS DIV.
PHONE: 410-787-7630 | POWER COMPANY REPRESENTATIVE - PEPCO (PG):
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PEPCO ENGINEERING
8300 OLD MARLBORO PIKE
UPPER MARLBORO MARYLAND 20772
PHONE: 301-967-5805, FAX: 301-967-5820
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MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR USING THE STANDARD PLATES FOR TRAFFIC CONTROL FROM SECTION MD 104.00 OF THE SHA BOOK OF STANDARDS FOR HIGHWAYS & INCIDENTAL STRUCTURES.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
9104	1 EA	SIZE 'S' CABINET WITH CONTROLLER AND VIDEO INTERFACE EQUIPMENT 1-8 CAMERAS.
9118	2 EA	4 CHANNEL DETECTOR AMPLIFIER

EQUIPMENT LIST "B"

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

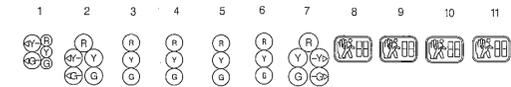
CATEGORY CODE NO.	QUANTITY	DESCRIPTION
201032	24 CY	CLASS 2 EXCAVATION
203030	3 CY	TEST PIT EXCAVATION
585621	570 LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585625	100 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
634300	250 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
648150	5 LF	MONOLITHIC CONCRETE MEDIAN 4 FEET 0 INCH WIDE TYPE A-3
655105	1020 SF	5 INCH CONCRETE SIDEWALK
655120	76 SF	DETECTABLE WARNING SURFACE FOR CURB RAMPS (RED)
800000	1 EA	2-WIRE CENTRAL CONTROL UNIT
800000	3 EA	8 INCH LED SIGNAL HEAD SECTION
800000	5 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION
800000	900 LF	DISCONNECT, PULL-BACK AND REROUTE CABLES
800000	4 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEADS
800000	2 EA	LED LUMINAIRE
800000	1 EA	REMOVE AND DISPOSE OF EQUIPMENT (PER ASSIGNMENT)
800000	2 EA	VIDEO DETECTION CAMERA AND CABLE, ANY LENGTH
801004	8.2 CY	CONCRETE FOR SIGNAL FOUNDATION
801106	64 LF	WOOD SIGN SUPPORTS 4 INCH X 6 INCH
801605	80 SF	SHEET ALUMINUM SIGNS CONSISTING OF: R6-1 "DO NOT ENTER" (30" X 30") GROUND MOUNT S1-1 SCHOOL CROSSING (30" X 30") GROUND MOUNT W18-7p(L) LEFT DIAGONAL ARROW (24" X 12") GROUND MOUNT M3-4 "WEST" (24" X 12") GROUND MOUNT M1-5 "MARYLAND 458" (30" X 24") GROUND MOUNT M6-1(R) RIGHT ARROW (21" X 15") D-3(1) (VAR. X 16") DUAL SIDED, "SILVER HILL RD", MAST ARM MOUNT D-3(1) (VAR. X 16") DUAL SIDED, LEFT ARROW "Brooks DR" "Brooks DR" RIGHT ARROW, MAST ARM MOUNT M1-5(6) GUIDE SHIELD ASSEMBLY (48" X 72") "EAST", "MARYLAND 458", LEFT BENT ARROW, POLE MOUNT R10-3(1) PUSHBUTTON SIGN (9" X 15") "TO CROSS BROOKS DRIVE", POLE MOUNT R10-3(1) PUSHBUTTON SIGN (9" X 15") "TO CROSS SILVER HILL ROAD", POLE MOUNT NO. 6 AWG STRANDED BARE COPPER GROUND WIRE 1 CONDUCTOR #20 AWG CABLE WEATHER HEAD, 3 INCH 3 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED 2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED 3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED 3 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED EMBEDDED METERED SERVICE PEDESTAL ELECTRICAL CABLE-1 CONDUCTOR (NO. 8 AWG-THHN/THWN) NON INVASIVE DETECTOR, 500 FOOT LEAD IN CABLE NON INVASIVE DETECTOR, 1000 FOOT LEAD IN CABLE FURNISH AND INSTALL ELECTRICAL HANDHOLE REMOVE ELECTRICAL HANDHOLE REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS 10 FOOT BREAKAWAY PEDESTAL POLE STEEL POLE WITH A SINGLE 38 FOOT MAST ARM STEEL POLE WITH A SINGLE 70 FOOT MAST ARM 3 INCH DIAMETER POLYVINYL CHLORIDE CONDUIT, SCHEDULE 80, RISER GROUND ROD- 3/4 INCH DIAMETER X 10 FOOT LENGTH 12 INCH LED SIGNAL HEAD SECTION CUT, CLEAN GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE ELECTRICAL CABLE- 2 CONDUCTOR (NO. 14 AWG) ELECTRICAL CABLE- 5 CONDUCTOR (NO. 14 AWG) ELECTRICAL CABLE- 7 CONDUCTOR (NO. 14 AWG) ELECTRICAL CABLE- 2 CONDUCTOR (NO. 12 AWG TRAY) 15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE INSTALL CONTROLLER & CABINET - BASE MOUNT

EQUIPMENT LIST "C"

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.

PHASE CHART

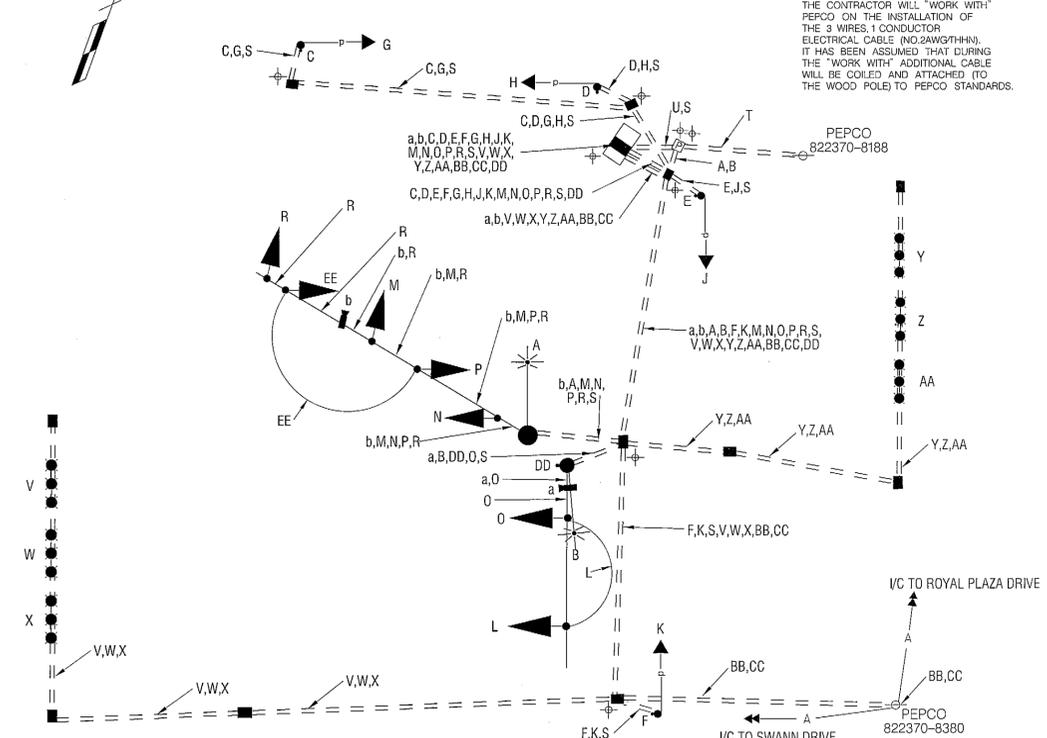
MD 458 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION



PHASE	1	2	3	4	5	6	7	8	9	10	11
PHASE 1 + 6	G	G	G	R	R	R	R	DW	DW	DW	DW
PHASE 1 CHANGE	G	G	G	R	R	R	R	DW	DW	DW	DW
PHASE 2 + 6	G	G	G	G	G	R	R	DW	DW	WK	WK
PED CLEARANCE	G	G	G	G	G	R	R	DW	DW	FLW	FLW
PHASE 2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	G	G	DW	DW	DW	DW
PHASE 4 CHANGE	R	R	R	R	R	Y	Y	DW	DW	DW	DW
PHASE 4 ALT	R	R	R	R	R	G	G	WK	WK	DW	DW
PED CLEARANCE	R	R	R	R	R	G	G	FLW	FLW	DW	DW
PHASE 4 ALT CHANGE	R	R	R	R	R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLR	FLR	DARK	DARK	DARK	DARK

WIRING DIAGRAM

MD 458 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION



WIRING NOTE
THE CONTRACTOR WILL "WORK WITH" PEPCO ON THE INSTALLATION OF THE 3 WIRES, 1 CONDUCTOR ELECTRICAL CABLE (NO. 2AWG/THHN). IT HAS BEEN ASSUMED THAT DURING THE "WORK WITH" ADDITIONAL CABLE WILL BE COILED AND ATTACHED TO THE WOOD POLE TO PEPCO STANDARDS.

WIRING KEY

- a,b - VIDEO DETECTION CAMERA LEAD IN CABLE
- A,B - 2 CONDUCTOR NO. 12 AWG TRAY CABLE
- C,D,E,F,DD - 2 CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
- G,H,J,K,L,EE - 5 CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
- M,N,O,P,R - 7 CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
- S - NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
- T - 1 CONDUCTOR #20 AWG CABLE THHN/THWN (3 CABLES)
- U - 1 CONDUCTOR NO. 8 AWG THHN/THWN ELECTRICAL CABLE (3 CABLES)
- V,W,X,Y,Z,AA - NON INVASIVE DETECTOR LEAD IN CABLE
- BB,CC - EXISTING INTERCONNECT CABLE TO BE PULLED BACK, RE-ROUTE TO NEW CONTROLLER (SEE NOTE ON SHEET SG-1)
- + - GROUND ROD (3/4" DIA. X 10 FT. LENGTH)

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 458 (SILVER HILL ROAD)
AT BROOKS DRIVE
SUITLAND, MARYLAND

GENERAL INFORMATION PLAN

SCALE NONE ADVERTISED DATE 01-2013 CONTRACT NO. PG7865777

DESIGNED BY WAE COUNTY PRINCE GEORGE'S
DRAWN BY PMH LOGMILE 18045801.73
CHECKED BY W5 TMS NO. K099
F.A.P. NO. TOD NO.

TS NO. 597-C DRAWING SG-16 OF 23 SHEET NO. OF

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