PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AND STREET LIGHTING AT THE INTERSECTION OF MD 24 (VIETNAM VETERANS MEMORIAL HIGHWAY) AND BEL AIR SOUTH PARKWAY IN HARFORD COUNTY, MARYLAND. MD 24 (VIETNAM VETERANS MEMORIAL HIGHWAY) IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION OPERATION WILL REMAIN THE SAME.

TYPICAL MESSAGES FOR ACCESSIBLE PED SIGNALS

MD 24 (VIETNAM VETERANS MEMORIAL HIGHWAY) AND BEL AIR SOUTH PARKWAY - SOUTH LEG

STREETS AT 90 DEGREES

WAIT: "WAIT TO CROSS VIETNAM VETERANS MEMORIAL AT BEL AIR SOUTH, WAIT." *

WALK: RAPID TICK

* MESSAGE USED IF DISTANCE FROM NEAREST PUSHBUTTON FOR PERPENDICULAR CROSSING IS < 10'
** MESSAGE USED IF CROSSWALK DIVERGES FROM OR CONVERGES WITH PARALLEL TRAFFIC

NOTE: MESSAGES FOR INTERSECTION CONFIGURATIONS, VARYING FROM THE ABOVE ARE TO BE APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, VIDEO INTERFACE EQUIPMENT (5-8 CAMERAS), SYSTEM PACKAGE AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MS. ERIN KUHN
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 229-2381

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ASSISTANT DISTRICT ENGINEER - MAINTENANCE
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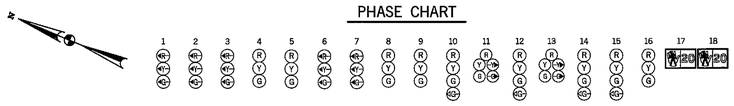
DISTRICT UTILITY ENGINEER
PHONE: (410) 229-2341

MR. ROBERT SYNDER
ASSISTANT CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7631

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

PHASE CHART



PHASE 1 + 5	←G—	←G—	←G—	R	R	←G—	←G—	R	R	R	R/G→	R	R/G→	R	R	R	DW	DW	
1 + 5 CHANGE	PHASE 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	R/G→	R	R/G→	R	R	R	DW	DW	
1 + 6 CHANGE	←Y—	←Y—	←Y—	G	G	←R—	←R—	R	R	R	R/Y→	R	R/Y→	R	R	R	DW	DW	
PHASE 2 + 5	←R—	←R—	←R—	R	R	←G—	←G—	G	G	R	R	R	R	R	R	R	DW	DW	
2 + 5 CHANGE	←R—	←R—	←R—	R	R	←Y—	←Y—	G	G	R	R	R	R	R	R	R	DW	DW	
PHASE 2 + 6	←R—	←R—	←R—	G	G	←R—	←R—	G	G	R	R	R	R	R	R	R	DW	DW	
2 + 6 CHANGE	←R—	←R—	←R—	Y	Y	←R—	←R—	Y	Y	R	R	R	R	R	R	R	DW	DW	
PHASE 3	←R—	←R—	←R—	R	R	←R—	←R—	R	R	←G— G/G→	G/G→	←G— G/G→	R	R	R	DW	DW		
3 CHANGE	←R—	←R—	←R—	R	R	←R—	←R—	R	R	Y —Y→	Y/Y→	Y —Y→	R	R	R	DW	DW		
PHASE 4	←R—	←R—	←R—	R	R	←R—	←R—	R	R	R	R	R	R	←G/G—	←G/G—	G	DW	DW	
4 CHANGE	←R—	←R—	←R—	R	R	←R—	←R—	R	R	R	R	R	Y	Y	Y	Y	DW	DW	
PHASE 4 ALT.	←R—	←R—	←R—	R	R	←R—	←R—	R	R	R	R	R	R	←G/G—	←G/G—	G	WK	WK	
PED CLEARANCE	←R—	←R—	←R—	R	R	←R—	←R—	R	R	R	R	R	R	←G/G—	←G/G—	G	FL/DW	FL/DW	
4 ALT. CHANGE	←R—	←R—	←R—	R	R	←R—	←R—	R	R	R	R	R	Y	Y	Y	Y	DW	DW	
FLASHING OPERATION	← FL/R —	← FL/R —	← FL/R —	FL/Y	FL/Y	← FL/R —	← FL/R —	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9016	1 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9044	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
9086	1 EACH	VIDEO INTERFACE EQUIPMENT: 1-8 CAMERAS
9571	238 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF :
		- 4 EACH D-3(1) SIGN (96 IN. x 32 IN.) - MAST ARM MOUNT
		- 2 EACH D-3(1) SIGN (96 IN. x 16 IN.) - MAST ARM MOUNT
		- 4 EACH R3-5(L) (30 IN. x 36 IN.) - MAST ARM MOUNT
		- 2 EACH R3-5(R) (30 IN. x 36 IN.) - MAST ARM MOUNT
		- 1 EACH R3-6(L) (30 IN. x 36 IN.) - MAST ARM MOUNT
		- 2 EACH R4-7 (36 IN. x 48 IN.) - GROUND MOUNT
		- 2 EACH R10-3(1) SIGN (9 IN. x 15 IN.) TO READ "PUSHBUTTON TO CROSS VETERANS MEM. HWY" - POLE MOUNT
		- 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "SOUTH, MD 24, RIGHT ARROW" (24 IN. x 48 IN.) - POLE MOUNT
		- 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "NORTH, MD 24, LEFT ARROW" (36 IN. x 72 IN.) - POLE MOUNT
		- 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "NORTH, MD 24, RIGHT ARROW" (24 IN. x 48 IN.) - POLE MOUNT
		- 1 EACH ASSOCIATED SHIELD ASSEMBLY M1-5(6) "SOUTH, MD 24, LEFT ARROW" (36 IN. x 72 IN.) - POLE MOUNT

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

1 - CONTROLLER AND MALFUNCTIONING MONITOR UNIT

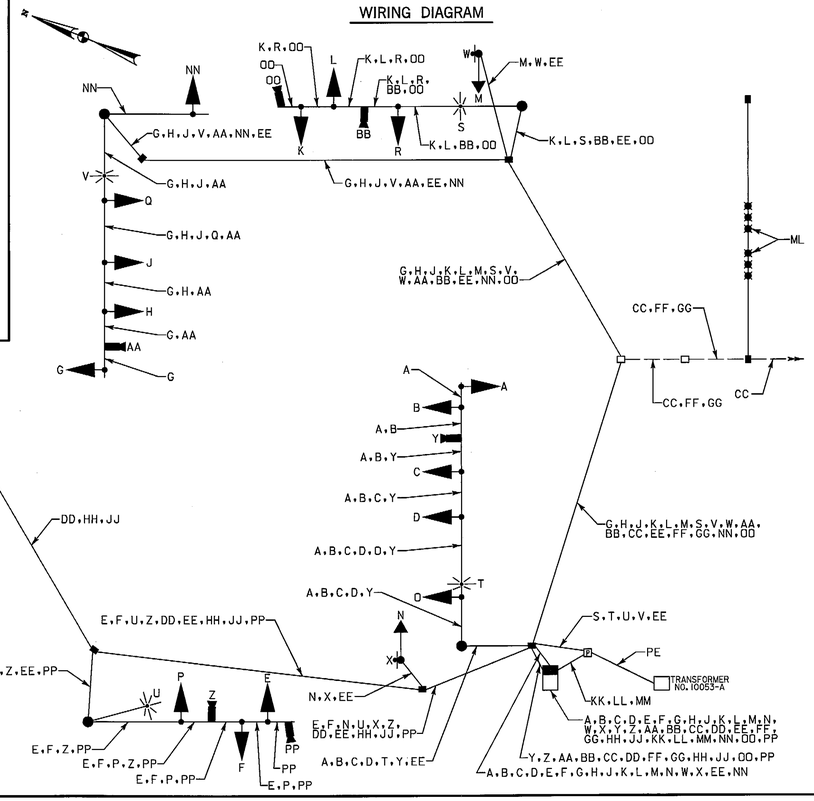
ALL OTHER REMOVED SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT. ADDITIONAL TRAFFIC CONTROL STANDARDS MAY BE USED AS DIRECTED BY THE ENGINEER.

STANDARD NO. MD-104.04-01 (SHOULDER WORK)
STANDARD NO. MD-104.04-03 (LEFT LANE CLOSURE)
STANDARD NO. MD-104.04-05 (RIGHT LANE CLOSURE)
STANDARD NO. MD-104.04-13 (LEFT TURN BAY CLOSURE)
STANDARD NO. MD-104.04-15 (INTERSECTION LEFT LANE, TURN BAY)

WIRING DIAGRAM



WIRING KEY

A B C D E F G H J K L M N — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

M N O P Q R — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

S T U V — 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE

W X — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) -

Y Z AA BB OO PP — VIDEO CAMERA DETECTION LEAD-IN CABLE

CC DD — EXISTING 12-PAIR COMMUNICATION CABLE (JELLY-FILLED)

EE — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

FF GG — MICROLOOP PROBE LEAD-IN

HH JJ — EXISTING MICROLOOP PROBE LEAD-IN

KK LL MM — 1-CONDUCTOR ELECTRICAL CABLE (NO. 8 A.W.G.)

PE - PROPOSED UNDERGROUND ELECTRICAL SERVICE

ML - MICROLOOP PROBE SET

⏚ - 3/4 IN. X 10 FT. GROUND ROD

EQUIPMENT LIST "B"

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

ITEM NO.	QUANTITY	DESCRIPTION
1003	2 EACH	MAINTENANCE OF TRAFFIC
2001	1 C.Y.	CLASS 2 EXCAVATION
2002	8 C.Y.	TEST PIT EXCAVATION
5002	190 L.F.	5 INCH HEAT APPLIED WHITE OR YELLOW PERMANENT PAVEMENT MARKINGS
5003	185 L.F.	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS
5004	340 L.F.	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
5005	80 L.F.	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
5006	67 S.F.	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
8001	56 EACH	12 INCH LED SIGNAL HEAD SECTION
8002	1 EACH	2-WIRE CENTRAL CONTROL UNIT
8007	4 EACH	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP & LUMINAIRE
8008	2 EACH	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
8009	2 EACH	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8012	1 EACH	EMBEDDED METERED SERVICE PEDESTAL
8016	2 EACH	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
8020	1 EACH	MAST ARM POLE & 60 FOOT MAST ARM ANY 'T'
8021	2 EACH	MAST ARM POLE & 70 FOOT MAST ARM ANY 'T'
8023	2 EACH	NONINVASIVE DETECTOR (ANY LENGTH) LEAD IN CABLE UP TO 1000'
8024	1 EACH	REMOVE & DISPOSE MAT & EQUIP PER ASSIGN
8026	1 EACH	TWIN MAST ARM POLE & 50'/60' MAST ARMS ANY 'T' DIMENSION
8028	6 EACH	VIDEO DETECTION CAMERA AND CABLE ANY LENGTH
8032	1100 L.F.	DISCONNECT, PULL-BACK & REROUTE CABLE
8034	500 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - BORED
8036	155 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED
8037	34 L.F.	WOOD SIGN SUPPORTS UP TO 4" X 6"
8038	238 S.F.	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8040	561 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8043	60 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG - THHN/THWN
8044	7 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8049	3 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8051	260 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8053	380 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8054	2975 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8055	826 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) TC
8061	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT

TOD NO: XX353-33
SHA NO: HA382A57/K57
MD 24 @ Bel Air South Parkway

WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231

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

MD 24 AT BEL AIR SOUTH PARKWAY

BELAIR, MD

GENERAL INFORMATION SHEET

SCALE NONE DATE APRIL 5, 2011 CONTRACT NO. XX3535168

DESIGNED BY J. RASMUSSEN
DRAWN BY J. RASMUSSEN
CHECKED BY N. LEARY
F.A.P. NO.
COUNTY HARFORD
LOGMILE 12002406.61
TIMS NO. K886
TOD NO.

TS NO. 2571D | DRAWING TSP-3 OF 3 | SHEET NO. 3 OF 3

PLOTTED: 04-13-2011
FILE: N:\31669-130\CADD\pSG-N003_MD24.dgn

BY: jrasmussen