PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 542 (LOCH RAVEN BLVD.)/I-695 RAMPS AND CROMWELL BRIDGE ROAD IN BALTIMORE COUNTY, MARYLAND. CROMWELL BRIDGE ROAD IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATION WILL REMAIN THE SAME.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH TWO (2) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS. SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

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)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. RANDALL SCOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 321-2781/2785

MR. STEVE MARCISZEWSKI
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 321-2761

MR. MIKE PASQUARIELLO
ASST. DISTRICT UTILITY ENGINEER
PHONE: (410) 321-2841

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

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
963010	1 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
971020	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER AND SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
900000	1 EACH	VIDEO INTERFACE EQUIPMENT: 1-4 CAMERAS

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

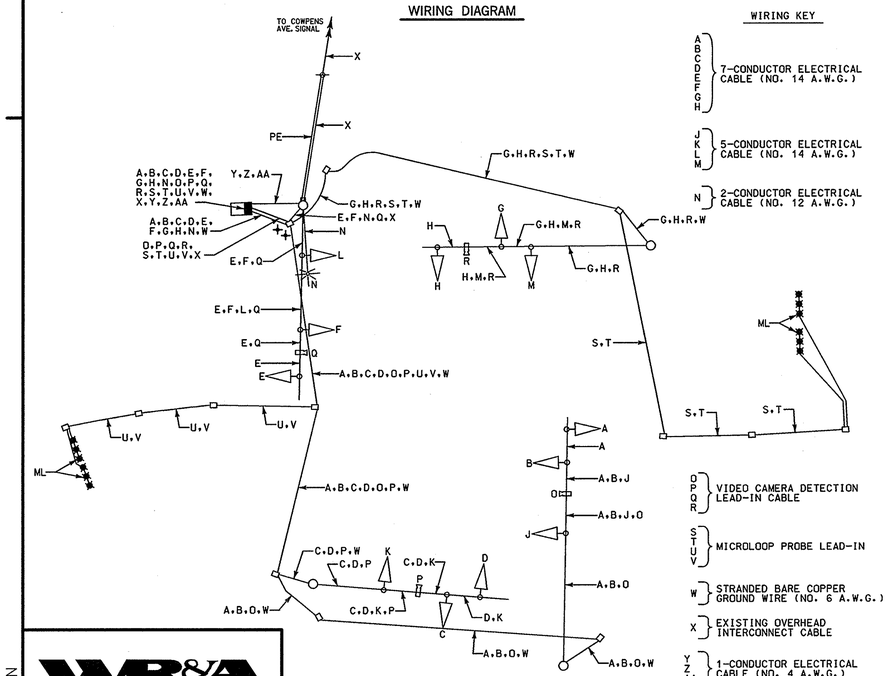
SHA FORCES SHALL REMOVE THE MASTER CONTROLLER, CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

EQUIPMENT LIST "B"

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

CATEGORY CODE	QUANTITY	DESCRIPTION
120500	LUMP SUM	MAINTENANCE OF TRAFFIC
203030	1 C.Y.	TEST PIT EXCAVATION
585621	320 L.F.	12 INCH WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585625	50 L.F.	24 INCH WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
801004	2 C.Y.	CONCRETE FOR SIGNAL FOUNDATION
802501	460 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805011	20 L.F.	1 INCH ELECTRICAL CONDUIT - GALVANIZED SLEEVE
805125	10 L.F.	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	25 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805160	15 L.F.	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
810010	55 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG-THHN/THWN
813023	22 S.F.	RELOCATE EXISTING GROUND MOUNTED SIGNS
810550	2 EACH	MICROLOOP PROBE, 500 FOOT LEAD IN CABLE
810555	2 EACH	MICROLOOP PROBE, 1000 FOOT LEAD IN CABLE
837001	2 EACH	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
861107	85 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	1980 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	80 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)
862102	70 L.F.	SAW CUT FOR SIGNAL (LOOP DETECTOR)
871202	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
800000	LUMP SUM	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT
800000	50 L.F.	DISCONNECT AND PULL BACK EXISTING ELECTRICAL CABLE
800000	1 EACH	CONTROL CABLE, 100 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
800000	2 EACH	CONTROL CABLE, 300 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
800000	1 EACH	CONTROL CABLE, 400 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER

WIRING DIAGRAM



WIRING KEY

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

J K L M — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

N — 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)

O P Q R — VIDEO CAMERA DETECTION LEAD-IN CABLE

S T U V — MICROLOOP PROBE LEAD-IN

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

X — EXISTING OVERHEAD INTERCONNECT CABLE

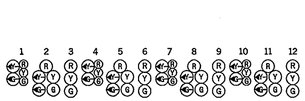
Y Z AA — 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

PE - EXISTING OVERHEAD ELECTRICAL SERVICE

ML - MICROLOOP PROBE SET

+ - 3/4 IN. X 10 FT. GROUND ROD

PHASE CHART



PHASE 1 AND 5	R +G-	R +G-	R	R +G-	R +G-	R	R	R	R	R	R	R
1 AND 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6											
PHASE 1 AND 6	R	R	R	G +G-	G +G-	G	R	R	R	R	R	R
1 AND 6 CHANGE	R	R	R	G +Y-	G +Y-	G	R	R	R	R	R	R
PHASE 2 AND 5	G +G-	G +G-	G	R	R	R	R	R	R	R	R	R
2 AND 5 CHANGE	G +Y-	G +Y-	G	R	R	R	R	R	R	R	R	R
PHASE 2 AND 6	G	G	G	G	G	G	R	R	R	R	R	R
2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R
PHASE 3 AND 7	R	R	R	R	R	R	+R- +G-	+R- +G-	R	+R- +G-	+R- +G-	R
3 AND 7 CHANGE	PHASE 3 + 7 MAY CHANGE TO PHASE 3 + 8, PHASE 4 + 7 OR PHASE 4 + 8											
PHASE 3 AND 8	R	R	R	R	R	R	G +G-	G +G-	G	R	R	R
3 AND 8 CHANGE	R	R	R	R	R	R	G +Y-	G +Y-	G	R	R	R
PHASE 4 AND 7	R	R	R	R	R	R	R	R	R	G +G-	G +G-	G
4 AND 7 CHANGE	R	R	R	R	R	R	R	R	R	G +Y-	G +Y-	G
PHASE 4 AND 8	R	R	R	R	R	R	G	G	G	G	G	G
4 AND 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R

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410-235-3450

BY: JROBINSON

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TSP-2

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

MD 542 (LOCK RAVEN BLVD)/I-695 RAMPS AND CROMWELL BRIDGE ROAD

GENERAL INFORMATION SHEET

SCALE NONE DATE 03232006 CONTRACT NO. BA5326177

DESIGNED BY S. BLOSS
DRAWN BY S. BLOSS
CHECKED BY N. LEARY
F.A.P. NO. SEE TITLE SHEET
COUNTY BALTIMORE
LOGMILE
T.I.M.S. NO. TS-1816E
TOD NO.

DRAWING NO. TSP-2 - 2 OF 2 SHEET NO. OF

PLOTTED: 11-09-2007
FILE: N:\3153B-85\CADD\PSG-N082_I-695.DGN