GREEN LINE - RELOCATED MICROPROBE LEAD-IN CABLES AND REVISED LOCATIONS OF SIGNAL POLE AND PEDESTRIAN POLE IN THE NORTHEAST QUADRANT OF THE INTERSECTION

10-13-06

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE TOTAL RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL, REPLACING THE EXISTING BASE MOUNTED CONTROLLER CABINET, ADDING ACCESSIBLE PEDESTRIAN SIGNALS, VIDEO DETECTION CAMERAS AND THE REPLACEMENT OF EXISTING ADVANCED LOOP DETECTION AT THE INTERSECTION OF MD 45 (YORK ROAD) AND TIMONIUM ROAD IN BALTIMORE COUNTY. MD 45 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE. THERE ARE EXCLUSIVE/PERMISSIVE LEFT TURN PHASES FOR BOTH THE NORTHBOUND AND SOUTHBOUND MOVEMENTS OF MD 45. THE MD 45 THROUGH MOVEMENTS OPERATE CONCURRENTLY. THE TIMONIUM ROAD MOVEMENTS ARE SPLIT PHASED.

THE SIGNAL WILL CONTINUE TO BE INTERCONNECTED TO THE MD 45/ TIMONIUM FAIRGROUNDS ENTRANCE TO THE NORTH AND TIMONIUM ROAD/ AYLESBURY ROAD INTERSECTION TO THE WEST.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR CHANNEL, TELEMETRY EQUIPMENT, VIDEO DETECTOR SYSTEM, MONITOR WITH BATTERY BACK-UP, AND ASSOCIATED HARNESSES HOUSED IN A NEMA '6' BASE MOUNTED CABINET.

THE PRESENCE AND SAMPLING DETECTION REGIONS SHALL BE MONITORED/ACTUATED WITH VIDEO DETECTION CAMERAS.

CONTACTS FOR DISTRICT 4:

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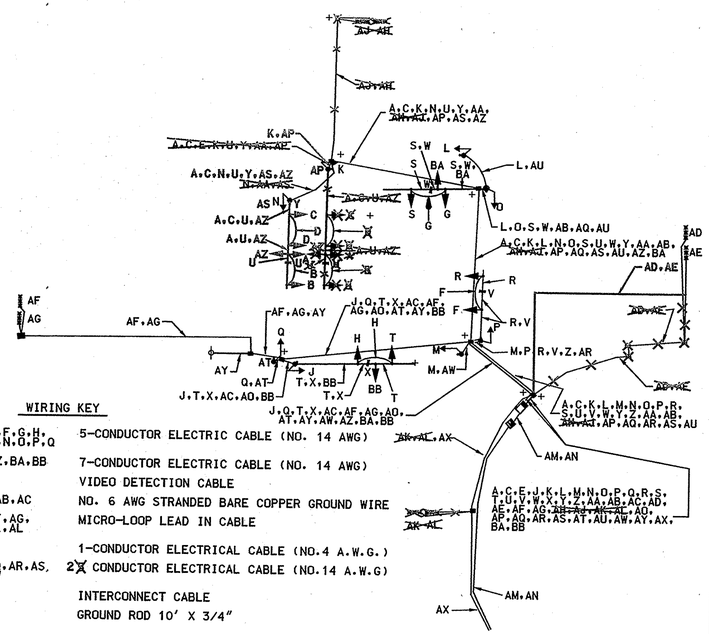


WIRING KEY

A,B,C,D,F,G,H, J,K,L,M,N,O,P,Q	5-CONDUCTOR ELECTRIC CABLE (NO. 14 AWG)
R,S,T,AZ,BA,BB	7-CONDUCTOR ELECTRIC CABLE (NO. 14 AWG)
U,V,W,X	VIDEO DETECTION CABLE
Y,Z,AA,AB,AC	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
AD,AE,AF,AG, AH,AJ,AK,AL	MICRO-LOOP LEAD IN CABLE
AM,AN	1-CONDUCTOR ELECTRICAL CABLE (NO.4 A.W.G.)
AQ,AP,AQ,AR,AS, AT,AU,AW	2X CONDUCTOR ELECTRICAL CABLE (NO.14 A.W.G)
AX,AY	INTERCONNECT CABLE
+	GROUND ROD 10' X 3/4"

EQUIPMENT LIST 'A'

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
	1 EA	VIDEO INTERFACE EQUIPMENT (FOR 4 CAMERAS)
	1 EA	EIGHT-PHASE, FULL TRAFFIC ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH SYSTEM PACKAGE AND INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET
	147 SF	SHEET ALUMINUM SIGNS: 5- EA R3-5 (30 IN. X 36 IN.) MAST ARM MOUNT 1- EA R3-3(4) (30 IN. X 36 IN.) MAST ARM MOUNT 1- EA W9-2(4) (30 IN. X 42 IN.) MAST ARM MOUNT 1- EA R3-6 (30 IN. X 36 IN.) MAST ARM MOUNT 4- EA D-3(1)MOD. (84" X 16 IN.) MAST ARM MOUNTED 4- EA M95-1 (72" X 24") MAST ARM MOUNTED

NOTE: ANCHOR BOLTS FOR THE TRAFFIC SIGNAL POLES SHALL BE SUPPLIED BY THE CONTRACTOR. PAYMENT FOR THE ANCHOR BOLTS SHALL BE INCIDENTAL TO THE "CONCRETE FOR SIGNAL FOUNDATION" PAY ITEM.

EQUIPMENT LIST 'C'

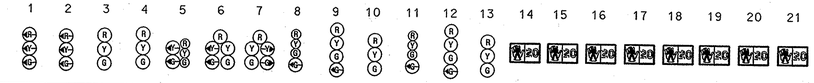
C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA:
EXISTING CONTROLLER AND INTERNAL EQUPMENT
EXISTING VIDEO DETECTION CAMERAS
TEMPORARY SIGNAL HEADS
ALL OTHER SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR.

EQUIPMENT LIST 'B'

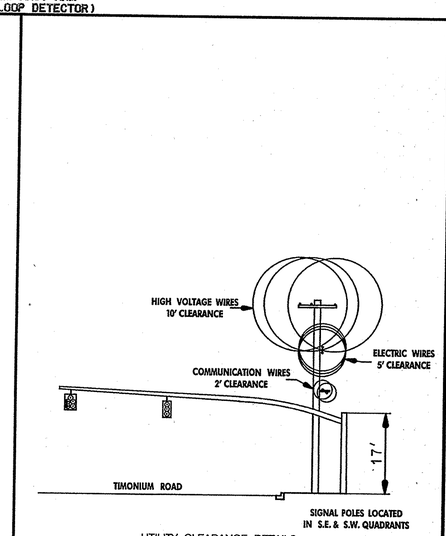
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
203030	2 CY	TEST PIT EXCAVATION
585448	650 LF	12 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKINGS
585452	180 LF	24 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKINGS
800000	1 LS	REMOVE AND DISPOSE OF EQUIPMENT
800000	4 EA	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL,POLE MOUNT
800000	4 EA	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL,PEDESTAL POLE MOUNT
800000	8 EA	AUDIBLE TACTICAL PEDESTRIAN PUSH BUTTON STATION AND SIGN
801004	22 ~~17~~ CY	CONCRETE FOR SIGNAL FOUNDATION
801607	100 SF	INSTALL SHEET ALUMINUM SIGN
805125	80 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805135	250 ~~550~~ LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	110 ~~165~~ LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT- TRENCHED
805155	350 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
807202	1 EA	METERED SERVICE PEDESTAL
810550	4 ~~8~~ EA	MICRO LOOP PROBE, 500 FOOT LEAD-IN CABLE
811001	7 ~~14~~ EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
816001	1 ~~2~~ EA	VIDEO DETECTION CAMERA
~~816005~~	~~3 EA~~	~~CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER~~
816010	1 EA	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818004	4 EA	10 FOOT BREAKAWAY PEDESTAL POLE
818036	2 EA	STEEL POLE WITH A SINGLE 50 FOOT MAST ARM
818052	2 EA	STEEL POLE WITH A SINGLE 70 FOOT MAST ARM
832017	260 LF	CABLE- 1 CONDUCTOR 4 A.W.G. TYPE USE, 600V
805160	40 LF	1 INCH LIQUID TIGHT FLEXIBLE NO-METALLIC CONDUIT FOR DETECTOR SLEEVE
860270	9 EA	8 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860284	2300 40 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861107	~~2,000~~ LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	1500 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
802501	850 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
837001	6 EA	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
871202	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT
800000	3 EA	RELOCATE CAMERA ON NEW MAST ARM
862102(NEG)	725 LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Phase 1 & 5	←G	←G	R	R	R ←G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
1 & 5 Change	←Y	←Y	R	R	R ←Y	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 1 & 6	←R	←R	R	R	G ←G	G G→	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
1 & 6 Change	←R	←R	R	R	Y ←Y	Y Y→	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 2 & 5	←G	G	G	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
2 & 5 Change	Y	←Y	Y	Y	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 2 & 6	←R	←R	G	G	G	G	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
2 & 6 Change	←R	←R	Y	Y	Y	Y	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 3	←R	←R	R	R	R	R	R	R	R	R	G ←G	G ←G	G	DW	DW	DW	DW	DW	DW	DW	DW	
3 Change	←R	←R	R	R	R	R	R	R	R	R	Y ←Y	Y ←Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 4	←R	←R	R	R	R	R ←R	G →G	G ←G	G ←G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
4 Change	←R	←R	R	R	R	R ←R	Y →Y	R ←Y	R ←Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 1 & 6 Alt.	←R	←R	R	R	G ←G	G G→	R	R	R	R	R	R	R	W	DW	DW	W	DW	DW	DW	DW	
Pedestrian Clear	←R	←R	R	R	G ←G	G G→	R	R	R	R	R	R	R	FL/DW	DW	DW	FL/DW	DW	DW	DW	DW	
1 & 6 Alt.Change	←R	←R	R	R	Y ←Y	Y Y→	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 2 & 5 Alt.	Y	←Y	Y	Y	R	R	R	R	R	R	R	R	R	W	W	W	W	DW	DW	DW	DW	
Pedestrian Clear	Y	←Y	Y	Y	R	R	R	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW	
2 & 5 Alt.Change	Y	←Y	Y	Y	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 2& 6 Alt.	←R	←R	G	G	G	G	R	R	R	R	R	R	R	DW	W	W	DW	DW	DW	DW	DW	
Pedestrian Clear	←R	←R	G	G	G	G	R	R	R	R	R	R	R	DW	FL/DW	FL/DW	DW	DW	DW	DW	DW	
2 & 6 Alt.Change	←R	←R	Y	Y	Y	Y	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 3 Alt.	←R	←R	R	R	R	R	R	R	R	R	R	G	G	DW	DW	DW	DW	W	W	DW	DW	
Pedestrian Clear	←R	←R	R	R	R	R	R	R	R	R	R	G	G	DW	DW	DW	DW	FL/DW	FL/DW	DW	DW	
3 Alt.Change	←R	←R	R	R	R	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	
Phase 4 Alt.	←R	←R	R	R	R	R G→	G ←G	G	R	R	R	R	R	DW	DW	DW	DW	DW	DW	W	W	
Pedestrian Clear	←R	←R	R	R	R	R G→	G ←G	G	R	R	R	R	R	DW	DW	DW	DW	DW	DW	FL/DW	FL/DW	
4 Alt.Change	←R	←R	R	R	R	R Y→	Y	Y	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
Flashing Operation	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DK	DK	DK	DK	DK	DK	DK	DK	



UTILITY CLEARANCE DETAILS
N.T.S.

REVISION B CONSULTANT

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

MD 45 (YORK ROAD) AT TIMONIUM ROAD

GENERAL INFORMATION SHEET

SCALE N.T.S. DATE 2/19/82 CONTRACT NO.

DESIGNED BY
DRAWN BY W.R. SMITH
CHECKED BY
F.A.P. NO.
COUNTY BALTIMORE
LOGMILE 03004505.16
T.I.M.S. NO. H176
TOD NO.

DRAWING NO. TS-04 OF 04 SHEET NO. 14 OF 14

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