PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 45 (YORK ROAD) AND CRANBROOK ROAD / CHURCH LANE IN BALTIMORE COUNTY. THE EXISTING STRAIN POLES AND SPAN WIRE SHALL BE REPLACED WITH NEW MAST ARM POLES, LED SIGNAL HEADS, VIDEO DETECTION CAMERAS, APS, CPS AND A NEW CABINET AND CONTROLLER. MD 45 IS ASSUMED TO RUN IN THE NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION OPERATES IN A NEMA SIX-PHASE, FULLY ACTUATED MODE WITH EXCLUSIVE-PERMISSIVE LEFT TURN PHASES FOR BOTH MD 45 APPROACHES. THE SIDE STREETS OPERATE WITH A SPLIT-PHASE OPERATION. AN ALTERNATE PEDESTRIAN PHASE WITH AUDIBLE PEDESTRIAN SIGNALS SHALL BE INSTALLED ACROSS THE NORTH LEG OF MD 45 AND ACTUATED AUDIBLE PEDESTRIAN PHASES SHALL BE INSTALLED ACROSS THE CRANBROOK ROAD AND CHURCH LANE APPROACHES.

A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE, CONTROLLER WITH VIDEO INTERFACE EQUIPMENT, TELEMETRY CABLE AND ALL NECESSARY EQUIPMENT HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET SHALL BE INSTALLED AT THIS INTERSECTION.

III. APS NOTES

TO CROSS MD 45

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

TO CROSS CHURCH LANE

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

TO CROSS CRANBROOK ROAD

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

IV. INTERCONNECT NOTES

SEE SHEET SP-05 OF 39 FOR INTERCONNECT DETAILS AND QUANTITIES.

CONTACTS

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MS. DARLENE EIDE
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
410-787-7668

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADIMISTRATION

CAT CODE	QUANTITY	DESCRIPTION
900000	1 EA	[UPDATED] 4 CHANNEL DETECTOR AMPLIFIER
900000	1 EA	[UPDATED] CONTROLLER ASC II WITH TELEMETRY
900000	1 EA	[UPDATED] CONTROLLER CABINET, SIZE 6
900000	**30** SF	[UPDATED] SHEET ALUMINUM GROUND MOUNTED SIGN
	2 EA	W11-2 (30"x30")
	2 EA	W16-7p (24"x12")
	2 EA	R1-2 (36"x36"x36")
	2 EA	OM1-3 (18"x18")
900000	141 SF	[UPDATED] SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN
	4 EA	D-3(1) - YORK RD (VAR.x16")
	1 EA	D-3(1) - CRANBROOK RD -> (VAR.x16")
	1 EA	D-3(1) - <- CRANBROOK RD (VAR.x16")
	1 EA	D-3(1) - CHURCH LN -> (VAR.x16")
	1 EA	D-3(1) - <- CHURCH LN (VAR.x16")
	2 EA	SHIELD ASSEMBLY - MD 45 (30"x51")
	2 EA	SHIELD ASSEMBLY - MD 45 (48"x75")
	2 EA	R3-5(L) (30"x36")
	2 EA	R3-6(L) (30"x36")
	1 EA	R3-5(R) (30"x36")
900000	1 EA	[UPDATED] VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS

EQUIPMENT LIST (CONT'D)

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

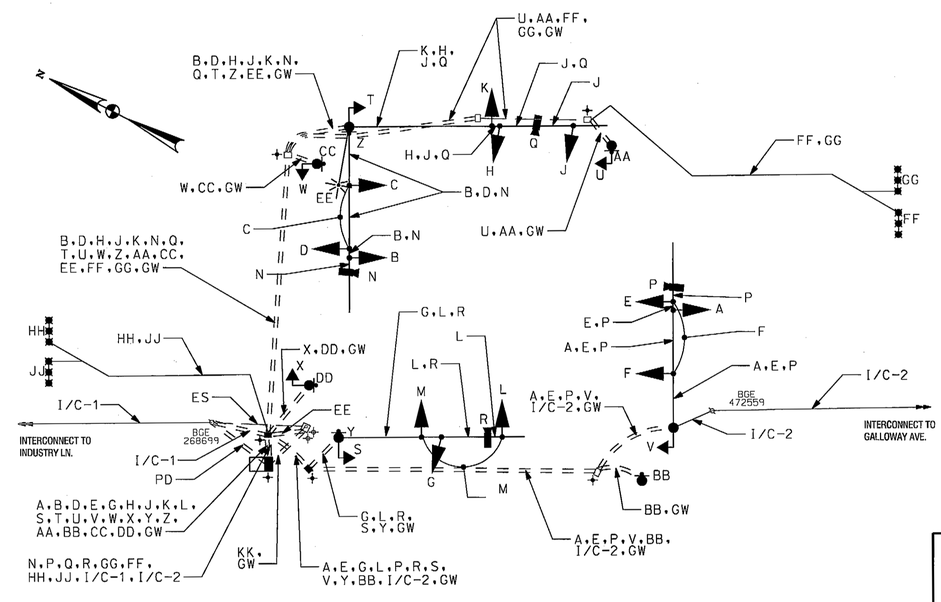
CAT CODE	QUANTITY	DESCRIPTION
201032	20 CY	CLASS 2 EXCAVATION
203030	5 CY	TEST PIT EXCAVATION
585462	1030 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
585620	600 LF	12 INCH HEAT APPLIED WHITE PERM.-PREF.THERMOPLASTIC PAVEMENT MARKINGS
585624	155 LF	24 INCH HEAT APPLIED WHITE PERM.-PREF.THERMOPLASTIC PAVEMENT MARKINGS
600000	145 SF	DETECABLE WARNING SURFACES FOR CURB RAMPS
634300	445 LF	STANDARD TYPE A COMBINATIONA CURB AND GUTTER 12 INCH GUTTER 8 INCH DEPTH
655105	1465 SF	5 INCH CONCRETE SIDEWALK
800000	6 EA	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION
800000	12 EA	8 INCH LED VECHICULAR TRAFFIC SIGNAL HEAD SECTION
800000	1 EA	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP AND LUMINAIRE
800000	6 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON AND SIGN
800000	4 EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
800000	1 EA	FURNISH & DELIVER 2 WIRE CENTRAL CONTROL UNIT
800000	**171** SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN
800000	2 EA	MAST ARM POLE& 50 FT MAST ARM ANY 'T' DIMENSION
800000	4 EA	MICROLOOP PROBE (ANY LENGTH) LEAD IN CABLE UP TO 1000 FT
800000	4 EA	REMOVE SIGNAL POLE FOUNDATION 12" BELOW GRADE
800000	155 LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCH - TRENCHED
800000	235 LF	SCHEDULE 80 RIGID PVD CONDUIT UP TO 4 INCH - SLOTTED
800000	4 EA	VIDEO DETECTION CAMERA & CABLE UP TO 500FT
800000	1 EA	TWIN MAST ARM POLE & 50 FOOT / 70 FOOT MAST ARMS ANY 'T' DIMENSION
801104	**40** LF	WOOD SIGN SUPPORTS 4 INCH X 4 INCH
801106	**33** LF	WOOD SIGN SUPPORTS 4 INCH X 6 INCH
802501	370 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805011	15 LF	1 INCH ELECTRICAL CONDUIT -GALVANIZED SLEEVE
805050	1 EA	3 INCH WEATHER HEAD
805160	5 LF	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
810010	65 LF	ELECTRICAL CABLE 1-CONDUCTOR, NO.4 AWG THHN/THWN
811001	2 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
860284	38 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861105	655 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	780 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	1400 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	175 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC
861202	640 LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)
871202	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

C. IF THE CABINET IS TO BE REMOVED 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, EXCEPT FOR VIDEO DETECTION CAMERAS, SHALL BECOME THE PROPERTY OF THE CONTRACTOR. EXISTING VIDEO DETECTION CAMERAS SHALL BE RETURNED TO SHA SIGNAL SHOP PERSONNEL AT TURN-ON.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE 1 & 5	R ◄G–	R ◄G–	R	R ◄G–	R ◄G–	R	R	R	R –G►	R	R	R	DW	DW	DW	DW	DW	DW
1 & 5 CHANGE	PHASE 1 & 5 MAY CHANGE TO PHASE 1 & 6,2 & 5,OR 2 & 6																	
PHASE 1 & 6	G ◄G–	G ◄G–	G	R	R	R	R	R	R –G►	R	R	R	DW	WK	WK	DW	DW	DW
1 & 6 CHANGE	Y ◄Y–	Y ◄Y–	G	R	R	R	R	R	R –Y►	R	R	R	DW	WK	WK	DW	DW	DW
PHASE 2 & 5	R	R	R	G ◄G–	G ◄G–	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW
2 & 5 CHANGE	R	R	R	G ◄Y–	G ◄Y–	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEAR	G	G	G	G	G	G	R	R	R	R	R	R	FL-DW	FL-DW	FL-DW	FL-DW	DW	DW
2 ALT & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	G ◄G–	G ◄G–	G	R	R	R	DW	DW	DW	DW	DW	DW
3 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	R	R	R	G ◄G–	G ◄G–	G	DW	DW	DW	DW	DW	DW
4 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 ALT.	R	R	R	R	R	R	R	R	R	G ◄G–	G ◄G–	G	DW	DW	DW	DW	WK	WK
PED CLEAR	R	R	R	R	R	R	R	R	R	G ◄G–	G ◄G–	G	DW	DW	DW	DW	FL-DW	FL-DW
4 ALT CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW
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	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A, B, D, E, G, H, J, K, L	7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
C, F, M, S, T, U, V, W, X	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
N, P, Q, R	VIDEO DETECTION CABLE
Y, Z, AA, BB, CC, DD	2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
EE	2 CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) TRAY CABLE
FF, GG, HH, JJ	PROPOSED MICROLOOP PROBE LEAD-IN CABLE
KK	3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 AWG) THHN/THWN
I/C-1, I/C-2	12-PAIR COMMUNICATION CABLE (INTERCONNECT)
PD	PROPOSED PHONE DROP
ES	EXISTING UNDERGROUND SERVICE
GW	STRANDED BARE COPPER GROUND WIRE (NO.6 AWG)
+	PROPOSED GROUND ROD
+	EXISTING GROUND ROD

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

MD 45 (YORK RD) AND CRANBROOK RD / CHURCH LN
COCKEYSVILLE, MARYLAND

GENERAL INFORMATION SHEET

SCALE N.T.S. DATE 6/'09 CONTRACT NO. BA1195168

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TS NO. 10192C | DRAWING SP-02 OF 39 | SHEET NO. 2 OF 2

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