PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 5 (BRANCH AVENUE) AND MD 458 (SILVER HILL ROAD)/ IVERSON STREET IN PRINCE GEORGE'S COUNTY. THE EXISTING STRAIN POLES AND SPAN WIRE SHALL BE REPLACED WITH NEW MAST ARM POLES, LED HEADS, VIDEO DETECTION CAMERAS, APS, CPS AND A NEW CABINET AND CONTROLLER. MD 5 IS ASSUMED TO RUN IN AN NORTH/SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE SIGNAL OPERATES IN A NEMA EIGHT-PHASE, FULLY-ACTUATED MODE WITH THE MD 5 APPROACHES OPERATING CONCURRENTLY AND THE MD 458/IVERSON ST APPROACHES OPERATING CONCURRENTLY. EXCLUSIVE LEADING LEFT-TURN PHASES EXIST FOR BOTH EASTBOUND AND WESTBOUND MD 5. EXCLUSIVE LEADING LEFT-TURN PHASES EXIST FOR BOTH NORTHBOUND AND SOUTHBOUND MD 458/IVERSON ST. AN ALTERNATE PEDESTRIAN PHASE WITH AUDIBLE PEDESTRIAN SIGNALS SHALL BE INSTALLED ACROSS MD 5/MD 458/IVERSON ST. 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 NOTE

TO CROSS BRANCH AVE. (NORTH LEG)

1. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS BRANCH AT SILVER HILL & IVERSON, CROSSWALK ANGLES LEFT, SECOND BUTTON IN MEDIAN, WAIT."
2. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS BRANCH AVE. (SOUTH LEG)

1. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS BRANCH AT SILVER HILL & IVERSON, SECOND BUTTON IN MEDIAN,WAIT."
2. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS BRANCH AVE. (MEDIAN)

1. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS BRANCH AT SILVER HILL & IVERSON, WAIT."
2. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS SILVER HILL RD.

1. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS SILVER HILL AT BRANCH, WAIT."
2. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS IVERSON ST.

[1] 1. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS IVERSON AT BRANCH,CROSS WALK ANGLES LEFT WAIT".
2. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADIMISTRATION

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
9016	3	EA	4 CHANNEL DETECTOR AMPLIFIER
9042	1	EA	CONTROLLER ASC III WITH TELEMETRY
9044	1	EA	CONTROLLER CABINET, SIZE 6
9087	1	EA	VIDEO DETECTION INTERFACE EQUIPMENT 5-8 CAMERAS
9570	40	SF	SHEET ALUMINUM GOUND MOUNTED SIGN 1 EA M3-1 (24"X12") "NORTH"; M1-5 (24"X24") "MD458" M6-2 (21"X15") "DIAGONAL ARROW" 1 EA W11-2 (30"X30") "PED CROSSING"; W13-4(1) (36"X24") "ACROSS RAMP" 1 EA M3-3 "SOUTH" (24"X12"), M5-1 "MD5" (24"X24") M6-1 "RIGHT ARROW" (21"X15") 1 EA M3-3 "SOUTH" (30"X15"), M5-1 "MD5" (36"X36") M6-1 "LEFT ARROW" (30"X24")
9571	92	SF	SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGN 1 EA D-3(1) DUAL FACE (VAR"X32") "SILVER HILL RD" STREET SIGN 1 EA D-3(1) DUAL FACE (VAR"X32") "IVERSON ST' STREET SIGN 1 EA M1-5(6) (36"X72"); M3-1 "NORTH" (36"X12"), M1-5 "MD5" (36"X36"), M6-1 "LEFT ARROW" (21"X15") 1 EA M1-5(6) (24"X48"); M3-1 "NORTH" (24"X12"), M5-1 "MD5" (24"X24") M6-1 "LEFT ARROW" (21"X15") 1 EA M1-5(6) (48"X72"); M3-1 "NORTH" (48"X12"), M5-1 "MD458" (48"X48") M6-1 "LEFT ARROW" (21"X15") 1 EA R3-5L "LEFT ONLY" SIGN (30"X36") 8 EA R10-3(1) PEDESTRIAN CROSSING SIGN (9"X15") 1 EA W9-2(4)(R) (30"X42") "LANE ENDS MERGE RIGHT" SIGN

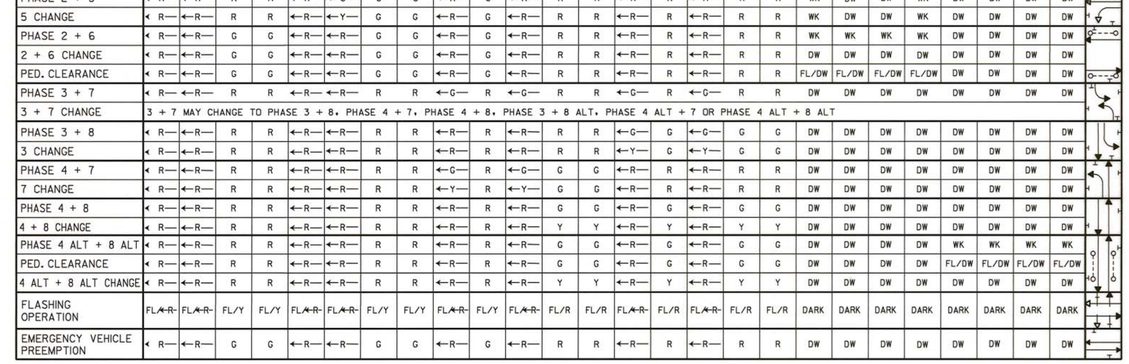
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
1003	3	EA	MAINTENANCE OF TRAFFIC
2002	7	CY	TEST PIT EXCAVATION
5003	738	LF	REMOVAL OF EXISTING PERMANENT PAVEMENT MARKINGS
5004	907	LF	12" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC MARKINGS
5005	95	LF	24" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC MARKINGS
[1] 6001	570 ~~286~~	LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12" GUTTER PAN 8" DEPTH
[1] 6002	1373 ~~1163~~	SF	5" CONCRETE SIDEWALK
[1] 6003	190 ~~170~~	SF	DETECTABLE WARNING SURFACES
8002	54	EA	12 INCH LED SIGNAL HEAD SECTION
8002	1	EA	2 WIRE CENTRAL CONTROL UNIT
8005	1	EA	ADJUST HANDHOLE TO GRADE
8007	4	EA	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP & LUMINAIRE
8008	10	EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION & SIGNS
8009	8	EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8012	1	EA	EMBEDDED METERED SERVICE PEDESTAL
8016	8	EA	LED 16" COUNTDOWN PEDESTRIAN SIGNAL HEADS
8021	4	EA	MAST ARM POLE & 70' MAST ARM ANY 'T' DIMENSION
8023	9	EA	NONINVASIVE DETECTOR (ANY LENGTH) LEAD IN CABLE UP TO 1000'
8024	1	EA	REMOVE & DISPOSE MATERIAL AND EXISTING EQUIPMENT PER ASSIGNMENT
8028	6	EA	VIDEO DETECTION CAMERA AND CABLE
8031	490	LF	4 CONDUCTOR OPTICOM CABLE
8034	905	LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4" - BORED
[1] 8036	490 ~~286~~	LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4" - TRENCHED
8037	85	LF	WOOD SIGN SUPPORT UP TO 4'x6'
8038	132	SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8040	890	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8043	30	LF	ELECTRICAL CABLE - 1 CONDUCTOR NO. 8 AWG - THHN/THWN
8044	16	EA	ELECTRICAL HANDHOLE
8045	1	EA	DISCRIMINATOR MODULE, 4 CHANNEL, NO. 764
8047	2	EA	OPTICOM NO. 721 DETECTOR EYE
8051	1755	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8053	1775	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8054	4280	LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8055	925	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) TC
8061	1	EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

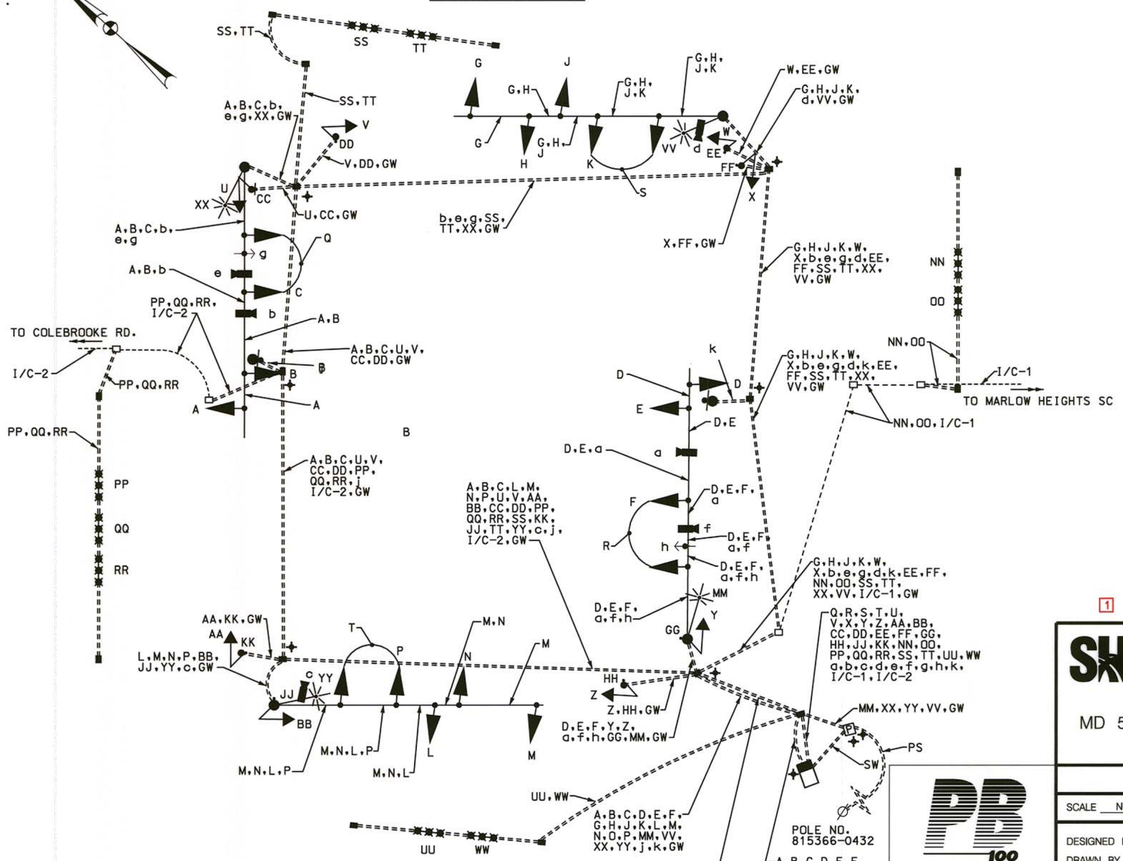
C. IF THE CABINET IS TO BE REMOVED SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	RR YY GG	RR YY GG	R Y G	R Y G	RR YY GG	RR YY GG	R Y G	R Y G	RR YY GG	R Y G	RR YY GG	R Y G	R Y G	RR YY GG	R Y G	RR YY GG	R Y G	R Y G								
PHASE 1 + 5	←G—	←G—	R	R	←G—	←G—	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
1 + 5 CHANGE	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—	R	R	←R—	R	←R—	R	R	DW	WK	WK	DW	DW	DW	DW	DW
1 CHANGE	←Y—	←Y—	G	G	←Y—	←R—	R	R	←R—	R	←R—	R	R	←R—	R	←R—	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 + 5	◄ R—	←R—	R	R	←R—	←G—	G	G	←R—	G	←R—	R	R	←R—	R	←R—	R	R	WK	DW	DW	WK	DW	DW	DW	DW
5 CHANGE	◄ R—	←R—	R	R	←R—	←Y—	G	G	←R—	G	←R—	R	R	←R—	R	←R—	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 + 6	◄ R—	←R—	G	G	←R—	←R—	G	G	←R—	G	←R—	R	R	←R—	R	←R—	R	R	WK	WK	WK	WK	DW	DW	DW	DW
2 + 6 CHANGE	◄ R—	←R—	G	G	←R—	←R—	G	G	←R—	G	←R—	R	R	←R—	R	←R—	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PED. CLEARANCE	◄ R—	←R—	G	G	←R—	←R—	G	G	←R—	G	←R—	R	R	←R—	R	←R—	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
PHASE 3 + 7	◄ R—	←R—	R	R	←R—	←R—	R	R	←G—	R	←G—	R	R	←G—	R	←G—	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 + 7 CHANGE	3 + 7 MAY CHANGE TO PHASE 3 + 8, PHASE 4 + 7, PHASE 4 + 8, PHASE 3 + 8 ALT, PHASE 4 ALT + 7 OR PHASE 4 ALT + 8 ALT																									
PHASE 3 + 8	◄ R—	←R—	R	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	←R—	R	R	←Y—	G	←Y—	G	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 + 7	◄ R—	←R—	R	R	←R—	←R—	R	R	←G—	R	←G—	G	G	←R—	R	←R—	R	R	DW	DW	DW	DW	DW	DW	DW	DW
7 CHANGE	◄ R—	←R—	R	R	←R—	←R—	R	R	←Y—	R	←Y—	G	G	←R—	R	←R—	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 + 8	◄ R—	←R—	R	R	←R—	←R—	R	R	←R—	R	←R—	G	G	←R—	G	←R—	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 + 8 CHANGE	◄ R—	←R—	R	R	←R—	←R—	R	R	←R—	R	←R—	Y	Y	←R—	Y	←R—	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 ALT + 8 ALT	◄ R—	←R—	R	R	←R—	←R—	R	R	←R—	R	←R—	G	G	←R—	G	←R—	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED. CLEARANCE	◄ R—	←R—	R	R	←R—	←R—	R	R	←R—	R	←R—	G	G	←R—	G	←R—	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 ALT + 8 ALT CHANGE	◄ R—	←R—	R	R	←R—	←R—	R	R	←R—	R	←R—	Y	Y	←R—	Y	←R—	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK
EMERGENCY VEHICLE PREEMPTION	◄ R—	←R—	G	G	←R—	←R—	G	G	←R—	G	←R—	R	R	←R—	R	←R—	R	R	DW	DW	DW	DW	DW	DW	DW	DW



WIRING DIAGRAM



A,B,C,D,E,F, G,H,J,K,L,M, N,O,P,MM,VV, XX,YY,GW

a,b,c,d,e,f,g,h, NN,OO,PP,QQ, RR,SS,TT,

a,b,c,d,e,f,g,h, NN,OO,PP,QQ, RR,SS,TT,UU,WW

WIRING KEY

A,B,C,D,E, F,G,H,J,K, L,M,N,P	- 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
Q,R,S,T,U, V,X,Y,Z, AA,BB	- 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
CC,DD,EE, FF,GG,HH JJ,KK,j,k	- 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
MM,VV,XX, YY	- 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
NN,OO, PP,QQ, RR,SS, TT,UU,WW	- MICROLOOP PROBE LEAD-IN CABLE
a,b,c,d, e,f	- VIDEO DETECTION LEAD-IN CABLE
g,h	- 4 CONDUCTOR OPTICOM CABLE
PS	- PROPOSED SERVICE
SW	- 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 8 A.W.G. THHN/THWN)
GW	- NO.6 A.W.G STRANDED BARE COPPER GROUND WIRE
I/C-1	- 12-PAIR INTERCONNECT
I/C-2	- 12-PAIR INTERCONNECT
✚	- PROPOSED 3/4 IN. X 10 FT. GROUND ROD

[1] RED LINE #1 JULY 11, 2011

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

MD 5 (BRANCH AVE.) AND MD 458/IVERSON ST.
SUITLAND, MARYLAND

GENERAL INFORMATION PLAN

SCALE N.T.S. DATE 2/28/11 CONTRACT NO. XX3545168R

DESIGNED BY MAW COUNTY PRINCE GEORGE'S
DRAWN BY MAW LOGMILE 16000514.10
CHECKED BY KMP TIMS NO. K566
FAP NO. TOD NO.

TS NO. 91E GI | DRAWING SP - 03 OF 03 | SHEET NO. 3 OF 3

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PLOTTED: $DATETIME$
FILE: $FILE$