PROJECT DESCRIPTION

I GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THREE (3) EXISTING TRAFFIC CONTROL SIGNALS AND THE INSTALLATION OF ONE(1) NEW TRAFFIC CONTROL SIGNAL WITH STREET LIGHTING AND THE REMOVAL OF ONE TRAFFIC CONTROL SIGNAL ALONG MD 150 IN BALTIMORE COUNTY.

RECONSTRUCT SIGNALS
- MD 150 AND STEMMERS RUN ROAD
- MD 150 AND OLD EASTERN AVE.
- MD 150 AND KINGSTON ROAD

NEW SIGNAL
- MD 150 AND ORVILLE ROAD

SIGNAL REMOVAL
- MD 150 AND BENNETT ROAD

INTERCONNECT CABLE SHALL BE INSTALLED UNDERGROUND FROM STEMMERS RUN ROAD EAST TO KINGSTON ROAD. MD 150 IS ASSUMED TO TRAVEL IN AN EAST-WEST DIRECTION.

II INTERSECTION OPERATION

MD 150 AND ORVILLE ROAD

1. THE INTERSECTION IS TO OPERATE IN A NEMA SIX-PHASE, FULLY ACTUATED MODE, WITH THE MD 150 APPROACHES RUNNING CONCURRENTLY. AN EXCLUSIVE/PERMISSIVE LEFT TURN PHASE SHALL BE PROVIDED FOR BOTH APPROACHES OF MD 150. THE ORVILLE RD. APPROACH SHALL OPERATE CONCURRENTLY WITH THE ENTRANCE TO THE ENGINE SHOP. A PEDESTRIAN PHASE WITH PUSHBUTTON ACTUATION SHALL BE PROVIDED TO CROSS THE EAST LEG OF MD 150.

2. A FULL TRAFFIC ACTUATED, EIGHT-PHASE LOCAL CONTROLLER WITH THREE (3) FOUR CHANNEL, RACK MOUNTED LOOP DETECTOR AMPLIFIERS AND ASSOCIATED HARNESS HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET SHALL BE INSTALLED AT THIS SITE.

SPECIAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL CABLES TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABLE EACH CABLE.

CONTACT PERSONS FOR DISTRICT 5 ARE AS FOLLOWS:

MR. RANDALL SCOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
410-321-2781

MR. GRADON TOBERY
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
410-321-2821

MR. DAVE RAMSEY
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
410-321-2761

MR. JOSEPH McMAHON
ASSISTANT DISTRICT ENGINEER - UTILITIES
410-321-2841

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY:

MR. RICHARD DAFF SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
410-787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF,
TRAFFIC OPERATIONS DIVISION
410-787-7630

MR. ED RODENHIZER
TEAM LEADER - SIGNAL OPERATIONS
410-787-7650

MR. EUGENE BAILEY
TEAM LEADER - SIGN OPERATIONS
410-787-7676

MR. DAVE SCHWARTZ
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
410-787-7668

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE STATE HIGHWAY ADMINISTRATION

CATEGORY CODE NO.	QUANTITY		DESCRIPTION
971017	1	EA.	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL LOCAL CONTROLLER WITH THREE (3) 4-CHANNEL, RACK MOUNT LOOP DETECTOR AMPLIFIERS AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.
973023	135	S.F.	OVERHEAD MOUNTED SHEET ALUMINUM SIGNS TO CONSIST OF:
	2	EA.	D3-2 "Orville RD." (ARROW), (ARROW) Orville RD. DUAL-FACE SIGN, (VARIABLE X 16") MAST ARM MOUNTED.
	1	EA.	D3-2 "Eastern BLVD." DUAL-FACE SIGN (VARIABLE X 16") MAST ARM MOUNTED.
	2	EA.	R10-12 "LEFT TURN YIELD ON GREEN" (36" X 42") MAST ARM MOUNTED
	4	EA.	"ASSOCIATED SHIELD ASSEMBLY" SIGN (48" X 75") POLE MOUNTED.

EQUIPMENT LIST (CON'T)

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

CAT. CODE NO.	QUANTITY		DESCRIPTION
203030	4	C.Y.	TEST PIT EXCAVATION
585416	146	L.F.	FURNISH AND INSTALL REFLECTIVE THERMOPLASTIC PAVEMENT MARKING TAPE, WHITE (24" WIDTH FOR STOP LINES).
800000	32	EA.	FURNISH AND INSTALL 12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION.
800000	6	EA.	FURNISH AND INSTALL 8 INCH VEHICULAR TRAFFIC HEAD SECTION.
860148	4	EA.	FURNISH AND INSTALL 12 INCH SYMBOLIC PEDESTRIAN SIGNAL HEAD SECTION HAVING PROPER POST TOP ADAPTER FOR PEDESTAL MOUNTING AND OUTAWAY VISOR.
801004	10	C.Y.	FURNISH AND INSTALL CONCRETE FOUNDATION.
837001	6	EA.	FURNISH AND INSTALL GROUND ROD, 3/4" DIAMETER X 10' LENGTH.
871202	1	EA .	INSTALL BASE-MOUNTED CABINET AND CONTROLLER.
813015	135	S.F.	INSTALL OVERHEAD MOUNTED SHEET ALUMINUM SIGN.
862102	600	L.F.	FURNISH AND INSTALL SAWCUT.
805011	120	L.F.	FURNISH AND INSTALL 1" ELECTRICAL CONDUIT - GALVANIZED SLEEVE (DETECTOR WIRE SLEEVE).
870160	50	L.F.	FURNISH AND INSTALL 2" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (TRENCHED).
805135	800	L.F.	FURNISH AND INSTALL 3" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (TRENCHED).
870124	200	L.F.	FURNISH AND INSTALL 4" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (SLOTTED).
805122	400	L.F.	FURNISH AND INSTALL 4" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (TRENCHED).
800000	1	EA.	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT. (120/240V, 1 PHASE, 3 WIRE SYSTEM).
811001	9	EA.	FURNISH AND INSTALL HANDHOLE (FRAME AND COVER).
832020	210	L.F.	FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.).
822002	950	L.F.	FURNISH AND INSTALL 12-PAIR, VOICEGRADE INTERCONNECT CABLE (NO. 19 A.W.G.)(JELLY-FILLED).
862101	2100	L.F.	FURNISH AND INSTALL LOOP WIRE (NO. 14 A.W.G.) ENCASED IN FLEXIBLE TUBING
861104	900	L.F.	FURNISH AND INSTALL 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) (ALUMINUM SHIELDED).
861105	480	L.F.	FURNISH AND INSTALL 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.).
861106	480	L.F.	FURNISH AND INSTALL 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.).
861107	90	L.F.	FURNISH AND INSTALL 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) TYPE THHN TRAY CABLE
861108	1540	L.F.	FURNISH AND INSTALL 7-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
861116	410	L.F.	FURNISH AND INSTALL 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.).
861117	50	L.F.	FURNISH AND INSTALL 3-WIRE ELECTRICAL CABLE (NO. 4 A.W.G.)
831010	2	EA.	FURNISH AND INSTALL 250W-HPS LUMINAIRE.
866103	2	EA.	FURNISH AND INSTALL 15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE.
865001	2	EA.	FURNISH AND INSTALL PUSHBUTTON AND SIGN.
818031	1	EA.	FURNISH AND INSTALL 27' STEEL POLE WITH A 38' MAST ARM. (NOTE: 4 ANCHOR BOLTS WILL BE 1 3/4" x 90".)
800000	1	EA.	FURNISH AND INSTALL 27' STEEL POLE WITH TWIN 50'-70' MAST ARM (NOTE: 4 ANCHOR BOLTS WILL BE 2"x 90".)
868003	2	EA.	FURNISH AND INSTALL 10' STEEL PEDESTAL POLE. (NOTE: 4 ANCHOR BOLTS WILL BE 1" x 40".)
800000	4	EA.	FURNISH AND INSTALL MICROLOOP TRIPLE PROBE SET WITH 500 FOOT LEAD-IN.

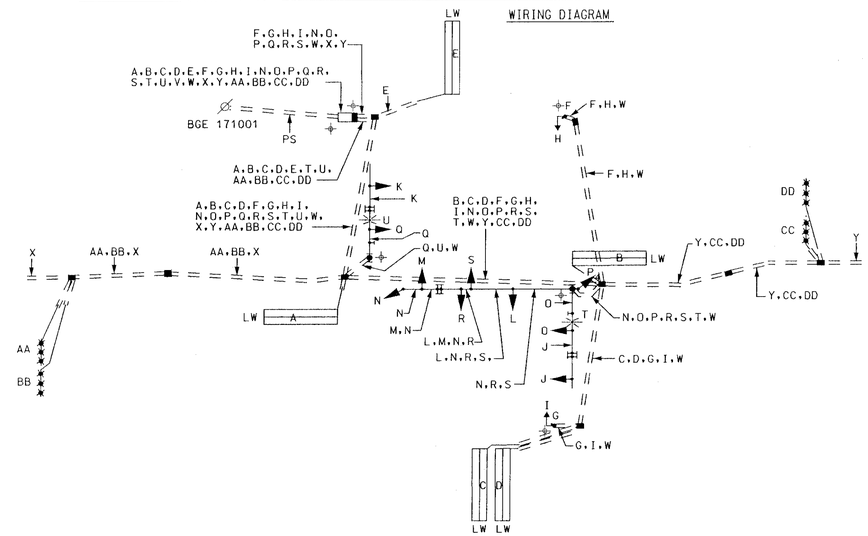
C. MATERIAL TO BE REMOVED AND RETURNED TO THE STATE HIGHWAY ADMINISTRATION.

ALL REMOVED SIGNAL MATERIALS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11-12
PHASE 1 & 5	◄G-R	◄G-R	R	◄G-R	◄G-R	R	R	R	R	R	DW
1 & 5 CHANGE	THE CONTROLLER MAY SKIP TO PHASES 1 & 6, 2 & 5, OR 2 & 6										
PHASE 1 & 6	◄G-G	◄G-G	G	R	R	R	R	R	R	R	DW
1 & 6 CHANGE	◄Y-G	◄Y-G	G	R	R	R	R	R	R	R	DW
PHASE 2 & 5	R	R	R	◄G-G	◄G-G	G	R	R	R	R	DW
2 & 5 CHANGE	R	R	R	◄Y-G	◄Y-G	G	R	R	R	R	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	DW
8 ALT	R	R	R	R	R	R	G	G	G	G	WK
PED CLEAR	R	R	R	R	R	R	G	G	G	G	FL/DW
8 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK

WIRING DIAGRAM



WIRING KEY

A.B.C.D.E	- 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) (ALUMINUM SHIELDED)
F.G	- 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
H.I	- 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
J.K.L.M	- 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
N.O.P.Q.R.S.	- 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
T.U	- 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TYPE THHN TRAY CABLE
V	- 3-WIRE ELECTRICAL CABLE (NO. 6 A.W.G.)
W	- STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
X.Y	- 12-PAIR, VOICE GRADE TELEMETRY CABLE (NO. 19 A.W.G.)(JELLY FILLED)
AA.BB.CC.DD	- MIRCOLOOP PROBE WIRE
LW	- LOOP WIRE (NO. 14 A.W.G.)
PS	- PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY BGE
⏚	- GROUND ROD

3 REDLINE NO. 3 10/31/01

REVISIONS

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS - PLANNERS
32 WEST ROAD
TOWSON, MARYLAND 21204

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
MD 150 (EASTERN BOULEVARD) AND ORVILLE ROAD
ESSEX, MARYLAND

DRAWN BY:	J. HENDERSON, JR.	F.A.P. NO.		TS NO. TS 4150	SHEET NO.
CHECKED BY:	T . HOLLOWAY	S.H.A. NO.	BA2405I77		
SCALE:	1" = 20'	COUNTY:	BALTIMORE	T.I.M.S. NO. F010	108C OF 128
DATE:	9-17-01	LOG MILE:	030I50005.04		

o:*TRANSDWG*96055*GG01gnst.dgn 01/22/02