

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal at the intersection of US 301 (Crain Hwy.) and Beech Tree Pkwy./ Swanson Rd. in Prince George's Co., Maryland. US 301 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA six (6) phase, full-traffic-actuated mode. There will be an exclusive left turn phase for both the north and southbound movements of US 301. The US 301 through movements will operate concurrently. The Beech Tree Pkwy./ Swanson Rd. through movements will operate concurrently.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, video detection equipment, and (2) four-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

III. SPECIAL NOTES:

All internal cabinet wiring shall be performed by the SHA Signal Shop. Contractor shall contact Ed Rodenhizer 72 hours prior to construction.

PROJECT CONTACTS

DISTRICT 3 CONTACTS:

MS. FELECIA MURPHY, ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 513-7404
MR. DUANE BERNARD, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: (301) 513-7336
MR. VERNON STINNETT, ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 615-7304
MR. VICTOR GRAFTON, ASSISTANT DISTRICT UTILITIES ENGINEER
PHONE: (301) 513-7350

OFFICE OF TRAFFIC AND SAFETY CONTACTS:

MR. RICHARD L. DAFF, SR. CHIEF TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630
MR. EDWARD RODENHIZER, SUPERVISOR, SIGNAL OPERATIONS
PHONE: (410) 787-7652

POWER COMPANY REPRESENTATIVE IS:

HENRY SMIT
BALTIMORE GAS & ELECTRIC
7317 PARKWAY DRIVE SOUTH
HANOVER, MD 21076
410-859-9070
WMS# 1905587

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.
NONE.

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

QUANTITY	UNITS	DESCRIPTION	QUANTITY	UNITS	DESCRIPTION
LUMP SUM	LS	MAINTENANCE OF TRAFFIC	LUMP SUM	LS	MAINTENANCE OF TRAFFIC
LUMP SUM	LS	MOBILIZATION	LUMP SUM	LS	MOBILIZATION
1	EA	27 FT. STEEL MAST ARM POLE WITH 38 FT. MAST ARM	5	CY	TEST PIT EXCAVATION
1	EA	27 FT. STEEL MAST ARM POLE WITH 60 FT. MAST ARM	5	EA	HANDHOLE
2	EA	27 FT. STEEL MAST ARM POLE WITH 70 FT. MAST ARM	75	LF	1-CONDUCTOR CABLE (NO. 4 AWG)
3	EA	20 FT. LUMINARIES ARM	900	LF	2-CONDUCTOR TRAY CABLE (NO.12 AWG)
3	EA	250W HPS LAMP AND LUMINARIES	150	LF	5-CONDUCTOR CABLE (NO. 14 AWG)
1	EA	STANDARD S.H.A. TRAFFIC SIGNAL CONTROLLER, BASE MOUNTED NEMA 6 CABINET, VIDEO DETECTION INTERFACE, TELEMETRY INTERFACE EQUIPMENT, AND TWO (2) FOUR-CHANNEL LOOP DETECTOR AMPLIFIERS (Note: CONTROLLER AND CABINET SHALL BE PURCHASED FROM ECONOLITE AND DELIVERED TO THE S.H.A. SIGNAL SHOP FOR WIRING AND TESTING. CONTACT MR. ED RODENHIZER (410) 787-7650)	3550	LF	7-CONDUCTOR CABLE (NO. 14 AWG)
4	EA	TERRA VIDEO DETECTOR CAMERA	475	LF	BARE COPPER GROUND WIRE (NO. 6 AWG)
1550	LF	TERRA VIDEO DETECTOR CAMERA CABLE	30	LF	2 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
5	EA	NON-INVASIVE PROBE (SET OF 3) WITH 1000 FT. LEAD-IN CABLE	110	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
12	EA	12 IN. 3-SECTION LED SIGNAL HEAD - MAST	100	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - BORED
4	EA	12 IN. 3-SECTION LED SIGNAL HEAD (RA,YA,GA) - MAST	370	LF	4 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
1	EA	30 IN. X 36 IN. R3-5(R) REGULATORY SIGN - MAST ARM	300	LF	4 IN. PVC CONDUIT [SCHEDULE 80] - BORED
2	EA	20 IN. X VAR. D-3(1) DUAL FACED SIGN - MAST ARM	13.5	CY	CONCRETE FOUNDATION FOR TRAFFIC SIGNAL EQUIPMENT
2	EA	30 IN. X 48 IN. SHIELD ASSEMBLY - POLE MOUNT	9	EA	GROUND ROD - 3/4 IN. X 10 FT. LENGTH
2	EA	48 IN. X 72 IN. SHIELD ASSEMBLY - POLE MOUNT	1	EA	CONTROL & DISTRIBUTION EQUIPMENT FOR ELECTRICAL SERVICE
2	EA	72 IN. X 120 IN. D3-2(2) SIGN - GROUND MOUNT	220	LF	24 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - STOP LINE
4	EA	48 IN. X 48 IN. W3-3 "NEW" SIGN - GROUND	4	LF	REMOVE EXISTING GROUND MOUNTED SIGN
165	LF	4 IN. X 6 IN. WOOD SIGN SUPPORTS	1	EA	FIBER OPTIC BULKHEAD WITH CABLE
28.75	LF	W6X9 I-BEAM FOR GROUND MOUNT SIGNS	1	EA	FIBER OPTIC MODEM
33.50	LF	W6X12 I-BEAM FOR GROUND MOUNT SIGNS	1	EA	FIBER OPTIC MODEM CABLE
4	EA	STEEL SIGN SUPPORT BREAK-A-WAY KIT	1	EA	FIBER OPTIC TELEMETRY MODULE
			1	EA	FIBER OPTIC TELEMETRY INTERFACE PANEL
			1	EA	FIBER OPTIC TELEMETRY INTERFACE CABLE
			1	EA	FIBER OPTIC SPLICER
			4.6	CY	CONCRETE FOUNDATION FOR GROUND MOUNTED SIGNS

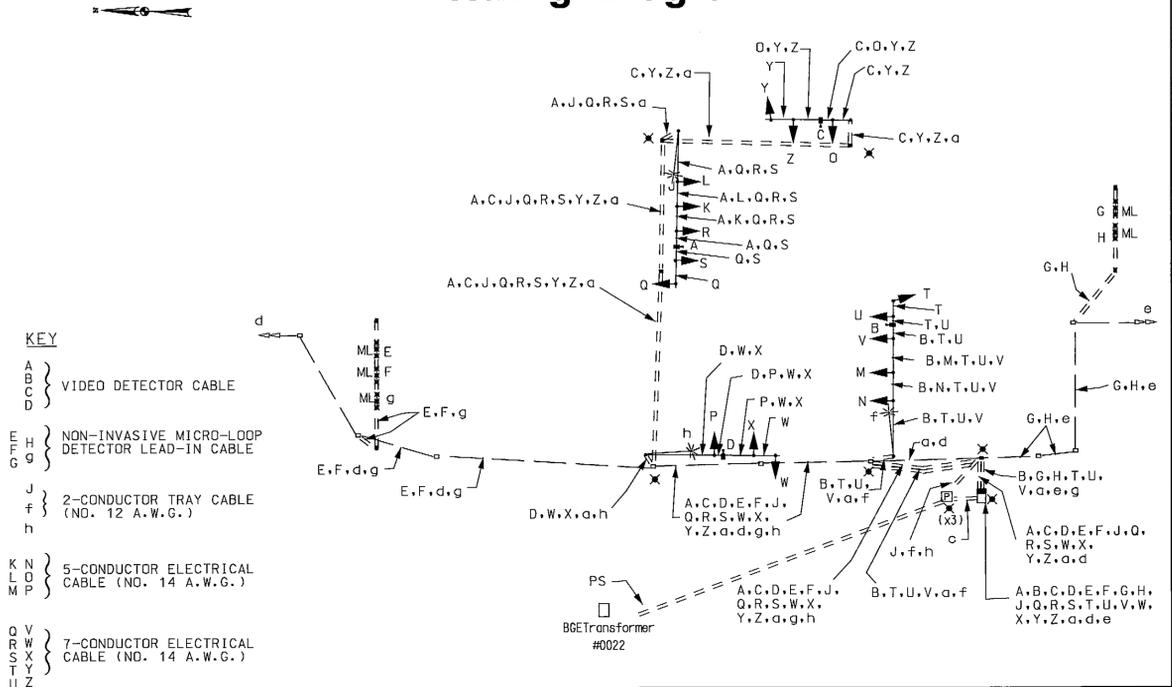
GENERAL NOTES

- VIDEO CAMERA LOCATION/ALIGNING SHALL BE COORDINATED WITH THE SHA ENGINEER.
- THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE AND CABINET LOCATIONS PRIOR TO INSTALLATION.
- PAVEMENT MARKINGS DETAILED ARE PROPOSED AND ARE TO BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH MD-SHA STANDARDS. ALL OTHER PAVEMENT MARKINGS ARE TO BE CONSIDERED AS EXISTING.
- GEOMETRICS SHALL BE CONFIRMED PRIOR TO THE INSTALLATION OF SIGNAL EQUIPMENT. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
- ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.

Phase Chart

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1 AND 5	←G-	←G-	R	R	R	←G-	←G-	R	R	R	R	R	R	R	R	R
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																
PHASE 1 AND 6	←G-	←G-	G	G	←R-	←R-	R	R	R	R	R	R	R	R	R	R
1 CHANGE	←Y-	←Y-	Y	Y	←R-	←R-	R	R	R	R	R	R	R	R	R	R
PHASE 2 AND 5	←R-	←R-	R	R	R	←G-	←G-	G	G	R	R	R	R	R	R	R
5 CHANGE	←R-	←R-	R	R	R	←Y-	←Y-	G	G	R	R	R	R	R	R	R
PHASE 2 AND 6	←R-	←R-	G	G	G	←R-	←R-	G	G	R	R	R	R	R	R	R
2 AND 6 CHANGE	←R-	←R-	Y	Y	Y	←R-	←R-	Y	Y	R	R	R	R	R	R	R
PHASE 4 AND 8	←R-	←R-	R	R	R	←R-	←R-	R	R	R	G	G	G	G	G	G
4 AND 8 CHANGE	←R-	←R-	R	R	R	←R-	←R-	R	R	R	Y	Y	Y	Y	Y	Y
FLASHING OPERATION	←FL	←FL	FL/Y	FL/Y	FL/Y	←FL	←FL	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R

Wiring Diagram



- KEY**
- A } VIDEO DETECTOR CABLE
 - B } VIDEO DETECTOR CABLE
 - C } VIDEO DETECTOR CABLE
 - D } VIDEO DETECTOR CABLE
 - E } NON-INVASIVE MICRO-LOOP DETECTOR LEAD-IN CABLE
 - F } NON-INVASIVE MICRO-LOOP DETECTOR LEAD-IN CABLE
 - G } NON-INVASIVE MICRO-LOOP DETECTOR LEAD-IN CABLE
 - H } NON-INVASIVE MICRO-LOOP DETECTOR LEAD-IN CABLE
 - J } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
 - K } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
 - L } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
 - M } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
 - N } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
 - P } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
 - Q } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - R } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - S } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - T } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - U } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - V } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - W } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - X } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - Y } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - Z } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
 - a } BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
 - b } BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
 - c } 1-CONDUCTOR (NO. 4 A.W.G.) 3 PIECES. FOR TRAFFIC ELECTRICAL SERVICE
 - d } EXISTING INTERCONNECT CABLE (LEELAND ROAD - BEECH TREE PARKWAY/SWANSON ROAD RUN)
 - e } EXISTING INTERCONNECT CABLE (VILLAGE DRIVE - BEECH TREE PARKWAY/SWANSON ROAD RUN)
 - f } PROPOSED UNDERGROUND ELECTRICAL SERVICE BY BGE
 - g } PROPOSED UNDERGROUND ELECTRICAL SERVICE BY BGE
 - h } PROPOSED UNDERGROUND ELECTRICAL SERVICE BY BGE
 - x } PROPOSED GROUNDING ROD
 - ml } MICRO-LOOP DETECTOR (NON-INVASIVE)

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
US 301 at Beech Tree Parkway/Swanson Rd
Upper Marlboro, Maryland

GENERAL INFORMATION SHEET			
SCALE	NA	DATE	OCTOBER 7, 2010
CONTRACT NO.	BW996M82		
DESIGNED BY	FRANK HOECKEL	COUNTY	PRINCE GEORGE'S
DRAWN BY	FRANK HOECKEL	LOGMILE	
CHECKED BY		TIMS NO.	G712
F.A.P. NO.	NA	TOD NO.	
TS NO.	4441	DRAWING	GI-01 OF 01
		SHEET NO.	2 OF 3

BY: F.Hoeckel

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