PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE MODIFICATION OF THE TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 26 (LIBERTY ROAD) AT MD 355 (ROUTZAHNS WAY) IN FREDERICK COUNTY. IMPROVEMENTS ARE PROPOSED TO MD 26 AS WELL AS WORMANS MILL ROAD. ONLY PHASE I OF THE WORMANS MILL ROAD IMPROVEMENTS ARE BEING CONSTRUCTED AT THIS TIME. PHASE II IS SHOWN FOR REFERENCE ONLY AND MAY BE REVISED. VIDEO DETECTION IS PROPOSED FOR ALL PRESENCE DETECTION AND NON-INVASIVE MICROLOOP PROBES ARE ALSO PROPOSED FOR SETBACK DETECTION ALONG MD 26 IN THE WESTBOUND DIRECTION AND SOUTHBOUND DIRECTION ON WORMANS MILL ROAD. ALL PROPOSED TRAFFIC SIGNAL HEADS WILL BE LED. MD 26 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC ACTUATED MODE.

CONTROLLER REQUIREMENTS

INSTALL A NEMA SIZE '6' BASE MOUNTED CABINET. THE SHA SIGNAL SHOP WILL INSTALL A NEW EIGHT-PHASE FULLY ACTUATED TRAFFIC CONTROLLER WITH ONE (1) 2 WIRE CENTRAL CONTROL UNIT, 1 (1) VIDEO INTERFACE EQUIPMENT, AND 4-CHANNEL LOOP DETECTOR AMPLIFIER.

THE EXISTING POLE-MOUNTED CABINET WILL BE REMOVED.

PHONE DROP

NONE

THE CONTACT PERSONS FOR DISTRICT #7/OOTS ARE AS FOLLOWS:

District #7

Mr. John Concannon
Assistant District Engineer - Traffic
Phone: 301-624-8141

Ms. Andrea Abend
District Utility Engineer
Phone: 301-624-8115

Mr. Raymond Johnson
Assistant District Engineer - Maintenance
Phone: 301-624-8106

Mr. John Huchrowski
Assistant District Engineer - Construction
Phone: 301-624-8201

Office of Traffic & Safety

Mr. Richard L. Daff Sr.
Chief, Traffic Operations Division
Phone: 410-787-7630

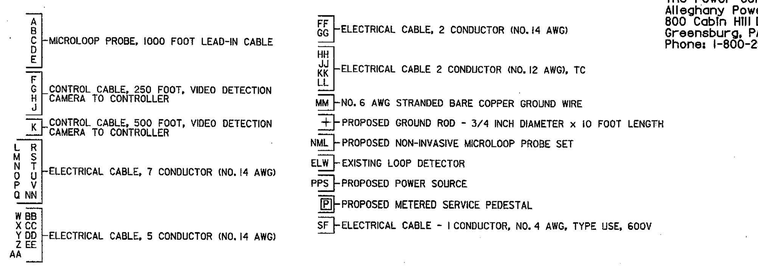
Mr. Robert Snyder
Assistant Division Chief, Traffic Operations
Phone: 410-787-7630

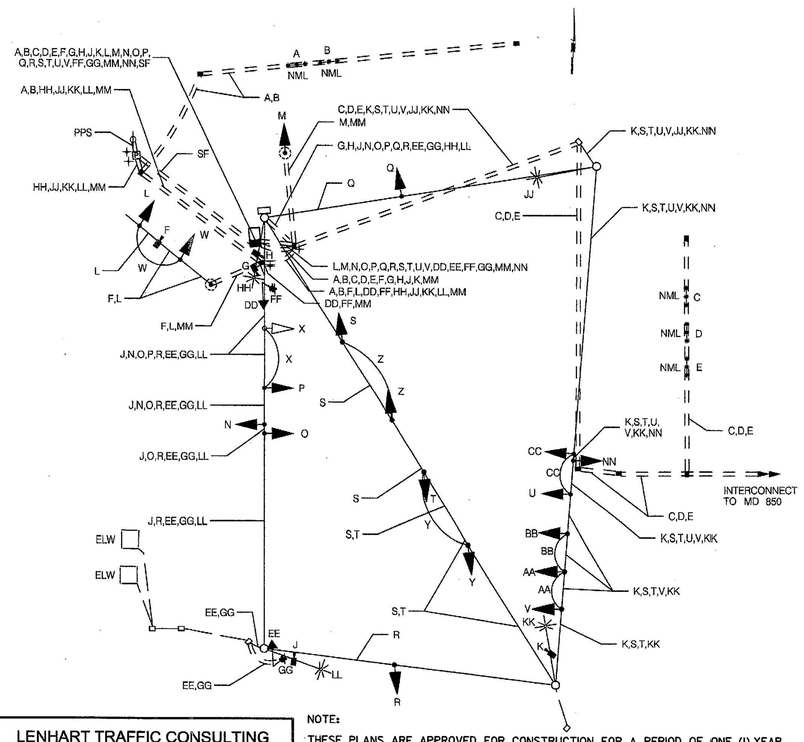
Mr. Edward Rodenhizer
Chief, SHA Traffic Signal Shop
Phone: 410-787-7650

Mr. Eugene Bailey
Chief, SHA Sign Operation
410-787-7670

The Power Company Representative is:
Alleghany Power
800 Cabin Hill Drive
Greensburg, PA 15601
Phone: 1-800-255-3443

WIRING DIAGRAM





NOTE:

THESE PLANS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF ONE (1) YEAR. SHOULD CONSTRUCTION NOT BEGIN WITHIN THIS TIME FRAME, THESE PLANS SHALL BE NULL AND VOID WITH A RE-REVIEW REQUIRED FROM THE TRAFFIC ENGINEERING DESIGN DIVISION.

EAPD PERMIT NO. _____

LENHART TRAFFIC CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

331 Redwood Grove Court Millersville, Maryland 21108
Tel: (410) 987-3888 Fax: (443) 782-2288

EQUIPMENT LIST 'A'

EQUIPMENT TO BE SUPPLIED BY THE SHA

CAT CODE	QUANTITY	DESCRIPTION
NONE		

EQUIPMENT LIST 'B'

APPROVED SHA EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

CAT CODE	QUANTITY	DESCRIPTION
800000	1 EA	FURNISH AND INSTALL EIGHT-PHASE FULLY-ACTUATED CONTROLLER HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET WITH ALL NECESSARY EQUIPMENT
800000	2 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	2 EA	ACCESSIBLE PEDESTRIAN PUSHBUTTON AND SIGN
800000	1 EA	2-WIRE CENTRAL CONTROL UNIT
800000	1 EA	VIDEO DETECTION CAMERA INTERFACE (5-8 CAMERAS)
800000	45 SF	FURNISH AND INSTALL SHEET ALUMINUM SIGNS - MAST ARM/GROUND MOUNT 3 EA - R3-5L (30"x36") 1 EA - R3-6L (30"x36") 2 EA - R3-5R (30"x36") 1 EA - D3-2 "ROUTZAHNS WAY ARROW" DUAL-FACED (VARx16") 2 EA - R10-3(1) "PUSH BUTTON TO CROSS LIBERTY ROAD"
807202	1 EA	METERED SERVICE PEDESTAL
810605	5 EA	NON-INVASIVE MICROLOOP PROBE, 1000 FOOT LEAD-IN CABLE
816001	5 EA	VIDEO DETECTION CAMERA (ECONOLITE TERRA TYPE)
816005	4 EA	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
816010	1 EA	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818004	1 EA	10 FOOT BREAKAWAY PEDESTAL POLE
818006	1 EA	20 FOOT BREAKAWAY PEDESTAL POLE
818030	1 EA	27 FOOT STEEL POLE WITH 38 FOOT MAST ARM
860274	3 EA	12 INCH OPTICALLY PROGRAMMED TRAFFIC SIGNAL HEAD SECTION
860284	27 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION

EQUIPMENT LIST 'C'

EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

CAT CODE	QUANTITY	DESCRIPTION
120500	1 LS	MAINTENANCE OF TRAFFIC
203030	3 CY	TEST PIT EXCAVATION
585462	150 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
585620	350 LF	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585624	175 LF	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
800000	1 EA	4 INCH BEND IN EXISTING SIGNAL FOUNDATION
800000	1 LS	REMOVE AND DISPOSE OF EXISTING TRAFFIC SIGNAL EQUIPMENT
800000	2 EA	RELOCATE EXISTING LIGHTING ARM
801004	6 CY	CONCRETE FOR SIGNAL FOUNDATION
802501	150 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805115	200 LF	3 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED
805125	20 LF	2 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
805135	600 LF	3 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
805140	50 LF	4 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
805145	40 LF	2 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - SLOTTED
805155	200 LF	4 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - SLOTTED
811011	9 EA	ELECTRICAL HANDHOLE
822500	1 EA	AS BUILT FOR SHA ON CADD
832017	40 LF	1 CONDUCTOR, NO. 4 AWG, TYPE USE, 600V
837001	4 EA	GROUND ROD - 3/4 INCH DIAMETER BY 10 FOOT LENGTH
860265	2 EA	RELOCATE EXISTING SIGNAL HEAD
861105	500 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	400 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	1200 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	1900 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC
869102	150 LF	STEEL SPAN WIRE - 3/8 INCH DIAMETER

EQUIPMENT LIST 'D'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

CAT CODE	QUANTITY	DESCRIPTION
NONE - ALL EQUIPMENT REMOVED 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	
PHASE 1 + 5	~~G~~	~~G~~	~~G~~	R	R	R	~~G~~	~~G~~	R	R	R	R	R	R	R	R	~~G~~	~~G~~	~~G~~	DW	DW	
PHASE 1 + 5 CHANGE	THE CONTROLLER MAY SKIP TO PHASE 1 + 6, 2 + 5 OR 2 + 6																			DW	DW	
PHASE 1 + 6	~~G~~	~~G~~	~~G~~	G	G	G	~~R~~	~~R~~	R	R	R	R	R	R	R	R	~~G~~	~~G~~	~~G~~	DW	DW	
PHASE 1 CHANGE	~~Y~~	~~Y~~	~~Y~~	G	G	G	~~R~~	~~R~~	R	R	R	R	R	R	R	R	~~Y~~	~~Y~~	~~Y~~	DW	DW	
PHASE 2 + 5	~~R~~	~~R~~	~~R~~	R	R	R	~~G~~	~~G~~	G	G	R	R	R	R	R	R	~~R~~	~~R~~	~~R~~	DW	DW	
PHASE 5 CHANGE	~~R~~	~~R~~	~~R~~	R	R	R	~~Y~~	~~Y~~	G	G	R	R	R	R	R	R	~~R~~	~~R~~	~~R~~	DW	DW	
PHASE 2 + 6	~~R~~	~~R~~	~~R~~	G	G	G	~~R~~	~~R~~	G	G	R	R	R	R	R	R	~~R~~	~~R~~	~~R~~	DW	DW	
PHASE 2 + 6 CHANGE	~~R~~	~~R~~	~~R~~	Y	Y	Y	~~R~~	~~R~~	Y	Y	R	R	R	R	R	R	~~R~~	~~R~~	~~R~~	DW	DW	
PHASE 3	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	R	R	G/~~G~~	G/~~G~~	G	R	R	R	~~R~~	~~R~~	~~R~~	DW	DW	
PHASE 3 CHANGE	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	R	R	Y	Y	Y	R	R	R	~~R~~	~~R~~	~~R~~	DW	DW	
PHASE 4	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	R	R	R	R	R	G/~~G~~	C/~~G~~	G	~~G~~	~~G~~	~~G~~	DW	DW	
PHASE 4 CHANGE	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	R	R	R	R	R	Y	Y	Y	~~G~~	~~G~~	~~G~~	DW	DW	
PHASE 4 ALT	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	R	R	R	R	R	G/~~G~~	C/~~G~~	G	~~G~~	~~G~~	~~G~~	W	W	
PEDESTRIAN CLEARANCE	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	R	R	R	R	R	G	G	G	~~G~~	~~G~~	~~G~~	FL/DW	FL/DW	
PHASE 4 ALT CHANGE	~~R~~	~~R~~	~~R~~	R	R	R	~~R~~	~~R~~	R	R	R	R	R	Y	Y	Y	~~G~~	~~G~~	~~G~~	DW	DW	
FLASHING OPERATION	FL/RA	FL/RA	FL/RA	FL/Y	FL/Y	FL/Y	FL/RA	FL/RA	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/RA	FL/RA	FL/RA	DARK	DARK	

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

MD 26 (LIBERTY ROAD) AT
MD 355 (WORMANS MILL ROAD/ROUTZAHNS WAY)

GENERAL INFORMATION

SCALE NONE DATE DECEMBER 2009 CONTRACT NO. BW996M82

DESIGNED BY MML
DRAWN BY MML
CHECKED BY MML
F.A.P. NO. NA

COUNTY FREDERICK
LOGMILE 10002800.77
T.I.M.S. NO. KO17
TOD NO. _____

DRAWING NO. TS-1424-G-GI OF | SHEET NO. OF

PLOTTED: TUESDAY, DECEMBER 08, 2009 AT 11:16 PM