PROJECT DESCRIPTION

GENERAL
THIS PORTION OF THE PROJECT INVOLVES THE CONSTRUCTION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF US 40 ALT (BALTIMORE AVENUE) AT THE INTERSTATE 68 WESTBOUND OFF-RAMP IN ALLEGANY COUNTY. PAVEMENT MARKING MODIFICATIONS ARE PROPOSED TO EXTEND THE WESTBOUND LEFT-TURN LANE. VIDEO DETECTION IS PROPOSED FOR ALL PRESENCE DETECTION. NON-INVASIVE MICROLOOP PROBES ARE ALSO PROPOSED FOR SETBACK DETECTION ALONG US 40 ALT/MD 639 AS WELL AS THE INTERSTATE 68 OFF RAMP. A QUEUE DETECTOR WILL ALSO BE INSTALLED ALONG THE INTERSTATE 68 OFF RAMP. US 40 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION
THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE, FULL-TRAFFIC ACTUATED MODE. EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING WILL BE PROVIDED ON MD 639. THE SIDE STREET WILL OPERATE WITH PERMISSIVE LEFT-TURN PHASING.

CONTROLLER REQUIREMENTS
INSTALL A NEMA SIZE 6 BASE MOUNTED TRAFFIC SIGNAL CONTROLLER WITH ALL OF THE NECESSARY EQUIPMENT AND HARNESSES, VIDEO DETECTION CAMERA INTERFACE AS WELL AS A 4-CHANNEL LOOP DETECTOR AMPLIFIER.

PHONE DROP
THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE INSTALLATION OF THE PHONE DROP. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

THE CONTACT PERSONS FOR DISTRICT #6/OOTS ARE AS FOLLOWS:

District #6

Mr. George Small
Assistant District Engineer - Traffic
Phone: 301-729-8444

Mr. David Felker
District Utility Engineer
Phone: 301-729-8439

Mr. Anthony Crawford
Assistant District Engineer - Maintenance
Phone: 301-729-8457

Mr. John True
Assistant District Engineer - Construction
Phone: 301-729-8411

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

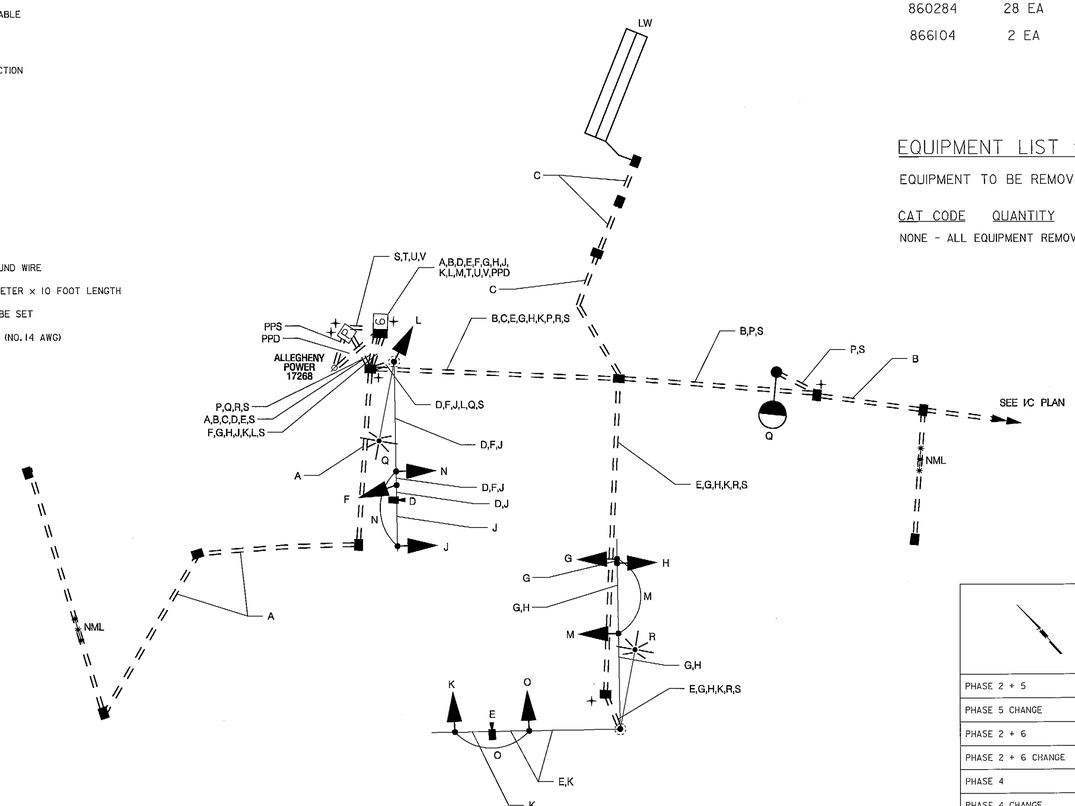
Mr. Eugene Bailey
Team Leader Sign Operation
410-787-7670

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

City of Cumberland Contact is:
Department of Public Works
215 Bowen Street
P.O. Box 1702
Cumberland, MD 21502
Phone: 301-759-6620

WIRING DIAGRAM

- A, B — MICROLOOP PROBE, 500 FOOT LEAD-IN CABLE
- C — ELECTRICAL CABLE, 2 CONDUCTOR ALUMINUM SHIELDED
- D, E — CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
- F, G, H, J, K, L — ELECTRICAL CABLE, 7 CONDUCTOR (NO.14 AWG)
- M, N, O — ELECTRICAL CABLE, 5 CONDUCTOR (NO.14 AWG)
- P, Q, R — ELECTRICAL CABLE, 2 CONDUCTOR (NO.12 AWG), TC
- S — NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
- + — PROPOSED GROUND ROD - 3/4 INCH DIAMETER x 10 FOOT LENGTH
- NML — PROPOSED NON-INVASIVE MICROLOOP PROBE SET
- LW — LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO.14 AWG)
- PPD — PROPOSED PHONE DROP
- T, U, V — ELECTRICAL CABLE - 3 WIRE NO. 8 AWG
- P — PROPOSED METERED SERVICE PEDESTAL
- PPS — PROPOSED OVERHEAD POWER SERVICE TO BE MADE BY ALLEGHENY POWER



EQUIPMENT LIST 'A'

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	EIGHT-PHASE FULLY-ACTUATED CONTROLLER HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET WITH ALL NECESSARY HARNESSES
800000	1 EA	4-CHANNEL LOOP DETECTOR AMPLIFIER
800000	1 EA	VIDEO DETECTION CAMERA INTERFACE (1-4 CAMERAS)
800000	34 SF	FURNISH AND INSTALL SHEET ALUMINUM SIGNS - MAST ARM/GROUND MOUNT
		2 EA - W3-3 (36"x36")
		2 EA - D95-25 (24"x24")
		1 EA - R3-5L (30"x36")
800000	3 EA	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
807202	1 EA	METERED SERVICE PEDESTAL
810601	2 EA	NON-INVASIVE MICROLOOP PROBE, 500 FOOT LEAD-IN CABLE
816001	2 EA	VIDEO DETECTION CAMERA
816005	2 EA	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818036	1 EA	STEEL POLE WITH 50 FOOT MAST ARM
818052	1 EA	STEEL POLE WITH TWIN 50/50 FOOT MAST ARMS
831010	2 EA	250 WATT HPS LAMP AND LUMINAIRE
860284	28 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
866104	2 EA	20 FOOT LIGHTING ARM ON TRAFFIC SIGNAL STRUCTURE

EQUIPMENT LIST 'C'

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
PHASE 2 + 5	R	R	R	R/G	R/G	G	R	R	R
PHASE 5 CHANGE	R	R	R	Y/G	Y/G	G	R	R	R
PHASE 2 + 6	G	G	G	G	G	G	R	R	R
PHASE 2 + 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R
PHASE 4	R	R	R	R	R	R	G	G	G
PHASE 4 CHANGE	R	R	R	R	R	R	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R

EQUIPMENT LIST 'B'

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	4 CY	TEST PIT EXCAVATION
585412	150 LF	12 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
585424	65 LF	24 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
545462	25 LF	REMOVAL OF EXISTING PAVEMENT LINE MARKINGS - ANY WIDTH
634100	30 LF	STANDARD TYPE A CURB 8 INCH X 16 INCH
634300	130 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
655105	1200 SF	5 INCH CONCRETE SIDEWALK
655120	80 SF	DETECTABLE WARNING SURFACE FOR CURB RAMPS
800000	1 LS	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
800000	1 EA	RELOCATE EXISTING LIGHT POLE, ARM AND LUMINAIRE
801003	2 CY	CONCRETE FOR LIGHTING FOUNDATION
801004	8 CY	CONCRETE FOR SIGNAL FOUNDATION
801106	40 LF	WOOD SIGN SUPPORTS, 4 INCH X 6 INCH
802501	400 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805115	130 LF	3 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED
805118	270 LF	4 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED
805125	50 LF	2 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
805135	950 LF	3 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
805140	50 LF	4 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED
805150	40 LF	3 INCH SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - SLOTTED
805160	20 LF	1 INCH LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
811001	13 EA	ELECTRICAL HANDHOLE
822500	1 EA	AS BUILT FOR SHA ON CADD
837001	6 EA	GROUND ROD - 3/4 INCH DIAMETER BY 10 FOOT LENGTH
861102	50 LF	ELECTRICAL CABLE - 3 WIRE NO. 8 AWG
861104	650 LF	ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861107	100 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO.14 AWG)
861108	1100 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO.14 AWG)
861116	700 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO.12 AWG), TC
862101	450 LF	LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO.14 AWG)
862102	130 LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)

LENHART TRAFFIC CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING
331 Redwood Grove Court Millersville, Maryland 21108
Tel: (410) 987-3888 Fax: (443) 782-2288

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

WILLOW BROOK ROAD (US 40 ALT/MD 639) AT I-68 WESTBOUND RAMPS

GENERAL INFORMATION

SCALE NONE DATE FEBRUARY 2009 CONTRACT NO. BW996M82

DESIGNED BY MML COUNTY ALLEGANY
DRAWN BY MML LOGMILE 010040A13.58
CHECKED BY MML T.I.M.S. NO. J332
F.A.P. NO. N /A TOD NO.

DRAWING NO. TS-4703-GI OF SHEET NO. OF