PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE TRAFFIC CONTROL SIGNAL AT US 40 ALT AND MD 17 IN FREDERICK COUNTY TO PROVIDE PEDESTRIAN INDICATIONS ON ALL LEGS. THE STOP LINES WILL ALSO BE SET BACK TO IMPROVE THE RIGHT TURNING RADIUS ON THE NORTH, SOUTH AND WEST LEGS. NEARSIDE SIGNALS WILL BE INSTALLED FOR THE NORTH, SOUTH AND WEST APPROACHES TO MAINTAIN SIGNAL HEAD VISIBILITY. THE EXISTING STRUCTURE IN THE NORTHWEST QUADRANT WILL BE MODIFIED TO ALLOW FOR INSTALLATION OF A LIGHTING ARM AND LUMINAIRE. VIDEO DETECTION IS PROPOSED TO REPLACE ALL EXISTING LOOP DETECTORS.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FOUR PHASE SEMI-ACTUATED MODE WITH PERMISSIVE LEFT TURN PHASING FOR ALL MOVEMENTS. CONCURRENT PHASING WILL BE PROVIDED FOR THE MAIN LINE AND SIDE STREET. PEDESTRIAN PUSHBUTTONS ARE PROVIDED TO CROSS THE EAST AND WEST LEGS OF US 40 ALT.

CONTROLLER REQUIREMENTS

THE EXISTING POLE-MOUNTED TRAFFIC SIGNAL CONTROLLER, LOOP DETECTOR AMPLIFIERS, PHONE DROP, AND ASSOCIATED HARNESSES WILL REMAIN. VIDEO DETECTION IS PROPOSED FOR PRESENCE DETECTION ON MD 17. THE SHA SIGNAL SHOP WILL INSTALL THE VIDEO DETECTION INTERFACE EQUIPMENT IN THE EXISTING CABINET.

THE CONTACT PERSONS FOR DISTRICT #7 ARE AS FOLLOWS:

Mr. John Concannon
Assistant District Engineer - Traffic
Phone: 301-624-8140

Mr. James Buckalew
District Utility Engineer
Phone: 301-624-8115

Mr. Dave Coyne
Assistant District Engineer - Maintenance
Phone: 301-624-8105

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

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

The Power Company Representative is:
Allegheny Power
Daniel Keister
Phone: 301-694-4414
421 East Patrick Street
Frederick, Maryland 21705-0488

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

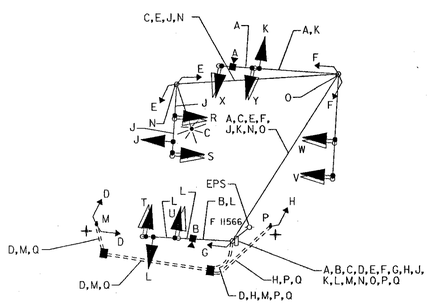
CAT CODE	QUANTITY	DESCRIPTION
9086	1 EA	[UPDATED] VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
9570	53 SF	[UPDATED] SHEET ALUMINUM GROUND MOUNTED SIGN:
		3 EACH - R10-6a (24 IN. X 30 IN.)
		1 EACH - SHIELD ASSEMBLY (24 IN. X 63 IN.)
		1 EACH - SHIELD ASSEMBLY (24 IN. X 51 IN.)
		1 EACH - SHIELD ASSEMBLY (36 IN. X 75 IN.)
9571	97 SF	[UPDATED] SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGN:
		3 EACH - R10-11b SIGN (24 IN. X 24 IN.)
		1 EACH - SHIELD ASSEMBLY (24 IN. X 63 IN.)
		1 EACH - SHIELD ASSEMBLY (24 IN. X 51 IN.)
		2 EACH - SHIELD ASSEMBLY (36 IN. X 90 IN.)
		1 EACH - SHIELD ASSEMBLY (36 IN. X 75 IN.)

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
1001	2 EA	MAINTENANCE OF TRAFFIC
2002	1 CY	TEST PIT EXCAVATION
5004	35 LF	24 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
5005	190 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
8001	16 EA	12 INCH PEDESTRIAN SIGNAL HEAD
8003	1 EA	15 FOOT LIGHTING ARM ON EXISTING STRUCTURE
8009	2 EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8011	4 EA	PUSHBUTTON AND SIGN
8013	1 EA	REMOVE AND DISPOSE OF EQUIPMENT
8019	175 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)
8021	2 CY	CONCRETE FOR SIGNAL FOUNDATION
8022	45 LF	WOOD SIGN SUPPORTS 4 INCH x 4 INCH
8023	110 LF	NO. 6 AWG STRANDED BASE COPPER GROUND WIRE
8029	50 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
8033	40 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
8041	2 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8042	53 SF	INSTALL GROUND MOUNTED SIGN
8043	97 SF	INSTALL OVERHEAD SIGN
8044	2 EA	VIDEO DETECTION CAMERA
8045	2 EA	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
8048	1 EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
8050	2 EA	GROUND ROD-3/4 INCH DIAMETER x 10 FOOT LENGTH
8052	9 EA	8 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8053	24 EA	12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8056	420 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8058	900 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8074	53 LF	WOOD SIGN SUPPORTS 4 INCH X 6 INCH
NEGOT	1 EA	MAST ARM POLE EXTENSION FOR LIGHTING ARM

WIRING DIAGRAM



A, B — VIDEO DETECTOR CABLE

C — ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)

D, E, F, G, H, J, K, L — ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

M, N, O, P — ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)

Q — NO. 6 AWG STRANDED BARE COPPER WIRE

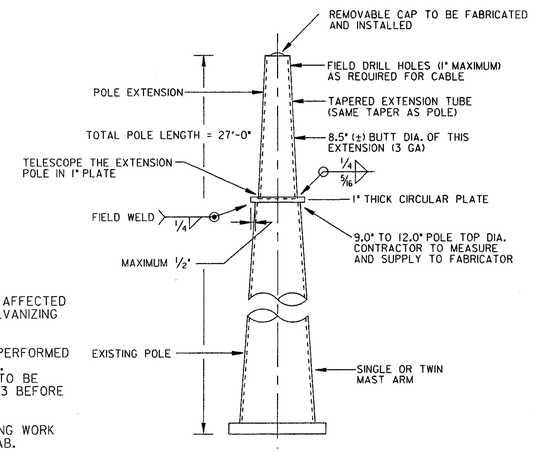
R, S, T, U, V, W, X, Y — USE EXISTING WIRING

+ — ¾ IN. x 10 FT. GROUND ROD

EPS — EXISTING OH POWER SERVICE

NOTES:

1. AFTER FABRICATION, CLEAN AFFECTED AREA AND SPRAY COLD GALVANIZING COMPOUND.
2. ALL WELDING WORK TO BE PERFORMED BY A MD CERTIFIED WELDER. MR. JOHN WEISNER (OMT) IS TO BE CONTACTED AT (301)513-7373 BEFORE PERFORMING WELDING WORK.
3. ALL SHOP AND FIELD WELDING WORK MUST APPROVED BY SHA LAB.



MAST ARM POLE EXTENSION FOR LIGHTING ARM DETAIL

EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

ITEM NO.	QUANTITY	DESCRIPTION

ALL REMOVED MATERIALS ARE TO 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
PHASE 2 + 6	G	G	G	G	G	R	R	R	R	R	R	W	W	W	W	DW	DW	DW	DW
PED CLEARANCE	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
PHASE 2 + 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 + 8	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 + 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 + 8 ALT	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	W	W	W	W
PED CLEARANCE	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
PHASE 4 + 8 ALT CHANGE	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PRE-EMPTION	R	R	R	R	R	G	G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

SHA #: FR-[illegible] TOD #: AT288-67

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

US 40 ALT AND MD 17
GENERAL INFORMATION

STV Incorporated
engineers/architects/planners/scientists/construction managers
7125 Ambassador Road Baltimore, MD 21244-2722 (410) 944-9112

DRAWN BY: BAB	F.A.P. NO.	SEE TITLE SHEET	TS NO. TS-1535B	SHEET NO.
CHECKED BY: MTS	S.H.A. NO.	AT2885185		
SCALE: NONE	COUNTY:	FREDERICK	T.I.M.S. NO. F 837	2 OF 2
DATE: APRIL 2004	LOG MILE:	10001712.96		

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$TIME$ $DATE$