

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL WITH STREET LIGHTING AT THE INTERSECTION OF MD 355 AND HOLIDAY DRIVE IN FREDERICK COUNTY. MD 355 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE, WITH THE MD 355 APPROACHES OPERATING CONCURRENTLY AND THE HOLIDAY DRIVE APPROACHES OPERATING CONCURRENTLY. EXCLUSIVE-PERMISSIVE LEFT TURN PHASES WILL BE PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 355

A PUSHBUTTON ACTUATED, ALTERNATE PEDESTRIAN PHASE WILL BE PROVIDED ACROSS THE SOUTH LEG OF MD 355.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH THREE (3) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS RACK MOUNT, INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, NIC MODULE, RACK DETECTOR SYSTEM, AND ASSOCIATED HARNESSSES HOUSED IN A BASE MOUNTED CABINET.

SPECIAL NOTE

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

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
9002	3 EACH	DETECTOR AMPLIFIER, 4-CHANNEL RACK MOUNT
9004	1 EACH	DETECTOR RACK POWER SUPPLY
9014	6 EACH	12 IN., ONE-WAY, THREE-SECTION (R,Y,G.) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
9016	2 EACH	12 IN., ONE-WAY, FIVE-SECTION (R,Y,GA,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS
9019	2 EACH	8 IN./12 IN., ONE-WAY, FIVE-SECTION (R,Y,GA,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS
9081	1 EACH	CABINET - INTERSECTION MONITOR, SIZE 6
9089	272 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 4 EACH D3-2 SIGN "HOLIDAY DR./ GENSTAR DR. (VARIABLE X 32 IN.) - MAST ARM MOUNT - 2 EACH W3-3 SIGN (48 IN. X 48 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND D3-2 SIGN (VAR. X 32 IN.) - GROUND MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "NORTH - MD 355 - LT. ARROW" (36 IN. X 72 IN.) - GROUND MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "SOUTH - MD355 - LT. ARROW" (36 IN. X 72 IN.) - GROUND MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "SOUTH - MD 355 - RT. ARROW" (24 IN. X 51 IN.) - GROUND MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "NORTH - MD 355 - RT. ARROW" (24 IN. X 51 IN.) - GROUND MOUNT - 2 EACH R10-12 SIGN (36 IN. X 42 IN.) - MAST ARM MOUNT - 2 EACH R3-5(L) SIGN (30 IN. X 36 IN.) - MAST ARM MOUNT - 1 EACH R3-5(R) SIGN (30 IN. X 36 IN.) - MAST ARM MOUNT
9087	1 EACH	CONTROLLER - ASC II WITH TELEMETRY MODULE
9092	1 EACH	INTERSECTION MONITOR WITH BATTERY BACK-UP
9096	2 EACH	PEDESTRIAN PUSHBUTTON AND SIGN (SIGN TO READ "PUSH BUTTON TO CROSS URBANA PIKE")

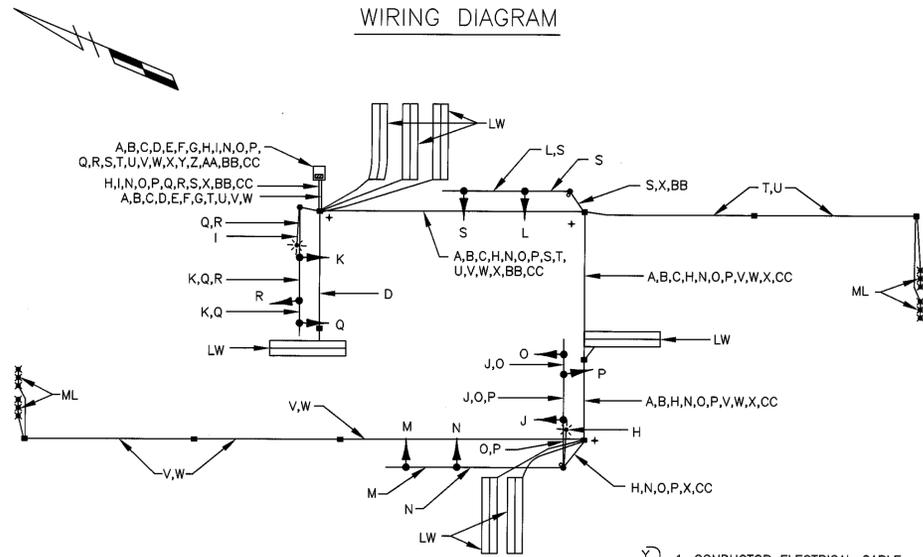
EQUIPMENT LIST "B"

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

ITEM NO.*	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
2001	4 C.Y.	TEST PIT EXCAVATION
5003	450 L.F.	12 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5004	160 L.F.	24 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
8001	17 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8011	10 EACH	INSTALL SIGNAL HEAD
8018	2 EACH	INSTALL PUSHBUTTON AND SIGN
8020	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
8021	925 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8022	70 L.F.	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT - GALVANIZED SLEEVE
8023	40 L.F.	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8024	820 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8026	150 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8030	20 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8032	200 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8033	10 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8034	4 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
8040	3200 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
8041	800 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR ALUMINUM SHIELDED (NO. 14 A.W.G.)
8042	400 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR (NO. 14 A.W.G.)
8044	110 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 5 CONDUCTOR (NO. 14 A.W.G.)
8045	1350 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 7 CONDUCTOR (NO. 14 A.W.G.)
8046	370 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR (NO. 12 A.W.G.)
8049	270 L.F.	FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
8050	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 1 CONDUCTOR (NO. 4 A.W.G.) THHN/THWN
8052	72 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS (4 IN. X 6 IN.)
8053	142 S.F.	INSTALL GROUND MOUNTED SIGNS
8054	130 S.F.	INSTALL OVERHEAD SIGNS
8056	2 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCCELL
8057	2 EACH	FURNISH AND INSTALL LIGHTING BRACKET FOR TRAFFIC SIGNAL STRUCTURE - 2 EACH - 15 FT. LENGTH
8064	1 EACH	USE EXISTING DISK AND AS-BUILT TRAFFIC CONTROL DEVICE
8069	30 L.F.	FURNISH AND INSTALL 1 IN ELECTRICAL CONDUIT - GALVANIZED RISER FOR PHONE DROP
8070	1 EACH	CONTROL AND DISTRIBUTION EQUIPMENT
8082	2 EACH	FURNISH AND INSTALL MAST ARM POLE AND 50 FT MAST ARM
8086	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN 50 FT/70 FT MAST ARMS
8017	4 EACH	FURNISH AND INSTALL MICRO-LOOP PROBE SET WITH 1000 FT. LEAD-IN

* - ITEM NUMBERS CORRESPOND TO MSHA AREAWIDE CONTRACT NUMBERS

WIRING DIAGRAM



WIRING KEY

- 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- 2-CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED) NO. 14 A.W.G.
- 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- 4-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE
- 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- MICRO-LOOP PROBE
- LOOP WIRE (NO. 14 A.W.G.)
- PROPOSED OVERHEAD ELECTRIC SERVICE BY ALLEGANY POWER
- 3/4 IN. X 10 FT. GROUND ROD
- STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

PHASE CHART

	1	2	3	4	5	6	7	8	9	10
PHASE 1 + 5	R	R	R	R	R	R	R	R	R	R
1 + 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, 2 + 5 OR 2 + 6									
PHASE 1 + 6	G	G	G	R	R	R	R	R	R	R
1 + 6 CHANGE	G	G	G	R	R	R	R	R	R	R
PHASE 2 + 5	R	R	R	G	G	G	R	R	R	R
2 + 5 CHANGE	R	R	R	G	G	G	R	R	R	R
PHASE 2 + 6	G	G	G	G	G	G	R	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R
PHASE 4 + 8	R	R	R	R	R	R	G	G	G	G
4 + 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y
PHASE 4 ALT. + 8	R	R	R	R	R	R	G	G	G	G
PED CLEAR	R	R	R	R	R	R	G	G	G	G
4 ALT. + 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

TRAFFIC CONCEPTS, INC.

Brightview Business Center
8258 Veterans Highway
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Millersville, MD 21108
(410) 987-0427

REVISIONS	APPROVALS	REVISIONS
	ASSISTANT DIVISION CHIEF	
	ASST. DISTRICT ENGINEER, TRAFFIC	
	CHIEF, TRAFFIC ENGINEERING DESIGN DIV.	
	DIRECTOR, OFFICE OF TRAFFIC AND SAFETY	



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
MD 355 (URBANA PIKE) AND
HOLIDAY DRIVE / GENSTAR DRIVE

DATE: 8-27-97	DRAWN BY: T. ZAYDEL	F.A.P. NO.	PLAN SHEET NO.:	SHEET NO.
SCALE: NONE	DESIGNED BY: T. ZAYDEL	S.H.A. NO. BW1301483	TS-3737GI	
APPROVED BY:	CHECKED BY: K. SCHMID	COUNTY: FREDERICK		OF