F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD			

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL WITH STREET LIGHTING AT THE INTERSECTION OF AUTH ROAD AND I-495 RAMP/AUTH PLACE IN PRINCE GEORGES COUNTY. AUTH ROAD IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

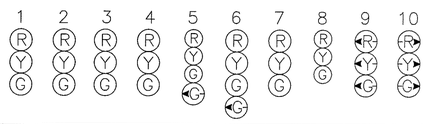
THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE, FULL-TRAFFIC-ACTUATED MODE, WITH THE AUTH ROAD APPROACHES OPERATING CONCURRENTLY AND THE I-495 RAMP/AUTH PLACE APPROACHES OPERATING SEPERATELY.

THIS SIGNAL WILL BE HARDWIRED INTERCONNECTED TO THE MD 5 AND AUTH ROAD INTERSECTION.

CONTROLLER REQUIREMENTS

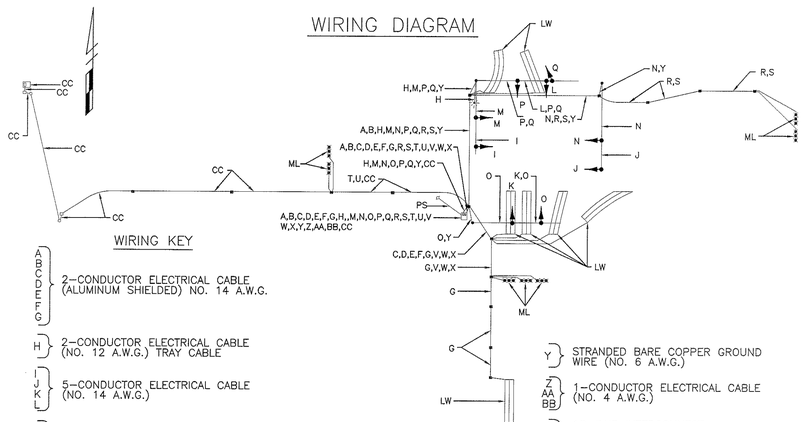
INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH FOUR (4) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS RACK MOUNT, HOUSED IN A NEMA SIZE "6" BASE MOUNTED SYSTEM CABINET

PHASE CHART



	1	2	3	4	5	6	7	8	9	10
PHASE 2 + 6	G	G	G	G	R	R	R	R	◄R — R►	
2 + 6 CHANGE	Y	Y	Y	Y	R	R	R	R	◄R — R►	
PHASE 3	R	R	R	R	R	R	R	G	◄G — G►	
3 CHANGE	R	R	R	R	R	R	R	Y	◄Y — Y►	
PHASE 4	R	R	R	R	G ◄G-	G ◄G-	G	R	◄R — R►	
4 CHANGE	R	R	R	R	Y	Y	Y	R	◄R — R►	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R

WIRING DIAGRAM



WIRING KEY

- A B C D E F G — 2-CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED) NO. 14 A.W.G.
- H — 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE
- I J K L — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- M N O P Q — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- R S T U V W X — MICRO-LOOP PROBE LEAD-IN (NO. 14 A.W.G.)
- Y — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- Z AA BB — 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- CC — 12-PAIR INTERCONNECT CABLE
- ML — MICRO-LOOP PROBE
- LW — LOOP WIRE (NO. 14 A.W.G.)
- PS — PROPOSED ELECTRIC SERVICE
- ✦ — 3/4 IN. X 10 FT. GROUND ROD

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

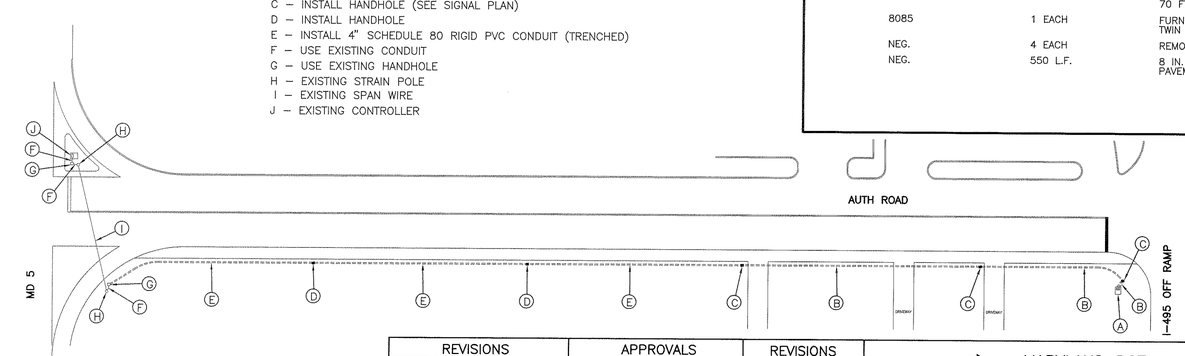
ITEM NO.	QUANTITY	DESCRIPTION
9002	4 EACH	DETECTOR AMPLIFIER, 4-CHANNEL RACK MOUNT
9004	1 EACH	DETECTOR RACK POWER SUPPLY
9014	5 EACH	12 IN., ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
9015	1 EACH	12 IN., ONE-WAY, FOUR-SECTION (R,Y,G,GA) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
9022	1 EACH	8 IN., ONE-WAY, THREE-SECTION (R,Y,G) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
9039	1 EACH	8 IN./12 IN., ONE-WAY, FOUR-SECTION (R,Y,G,GA) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR POLE MOUNTING AND TUNNEL VISORS.
9014	2 EACH	12 IN., ONE-WAY, THREE-SECTION (RA,YA,GA) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
9086	1 EACH	CABINET - W/TELEMETRY (SYSTEM CABINET), SIZE 6
9089	272 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF :
	- 2 EACH	D3-2 DUAL FACED SIGN "AUTH RD." (VARIABLE X 16 IN.) - MAST ARM MOUNT
	- 2 EACH	D3-2 DUAL FACED SIGN "AUTH PL." (VARIABLE X 16 IN.) - MAST ARM MOUNT
	- 2 EACH	R3-5L SIGN (30 IN. X 36 IN.) - MAST ARM MOUNT
	- 1 EACH	R3-5a SIGN (30 IN. X 36 IN.) - MAST ARM MOUNT
	- 1 EACH	R5-1 SIGN (30 IN. X 30 IN.) - MAST ARM MOUNT
	- 2 EACH	R3-1 SIGN (30 IN. X 30 IN.) - MAST ARM MOUNT
	- 2 EACH	R3-2 SIGN (30 IN. X 30 IN.) - MAST ARM MOUNT
	- 1 EACH	R3- SIGN (90 IN. X 36 IN.) "LT. ARROW-LT. ARROW-THRU/RT. ARROW" - GROUND MOUNT
	- 5 EACH	W3-3 SIGN (48 IN. X 48 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) -GROUND MOUNT
	- 3 EACH	R5-1 SIGN (30 IN. X 30 IN.) - GROUND MOUNT
	- 1 EACH	"LANE ENDS/MERGE LEFT" SIGN (30 IN. X 42 IN.) - MAST ARM MOUNT
9087	1 EACH	CONTROLLER - ASC II WITH TELEMETRY MODULE

INTERCONNECT SKETCH

SCALE: 1" = 50'

CONSTRUCTION DETAILS

A - INSTALL CONTROLLER (SEE SIGNAL PLAN)
B - INSTALL CONDUIT (SEE SIGNAL PLAN)
C - INSTALL HANDHOLE (SEE SIGNAL PLAN)
D - INSTALL HANDHOLE
E - INSTALL 4" SCHEDULE 80 RIGID PVC CONDUIT (TRENCHED)
F - USE EXISTING CONDUIT
G - USE EXISTING HANDHOLE
H - EXISTING STRAIN POLE
I - EXISTING SPAN WIRE
J - EXISTING CONTROLLER



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
2003	3 C.Y.	CLASS 1A EXCAVATION
5001	100 L.F.	6 IN. YELLOW PERMANENT PREFORMED PAVEMENT MARKING TAPE
5002	420 L.F.	6 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5004	130 L.F.	24 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
5013	525 L.F.	REMOVE EXISTING PAVEMENT MARKINGS
6001	120 S.F.	4 IN. CONCRETE SIDEWALK
6010	40 L.F.	FURNISH AND INSTALL DEPRESSED CURB & GUTTER
8001	17 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8011	10 EACH	INSTALL SIGNAL HEAD
8016	7 EACH	FURNISH AND INSTALL MICRO-LOOP PROBE SET WITH 500 FT. LEAD-IN
8020	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
8021	1125 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8023	75 L.F.	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8024	725 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8026	50 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8030	690 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8032	230 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8033	15 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8034	4 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
8039	1000 L.F.	FURNISH AND INSTALL 12-PAIR COMMUNICATION CABLE, JELLY FILLED (UNDERGROUND)
8040	3250 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
8041	960 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR ALUMINUM SHIELDED (NO. 14 A.W.G.)
8044	110 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 5 CONDUCTOR (NO. 14 A.W.G.)
8045	1000 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 7 CONDUCTOR (NO. 14 A.W.G.)
8046	170 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR (NO. 12 A.W.G.)
8049	240 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.) THNN/THWN
8052	270 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS - 4 IN. X 6 IN.
8053	160 S.F.	INSTALL GROUND MOUNTED SIGNS
8054	112 S.F.	INSTALL OVERHEAD SIGNS
8056	1 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8057	1 EACH	FURNISH AND INSTALL LIGHTING BRACKET FOR TRAFFIC SIGNAL STRUCTURE -1 EACH - 15 FT. LENGTH
8070	1 EACH	CONTROL AND DISTRIBUTION EQUIPMENT
8083	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 60 FT MAST ARM
8084	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 70 FT MAST ARM
8085	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN 50 FT/60 FT MAST ARMS
NEG.	4 EACH	REMOVE EXISTING GROUND MOUNTED SIGN
NEG.	550 L.F.	8 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE

TRAFFIC CONCEPTS, INC.
Brightview Business Center
8258 Veterans Highway
Suite 19B
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 & SAFETY	

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

GENERAL INFORMATION SHEET
AUTH ROAD AND I-495 RAMP/AUTH PLACE

DATE: 2-23-98	DRAWN BY: T. ZAYDEL	F.A.P. NO.	AC-STPG-000S(588)E	PLAN SHEET NO.:	SHEET NO.
SCALE: NONE	DESIGNED BY: T. ZAYDEL	S.H.A. NO.	AW2799A5A/165A1 MSA	TS-3769GI	2 OF 3
APPROVED BY:	CHECKED BY: K. SCHMID	COUNTY	PRINCE GEORGES		