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

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION

ITEM NO.	QUANTITY	DESCRIPTION
	1 EACH	EIGHT PHASE FULLY ACTUATED CONTROLLER WITH AN INTERSECTION MONITOR, AND HARNESS, PHONE DROP, BATTERY BACKUP, FIVE (5) FOUR CHANNEL LOOP DETECTOR AMPLIFERS HOUSED IN A BASE MOUNTED CABINET
	230.2 S.F.	4 EACH R3-5(L) SIGN, 30" x 36", MAST ARM MOUNTED HARDWARE
		4 EACH D3-2 SIGN, "Marlboro Pike", 16" x Var., MAST ARM MOUNTED HARDWARE
		1 EACH R3-6 SIGN, 30" x 36", MAST ARM MOUNTED HARDWARE
		1 EACH ASSOCIATED SHIELD ASSEMBLY SIGN, "EAST, MARYLAND 725, (RIGHT ARROW)", 51" x 30", POLE MOUNTED HARDWARE
		1 EACH ASSOCIATED SHIELD ASSEMBLY SIGN, "WEST, MARYLAND 725, (LEFT ARROW)", 75" x 48", POLE MOUNTED HARDWARE
		1 EACH ASSOCIATED SHIELD ASSEMBLY SIGN, "WEST, MARYLAND 725, (RIGHT ARROW)", 51" x 30" POLE MOUNTED HARDWARE
		1 EACH ASSOCIATED SHIELD ASSEMBLY SIGN, "EAST, MARYLAND 725, (LEFT ARROW)", 75" x 48", POLE MOUNTED HARDWARE
		1 EACH ASSOCIATED SHIELD ASSEMBLY SIGN, "NORTH, US 301, (RIGHT ARROW)", 51" x 30", POLE MOUNTED HARDWARE
		1 EACH ASSOCIATED SHIELD ASSEMBLY SIGN, "NORTH, US 301, (LEFT ARROW)", 75" x 48", POLE MOUNTED HARDWARE
		1 EACH ASSOCIATED SHIELD ASSEMBLY SIGN, "SOUTH, US 301, (RIGHT ARROW)", 51" x 30", POLE MOUNTED HARDWARE
		1 EACH ASSOCIATED SHIELD ASSEMBLY SIGN, "SOUTH, US 301, (LEFT ARROW)", 75" x 48", POLE MOUNTED HARDWARE

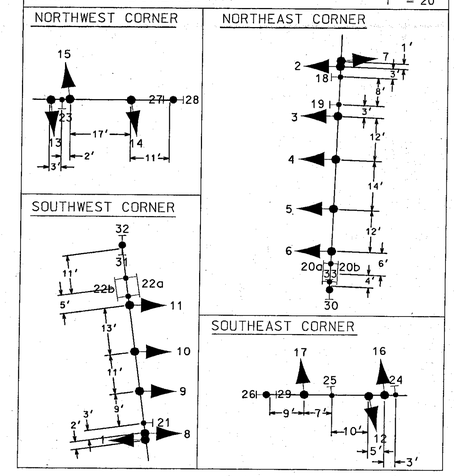
B. EQUIPMENT TO BE SUPPLIED AND/ OR INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENENCE OF TRAFFIC
2001	1 C.Y.	TEST PIT EXCAVATION
2003	1 C.Y.	CLASS 1-A EXCAVATION
6001	18 S.F.	F & I 4" CONCRETE SIDEWALK
8001	16 C.Y.	F & I CONCRETE FOR SIGNAL FOUNDATION
8006	4 EACH	CUT, CLEAN, GALVANIZE, AND CAP TRAFFIC SIGNAL STRUCTURE
8016	2 EACH	F & I MICROLOOP TRIPLE PROBE SET WITH 500 FT. LEAD-IN
8020	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
8021	245 L.F.	F & I SAWCUT FOR SIGNAL (LOOP DETECTOR)
8022	15 L.F.	F & I 1" ELECTRICAL CONDUIT - GALVANIZED SLEEVE
8023	10 L.F.	F & I 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8024	15 L.F.	F & I 2" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8025	79 L.F.	F & I 2" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8027	110 L.F.	F & I 3" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8028	70 L.F.	F & I 3" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8030	40 L.F.	F & I 4" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8031	370 L.F.	F & I 4" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8033	4 EACH	F & I ELECTRICAL HANDHOLE
8034	5 EACH	F & I GROUND ROD - ¾" x 10'
8040	3,660 L.F.	F & I LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
8041	1,820 L.F.	F & I ELECTRICAL CABLE - 2-CONDUCTOR (ALUMINUM SHIELDED)
8044	140 L.F.	F & I ELECTRICAL CABLE - 5-CONDUCTOR (NO. 14 AWG)
8045	3,100 L.F.	F & I ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 AWG)
8048	470 L.F.	F & I NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8049	180 L.F.	F & I 1 CONDUCTOR NO. 4 AWG - THHN/THWN
8052	142.5 S.F.	INSTALL GROUND MOUNTED SIGN
8053	87.7 S.F.	INSTALL OVERHEAD SIGN
8057	5 EACH	REMOVE AND DISPOSE OF EXISTING FOUNDATION 12" BELOW GRADE
8058	1 EACH	REMOVE EXISTING CONTROLLER, CABINET, AND GALVANIZED SIGNAL STRUCTURE
8059	1 EACH	DELIVERY OF REMOVED CONTROLLER, CABINET, AND GALVANIZED SIGNAL STRUCTURE
8060	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT PER ASSIGNMENT
8066	1 EACH	F & I CONTROL AND DISTRIBUTION EQUIPMENT (120/240 V, 1 PHASE 3 WIRE SYST)
8076	2 EACH	F & I 27' MAST ARM POLE AND 38' MAST ARM
8078	1 EACH	F & I 27' MAST ARM POLE AND 60' MAST ARM
8079	1 EACH	F & I 27' MAST ARM POLE AND 70' MAST ARM
8084	51 EACH	F & I 12" BLACK FACED VECHICULAR TRAFFIC SIGNAL HEAD SECTION
8085	6 EACH	F & I 8" BLACK FACED VECHICULAR TRAFFIC SIGNAL HEAD SECTION
NEG.	L.S.	PULL BACK THE EXISTING MICROLOOP PROBE CABLE, AND INSTALL IT IN THE PROPOSED CONDUITS, AND HANDHOLES TO REACH THE PROPOSED CONTROLLER CABINET

C. MATERIAL TO BE REMOVED AND RETURNED TO SHA

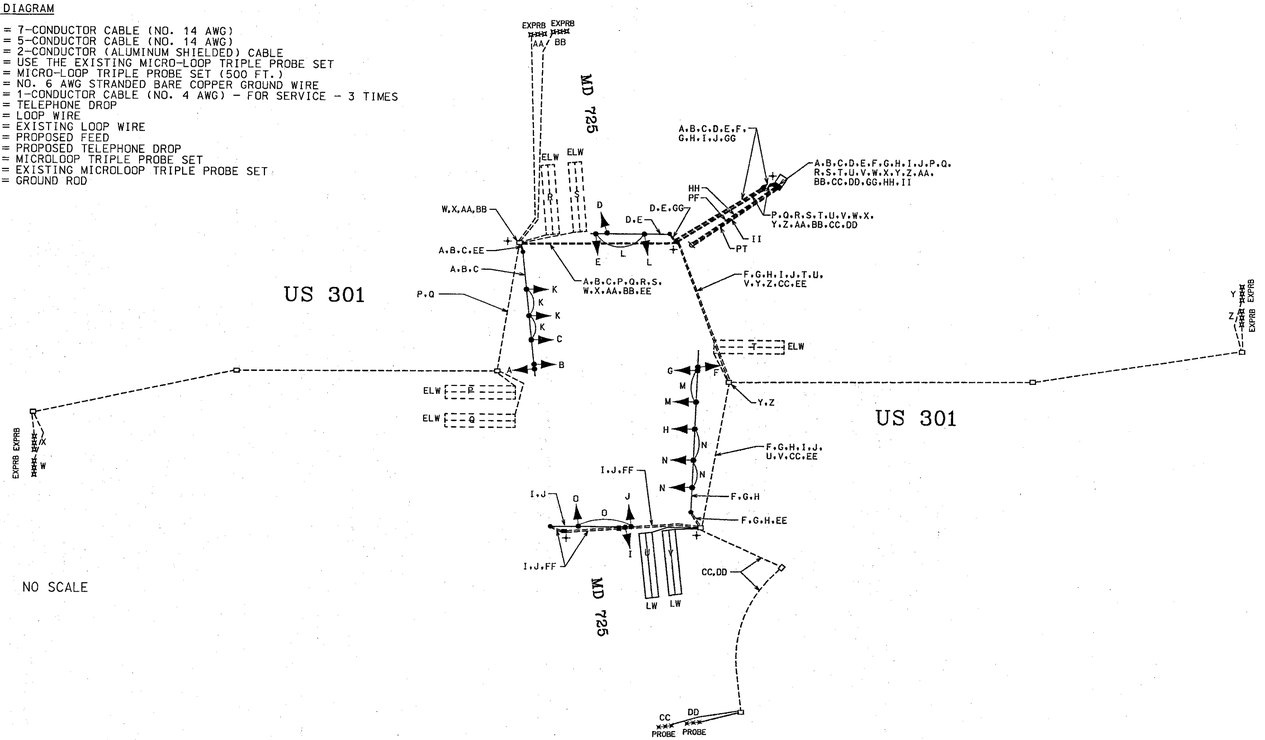
ITEM NO.	QUANTITY	DESCRIPTION
	1 EACH	CONTROLLER AND BASE MOUNTED CABINET

MAST ARM DIMENSIONS 1" = 20'

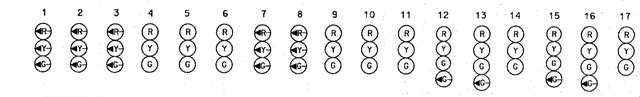


WIRING DIAGRAM

A-J = 7-CONDUCTOR CABLE (NO. 14 AWG)
K-O = 5-CONDUCTOR CABLE (NO. 14 AWG)
P-V = 2-CONDUCTOR (ALUMINUM SHIELDED) CABLE
W-BB = USE THE EXISTING MICRO-LOOP TRIPLE PROBE SET
CC-DD = MICRO-LOOP TRIPLE PROBE SET (500 FT.)
EE-GG = NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
HH = 1-CONDUCTOR CABLE (NO. 4 AWG) - FOR SERVICE - 3 TIMES
II = TELEPHONE DROP
LW = LOOP WIRE
ELW = EXISTING LOOP WIRE
PF = PROPOSED FEED
PT = PROPOSED TELEPHONE DROP
PROBE = MICROLOOP TRIPLE PROBE SET
EXPRB = EXISTING MICROLOOP TRIPLE PROBE SET
= GROUND ROD



PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PHASE 1 & 5	◄G-	◄G-	◄G-	R	R	R	◄G-	◄G-	R	R	R	R	R	R	R	R	R
1 & 5 CHANGE	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 5 OR 2 & 6																
PHASE 1 & 6	◄G-	◄G-	◄G-	G	G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	R
1 CHANGE	◄Y-	◄Y-	◄Y-	G	G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	R
PHASE 2 & 5	◄R-	◄R-	◄R-	R	R	R	◄G-	◄G-	G	G	G	R	R	R	R	R	R
5 CHANGE	◄R-	◄R-	◄R-	R	R	R	◄Y-	◄Y-	G	G	G	R	R	R	R	R	R
PHASE 2 & 6	◄R-	◄R-	◄R-	G	G	G	◄R-	◄R-	G	G	G	R	R	R	R	R	R
2 & 6 CHANGE	◄R-	◄R-	◄R-	Y	Y	Y	◄R-	◄R-	Y	Y	Y	R	R	R	R	R	R
PHASE 3	◄R-	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	R	R	R	◄G-G	◄G-G	G
3 CHANGE	◄R-	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	R	R	R	Y	Y	Y
PHASE 4	◄R-	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	◄G-G	◄G-G	G	R	R	R
4 CHANGE	◄R-	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	Y	Y	Y	R	R	R
FLASHING OPERATION	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R

REVISIONS	APPROVALS
	NO. 1 A RE IS SUE ON TO P-5 501-85 DATED 02 1-19 ORIGINAL ON FILE AN

TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION
ASSIST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
DIRECTOR, OFFICE OF TRAFFIC & SAFETY

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

US 301 and MD 725
UPPER MARLBORO, MARYLAND

DRAWN BY: W. Mahala	F.A.P. NO.	T.S. NO. TS-871 D	SHEET NO.
CHECKED BY: W. Mahala	S.H.A. NO. XX1005385		
SCALE: AS NOTED	COUNTY PRINCE GEORGES	T.I.M.S. NO. E193	1 OF 1
DATE: 01/ 2001	LOG MILE 16030014.80		

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