F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD	SEE TITLE SHEET	87	182

PROJECT DESCRIPTION

I. GENERAL
THIS PROJECT INVOLVES THE RECONSTUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 140 AND GORSUCH ROAD IN CARROLL COUNTY. MD 140 IS CONSIDERED TO RUN IN AN EAST/WEST DIRECTION.

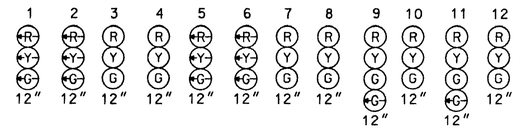
II. INTERSECTION OPERATION
THE EXISTING PHASING WILL BE UTILIZED.

III. SPECIAL NOTES
ANY DOWN TIME OF THE TRAFFIC SIGNAL SHALL BE DONE DURING THE ASSIGNED WORK HOURS OF 9 P.M. TO 5 A.M. AND SHALL BE ASSISTED BY STATE POLICE PRESENT ON THE JOB SITE. THE PROJECT ENGINEER SHALL BE RESPONSIBLE FOR CONTACTING THE STATE POLICE.

CONSTRUCTION DETAILS (FOR SHEET 1)

A. INSTALL 50'/60' TWIN MAST ARM POLE, SIGNAL HEADS, SIGNS AND 15' LIGHTING ARM WITH 250 WATT HPS LUMINAIRE (NOTE: 1-2" 90 DEGREE PVC BEND)
B. REMOVE EXISTING CABINET AND CONTROLLER
C. INSTALL 70' SINGLE MAST ARM POLE, SIGNAL HEADS, SIGNS AND 15' LIGHTING ARM WITH 250 WATT HPS LUMINAIRE (NOTE: 1-2" 90 DEGREE PVC BEND)
D. DISCONNECT, PULL BACK, THEN RERUN EXISTING MICRO-LOOP PROBE LEAD-INS TO NEW CONNTROLLER.
E. INSTALL HANDHOLE
F. USE EXISTING HANDHOLE.
G. USE EXISTING CONDUIT.
H. REMOVE EXISTING STEEL POLE AND ALL ATTACHED EQUIPMENT.
I. INSTALL MICRO LOOP PROBES
J. INSTALL 6'x30' QUADRUPLE TYPE LOOP DETECTOR (3-6-3 TURNS).
K. ABANDON AND DISCONNECT EXISTING LOOP DETECTOR.
L. INSTALL CABINET CONTROLLER AND AMPLIFIERS.
M. REMOVE EXISTING HANDHOLE.
N. CAP AND ABANDON EXISTING CONDUIT.
O. INSTALL 1" FLEXIBLE NON-METALLIC ELECTRICAL CONDUIT FOR DETECTOR LEAD-IN
P. INSTALL 2" POLYVINYL CHLORIDE (SCHEDULE 40) ELECTRICAL CONDUIT - TRENCHED.
R. INSTALL 3" POLYVINYL CHLORIDE (SCHEDULE 40) ELECTRICAL CONDUIT - TRENCHED
S. INSTALL 3" POLYVINYL CHLORIDE (SCHEDULE 80) ELECTRICAL CONDUIT - SLOTTED IN ROADWAY
T. INSTALL 4" POLYVINYL CHLORIDE (SCHEDULE 40) ELECTRICAL CONDUIT - TRENCHED
U. INSTALL 4" POLYVINYL CHLORIDE (SCHEDULE 80) ELECTRICAL CONDUIT - SLOTTED IN ROADWAY
V. REPLACE EXISTING MICRO-LOOP PROBES.
W. DISCONNECT, PULL BACK TO HANDHOLE THEN RERUN EXISTING INTERCONNECT CABLE TO NEW CONTROLLER.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12
PHASE 1 & 5	G	G	R	R	G	G	R	R	R	R	R	R
CHANGE TO 1 & 6, 2 & 5, OR 2 & 6												
PHASE 1 & 6	G	G	G	G	R	R	R	R	R	R	R	R
1 & 6 CHANGE	Y	Y	G	G	R	R	R	R	R	R	R	R
PHASE 2 & 5	R	R	R	R	G	G	G	G	R	R	R	R
5 CHANGE	R	R	R	R	Y	Y	G	G	R	R	R	R
PHASE 2 & 6	R	R	G	G	R	R	G	G	R	R	R	R
2 & 6 CHANGE	R	R	Y	Y	R	R	Y	Y	R	R	R	R
PHASE 3	R	R	R	R	R	R	R	R	G/G	G	R	R
3 CHANGE	R	R	R	R	R	R	R	R	Y	Y	R	R
PHASE 4	R	R	R	R	R	R	R	R	R	R	G/G	G
4 CHANGE	R	R	R	R	R	R	R	R	R	R	Y	Y
FLASHING OPERATION	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

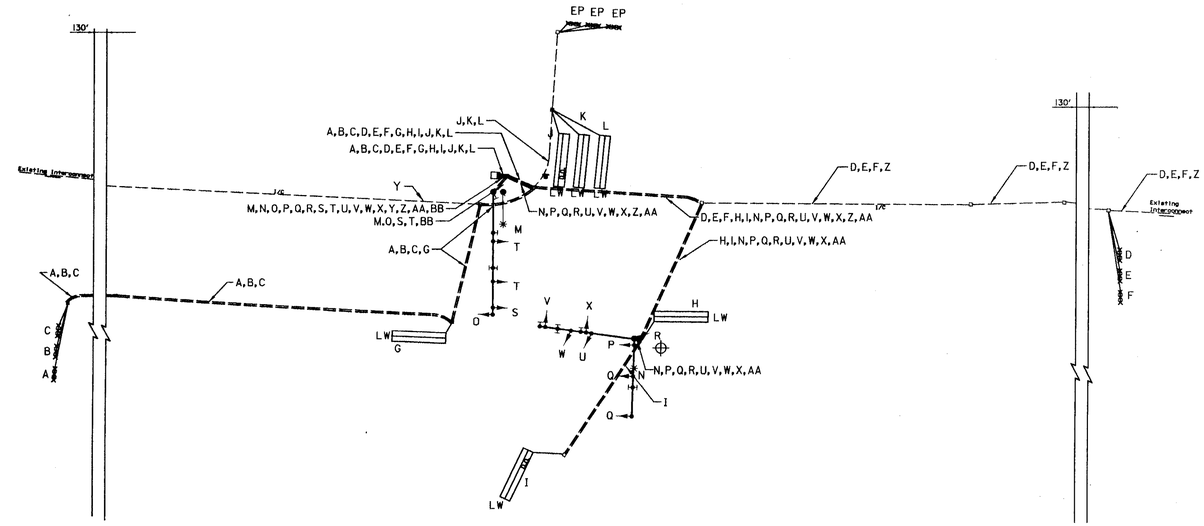
EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A.

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
2	EA.	814	(MAST ARM MOUNT) 12" 1 WAY 4 SECTION SIGNAL (R,Y,G,GA)
6	EA.	814	(MAST ARM MOUNT) 12" 1 WAY 3 SECTION SIGNAL (R,Y,G)
3	EA.	814	(MAST ARM MOUNT) 12" 1 WAY 3 SECTION SIGNAL (RA,YA,GA)
1	EA.	814	(POLE MOUNT) 12" 1 WAY 3 SECTION SIGNAL (RA,YA,GA)
72	S.F.	813	VARIABLE x 16" D3-2 SIGN WITH MAST ARM MOUNTING HARDWARE
7.5	S.F.	813	30"x36" R3-5L SIGN WITH MAST ARM MOUNTING HARDWARE
7.5	S.F.	813	30" X36" R3-5R SIGN WITH MAST ARM MOUNTING HARDWARE
10.6	S.F.	813	ASSOCIATED SHIELD ASSEMBLY (EAST, ROUTE 140, RIGHT ARROW - 51' X 30")
10.6	S.F.	813	ASSOCIATED SHIELD ASSEMBLY (WEST, ROUTE 140, RIGHT ARROW - 51" X 30")
17.5	S.F.	813	ASSOCIATED SHIELD ASSEMBLY (EAST, ROUTE 140, LEFT ARROW - 75" X 36")
17.5	S.F.	813	ASSOCIATED SHIELD ASSEMBLY (WEST, ROUTE 140, LEFT ARROW - 75" X 36")
1	EA.	816	EIGHT PHASE, FULL - TRAFFIC ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH SYSTEM PACKAGE AND RACK MOUNT AMPLIFIER IN A NEMA SIZE 6" BASE MOUNTED CABINET

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

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
6	EA.	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE
3196	L.F.	810	LOOP DETECTOR WIRE (No.14 A.W.G.) ENCASED IN FLEXIBLE TUBING
763	L.F.	810	2-CONDUCTOR (ALUM. SHIELDED) ELECTRICAL CABLE (No.14 A.W.G.)
1387	L.F.	810	5-CONDUCTOR ELECTRICAL CABLE (No.14 A.W.G.)
400	L.F.	810	2-CONDUCTOR ELECTRICAL TRAY CABLE (No.12 A.W.G.)
866	L.F.	810	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
259	L.F.	810	BARE COPPER GROUND WIRE (No.6 A.W.G.)
97	L.F.	805	1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR LOOP DETECTOR SLEEVE
374	L.F.	805	F & I 2" SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
4	L.F.	805	F & I 3" SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
239	L.F.	805	F & I 3" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
50	L.F.	805	F & I 4" SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
95	L.F.	805	F & I 4" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
6	EA.	810	MICRO LOOP PROBES (SET OF 3) WITH 500 FT. LEAD-IN
2	EA.	806	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
14	C.Y.	801	F & I CONCRETE FOR SIGNAL FOUNDATION
2	EA.	808	FURNISH AND INSTALL 15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
977	L.F.	815	SAWCUT FOR SIGNAL (LOOP DETECTOR)
1	EA.	818	FURNISH & INSTALL STEEL POLE WITH A TWIN 50'/60' MAST ARM, 1¾" X 90" ANCHOR BOLTS
1	EA.	818	FURNISH & INSTALL STEEL POLE WITH A SINGLE 70' MAST ARM, 2" X 90" ANCHOR BOLTS
3	EA.	804	FURNISH & INSTALL GROUND ROD -¾IN. DIAMETER X 10 FT. LENGTH
1	LUMP SUM.	SP	REMOVE AND DISPOSAL OF EXISTING MATERIAL AND EQUIPMENT
1	EA.	SP	CUT, CLEAN AND GALVINIZE MAST ARM
12	EA.	814	INSTALL SIGNAL HEAD
1	EA.	816	INSTALL CONTROLLER AND CABINET - BASE MOUNT
1	EA.	807	CONTROL AND DISTRUBUTION
120	L.F.	XXX	DISCONNECT, PULL BACK AND RERUN EXISTING INTERCONNECT CABLE TO NEW CONTROLLER
1	EA.	SP	REMOVAL AND SALVAGE OF THE EXISTING MATERIAL AND EQUIPMENT
1	EA.	SP	CONTROLLER AND CABINET
78	S.F.	813	INSTALL OVERHEAD SIGNS
50.75	L.F.	812	FURNISH AND INSTALL WOOD SIGN SUPPORTS (4 IN. X 4 IN.)
56.2	S.F.	813	INSTALL GROUND MOUNTED SIGN



EP - EXISTING MICRO-LOOP PROBES
LW - LOOPWIRE (No.14 A.W.G.) ENCASED IN FLEXIBLE TUBING
⊕ - ¾ IN. X 10 FT. GROUND ROD

A, B, C, D, E, F — 1-CONDUCTOR MICRO-LOOP LEAD IN
G, H, I, J, K, L — 2-CONDUCTOR CABLE (ALUMINUM SHIELDED)
M, N — 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
O, P, Q, R, S, T, U, V — 5-CONDUCTOR CABLE (No.14 A.W.G.)
W, X — 7-CONDUCTOR CABLE (No.14 A.W.G.)
Y, Z — EXISTING INTERCONNECT
AA, BB — BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

REVISION "E"

REVISIONS	APPROVALS
© SEPT., 1997 MODIFIED FOR NEW GEOMETRICS	ASST. DIVISION CHIEF, TEDD
© APRIL 15, 1997 WIDEN NORTH LEG OF GORSUCH RD. SPLIT SIDE STREET S.H.A. NO. BM 772M82 R.R.Z.	ASST. DISTRICT ENGINEER, TRAFFIC
© APRIL 15, 1996 ADDED THRU LANE TO WESTBOUND MD.140 S.H.A. NO. BM 881M82 M.A.M.	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, OFFICE OF TRAFFIC & SAFETY

ORIGINATION FILE

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

TRAFFIC SIGNAL PLAN
MD. RTE. 140 AT GORSUCH ROAD

LOG MILE #06014008.50 DATE / /

DRAWN BY: R.L.L.	F.A.P. NO.	SEE TITLE SHEET	TS/STD. NO.	SHEET NO.
CHECK BY: R.D.C.	S.H.A. NO.	CL7845I76	1388E	TS-6 OF TS-8
SCALE: 1"=40'	COUNTY	CARROLL		