F H W A REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD	SEE TITLE SHEET	384	465

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE INSTALLATION OF NEW TRAFFIC CONTROL SIGNAL, EQUIPMENT AND THE REMOVAL OF THE EXISTING SIGNALS AT THE INTERSECTION OF MD 704 (MARTIN LUTHER KING JR. HWY.) AND LOTTSFORD VISTA RD./ BUSINESS PKWY. IN PRINCE GEORGES COUNTY. MD 704 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THIS INTERSECTION IS TO CONTINUE TO OPERATE IN A NEMA SIX PHASE SEMI-TRAFFIC-ACTUATED MODE. THERE WILL BE EXCLUSIVE/PERMISSIVE LEFT TURNS ON BOTH MD 704 APPROACHES. THE THROUGH MOVEMENTS ON MD 704 WILL OPERATE CONCURRENTLY. THE THROUGH MOVEMENTS ON LOTTSFORD VISTA RD./BUSINESS PKWY. WILL OPERATE CONCURRENTLY.

CONTROLLER REQUIREMENTS

INSTALL AN EIGHT PHASE FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLLER WITH SEVEN, TWO-CHANNEL, TIME DELAY OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR, WITH BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE, ISOLATION BOARD, AND SPECIAL RELAY TO BE HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET.

SPECIAL NOTE

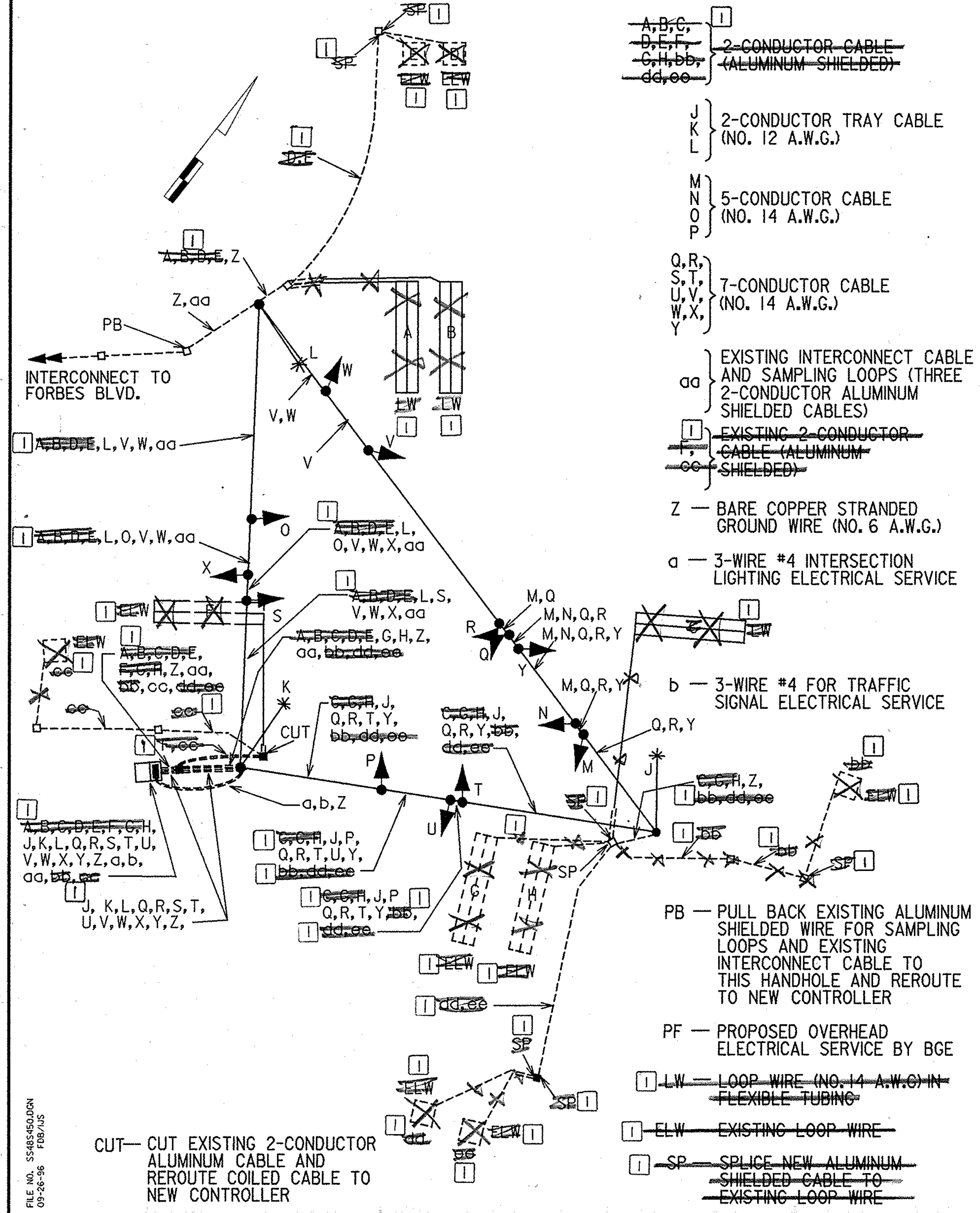
THE INTERCONNECT BETWEEN THIS INTERSECTION AND THE MD 704 AND FORBES BLVD. INTERSECTION SHALL BE MAINTAINED. THE SAMPLING LOOPS ON WESTBOUND MD 704 WEST OF THE INTERSECTION SHALL BE MAINTAINED.

UTILITY NOTE

72 HOURS PRIOR TO ANY WORK ON THE TRAFFIC SIGNALS, THE CONTRACTOR SHALL NOTIFY THE DISTRICT 3 TRAFFIC SECTION REPRESENTATIVE, MR. RICHARD BUETTNER (301-513-7316) AND THE SIGNAL OPERATIONS SUPERVISOR, MR. EDWARD RODENHIZER (410-787-7652).

ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE BECAUSE THESE UNDERGOUND AND OVERHEAD UTILITIES MAY BE MODIFIED PRIOR TO AND DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.

WIRING DIAGRAM



EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY CODE NO.	SPEC. SECTION	QUANTITY	DESCRIPTION
960015	814	9 EA.	12 IN. I WAY 3 SECTION (R,Y,G) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS
960020	814	2 EA.	12 IN. I WAY 3 SECTION (R,Y,G,YA,GA) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS
963007	817	10 EA.	TWO CHANNEL LOOP DETECTOR AMPLIFIER (DELAY OUTPUT)
971017	816	1 EA.	EIGHT PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH INTERSECTION MONITOR AND BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE, ISOLATION BOARD AND SPECIAL RELAY HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET
973023	813	149.92 S.F.	SHEET ALUMINUM SIGNS - 2 EACH R10-12 (36"X42") - 2 EACH R3-5(L) (30"X36") - 2 EACH D3-2 (VAR.X16") - 2 EACH ASSOCIATED SHIELD ASSEMBLY (30 IN. X 51 IN.) - POLE MOUNT. - 2 EACH ASSOCIATED SHIELD ASSEMBLY 'WEST, MD 704, LEFT ARROW' (48 IN. X 75 IN.) - POLE MOUNT.
900000	814	2 EA.	8 IN./12 IN. I WAY 5 SECTION (8" R,Y,G - 12" YA,GA) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH SPAN MOUNTING HARDWARE AND TUNNEL VISORS.

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE S.H.A. AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

QUANTITY	DESCRIPTION
1 EA.	1 BASE MOUNTED CABINET ~~TRAFFIC SIGNAL CABINET~~/CONTROLLER

PHASE DIAGRAM

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

EQUIPMENT LIST "B"

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

CATEGORY CODE NO.	SPEC. SECTION	QUANTITY	DESCRIPTION
114225	104	200 L.F.	6 IN. WHITE REMOVABLE PREFORMED PAVEMENT MARKING TAPE
114245	104	25 L.F.	24 IN. WHITE REMOVABLE PREFORMED PAVEMENT MARKING TAPE
203030	205	4 C.Y.	TEST PIT EXCAVATION
801004	801	19.8 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
802501	810	150 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
1 ~~805011~~	~~805~~	~~30 L.F.~~	~~FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT - GALVANIZED STEEL~~
805125	805	33 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805135	805	55 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
805140	805	80 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED
810010	810	150 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR NO. 4 A.W.G. THHN/THWN
811001	811	1 EA.	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813010	813	4 EA.	BAND SIGN TO SIGN SUPPORT
813015	813	78.67 S.F.	INSTALL OVERHEAD SIGN
837001	804	4 EA.	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
838002	807	1 EA.	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (240/480 V, 1 PHASE 3 WIRE SYSTEM.)
860015	814	9 EA.	INSTALL 12. IN. 1 WAY 3 SECTION (R,Y,G) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
860020	814	2 EA.	INSTALL 12 IN. 1 WAY 5 SECTION (R,Y,G,YA,GA) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
1 ~~861104~~	~~810~~	~~2750 L.F.~~	~~FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)~~
861107	810	179 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
861108	810	1325 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
861116	810	164 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.)
1 ~~862101~~	~~810~~	~~1335 L.F.~~	~~FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)~~
1 ~~862102~~	~~815~~	~~400 L.F.~~	~~FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)~~
866104	818	3 EA.	FURNISH AND INSTALL 20 FT. LIGHTING ARM ON SIGNAL STRUCTURE
869101	819	310 L.F.	FURNISH AND INSTALL STEEL SPAN WIRE - 1/4 IN. DIAMETER
869102	819	430 L.F.	FURNISH AND INSTALL STEEL SPAN WIRE - 3/8 IN. DIAMETER
871117	816	1 EA.	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT
800000	805	33 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
800000	814	2 EA.	INSTALL 8 IN./12 IN. 1 WAY 5 SECTION (8" R,Y,G - 12" YA,GA) POLYCARBONATE SIGNAL HEAD - SPAN MOUNT
800000	818	3 EA.	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE WITH PHOTO-CELL
800000	818	3 EA.	FURNISH AND INSTALL 12 IN. X 2 FT. 2-PLY STEEL STRAIN POLE
800000	XXX	LUMP SUM	REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

1 RED LINE REV. NO. 1 7-14-97

TEMPORARY SIGNAL PHASE II — DWG. NO. TS-38

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS
OWINGS MILLS, MARYLAND

REVISIONS
Ⓐ AUGUST 1996 - WTB MODIFY EXISTING SIGNAL SHA NO. PG9005171
JDM

APPROVALS
ASST. DIVISION CHIEF, TEDD
ASST. DISTRICT ENGINEER, TRAFFIC
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
DIRECTOR, OFFICE OF TRAFFIC & SAFETY

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

MD 704 (MARTIN LUTHER KING JR. HWY.) AND LOTTSFORD VISTA RD./BUSINESS PKWY.

LOG MILE NO. 16070406.25 DATE 1/22/90

DRAWN BY:	W.J. NIES (FOR STS)	F.A.P. NO.	N/A	PLAN SHEET NO.:	SHEET NO.
CHECK BY:	R.R. ZACHERL (FOR STS)	S.H.A. NO.	BW-311-802-312		
SCALE:	NONE	COUNTY	PRINCE GEORGES	TS-2637-X2-GI	384 OF 465