F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD	SEE TITLE SHEET	170B	241

PHASE CHART

	EXPLORATION PARK DRIVE															EXPEDITION PARK DRIVE											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	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	DW	DW	DW	DW	R	R	G	G	G	G	R	R	DW	DW	DW	DW
1 + 5 CHANGE	TO 1+6, 2+5 OR 2+6																										
PHASE 1 + 6	R	R	R	R	G	G	G	G	R	R	R	DW	DW	DW	DW	R	R	R	R	G	G	R	R	DW	DW	WK	WK
PED. CLEAR	R	R	R	R	G	G	G	G	R	R	R	DW	DW	DW	DW	R	R	R	R	G	G	R	R	DW	DW	WK	WK
1 + 6 CHANGE	R	R	R	R	Y	Y	G	G	R	R	R	DW	DW	DW	DW	R	R	R	R	G	G	R	R	DW	DW	WK	WK
PHASE 2 + 5	G	G	G	G	R	R	R	R	R	R	R	WK	WK	DW	DW	R	R	G	G	R	R	R	R	DW	DW	DW	DW
PED. CLEAR	G	G	G	G	R	R	R	R	R	R	R	WK	WK	DW	DW	R	R	G	G	R	R	R	R	DW	DW	DW	DW
2 + 5 CHANGE	Y	Y	G	G	R	R	R	R	R	R	R	WK	WK	DW	DW	R	R	G	G	R	R	R	R	DW	DW	DW	DW
PHASE 2 + 6	R	R	G	G	R	R	G	G	R	R	R	WK	WK	DW	DW	R	R	G	G	G	G	R	R	DW	DW	WK	WK
PED. CLEAR	R	R	G	G	R	R	G	G	R	R	R	FL/DW	FL/DW	DW	DW	R	R	G	G	G	G	R	R	DW	DW	FL/DW	FL/DW
2 + 6 CHANGE	R	R	Y	Y	R	R	G	G	R	R	R	DW	DW	DW	DW	R	R	G	G	Y	Y	R	R	DW	DW	DW	DW
PHASE 3	R	R	G	G	R	R	G	G	R	R	R	DW	DW	DW	DW	G	G	G	G	R	R	R	R	DW	DW	DW	DW
3 CHANGE	R	R	Y	Y	R	R	Y	Y	R	R	R	DW	DW	DW	DW	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW
PHASE 4 + 8	R	R	R	R	R	R	R	R	G	G	G	DW	DW	DW	DW	R	R	R	R	R	R	G/G	G	DW	DW	DW	DW
4 + 8 CHANGE	R	R	R	R	R	R	R	R	G	G	G	DW	DW	DW	DW	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW
PHASE 4 + 8 ALT.	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	WK	WK	R	R	R	R	R	R	G/G	G	WK	WK	DW	DW
PED. CLEAR	R	R	R	R	R	R	R	R	G	G	G	DW	DW	FL/DW	FL/DW	R	R	R	R	R	R	G/G	G	FL/DW	FL/DW	DW	DW
4 + 8 ALT. CHANGE	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK	DARK	DARK
PRE-EMPTION PHASES																											
PE. #1	R	R	R	R	R	R	G	G	R	R	R	DW	DW	DW	DW	R	R	R	R	G	G	R	R	DW	DW	DW	DW
CHANGE	R	R	R	R	R	R	Y	Y	R	R	R	DW	DW	DW	DW	R	R	R	R	Y	Y	R	R	DW	DW	DW	DW
PE. #2	R	R	G	G	R	R	G	G	R	R	R	DW	DW	DW	DW	R	R	G	G	R	R	R	R	DW	DW	DW	DW
CHANGE	R	R	Y	Y	R	R	Y	Y	R	R	R	DW	DW	DW	DW	R	R	Y	Y	R	R	R	R	DW	DW	DW	DW

PROJECT DESCRIPTION

GENERAL:

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC SIGNAL AND STREET LIGHTING AT MD 235 AND EXPEDITION PARK DRIVE IN ST. MARY'S COUNTY. MD 235 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION:

1. NORMAL OPERATION

   THE INTERSECTION WILL OPERATE IN A NEMA SEVEN-PHASE, FULL-TRAFFIC ACTUATED MODE, WITH THE MD 235 APPROACHES RUNNING CONCURRENTLY AND EXPEDITION PARK DRIVE/EXPLORATION PARK DRIVE APPROACHES RUNNING CONCURRENTLY. PHASES. EXCLUSIVE LEFT TURN PHASING WILL BE PROVIDED FOR THE MD 235 SOUTH BOUND APPROACH.

2. SPECIAL OPERATION

   THE INTERSECTION WILL OPERATE AS INDICATED ABOVE UNLESS THE OPTICOM DEVICE IS ACTIVATED WHICH WILL PRE-EMPT THE TRAFFIC SIGNAL AND STOP THE WB APPROACH OF EXPEDITION PARK DRIVE AND EITHER THE NB OR SB APPROACH ON MD 235.

CONTROLLER REQUIREMENTS:

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH THREE (3) FOUR-CHANNEL, TIME DELAY OUTPUT LOOP DETECTOR AMPLIFIERS. INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, TELEMETRY MODULE, OPTICOM DISCRIMINATOR MODULE, ISOLATION BOARD AND SPECIAL RELAY HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET.

SPECIAL NOTE:

UPON COMPLETION OF THIS INTERSECTION ALL WIRING FROM MD 235 AT EXPLORATION PARK DRIVE SHALL BE RUN AND READY FOR CONNECTION AT MD 235 AT EXPEDITION PARK DRIVE. THE TWO INTERSECTIONS SHALL THEN BECOME ONE RUNNING OFF ONE CONTROLLER CABINET AND PHASED PER THE PLANS OF MD 235 AT EXPEDITION PARK DRIVE.

PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT #5 ARE AS FOLLOWS:

MR. PAUL ARMSTRONG
DISTRICT ENGINEER
PHONE: 410-841-5450

MR. LAWRENCE E. ELLIOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: 410-841-5450

MR. JOHN MAYS
UTILITY ENGINEER
PHONE: 410-841-5450

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: 410-787-7630

THE POWER COMPANY REPRESENTATIVE IS:
SOUTHERN MARYLAND ELECTRIC COOPERATIVE (SMECO)
PO BOX 1937
HUGHESVILLE, MD 20637-1937
301-274-3111

WIRING KEY

A,B,C	MICRO-LOOP PROBE SET LEAD-IN
D,E,F,G,H,I,J,DD, EE,FF,GG,HH	2-CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED)
K,L,M,N,JJ, KK,LL,MM,NN	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
O,P,Q,R	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
S,T,II	4-CONDUCTOR OPTICOM DETECTOR CABLE (NO. 20 A.W.G.)
U,V	2-CONDUCTOR ELECTRICAL TRAY CABLE (NO. 12 A.W.G.)
W,X,Y,Z,OO,PP	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
AA,BB,QQ	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
CC	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
RR,SS,TT	1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

ML - MICRO-LOOP PROBE SET

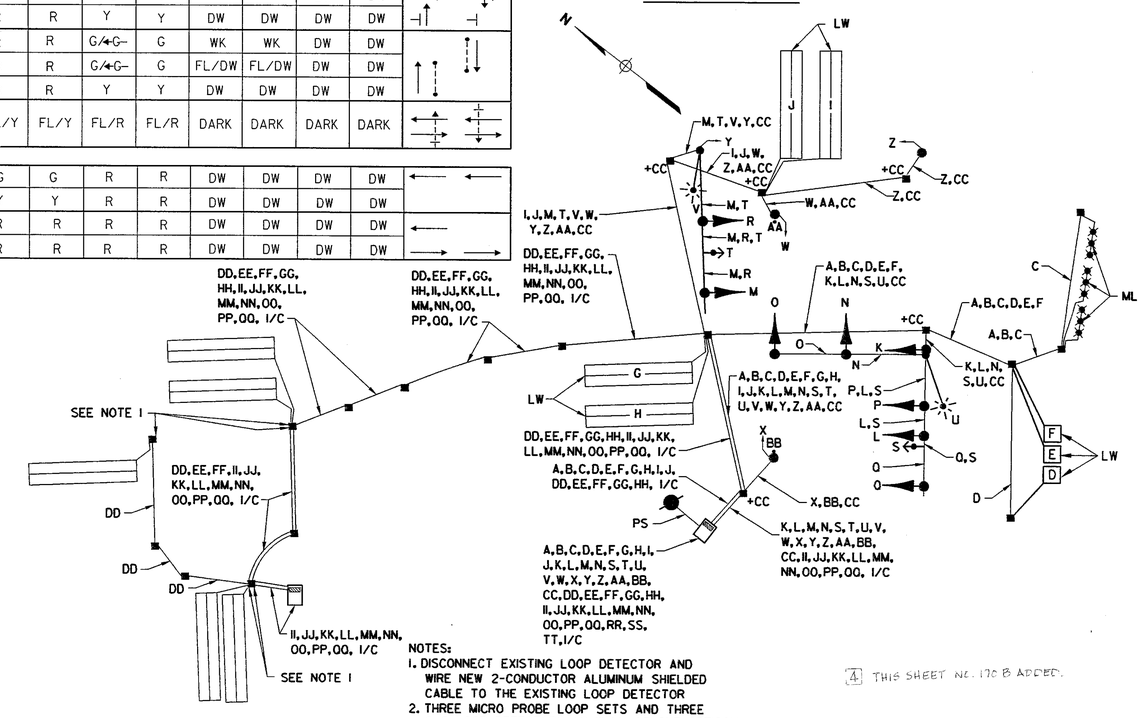
LW - LOOP WIRE (NO. 14 A.W.G.)

PS - PROPOSED UNDERGROUND SERVICE

\+ - ¾IN. x 10 FT. GROUND ROD

I/C } 12 PAIR COMMUNICATION CABLE, SELF SUPPORTING

WIRING DIAGRAM



NOTES:

1. DISCONNECT EXISTING LOOP DETECTOR AND WIRE NEW 2-CONDUCTOR ALUMINUM SHIELDED CABLE TO THE EXISTING LOOP DETECTOR
2. THREE MICRO PROBE LOOP SETS AND THREE 6x6 LOOP DETECTORS AS WELL AS ONE OPTICOM DETECTOR SHALL BE REWIRED AS SHOWN ON DRAWING NO. SS-25.

4 THIS SHEET NO. 170 B ADDED.

FINAL SIGNAL

SS-26B

RUMMEL, KLEPPER & KAHL, LLP
CONSULTING ENGINEERS
81 MOSHER STREET
BALTIMORE, MARYLAND 21217
TELE:(410)728-2900 FAX:(410)728-3160

REVISIONS:	APPROVALS:
	CHIEF SIGNAL DESIGN SECTION
	ASST. DISTRICT ENGINEER TRAFFIC
4 REDLINE REVISION NO. 4 NEW SHEET SHA No.: SM7685270 12/7/2000	CHIEF TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR OFFICE OF TRAFFIC & SAFETY

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

LOG MILE # 18023513.13

DRAWN BY: SMH
DES. BY: SMH
CHK. BY: SMH/BLB

MD 235 @ EXPEDITION PARK DRIVE/EXPLORATION PARK DRIVE
SIGNAL PLAN
COUNTY: ST. MARY'S

DATE: APRIL, 2000 F.A.P. NO. SEE TITLE SHEET
SCALE: N.T.S. S.H.A. NO. SEE TITLE SHEET

TS/STD. NO.: 3787A-GI3

SHEET NO. 170B OF 241

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