PROJECT DESCRIPTION

GENERAL

I. THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC SIGNAL DUE TO THE ADDITION OF AN ACCESS RAMP FROM ROUTE 459 (COLUMBIA PARK ROAD) TO EASTBOUND US 50 AND A SIGNAL MODIFICATION AT CHEVERLY ROAD DUE TO THE RECONSTRUCTION OF ROUTE 459 (COLUMBIA PARK ROAD) AT CHEVERLY ROAD. THE INTERSECTIONS ARE IN PRINCE GEORGES COUNTY.

II. INTERSECTION OPERATION

THE INTERSECTIONS WILL OPERATE IN A NEMA EIGHT (8) PHASE, FULL TRAFFIC ACTUATED MODE.

III. CONTROLLER REQUIREMENTS

INTERSECTION OF EAST BOUND ROUTE 50 OFF-RAMP AT COLUMBIA PARK ROAD: FULL-TRAFFIC-ACTUATED EIGHT-PHASE CONTROLLER WITH TWO (2) FOUR CHANNEL TIME DELAY OUTPUT LOOP DETECTOR AMPLIFIERS, HOUSED IN A NEMA SIZE 6 BASE MOUNTED CABINET.

INTERSECTION OF COLUMBIA PARK ROAD AND CHEVERLY AVENUE: NO NEW CONTROLLER NEEDED.

IV. MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: 104.00 - 104-00-30, 104.38-02, 104.39-02, 104.40-02, 104.41-02.

PROJECT CONTACTS

MELODY COOK
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(410) 787-4024

CHARLES K. WATKINS
DISTRICT ENGINEER
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ASSIST. D.E./CONSTRUCTION
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RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
(410) 787-7630

EQUIPMENT LIST 'A'

EQUIPMENT TO BE SUPPLIED BY SHA

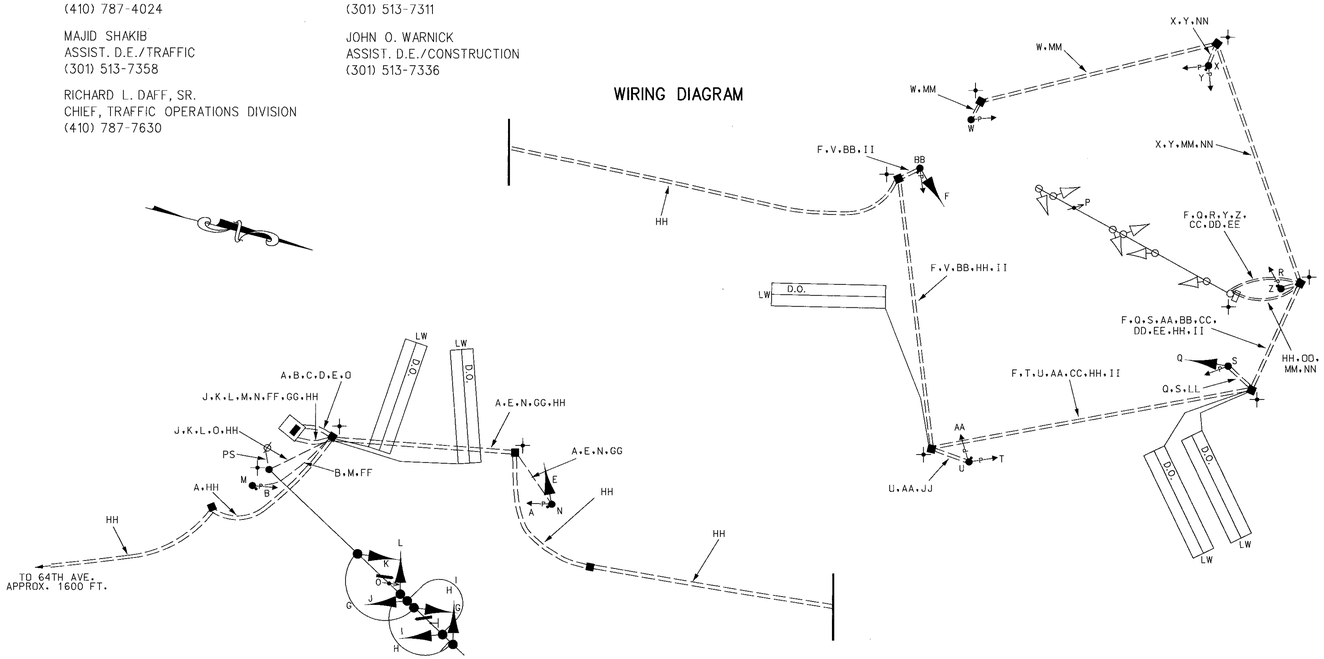
QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1	EA.	SP.	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH TELEMETRY HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
3	EA.	SP.	FOUR-CHANNEL, TIME DELAY OUTPUT, LOOP DETECTOR AMPLIFIER
2	EA.	SP.	12 INCH, TWO WAY, TWO SECTION (DON'T WALK, WALK) PEDESTRIAN SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR PEDESTAL POLE TOP MOUNTING AND CUTAWAY VISORS.
5	EA.	SP.	12 INCH, ONE WAY, TWO SECTION (DON'T WALK, WALK) PEDESTRIAN SIGNAL HEAD FOR PEDESTAL POLE TOP MOUNTING AND CUTAWAY VISORS.
4	EA.	SP.	PEDESTRIAN PUSH BUTTON AND R10-3C SIGN.
68	SF.	S13	FLAT SHEET ALUMINUM SIGNS CONSISTING OF:
		1 EACH-	R3-5 SIGN 36" X 30" MAST ARM MOUNT
		1 EACH-	R10-12 SIGN 36" X 30" MAST ARM MOUNT
		1 EACH-	R3-2 SIGN (US 50 WEST) 16" X 96" (BACK TO BACK) MAST ARM MOUNT
		1 EACH-	R3-2 B SIGN 24" X 24" MAST ARM MOUNT
		2 EACH-	W11-2 SIGN 36" X 36" GROUND MOUNT
		1 EACH-	M6-2(L) SIGN 21" X 15" GROUND MOUNT
		1 EACH-	M6-2(R) SIGN 21" X 15" GROUND MOUNT

EQUIPMENT LIST 'B'

EQUIPMENT FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
6	CY	205	TEST PIT EXCAVATION
200	LF	XXXX	FURNISH AND INSTALL 24 INCH WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE (STOP LINE)
550	LF	XXXX	FURNISH AND INSTALL 12 INCH WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE (CROSSWALK)
45	SF	813	INSTALL OVERHEAD SIGN
6	EA	814	FURNISH AND INSTALL 12" 1-WAY 3-SECTION (R,Y,G) SIGNAL HEAD - MASTARM MOUNT
21	EA	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE
11	CY	801	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
60	LF	805	FURNISH AND INSTALL 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
250	LF	805	FURNISH AND INSTALL 2" PVC SCHEDULE 80 ELECTRICAL CONDUIT-TRENCHED
2000	LF	805	FURNISH AND INSTALL 2" PVC SCHEDULE 80 ELECTRICAL CONDUIT-SLOTTED
40	LF	805	FURNISH AND INSTALL 4" PVC SCHEDULE 80 ELECTRICAL CONDUIT-TRENCHED
1	EA	807	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT
1	EA	818	FURNISH AND INSTALL 27-FOOT STEEL POLE WITH A SINGLE 70 FT. MAST ARM
270	LF	805	FURNISH AND INSTALL 3" PVC SCHEDULE 80 ELECTRICAL CONDUIT-SLOTTED
170	LF	810	4 CONDUCTOR ELECTRICAL CABLE (NO. 20 AWG)
23	SF	813	INSTALL GROUND MOUNTED SIGNS
35	LF	812	FURNISH AND INSTALL WOOD SIGN SUPPORT 4" X 4"
2	EA	XXXX	OPTICOM DETECTOR EYE
3	EA	814	FURNISH AND INSTALL 12" 1-WAY 3-SECTION (R,Y,G) SIGNAL HEAD- PEDESTAL MOUNT
1	EA	XXXX	AS BUILT FOR TRAFFIC SIGNAL
10	EA	804	FURNISH AND INSTALL GROUND ROD -3/4 INCH DIAMETER X 10-FOOT LENGTH
610	LF	810	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
250	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-2 CONDUCTOR (ALUMINUM SHIELDED)
445	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-2 CONDUCTOR (NO. 14 AWG)
745	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-7 CONDUCTOR (NO 14 AWG)
65	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-5 CONDUCTOR (NO 14 AWG)
2420	LF	810	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)
510	LF	815	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
8	EA	818	FURNISH AND INSTALL 14-FOOT BREAKAWAY PEDESTAL
2250	LF	818	FURNISH AND INSTALL 12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND).
1	EA	104	MAINTENANCE OF TRAFFIC
755	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-3 CONDUCTOR (NO. 14 AWG)
34	LF	805	FURNISH AND INSTALL 3" PVC SCHEDULE 80 ELECTRICAL CONDUIT-TRENCHED
2	EA	XXXX	FURNISH AND INSTALL AUTOSCOPE 2004LE CAMERA WITH ADPRO TRANSMISSION UNIT AND APPROPRIATE EQUIPMENT
61	LF	805	FURNISH AND INSTALL 3" PVC SCHEDULE 80 ELECTRICAL CONDUIT-TRENCHED

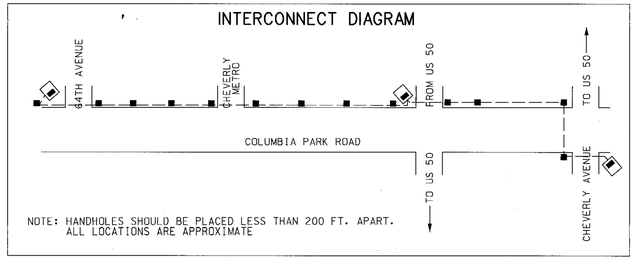
WIRING DIAGRAM



PHASING SEQUENCE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13,14	15,16, 18,19	17,18, 20,21
	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G			
PHASE 1 & 5	R	R	R	R	G	G	←G-R	G	R	R	R	R	DW	DW	DW
1 & 5 CHANGE	THE CONTROLLER MAY SKIP TO PHASES 1 & 6, OR 2 & 5, OR 2 & 6.														
PHASE 1 & 6	R	R	R	R	G	G	R	R	G	G	R	R	DW	WALK	DW
PED CLEAR	R	R	R	R	G	G	R	R	G	G	R	R	DW	FL/DW	DW
1 CHANGE	R	R	R	R	Y	Y	R	R	Y	Y	R	R	DW	DW	DW
PHASE 2 & 5	G	G	G	G	R	R	←G-G	R	R	R	R	R	WALK	DW	DW
PED CLEAR	G	G	G	G	R	R	←G-G	R	R	R	R	R	FL/DW	DW	DW
5 CHANGE	Y	Y	Y	Y	R	R	←Y-G	R	R	R	R	R	DW	DW	DW
PHASE 2 & 6	G	G	G	G	R	R	G	G	G	G	R	R	DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	R	R	Y	Y	Y	Y	R	R	DW	DW	DW
PHASE 4	G	G	G	G	R	R	R	R	R	R	G	G	DW	DW	DW
4 CHANGE	Y	Y	Y	Y	R	R	R	R	R	R	Y	Y	DW	DW	DW
4 ALT.	G	G	G	G	R	R	R	R	R	R	G	G	DW	DW	WALK
PED CLEAR	G	G	G	G	R	R	R	R	R	R	G	G	DW	DW	FL/DW
4 ALT. CHANGE	Y	Y	Y	Y	R	R	R	R	R	R	Y	Y	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	DARK	DARK	DARK

INTERCONNECT DIAGRAM



WIRING LEGEND

A,B,Y-BB -2 CONDUCTOR ELECTRICAL CABLE (NO.14 A.W.G.)
C,D,CC-EE -2 CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED) (NO.14 A.W.G.)
M,N,R-W -3 CONDUCTOR ELECTRICAL CABLE (NO.14 A.W.G.)
G,H,I,X -5 CONDUCTOR ELECTRICAL CABLE (NO.14 A.W.G.)
E,F,J,K,L,Q -7 CONDUCTOR ELECTRICAL CABLE (NO.14 A.W.G.)
LW -LOOP WIRE
FF,GG,II-OO -STRANDED BARE COPPER GROUND WIRE (NO.6 A.W.G.)
⏚ -3/4" X 10' GROUND ROD
HH -12-PAIR JELLY-FILLED COMMUNICATION CABLE
O,P -4 CONDUCTOR OPTICOM DETECTOR CABLE
PS -PROPOSED ELECTRICAL SERVICE

DGI
DANIEL CONSULTANTS, INCORPORATED
CONSULTING ENGINEERS • COLUMBIA, MARYLAND

REVISIONS	APPROVALS
	TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION
	ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
(A) RECONSTRUCT TRAFFIC SIGNAL W/ GEO. IMPROVEMENTS SHA *PG1865170 11/99	DIRECTOR, TRAFFIC & SAFETY
SRM DGI	

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

MD 459 AT US 50 INTERCHANGE GENERAL INFORMATION SHEET

DRAWN BY: M. SCHNEIDER	F.A.P. NO. SEE TITLE SHEET	TS NO. 2091	SHEET NO.
CHECKED BY: BRUCE THOMPSON	S.H.A. NO. PG1865170		
SCALE: 1"=20'	COUNTY: PRINCE GEORGES	T.I.M.S. NO.	180 OF 217
DATE: 6/25/85	LOG MILE:		