PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF AN EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD ROUTE 28 (DARNESTOWN ROAD) AND QUINCE ORCHARD ROAD (MD 124) IN MONTGOMERY COUNTY. MD ROUTE 28 (DARNESTOWN ROAD) IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX (6) PHASE, SEMI-TRAFFIC-ACTUATED MODE. THERE WILL BE AN EXCLUSIVE LEFT TURN PHASE FOR BOTH EASTBOUND AND WESTBOUND MD 28 MOVEMENTS. THE MD 28 THROUGH MOVEMENTS ARE TO OPERATE CONCURRENTLY. ALL NORTHBOUND MOVEMENTS ON QUINCE ORCHARD ROAD WILL OPERATE CONCURRENTLY, AS WILL ALL SOUTHBOUND MOVEMENTS IN A SPLIT PHASING OPERATION. ALTERNATE CONCURRENT PEDESTRIAN PHASES WILL BE PROVIDED ACROSS THE EAST AND WEST LEGS OF MD 28. A CONCURRENT PEDESTRIAN PHASE IS PROVIDED ACROSS THE NORTH AND SOUTH LEGS OF QUINCE ORCHARD ROAD.

VIDEO TRAFFIC DETECTION SYSTEM

A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ~~FIVE (5) FOUR-CHANNEL, TIME DELAY OUTPUT LOOP~~ [4] DETECTOR AMPLIFIERS, AND L.V.U. AND L.A.U. PANEL WITH ASSOCIATED HARNESS HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET WILL BE INSTALLED AT THIS LOCATION.

III. INTERCONNECTION

THE EXISTING 50 PAIR VOICE GRADE INTERCONNECT CABLE BETWEEN THE INTERSECTIONS OF MD 28 @ QUINCE ORCHARD ROAD AND MD 28 @ POTOMAC VALLEY SHOPPING CENTER IS TO BE REROUTED AS SHOWN ON THE WIRING DIAGRAM. THE EXISTING 50 PAIR VOICE GRADE INTERCONNECT CABLE BETWEEN THE INTERSECTIONS OF MD 28 @ QUINCE ORCHARD ROAD AND QUINCE ORCHARD ROAD @ CHAPEL HILL ROAD IS TO BE REROUTED AS SHOWN ON THE WIRING DIAGRAM.

IV. PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT THREE ARE AS FOLLOWS:

MR. CHARLIE WATKINS
DISTRICT ENGINEER
PHONE (301) 513-7311

MR. AUGUSTINE REBISH
UTILITY ENGINEER
PHONE: (301) 513-7350

MR. MAJID SHAKIB
ASSISTANT DISTRICT
ENGINEER-TRAFFIC
PHONE: (301) 513-7358

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

THE CONTACT PERSON FOR
MONTGOMERY COUNTY DPW-T IS:
MR. ROBERT GONZALES
PHONE (240) 777-8761

THE POWER COMPANY REPRESENTATIVE IS
POTOMAC ELECTRIC POWER COMPANY
MR. JIM SLAYTON
PHONE: (202) 872-2000

EQUIPMENT LIST 'A'

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

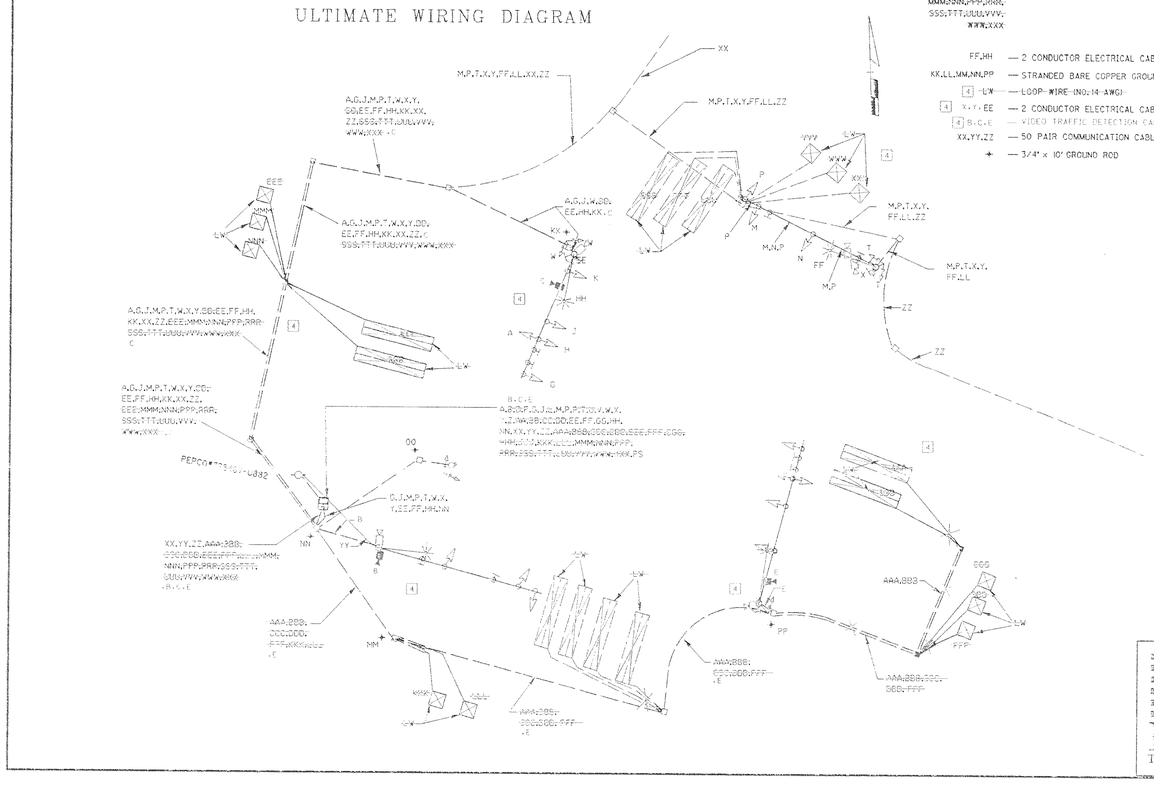
QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1	EA	SP	FOUR-CHANNEL, TIME DELAY OUTPUT, LOOP DETECTOR AMPLIFIER

EQUIPMENT LIST 'B'

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

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1000	LF	556	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE
250	LF	556	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE
4	EA	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE
[4] ~~85~~	~~LF~~	~~805~~	~~FURNISH AND INSTALL 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE~~
70	LF	805	FURNISH AND INSTALL 3" SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
240	LF	805	FURNISH AND INSTALL 4" SCHEDULE 80 RIGID PVC CONDUIT- SLOTTED
50	LF	805	FURNISH AND INSTALL 4" SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
230	LF	810	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
[4] ~~4750~~	~~LF~~	~~810~~	~~FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR (ALUMINUM SHIELDED)~~
700	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR (NO 14 AWG)
2900	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 5 CONDUCTOR (NO 14 AWG)
530	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 7 CONDUCTOR (NO 14 AWG)
[4] ~~5140~~	~~LF~~	~~810~~	~~FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)~~
[4] ~~1390~~	~~LF~~	~~815~~	~~FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)~~
720	LF	810	FURNISH AND INSTALL 2-CONDUCTOR CABLE (NO 12 AWG)
1	LS	SP	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
1	LS	SP	RELOCATE EXISTING COMMUNICATION CABLE
[4] 1400	LF	SP	FURNISH AND INSTALL VIDEO TRAFFIC DETECTION SYSTEM
[4] 3	EA	SP	FURNISH AND INSTALL VIDEO TRAFFIC DETECTION CABLE

ULTIMATE WIRING DIAGRAM



WIRING LEGEND:

M.P — 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
A.G.H. J.K.N.T.V.W — 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
[4] AAA.BBB.CCC.DDD. EEE.FFF.KKK.LLL. MMM.NNN.PPP.RRR. SSS.TTT.UUU.VVV. WWW.XXX — 2 CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED) (NO. 14 A.W.G.)
FF.HH — 2 CONDUCTOR ELECTRICAL CABLE TYPE T/C (NO. 12 A.W.G.)
KK.LL.MM.NN.PP — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
[4] LW — LOOP WIRE (NO. 14 AWG)
[4] X.Y. EE — 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
[4] B.C.E — VIDEO TRAFFIC DETECTION CABLE (NO. 18 A.W.G.)
XX.YY.ZZ — 50 PAIR COMMUNICATION CABLE, JELLY FILLED
✦ — 3/4" x 10' GROUND ROD

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PHASE 1 & 5	G	G	G	R	R	G	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
1 & 5 CHANGE	TO PHASE 1 & 6, OR PHASE 2 & 5, OR PHASE 2 & 6																							
PHASE 1 & 6	G	G	G	G	G	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
1 CHANGE	Y	Y	Y	G	G	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	R	R	G	G	G	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
5 CHANGE	R	R	R	R	R	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 & 6	R	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	W	W	W	W	DW	DW	DW	DW
PED CLEAR	R	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	R	R	R	Y	Y	R	R	R	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	R	R	R	R	G/G	G/G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 CHANGE	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	R	R	R	R	R	R	R	G/G	G/G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
ALT 3	R	R	R	R	R	R	R	R	R	R	G/G	G/G	G	R	R	R	DW	DW	DW	DW	W	W	DW	DW
PED CLEAR	R	R	R	R	R	R	R	R	R	R	G/G	G/G	G	R	R	R	DW	DW	DW	DW	FL/DW	FL/DW	DW	DW
3 CHANGE	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
ALT 4	R	R	R	R	R	R	R	R	R	R	R	R	R	G/G	G/G	G	DW	DW	DW	DW	DW	DW	W	W
PED CLEAR	R	R	R	R	R	R	R	R	R	R	R	R	R	G/G	G/G	G	DW	DW	DW	DW	DW	DW	FL/DW	FL/DW
4 CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

TSP 18

REVISION 'B'
KCI TECHNOLOGIES INC.
ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
21030-1888
(410) 316-7300

KCI TECHNOLOGIES

REVISIONS
(B) 10-00 NEW MD 28 GEOMETRICS SHA CONT. NO. M0528271
(A) ADDENDUM NO. 3 REPLACEMENT SHEET 12/19/2000
[4] REDLINE NO. 4 REPLACEMENT SHEET 9/27/2001
Q.X.
(A) 10-94 NEW MD 124 GEOMETRICS SHA CONT. NO. M528-501-371
W.O. R.O. H.C.I. T.N.

APPROVALS

PROJECT MANAGER, SIGNAL DESIGN DIVISION
ORIGINAL
ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
ON
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
FILE
DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
ULTIMATE
MD 28 (DARNESTOWN RD) AND QUINCE ORCHARD RD (MD 124)

DRAWN BY:	M.C.D./N.J.R.	F.A.P. NO.		TS NO. 16438-01	SHEET NO. 317 OF 434
CHECKED BY:	H.J.A.	S.H.A. NO.	M295-501-385		
SCALE:	NONE	COUNTY:	MONTGOMERY	T.I.M.S. NO. D107	
DATE:	1-10-79	LOG MILE:	15002815.70		

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9/22/01 5:18:20 PM G:\PLOTTING\PS7\OCP\MYLAR_HP.pct Mesenay Pierre Division:Transportation m:\1997\097029\md28\QUINCE\SP020RU1.PRP