

**PROJECT DESCRIPTION**

THIS PROJECT INVOLVES A MODIFICATION OF THE EXISTING TRAFFIC-SIGNAL INSTALLATION AT THE INTERSECTION OF MD 210 (INDIAN HEAD HIGHWAY) AND LIVINGSTON ROAD/PALMER ROAD. VEHICULAR SIGNAL HEADS FOR THE NORTHBOUND AND SOUTHBOUND APPROACHES WILL BE CHANGED TO BLACK-FACED SIGNALS. VIDEO DETECTION WILL REPLACE THE EXISTING PRESENCE LOOP DETECTORS FOR THE NORTHBOUND AND SOUTHBOUND LEFT TURN MOVEMENTS AND THE EASTBOUND AND WESTBOUND APPROACHES. MICRO-LOOP PROBES WILL REPLACE THE EXISTING PASSAGE LOOP DETECTORS FOR THE SOUTHBOUND APPROACH. MD 210 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

**CONTROLLER OPERATION**

THE EXISTING EIGHT-PHASE FULLY-ACTUATED NEMA CONTROLLER WILL BE USED. THE CONTROLLER WILL CONTINUE TO OPERATE IN A FOUR-PHASE FULLY-ACTUATED MODE WITH THE NORTHBOUND AND SOUTHBOUND MD 210 APPROACHES RUNNING CONCURRENTLY AND THE EASTBOUND LIVINGSTON ROAD AND WESTBOUND PALMER ROAD APPROACHES RUNNING IN CONSECUTIVE PHASES. EXCLUSIVE PHASING IS PROVIDED FOR THE NORTHBOUND AND SOUTHBOUND LEFT TURN MOVEMENTS. AN ALTERNATE PEDESTRIAN PHASE OPERATES CONCURRENTLY WITH THE EASTBOUND LIVINGSTON ROAD MOVEMENT UPON PEDESTRIAN ACTUATION. VIDEO DETECTION INTERFACE EQUIPMENT WILL BE INSTALLED IN THE EXISTING CABINET.

**MAINTENANCE OF TRAFFIC**

THE FOLLOWING WORK ZONE TRAFFIC CONTROL STANDARDS SHALL BE USED FOR THE TRAFFIC SIGNAL-RELATED CONSTRUCTION AND SHALL SUPPLEMENT THE PROJECT TRAFFIC CONTROL PLAN.

- STANDARD NO. 104.00
- STANDARD NO. 104.44-01 (LEFT LANE CLOSURE)
- STANDARD NO. 104.45-01 (RIGHT LANE CLOSURE)
- STANDARD NO. 104.46-01 (CENTER LANE CLOSURE)
- STANDARD NO. 104.48-01 (INTERSECTION (LEFT LANE/TURN BAY CLOSURE))
- STANDARD NO. 104.49-01 (SHOULDER WORK)

CONTACT PERSONS FOR DISTRICT 3 ARE AS FOLLOWS: CONTACT PERSONS FOR THE OFFICE OF TRAFFIC AND SAFETY ARE AS FOLLOWS:

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

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

MR. AUGUSTINE REBISH  
ASSISTANT DISTRICT ENGINEER - UTILITIES  
(301) 513-7350

MR. ROBERT SNYDER  
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS  
410-787-7631

MR. RALEIGH MEDLEY  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
(301) 513-7304

MR. ED RODENHIZER  
CHIEF, SIGNAL OPERATIONS  
410-787-7652

THE POWER COMPANY REPRESENTATIVE IS:

MR. EUGENE BAILEY  
TEAM LEADER SIGN OPERATIONS  
410-787-7676

POTOMAC ELECTRIC POWER COMPANY  
MR. RICHARD CHILCOAT  
(202) 872-2000

**EQUIPMENT LIST**

**A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION**

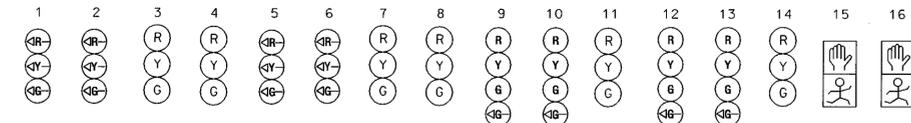
ITEM NO.	QUANTITY	DESCRIPTION
9001	1 EA	VIDEO INTERFACE EQUIPMENT
9003	3 EA	FOUR CHANNEL LOOP DETECTION AMPLIFIER, RACK MOUNT

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

ITEM NO.	QUANTITY	DESCRIPTION
2001	2 CY	TEST PIT EXCAVATION
8001	1 LS	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
8002	6 EA	RELOCATE EXISTING OVERHEAD SIGN
8003	1 EA	PUSHBUTTON SIGN
8004	2 EA	INSTALL CONDUIT BEND IN EXISTING BASE
8009	110 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
8010	15 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8011	5 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8012	15 LF	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8013	3 EA	MICROLOOP PROBE, 1000 FOOT LEAD IN CABLE
8014	2 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8016	4 EA	VIDEO DETECTION CAMERA
8018	4 EA	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
8019	1 EA	AS-BUILT FOR TRAFFIC SIGNAL
8020	46 EA	12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8022	900 LF	ELECTRICAL CABLE - 5 CONDUCTOR (No 14 AWG)
8023	2850 LF	ELECTRICAL CABLE - 7 CONDUCTOR (No 14 AWG)
8025	110 LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)
8026	1 EA	PUSHBUTTON AND SIGN
8027	2 EA	20 FOOT LIGHTING ARM ON SIGNAL STRUCTURE

**C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA:  
ALL REMOVED SIGNAL MATERIALS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR.**

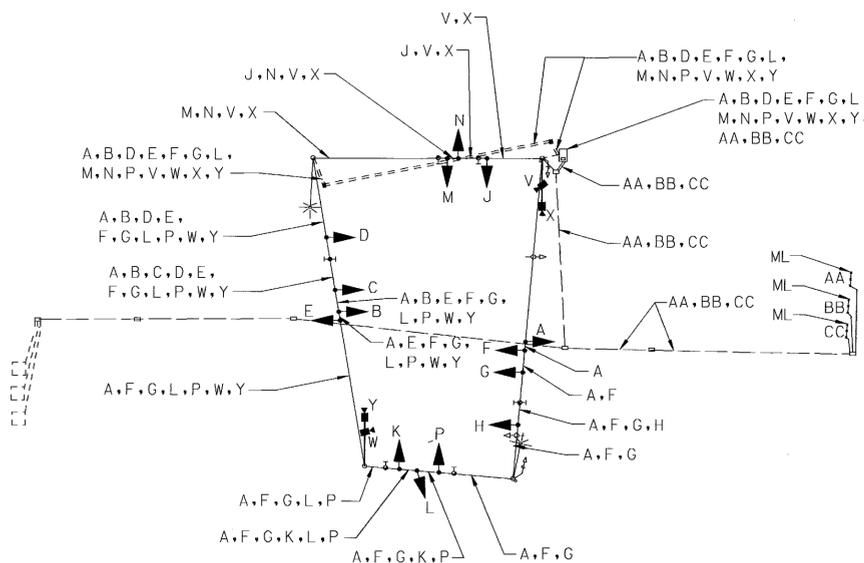
**PHASE CHART**



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

MD 210 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION

**WIRING DIAGRAM**  
NOT TO SCALE



**WIRING NOTE:**

- EXISTING WIRING FOR EQUIPMENT WHICH IS BEING REMOVED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- EXISTING LEAD-IN CABLE FOR LOOP DETECTORS WHICH ARE BEING ABANDONED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- EXISTING WIRING NOT DETAILED SHALL REMAIN IN PLACE.

**WIRING LEGEND**

- A,B,E,F,L,M,N,P - 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- C,D,G,H,J,K - 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- AA,BB,CC - MICRO-LOOP PROBE LEAD-IN
- V,W,X,Y - VIDEO DETECTION CAMERA CONTROL CABLE
- ML - MICRO-LOOP PROBE SET

PLOT DATE: 08/12 AM on Wednesday, October 23, 2002  
 FILE: \\MVA\9517\0391028286\cdrow\9517402902.dgn

**KCI TECHNOLOGIES**  
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**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
*Office of Traffic & Safety*  
**TRAFFIC ENGINEERING DESIGN DIVISION**  
 GENERAL INFORMATION SHEET  
 MD 210 (INDIAN HEAD HIGHWAY) AT  
 PALMER ROAD/LIVINGSTON ROAD

DRAWN BY: J. LAWRENCE	F.A.P. NO.:	TS NO.:
CHECKED BY: A. HOTTENSTEIN	S.H.A. NO.:	918F-GI
SCALE: NONE	COUNTY: PRINCE GEORGE'S	T.I.M.S. NO.:
DATE: 10/02	LOG MILE: 16021010.61	F402

SHEET NO. 2 OF 2