F.H.W.A. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD	SEE TITLE SHEET	67	134

GENERAL

This project involves the reconstruction of the existing US Route 29/MD 193 traffic signals and construction of two new traffic signals on MD 193 during the US Route 29 (Colesville Road) Reconstruction Project (widening) from I-495 (Capital Beltway) to North of Timberwood Avenue. US 29 is assumed to run in a North-South direction.

Traffic signals and interconnect shall be maintained during construction of the proposed signal equipment.

INTERSECTION OPERATION

The intersection of US 29 at Eastbound MD 193 will operate in a NEMA four-phase semi-traffic-actuated mode with northbound and southbound US 29 operating concurrently, with a dummy phase for inside clearance on US 29 and a pedestrian phase. Eastbound MD 193 will operate alone with an alternate pedestrian phase.

CONSTRUCTION DETAILS

A. Install 27' steel pole with twin 44' and 54' mast arms, 20' lighting arm and luminaire, traffic signal heads, pedestrian signal heads, push button, and signs as shown (NOTE: 2-3" PVC 90 degree angle conduit bends).

B. Install 8' breakaway pedestal pole with pedestrian signal heads, push button, and signs as shown (NOTE: 1-2" PVC 90 degree angle conduit bend).

C. Install 27' steel pole with twin 34' and 58' mast arms, 20' lighting arm and luminaire, traffic signal heads, pedestrian signal heads, push button, and signs as shown (NOTE: 2-3" PVC 90 degree angle conduit bends).

D. Install traffic signal controller with control and distribution equipment (see drawing B-16) in base-mounted, system-ready cabinet.(NOTE: 1-2" PVC 90 degree angle (schedule 80) conduit bend and 2-4" PVC 90 degree angle conduit bends).

E. Install handhole.

F. Install 1" electrical conduit detector wire sleeve.

G. Install 2" schedule 40 electrical conduit-trenched/buried.

H. Install 3" schedule 40 electrical conduit-trenched/buried.

I. Install 4" schedule 40 electrical conduit-trenched/buried.

J. Install 4" schedule 80 electrical conduit-slotted with 1" flexible PVC corrugated inner conduit (color-orange) with an inner pull string.

K. Install 6'x 30' loop detector, quadrupole type (2-4-2 turns).

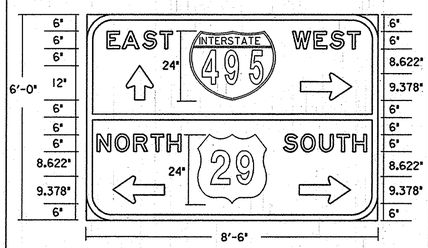
L. Install 6'x 6' loop detector (3 turns) (sampling station).

M. Install 4" schedule 40 electrical conduit-trenched with 1" flexible pvc corrugated inner conduit (color-orange) with an inner pull string.

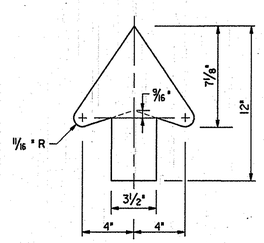
N. Remove and salvage existing traffic signal equipment.

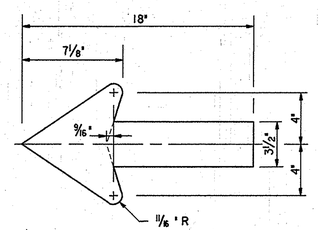
GENERAL NOTES

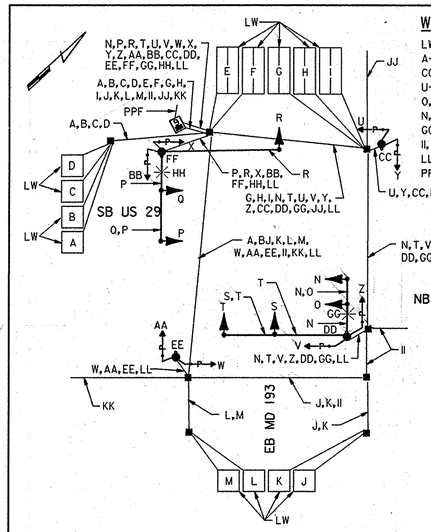
1. Geometrics shall be confirmed prior to the installation of signal equipment.
2. Loop detectors and conduits shall be installed prior to the installation of pavement markings.
3. All utilities are shown in their approximate locations and are not to be considered as complete. The Contractor shall be responsible for contacting Miss Utility to verify the location of all utilities. The Contractor shall contact The Project Engineer prior to construction if there may be potential conflicts.
4. Pavement markings detailed are proposed and are to be installed by the Contractor in accordance with S.H.A. standards. All other pavement markings will be installed as part of the highway contract.
5. All luminaires must be full cut off.
6. "D.O." indicates delay output loop detector.
7. See Utility Plans for utility information.
8. When installing the signal heads, the contractor must leave enough cable to relocate them for maintenance of traffic placement.
9. All loops must be installed in the base course paving, after milling is completed.
10. △3 Upon completion of this project, the Contractor shall notify Mr Robert Snyder at (410) 787-7631 to arrange the telephone line installation. The Contractor is to provide Mr. Robert Snyder with the nearest street address, zip code and telephone number.
11. △2 All patching shall be done in accordance with Std. No. MD-805.01 and Specification Section 809.

PANEL DESIGNATION	SHEET NO.	QUANTITY	LEGEND	COLOR: LEGEND	COLOR: BCKGRND	BORDER: WIDTH	BORDER: RADIUS	ARROW	SHIELD	LUMINAIRES
PM-1	SS-01	1		W	G	2"	9"		MI-1 30"x24" MI-4 24"x24"	-

NOTES: 1. COLORS: B=BLACK, BL=BLUE, BR=BROWN, G=GREEN, W=WHITE/SILVER, Y=YELLOW.
2. SIGN SHALL BE MADE FROM SHEET ALUMINUM







WIRING LEGEND

LW	LOOP WIRE
A-M	2-CONDUCTOR CABLE (ALUMINUM SHIELDED)
CC-FF	2-CONDUCTOR CABLE (NO. 14 A.W.G.)
U-BB	3-CONDUCTOR CABLE (NO. 14 A.W.G.)
O,Q,S	5-CONDUCTOR CABLE (NO. 14 A.W.G.)
N,P,R,T	7-CONDUCTOR CABLE (NO. 14 A.W.G.)
GG,HH	2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
II,JJ,KK	50-PAIR COMMUNICATION CABLE (NO. 19 A.W.G.)
LL	GROUND WIRE (NO. 6 A.W.G.)
PPF	PROPOSED POWER FEED BY PEPCO

NOTE:
SEE SHEET SS-17 FOR INTER-CONNECT WIRING DIAGRAM

EQUIPMENT LEGEND

- TRAFFIC SIGNAL POLE
- TRAFFIC SIGNAL POLE WITH PUSH BUTTON
- BASE MOUNTED CABINET
- HANDHOLE
- TRAFFIC SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- LIGHTING ARM WITH LUMINAIRE

WIRING DIAGRAM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	DW WK	DW WK	DW WK	DW WK	DW WK	DW WK	DW WK	DW WK
PHASE 2+5	G	G	G	G	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED. CLEAR.	G	G	G	G	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2+5 CHANGE	Y	Y	G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 6	R	R	G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
6 CHANGE	R	R	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 CHANGE	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 ALT.	R	R	R	R	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED. CLEAR.	R	R	R	R	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 ALT. CHANGE	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

PHASING CHART

SS-02

REVISIONS:	APPROVALS:
REVISED 09/95 FOR THE US 29 IMPROVEMENTS S.H.A. NO. M 425-502-370	ORIGINAL
△2 ADDENDUM NO.2 2-7-96	CHIEF SIGNAL DESIGN SECTION
	ON
	ASST. DISTRICT ENGINEER TRAFFIC
	CHIEF TRAFFIC ENGINEERING DESIGN DIVISION
	FILE
	DIRECTOR OFFICE OF TRAFFIC & SAFETY

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

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

LOG MILE # 15002902.69

DRAWN BY: ZAJ
DES. BY: ZAJ
CHK. BY:

US 29 @ EB MD 193
GENERAL INFORMATION

COUNTY: MONTGOMERY

DATE: SEPTEMBER, 1995
SCALE: None
F.A.P. NO.
S.H.A. NO. M 425-502-370

TS/STD. NO.: TS-3535-GI-2

SHEET NO. 67 OF 134

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