

JUNIATA STREET IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION  
PROJECT DESCRIPTION

THIS PORTION OF THE PROJECT INVOLVES THE INSTALLATION OF PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS, AND VIDEO DETECTION CAMERAS AT THE INTERSECTION OF JUNIATA STREET AND MD 7A (OTSEGO STREET), LOCATED IN HAVRE DE GRACE, HARFORD COUNTY. JUNIATA STREET IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION.

**NORMAL OPERATION**

THE INTERSECTION WILL OPERATE IN A FOUR PHASE FULLY-TRAFFIC ACTUATED MODE WITH THE JUNIATA STREET APPROACHES RUNNING CONCURRENTLY AND THE OTSEGO STREET APPROACHES RUNNING CONCURRENTLY. PEDESTRIAN PHASING WILL BE PROVIDED ACROSS THE NORTH, SOUTH, EAST AND WEST LEGS OF THE INTERSECTION.

**CONTROLLER REQUIREMENTS**

THE EXISTING FULLY-TRAFFIC ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER HOUSED IN A POLE MOUNTED CABINET WILL BE UTILIZED.

**GENERAL NOTES:**

- ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.
- PEDESTRIAN RAMPS ARE SHOWN IN APPROXIMATE LOCATIONS AND ARE NOT TO SCALE. ADDITIONAL SIDEWALK AND PEDESTRIAN RAMP IMPROVEMENTS TO BE PERFORMED BY OTHERS.
- ALL EXISTING UNUSED ELECTRICAL CABLES SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

**EQUIPMENT LIST "A"**

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

QUANTITY	DESCRIPTION
4 EA	NEMA LOAD SWITCH
1 EA	VIDEO INTERFACE EQUIPMENT

**EQUIPMENT LIST "B"**

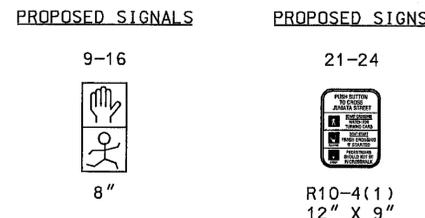
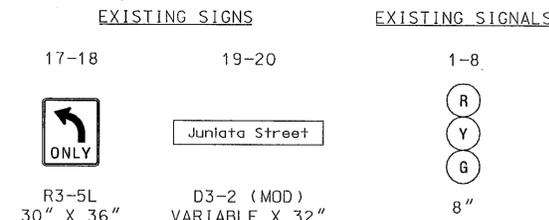
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
120500	L.S.	MAINTENANCE OF TRAFFIC
203030	1 C.Y.	TEST PIT EXCAVATION
585450	50 L.F.	REMOVE EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
585620	250 L.F.	12" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK)
585624	50 L.F.	24" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS (STOP LINE)
801004	1 C.Y.	CONCRETE FOR SIGNAL FOUNDATION
802501	35 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805050	4 EA	WEATHER HEAD, 3 INCH
805135	35 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
816001	4 EA	VIDEO DETECTION CAMERA
816005	4 EA	CONTROL CABLE, 250 FOOT VIDEO DETECTION CAMERA TO CONTROLLER
818004	1 EA	10 FOOT BREAKAWAY PEDESTAL POLE
860276	14 EA	8" PEDESTRIAN SIGNAL HEAD SECTION - POLE MOUNT
860280	2 EA	8" PEDESTRIAN SIGNAL HEAD SECTION - PEDESTAL POLE MOUNT
861105	585 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 A.W.G.)
861106	100 L.F.	ELECTRICAL CABLE - 3 CONDUCTOR (NO. 14 A.W.G.)
861107	500 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
865001	4 EA	PUSH BUTTON AND SIGN (R10-4(1) PUSH BUTTON TO CROSS JUNIATA STREET)

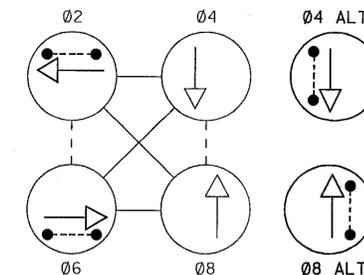
**EQUIPMENT LIST "C"**

C. EQUIPMENT TO BE REMOVED AND RETURNED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076.

ALL REMOVED SIGNAL MATERIALS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR

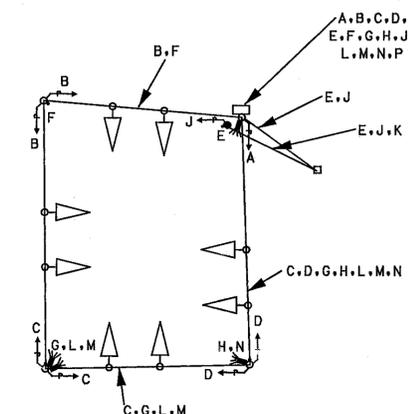


**NEMA PHASING**



**NOTE:**  
PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY  
PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY

**WIRING DIAGRAM**

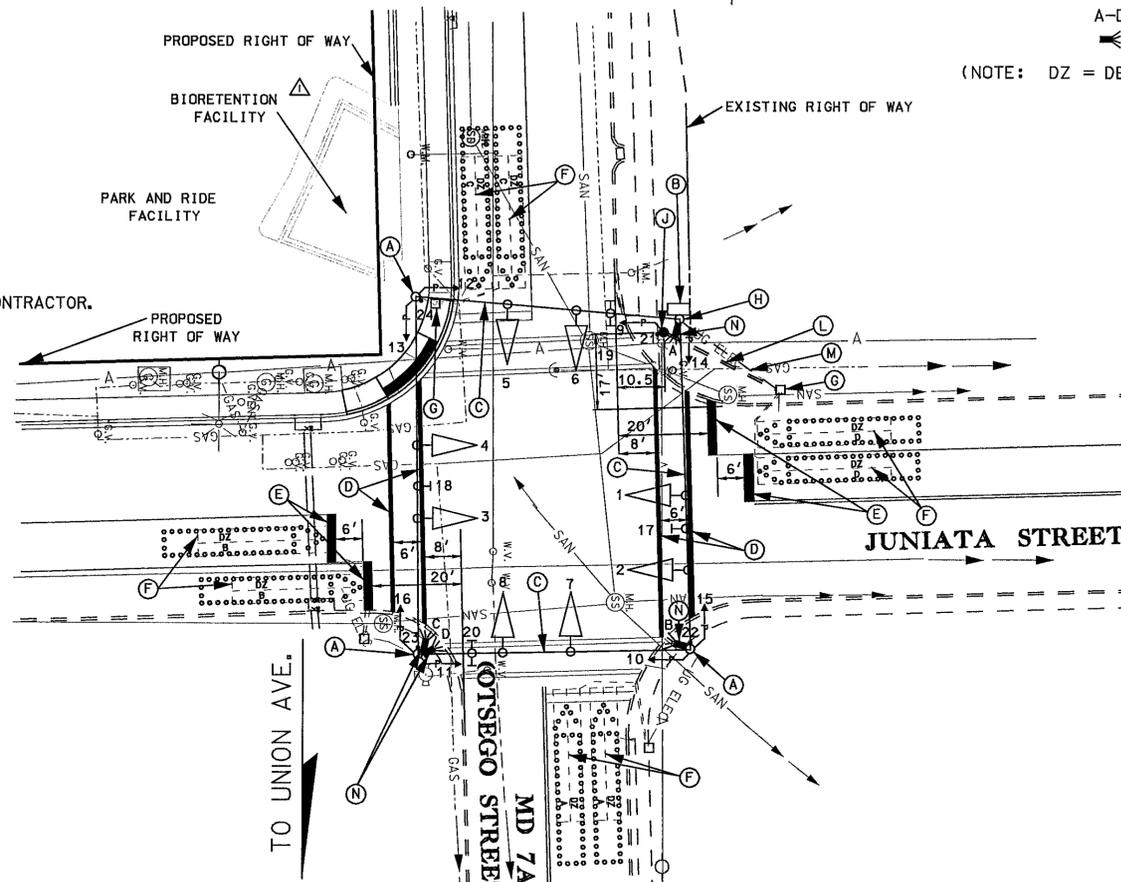


**WIRING KEY**

- B, C, D } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- E, F, G, H } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- A, J } 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- K } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- L, M, N, P } VIDEO DETECTION CAMERA TO CONTROLLER LEAD-IN CABLE

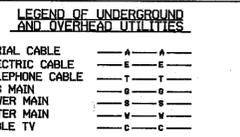
**PHASE CHART**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 2 + 6	R	R	R	R	R	R	R	R	WALK	WALK	WALK	WALK	DW	DW	DW	DW
PED CLEAR	Y	Y	Y	Y	Y	Y	Y	Y	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 + 6 CHANGE	Y	Y	Y	Y	R	R	R	R	DW							
PHASE 4 + 8	R	R	R	R	G	G	G	G	DW							
4 + 8 CHANGE	R	R	R	R	Y	Y	Y	Y	DW							
PHASE 4 + 8 ALT	R	R	R	R	G	G	G	G	DW	DW	DW	DW	WALK	WALK	WALK	WALK
PED CLEAR	R	R	R	R	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 + 8 ALT CHANGE	R	R	R	R	Y	Y	Y	Y	DW							
FLASHING OPERATION	Y	Y	Y	Y	R	R	R	R	DARK							



**CONSTRUCTION DETAILS**

- INSTALL TWO WAY PEDESTRIAN SIGNAL HEADS, WEATHERHEAD, PUSH BUTTON AND SIGN ON EXISTING POLE.
- USE EXISTING TRAFFIC SIGNAL CONTROLLER. MODIFY CONTROLLER TO ADD ALTERNATE PEDESTRIAN MOVEMENTS AND VIDEO DETECTION INTERFACE EQUIPMENT.
- USE EXISTING SPAN WIRE.
- INSTALL 12" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING (CROSSWALK).
- REMOVE EXISTING PAVEMENT MARKING REMNANTS AND INSTALL 24" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING (STOP LINE).
- ABANDON EXISTING LOOP.
- USE EXISTING HANDHOLE.
- INSTALL PEDESTRIAN SIGNAL HEAD AND WEATHERHEAD ON EXISTING POLE.
- INSTALL CONCRETE FOUNDATION, PEDESTAL POLE, ONE-WAY PEDESTRIAN SIGNAL HEAD, PUSH BUTTON AND SIGN.
- INSTALL 3 INCH SCHEDULE 80 RIGID PVC CONDUIT (TRENCHED).
- USE EXISTING CONDUIT
- INSTALL VIDEO DETECTION CAMERA ONTO EXISTING SIGNAL STRAIN POLE.



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**REVISIONS**

**APPROVALS**

TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION

ASST. CHIEF TRAFFIC ENGINEERING DESIGN DIVISION

CHIEF TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY

**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
Office of Traffic & Safety  
TRAFFIC ENGINEERING DESIGN DIVISION  
JUNIATA ST. AT MD 7A (OTSEGO ST.)  
HAVRE DE GRACE

DRAWN BY: B. THOMPSON  
CHECKED BY: A. BUDNICHUK  
SCALE: 1" = 20'  
DATE: 8/12/75

F.A.P. NO.  
S.H.A. NO.  
COUNTY: HARFORD COUNTY  
LOG MILE: 120007A002.40

TS NO. 1084A  
T.I.M.S. NO. F469

SHEET NO. 13A OF 20