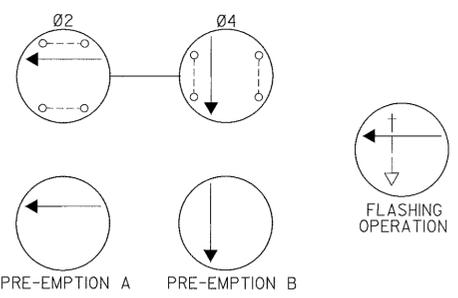


PHASE 2	G	G	R	R	W	W	W	W	DW	DW	DW	DW
2 PED CLEAR	G	G	R	R	FL DW	FL DW	FL DW	FL DW	DW	DW	DW	DW
2 CHANGE	Y	Y	R	R	DW							
PHASE 4 ALT.	R	R	G	G	DW	DW	DW	DW	W	W	W	W
4 ALT. PED CLEAR	R	R	G	G	DW	DW	DW	DW	FL DW	FL DW	FL DW	FL DW
4 CHANGE	R	R	Y	Y	DW							
PRE-EMPTION A	G	G	R	R	DW							
A CHANGE	Y	Y	R	R	DW							
PRE-EMPTION B	R	R	G	G	DW							
B CHANGE	R	R	Y	Y	DW							
FLASHING OPERATION	FL/Y	FL/Y	FL/R	FL/R	DARK							

U.S. 40 WEST (WEST FRANKLIN STREET) IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

NEMA PHASING

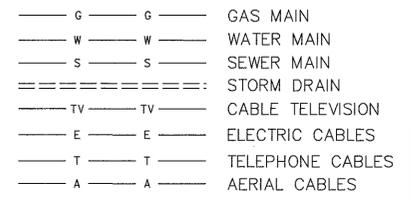


PHASING NOTES:
 1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY
 2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY

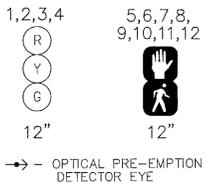
CONSTRUCTION DETAILS

- (A) INSTALL 21' STEEL POLE, 42' MAST ARM, SIGNAL HEADS, OPTICOM DETECTOR SIGN, AND PEDESTRIAN SIGNALS (NOTE: 1-2", 90-DEGREE P.V.C. BEND).
- (B) INSTALL 21' STEEL POLE, 28' MAST ARM, SIGNAL HEADS, PEDESTRIAN SIGNALS, SIGNS, AND OPTICOM DETECTOR (NOTE: 1-2", 90-DEGREE P.V.C. BEND).
- (C) INSTALL 10' STEEL PEDESTAL POLE, AND PEDESTRIAN SIGNALS (NOTE: 1-2", 90-DEGREE P.V.C. BEND).
- (D) INSTALL BASE MOUNTED CABINET, SIZE #5, AND CONTROLLER WITH ALL NECESSARY EQUIPMENT AS SHOWN (NOTE: 2-4", 90-DEGREE P.V.C. BENDS; AND, 2-2" 90-DEGREE P.V.C. BENDS).
- (E) INSTALL HANDHOLE.
- (F) INSTALL 3" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).
- (G) INSTALL 2" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).
- (H) INSTALL 2" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (SLOTTED).
- (J) INSTALL 3" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (SLOTTED).
- (K) INSTALL 4" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).
- (L) REMOVE AND REPLACE EXISTING SIDEWALK
- (M) INSTALL 3" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT - RISER AND 3" WEATHERHEAD.
- (N) INSTALL 10' OF P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT - RISER AND COIL 25' OF ADDITIONAL CABLE.
- (R) REMOVE EXISTING CROSSWALK LINES.
- (S) INSTALL 12" SOLID WHITE LINE FOR CROSSWALKS.
- (T) REMOVE EXISTING STOP BAR.
- (U) INSTALL 24" SOLID WHITE LINE.
- (W) REMOVE EXISTING STEEL POLE, MAST ARMS, SIGNALS, SIGNS, CONTROLLER, CABINET AND FOUNDATION.
- (Y) CONSTRUCT SIDEWALK RAMP.

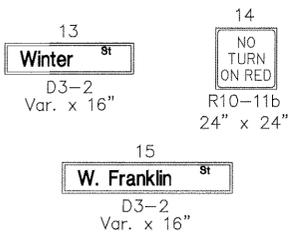
UTILITY LEGEND



SIGNALS



SIGNS



INTERSECTION DESCRIPTION

I. GENERAL
 THIS INTERSECTION IS U.S. 40 WEST (WEST FRANKLIN STREET) AND WINTER STREET. CONSTRUCTION AT THIS INTERSECTION INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL AND INTERCONNECTION WITH THE OTHER SIGNALIZED INTERSECTIONS IN THE NEW CITY-WIDE SYSTEM. IT IS ASSUMED THAT U.S. 40 WEST (WEST FRANKLIN STREET) RUNS IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION
 THE INTERSECTION WILL OPERATE IN A NEMA TWO (2) PHASE PRE-TIMED MODE. WESTBOUND U.S. 40 WEST (WEST FRANKLIN STREET) AND SOUTHBOUND WINTER STREET WILL OPERATE IN SEPARATE PHASES. PEDESTRIAN SIGNALS WILL OPERATE CONCURRENTLY WITH THE WESTBOUND U.S. 40 WEST (WEST FRANKLIN STREET) PHASE. PEDESTRIAN SIGNALS WILL OPERATE UPON PEDESTRIAN ACTUATION WITH THE SOUTHBOUND WINTER STREET PHASE.

PRE-EMPTION ON EASTBOUND U.S. 40 WEST (WEST FRANKLIN STREET) WILL CALL PRE-EMPTION A. PRE-EMPTION ON SOUTHBOUND WINTER STREET WILL CALL PRE-EMPTION B.

A NEW EIGHT PHASE FULLY ACTUATED CONTROLLER WITH TELEMETRY MODULE AND PRE-EMPTION HOUSED IN A GROUND MOUNTED CABINET WILL BE INSTALLED.

EQUIPMENT LISTS

ITEM NO.	QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION	2	EA	SP	DESCRIPTION
	1	EA	SP	BASE MOUNTED LOCAL CABINET (SIZE 5) LESS DETECTION EQUIPMENT WITH 8 PHASE ASC II CONTROLLER WITH TELEMETRY AND OPTICOM PRE-EMPTION MODULE	2	EA	SP	FURNISH AND INSTALL 12 INCH 2 WAY 2 SECTION PEDESTRIAN SIGNAL HEAD--PEDESTAL TOP MOUNT--PAINTED BLACK
	26	SF	B13	FLAT SHEET ALUMINUM SIGNS CONSISTING OF: - 1 EACH R10-11b (24" x 24")--MAST ARM MOUNT (VAR. " x 16")--MAST ARM MOUNT - 1 EACH D3-2 (W. Franklin St) (VAR. " x 16")--MAST ARM MOUNT - 1 EACH D3-2 (Winter St) (VAR. " x 16")--MAST ARM MOUNT	2	EA	SP	FURNISH AND INSTALL 12 INCH 2 WAY 2 SECTION PEDESTRIAN SIGNAL HEAD--SIDE POLE MOUNT--PAINTED BLACK
				B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.	4	EA	B11	FURNISH AND INSTALL OPTICOM DETECTOR EYE--MODEL 521
	5	CY	205	TEST PIT EXCAVATION	10	CY	801	FURNISH AND INSTALL ELECTRICAL HANDHOLE
	12	CY	206	REMOVAL OF EXISTING SIDEWALK	10	LF	805	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
	475	LF	SP 555	12 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE	30	LF	805	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT--RISER
	70	LF	SP 555	24 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE	75	LF	805	FURNISH AND INSTALL 3" SCHEDULE 80 RIGID PVC CONDUIT--RISER
	325	LF	SP	REMOVE EXISTING PAVEMENT MARKINGS--ANY WIDTH	25	LF	805	FURNISH AND INSTALL 2" SCHEDULE 40 RIGID PVC CONDUIT--TRENCHED
	950	SF	610	4 INCH CONCRETE SIDEWALK	50	LF	805	FURNISH AND INSTALL 3" SCHEDULE 40 RIGID PVC CONDUIT--TRENCHED
	1	EA	B16	INSTALL CONTROLLER AND CABINET--BASE MOUNT	30	LF	805	FURNISH AND INSTALL 4" SCHEDULE 40 RIGID PVC CONDUIT--TRENCHED
	26	SF	B13	INSTALL OVERHEAD SIGN	75	LF	805	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT--SLOTTED
	4	EA	SP	FURNISH AND INSTALL 12 INCH 1 WAY 3 SECTION (R, Y, G) SIGNAL HEAD HAVING PROPER ADJUSTABLE MAST ARM BRACKET, AND TUNNEL VISORS--PAINTED BLACK	1	EA	807	FURNISH AND INSTALL 21--FOOT STEEL POLE WITH A SINGLE 38--FOOT MAST ARM--PAINTED GREEN
					1	EA	SP	FURNISH AND INSTALL 21--FOOT STEEL POLE WITH A SINGLE 50--FOOT MAST ARM--PAINTED GREEN
					2	EA	SP	CUT, CLEAN AND CAP TRAFFIC SIGNAL STRUCTURE
					1	EA	SP	AS--BUILT FOR TRAFFIC SIGNAL
					5	EA	804	FURNISH AND INSTALL GROUND ROD--3/4 INCH DIAMETER X 10--FOOT LENGTH
	230	LF	810	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	200	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE--1 CONDUCTOR (NO. 4 AWG - THIN/THIN)
	800	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE--5 CONDUCTOR (NO 14 AWG)	2	EA	SP	FURNISH AND INSTALL 10--FOOT BREAKAWAY PEDESTAL POLE--PAINTED GREEN
					350	LF	810	FURNISH AND INSTALL OPTICOM M-138 DETECTOR CABLE
					1	EA	SP	REMOVE AND DISPOSE OF EXISTING FOUNDATION 12" BELOW GRADE
					1	LS	SP	DELIVERY OF SALVAGED EQUIPMENT
					1	LS	SP	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
					1	LS	SP	REMOVAL OF EXISTING SIGNAL EQUIPMENT TO BE SALVAGED

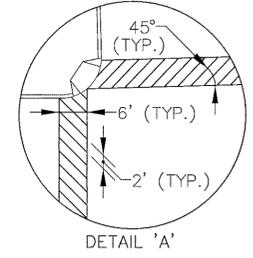
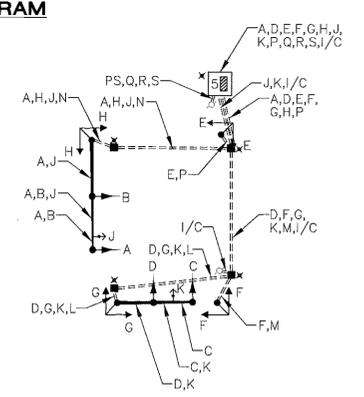
NOTE: ALL EQUIPMENT AND/OR MATERIALS TO BE REMOVED BY THE CONTRACTOR, BUT NOT LISTED BELOW, SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

QUANTITY	UNIT	DESCRIPTION
1	EA	MAST ARM POLE
2	EA	MAST ARM
1	EA	CONTROLLER AND CABINET

WIRING DIAGRAM

WIRING LEGEND

- A - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- B - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- C - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- D - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- E - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- F - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- G - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- H - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- J - 3M OPTICOM DETECTOR CABLE, MODEL 138
- K - 3M OPTICOM DETECTOR CABLE, MODEL 138
- L - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- M - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- N - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- P - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- Q - 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
- R - 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
- S - 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
- X - 3/4"x10' GROUND ROD
- PS - PROPOSED ELECTRICAL SERVICE
- I/C - INTERCONNECT CABLE



NOTE: EXISTING RIGHT-OF-WAY BASED ON MDSA NO. PLAT NO. 17432.

REVISIONS (Empty table for revisions)		APPROVALS CHIEF, SIGNAL DESIGN SECTION ASST. DISTRICT ENGINEER, TRAFFIC CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION DIRECTOR, OFFICE OF TRAFFIC & SAFETY		MDOT - STATE HIGHWAY ADMINISTRATION Office of Traffic & Safety TRAFFIC ENGINEERING DESIGN DIVISION L06 MI. 21W04035.38	
DRAWN BY: M. GESELL DES. BY: J. LAWRENCE CHK. BY:		US 40 West (West Franklin St.) at Winter St. COUNTY: WASHINGTON		DATE: 05/30/97 SCALE: 1" = 20' F.A.P. NO. STPG-218-1(7)E S.H.A. NO. WA9535185 TS NO. 3673 SHEET NO. 16 OF 65	

A/E GROUP, INC.
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