ASSOCIATED PHASE	DIRECTION	TRAFFIC SIGNAL													PEDESTRIAN													
		FACTORS							CALCULATED (TEM 403-2)			FINAL CLEARANCE								OMUTCD 4E.06-12	OMUTCD 4E.06-07		3 fps CHECKS (OMUTCD 4E.06-14)				FINAL PED TIMING	
		PERCEPTION/REACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED	ALL RED APPROACH SPEED	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR	YELLOW	ALL RED	Y + AR	PED MOVEMENT	ASSOCIATED PHASE	CROSSWALK LENGTH	PUSHBUTTON PROVIDED	DISTANCE TO PUSHBUTTON	WALK INTERVAL (4-7s TYP)	CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	(L+P)/(3 fps) (NOTE: P=6 IF NO PUSHBUTTON)	WALK + PED CHANGE INTERVALS	IS Y>=X?	ADDITIONAL WALK INTERVAL REQUIRED	FINAL WALK INTERVAL	FINAL PED CHANGE INTERVAL (FDW)
		t	V_Y	V_R	a	W	L	g	Y	AR	TOTAL	Y (3-6s TYP)	AR (1-6s TYP)	TOTAL			L		P		= 3.5 fps WALK TIME	= 3.5 fps WALK TIME - 3 sec BUFFER	X	Y				
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC	SEC	SEC	SEC			FT		FT	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC
1	WB LT	1	30	25	10	90	20	1.42	3.1	2.0	5.1	3.1	2	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	EB	1	42	42	10	70	20	-1.42	4.2	0.5	4.7	4.2	1	5.2	EB	2	65	YES	13	7	18.6	15.6	26.0	22.6	NO	3.4	11	16
3	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	SB	1	32	32	10	80	20	3.85	3.1	1.1	4.2	3.1	1.1	4.2	SB	4	53	YES	6	7	15.1	12.1	19.7	19.1	NO	0.5	8	13
5	EB LT	1	30	25	10	75	20	-1.42	3.3	1.6	4.9	3.1	2	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	WB	1	42	42	10	80	20	1.42	4.0	0.6	4.6	4.2	1	5.2	WB	6	35	YES	6	7	10.0	7.0	13.7	14.0	YES	N/A	7	7
7	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	NB	1	32	32	10	70	20	5	3.0	0.9	3.9	3.1	1.1	4.2	NB	8	41	YES	7	7	11.7	8.7	16.0	15.7	NO	0.3	8	9

CLEARANCE INTERVALS

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.4C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
CONTROLLER**	PB-7	4	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	4	0.88	1.64	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	4	0.76			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
CONTROLLER**	PB-7	4	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	20	2	2.8	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	8	0.8			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-4**	PB-7	93	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	1.4	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	6	0.6			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							-	-	-	-	-			
PB-5**	PB-7	73	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	2.3	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	4	0.76			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	7	0.7			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	4	0.4			
							-	-	-	-	-			
PB-2**	PB-5	59	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	1.1	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	3	0.3			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							-	-	-	-	-			
PB-2**	SP-1	19	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	1.1	YES	3
PB-5**	SP-3	16					SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	3	0.3			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							-	-	-	-	-			
PB-4**	SP-2	7	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	1.1	YES	3
PB-7**	SP-4	4					SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	3	0.3			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							-	-	-	-	-			
PB-2	PS-1	13	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	2
PB-4	PS-2	16					SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
PB-4	PS-3	10					-	-	-	-	-			
PB-5	PS-4	30					-	-	-	-	-			
							-	-	-	-	-			
PB-7	PS-5	17	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38	0.58	YES	2
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2	PB-1	31	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1	0.1	YES	2
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			

** NOTE: LOOP LEAD-IN USED FOR PREEMPTION CONFIRMATION LIGHT AND RECEIVING UNIT TO ADEQUATELY SIZE CONDUIT
* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

CONDUIT							CABLE AND WIRE							
					C	0.25C					a	[A]		
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	INSIDE AREA	25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	CROSS SECTION AREA	COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.4C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-3	PB-4	20	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	3	0.3	0.3	YES	2
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-5 PB-7	PB-6 PB-8	36 20	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2	0.2	YES	2
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
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							-	-	-	-	-			
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							-	-	-	-	-			

** NOTE: LOOP LEAD-IN USED FOR PREEMPTION CONFIRMATION LIGHT AND RECEIVING UNIT TO ADEQUATELY SIZE CONDUIT

* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

SUPPORT NO.	ARM	MIN CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	MAX CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	FOUNDATION ELEVATION AT GROUND LEVEL	DISTANCE FROM GROUND TO FOUNDATION	ELEVATION B TOP OF FOUNDATION	RISE ANGLE WITH HORIZONTAL ARM TIP	SIGNAL HEADS CENTERED ON WHICH COLOR?	SIGNAL NO.	SIGNAL HEAD TYPE (12 IN. SECTIONS WITH BACKPLATES)	DISTANCE FROM BOTTOM OF SIGNAL HEAD TO CENTER OF MAST ARM (TEM 497-6)	SIGNAL HEAD DISTANCE FROM SUPPORT POLE	ELEVATION A PAVEMENT ELEVATION UNDER SIGNAL HEAD OR SIGN	MINIMUM HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM HEIGHT (FOUNDATION TO MAST ARM)	MINIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	FINAL ATTACHMENT ARM HEIGHT (FOUNDATION TO MAST ARM)	DOES MAST ARM HAVE POLE EXTENSION?	HEIGHT FROM MAST ARM TO TOP OF POLE	SUGGESTED POLE HEIGHT	POLE HEIGHT WITH EXTENSION
		FT	FT	FT	IN	FT	DEGREE				FT	FT	FT	FT	FT	FT	FT	FT		FT	FT	FT
1	A	17	19	1018.84	0	1018.84	0	YELLOW	1	5 SECTIONS - CLUSTER	2.6	20	1018.46	19.22	21.22	19.2	20.9	20.5	NO	1.5	22	N/A
									6	3 SECTIONS	2.3	8	1018.42	18.88	20.88							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
2	A	17	19	1017.95	2	1018.12	0	YELLOW	4B	3 SECTIONS	2.3	40	1017.03	18.21	20.21	18.2	20.0	19.5	NO	1.5	21	N/A
									4A	3 SECTIONS	2.3	30	1016.85	18.03	20.03							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
3	A	17	19	1018.1	0	1018.10	0	YELLOW	8B	3 SECTIONS	2.3	16.5	1017.84	19.04	21.04	19.0	20.9	19.5	NO	1.5	21	N/A
									8A	3 SECTIONS	2.3	6.5	1017.71	18.91	20.91							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
4	A	17	19	1017.36	0	1017.36	0	YELLOW	5	5 SECTIONS - CLUSTER	2.6	22	1016.95	19.19	21.19	19.2	20.8	20.5	NO	1.5	22	N/A
									2	3 SECTIONS	2.3	10.5	1016.87	18.81	20.81							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							

MAST ARM HEIGHT

SUPPORT NO.	ARM	NUMBER OF LUMINAIRES OR BRACKET ARMS	LUMINAIRE/ BRACKET ARM LENGTH FT	SIGNAL OR SIGN?	SIGNAL/ SIGN NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE FT	SIGNAL HEAD TYPE (12 IN. LENS)	SIGN SIZE IN		AREA SQ. FT.	ATTACHMENT LENGTH * AREA	L TOTAL MAST ARM LENGTH FT	DAMPER REQUIRED?	K AREA MOMENT DESIGN FACTOR	DESIGN NO.
1	A	0	-	SIGNAL	1	L1	20	5 SECTIONS - CLUSTER	-	-	12.4	248.0	25	NO	490.1	1
				SIGNAL	6	L2	8	3 SECTIONS	-	-	8.7	69.6				
				SIGN	S1	S1	23	-	30	36	7.5	172.5				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
2	A	0	-	SIGNAL	4B	L1	40	3 SECTIONS	-	-	8.7	348.0	45	NO	609	11
				SIGNAL	4A	L2	30	3 SECTIONS	-	-	8.7	261.0				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
3	A	0	-	SIGNAL	8B	L1	16.5	3 SECTIONS	-	-	8.7	143.6	20	NO	200.1	1
				SIGNAL	8A	L2	6.5	3 SECTIONS	-	-	8.7	56.6				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
4	A	0	-	SIGNAL	5	L1	22	5 SECTIONS - CLUSTER	-	-	12.4	272.8	25	NO	506.65	1
				SIGNAL	2	L2	10.5	3 SECTIONS	-	-	8.7	91.4				
				SIGN	S1	S1	19	-	30	36	7.5	142.5				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				

MAST ARM DESIGN NO.

ASSOCIATED PHASE	DIRECTION	TRAFFIC SIGNAL													PEDESTRIAN													
		FACTORS							CALCULATED (TEM 403-2)			FINAL CLEARANCE											3 fps CHECKS (OMUTCD 4E.06-14)				FINAL PED TIMING	
		PERCEPTION/REACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED	ALL RED APPROACH SPEED	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR	YELLOW	ALL RED	Y + AR	PED MOVEMENT	ASSOCIATED PHASE	CROSSWALK LENGTH	PUSHBUTTON PROVIDED	DISTANCE TO PUSHBUTTON	OMUTCD 4E.06-12 WALK INTERVAL (4-7s TYP)	OMUTCD 4E.06-07 CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	(L+P)/(3 fps) (NOTE: P=6 IF NO PUSHBUTTON)	WALK + PED CHANGE INTERVALS	IS Y>=X?	ADDITIONAL WALK INTERVAL REQUIRED	FINAL WALK INTERVAL	FINAL PED CHANGE INTERVAL (FDW)
		t	V_Y	V_R	a	W	L	g	Y	AR	TOTAL	Y (3-6s TYP)	AR (1-6s TYP)	TOTAL			L		P		= 3.5 fps WALK TIME	= 3.5 fps WALK TIME - 3 sec BUFFER	X	Y				
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC	SEC	SEC	SEC			FT		FT	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC
1	WB LT	1	30	25	10	85	20	5.2	2.9	1.9	4.8	3	1.9	4.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	EB	1	42	42	10	70	20	-5.2	4.7	0.5	5.2	4.7	1	5.7	EB	2	49	YES	17	7	14.0	11.0	22.0	18.0	NO	4.0	11	11
3	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	WB	1	42	42	10	70	20	5.2	3.6	0.5	4.1	4.7	1	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	NB	1	32	32	10	70	20	-4.01	3.7	0.9	4.6	3.7	1	4.7	NB	8	41	YES	8	7	11.7	8.7	16.3	15.7	NO	0.6	8	9

CLEARANCE INTERVALS

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.4C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-5	CONTROLLER	10	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	3	0.66	1.42	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	4	0.76			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-5**	CONTROLLER	10	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	8	0.8	1.4	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	6	0.6			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-3**	PB-5	74	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.33	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	5	0.5			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							-	-	-	-	-			
PB-2	PB-6	49	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.39	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-3**	SP-1	63	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	0.84	YES	3
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	4	0.4			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-5**	SP-2	21	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.71	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	1	0.1			
							-	-	-	-	-			
PB-2 PB-3 PB-5	PS-1 PS-2 PS-3	13 8 21	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	2
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2	PB-1	36	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1	0.1	YES	2
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-5	PB-6	28	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.49	YES	2
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	3	0.3			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-3	PB-4	21	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2	0.2	YES	2
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			

** NOTE: LOOP LEAD-IN USED FOR PREEMPTION CONFIRMATION LIGHT AND RECEIVING UNIT TO ADEQUATELY SIZE CONDUIT.
* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

SUPPORT NO.	ARM	MIN CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	MAX CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	FOUNDATION ELEVATION AT GROUND LEVEL	DISTANCE FROM GROUND TO FOUNDATION	ELEVATION B TOP OF FOUNDATION	RISE ANGLE WITH HORIZONTAL ARM TIP	SIGNAL HEADS CENTERED ON WHICH COLOR?	SIGNAL NO.	SIGNAL HEAD TYPE (12 IN. SECTIONS WITH BACKPLATES)	DISTANCE FROM BOTTOM OF SIGNAL HEAD TO CENTER OF MAST ARM (TEM 497-6)	SIGNAL HEAD DISTANCE FROM SUPPORT POLE	ELEVATION A PAVEMENT ELEVATION UNDER SIGNAL HEAD OR SIGN	MINIMUM HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM HEIGHT (FOUNDATION TO MAST ARM)	MINIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	FINAL ATTACHMENT ARM HEIGHT (FOUNDATION TO MAST ARM)	DOES MAST ARM HAVE POLE EXTENSION?	HEIGHT FROM MAST ARM TO TOP OF POLE	SUGGESTED POLE HEIGHT	POLE HEIGHT WITH EXTENSION
		FT	FT	FT	IN	FT	DEGREE				FT	FT	FT	FT	FT	FT	FT	FT		FT	FT	FT
1	A	17	19	1005.12	2	1005.29	0	YELLOW	8B	3 SECTIONS	2.3	41	1002.98	16.99	18.99	17.3	19.0	18.5	NO	1.5	20	N/A
									8A	3 SECTIONS	2.3	29	1003.25	17.26	19.26							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
-	B	17	19	1005.12	2	1005.29	0	YELLOW	1	5 SECTIONS - CLUSTER	2.6	20	1004.82	19.13	21.13	19.1	20.6	19.5	NO	1.5	21	N/A
									6	3 SECTIONS	2.3	8	1004.58	18.59	20.59							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
2	-	17	19	1000.99	0	1000.99	0	YELLOW	2B	3 SECTIONS	2.3	18.5	1000.73	19.04	21.04	19.0	20.8	19.5	NO	1.5	21	N/A
									2A	3 SECTIONS	2.3	8.5	1000.53	18.84	20.84							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
-	-	17	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							

MAST ARM HEIGHT

SUPPORT NO.	ARM	NUMBER OF LUMINAIRES OR BRACKET ARMS	LUMINAIRE/ BRACKET ARM LENGTH FT	SIGNAL OR SIGN?	SIGNAL/ SIGN NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE FT	SIGNAL HEAD TYPE (12 IN. LENS)	SIGN SIZE IN		AREA SQ. FT.	ATTACHMENT LENGTH * AREA	L TOTAL MAST ARM LENGTH FT	DAMPER REQUIRED?	K AREA MOMENT DESIGN FACTOR	DESIGN NO.
1	A	0	-	SIGNAL	8B	L1	41	3 SECTIONS	-	-	8.7	356.7	45	NO	809	11
				SIGNAL	8A	L2	29	3 SECTIONS	-	-	8.7	252.3				
				SIGN	S1	S1	10	-	120	24	20.0	200.0				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
-	B	0	-	SIGNAL	1	L1	20	5 SECTIONS - CLUSTER	-	-	12.4	248.0	25	NO	490.1	1
				SIGNAL	6	L2	8	3 SECTIONS	-	-	8.7	69.6				
				SIGN	S1	S1	23	-	30	36	7.5	172.5				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
2	-	0	-	SIGNAL	2B	L1	18.5	3 SECTIONS	-	-	8.7	161.0	25	NO	234.9	1
				SIGNAL	2A	L2	8.5	3 SECTIONS	-	-	8.7	74.0				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				

MAST ARM DESIGN NO.

ASSOCIATED PHASE	DIRECTION	TRAFFIC SIGNAL													PEDESTRIAN													
		FACTORS							CALCULATED (TEM 403-2)			FINAL CLEARANCE								OMUTCD 4E.06-12	OMUTCD 4E.06-07		3 fps CHECKS (OMUTCD 4E.06-14)				FINAL PED TIMING	
		PERCEPTION/REACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED	ALL RED APPROACH SPEED	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR	YELLOW	ALL RED	Y + AR	PED MOVEMENT	ASSOCIATED PHASE	CROSSWALK LENGTH	PUSHBUTTON PROVIDED	DISTANCE TO PUSHBUTTON	WALK INTERVAL (4-7s TYP)	CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	(L+P)/(3 fps) (NOTE: P=6 IF NO PUSHBUTTON)	WALK + PED CHANGE INTERVALS	IS Y>=X?	ADDITIONAL WALK INTERVAL REQUIRED	FINAL WALK INTERVAL	FINAL PED CHANGE INTERVAL (FDW)
		t	V_Y	V_R	a	W	L	g	Y	AR	TOTAL	Y (3-6s TYP)	AR (1-6s TYP)	TOTAL			L		P		= 3.5 fps WALK TIME	= 3.5 fps WALK TIME - 3 sec BUFFER	X	Y				
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC	SEC	SEC	SEC			FT		FT	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC
1	WB LT	1	30	25	10	130	20	2	3.1	3.1	6.2	3.1	3.1	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	EB	1	42	42	10	100	20	-0.05	4.1	0.9	5.0	3.9	1.3	5.2	EB	2	105	YES	15	7	30.0	27.0	40.0	34.0	NO	6.0	13	27
3	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	SB	1	32	32	10	120	20	-1.1	3.4	2.0	5.4	3.4	2	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	EB LT	1	30	25	10	105	20	-0.5	3.2	2.4	5.6	3.1	3.1	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	WB	1	42	42	10	120	20	2	3.9	1.3	5.2	3.9	1.3	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	SB LT	1	25	25	10	130	20	-1.1	2.9	3.1	6.0	3	3	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	NB	1	32	32	10	106	20	-1.44	3.5	1.7	5.2	3.4	2	5.4	NB	8	87	YES	10	7	24.9	21.9	32.3	28.9	NO	3.5	11	22

CLEARANCE INTERVALS

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.4C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-2	CONTROLLER	13	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	6	1.32	2.08	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	4	0.76			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2**	CONTROLLER	13	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	4	0.4	2.04	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	8	0.8			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	6	0.84			
							-	-	-	-	-			
							-	-	-	-	-			
PB-1**	PB-2	127	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	3	0.66	1.77	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	3	0.3			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	3	0.42			
PB-1**	PB-3	124	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.85	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	1	0.1			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
PB-2**	PB-4	147	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	1.28	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	3	0.3			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	1	0.1			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
PB-1**	SP-1	7	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	0.92	YES	3
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
							-	-	-	-	-			
							-	-	-	-	-			
PB-3**	SP-3	34	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.56	YES	3
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2**	SP-2	23	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	0.78	YES	3
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
							-	-	-	-	-			
PB-4**	SP-4	12	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.99	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	1	0.1			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
PB-2 PB-3 PB-4	PS-1 PS-2 PS-3	12 35 10	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	2
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			

** NOTE: LOOP LEAD-IN USED FOR PREEMPTION CONFIRMATION LIGHT AND RECEIVING UNIT TO ADEQUATELY SIZE CONDUIT
* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

SUPPORT NO.	ARM	MIN CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	MAX CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	FOUNDATION ELEVATION AT GROUND LEVEL	DISTANCE FROM GROUND TO FOUNDATION	ELEVATION B TOP OF FOUNDATION	RISE ANGLE WITH HORIZONTAL ARM TIP	SIGNAL HEADS CENTERED ON WHICH COLOR?	SIGNAL NO.	SIGNAL HEAD TYPE (12 IN. SECTIONS WITH BACKPLATES)	DISTANCE FROM BOTTOM OF SIGNAL HEAD TO CENTER OF MAST ARM (TEM 497-6)	SIGNAL HEAD DISTANCE FROM SUPPORT POLE	ELEVATION A PAVEMENT ELEVATION UNDER SIGNAL HEAD OR SIGN	MINIMUM HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM HEIGHT (FOUNDATION TO MAST ARM)	MINIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	FINAL ATTACHMENT ARM HEIGHT (FOUNDATION TO MAST ARM)	DOES MAST ARM HAVE POLE EXTENSION?	HEIGHT FROM MAST ARM TO TOP OF POLE	SUGGESTED POLE HEIGHT	POLE HEIGHT WITH EXTENSION
		FT	FT	FT	IN	FT	DEGREE				FT	FT	FT	FT	FT	FT	FT	FT		FT	FT	FT
1	A	17	19	987.52	2	987.69	1/2	YELLOW	1	5 SECTIONS - CLUSTER	2.6	55.5	986.98	19.38	21.38	19.4	20.7	20.5	NO	1.5	22	N/A
									6B	3 SECTIONS	2.3	43.5	986.74	18.73	20.73							
									6A	5 SECTIONS - CLUSTER	2.6	31.5	986.50	18.69	20.69							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
2	A	17	19	986.36	2	986.53	1/2	YELLOW	7B	3 SECTIONS	2.3	58.5	985.87	19.15	21.15	19.2	20.9	20.5	NO	1.5	22	N/A
									7A	3 SECTIONS	2.3	46.5	985.91	19.09	21.09							
									4B	3 SECTIONS	2.3	38.5	985.90	19.01	21.01							
									4A	3 SECTIONS	2.3	28.5	985.90	18.92	20.92							
									-	-	-	-	-	-	-							
3	A	17	19	985.99	0	985.99	1/2	YELLOW	8C	3 SECTIONS	2.3	58	985.75	19.57	21.57	19.6	20.9	20.5	NO	1.5	22	N/A
									8B	3 SECTIONS	2.3	38	985.50	19.14	21.14							
									8A	3 SECTIONS	2.3	28	985.35	18.90	20.90							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
4	A	17	19	986.12	0	986.12	1/2	YELLOW	5	5 SECTIONS - CLUSTER	2.6	44	986.19	20.05	22.05	20.1	21.4	20.5	NO	1.5	22	N/A
									2	3 SECTIONS	2.3	32	985.95	19.41	21.41							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							

MAST ARM HEIGHT

SUPPORT NO.	ARM	NUMBER OF LUMINAIRES OR BRACKET ARMS	LUMINAIRE/ BRACKET ARM LENGTH FT	SIGNAL OR SIGN?	SIGNAL/ SIGN NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE FT	SIGNAL HEAD TYPE (12 IN. LENS)	SIGN SIZE IN		AREA SQ. FT.	ATTACHMENT LENGTH * AREA	L TOTAL MAST ARM LENGTH FT	DAMPER REQUIRED?	K AREA MOMENT DESIGN FACTOR	DESIGN NO.
1	A	0	-	SIGNAL	1	L1	55.5	5 SECTIONS - CLUSTER	-	-	12.4	688.2	65	YES	2051	14
				SIGNAL	6B	L2	43.5	3 SECTIONS	-	-	8.7	378.5				
				SIGNAL	6A	L3	31.5	5 SECTIONS - CLUSTER	-	-	12.4	390.6				
				SIGN	S1	S1	52.5	-	30	36	7.5	393.8				
			-	SIGN	S2	S2	10	-	120	24	20.0	200.0				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
2	A	0	-	SIGNAL	7B	L1	58.5	3 SECTIONS	-	-	8.7	509.0	62	YES	2090.15	14
				SIGNAL	7A	L2	46.5	3 SECTIONS	-	-	8.7	404.6				
				SIGNAL	4B	L3	38.5	3 SECTIONS	-	-	8.7	335.0				
				SIGNAL	4A	L4	28.5	3 SECTIONS	-	-	8.7	248.0				
			-	SIGN	S1	S1	52.5	-	30	36	7.5	393.8				
				SIGN	S2	S2	10	-	120	24	20.0	200.0				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
3	A	0	-	SIGNAL	8C	L1	58	3 SECTIONS	-	-	8.7	504.6	62	YES	1278.8	14
				SIGNAL	8B	L2	38	3 SECTIONS	-	-	8.7	330.6				
				SIGNAL	8A	L3	28	3 SECTIONS	-	-	8.7	243.6				
				SIGN	S1	S1	10	-	120	24	20.0	200.0				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
4	A	0	-	SIGNAL	5	L1	44	5 SECTIONS - CLUSTER	-	-	12.4	545.6	54	NO	1331.5	13
				SIGNAL	2	L2	32	3 SECTIONS	-	-	8.7	278.4				
				SIGN	S1	S1	41	-	30	36	7.5	307.5				
				SIGN	S2	S2	10	-	120	24	20.0	200.0				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				

MAST ARM DESIGN NO.

ASSOCIATED PHASE	DIRECTION	TRAFFIC SIGNAL													PEDESTRIAN													
		FACTORS							CALCULATED (TEM 403-2)			FINAL CLEARANCE								OMUTCD 4E.06-12	OMUTCD 4E.06-07		3 fps CHECKS (OMUTCD 4E.06-14)				FINAL PED TIMING	
		PERCEPTION/REACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED	ALL RED APPROACH SPEED	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR	YELLOW	ALL RED	Y + AR	PED MOVEMENT	ASSOCIATED PHASE	CROSSWALK LENGTH	PUSHBUTTON PROVIDED	DISTANCE TO PUSHBUTTON	WALK INTERVAL (4-7s TYP)	CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	(L+P)/(3 fps) (NOTE: P=6 IF NO PUSHBUTTON)	WALK + PED CHANGE INTERVALS	IS Y>=X?	ADDITIONAL WALK INTERVAL REQUIRED	FINAL WALK INTERVAL	FINAL PED CHANGE INTERVAL (FDW)
		t	V_Y	V_R	a	W	L	g	Y	AR	TOTAL	Y (3-6s TYP)	AR (1-6s TYP)	TOTAL			L		P		= 3.5 fps WALK TIME	= 3.5 fps WALK TIME - 3 sec BUFFER	X	Y				
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC	SEC	SEC	SEC			FT		FT	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC
1	WB LT	1	35	25	10	110	20	5.96	3.2	2.5	5.7	3.2	2.5	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	EB	1	47	47	10	75	20	-5.96	5.3	0.4	5.7	5.3	1	6.3	EB	2	71	YES	18	7	20.3	17.3	29.7	24.3	NO	5.4	13	18
3	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	WB	1	47	47	10	85	20	5.96	3.9	0.5	4.4	5.3	1	6.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	NB	1	32	32	10	100	20	-4	3.7	1.6	5.3	3.7	1.6	5.3	NB	8	65	YES	11	7	18.6	15.6	25.3	22.6	NO	2.8	10	16

CLEARANCE INTERVALS

CONDUIT							CABLE AND WIRE							
					C	0.25C					a	[A]		
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	INSIDE AREA	25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	CROSS SECTION AREA	COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.4C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-2	CONTROLLER	12	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	3	0.66	1.42	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	4	0.76			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2	CONTROLLER	12	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	4	0.4	1.42	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	6	0.6			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	3	0.42			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2**	PB-3	93	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	1.57	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	3	0.57			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	3	0.3			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
PB-1	PB-3	91	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2**	SP-1	72	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	0.98	YES	3
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	4	0.4			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
							-	-	-	-	-			
PB-3**	SP-2	23	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.99	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
PB-1 PB-2 PB-3	PS-1 PS-2 PS-3	8 24 13	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	2
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			

** NOTE: LOOP LEAD-IN USED FOR PREEMPTION CONFIRMATION LIGHT AND RECEIVING UNIT TO ADEQUATELY SIZE CONDUIT.

* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

SUPPORT NO.	ARM	MIN CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	MAX CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	FOUNDATION ELEVATION AT GROUND LEVEL	DISTANCE FROM GROUND TO FOUNDATION	ELEVATION B TOP OF FOUNDATION	RISE ANGLE WITH HORIZONTAL ARM TIP	SIGNAL HEADS CENTERED ON WHICH COLOR?	SIGNAL NO.	SIGNAL HEAD TYPE (12 IN. SECTIONS WITH BACKPLATES)	DISTANCE FROM BOTTOM OF SIGNAL HEAD TO CENTER OF MAST ARM (TEM 497-6)	SIGNAL HEAD DISTANCE FROM SUPPORT POLE	ELEVATION A PAVEMENT ELEVATION UNDER SIGNAL HEAD OR SIGN	MINIMUM HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM HEIGHT (FOUNDATION TO MAST ARM)	MINIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	FINAL ATTACHMENT ARM HEIGHT (FOUNDATION TO MAST ARM)	DOES MAST ARM HAVE POLE EXTENSION?	HEIGHT FROM MAST ARM TO TOP OF POLE	SUGGESTED POLE HEIGHT	POLE HEIGHT WITH EXTENSION
		FT	FT	FT	IN	FT	DEGREE				FT	FT	FT	FT	FT	FT	FT	FT		FT	FT	FT
1	A	17	19	949.64	2	949.81	0	YELLOW	8B	3 SECTIONS	2.3	42.5	946.61	16.10	18.10	17.2	18.1	18	NO	1.5	19.5	N/A
									8A	3 SECTIONS	2.3	31.5	947.75	17.24	19.24							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
-	B	17	19	949.64	2	949.81	0	YELLOW	1	5 SECTIONS - CLUSTER	2.6	38	947.76	17.55	19.55	17.6	19.0	18	NO	1.5	19.5	N/A
									6	3 SECTIONS	2.3	26	947.52	17.01	19.01							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
2	A	17	19	941.65	0	941.65	0	YELLOW	2B	3 SECTIONS	2.3	26.5	941.40	19.05	21.05	19.1	20.8	20.5	NO	1.5	22	N/A
									2A	3 SECTIONS	2.3	14.5	941.16	18.81	20.81							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
-	-	17	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							

MAST ARM HEIGHT

SUPPORT NO.	ARM	NUMBER OF LUMINAIRES OR BRACKET ARMS	LUMINAIRE/ BRACKET ARM LENGTH FT	SIGNAL OR SIGN?	SIGNAL/ SIGN NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE FT	SIGNAL HEAD TYPE (12 IN. LENS)	SIGN SIZE IN		AREA SQ. FT.	ATTACHMENT LENGTH * AREA	L TOTAL MAST ARM LENGTH FT	DAMPER REQUIRED?	K AREA MOMENT DESIGN FACTOR	DESIGN NO.
1	A	0	-	SIGNAL	8B	L1	42.5	3 SECTIONS	-	-	8.7	369.8	48	NO	843.8	12
				SIGNAL	8A	L2	31.5	3 SECTIONS	-	-	8.7	274.1				
				SIGN	S1	S1	10	-	120	24	20.0	200.0				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
-	B	0	-	SIGNAL	1	L1	38	5 SECTIONS - CLUSTER	-	-	12.4	471.2	45	NO	1001.15	11
				SIGNAL	6	L2	26	3 SECTIONS	-	-	8.7	226.2				
				SIGN	S1	S1	40.5	-	30	36	7.5	303.8				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
2	A	0	-	SIGNAL	2B	L1	26.5	3 SECTIONS	-	-	8.7	230.6	32	NO	356.7	2
				SIGNAL	2A	L2	14.5	3 SECTIONS	-	-	8.7	126.2				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				

MAST ARM DESIGN NO.

ASSOCIATED PHASE	DIRECTION	TRAFFIC SIGNAL													PEDESTRIAN													
		FACTORS							CALCULATED (TEM 403-2)			FINAL CLEARANCE											3 fps CHECKS (OMUTCD 4E.06-14)				FINAL PED TIMING	
		PERCEPTION/REACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED	ALL RED APPROACH SPEED	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR	YELLOW	ALL RED	Y + AR	PED MOVEMENT	ASSOCIATED PHASE	CROSSWALK LENGTH	PUSHBUTTON PROVIDED	DISTANCE TO PUSHBUTTON	OMUTCD 4E.06-12 WALK INTERVAL (4-7s TYP)	OMUTCD 4E.06-07 CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	(L+P)/(3 fps) (NOTE: P=6 IF NO PUSHBUTTON)	WALK + PED CHANGE INTERVALS	IS Y>=X?	ADDITIONAL WALK INTERVAL REQUIRED	FINAL WALK INTERVAL	FINAL PED CHANGE INTERVAL (FDW)
		t	V_Y	V_R	a	W	L	g	Y	AR	TOTAL	Y (3-6s TYP)	AR (1-6s TYP)	TOTAL			L		P		= 3.5 fps WALK TIME	= 3.5 fps WALK TIME - 3 sec BUFFER	X	Y				
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC	SEC	SEC	SEC			FT		FT	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC
1	WB LT	1	35	25	10	135	20	-1.32	3.7	3.2	6.9	3.7	3.2	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	EB	1	47	47	10	100	20	1.32	4.3	0.7	5.0	4.6	1	5.6	EB	2	75	YES	15	7	21.4	18.4	30.0	25.4	NO	4.6	12	19
3	NB LT	1	25	25	10	110	20	-4.56	3.2	2.5	5.7	3.2	2.6	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	SB	1	32	32	10	90	20	0.71	3.3	1.3	4.6	3.8	1.3	5.1	SB	4	65	YES	8	7	18.6	15.6	24.3	22.6	NO	1.8	9	16
5	EB LT	1	35	25	10	130	20	1.32	3.5	3.1	6.6	3.5	3.1	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	WB	1	47	47	10	120	20	-1.32	4.6	1.0	5.6	4.6	1	5.6	WB	6	75	YES	10	7	21.4	18.4	28.3	25.4	NO	2.9	10	19
7	SB LT	1	25	25	10	114	20	0.71	2.8	2.6	5.4	3.2	2.6	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	NB	1	32	32	10	90	20	-4.56	3.8	1.3	5.1	3.8	1.3	5.1	NB	8	65	YES	8	7	18.6	15.6	24.3	22.6	NO	1.8	9	16

CLEARANCE INTERVALS

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.4C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-1	CONTROLLER	5	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	8	1.76	2.56	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	8	0.8			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-1**	CONTROLLER	5	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	8	1.52	2.88	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	8	0.8			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	4	0.56			
							-	-	-	-	-			
							-	-	-	-	-			
PB-1**	PB-2	103	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	4	0.88	2.72	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	4	0.76			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	4	0.4			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	4	0.4			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
PB-2**	PB-4	115	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.36	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
PB-1**	PB-3	138	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.36	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
PB-1	PS-1	35	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	2
PB-2	PS-2	16					SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
PB-3	PS-3	23					-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-4	PS-4	23	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	2
PB-4	PS-5	40					SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-1**	SP-1	10	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.07	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
PB-2**	SP-2	23	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.07	YES	3
PB-3**	SP-3	19					SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
PB-4**	SP-4	36	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	0.78	YES	3
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
							-	-	-	-	-			

** NOTE: LOOP LEAD-IN USED FOR PREEMPTION CONFIRMATION LIGHT AND RECEIVING UNIT TO ADEQUATELY SIZE CONDUIT
* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

SUPPORT NO.	ARM	MIN CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	MAX CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	FOUNDATION ELEVATION AT GROUND LEVEL	DISTANCE FROM GROUND TO FOUNDATION	ELEVATION B TOP OF FOUNDATION	RISE ANGLE WITH HORIZONTAL ARM TIP	SIGNAL HEADS CENTERED ON WHICH COLOR?	SIGNAL NO.	SIGNAL HEAD TYPE (12 IN. SECTIONS WITH BACKPLATES)	DISTANCE FROM BOTTOM OF SIGNAL HEAD TO CENTER OF MAST ARM (TEM 497-6)	SIGNAL HEAD DISTANCE FROM SUPPORT POLE	ELEVATION A PAVEMENT ELEVATION UNDER SIGNAL HEAD OR SIGN	MINIMUM HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM HEIGHT (FOUNDATION TO MAST ARM)	MINIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	FINAL ATTACHMENT ARM HEIGHT (FOUNDATION TO MAST ARM)	DOES MAST ARM HAVE POLE EXTENSION?	HEIGHT FROM MAST ARM TO TOP OF POLE	SUGGESTED POLE HEIGHT	POLE HEIGHT WITH EXTENSION
		FT	FT	FT	IN	FT	DEGREE				FT	FT	FT	FT	FT	FT	FT	FT		FT	FT	FT
1	A	17	19	931.31	0	931.31	0	YELLOW	1	3 SECTIONS	2.3	39	931.46	19.45	21.45	19.5	21.0	20.5	NO	1.5	22	N/A
									6B	3 SECTIONS	2.3	27	931.22	19.21	21.21							
									6A	3 SECTIONS	2.3	15	930.98	18.97	20.97							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
2	A	17	19	931.64	0	931.64	0	YELLOW	7	3 SECTIONS	2.3	34.5	932.00	19.66	21.66	19.7	21.3	20.5	NO	1.5	22	N/A
									4B	3 SECTIONS	2.3	26.5	931.94	19.60	21.60							
									4A	3 SECTIONS	2.3	16	931.64	19.30	21.30							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
3	A	17	19	932.67	0	932.67	0	YELLOW	3	3 SECTIONS	2.3	40	931.79	18.42	20.42	18.8	20.4	19.5	NO	1.5	21	N/A
									8B	3 SECTIONS	2.3	32	931.81	18.44	20.44							
									8A	5 SECTIONS - CLUSTER	2.6	24	931.83	18.76	20.76							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
4	A	17	19	933.51	2	933.68	1/2	YELLOW	5	3 SECTIONS	2.3	53.5	933.50	19.59	21.59	19.6	20.9	20.5	NO	1.5	22	N/A
									2B	3 SECTIONS	2.3	41.5	933.26	19.25	21.25							
									2A	3 SECTIONS	2.3	29.5	933.02	18.90	20.90							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							

MAST ARM HEIGHT

SUPPORT NO.	ARM	NUMBER OF LUMINAIRES OR BRACKET ARMS	LUMINAIRE/ BRACKET ARM LENGTH FT	SIGNAL OR SIGN?	SIGNAL/ SIGN NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE FT	SIGNAL HEAD TYPE (12 IN. LENS)	SIGN SIZE IN		AREA SQ. FT.	ATTACHMENT LENGTH * AREA	L TOTAL MAST ARM LENGTH FT	DAMPER REQUIRED?	K AREA MOMENT DESIGN FACTOR	DESIGN NO.
1	A	0	-	SIGNAL	1	L1	39	3 SECTIONS	-	-	8.7	339.3	45	NO	1114.7	11
				SIGNAL	6B	L2	27	3 SECTIONS	-	-	8.7	234.9				
				SIGNAL	6A	L3	15	3 SECTIONS	-	-	8.7	130.5				
				SIGN	S1	S1	7	-	120	24	20.0	140.0				
			-	SIGN	S2	S2	36	-	30	36	7.5	270.0				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
2	A	0	-	SIGNAL	7	L1	34.5	3 SECTIONS	-	-	8.7	300.2	38	NO	1046.15	4
				SIGNAL	4B	L2	26.5	3 SECTIONS	-	-	8.7	230.6				
				SIGNAL	4A	L3	16	3 SECTIONS	-	-	8.7	139.2				
				SIGN	S1	S1	7	-	120	24	20.0	140.0				
			-	SIGN	S2	S2	31.5	-	30	36	7.5	236.3				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
3	A	0	-	SIGNAL	3	L1	40	3 SECTIONS	-	-	8.7	348.0	45	NO	1341.5	11
				SIGNAL	8B	L2	32	3 SECTIONS	-	-	8.7	278.4				
				SIGNAL	8A	L3	24	5 SECTIONS - CLUSTER	-	-	12.4	297.6				
				SIGN	S1	S1	7	-	120	24	20.0	140.0				
			-	SIGN	S2	S2	37	-	30	36	7.5	277.5				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
4	A	0	-	SIGNAL	5	L1	53.5	3 SECTIONS	-	-	8.7	465.5	57	NO	1601.9	13
				SIGNAL	2B	L2	41.5	3 SECTIONS	-	-	8.7	361.1				
				SIGNAL	2A	L3	29.5	3 SECTIONS	-	-	8.7	256.7				
				SIGN	S1	S1	7	-	120	24	20.0	140.0				
			-	SIGN	S2	S2	50.5	-	30	36	7.5	378.8				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				

MAST ARM DESIGN NO.

ASSOCIATED PHASE	DIRECTION	TRAFFIC SIGNAL													PEDESTRIAN													
		FACTORS							CALCULATED (TEM 403-2)			FINAL CLEARANCE								OMUTCD 4E.06-12	OMUTCD 4E.06-07		3 fps CHECKS (OMUTCD 4E.06-14)				FINAL PED TIMING	
		PERCEPTION/REACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED	ALL RED APPROACH SPEED	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR	YELLOW	ALL RED	Y + AR	PED MOVEMENT	ASSOCIATED PHASE	CROSSWALK LENGTH	PUSHBUTTON PROVIDED	DISTANCE TO PUSHBUTTON	WALK INTERVAL (4-7s TYP)	CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	(L+P)/(3 fps) (NOTE: P=6 IF NO PUSHBUTTON)	WALK + PED CHANGE INTERVALS	IS Y>=X?	ADDITIONAL WALK INTERVAL REQUIRED	FINAL WALK INTERVAL	FINAL PED CHANGE INTERVAL (FDW)
		t	V_Y	V_R	a	W	L	g	Y	AR	TOTAL	Y (3-6s TYP)	AR (1-6s TYP)	TOTAL			L		P		= 3.5 fps WALK TIME	= 3.5 fps WALK TIME - 3 sec BUFFER	X	Y				
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC	SEC	SEC	SEC			FT		FT	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC
1	WB LT	1	35	25	10	110	20	-3.4	3.9	2.5	6.4	3.9	3.4	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	EB	1	47	47	10	115	20	3.25	4.1	1.0	5.1	4.9	1	5.9	EB	2	78	YES	16	7	22.3	19.3	31.3	26.3	NO	5.0	13	20
3	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	SB	1	32	32	10	115	20	0.43	3.3	1.9	5.2	4.2	1.9	6.1	SB	4	76	YES	8	7	21.7	18.7	28.0	25.7	NO	2.3	10	19
5	EB LT	1	35	25	10	140	20	3.25	3.3	3.4	6.7	3.9	3.4	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	WB	1	47	47	10	90	20	-3.4	4.9	0.6	5.5	4.9	1	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	NB	1	42	42	10	110	20	-1.08	4.2	1.1	5.3	4.2	1.9	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CLEARANCE INTERVALS

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.4C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-4 PB-4	CONTROLLER PB-5	5 63	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	6	1.32	2.27	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	5	0.95			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-4** PB-4**	CONTROLLER PB-5	5 63	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	4	0.4	2.04	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	8	0.8			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	6	0.84			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2**	PB-5	103	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	4	0.88	2.91	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	3	0.57			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	3	0.3			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	6	0.6			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	4	0.56			
PB-1**	PB-2	105	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	3	0.66	1.77	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	4	0.4			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	3	0.42			
PB-1**	PB-3	129	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.56	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2** PB-3**	SP-2 SP-3	16 12	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.56	YES	3
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
							-	-	-	-	-			
PB-1**	SP-1	14	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.21	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
PB-2 PB-2	PS-1 PS-2	25 14	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	2
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-5**	SP-4	4	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.4	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			

** NOTE: LOOP LEAD-IN USED FOR PREEMPTION CONFIRMATION LIGHT AND RECEIVING UNIT TO ADEQUATELY SIZE CONDUIT
* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

SUPPORT NO.	ARM	MIN CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	MAX CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	FOUNDATION ELEVATION AT GROUND LEVEL	DISTANCE FROM GROUND TO FOUNDATION	ELEVATION B TOP OF FOUNDATION	RISE ANGLE WITH HORIZONTAL ARM TIP	SIGNAL HEADS CENTERED ON WHICH COLOR?	SIGNAL NO.	SIGNAL HEAD TYPE (12 IN. SECTIONS WITH BACKPLATES)	DISTANCE FROM BOTTOM OF SIGNAL HEAD TO CENTER OF MAST ARM (TEM 497-6)	SIGNAL HEAD DISTANCE FROM SUPPORT POLE	ELEVATION A PAVEMENT ELEVATION UNDER SIGNAL HEAD OR SIGN	MINIMUM HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM HEIGHT (FOUNDATION TO MAST ARM)	MINIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	FINAL ATTACHMENT ARM HEIGHT (FOUNDATION TO MAST ARM)	DOES MAST ARM HAVE POLE EXTENSION?	HEIGHT FROM MAST ARM TO TOP OF POLE	SUGGESTED POLE HEIGHT	POLE HEIGHT WITH EXTENSION
		FT	FT	FT	IN	FT	DEGREE				FT	FT	FT	FT	FT	FT	FT	FT		FT	FT	FT
1	A	17	19	972.07	0	972.07	1/2	YELLOW	1B	3 SECTIONS	2.3	52.5	972.54	20.23	22.23	20.2	21.2	20.5	NO	1.5	22	N/A
									1A	3 SECTIONS	2.3	40.5	972.31	19.89	21.89							
									6B	3 SECTIONS	2.3	28.5	972.07	19.55	21.55							
									6A	3 SECTIONS	2.3	16.5	971.83	19.20	21.20							
									-	-	-	-	-	-	-							
2	A	17	19	974.43	2	974.60	1/2	YELLOW	4B	3 SECTIONS	2.3	52	975.31	20.47	22.47	20.5	22.0	21.5	NO	1.5	23	N/A
									4A	3 SECTIONS	2.3	38.5	975.00	20.04	22.04							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
3	A	17	19	976.4	2	976.57	0	YELLOW	8B	3 SECTIONS	2.3	40.5	974.75	17.48	19.48	17.7	19.5	18.5	NO	1.5	20	N/A
									8A	3 SECTIONS	2.3	30.5	974.98	17.71	19.71							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
4	A	17	19	976.44	0	976.44	1/2	YELLOW	5	3 SECTIONS	2.3	52	976.61	19.92	21.92	19.9	21.5	20.5	NO	1.5	22	N/A
									2B	3 SECTIONS	2.3	27	976.59	19.69	21.69							
									2A	3 SECTIONS	2.3	15	976.47	19.46	21.46							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							

MAST ARM HEIGHT

SUPPORT NO.	ARM	NUMBER OF LUMINAIRES OR BRACKET ARMS	LUMINAIRE/ BRACKET ARM LENGTH FT	SIGNAL OR SIGN?	SIGNAL/ SIGN NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE FT	SIGNAL HEAD TYPE (12 IN. LENS)	SIGN SIZE IN		AREA SQ. FT.	ATTACHMENT LENGTH * AREA	L TOTAL MAST ARM LENGTH FT	DAMPER REQUIRED?	K AREA MOMENT DESIGN FACTOR	DESIGN NO.
1	A	0	-	SIGNAL	1B	L1	52.5	3 SECTIONS	-	-	8.7	456.8	56	NO	1731.85	13
				SIGNAL	1A	L2	40.5	3 SECTIONS	-	-	8.7	352.4				
				SIGNAL	6B	L3	28.5	3 SECTIONS	-	-	8.7	248.0				
				SIGNAL	6A	L4	16.5	3 SECTIONS	-	-	8.7	143.6				
			-	SIGN	S1	S1	8	-	120	24	20.0	160.0				
				SIGN	S2	S2	49.5	-	30	36	7.5	371.3				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
2	A	0	-	SIGNAL	4B	L1	52	3 SECTIONS	-	-	8.7	452.4	55	NO	1187.35	13
				SIGNAL	4A	L2	38.5	3 SECTIONS	-	-	8.7	335.0				
				SIGN	S1	S1	20	-	120	24	20.0	400.0				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
3	A	0	-	SIGNAL	8B	L1	40.5	3 SECTIONS	-	-	8.7	352.4	44	NO	1017.7	11
				SIGNAL	8A	L2	30.5	3 SECTIONS	-	-	8.7	265.4				
				SIGN	S1	S1	20	-	120	24	20.0	400.0				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
4	A	0	-	SIGNAL	5	L1	52	3 SECTIONS	-	-	8.7	452.4	55	NO	1337.8	13
				SIGNAL	2B	L2	27	3 SECTIONS	-	-	8.7	234.9				
				SIGNAL	2A	L3	15	3 SECTIONS	-	-	8.7	130.5				
				SIGN	S1	S1	8	-	120	24	20.0	160.0				
			-	SIGN	S2	S2	48	-	30	36	7.5	360.0				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				

ASSOCIATED PHASE	DIRECTION	TRAFFIC SIGNAL													PEDESTRIAN														
		FACTORS							CALCULATED (TEM 403-2)			FINAL CLEARANCE												3 fps CHECKS (OMUTCD 4E.06-14)				FINAL PED TIMING	
		PERCEPTION/REACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED	ALL RED APPROACH SPEED	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR	YELLOW	ALL RED	Y + AR	PED MOVEMENT	ASSOCIATED PHASE	CROSSWALK LENGTH	PUSHBUTTON PROVIDED	DISTANCE TO PUSHBUTTON	OMUTCD 4E.06-12 WALK INTERVAL (4-7s TYP)	OMUTCD 4E.06-07 CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	(L+P)/(3 fps) (NOTE: P=6 IF NO PUSHBUTTON)	WALK + PED CHANGE INTERVALS	IS Y>=X?	ADDITIONAL WALK INTERVAL REQUIRED	FINAL WALK INTERVAL	FINAL PED CHANGE INTERVAL (FDW)
		t	V_Y	V_R	a	W	L	g	Y	AR	TOTAL	Y (3-6s TYP)	AR (1-6s TYP)	TOTAL			L		P		= 3.5 fps WALK TIME	= 3.5 fps WALK TIME - 3 sec BUFFER	X	Y				
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC	SEC	SEC	SEC			FT		FT	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC
1	WB LT	1	35	25	10	102	20	-3.4	3.9	2.3	6.2	3.9	2.3	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	EB	1	47	47	10	65	20	0	4.5	0.2	4.7	4.9	1	5.9	EB	2	46	YES	13	7	13.1	10.1	19.7	17.1	NO	2.5	10	11
3	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	SB	1	32	32	10	115	20	-1	3.4	1.9	5.3	3.4	1.9	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	EB LT	1	35	25	10	102	20	0	3.6	2.3	5.9	3.9	2.3	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	WB	1	47	47	10	65	20	-3.4	4.9	0.2	5.1	4.9	1	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	NB	1	32	32	10	115	20	1	3.3	1.9	5.2	3.4	1.9	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CLEARANCE INTERVALS

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.4C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-2	CONTROLLER	11	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	6	1.32	1.7	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38			
							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2**	CONTROLLER	11	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2	1.56	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	8	0.8			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	4	0.56			
							-	-	-	-	-			
							-	-	-	-	-			
PB-1**	PB-2	124	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	3	0.66	1.34	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	4	0.4			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
							-	-	-	-	-			
							-	-	-	-	-			
PB-1**	PB-3	71	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.56	YES	4
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2**	PB-4	79	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.07	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
PB-2**	SP-2	11	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.85	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
PB-1**	SP-1	7	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	0.92	YES	3
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
							-	-	-	-	-			
							-	-	-	-	-			
PB-3**	SP-3	17	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.56	YES	3
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
							-	-	-	-	-			
PB-4**	SP-4	11	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.07	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19			
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
							-	-	-	-	-			
							-	-	-	-	-			
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							-	-	-	-	-			

** NOTE: LOOP LEAD-IN USED FOR PREEMPTION CONFIRMATION LIGHT AND RECEIVING UNIT TO ADEQUATELY SIZE CONDUIT
* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

SUPPORT NO.	ARM	MIN CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	MAX CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	FOUNDATION ELEVATION AT GROUND LEVEL	DISTANCE FROM GROUND TO FOUNDATION	ELEVATION B TOP OF FOUNDATION	RISE ANGLE WITH HORIZONTAL ARM TIP	SIGNAL HEADS CENTERED ON WHICH COLOR?	SIGNAL NO.	SIGNAL HEAD TYPE (12 IN. SECTIONS WITH BACKPLATES)	DISTANCE FROM BOTTOM OF SIGNAL HEAD TO CENTER OF MAST ARM (TEM 497-6)	SIGNAL HEAD DISTANCE FROM SUPPORT POLE	ELEVATION A PAVEMENT ELEVATION UNDER SIGNAL HEAD OR SIGN	MINIMUM HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM HEIGHT (FOUNDATION TO MAST ARM)	MINIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	FINAL ATTACHMENT ARM HEIGHT (FOUNDATION TO MAST ARM)	DOES MAST ARM HAVE POLE EXTENSION?	HEIGHT FROM MAST ARM TO TOP OF POLE	SUGGESTED POLE HEIGHT	POLE HEIGHT WITH EXTENSION
		FT	FT	FT	IN	FT	DEGREE				FT	FT	FT	FT	FT	FT	FT	FT		FT	FT	FT
1	A	17	19	1006	2	1006.17	1/2	YELLOW	1	3 SECTIONS	2.3	50	1006.29	19.86	21.86	19.9	20.8	20.5	NO	1.5	22	N/A
									6C	3 SECTIONS	2.3	38	1006.05	19.51	21.51							
									6B	3 SECTIONS	2.3	26	1005.81	19.17	21.17							
									6A	3 SECTIONS	2.3	14	1005.57	18.83	20.83							
									-	-	-	-	-	-	-							
2	A	17	19	1006.59	0	1006.59	0	YELLOW	4B	3 SECTIONS	2.3	29	1006.59	19.30	21.30	19.3	20.8	20.5	NO	1.5	22	N/A
									4A	3 SECTIONS	2.3	17	1006.09	18.80	20.80							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
3	A	17	19	1010.16	2	1010.33	0	YELLOW	8B	3 SECTIONS	2.3	25	1007.54	16.51	18.51	16.5	18.4	17.5	NO	1.5	19	N/A
									8A	3 SECTIONS	2.3	13	1007.44	16.41	18.41							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
4	A	17	19	1007.139	0	1007.14	1/2	YELLOW	5	3 SECTIONS	2.3	63.5	1009.06	21.78	23.78	21.8	22.8	22	NO	1.5	23.5	N/A
									2C	3 SECTIONS	2.3	51.5	1008.85	21.46	23.46							
									2B	3 SECTIONS	2.3	39.5	1008.61	21.12	23.12							
									2A	3 SECTIONS	2.3	27.5	1008.37	20.77	22.77							
									-	-	-	-	-	-	-							

MAST ARM HEIGHT

SUPPORT NO.	ARM	NUMBER OF LUMINAIRES OR BRACKET ARMS	LUMINAIRE/ BRACKET ARM LENGTH FT	SIGNAL OR SIGN?	SIGNAL/ SIGN NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE FT	SIGNAL HEAD TYPE (12 IN. LENS)	SIGN SIZE IN		AREA SQ. FT.	ATTACHMENT LENGTH * AREA	L TOTAL MAST ARM LENGTH FT	DAMPER REQUIRED?	K AREA MOMENT DESIGN FACTOR	DESIGN NO.
1	A	0	-	SIGNAL	1	L1	50	3 SECTIONS	-	-	8.7	435.0	53	NO	1458.6	13
				SIGNAL	6C	L2	38	3 SECTIONS	-	-	8.7	330.6				
				SIGNAL	6B	L3	26	3 SECTIONS	-	-	8.7	226.2				
				SIGNAL	6A	L4	14	3 SECTIONS	-	-	8.7	121.8				
			-	SIGN	S1	S1	46	-	30	36	7.5	345.0				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
2	A	0	-	SIGNAL	4B	L1	29	3 SECTIONS	-	-	8.7	252.3	32	NO	600.2	2
				SIGNAL	4A	L2	17	3 SECTIONS	-	-	8.7	147.9				
				SIGN	S1	S1	10	-	120	24	20.0	200.0				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
3	A	0	-	SIGNAL	8B	L1	25	3 SECTIONS	-	-	8.7	217.5	32	NO	450.6	2
				SIGNAL	8A	L2	13	3 SECTIONS	-	-	8.7	113.1				
				SIGN	S1	S1	6	-	120	24	20.0	120.0				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
4	A	0	-	SIGNAL	5	L1	63.5	3 SECTIONS	-	-	8.7	552.5	67	YES	2029.65	14
				SIGNAL	2C	L2	51.5	3 SECTIONS	-	-	8.7	448.1				
				SIGNAL	2B	L3	39.5	3 SECTIONS	-	-	8.7	343.7				
				SIGNAL	2A	L4	27.5	3 SECTIONS	-	-	8.7	239.3				
			-	SIGN	S1	S1	59.5	-	30	36	7.5	446.3				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				

ASSOCIATED PHASE	DIRECTION	MOVEMENT	TRAFFIC SIGNAL													PEDESTRIAN													
			FACTORS *(TEM 403-2)								CALCULATED (TEM 403-2)			FINAL CLEARANCE											3 fps CHECKS (OMUTCD 4E.06, 01-14)				FINAL PED TIMING	
			POSTED SPEED LIMIT	PERCEPTION/REACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED*	RED APPROACH SPEED*	DECELERATION RATE (10 fps TYP)	WIDTH OF INTERSECTION*	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	RED	Y + R	YELLOW	RED	Y + R	PED MOVEMENT	ASSOCIATED PHASE	CROSSWALK LENGTH	PUSHBUTTON PROVIDED	DISTANCE TO PUSHBUTTON FROM CURB	WALK INTERVAL (4-7s TYP)	CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	(L+P)/(3 fps) (NOTE: P=6 IF NO PUSHBUTTON)	WALK + PED CHANGE INTERVALS	IS Y>=X?	ADDITIONAL WALK INTERVAL REQUIRED	FINAL WALK INTERVAL	FINAL PED CHANGE INTERVAL (FDW)
				t	V_Y	V_R	a	W	L	g	Y	R	TOTAL	Y (3-6s TYP)	R (1-6s TYP)	TOTAL			L		P		= 3.5 fps WALK TIME	= 3.5 fps WALK TIME - 3 sec BUFFER	X	Y				
			MPH	SEC	MPH	MPH	FPS	FT	FT	%	SEC	SEC	SEC	SEC	SEC	SEC			FT		FT	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC
1	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	NB	THROUGH/RT	35	1	42	42	10	93	20	-0.4	4.1	0.8	4.9	4.4	1.2	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	EB	THROUGH/RT	40	1	47	47	10	75	20	1.2	4.3	0.4	4.7	3.6	1.1	4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	SB	THROUGH/RT	35	1	42	42	10	116	20	-2.6	4.4	1.2	5.6	4.4	1.2	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	WB	THROUGH/RT	25	1	32	32	10	78	20	-0.8	3.4	1.1	4.5	3.6	1.1	4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.25C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
CABINET**	PB-2	29	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.12	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
							-	-	-	-	-			
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							-	-	-	-	-			
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CABINET**	PB-2	29	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.12	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
							-	-	-	-	-			
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CABINET**	PB-2	29	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	3/C # 14	1	0.13	0.13	YES	2
							-	-	-	-	-			
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**NOTE: LOOP LEAD-IN USED FOR PREEMPT AND 3/C USED FOR POWER TO ADEQUATELY SIZE CONDUIT

* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C	0.25C	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a	[A]	IS [A] LESS THAN 0.25C?	FINAL CONDUIT NOMINAL DIAMETER
					INSIDE AREA	25% INSIDE AREA					CROSS SECTION AREA	COMBINED CROSS SECTION AREA		
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-1** PB-2**	PB-3 PB-4	54 60	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.56	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	1	0.1			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
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							-	-	-	-	-			
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							-	-	-	-	-			
PB-1** PB-2** PB-3** PB-4**	SP-1 SP-2 SP-3 SP-4	29 6 7 16	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	1	0.22	0.56	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	1	0.1			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	1	0.14			
							-	-	-	-	-			
							-	-	-	-	-			
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							-	-	-	-	-			
							-	-	-	-	-			
							-	-	-	-	-			
PB-2**	PB-1	70	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	7/C # 14	2	0.44	1.12	YES	4
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2			
							WAVETRONIX RADAR	SMARTSENSOR 6 CONDUCTOR	6/C # 20	2	0.28			
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**NOTE: LOOP LEAD-IN USED FOR PREEMPT AND 3/C USED FOR POWER TO ADEQUATELY SIZE CONDUIT

* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.25C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-2**	PB-1	70	4	4.026	12.72	3.18	SIGNALS	IMSA 19-1 OR 20-1	3/C # 14	1	0.13	0.13	YES	4
							-	-	-	-	-			
							-	-	-	-	-			
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							-	-	-	-	-			
PB-1**	UTILITY POLE	56	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	3/C # 14	1	0.13	0.13	YES	2
							-	-	-	-	-			
							-	-	-	-	-			
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**NOTE: LOOP LEAD-IN USED FOR PREEMPT AND 3/C USED FOR POWER TO ADEQUATELY SIZE CONDUIT

* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

SUPPORT NO.	ARM	MIN CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	MAX CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD	FOUNDATION ELEVATION AT GROUND LEVEL	DISTANCE FROM GROUND TO FOUNDATION	ELEVATION B TOP OF FOUNDATION	RISE ANGLE WITH HORIZONTAL ARM TIP	SIGNAL HEADS CENTERED ON WHICH COLOR?	SIGNAL NO.	SIGNAL HEAD TYPE (12 IN. SECTIONS WITH BACKPLATES)	DISTANCE FROM BOTTOM OF SIGNAL HEAD TO CENTER OF MAST ARM (TEM 497-6)	SIGNAL HEAD DISTANCE FROM SUPPORT POLE	ELEVATION A PAVEMENT ELEVATION UNDER SIGNAL HEAD OR SIGN	MINIMUM HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM HEIGHT (FOUNDATION TO MAST ARM)	MINIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	MAXIMUM ALLOWABLE HEIGHT (FOUNDATION TO MAST ARM)	FINAL ATTACHMENT ARM HEIGHT (FOUNDATION TO MAST ARM)	DOES MAST ARM HAVE POLE EXTENSION?	HEIGHT FROM MAST ARM TO TOP OF POLE	SUGGESTED POLE HEIGHT	POLE HEIGHT WITH EXTENSION
		FT	FT	FT	IN	FT	DEGREE				FT	FT	FT	FT	FT	FT	FT	FT		FT	FT	FT
1	A	17	19	932.99	2	933.16	0	YELLOW	8B	3 SECTIONS	2.3	15	933.45	19.59	21.59	19.6	21.4	20.5	NO	1.5	22	N/A
									8A	3 SECTIONS	2.3	6	933.21	19.35	21.35							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
2	A	17	19	933.56	2	933.73	0	YELLOW	6B	3 SECTIONS	2.3	25	933.79	19.37	21.37	19.4	21.2	20.5	NO	1.5	22	N/A
									6A	3 SECTIONS	2.3	13	933.62	19.20	21.20							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
3	A	17	19	934.98	2	935.15	0	YELLOW	2B	3 SECTIONS	2.3	24.5	934.64	18.79	20.79	19.1	20.8	20.5	NO	1.5	22	N/A
									2A	3 SECTIONS	2.3	10.5	934.97	19.12	21.12							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
4	A	17	19	934.05	2	934.22	0	YELLOW	4B	3 SECTIONS	2.3	28.5	934.69	19.78	21.78	19.8	21.6	20.5	NO	1.5	22	N/A
									4A	3 SECTIONS	2.3	20	934.47	19.56	21.56							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							
									-	-	-	-	-	-	-							

MAST ARM HEIGHT

SUPPORT NO.	ARM	NUMBER OF LUMINAIRES OR BRACKET ARMS	LUMINAIRE/ BRACKET ARM LENGTH FT	SIGNAL OR SIGN?	SIGNAL/ SIGN NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE NO.	ATTACHMENT DISTANCE FROM SUPPORT POLE FT	SIGNAL HEAD TYPE (12 IN. LENS)	SIGN SIZE IN		AREA SQ. FT.	ATTACHMENT LENGTH * AREA	L TOTAL MAST ARM LENGTH FT	DAMPER REQUIRED?	K AREA MOMENT DESIGN FACTOR	DESIGN NO.
1	A	0	-	SIGNAL	8B	L1	15	3 SECTIONS	-	-	8.7	130.5	25	NO	182.7	1
				SIGNAL	8A	L2	6	3 SECTIONS	-	-	8.7	52.2				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
2	A	0	-	SIGNAL	6B	L1	25	3 SECTIONS	-	-	8.7	217.5	32	NO	330.6	2
				SIGNAL	6A	L2	13	3 SECTIONS	-	-	8.7	113.1				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
			-	-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
3	A	0	-	SIGNAL	2B	L1	24.5	3 SECTIONS	-	-	8.7	213.2	28	NO	304.5	2
				SIGNAL	2A	L2	10.5	3 SECTIONS	-	-	8.7	91.4				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
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				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
4	A	0	-	SIGNAL	4B	L1	28.5	3 SECTIONS	-	-	8.7	248.0	32	NO	421.95	2
				SIGNAL	4A	L2	20	3 SECTIONS	-	-	8.7	174.0				
				-	-	-	-	-	-	-	-	-				
				-	-	-	-	-	-	-	-	-				
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ASSOCIATED PHASE	DIRECTION	MOVEMENT	TRAFFIC SIGNAL														PEDESTRIAN														
			FACTORS								CALCULATED (TEM 403-2)			FINAL CLEARANCE												3 fps CHECKS (OMUTCD 4E.06-14)				FINAL PED TIMING	
			POSTED SPEED LIMIT	PERCEPTION/REACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED	ALL RED APPROACH SPEED	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR	YELLOW	ALL RED	Y + AR	PED MOVEMENT	ASSOCIATED PHASE	CROSSWALK LENGTH	PUSHBUTTON PROVIDED	DISTANCE TO PUSHBUTTON	OMUTCD 4E.06-12 WALK INTERVAL (4-7s TYP)	OMUTCD 4E.06-07 CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	(L+P)/(3 fps) (NOTE: P=6 IF NO PUSHBUTTON)	WALK + PED CHANGE INTERVALS	IS Y>=X?	ADDITIONAL WALK INTERVAL REQUIRED	FINAL WALK INTERVAL	FINAL PED CHANGE INTERVAL (FDW)
				t	V_Y	V_R	a	W	L	g	Y	AR	TOTAL	Y (3-6s TYP)	AR (1-6s TYP)	TOTAL			L		P		= 3.5 fps WALK TIME	= 3.5 fps WALK TIME - 3 sec BUFFER	X	Y				
			MPH	SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC	SEC	SEC	SEC			FT		FT	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC
1	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	EB	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	EB	2	61	YES	17	7	17.4	14.4	26.0	21.4	NO	4.6	12	15
3	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	1	-	-	10	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.25C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
CABINET**	PB-2	15	3	3.068	7.38	1.85	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	2	0.38	0.68	YES	3
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	2	0.2			
							LOOP LEAD-IN	IMSA 50-2	2/C # 14	1	0.1			
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CABINET**	PB-2	15	2	2.067	3.36	0.84	LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2	0.2	YES	2
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PB-2	PS-1	9	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	2
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
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**NOTE: LOOP LEAD-IN USED FOR UPS CABLES AND POWER CABLES TO ADEQUATELY SIZE CONDUIT

* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."

CONDUIT							CABLE AND WIRE							
FROM	TO	RUN LENGTH	SIZE/NOMINAL DIAMETER	INSIDE DIAMETER	C INSIDE AREA	0.25C 25% INSIDE AREA	CABLE USE	SPECIFICATION OR MATERIAL	NO. OF CONDUCTORS AWG	NO. CABLES OR WIRES*	a CROSS SECTION AREA	[A] COMBINED CROSS SECTION AREA	IS [A] LESS THAN 0.25C?	FINAL CONDUIT NOMINAL DIAMETER
		FT.	IN.	IN.	SQ. IN.	SQ. IN.					SQ. IN.	SQ. IN.		IN.
PB-2**	UPS	12	2	2.067	3.36	0.84	LOOP LEAD-IN	IMSA 50-2	2/C # 14	1	0.1	0.1	YES	2
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PB-2**	UPS	12	2	2.067	3.36	0.84	LOOP LEAD-IN	IMSA 50-2	2/C # 14	2	0.2	0.2	YES	2
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EX. PB-3	PS-2	10	2	2.067	3.36	0.84	SIGNALS	IMSA 19-1 OR 20-1	5/C # 14	1	0.19	0.29	YES	2
							SIGNALS	IMSA 19-1 OR 20-1	2/C # 14	1	0.1			
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**NOTE: LOOP LEAD-IN USED FOR UPS CABLES AND POWER CABLES TO ADEQUATELY SIZE CONDUIT

* NOTE: INCLUDE GROUNDING CONDUCTOR IN WIRE COUNT FOR LIGHTING CIRCUITS OF NOTATION "WITH GROUND."