

LIST OF MAJOR EQUIPMENT

EQUIPMENT ITEMS 678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION(VT ROUTE 2A & CONNOR WAY)	QUANTITY	REMARKS	PROCUREMENT	
NEMA P44 BASE-MOUNTED CONTROLLER CABINET WITH 15-INCH EXTENDED BASE ON AN EXISTING CONCRETE FOUNDATION INCLUDING TRAFFIC SIGNAL CONTROLLER (NEMA TS2), BIU, SMART MALFUNCTIONING MONITORING UNIT (MMU), CONTROLLER IDENTIFICATION PLAQUE, AND GPS CLOCK	1	PAINTED FLAT BLACK WITH ANCILLARY EQUIPMENT, FACING AWAY FROM TRAFFIC. CONTROLLER SHALL BE ECONOLITE COBALT, MMU SHALL BE ECONOLITE MMU2-16LE SMARTMONITOR, BIU SHALL BE ECONOLITE BIU-64.	TO BE PROVIDED BY AGENCY, INSTALLED BY CONTRACTOR	
STOP BAR DETECTOR ASSEMBLY (FLAT BLACK)	4	ECONOLITE AUTOSCOPE ENCORE		
ADVANCED DETECTOR ASSEMBLY	2	WAVETRONIX SMARTSENSOR ADVANCE		
DETECTION PROCESSOR (CARDS)	1	ECONOLITE AUTOSCOPE TIP		
DETECTION PROCESSOR (CARDS)	1	ECONOLITE AUTOSCOPE TAP		
DETECTION PROCESSOR (CARDS)	1	WAVETRONIX CLICK 650		
DETECTION CABINET RACK	2			
DETECTOR BRACKET FOR MAST ARM OR POLE	6	FLAT BLACK		
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLIES POLE MOUNTED WITH LOCATOR TONE, R10-3e SIGN	6	FLAT BLACK		
ACCESSIBLE PEDESTRIAN SIGNAL HEADS COUNTDOWN STYLE	6	FLAT BLACK		
PEDESTRIAN PEDESTAL POLE ON EXISTING FOUNDATION	4	FLAT BLACK, PP-3, PP-4, PP-5 & PP-6		
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	2	FLAT BLACK, PP-1 & PP-2		
NEW 12-INCH LED SIGNAL HEADS (ONE-WAY 3-SECTION, VISORS, DISCONNECT HANGERS, 5 INCH LOUVERED BACKPLATES WITH 2 INCH RETRO-REFLECTIVE BORDER AND MOUNTING HARDWARE	8	FLAT BLACK		
NEW 12-INCH LED SIGNAL HEADS (ONE-WAY 4-SECTION, VISORS, DISCONNECT HANGERS, 5 INCH LOUVERED BACKPLATES WITH 2 INCH RETRO-REFLECTIVE BORDER AND MOUNTING HARDWARE)	2	FLAT BLACK		
SIGNAL HEAD BRACKETS AND ANCILLARY EQUIPMENT	10	FLAT BLACK	TO BE PROVIDED AND INSTALLED BY CONTRACTOR	
OPTICAL PREEMPTION DETECTORS	2	TOMAR DETOC SERIES, FLAT BLACK		
OPTICAL PREEMPTION SIGNAL PROCESS CARD & CAGE	2	TOMAR OSPOCx OPTICAL SIGNAL PROCESSOR		
PREEMPTION AC STROBE - RED	2			
NEW LED BLANK OUT SIGN	3	FLAT BLACK		
STEEL MAST ARM SIGNAL POLE (FLAT BLACK)	1			
STEEL MAST ARMS (FLAT BLACK)	2	MA-1A = 40', MA-1B = 30'		
HARDENED NETWORK SWITCH	1	CISCO IE 2000		
DIRECTIONAL WIRELESS INTERCONNECT ANTENNA	1			
WIRELESS INTERCONNECT PROCESSOR CARD	1			
				TO BE PROVIDED AND INSTALLED BY OTHERS

NOTE: THE NETWORK SWITCH, WIRELESS ANTENNA, AND PROCESSOR CARD ARE FOR INFORMATION PURPOSES REGARDING THE INSTALLATION AND CONFIGURATION OF THE CABINET. THESE ITEMS WILL BE PURCHASED AND INSTALLED UNDER A SEPARATE CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THERE IS ADEQUATE ROOM FOR THESE ITEMS INSIDE THE CABINET.

ACTION PLAN

PLAN NO.	PATTERN	FLASH	REFERENCE
1	1	NO	MAX 1
2	2	NO	MAX 2
3	3	NO	MAX 3
4	254 - FREE	NO	FREE

DAY PLAN

PLAN NO.	EVENT	ACTION PLAN	START TIME
1	1	2	6:00 AM
1	2	1	9:00 AM
1	3	3	3:00 PM
1	4	1	7:00 PM
1	5	254	10:00 PM
2	1	1	6:00 AM
2	2	3	9:00 AM
2	3	254	10:00 PM

WEEKDAY PEAKS

	HOURS	
MAX 2 - AM PEAK	6:00 AM TO	9:00 AM
MAX 1 - OFF PEAK	9:00 AM TO	3:00 PM
MAX 3 - PM PEAK	7:00 PM TO	10:00 PM
FREE	3:00 PM TO	7:00 PM
	10:00 PM TO	6:00 AM

PREEMPTION TIMINGS

	PREEMPTOR			
	1	2	3	4
DIRECTION	NB	SB		
HOLD PHASE	2	6		
DET LOCK	YES	YES		
DURATION TIME	18.5	18.5		
MIN GREEN	8	8		
HOLD GREEN	12	12		
HOLD YELLOW	4.5	4.5		
HOLD RED	2	2		

SCHEDULE PLAN

SCHEDULE NO.	DAY PLAN	DAYS	DATES
1	1	MON, TUE, WED, THU, FRI	1-31
1	2	SAT, SUN	1-31

COORDINATION PLAN

PATTERN	COS	CYCLE	OFFSET	SPLIT PHASES / SPLIT TIMES							
				1	2	3	4	5	6	7	8
1	111	92	76	11.5	54.5		26	11.5	54.5		26
2	211	96	78	12	57		27	12	57		27
3	311	100	92	12	58		30	12	58		30

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8
IN USE	X	X		X	X	X		X
TRAFFIC MOVEMENT	↓	↑	→	←	↓	↑	→	←
MIN. GREEN	5	8		5	5	8		5
MAX 1 - GREEN (OFF)	5	47		19.5	5	47		19.5
MAX 2 - GREEN (AM)	5.5	50.5		20.5	5.5	50.5		20.5
MAX 3 - GREEN (PM)	5.5	51.5		23.5	5.5	51.5		23.5
YELLOW CLEARANCE	4.5	4.5		4.0	4.0	4.5		4.0
ALL RED CLEARANCE	2.0	2.0		2.5	2.0	2.0		2.5
VEHICLE EXTENSION	2.0	2.0		2.0	2.0	2.0		2.0
DELAY GREEN	0.0	5.0		5.0	0.0	5.0		5.0
WALK		7		7		7		7
PEDESTRIAN CLEAR		19		19		19		19
RECALL MODE		SOFT				SOFT		
COORDINATED		X				X		

ELECTRICAL WIRING	LENGTH	DESCRIPTION
MA-1A WIRING		
POLE BASE TO SIGNAL HEAD	61'	PHASE 1
POLE BASE TO SIGNAL HEAD	61'	PHASE 2
POLE BASE TO SIGNAL HEAD	61'	PHASE 2
POLE BASE TO SIGNAL HEAD	61'	PHASE 5
POLE BASE TO DETECTION	61'	STOP BAR
POLE BASE TO DETECTION	61'	ADVANCE
POLE BASE TO PREEMPTION	61'	DETECTOR
POLE BASE TO STROBE LIGHT	61'	PREEMPTION
MA-1B WIRING		
POLE BASE TO SIGNAL HEAD	46'	PHASE 4
POLE BASE TO SIGNAL HEAD	46'	PHASE 4
POLE BASE TO SIGNAL HEAD	46'	PHASE 8
POLE BASE TO SIGNAL HEAD	46'	PHASE 8
POLE BASE TO DETECTION	46'	STOP BAR
POLE BASE TO DETECTION	46'	STOP BAR
POLE BASE TO LED SIGN	46'	NO RIGHT TURN ON RED
EXISTING MAP-1 WIRING		
POLE BASE TO SIGNAL HEAD	65'	PHASE 6
POLE BASE TO SIGNAL HEAD	65'	PHASE 6
POLE BASE TO DETECTION	65'	STOP BAR
POLE BASE TO DETECTION	65'	ADVANCE
POLE BASE TO PREEMPTION	65'	DETECTOR
POLE BASE TO STROBE LIGHT	65'	STROBE LIGHT
PP-1 WIRING		
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING WRIGHT AVE
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING WRIGHT AVE
PP-2 WIRING		
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING WRIGHT AVE
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING WRIGHT AVE
PP-3 WIRING		
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING VT 2A
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING VT 2A
PP-4 WIRING		
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING VT 2A
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING VT 2A
PP-5 WIRING		
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING CONNOR WAY
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING CONNOR WAY
PP-6 WIRING		
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING CONNOR WAY
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING CONNOR WAY
SUBTOTAL	1320'	
ROUNDING	30'	
TOTALS	1350'	

ELECTRICAL WIRING IS SHOWN FOR ESTIMATING PURPOSES ONLY. PAYMENT FOR THIS ITEM WILL BE INCIDENTAL TO PAY ITEM 678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (VT ROUTE 2A & CONNOR WAY).

CONDUIT SCHEDULE	WIRED CONDUIT		ELECTRICAL CONDUIT		DESCRIPTION
	2"	4"	2"	4"	
CONTROLLER TO MAP-1	18.66'	-27'			SIGNAL
CONTROLLER TO MAP-1	18.66'	-27'			DETECTION
CONTROLLER TO MAP-1			-27'	18.67'	FUTURE USE
CONTROLLER TO JB-3		24'			DETECTION
CONTROLLER TO JB-3		24'			SIGNAL
CONTROLLER TO JB-3			24'		FUTURE USE
JB-3 TO PP-5		12'			PEDESTRIAN
JB-3 TO PP-5			12'		FUTURE USE
JB-3 TO JB-4		53'			DETECTION
JB-3 TO JB-4		53'			SIGNAL
JB-3 TO JB-4			53'		FUTURE USE
JB-4 TO PP-6		20'			PEDESTRIAN
JB-4 TO PP-6			20'		FUTURE USE
CONTROLLER TO JB-5		29'			DETECTION
CONTROLLER TO JB-5		29'			SIGNAL
CONTROLLER TO JB-5			29'		FUTURE USE
JB-5 TO SL-1	14.59'	44'			LIGHTING
JB-5 TO SL-1			-14'	6.25'	FUTURE USE
JB-5 TO JB-6		89'			DETECTION
JB-5 TO JB-6		89'			SIGNAL
JB-5 TO JB-6			89'		FUTURE USE
JB-6 TO PP-3		4'	-10'		PEDESTRIAN
JB-6 TO PP-3			10'		FUTURE USE
JB-6 TO PP-2		3.33'	-10'		PEDESTRIAN
JB-6 TO PP-2			10'	3.33'	FUTURE USE
JB-6 TO JB-7		66.34'	64'		DETECTION
JB-6 TO JB-7		66.34'	64'		SIGNAL
JB-6 TO JB-7			-64'	66.33'	FUTURE USE
JB-7 TO PP-1		1.67'	-10'		PEDESTRIAN
JB-7 TO PP-1			10'	1.67'	FUTURE USE
JB-7 TO EXISTING MAP-1		6.29'	44'		DETECTION
JB-7 TO EXISTING MAP-1		6.29'	44'		SIGNAL
JB-7 TO EXISTING MAP-1			14'		FUTURE USE
SUBTOTAL		670'		379'	
ROUNDING		10'		7'	
TOTALS		497.71'	680'		380'-245.40'

CONDUIT SCHEDULE - ADDITIONS		
	WIRED	ELECTRICAL
JB-5A TO JB-5	87.28'	90.14'
JB-5A TO JB-5	87.28'	
JB-5A TO JB-6	35.99'	36.01'
JB-5A TO JB-6	35.99'	
CABINET TO JB-5A	9.00'	3.00'
MAP-1 TO JB-5A	4.00'	2.00'
JB-5 TO JB-5B	36.00'	18.00'

REVISION	DATE	DESCRIPTION	BY
1	5/10/17	CHART REVISED	KAR

MS 573: VT ROUTE 2A & CONNOR WAY

PROJECT NAME:	WILLISTON-ESSEX	PLOT DATE:	5/10/2017
PROJECT NUMBER:	STPG SGNL(46)	DRAWN BY:	K. RECORD
FILE NAME:	t15i017sig.dgn	CHECKED BY:	M. LACROIX
DESIGNED BY:	M. LACROIX	TRAFFIC SIGNAL LAYOUT SHEET 3B	SHEET 24 OF 66