LIST OF MAJOR EQUIPMENT

EQUIPMENT ITEMS 678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION(US ROUTE 2 & BOXWOOD STREET)	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	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	
STOP BAR DETECTION PROCESSOR (CARDS)	1	ECONOLITE AUTOSCOPE TIP	
STOP BAR DETECTION PROCESSOR (CARDS)	1	ECONOLITE AUTOSCOPE TAP	
ADVANCE 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	2	FLAT BLACK	TO BE PROVIDED AND INSTALLED BY CONTRACTOR
ACCESSIBLE PEDESTRIAN SIGNAL HEADS COUNTDOWN STYLE	2	FLAT BLACK	
PEDESTRIAN PEDESTAL POLE ON EXISTING FOUNDATION	2	FLAT BLACK	
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)	1	FLAT BLACK	
SIGNAL HEAD BRACKETS AND ANCILLARY EQUIPMENT	9	FLAT BLACK	
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	1	FLAT BLACK	
HARDENED NETWORK SWITCH	1	CISCO IE 2000	TO BE PROVIDED AND INSTALLED BY OTHERS
DIRECTIONAL WIRELESS INTERCONNECT ANTENNA	2		
WIRELESS INTERCONNECT PROCESSOR CARD	1		

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 RESONSIBLE FOR ENSURING THAT THERE IS ADEQUATE ROOM FOR THESE ITEMS INSIDE THE CABINET.

CONDUIT SCHEDULE

	WIRED CONDUIT		ELECTRICAL CONDUIT		DESCRIPTION
	2"	4"	2"	4"	
EXISTING PB TO JB-5	~~85'~~ 96'				SIGNAL HEAD
EXISTING PB TO JB-5			~~85'~~ 96'		FUTURE USE
JB-5 TO SP-1	~~15'~~ 7'				SIGNAL HEAD
~~JB-5 TO SP-1~~ NOT INSTALLED			~~15'~~		FUTURE USE
SUBTOTAL	~~100'~~		~~100'~~		
ROUNDING	~~5'~~		~~5'~~		
TOTALS	103' ~~105'~~		~~105'~~ 96'		

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		8		5
MAX 1 - GREEN (OFF)	5	50.5		17.5		61.5		17.5
MAX 2 - GREEN (AM)	7	52.5		17.5		65.5		17.5
MAX 3 - GREEN (PM)	5	63.5		12.5		74.5		12.5
YELLOW CLEARANCE	4.0	4.5		4.0		4.0		4.0
ALL RED CLEARANCE	2.0	2.0		2.5		2.0		2.5
VEHICLE EXTENSION	2.0	2.0		2.0		2.0		2.0
DELAY GREEN	0.0	5.0		0.0		5.0		0.0
WALK		7				7		
PEDESTRIAN CLEAR		7				7		
RECALL MODE		SOFT				SOFT		
COORDINATED		X				X		

SCHEDULE PLAN

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

ACTION PLAN

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

PREEMPTION TIMINGS

	PREEMPTOR			
	1	2	3	4
DIRECTION	EB	WB		
HOLD PHASE	2	1 & 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		

COORDINATION PLAN

PATTERN	COS	CYCLE	OFFSET	SPLIT PHASES / SPLIT TIMES							
				1	2	3	4	5	6	7	8
1	111	92	34	11	57		24		68		24
2	211	96	22	13	59		24		72		24
3	311	100	56	11	70		19		81		19

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
	7:00 PM	TO	10:00 PM
MAX 3 - PM PEAK	3:00 PM	TO	7:00 PM
FREE	10:00 PM	TO	6:00 AM

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

ELECTRICAL WIRING

ELECTRICAL WIRING	LENGTH	DESCRIPTION
EXISTING MAINLINE MAST ARM WIRING		
CABINET TO SIGNAL HEAD	95'	PHASE 1
CABINET TO SIGNAL HEAD	95'	PHASE 6
CABINET TO SIGNAL HEAD	95'	PHASE 2
CABINET TO SIGNAL HEAD	95'	PHASE 2
CABINET TO DETECTION	95'	STOP BAR
CABINET TO DETECTION	95'	STOP BAR
CABINET TO DETECTION	95'	ADVANCE
CABINET TO DETECTION	95'	ADVANCE
CABINET TO PREEMPTION	95'	DETECTOR
CABINET TO STROBE LIGHT	95'	PREEMPTION
CABINET TO PREEMPTION	95'	DETECTOR
CABINET TO STROBE LIGHT	95'	PREEMPTION
EXISTING SIDELINE MAST ARM WIRING		
CABINET TO SIGNAL HEAD	95'	PHASE 4
CABINET TO SIGNAL HEAD	95'	PHASE 4
CABINET TO SIGNAL HEAD	95'	PHASE 8
CABINET TO SIGNAL HEAD	95'	PHASE 8
CABINET TO DETECTION	95'	STOP BAR
CABINET TO DETECTION	95'	STOP BAR
CABINET TO LED SIGN	95'	NO RIGHT TURN ON RED
PP-8 WIRING		
CABINET TO PEDESTRIAN HEAD	60'	CROSSING BOXWOOD STREET
CABINET TO PEDESTRIAN BUTTON	60'	CROSSING BOXWOOD STREET
PP-9 WIRING		
CABINET TO PEDESTRIAN HEAD	125'	CROSSING BOXWOOD STREET
CABINET TO PEDESTRIAN BUTTON	125'	CROSSING BOXWOOD STREET
SP-1 WIRING		
POLE BASE TO SIGNAL HEAD	25'	PHASE 6
SUBTOTAL	2200'	
ROUNDING	50'	
TOTALS	2250'	

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 (US ROUTE 2 & BOXWOOD STREET).

MS 577: US ROUTE 2 & BOXWOOD STREET

PROJECT NAME: WILLISTON-ESSEX
PROJECT NUMBER: STPG SGNL(46)

FILE NAME: t15t017sig.dgn
PROJECT LEADER: M. LACROIX
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 5B

PLOT DATE: 3/21/2017
DRAWN BY: K. RECORD
CHECKED BY: M. LACROIX
SHEET 28 OF 66