LIST OF MAJOR EQUIPMENT

EQUIPMENT ITEMS 678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION(VT ROUTE 2A & EXIT 12 SOUTHBOUND RAMPS)	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 AND MAINTAINING CURRENT ORIENTATION. 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)	3	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	5	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	TO BE PROVIDED AND INSTALLED BY CONTRACTOR
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		
HARDENED NETWORK SWITCH	1	CISCO IE 2000	TO BE PROVIDED AND INSTALLED BY OTHERS
DIRECTIONAL WIRELESS INTERCONNECT ANTENNA	1		
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.

ELECTRICAL WIRING	LENGTH	DESCRIPTION
EXISTING MAP-1 WIRING		
CABINET TO SIGNAL HEAD	85'	PHASE 2
CABINET TO SIGNAL HEAD	85'	PHASE 2
CABINET TO SIGNAL HEAD	85'	PHASE 4
CABINET TO SIGNAL HEAD	85'	PHASE 4
CABINET TO SIGNAL HEAD	85'	PHASE 4
CABINET TO DETECTOR	85'	STOP BAR
CABINET TO DETECTOR	85'	STOP BAR
CABINET TO DETECTOR	85'	ADVANCE
CABINET TO DETECTOR	85'	ADVANCE
CABINET TO PREEMPTION	85'	DETECTOR
CABINET TO STROBE LIGHT	85'	PREEMPTION
EXISTING MAP-2 WIRING		
CABINET TO SIGNAL HEAD	210'	PHASE 1
CABINET TO SIGNAL HEAD	210'	PHASE 6
CABINET TO SIGNAL HEAD	210'	PHASE 6
CABINET TO SIGNAL HEAD	210'	PHASE 4A
CABINET TO DETECTOR	210'	STOP BAR
CABINET TO PREEMPTION	210'	DETECTOR
CABINET TO STROBE LIGHT	210'	PREEMPTION
SUBTOTAL	2405'	
ROUNDING	45'	
TOTALS	2450'	

NOTE:
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 & EXIT 12 SOUTHBOUND RAMPS).

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8
IN USE	X	X		X		X		
TRAFFIC MOVEMENT	↳	↑		↓		↑		
MIN. GREEN	8	8		8		8		
MAX 1 - GREEN (OFF)	18.5	24.5		29.5		49.5		
MAX 2 - GREEN (AM)	19.5	29.5		27.5		55.5		
MAX 3 - GREEN (PM)	29.5	20.5		30.5		56.5		
YELLOW CLEARANCE	4.5	4.5		4.5		4.5		
ALL RED CLEARANCE	2.0	2.0		2.0		2.0		
VEHICLE EXTENSION	2.0	2.0		2.0		2.0		
DELAY GREEN	0.0	0.0		0.0		0.0		
RECALL MODE		SOFT				SOFT		
COORDINATED (AM & OFF)		X				X		
COORDINATED (PM)				X				

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

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

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

				SPLIT PHASES / SPLIT TIMES							
PATTERN	COS	CYCLE	OFFSET	1	2	3	4	5	6	7	8
1	111	92	60	25	31	0	36	0	56	0	0
2	211	96	60	26	36	0	34	0	62	0	0
3	311	100	2	36	27	0	37	0	63	0	0

PREEMPTION TIMINGS

	PREEMPTOR			
	1	2	3	4
DIRECTION	NB	SB		
HOLD PHASE	2 & 5	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		

MS 570: VT ROUTE 2A & EXIT 12
SOUTHBOUND RAMPS

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 1B

PLOT DATE: 3/21/2017
DRAWN BY: K. RECORD
CHECKED BY: M. LACROIX
SHEET 20 OF 66