

LIST OF MAJOR EQUIPMENT

EQUIPMENT ITEMS 678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION(VT ROUTE 15 & PRICE CHOPPER)	QUANTITY	REMARKS	PROCUREMENT
NEMA P44 BASE-MOUNTED CONTROLLER CABINET WITH 15-INCH EXTENDED BASE ON A NEW 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	
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)	7	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	
NEW 12-INCH LED SIGNAL HEADS (ONE-WAY 5-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	11	FLAT BLACK	TO BE PROVIDED AND INSTALLED BY CONTRACTOR
OPTICAL PREEMPTION DETECTORS (FLAT BLACK)	2	TOMAR DETOC OR OPTICOM INFRARED	
OPTICAL PREEMPTION SIGNAL PROCESS CARD & CAGE	2	TOMAR SPOC _x OR OPTICOM INFRARED	
PREEMPTION AC STROBE - RED	2		
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLIES POLE MOUNTED WITH LOCATOR TONE, R10-3e SIGN	4	FLAT BLACK	
ACCESSIBLE PEDESTRIAN SIGNAL HEADS COUNTDOWN STYLE	4	FLAT BLACK	
PEDESTRIAN PEDESTAL POST ON EXISTING FOUNDATION	2	FLAT BLACK, PP-22 & PP-23	
PEDESTRIAN PEDESTAL POST ON NEW FOUNDATION	1	FLAT BLACK, PP-21	
STEEL MAST ARM SIGNAL POLE (FLAT BLACK)	2		
STEEL MAST ARMS (FLAT BLACK)	4	MA-13A& MA-14A=30', MA13B& MA-14B=45'	
POWER STANCHION WITH DISCONNECTS	1		
NEW LED BLANK OUT SIGN	2		TO BE PROVIDED BY OTHERS, INSTALLED BY CONTRACTOR
HARDENED NETWORK SWITCH	1	CISCO IE 2000	
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 RESPONSIBLE FOR ENSURING THAT THERE IS ADEQUATE ROOM FOR THESE ITEMS INSIDE THE CABINET.

PREEMPTION TIMINGS

	PREEMPTOR			
	1	2	3	4
DIRECTION	EB	WB		
HOLD PHASE	2 & 5	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		

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

ADDITIONS TO CONDUIT SCHEDULE

	WIRED (2")	ELECTRICAL (2")
PED POSTS MADE @ECI YARD (3 POSTS)	11.25'	11.25'
TOTALS	717.18'	361.22'

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	0	70	22	14	56					22
2	211	98	94	77		21	11.5	65.5				21
3	311	110	44	80		30	13.5	66.5				30

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8
IN USE		X		X	X	X		X
TRAFFIC MOVEMENT		→		↓	↓	←		↑
MIN. GREEN		8		5	5	8		5
MAX 1 - GREEN (OFF)		63.5		16	7.5	49.5		16
MAX 2 - GREEN (AM)		70.5		15	5	59		15
MAX 3 - GREEN (PM)		73.5		24	6.5	60		24
YELLOW CLEARANCE		4.0		4.0	4.0	4.0		4.0
ALL RED CLEARANCE		2.0		2.0	2.0	2.0		2.0
VEHICLE EXTENSION		2.0		2.0	2.0	2.0		2.0
DELAY GREEN		5.0		5.0	0.0	5.0		5.0
WALK		7		7	0	7		7
PEDESTRIAN CLEAR		17		13	0	17		13
RECALL MODE		SOFT				SOFT		
COORDINATED		X				X		

ELECTRICAL WIRING	LENGTH	DESCRIPTION
MA-13A WIRING		
POLE BASE TO SIGNAL HEAD	60'	PHASE 6
POLE BASE TO SIGNAL HEAD	60'	PHASE 6
POLE BASE TO SIGNAL HEAD	60'	PHASE 6
POLE BASE TO DETECTOR	60'	STOP BAR
POLE BASE TO DETECTOR	60'	ADVANCE
POLE BASE TO LED SIGN	60'	NO RIGHT TURN ON RED
POLE BASE TO PREEMPTION	60'	DETECTOR
POLE BASE TO STROBE LIGHT	60'	PREEMPTION
MA-13B WIRING		
POLE BASE TO SIGNAL HEAD	60'	PHASE 8
POLE BASE TO SIGNAL HEAD	60'	PHASE 8
POLE BASE TO DETECTION	60'	STOP BAR
MA-14A WIRING		
POLE BASE TO SIGNAL HEAD	60'	PHASE 2
POLE BASE TO SIGNAL HEAD	60'	PHASE 2
POLE BASE TO SIGNAL HEAD	60'	PHASE 5
POLE BASE TO DETECTION	60'	STOP BAR
POLE BASE TO DETECTION	60'	ADVANCE
POLE BASE TO PREEMPTION	60'	DETECTOR
POLE BASE TO STROBE LIGHT	60'	PREEMPTION
MA-14B WIRING		
POLE BASE TO SIGNAL HEAD	70'	PHASE 4
POLE BASE TO SIGNAL HEAD	70'	PHASE 4
POLE BASE TO DETECTOR	70'	STOP BAR
PP-21 WIRING		
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING VT 15
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING VT 15
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING DRIVEWAY
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING DRIVEWAY
PP-22 WIRING		
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING VT 15
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING VT 15
POLE BASE TO LED SIGN	10'	NO RIGHT TURN ON RED
PP-23 WIRING		
POLE BASE TO PEDESTRIAN HEAD	10'	CROSSING DRIVEWAY
POLE BASE TO PEDESTRIAN BUTTON	10'	CROSSING DRIVEWAY
SUBTOTAL	1350'	
ROUNDING	50'	
TOTALS	1400'	

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 15 & PRICE CHOPPER).

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	10:00 PM
	10:00 PM	TO	6:00 AM

DAY PLAN

PLAN NO.	EVENT	ACTION PLAN	START TIME
1	1	254	12:00 AM
1	2	2	6:00 AM
1	3	1	9:00 AM
1	4	3	3:00 PM
1	5	1	7:00 PM
1	6	254	10:00 PM
2	1	254	12:00 AM
2	2	1	6:00 AM
2	3	254	8:00 PM

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

MS 556: VT ROUTE 15 & PRICE CHOPPER

PROJECT NAME:	WILLISTON-ESSEX
PROJECT NUMBER:	STPG SGNL(46)
FILE NAME: t15i017sig.dgn	PLOT DATE: 5/10/2017
PROJECT LEADER: M. LACROIX	DRAWN BY: K. RECORD
DESIGNED BY: K. RECORD	CHECKED BY: M. LACROIX
TRAFFIC SIGNAL LAYOUT SHEET 13B	SHEET 44 OF 66

SEE 'ADDITIONS TO CONDUIT SCHEDULE' FOR CONDUIT TOTALS