

LIST OF MAJOR EQUIPMENT

EQUIPMENT ITEMS 678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION(US ROUTE 2 & ZEPHYR ROAD)	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	
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	TO BE PROVIDED AND INSTALLED BY CONTRACTOR
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 POLE ON EXISTING FOUNDATION	4	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)	2	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)	2	FLAT BLACK	
SIGNAL HEAD BRACKETS AND ANCILLARY EQUIPMENT	11	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	WHELAN CONFIRMATION STROBE	
NEW LED BLANK OUT SIGN	2	FLAT BLACK	
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 RESONSIBLE FOR ENSURING THAT THERE IS ADEQUATE ROOM FOR THESE ITEMS INSIDE THE CABINET.

PREEMPTION DETECTION2GTT 711 RECEIVER

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)	21	37.5		15	7	51.5		15
MAX 2 - GREEN (AM)	20	39.5		18	5	54.5		18
MAX 3 - GREEN (PM)	22	44.5		15	5	61.5		15
YELLOW CLEARANCE	4.0	4.5		4.0	4.0	4.5		4.0
ALL RED CLEARANCE	2.0	2.0		2.0	2.0	2.0		2.0
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		13		13		13		13
RECALL MODE		SOFT				SOFT		
COORDINATED		X				X		

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

PREEMPTION TIMINGS

	PREEMPTOR			
	1	2	3	4
DIRECTION	EB	WB		
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		

COORDINATION PLAN

PATTERN	COS	CYCLE	OFFSET	SPLIT PHASES / SPLIT TIMES							
				1	2	3	4	5	6	7	8
1	111	92	28	27	44		21	13	58		21
2	211	96	20	26	46		24	11	61		24
3	311	100	64	28	51		21	11	68		21

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

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

WEEKDAY PEAKS

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

ELECTRICAL WIRING	LENGTH	DESCRIPTION
EXISTING MAINLINE MAST ARM WIRING		
CABINET TO SIGNAL HEAD	95'	PHASE 1
CABINET TO SIGNAL HEAD	95'	PHASE 2
CABINET TO SIGNAL HEAD	95'	PHASE 2
CABINET TO SIGNAL HEAD	95'	PHASE 5
CABINET TO SIGNAL HEAD	95'	PHASE 6
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-10 WIRING		
CABINET TO PEDESTRIAN HEAD	60'	CROSSING US 2
CABINET TO PEDESTRIAN BUTTON	60'	CROSSING US 2
PP-11 WIRING		
CABINET TO PEDESTRIAN HEAD	155'	CROSSING US 2
CABINET TO PEDESTRIAN BUTTON	155'	CROSSING US 2
PP-12 WIRING		
CABINET TO PEDESTRIAN HEAD	160'	CROSSING ZEPHYR ROAD
CABINET TO PEDESTRIAN BUTTON	160'	CROSSING ZEPHYR ROAD
CABINET TO SIGNAL HEAD	160'	PHASE 6
CABINET TO LED SIGN	160'	NO RIGHT TURN ON RED
PP-13 WIRING		
CABINET TO PEDESTRIAN HEAD	215'	CROSSING ZEPHYR ROAD
CABINET TO PEDESTRIAN BUTTON	215'	CROSSING ZEPHYR ROAD
CABINET TO SIGNAL HEAD	215'	PHASE 8
SUBTOTAL	3615'	
ROUNDING	35'	
TOTALS	3650'	

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 & ZEPHYR ROAD).

MS 578: US ROUTE 2 & ZEPHYR ROAD

PROJECT NAME:	WILLISTON-ESSEX
PROJECT NUMBER:	STPG SGNL(46)
FILE NAME: t15i017sig.dgn	PLOT DATE: 3/21/2017
PROJECT LEADER: M. LACROIX	DRAWN BY: K. RECORD
DESIGNED BY: K. RECORD	CHECKED BY: M. LACROIX
TRAFFIC SIGNAL LAYOUT SHEET 6B	SHEET 30 OF 66