

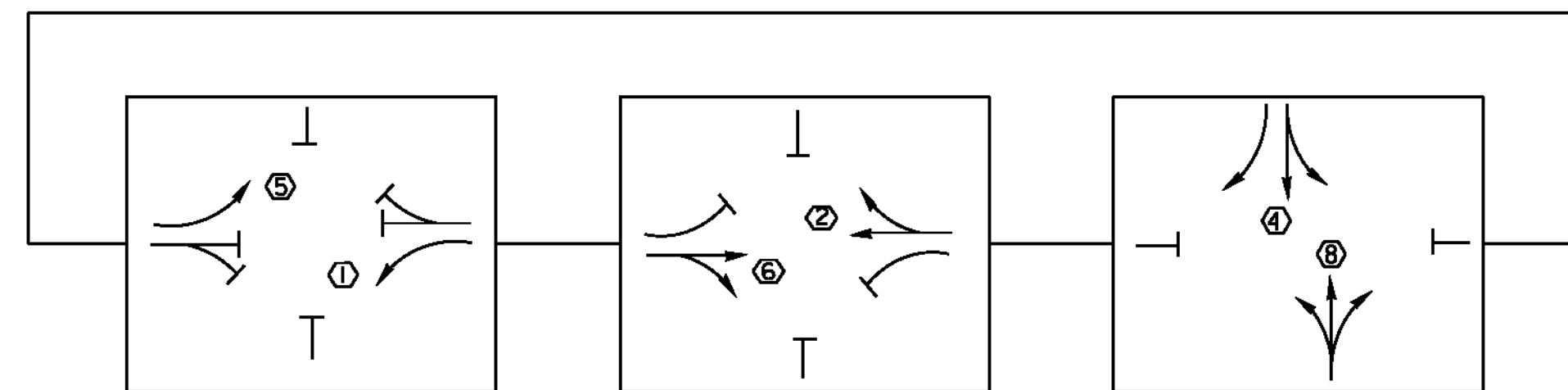
**CONTROLLER TIMING CHART**

US ROUTE 5 & ST. JOHNSBURY STATE HIGHWAY						
	5NLT	5STH	SJSH	5SLT	5NTH	HPDR
PHASE	1	2	4	5	6	8
TRAFFIC MOVEMENT	↖	↓	→	↘	↑	↙
MINIMUM GREEN	5	8	8	5	8	8
MAXIMUM 1 GREEN	8	27	17	8	27	17
MAXIMUM 2 GREEN	8	30	14	8	30	14
MAXIMUM 3 GREEN	9	30	14	9	30	14
YELLOW CLEARANCE	4	4	4	4	4	4
ALL RED CLEARANCE	2	2	2	2	2	2
VEH. EXTENSION	1	2	2	1.5	2	2

**TIME OF DAY PLANS**

DAY PLAN	STEP BEGINS	ACTION PLAN	PATTERN	MAX TIME
1	0000	5	255	FLASH
1	0600	1	254	MAX 1
1	1000	2	254	MAX 2
1	1500	3	254	MAX 3
1	1900	1	254	MAX 1
1	2100	5	255	FLASH

**PHASING DIAGRAM**



**CONTROLLER IDENTIFICATION PLAQUE**



LEGEND: - BLACK (NON-REFL.) - STAMPED PRIOR TO PAINTING  
BACKGROUND: NATURAL ALUMINUM OR BRASS SURFACE

**NOTES:**

- 1.) THE PLAQUE SHALL BE MOUNTED ON ALL TRAFFIC SIGNAL CONTROLLER CABINETS. IT SHALL BE FASTENED TO THE CONTROLLER CABINET IN SUCH A MANNER AS TO BE NOT EASILY REMOVED, SUCH AS WELDED, RIVETED OR BOLTED WITH VANDAL PROOF BOLTS.
- 2.) THE LETTERS SHALL BE PUNCHED OR STAMPED, SUCH STAMPING SHALL PENETRATE AT LEAST 1#2 THE BASE MATERIAL THICKNESS.
- 3.) THE BASE MATERIAL FOR THE PLAQUE SHALL BE BRASS OR ALUMINUM WITH A MINIMUM THICKNESS OF 0.100 INCHES.

**TRAFFIC SIGNAL NOTES**

1. SHEET 127 IS NOT TO SCALE AND SHALL ONLY BE USED AS A GUIDE FOR THE PLACEMENT OF HARDWARE LISTED. THE CONTRACTOR SHALL CONFIRM ALL LOCATIONS IN THE FIELD WITH THE ENGINEER PRIOR TO INSTALLATION. LOCATIONS MAY BE REVISED AS A RESULT OF THE SITE SURVEY.
2. VIDEO VEHICLE DETECTION CAMERAS SHALL BE PLACED SO THAT OCCLUSION IS MINIMIZED AND PHASING IS NOT AFFECTED.
3. VIDEO VEHICLE DETECTION AREAS SHALL EXTEND 5 FEET PAST THE STOP BAR.
4. THE CONTRACTOR SHALL VERIFY IN THE FIELD THAT THERE IS ADEQUATE SPACE IN THE CONDUIT FOR VIDEO DETECTION CABLE. IF ADDITIONAL CONDUIT INSTALLATION IS REQUIRED, ALL WORK ASSOCIATED FOR INSTALLATION SHALL BE INCIDENTAL TO ITEM 900.620 SPECIAL PROVISION (VEHICLE PREEMPTION / VIDEO VEHICLE DETECTION SYSTEM) (U.S. ROUTE 5 @ ST. JOHNSBURY STATE HIGHWAY). MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH SECTION 678 OF THE 2011 EDITION OF THE VAOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
5. EXISTING VEHICLE DETECTOR LOOPS TO BE CUT AT THE CURB LINE PRIOR TO COLD PLANING, DISCONNECTED AT THE EXISTING PULLBOX LOCATIONS, AND WIRING REMOVED BACK TO THE CABINET. PAYMENT SHALL BE INCIDENTAL TO ITEM 900.620 SPECIAL PROVISION (VEHICLE PREEMPTION / VIDEO VEHICLE DETECTION SYSTEM) (U.S. ROUTE 5 @ ST. JOHNSBURY STATE HIGHWAY).
6. ANY OTHER MISCELLANEOUS EQUIPMENT AND LABOR NECESSARY TO PROVIDE A FULLY FUNCTIONAL VIDEO VEHICLE DETECTION SYSTEM SHALL BE INCIDENTAL TO ITEM 900.620 SPECIAL PROVISION (VEHICLE PREEMPTION / VIDEO VEHICLE DETECTION SYSTEM) (U.S. ROUTE 5 @ ST. JOHNSBURY STATE HIGHWAY).
7. VIDEO VEHICLE DETECTION SYSTEM SHALL BE ONE OF THE MANUFACTURERS LISTED IN THE SPECIAL PROVISIONS.
8. EXISTING CONDUIT SHALL BE UTILIZED FOR NECESSARY WIRING.
9. EXISTING SPAN WIRE IS TO BE REPLACED WITH NEW.
10. THE EMERGENCY VEHICLE PREEMPTION SYSTEM SHALL BE AN OPTICALLY ACTIVATED SYSTEM. THE SYSTEM WILL INCLUDE ALL NECESSARY INTERFACE BOARDS, WIRING, DETECTORS, AND CONFIRMATION LIGHTS. EMITTERS AND OTHER VEHICLE MOUNTED EQUIPMENT TO BE PURCHASED SEPERATELY BY OTHERS.
11. EXISTING CONTROLLER SHALL BE REMOVED AND RETURNED BY THE CONTRACTOR TO THE DISTRICT 7 GARAGE AT 1098 U.S. ROUTE 5 IN ST. JOHNSBURY WITHIN 48 HOURS OF REMOVAL. CONTACT RUSS VELANDER AT 802-828-3535 WITH ANY QUESTIONS.
12. PRIOR TO COLD PLANING, THE CONTRACTOR SHALL DISCONNECT THE VEHICLE DETECTOR LOOP IN THE CONTROLLER CABINET AND CUT IT AT THE CURB OR SHOULDER. ONCE THE VEHICLE DETECTOR LOOP IS DISCONNECTED, THE SIGNAL PHASE THAT IT WAS CALLING SHALL BE SET ON MAXIMUM RECALL OR THE SIGNAL SHALL BE SET TO FLASH WHILE TRAFFIC IS BEING CONTROLLED BY A UNIFORMED TRAFFIC OFFICER. DETECTOR AND SIGNAL WORK SHALL BE INCIDENTAL TO PAY ITEM 900.620 SPECIAL PROVISION (VEHICLE PREEMPTION / VIDEO VEHICLE DETECTION SYSTEM). UNIFORMED TRAFFIC OFFICERS WILL BE PAID FOR UNDER CONTRACT ITEM 630.10 UNIFORMED TRAFFIC OFFICERS.
13. THE TRAFFIC SIGNAL CONTROLLER AND RELATED EQUIPMENT SHALL BE MANUFACTURED BY ECONOLITE CONTROL PRODUCTS, INC. OR NAZTEC, INC. THE NEW CABINET SHALL BE A POLE MOUNT "M" CABINET, AND ALL PLUG IN PARTS BENCH TESTED FOR STANDARD EIGHT PHASE QUAD OPERATION. THE CABINET SHALL BE INSTALLED AT THE LOCATION SHOWN.
14. ALL EXISTING WIRING FROM CONTROLLER CABINET TO SIGNAL HEADS SHALL BE REPLACED WITH NEW. ALL WIRING FROM CONTROLLER CABINET TO TRAFFIC SIGNALS SHALL BE A MINIMUM OF NUMBER 12 GAUGE. IN THE INSTANCE THAT SMALLER GAUGE IS INSTALLED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPLACEMENT AT THEIR EXPENSE.
15. SWITCH-OVER TO NEW SIGNAL SYSTEM SHALL NOT OCCUR DURING PEAK TRAFFIC OPERATING PERIODS. UNIFORMED TRAFFIC OFFICERS SHALL CONTROL TRAFFIC DURING SWITCH-OVER.
16. ALL SIGNALS SHALL DWELL ON U.S. ROUTE 5 UNLESS OTHERWISE NOTED.
17. A UNIFORMED TRAFFIC OFFICER WITH A BLUE LIGHT SHALL BE PRESENT DURING ALL LANE CLOSURES.
18. THE CONTRACTOR SHALL ACQUIRE ALL THE NECESSARY PERMITS AND MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY TO PROVIDE A PERMANENT POWER SUPPLY TO THE TRAFFIC SIGNAL EQUIPMENT, IF APPLICABLE. THE ROUTING OF POWER TO THE INTERSECTION SHALL BE SUCH THAT THE STATE HAS FULL RESPONSIBILITY FROM THE TRANSFORMER THROUGH THE SIGNAL SYSTEM. NO INTERVENING OWNERSHIP/ RESPONSIBILITY SHALL BE ALLOWED.
19. ALL ELECTRICAL WIRING SHALL BE DONE BY A LICENSED ELECTRICIAN AND OVERSEEN BY A MASTER ELECTRICIAN.

NOT TO SCALE

**TRAFFIC SIGNAL SYSTEMS SHEET #2**

PROJECT NAME: ST. JOHNSBURY-LYNDON

PROJECT NUMBER: STP 2928(I)

FILE NAME: p10c262.dgn

PLOT DATE: 06-DEC-2013

PROJECT LEADER: JLL

DRAWN BY: STANTEC

DESIGNED BY: MCF

CHECKED BY: JLL

IPARM FILE: p10c262tss02.1

SHEET 128 OF 133

