

| EXISTING | NEW | LEGEND |
|----------|-----|------------------------|
| | | UTILITY POLE |
| | | LUMINAIRE |
| | | LIGHT OR WOOD POLE |
| | | STRAIN POLE/CANTILEVER |
| | | CONTROLLER CABINET |
| | | PULLBOX/JUNCTION BOX |
| | | SIGNAL HEAD |
| | | CONDUIT |
| | | VEHICLE LOOPS |
| | | PEDESTAL POST |

NOTES:

IF WATER VALVES, DROP INLETS OR OTHER OBSTRUCTIONS ARE ENCOUNTERED WITHIN THE AREA OF A PROPOSED LOOP, THE CONTRACTOR SHALL TAKE SPECIAL CARE TO AVOID THE OBSTRUCTION DURING LOOP INSTALLATION. IF LOOP SIZES OR SHAPES ARE TO BE MODIFIED DUE TO OBSTRUCTIONS THE RESIDENT ENGINEER MUST APPROVE LAYOUT PRIOR TO INSTALLATION.

AFTER THE LOOPS ARE INSTALLED, THE INDUCTANCE RESISTANCE AND LEAKAGE TO GROUND SHALL BE TESTED USING PROPERLY CALIBRATED EQUIPMENT. THE TEST RESULTS SHALL BE COMPARED WITH THE CALCULATED VALUES AND RECORDED ON THE PLANS. ALL LOAD TESTING SHALL BE PERFORMED AS PER VTrans STANDARD E-172.

CALCULATED VALUES AT CONTROLLER ARE BASED ON DIRECT CONDUIT ROUTING TO THE NEAREST SIGNAL POLE AND CROSSING THE SPAN WIRE OR EXISTING CONDUIT AS NECESSARY TO THE EXISTING CONTROLLER LOCATION. ANY SIGNAL MODIFICATION AND/OR CONTROLLER RELOCATION PRIOR TO LOOP CONNECTION WILL REQUIRE RECALCULATION OF THESE VALUES.

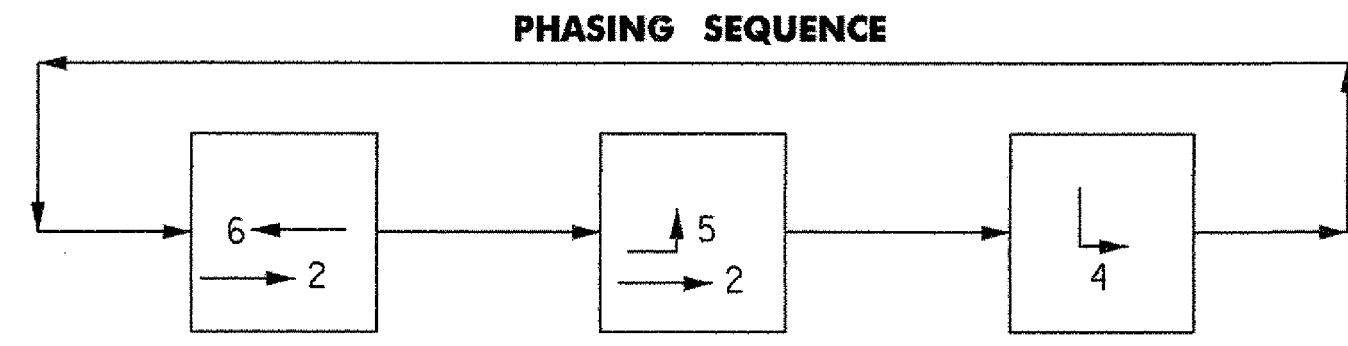
AT THE TIME THE BYPASS IS TO BE OPENED TO TRAFFIC AND UPON ACCEPTANCE OF THE LOOP INSTALLATION BY THE RESIDENT ENGINEER, SET THE SIGNAL TO NORMAL OPERATION. PRIOR TO BYPASS OPENING, SIGNAL HEADS SHOULD BE COVERED.

FOR ADDITIONAL DETAILS, SEE VTrans STANDARDS E-172 AND E-173.

SEE TRAFFIC SIGNAL NOTES ON SHEET TSND-02

CONTROLLER TIMINGS (SECONDS)

| PHASE | MIN. GREEN | PASSAGE | YELLOW | RED | MAX I | WALK | FDW | DW |
|-------|------------|---------|--------|-----|-------|------|-----|----|
| 2 | 8 | 2 | 4 | 2 | 44 | | | |
| 4 | 8 | 2 | 4 | 2 | 25 | | | |
| 5 | 8 | 2 | 4 | 2 | 22 | | | |
| 6 | 8 | 2 | 4 | 2 | 22 | | | |



WIRED CONDUIT (PVC)

| LOCATION | NO. | DIA. | REMARKS |
|--------------------------------|-----|------|---------------------------|
| POWER POLE TO METER/CONTROLLER | 1 | 75 | POWER |
| METER/CONTROLLER TO JB-6 | 1-2 | 50 | SIGNALS, LOOPS |
| JB-6 TO JB-2 | 1-2 | 50 | SIGNALS, LOOPS |
| JB-6 TO SIGNAL POLE | 1 | 50 | SIGNALS |
| JB-6 TO DETECTOR LOOP | 1 | 50 | LOOPS |
| JB-2 TO JB-7 | 1-2 | 50 | SIGNALS, LOOPS |
| JB-7 TO JB-4 | 1-2 | 50 | SIGNALS, LOOPS |
| JB-7 TO SIGNAL POLE | 1 | 50 | SIGNALS |
| JB-4 TO JB-5 | 1-2 | 50 | SIGNALS, LOOPS |
| JB-4 TO DETECTOR LOOP | 1 | 50 | LOOPS |
| JB-5 TO JB-3 | 2 | 50 | SIGNALS, LOOPS |
| JB-3 TO JB-1 | 1 | 50 | LOOPS |
| JB-3 TO SIGNAL POLE | 1 | 50 | SIGNALS |
| JB-1 TO DETECTOR LOOP | 1 | 50 | LOOPS |

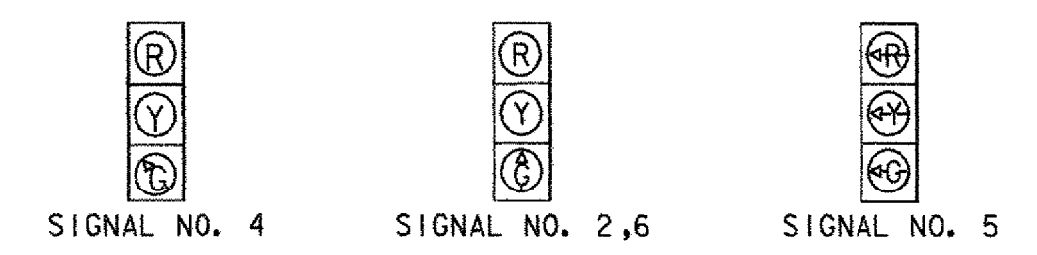
ELECTRICAL CONDUIT SLEEVE (PVC) (SCH 80)

| LOCATION | DIA. |
|--|------|
| VT I+429.7, 8.3 m LT. - VT I+438.0, 14.0 m LT. | 200 |
| VT I+438.0, 14.0 m LT. - VT I+447.7, 9.5 m LT. | 200 |
| VT I+458.5, 7.0 m LT. - 7.0 m RT. | 200 |
| VT I+431.5, 8.5m RT. - VT I+458.5, 7.5m RT. | 200 |
| VT I+387.0, 11.8m LT. - VT I+399.0, 10.7m LT. | 200 |
| VT I+413.0, 7.0m RT. - VT I+431.5, 7.0m RT. | 200 |

JUNCTION BOX

| LOCATION AND DESCRIPTION |
|-----------------------------|
| VT I+413.0, 7.0 m RT. JB-1 |
| VT I+438.0, 14.0 m LT. JB-2 |
| VT I+432.1, 7.0 m RT. JB-3 |
| VT I+458.5, 7.0 m LT. JB-4 |
| VT I+458.5, 7.0 m RT. JB-5 |
| VT I+427.5, 9.0 m LT. JB-6 |
| VT I+450.0, 10.0 m LT. JB-7 |

NOTE: ALL DIMENSIONS IN MILLIMETERS EXCEPT WHERE OTHERWISE INDICATED



SIGNAL FACE ARRANGEMENT

VEHICLE DETECTOR LOOPS (NOT USED)

| LOOP NO. | LANE | CALL Ø | SIZE (M) | TYPE & NO. TURNS | DELAY OR PRESENCE | INDUCTANCE | | RESISTANCE | | LEAKAGE TO GROUND | LOCKING MEMORY | EST. QUANT. (M) |
|----------|---------------------------|--------|------------|------------------|-------------------|------------|------|------------|------|-------------------|----------------|-----------------|
| | | | | | | CALC. | ACT. | CALC. | ACT. | | | |
| △ | ROUTE 9 EB | 2 + 6 | 1.8 x 12.0 | QUAD - 2 | PRESENCE | 350 | | 0.760 | | | SOFT | |
| △ | ROUTE 279 TO ROUTE 9 EB | 4 | 1.8 x 12.0 | QUAD - 1 | PRESENCE | 173 | | 1.155 | | | NON-LOCK | |
| △ | ROUTE 9 LEFT TO ROUTE 279 | 5 | 1.8 x 12.0 | QUAD - 2 | PRESENCE | 353 | | 0.803 | | | LOCK | |
| △ | ROUTE 9 WB | 2 + 6 | 1.8 x 12.0 | QUAD - 1 | PRESENCE | 151 | | 0.879 | | | SOFT | |

CALCULATIONS ARE BASED ON LOOPS DESIGNED IN PARALLEL. ALL CALCULATED VALUES ARE AT THE CONTROLLER. MEASURED VALUES MUST BE FILLED IN PRIOR TO TEST PERIOD.

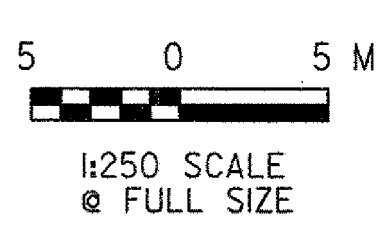
| FACE | PHASE 2+6 (DWELL) | | | PHASE 2+5 | | | PHASE 4 | | | FLASHING OPERATION |
|------|-------------------|---|---|-----------|---|---|---------|---|---|--------------------|
| | R | W | Ø | R | W | Ø | R | W | Ø | |
| 2 | Ø | Ø | Ø | Ø | Y | R | R | R | R | FY |
| 4 | R | R | R | R | R | R | Ø | Y | R | FR |
| 5 | Ø | Ø | Ø | Ø | Ø | Ø | Ø | Ø | Ø | FR |
| 6 | Ø | Y | R | R | R | R | R | R | R | FY |

*AS REQUIRED FOR MALFUNCTION

VERMONT AGENCY OF TRANSPORTATION



PROJECT NAME: BENNINGTON
 PROJECT NUMBER: AC NH 019-(K51)
 FILE NAME: ...plot files\vd307d\tsnd.pft PLOT DATE: 2/2/2009
 DESIGN SUPERVISOR: GREG EDWARDS DRAWN BY: STANTEC
 DESIGNED BY: MARC FOISY CHECKED BY: GARY SANITY
TRAFFIC SIGNAL NOTES & DETAILS TSND-01 SHEET 143 OF 367



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