

## **SCHEDULE “A”**

### **LIST OF MUNICIPALLY OWNED TRAFFIC CONTROL SIGNALS AND FLASHERS TO BE MAINTAINED BY THE NIAGARA REGION**

#### **TRAFFIC CONTROL SIGNALS**

- 1) Bacon Lane/ Spruceside Crescent at Pelham Road
- 2) Church Hill at Pelham Road
- 3) Haist Street at Wigg School
- 4) John Street/Pancake Lane at Pelham Road
- 5) Pelham Street at Port Robinson/ Brock Street
- 6) Pelham Street at Quaker Road
- 7) Pelham Town Square at Plaza Entrance

#### **FLASHERS**

- 1) Canboro Road at St Anne’s School
- 2) Port Robinson Road at South Pelham Road

#### **PEDESTRIAN CROSSOVERS WITH RRFB**

None

#### **RADAR SPEED BOARDS**

None

#### **OTHER**

None

## **SCHEDULE “B”**

### **TRAFFIC SIGNAL ROUTINE MAINTENANCE**

Traffic signal “Routine Maintenance” is completed on Traffic Control Signals, related Roadway Lighting, and Warning Flashers on an annual or semi-annual basis as noted below and consists of the following:

#### **Traffic Controller Cabinet Maintenance (Semi-annually)**

1. Replace Malfunction Management Unit (MMU) with tested and certified unit.
2. Lubricate Traffic Control Cabinet (TCC) hinges and locking mechanism.
3. Inspect the electrical connections and grounding in TCC.
4. Verify proper vehicle/pedestrian detection and signal cabinet operation.
5. Ensure correct operation of thermostat, heater and fan.
6. Install baffle plate and/or replace filter as required.

#### **Traffic Signal/Roadway Lighting/Flasher Inspection (Annually)**

1. Test all pedestrian push buttons for proper operation.
2. Inspect condition and operation of traffic signal vehicle detection loops.
3. Locate and inspect all Junction Boxes for damage or tripping hazards.
4. Inspect for proper seating of all traffic signal arms.
5. Inspect all traffic poles and pole bases for damage and secure pole hatches.
6. Verify proper signal alignment and visibility.
7. Ensure signal backboards and brackets are in good condition.
8. Check electrical connections and grounding in traffic poles.
9. Inspect Power Distribution Panel (PDP)
10. Energize and verify all roadway lighting associated with signal plant (where installed).
11. Change incandescent bulbs in pedestrian signals and clean lenses (where not LED).
12. Remove posters, unauthorized signs, and graffiti from traffic signal plant.
13. Replace damaged, worn, or missing decals.
14. Perform Stray Voltage Test (SVT) on traffic poles and TCC.
15. Clean, inspect, and verify proper operation of video vehicle detection systems when installed.
16. Clean, inspect, and verify proper operation of Uninterruptable Power Supply (UPS) system (where installed).
17. Inspect and verify proper operation of Accessible Pedestrian System (APS) (where installed).

## **SCHEDULE “C”**

### **ADDED VALUE ITEMS TO THE MUNICIPAL MAINTENANCE AGREEMENT**

1. Complete traffic signal warrant analysis for new signal installations and provide guidance and recommendations for functional layout and operational parameters.
2. Complete traffic signal designs, produce legal signal drawings and recommend for signature and legal approval by signing authority on LAM behalf.
3. Audit legal traffic signal design drawings
4. Prepare necessary RFQ documents and drawings necessary for tender documents for new and revised traffic signal installations.
5. Meet with municipal staff and their consultant for municipal projects which affect operation or modification of existing traffic signals or construction of new signal installations.
6. Complete signal timing and capacity analysis calculations.
7. Complete coordination and network optimization calculations, and system programming for signal networks and corridors.
8. Perform advance green warrant analysis.
9. Calculate and implement temporary timing and programming changes for detour routes, planned road closures or events, and unplanned emergency road closures affecting traffic signal operation.
10. Investigate and respond to inquiries and requests regarding traffic signal operation.
11. Maintain and update web site containing signal timing information for all signals owned by the municipality.
12. Provide signal timing information to outside agencies upon request from consultants, developers, lawyers etc.
13. Recommend improvements and modifications at signalized intersections including phasing, timing changes, signing and pavement marking layouts to improve level of service and operation.
14. Update and modify legal signal drawings as required.
15. Appear as expert witness on city’s behalf providing information on traffic signal operation.