

BC MINISTRY OF TRANSPORTATION

Electrical Maintenance Specification E-160 (Version 6 – May/05)

ONE WAY BRIDGE SIGNAL MAINTENANCE

1. OBJECTIVE

To ensure One Way Bridge Signals are operational and function as designed and in accordance with Ministry Standards.

2. GENERAL PERFORMANCE SPECIFICATIONS

2.1 Routine Maintenance Services

The Contractor must:

- a) repair and maintain One Way Bridge Signals;
- b) replace non-functioning signal equipment and components;
- c) perform preventative maintenance;
- d) remove graffiti;
- e) ensure visibility;
- f) store and maintain a Ministry supplied one way bridge controller;
- g) implement new One Way Bridge Signal timing plans;
- h) collect controller volume and Measure of Effectiveness (MOE) logs; and
- i) document all One Way Bridge Signal activities.

2.2 Additional Services

The Contractor must as and when required by the Ministry:

- a) Install temporary One Way Bridge Signal equipment as determined by the Ministry;

- b) modify Existing One Way Bridge Signal equipment as determined by the Ministry;
- c) commission ALL One Way Bridge Signals.

3. DETAILED PERFORMANCE SPECIFICATIONS

3.1 Routine Maintenance Services

The Contractor must:

- a) repair or replace one way bridge signals and their components;
- b) perform preventative maintenance;
- c) replace incandescent lamps;
- d) replace LED signal head light sources;
- e) test all conflict monitors;
- f) notify the PHCC of any malfunctioning One Way Bridge Signal causing a traffic disruption and inform the PHCC when repaired;
- g) remove or cover graffiti in accordance with the *Highway Maintenance Specification – Litter collection and Graffiti Removal*;
- h) store and maintain a one way bridge controller including providing, maintaining and servicing UPS batteries;
- i) implement traffic signal timing plans as per Section 600 of the *Traffic Controller Design Manual*;
- j) collect controller volume and MOE logs as requested by the Ministry following the guidelines outlined in Section 600 of the *Traffic Controller Design Manual*; and
- k) document all activities related to electrical maintenance of One Way Bridge Signals including but not limited to field inspections, patrols, testing, complaints received / responses made, and all changes made to the controller equipment and

operations, as per Section 600 of the *Traffic Controller Design Manual*.

3.1.1 Performance Time Frames

The following establishes the maximum time, from the time the deficiency was detected or reported to the Contractor, within which the Contractor must Respond to deficiencies:

- a) One Way Bridge Signals and their components that constitute or have the potential to constitute an immediate safety hazard to the Highway User or cause a traffic disruption, within 1 hour;
- b) One Way Bridge Signals and their components that do not operate as per their original design but are not immediate safety hazards, on the next regularly scheduled work day;
- c) One Way Bridge Signals and/or their components that operate as per the original design, do not create a safety hazard, and are structurally sound but have identified deficiencies, within 3 months;

The Contractor must:

- a) replace all non-LED lamps of signal heads once every 12 months;
- b) replace LED signal head light sources as required;
- c) test all conflict monitors once every 12 months;
- d) notify the PHCC of any malfunctioning One Way Bridge Signal causing a traffic disruption within 5 minutes from the time the malfunction was detected by or reported to the Contractor and inform the PHCC when repaired;
- e) remove or cover graffiti in accordance with the Performance Time Frames listed in the *Highway*

Maintenance Specification – Litter Collection and Graffiti Removal;

- f) maintain the One Way Bridge Signal controller assembly to enable the unit to be deployed within 7 days;
- g) implement One Way Bridge Signal timing plans as follows:
 - New One Way Bridge Signals or Modifications to Existing Signals – to meet the project schedule (2 week notification);
 - Observed Operational Field Problems – within 12 hours of receiving the timing plan;
 - Scheduled Roadway Maintenance or Construction activities by others – to meet the scheduled maintenance activities (1 week notification);
 - Coordination Plan Updates – within three weeks of receiving the new One Way Bridge Signal timing plans;
- h) collect controller volume and MOE logs as requested by the Ministry; and
- i) document all activities related to electrical maintenance of One Way Bridge Signals immediately.

Note:

The Contractor will clean, repair and/or replace all signs with electrical appurtenances in accordance with the Highway Maintenance Specification for “Sign System Maintenance” and its attached Appendix A.

3.2 Additional Services

The Contractor must as and when required by the Ministry:

- a) install temporary One Way Bridge Signals as determined by the Ministry;
- b) modify existing field operational One Way Bridge Signal hardware as determined by the Ministry; and

- c) Commission ALL One Way Bridge Signals on Ministry roadways as per Section 500 of the *Traffic Controller Design Manual*

3.2.1 Performance Time Frames

The Contractor must:

- a) Install temporary One Way Bridge Signals to meet the implementation schedule for the project as determined by the Manager, Electrical Services;
- b) Install or modify existing operational field One Way Bridge Signal hardware to meet the implementation schedule for the project as determined by the Manager, Electrical Services;
- c) Commission all One Way Bridge Signals on Ministry roadways to meet the implementation schedule for the project as determined by the Manager, Electrical Services.

3.3 Materials

- Refer to the Introduction.
- For new traffic signal controller installations, the Ministry shall supply a complete unit as per the design requirements

