

SOUTH FRASER PERIMETER ROAD PROJECT

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QUALITY MANAGEMENT

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**PART 1
QUALITY MANAGEMENT SYSTEM**

1.1 Quality Management System

The Concessionaire shall develop and implement a Quality Management System in accordance with the requirements of this Schedule. The Concessionaire acknowledges and agrees that the Concessionaire is solely responsible for the quality of the Project Work and that a comprehensive Quality Management System is critical for the proper and timely completion of the Project Work.

1.2 Concessionaire Responsibilities

The Concessionaire is responsible for all quality assurance and quality control activities set out in this Schedule that are required to manage its own processes as well as those of its Principal Contractors and Subcontractors throughout the Term. The Concessionaire shall throughout the Term ensure that all aspects of the Project are the subject of a Quality Management System that complies with the provisions of this Schedule, and shall comply with and cause each of its Principal Contractors and Subcontractors and the employees of each of them to comply with the requirements of such Quality Management System. For greater certainty, and without limiting the Concessionaire's ability to contractually assign matching responsibilities and obligations to the Principal Contractors and Subcontractors in accordance with this Agreement, the Concessionaire shall not be relieved of any of the Concessionaire's responsibilities or obligations set out in this Schedule by the assignment of such responsibilities or obligations to its Principal Contractors and Subcontractors.

1.3 Quality Management System Requirements

The Quality Management System shall, at a minimum, include the Quality Documentation described in Part 5 [Quality Documentation] of this Schedule and shall comply with:

- (a) the requirements and principles of the ISO 9001:2008 Standard and any other applicable standards specified in this Schedule;
- (b) the Project Requirements;
- (c) Good Industry Practice; and
- (d) all other requirements set out in this Schedule and this Agreement.

1.4 Certification

1.4.1 Performance Measures

PQ1.4.1a The Quality Management System must be certified as being compliant with the ISO 9001:2008 Standard.

PQ1.4.1b The Quality Management System must be certified within 365 days from the Effective Date.

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1.4.2 Specific Requirements

- (a) Certification shall be by an accredited ISO 9001:2008 Standard certification agency acceptable to the Province's Representative, acting reasonably, which certification is to be maintained by the Concessionaire throughout the Term.
- (b) The scope of certification for the Quality Management System should be clearly defined to include Design, Construction Activities, Traffic Management, environment, Operation, Maintenance and Rehabilitation.
- (c) The Concessionaire shall update its Quality Management System and all Quality Documentation as required to ensure that the Quality Management System and all Quality Documentation is and at all times remains in full compliance with the ISO 9001:2008 Standard and the requirements of this Schedule.

1.5 Documentation Deliverables

1.5.1 Performance Measures

Without limiting the generality of Section 1.3 [Quality Management System Requirements] of this Schedule, the Concessionaire will prepare and submit to the Province's Representative, by the dates shown in Table 1.5.1, each of the following:

Table 1.5.1 Schedule of Plans and Reports (Response Time Measures)

Performance Measure	Deliverable Name	Due Date	Specification Reference	Review Procedure or Consent Procedure
PQ1.5.1a	Quality Manual	Submitted 30 days from the Effective Date	Appendix A	Consent Procedure
PQ1.5.1b	Design Quality Management Plan	Submitted 30 days from the Effective Date	Appendix B	Consent Procedure
PQ1.5.1c	Construction Quality Management Plan	Submitted 45 days from the Effective Date	Appendix C	Consent Procedure
PQ1.5.1d	Operation, Maintenance and Rehabilitation Quality Management Plan	Submitted 45 days from the Effective Date	Appendix D	Consent Procedure
PQ1.5.1e	Traffic Quality Management Plan	Submitted 45 days from the Effective Date	Appendix E	Consent Procedure
PQ1.5.1f	Environmental Quality Management Plan	Submitted 30 days from the Effective Date	Appendix F	Consent Procedure
PQ1.5.1g	Other Quality Management Plans (see below)	Submitted 45 days from the Effective Date	1.5.2	Review Procedure

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Performance Measure	Deliverable Name	Due Date	Specification Reference	Review Procedure or Consent Procedure
PQ4.1.1a	Quality Audit Plans	Submitted 90 days from the Effective Date	4.1	Consent Procedure
PQ4.1.1b	Quality Audit Plans Updates	At twelve monthly intervals	4.1	Review Procedure
PQ5.9.1a	Monthly Quality Management System reports	By 15th of each following month	5.9	N/A
PQ4.2.2b	Quality Audit Reports	Within 14 days of audit completion	4.2	N/A

The documents above that are indicated to be subjected to the Consent Procedure or the Review Procedure shall be submitted to the Province's Representative in accordance with the Consent Procedure or the Review Procedure, as the case may be, pursuant to Schedule 2 [Representatives, Review Procedure and Consent Procedure]. All other documents shall be submitted to the Province's Representative.

1.5.2 Specific Requirements

The Concessionaire shall prepare and submit a Quality Management Plan for any other person contracting with the Concessionaire, any Principal Contractor or any Subcontractor for the purposes of undertaking any material and substantial aspect of the Project Work (but excluding legal and financial advisors and lenders) in each case for undertaking the activities covered by that party's contract with the Concessionaire, such Principal Contractor or such Subcontractor (as the case may be) and meeting the requirements of the Quality Manual.

1.6 Timing of Implementation

1.6.1 Performance Measures

PQ1.6.1a The Quality Manual and all Quality Management Plans must be fully implemented within 180 days from the Effective Date.

1.6.2 Specific Requirements

The Concessionaire shall not commence or permit the commencement of any aspect of the Project Work before those parts of the Quality Documentation that concern such aspect of the Project Work have been submitted to the Province's Representative in accordance with this Schedule under the Consent Procedure or the Review Procedure, as the case may be.

1.7 Compliance with Quality Management System

The Concessionaire shall ensure that:

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- (a) the Concessionaire complies with the Quality Management System detailed in the Quality Manual;
- (b) the Designer complies with the Design Quality Management Plan in connection with its design activities;
- (c) the Constructor complies with the Design Quality Management Plan, the Construction Quality Management Plan, the Traffic Quality Management Plan and the Environmental Quality Management Plan in connection with all activities under the Design-Build Contract;
- (d) the Operator complies with the Operation, Maintenance and Rehabilitation Quality Management Plan, the Traffic Quality Management Plan and the Environmental Quality Management Plan in connection with all activities under the Operating Contract;
- (e) any other person contracting with the Concessionaire, any Principal Contractor or any Subcontractor complies with the relevant Quality Management Plan prepared and implemented pursuant to Section 1.5.2 [Specific Requirements] of this Schedule in connection with the activities covered by that party's contract with the Concessionaire, such Principal Contractor or such Subcontractor (as the case may be); and
- (f) the Concessionaire shall ensure that any person who performs any portion of the Project Work shall comply with the Quality Management System as it relates to that portion of the Project Work.

1.8 Continuous Improvement in Quality Management System

- (a) The Concessionaire shall implement a program and shall have mechanisms in place, such as management reviews and Quality Audit programs, to allow all identified opportunities for improvement to be recorded, tracked and implemented or closed out.
- (b) The program shall be used to continually improve the effectiveness and efficiency of the Concessionaire's Quality Management System.
- (c) The Concessionaire shall ensure that all of the Concessionaire's employees, Principal Contractors and Subcontractors are aware of the importance of continuous improvement and are actively engaged in its implementation in connection with the performance of the Project Work.

**PART 2
QUALITY DIRECTOR**

2.1 Appointment and General Responsibilities

- (a) At all times during the Term, the Concessionaire shall employ a Quality Director who shall, irrespective of such person's other responsibilities, have defined authority for ensuring the establishment and maintenance of the Quality Management System and auditing and reporting on the performance of the Quality Management System.

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- (b) The Quality Director shall be a certified QMS 2000 Auditor or shall have experience in a similar quality management representative role for a similar project and shall have successfully completed an ISO 9001 Lead Auditor Course.
- (c) The identity of the Quality Director (and any replacement) and his job specification and responsibilities shall be subject to the approval of the Province's Representative (such approval not to be unreasonably withheld or delayed), and the Quality Director shall be a Key Individual subject to the requirements of Section 3.3(b) of Schedule 2 [Representatives, Review Procedure and Consent Procedure].

2.2 Specific Responsibilities

Without limiting the generality of the foregoing, the job specification and responsibilities of the Quality Director shall include the following:

- (a) developing, implementing and maintaining, and ensuring the effective operation of, the Quality Management System;
- (b) initiating management reviews, not less frequently than annually, and taking other actions necessary to ensure the effective operation and continuous improvement of the Quality Management System;
- (c) preparing Quality Audit Plans and scheduling and coordinating Internal Quality Audits and External Quality Audits of key processes with the Concessionaire's personnel and with the Principal Contractors and Subcontractors (including the Designer);
- (d) ensuring that all Quality Audits required under Section 4.2 [Concessionaire's Quality Audits] of this Schedule and under the Quality Documentation are conducted, and reporting the findings of such audits to the Province's Representative;
- (e) having the authority to immediately stop any work or activity which is not being performed or carried out in accordance with the Quality Documentation applicable thereto;
- (f) liaising with the Province's Representative and acting as the primary representative for the Concessionaire on all matters relating to quality management;
- (g) coordinating all matters and issues relating to the certification of the Quality Management System;
- (h) preparing and submitting to the Province's Representative monthly Quality Management System reports;
- (i) ensuring that relevant quality records are retained in accordance with the Quality Management System and the Records Management Protocol;
- (j) developing and implementing a program for Corrective Action and Preventative Action for Nonconformities; and

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- (k) carrying out any other matters which, in accordance with this Agreement, are the responsibility of the Quality Director.

**PART 3
TESTING**

3.1 Testing Requirements

Where the Concessionaire is required by this Agreement, any of the Project Requirements, the Design and Certification Procedure or any Quality Documentation to carry out any calibration, sample, test or trial, such calibration, sample, test or trial shall be carried out in accordance with the following provisions of this Part and the provisions of the relevant Quality Documentation.

3.2 Accreditation Standards

- (a) All on and off Project Site calibrations, samples, tests and trials shall be carried out by laboratories that are duly accredited for the carrying out of such calibrations, samples, tests and trials.
- (b) Laboratory accreditation shall be in accordance with ISO/IEC 17025, as amended, updated or replaced from time to time, provided that, for specific activities, the Province's Representative may accept other industry-recognized accreditation in lieu of ISO/IEC 17025, including:
 - (i) concrete and concrete materials: CSA A283-00, "Qualification Code for Concrete Testing Laboratories", to the appropriate category for the tests being done;
 - (ii) structural steel and welding: CSA W178.1-02, "Certification of Welding Inspection Organizations", to the level appropriate for the inspection being carried out;
 - (iii) aggregates, bituminous paving mixtures: "Canadian Council of Independent Laboratories", as appropriate to the work being carried out; and
 - (iv) protective coatings: "National Association of Corrosion Engineers", as appropriate to the work being carried out.
- (c) The Concessionaire may request the approval of the Province's Representative to use other industry-recognized accreditations, which approval shall not be unreasonably withheld or delayed if such other accreditation is applicable to the Project Work for which it is proposed and meets the intent of ISO/IEC 17025.

3.3 Remedial Work

The Concessionaire shall be responsible at its own expense for any remedial work required as a result of any failure to pass any calibration, sample, test or trial required in accordance with this Agreement, any of the Project Requirements, the Design and Certification Procedure or any Quality Documentation or as a result of any laboratory not being duly accredited as required by Section 3.2 [Accreditation Standards] of this Schedule.

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**PART 4
QUALITY AUDITS AND MONITORING**

4.1 Quality Audit Plans

4.1.1 Performance Measures

PQ4.1.1a The Concessionaire shall provide the Quality Audit Plans to the Province's Representative within 90 days after the Effective Date.

PQ4.1.1b The Concessionaire shall provide updated Quality Audit Plans at twelve month intervals thereafter.

4.1.2 Specific Requirements

Quality Audit Plans shall detail the Internal Quality Audits and the External Quality Audits that shall be conducted by the Concessionaire on its own processes and those of its Principal Contractors and Subcontractors, and the planned dates of such Quality Audits.

4.2 Concessionaire's Quality Audits

4.2.1 General

The Concessionaire shall conduct Internal Quality Audits and External Quality Audits of its own processes and those of its Principal Contractors and Subcontractors (including the Designer) in accordance with the requirements of this Schedule, the Quality Documentation and the Quality Audit Plans referred to therein. The purpose of the Concessionaire's quality auditing process is to confirm that all activities comprising the Project Work are in compliance with those documented in the Quality Manual and Quality Management Plans, to identify all Nonconformities and necessary Corrective Actions and Preventative Actions and to facilitate continuous improvement.

4.2.2 Performance Measures

PQ4.2.2a The Quality Director shall schedule Internal Quality Audits and External Quality Audits to ensure that all key processes are reviewed regularly (at least annually).

PQ4.2.2b Within 14 days of completion of any Quality Audit, the Concessionaire shall document, or cause to be documented, the results of such Quality Audit in an audit report and make such report available to the Province's Representative upon request.

4.2.3 Specific Requirements

- (a) Where necessary, follow-up audits shall be scheduled to ensure that identified Corrective Actions and Preventative Actions are carried out in a timely fashion.
- (b) Internal Quality Audits and External Quality Audits shall be scheduled taking into account the status and importance of the processes being audited as well as the results of previous audits.

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4.3 Province's Quality Audits

4.3.1 General

The Province's Representative shall, pursuant to the submission of the Quality Documentation in accordance with this Schedule, review the Quality Documentation to identify the critical activities and processes identified in the Quality Manual and Quality Management Plans on which the Province's auditing efforts and resources should be directed. The Province shall determine the frequency of auditing through regular and ongoing review of the Concessionaire's performance and management systems. Work procedures and activities that show good audit performance may have the frequency of auditing decreased, while those that show poor performance or increased risk may have the frequency of auditing increased. The Concessionaire shall provide and shall ensure its Principal Contractors and Subcontractors provide the Province's auditors with all documentation, records, access, facilities and assistance for the safety and convenience of the Province's Representative.

4.3.2 Performance Measures

PQ4.3.3a The Concessionaire shall prepare a Corrective Action plan and submit it to the Province's Representative within 20 Business Days of the closing meeting referred to in Section 4.3.3(b) of this Schedule.

The Province reserves the right to conduct follow up reviews on reasonable, but not less than one Business Day's, notice to the Concessionaire, to determine if the Concessionaire's Corrective Action plan has been implemented and completed.

Additional information relating to Province's Quality Audits with respect to particular Quality Management Plans is identified in the Appendices to this Schedule.

4.3.3 Types of Quality Audits

The following two types of Quality Audits may be conducted by, or on behalf of, the Province in its discretion:

- (a) Surveillance Quality Audits – Scheduled or unscheduled field audits conducted on a random basis or on specific areas of interest throughout the Term. The objective of these surveillance audits is to monitor the Concessionaire's activities involving the Project Work, including but not limited to workmanship, performance measures and general quality of materials; and
- (b) Quality Management System Audits – Scheduled audits conducted at specific times to assess the performance of and compliance with the Quality Management System. The Province's lead auditor shall contact the Quality Director and confirm the scope and schedule of the audit. At the opening meeting with the Concessionaire, the Province's lead auditor shall review the audit scope and objectives. The Province's auditors shall conduct audit interviews, and document any observations on prepared checklists. At the end of the audit interviews, the Province's lead auditor shall evaluate the observations and identify observed procedural or performance Nonconformities that require Corrective Action. At the closing meeting with the Concessionaire, the Province's lead auditor shall

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discuss the observations and inform the Concessionaire of any observed Nonconformities and audit recommendations.

4.4 Province Monitoring

In addition to carrying out any scheduled and unscheduled External Quality Audits of the Quality Management System (including compliance with all Quality Documentation) as provided in Section 4.3 [Province's Quality Audits] of this Schedule, the Province's Representative may, at its discretion, monitor and verify the operation of the Quality Management System by, inter alia, carrying out spot checks and making independent inspections and tests of any plant or material including any plant or material which fails any test or is suspected by the Province's Representative of not complying with the requirements of this Agreement.

4.5 Deficient Quality Audits

If either:

- (a) the Province's Representative reasonably believes that the Concessionaire is failing to conduct Quality Audits of its Quality Management System as required by this Agreement in any material respect or if such Quality Audits are not conducted in accordance with the ISO 9001:2008 Standard by personnel competent to conduct such Quality Audits; or
- (b) any auditing, monitoring or spotchecks of the Quality Management Systems reveal material deficiencies in the Quality Management System or the implementation thereof,

the Province's Representative may carry out increased levels of External Quality Audits (whether in number, duration or detail) of all or any aspect of the Quality Management System until such time as the Province's Representative is reasonably satisfied that none of the circumstances described in this Section continue to exist.

4.6 Costs of Audits

If the Province's Representative carries out any audit pursuant to Section 4.3 [Province's Quality Audits], Section 4.4 [Province Monitoring] or Section 4.5 [Deficient Quality Audits] of this Schedule, and the results of such audit shows any material Nonconformity in respect of the Project Work, then without limiting any other rights and remedies of the Province, the Concessionaire shall compensate the Province for all costs incurred in carrying out such audit (including the relevant administrative expenses of the Province, including an appropriate sum in respect of general staff costs and overheads). All other audits carried out by the Province's Representative pursuant to Section 4.3 [Province's Quality Audits], Section 4.4 [Province Monitoring] or Section 4.5 [Deficient Quality Audits] of this Schedule shall be at the Province's cost.

4.7 Third Party Audits

Third party Quality Audits shall be conducted as required under the ISO 9001:2008 Standard on the Quality Management System by an accredited certification agency acceptable to the Province and the Concessionaire, each acting reasonably, and these audit reports shall be made available to the Province's Representative upon request.

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4.8 Traffic Management Auditing

- (a) For the purpose of facilitating the conduct of Internal Quality Audits and External Quality Audits relating to traffic management, the Concessionaire shall develop and implement a Site Condition Rating checklist acceptable to the Province, for use by each of the Concessionaire and the Province.
- (b) The checklist shall provide the framework for auditing the safety and overall management of traffic within the Project Site against the requirements contained in the Traffic Management Plan, the requirements of Part 4 [Traffic Management] of Schedule 4 and the Traffic Control Manual (collectively, the “**Traffic Management Criteria**”).
- (c) The checklist, at a minimum, shall include the following information categories:
- (i) Traffic Management Plan – in relation to the approved site specific plan;
 - (ii) General Traffic Requirements – in relation to Article 1 [General Traffic Management Requirements] of Part 4 of Schedule 4, including:
 - Storage of materials
 - Traffic control devices
 - Roadside barriers
 - Drop-offs
 - Temporary Pavement Markings; and
 - (iii) Traffic Control Manual – in relation to all relevant requirements.
- A sample checklist is set out in Appendix G [Audit of Temporary Traffic Management – Sample Site Report] to this Schedule.
- (d) Each item in the checklist shall be assigned a number of points (“**SCR Points**”) that reflects its relative importance in relation to the other listed items. SCR Points shall be assigned to the Concessionaire for each occurrence of a non-compliance with Traffic Management Criteria that is identified at the time of the relevant audit, at the site within the Project Site that is the subject of such audit. The aggregate of such assigned SCR Points shall indicate the applicable site condition rating (the “**Site Condition Rating**”) for the subject site as at the time of the relevant audit.
- (e) The following table sets out the Site Condition Rating categories, the number of SCR Points the assignment of which will result in assignment of a particular Site Condition Rating, the action required of the Concessionaire following assignment of a particular Site Condition Rating, and the response time within which such action must be taken.

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Site Condition Rating category	SCR Points	Required Action on Site	Response Time
Acceptable	0 - 15	No action	n/a
Marginal	16 – 25	Undertake remedial action to bring the subject site up to an “Acceptable” standard.	24 hours
Needs Improvement	26 - 50	Undertake remedial action to bring the subject site up to an “Acceptable” standard.	4 hours
Unacceptable	51+	Immediately cease all work on subject site and undertake remedial action to bring the subject site up to an “Acceptable” standard.	Immediate

- (f) The requirements of this Section 4.8 [Traffic Management Auditing] are in addition to, and do not limit, the Concessionaire’s other obligations under this Schedule, including the Concessionaire’s obligations in Part 6 [Nonconformities] of this Schedule.

**PART 5
QUALITY DOCUMENTATION**

5.1 Principles

The minimum requirements and principles which apply to the Quality Documentation are set out in Appendices A to F inclusive to this Schedule. The Concessionaire’s Quality Management System shall also comply with the requirements and principles of the ISO 9001:2008 Standard, this Schedule, and the principles of the ISO 9004:2000 Standard, including:

- (a) customer focus;
- (b) leadership;
- (c) involvement of people;
- (d) process approach;
- (e) system approach to management;
- (f) continual improvement;
- (g) factual approach to decision making; and
- (h) mutually beneficial supplier relationships.

5.2 ISO Reference Documents

Without limiting the requirement of the Quality Management System to comply with the ISO 9001: 2008 Standard, the Concessionaire’s Quality Management System shall also incorporate the requirements of the following:

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- (a) ISO 9001:2008 Standard;
- (b) ISO 9004:2000 Standard;
- (c) ISO 9000:2005 Standard; and
- (d) ISO 19011:2002 Standard.

5.3 Quality Documentation Requirements

The minimum documentation requirements for the Quality Management System are:

- (a) the Quality Manual as required pursuant to Section 1.5 [Documentation Deliverables] of this Schedule;
- (b) Quality Management Plans for all aspects of the Project Work as required pursuant to Section 1.5 [Documentation Deliverables] of this Schedule;
- (c) that the following are included in each Quality Management Plan:
 - (i) quality system procedures and process flow charts documenting who does the work, what they do, and what evidence shall be generated that they have done the work correctly on quality related activities;
 - (ii) the Quality Audit Plans required pursuant to Section 4.1 [Quality Audit Plans] of this Schedule; and
- (d) the Quality Records required pursuant to Section 5.8 [Quality Records] of this Schedule.

5.4 Submission of Quality Documentation

- (a) The Concessionaire shall prepare and submit all required Quality Documentation to the Province's Representative for review in accordance with the Consent Procedure or the Review Procedure, as the case may be in accordance with Section 1.5 [Documentation Deliverables] of this Schedule.
- (b) If any Quality Documentation relies on or incorporates any quality manual, plan, procedure or like document then such quality manual, plan, procedure or other document or the relevant parts thereof shall (unless the Province's Representative otherwise agrees) be submitted to the Province's Representative at the time that the relevant Quality Documentation or part thereof or change, addition or revision to the Quality Documentation is submitted in accordance with the Consent Procedure or the Review Procedure, as the case may be, and the contents of such quality manual, plan, procedure or other document shall be taken into account in the consideration of the relevant Quality Documentation or part thereof or change, addition or revision to the Quality Documentation in accordance with the Consent Procedure or the Review Procedure, as the case may be. The Province's Representative may require the amendment of any such quality manual, plan, procedure or other document to the extent necessary to enable the relevant Quality Documentation to satisfy the requirements of this Schedule.

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5.5 Concessionaire Obligation to Update

The Concessionaire shall be responsible for proactively updating its Quality Management System and all Quality Documentation from time to time, in accordance with the procedures set forth in this Agreement, to ensure that the Quality Management System and all Quality Documentation are, and at all times remain, in full compliance with the ISO 9001:2008 Standard and the requirements of this Agreement.

5.6 Changes to Quality Documentation

- (a) The Concessionaire may submit to the Province's Representative in accordance with the Review Procedure any proposed changes or additions to or revisions of any of the Quality Documentation.
- (b) Without limiting the generality of Section 5.6(a) of this Schedule, the Concessionaire shall from time to time submit to the Province's Representative in accordance with the Review Procedure any changes to any of the Quality Documentation required for such Quality Documentation to continue to reflect and comply with the requirements set out in this Schedule.
- (c) If the Concessionaire does not propose any change required pursuant to Section 5.6(b) of this Schedule, then the Province may propose such change and it shall be dealt with in accordance with the Review Procedure as though it had been proposed by the Concessionaire and shall not therefore be treated as a Province Change. Any dispute between the parties in respect of any such change shall be resolved in accordance with the Dispute Resolution Procedure.

5.7 Amendment of Quality Documentation

If there is no unresolved objection by the Province's Representative under the Consent Procedure or the Review Procedure, as the case may be, to a part of the Quality Documentation pursuant to Section 5.4 [Submission of Quality Documentation] of this Schedule or to a change, addition or revision proposed pursuant to Section 5.6 [Changes to Quality Documentation] of this Schedule, then the Quality Documentation shall be amended to incorporate such part, change, addition or revision.

5.8 Quality Records

- (a) The Concessionaire shall establish and maintain complete and accurate quality management records (the "**Quality Records**").
- (b) The Quality Records shall provide objective evidence of conformance with all requirements of this Agreement, compliance with the ISO 9001:2008 Standard and the effective operation of the Quality Management System.

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5.9 Quality Management System Reports

5.9.1 Performance Measures

PQ5.9.1a For each month of the Term, the Concessionaire shall prepare, and submit to the Province's Representative within 15 Business Days of the start of the following month, a comprehensive Quality Management System report.

5.9.2 Specific Requirements

- (a) The monthly Quality Management System report shall address all quality management activities under each of the Quality Management Plans for that month and any outstanding quality issues from prior months.
- (b) The monthly Quality Management System reports shall, as a minimum, include the following information separately identified for the Quality Manual and for each Quality Management Plan:
 - (i) a Nonconformity Report log summarizing the Nonconformity Tracking System and providing the following: "date open", "date closed", "status" (open, pending, closed), "disposition" (repair, rework, reject) and "description of status" which describes the current status of the Nonconformity Report, when closed and how it was closed;
 - (ii) Corrective Action and Preventative Action logs providing details of the Corrective Actions and Preventative Actions performed to date and their close-out status;
 - (iii) a summary of any inspection and testing activities conducted during the month;
 - (iv) Internal Quality Audits and External Quality Audits, including any third party Quality Audits performed during the month and a four month look-ahead schedule for planned future Quality Audits;
 - (v) any continual improvement initiatives taken during the month;
 - (vi) any other information required to be included in the monthly Quality Management System reports pursuant to any of the Appendices to this Schedule or the terms of the relevant Quality Management Plan; and
 - (vii) any changes made to the Quality Management System or the Quality Documentation in compliance with the provisions of this Agreement.

5.10 Additional Information

Notwithstanding any other provision of this Schedule, the Concessionaire shall provide the Province's Representative with such information as the Province's Representative may request from time to time to demonstrate compliance with this Schedule.

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**PART 6
NONCONFORMITIES**

6.1 Nonconformity Reporting Process

The Nonconformity reporting (NCR) process, from initial creation through to closeout, shall follow the process outlined below:

- (a) If the Concessionaire or the Province discovers a Nonconformity, it shall initiate a Nonconformity Report in accordance with the ISO 9001:2008 Standard as follows:
- (i) Concessionaire initiated Nonconformity Reports - Upon discovery of a Nonconformity, the Concessionaire shall provide a Nonconformity Report identifying the problem to the Province's Representative within two Business Days; or
- (ii) Province initiated Nonconformity Reports - If at any time the Province is notified, or otherwise becomes aware, that there is any Nonconformity relating to the Project Work, the Province's Representative may issue a Nonconformity Report, without prejudice to any other right or remedy available to the Province and BCTFA, including the assignment of NCE Points and/or Default Points pursuant to Schedule 10 [Performance Mechanism].
- (b) The Nonconformity Report is issued to the Quality Director, thereby activating the Nonconformity Report. The date of issue shall be recorded denoting the commencement of the time period for which the Nonconformity Report has an 'open' status.
- (c) The Quality Director shall in response to the Nonconformity Report describe a disposition of the Nonconformity and a Corrective Action in accordance with the ISO 9001:2008 Standard. Acceptable responses are set out in Table 6.1 for various scenarios.

Table 6.1

Nonconformity Event Status	Disposition	Corrective Action
Physical rectification has been undertaken	Provide confirmation that the rectification work has remedied the nonconformity	Describe any improvements to delivery process
Physical rectification is proposed	Provide a plan committing to scope and timing of rectification works	Describe any improvements to delivery process
No physical rectification is proposed	Objection	N/A

- (d) The Concessionaire shall investigate and respond to all Nonconformity Reports.
- (e) The Concessionaire may object to the issuance of any Nonconformity Report by the Province's Representative. If such objection has not been resolved by mutual agreement between the Province's Representative and the Concessionaire within five Business Days of delivery by the Concessionaire to the Province's Representative of notice of the

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objection, then either the Concessionaire or the Province may refer the matter to the Dispute Resolution Procedure for determination.

- (f) If the Concessionaire fails to object to the issue by the Province's Representative of a Nonconformity Report within five Business Days, the Concessionaire is deemed to have accepted that Nonconformity Report.
- (g) The Nonconformity Report is returned to the Quality Director at which time the Quality Director records the date of return denoting the end of the time period for which the Nonconformity Report has an 'open' status.
- (h) The Quality Director shall then change the Nonconformity Report status to 'closed' and shall provide a copy of the Nonconformity Report to the Province's Representative within two Business Days thereafter.

6.2 Nonconformity Report Tracking System

The Concessionaire will implement and maintain a Nonconformity Tracking System to monitor the status of all Nonconformity Reports initiated by the Province and the Concessionaire.

PQ6.2.1a The Nonconformity Tracking System shall be fully operating, with the following minimum requirements, within 90 days from the Effective Date:

- (a) comprise a single repository containing both Concessionaire and Province initiated Nonconformity Reports;
- (b) have the ability to attach supporting material such as photos and documents;
- (c) provide live access to the current Nonconformity Report status to both the Concessionaire and Province;
- (d) automatically apply NCE Points to each Nonconformity Event in accordance with Section 10.1 [Assignment of NCE Points] of Schedule 10; and
- (e) produce monthly summary Reports for delivery to the Province's Representative of outstanding Nonconformity Reports, NCE Points and Default Points accrued within each performance threshold category in any given month, and the total NCE Points and Default Points accrued across all performance threshold categories in any given month.

6.3 Unremedied Nonconformity

The Province's Representative may issue further Nonconformity Reports if a Nonconformity identified in a Nonconformity Report continues unremedied, and may assign Default Points in respect of such unremedied Nonconformity pursuant to Section 10.4 [Assignment of Default Points] of Schedule 10.

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6.4 Nonconformity Records

In addition to the maintenance of the Nonconformity Tracking System under Section 6.2 [Nonconformity Report Tracking System] of this Schedule, the Concessionaire shall maintain records of:

- (a) each Nonconformity;
- (b) the reference numbers of all Nonconformity Reports;
- (c) a description of all Nonconformity Reports;
- (d) the proposed actions by the Concessionaire to rectify each Nonconformity;
- (e) the date and time at which Nonconformities were identified; and
- (f) the date and time at which a Nonconformity specified in a Nonconformity Report was rectified.

**PART 7
END OF TERM AUDITS**

7.1 Initial End of Term Audit

Not less than 34 months nor more than 38 months prior to the expected Expiry Date, the Concessionaire and the Province's Representative shall conduct, at the cost of the Concessionaire, a joint inspection (the "**Initial End of Term Audit**"), complying with the requirements set out in this Part of this Schedule, of all elements of the Project Infrastructure, including the pavement of the Concession Highway and all Concession Infrastructure forming part of the Concession Highway. If no date for the Initial End of Term Audit has been agreed between the Concessionaire and the Province's Representative, the Concessionaire or the Province's Representative may initiate the Initial End of Term Audit during such period by giving at least 30 days' notice to that effect to the other and the Initial End of Term Audit shall be conducted commencing on the date specified in such notice.

7.2 End of Term Program

- (a) Within 60 days after completion of the Initial End of Term Audit, the Concessionaire shall submit to the Province's Representative pursuant to the Review Procedure a report on the condition of the Project Infrastructure and a notice setting out the Concessionaire's:
 - (i) proposals as to works of maintenance and/or rehabilitation (the "**End of Term Work**") required to be carried out in order to ensure that the Project Infrastructure will, on the Expiry Date, satisfy the requirements set out in Appendix C [End of Term Specification] to Schedule 5, and which End of Term Work shall include the work required to maintain and rehabilitate the Project Infrastructure in accordance with the OMR Requirements for the remainder of the Term;

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- (ii) proposals as to the schedule (the “**End of Term Schedule**”) for the carrying out of the End of Term Work over the remainder of the Term following the Initial End of Term Audit; and
 - (iii) estimate of the cost of carrying out the End of Term Work (the “**End of Term Work Amount**”) (including the identification of specific itemized sums for each specific identified and discrete element of the End of Term Work).
- (b) The Concessionaire’s proposals referred to in Section 7.2(a) of this Schedule shall be made, *inter alia* on the basis of an assessment of the RSL of the relevant element of the Project Infrastructure as defined in and determined in accordance with the provisions of Appendix C [End of Term Specification] to Schedule 5.
- (c) The Province’s Representative may, by notice to the Concessionaire within 60 days after receipt of the Concessionaire’s notice under Section 7.2(a) of this Schedule, object in accordance with the Review Procedure to the Concessionaire’s proposals in respect of any or all of the End of Term Work, the End of Term Schedule and the End of Term Work Amount (or any element thereof) as set out in such notice. The notice from the Province’s Representative shall give details of the grounds for such objection and shall set out the Province’s Representative’s proposals in respect of the End of Term Work and End of Term Schedule and its estimate of the End of Term Work Amount.
- (d) Upon the End of Term Work and the End of Term Schedule being determined in accordance with the Review Procedure, the Concessionaire will:
- (i) carry out the End of Term Work in accordance with the End of Term Schedule;
 - (ii) ensure at its own cost that the End of Term Work is carried out notwithstanding that the actual cost of the End of Term Work may be higher than the End of Term Work Amount; and
 - (iii) at the request of the Province’s Representative and in any case not less frequently than quarterly, provide the Province’s Representative with reports on the progress of the End of Term Work and compliance with the End of Term Schedule.
- (e) The Province’s Representative may from time to time require or cause further inspections of the Project Infrastructure at the cost of the Concessionaire to monitor the progress of the End of Term Work.

7.3 Second End of Term Audit

Not less than 10 months nor more than 14 months prior to the expected Expiry Date, the Concessionaire and the Province’s Representative shall conduct, at the cost of the Concessionaire, a joint inspection (the “**Second End of Term Audit**”), complying with the requirements set out in this Part of this Schedule, of all elements of the Project Infrastructure including the pavement of the Concession Highway and all Concession Infrastructure forming part of the Concession Highway (whether or not the End of Term Work in respect of the Project Infrastructure or any part thereof has been carried out). If no date for the Second End of Term Audit has been agreed between the Concessionaire and the Province’s Representative, the Concessionaire or the

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Province's Representative may initiate the Second End of Term Audit during such period by giving at least 30 days' notice to that effect to the other and the Second End of Term Audit shall be conducted commencing on the date specified in such notice.

7.4 Revised End of Term Program

- (a) Within 60 days after completion of the Second End of Term Audit, the Concessionaire shall submit to the Province's Representative pursuant to the Review Procedure a report on the condition of the Project Infrastructure and a notice setting out the Concessionaire's:
- (i) proposals as to any revisions or additions to the End of Term Work required to ensure that all elements of the Project Infrastructure will, on the Expiry Date, satisfy the requirements set out in Appendix C [End of Term Specification] to Schedule 5;
 - (ii) proposals as to any revisions to the End of Term Schedule as a consequence of such revisions or additions to the End of Term Work; and
 - (iii) estimate of any changes in the End of Term Work Amount as a consequence of such revisions or additions to the End of Term Work,

which proposals shall be made, *inter alia*, on the basis set out in Section 7.2(b) of this Schedule.

- (b) The Province's Representative may, by notice to the Concessionaire within 60 days after receipt of the Concessionaire's notice under Section 7.4(a) of this Schedule, object in accordance with the Review Procedure to the Concessionaire's proposed revisions or additions to any or all of the End of Term Work, the End of Term Schedule and the End of Term Work Amount as set out in such notice. The notice from the Province's Representative shall give details of the grounds for such objection and shall set out the Province's Representative's proposals in respect of such matters.
- (c) Upon any revision or addition to the End of Term Work or the End of Term Schedule being determined in accordance with the Review Procedure, the Concessionaire shall carry out the End of Term Work (as so revised or augmented) in accordance with the End of Term Schedule (as so revised or augmented), including that the Concessionaire shall ensure at its own cost that the End of Term Work (as so revised or augmented) is carried out notwithstanding that the actual cost of the End of Term Work may be higher than the End of Term Work Amount (as changed in accordance with this Section).

7.5 Final End of Term Audit and Certificate

- (a) Not later than 30 days after the Expiry Date, the Concessionaire and the Province's Representative shall conduct, at the cost of the Concessionaire, a joint inspection (the "**Final End of Term Audit**"), complying with the requirements set out in this Part of this Schedule, of all elements of the Project Infrastructure. Such joint inspection shall be conducted for the purposes of:
- (i) confirming whether all End of Term Work is Totally Complete;

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- (ii) determining whether the actual condition level of the Project Infrastructure complies with or fails to comply in any respect with the requirements set out in Appendix C [End of Term Specification] to Schedule 5.

The Concessionaire and the Province's Representative shall co-operate so as to complete the Final End of Term Audit in a reasonably expeditious manner.

- (b) Within 60 days after completion of the Final End of Term Audit, the Province's Representative shall either:
 - (i) issue to the Concessionaire a certificate (the "**End of Term Certificate**"); or
 - (ii) notify the Concessionaire of its decision not to issue the End of Term Certificate and state the reasons for such decision.
- (c) The Province's Representative may refuse to issue the End of Term Certificate if:
 - (i) the Concessionaire has failed to Totally Complete all of the End of Term Work in compliance with the requirements of this Agreement; or
 - (ii) as at the Expiry Date, for any other reason, the Project Infrastructure does not comply with the requirements set out in Appendix C [End of Term Specification] to Schedule 5 in all material respects.
- (d) Any notice given by the Province's Representative in accordance with Section 7.5(b)(ii) of this Schedule shall set out each respect in which the End of Term Work has not been Totally Completed in compliance with the requirements of this Agreement or the Project Infrastructure does not comply with the requirements set out in Appendix C [End of Term Specification] to Schedule 5 and shall state the Province's Representative's estimate of the cost (the "**End of Term Completion Amount**") of Totally Completing such End of Term Work and/or of ensuring that the Project Infrastructure complies in all material respects with the requirements set out in Appendix C [End of Term Specification] to Schedule 5.
- (e) The Concessionaire may, by notice to the Province's Representative within 30 days after receipt of the Province's Representative's notice under Section 7.5(b)(ii) of this Schedule, object to any matter set out in such notice. The notice from the Concessionaire shall give details of the grounds for such objection and shall set out the Concessionaire's proposals in respect of such matters. Failure by the Concessionaire to give such notice within the said 30 day period shall be deemed to constitute agreement by the Concessionaire with the Province's Representative's notice given under Section 7.5(b)(ii) of this Schedule.
- (f) If no agreement (or deemed agreement) is reached between the Concessionaire and the Province's Representative as to any matter referred to in a notice given by the Concessionaire in accordance with Section 7.5(e) of this Schedule within 30 days of receipt by the Province's Representative of such notice, then either the Concessionaire or the Province's Representative may refer any of the following matters to the Dispute Resolution Procedure for determination, as the case may be:

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- (i) whether the End of Term Work has been Totally Completed in compliance with the requirements of this Agreement;
- (ii) whether the Project Infrastructure complies in all material respects with the requirements set out in Appendix C [End of Term Specification] to Schedule 5; and
- (iii) the End of Term Completion Amount.

7.6 Inspection Methodology and Data Inputs

The Initial End of Term Audit, the Second End of Term Audit and the Final End of Term Audit, and all assessments and inspections in connection therewith, shall be carried out using the Ministry's current (as at the time of each such inspection) assessment and inspection methodology as more particularly described in the BMIS User Manual and the data inputs for such methodology shall be based on information obtained over the Term. To the extent there is a dispute between the Province and the Concessionaire as to the final result of the application of such assessment, such dispute shall be resolved in accordance with the Dispute Resolution Procedure.

7.7 Concessionaire Not Relieved of Obligations

None of:

- (a) the agreement of the Province's Representative to any End of Term Work, End of Term Schedule or End of Term Work Amount or any element thereof;
- (b) the agreement of the Province's Representative to any revision of the End of Term Work, End of Term Schedule or End of Term Work Amount pursuant to Section 7.4 [Revised End of Term Program] of this Schedule;
- (c) the participation of the Province's Representative in any inspection under or the receipt by the Province's Representative of any report delivered pursuant to this Part of this Schedule; or
- (d) the complete or partial carrying out of the End of Term Work,

shall relieve or absolve the Concessionaire from its obligation to comply with the requirements set out in Appendix C [End of Term Specification] to Schedule 5, or any obligation to conduct any other inspection or to deliver any other report or to perform any other works in accordance with the provisions of this Agreement.

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**APPENDIX A
QUALITY MANUAL**

1.0 QUALITY MANUAL

- 1.1 The Concessionaire shall provide a comprehensive Quality Manual that describes the Quality Management System for all aspects of the Project Work including the Design and Construction and the Operation, Maintenance and Rehabilitation phases of the Project. The Quality Manual shall establish the Quality Policy and Quality Objectives for all aspects of the Project Work and, in accordance with the requirements of the ISO 9001:2008 Standard, shall describe the processes that shall be established, implemented, controlled, and continually improved to achieve the established Quality Objectives.
- 1.2 The Quality Objectives shall be measurable, consistent with the Quality Policy and linked to meeting the needs and performance expectations of the Province in respect of the Project. The Quality Management System described in the Quality Manual shall include all the activities required to achieve these Quality Objectives, including project controls such as scope, cost, schedule and general document control management activities. All of these activities shall be subject to Internal Quality Audits and External Quality Audits.
- 1.3 The Quality Manual shall describe the nature of the Concessionaire's organization involved in performing the Project Work and how key management activities (such as project controls; Design; Construction; Operation, Maintenance and Rehabilitation; Traffic Management; and environmental) shall interface with each other. The Quality Manual shall also provide the organization chart, authority and responsibilities of all key personnel. The Quality Manual shall also show how the various levels of Quality Management System documentation are linked together.
- 1.4 The Quality Manual shall clearly define the reporting function and authority of the Concessionaire's Quality Director who shall liaise with the Province's Representative and act as the single point representative of the Concessionaire for all matters relating to quality management.

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**APPENDIX B
DESIGN QUALITY MANAGEMENT PLAN**

1.0 DESIGN QUALITY MANAGEMENT PLAN

- 1.1 The Concessionaire shall provide a comprehensive Design Quality Management Plan that describes how it intends to manage the design processes for the Project in accordance with the ISO 9001:2008 Standard, the Quality Management System requirements stated in its Quality Manual and the provisions of this Agreement.
- 1.2 The Design Quality Management Plan shall contain an organizational chart identifying key design management personnel and the linkage with the Quality Director for the Concessionaire's overall Quality Management System as documented in the Concessionaire's Quality Manual. It shall also contain a description of the responsibilities, qualifications, and authority of the above personnel and the organizational interfaces between other engineering groups and construction disciplines.
- 1.3 The Quality Manager for the DQMP shall:
- (a) have experience in a similar role on a similar successful project and successful completion of an ISO 9001 Lead Auditor Course; and
 - (b) report to the Quality Director.
- 1.4 The Design Quality Management Plan shall, at a minimum, include or reference detailed quality system procedures and process flow charts for the following processes:
- (a) design input and output review;
 - (b) design verification to ensure that design input requirements have been met;
 - (c) design validation to ensure that the final product is capable of meeting its intended use;
 - (d) design changes;
 - (e) design subcontractor quality assessment and procurement;
 - (f) External Quality Audits of design subcontractor(s);
 - (g) Internal Quality Audits;
 - (h) Corrective Actions, Preventative Actions and opportunities for improvement;
 - (i) document management; and
 - (j) control of Quality Records.

The above procedures and flow charts shall document who does the work, what they do, and what evidence is generated that they have done the work correctly.

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**APPENDIX C
CONSTRUCTION QUALITY MANAGEMENT PLAN**

1.0 CONSTRUCTION QUALITY MANAGEMENT PLAN

- 1.1 The Concessionaire shall provide a comprehensive Construction Quality Management Plan that describes how it intends to manage the Construction processes in connection with the Project in accordance with the ISO 9001:2008 Standard, the Quality Management System requirements stated in its Quality Manual and the provisions of this Agreement.
- 1.2 The Construction Quality Management Plan shall contain an organizational chart identifying key Construction management personnel and the linkage with the Quality Director for the Concessionaire's overall Quality Management System as documented in the Concessionaire's Quality Manual. It shall also contain a description of the responsibilities, qualifications, and authority of the above personnel and the organizational interfaces between the design and other disciplines such as environmental and Traffic Management.
- 1.3 The Quality Manager for the CQMP shall:
- (a) have experience in a similar role on a similar successful project and successful completion of an ISO 9001 Lead Auditor Course; and
 - (b) report to the Quality Director.
- 1.4 The Construction Quality Management Plan shall, at a minimum, include or reference detailed quality system procedures and process flow charts for the following processes:
- (a) construction safety audits;
 - (b) inspection, testing and monitoring;
 - (c) materials identification and traceability;
 - (d) Principal Contractors' and Subcontractors' quality assessment and procurement;
 - (e) External Quality Audits of Principal Contractors and Subcontractors;
 - (f) Internal Quality Audits;
 - (g) control of nonconforming product;
 - (h) Corrective Actions, Preventative Actions and opportunities for improvement;
 - (i) document management; and
 - (j) control of Quality Records.

The above procedures and flow charts shall document who does the work, what they do, and what evidence is generated that they have done the work correctly.

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- 1.5 The Construction Quality Management Plan shall also include or reference an Inspection and Test Plan detailing all major on and off Project Site inspection and test activities for work performed by the Concessionaire and that of its Principal Contractors and Subcontractors and suppliers of any tier. The Inspection and Test Plan shall, at a minimum, include:
- (a) description of the inspection, test and monitoring activity;
 - (b) frequency of inspections, tests and monitoring;
 - (c) reference to standards, codes, specifications, and acceptance criteria;
 - (d) reports and checklists required;
 - (e) personnel responsible for inspection, test and monitoring activity;
 - (f) quality assurance review, witness and hold points;
 - (g) description and frequency of geotechnical instrumentation monitoring and adherence to acceptance criteria.

2.0 CONSTRUCTION QUALITY AUDITS

- 2.1 Surveillance Quality Audits may be conducted by the Province on a random basis or on specific areas of interest during Construction. The objective of these surveillance audits is to monitor the Concessionaire's activities involving its work practices, workmanship and general quality of materials.
- 2.2 The Province's Representative shall, during the performance by the Province of Surveillance Quality Audits, record any observations and inform the Concessionaire of any deficiencies that require further evaluation. Any noted deficiencies shall be resolved to the satisfaction of the Province's Representative through evidence of the Concessionaire's deficiency evaluation findings or Nonconformity process. If the deficiency is not resolved to the reasonable satisfaction of the Province's Representative, then the Province reserves the right to issue a Nonconformity Report to the Concessionaire.

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APPENDIX D

OPERATION, MAINTENANCE AND REHABILITATION QUALITY MANAGEMENT PLAN

1.0 OPERATION, MAINTENANCE AND REHABILITATION QUALITY MANAGEMENT PLAN

- 1.1 The Concessionaire shall provide a comprehensive Operation, Maintenance and Rehabilitation Quality Management Plan that describes how it intends to monitor and measure its Operation, Maintenance and Rehabilitation activities in connection with the Project in accordance with the ISO 9001:2008 Standard, the Quality Management System requirements stated in its Quality Manual and the provisions of this Agreement. The Operation, Maintenance and Rehabilitation Quality Management Plan shall be aligned with all relevant Performance Measures and define the Concessionaire's approach to achieving compliance with the requirements of this Agreement relating to the Operation, Maintenance and Rehabilitation activities.
- 1.2 The OMRQMP shall contain an organizational chart identifying key OMR management personnel and the relationship with the Quality Director for the Concessionaire's Quality Management System as documented in the Concessionaire's Quality Manual. It shall also contain a description of the responsibilities, qualifications, and authority of the above personnel and the organizational interfaces between the OMR management and other disciplines such as design, construction, traffic and environmental management.
- 1.3 The Quality Manager for the OMRQMP shall:
- (a) have experience in a similar role on a similar successful project and successful completion of an ISO 9001 Lead Auditor Course; and
 - (b) report to the Quality Director.
- 1.4 The Concessionaire shall develop documented quality system procedures and process flow charts to ensure that all performance specifications and requirements in this Agreement in respect of Operation, Maintenance, and Rehabilitation are met or exceeded. These procedures and flow charts shall document who does the work, what they do, and what evidence is generated that they have done the work correctly.
- 1.5 The Operation, Maintenance and Rehabilitation Quality Management Plan shall detail a Performance Measures compliance monitoring process to track compliance with all Performance Measures. The Performance Measures compliance monitoring process must clearly describe the approach taken in assessing compliance, and define the frequency and method of monitoring and reporting Performance Measures compliance. The Province's Representative shall review the Concessionaire's Performance Measures compliance monitoring process and may request changes that the Province's Representative considers appropriate to facilitate the accurate and appropriate monitoring and reporting of compliance with the Performance Measures and otherwise to meet the requirements of this Agreement. The Concessionaire's Performance Measures compliance monitoring process shall be subject to ongoing review by the Province's Representative throughout the Term.

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2.0 OPERATION, MAINTENANCE, REHABILITATION AUDITS

- 2.1 Surveillance Quality Audits may be conducted by the Province on a random basis or on specific areas of interest during Operation, Maintenance and Rehabilitation. The objective of these surveillance audits is to monitor the Concessionaire's activities involving its work practices, workmanship and general quality of materials.
- 2.2 The Province's Representative shall, during the performance by the Province of Surveillance Quality Audits, inform the Concessionaire of any deficiencies noted. Any noted deficiencies shall be resolved to the satisfaction of the Province's Representative through evidence of the Concessionaire's deficiency evaluation findings or Nonconformity process. If the deficiency is not resolved to the reasonable satisfaction of the Province's Representative, then the Province reserves the right to issue a Nonconformity Report to the Concessionaire.

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**APPENDIX E
TRAFFIC QUALITY MANAGEMENT PLAN**

1.0 TRAFFIC QUALITY MANAGEMENT PLAN

- 1.1 The Concessionaire shall provide a comprehensive Traffic Quality Management Plan that describes how it intends to administer the Traffic Management processes in connection with the Project in accordance with the ISO 9001:2008 Standard, the Quality Management System requirements stated in its Quality Manual and the provisions of this Agreement.
- 1.2 The Traffic Quality Management Plan shall contain an organizational chart identifying key Traffic Management personnel and the linkage with the Quality Director for the Concessionaire's overall Quality Management System as documented in the Concessionaire's Quality Manual. It shall also contain a description of the responsibilities, qualifications, and authority of the above personnel and the organizational interfaces between the Traffic Management and other disciplines such as design, construction, and environmental management. The Traffic Quality Management Plan shall address the Design, Construction, Operation, Maintenance and Rehabilitation phases of the Project.
- 1.3 The Quality Manager for TQMP shall:
- (a) have experience in a similar role on a similar successful project and successful completion of an ISO 9001 Lead Auditor Course; and
 - (b) report to the Quality Director.
- 1.4 The Traffic Quality Management Plan shall at a minimum, include or reference detailed quality system procedures and process flow charts for the following processes:
- (a) Traffic Control Plan design input and output review;
 - (b) Traffic Control Plan design verification to ensure that design input requirements have been met;
 - (c) Traffic Control Plan design validation to ensure that the final product is capable of meeting its intended use;
 - (d) Traffic Control Plan design changes;
 - (e) Implementation Plan;
 - (f) Advisory Signing Plan;
 - (g) Risk Assessment Plan
 - (h) Principal Contractors' and Subcontractors' quality assessment and procurement;
 - (i) External Quality Audits of Principal Contractors and Subcontractors;
 - (j) Internal Quality Audits;

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- (k) control of nonconforming activities and/or product;
 - (l) Corrective Actions and Preventative Actions;
 - (m) document management; and
 - (n) control of Quality Records.
- 1.5 The above procedures and flow charts shall document who does the work, what they do, and what evidence is generated that they have done the work correctly.
- 1.6 When the above processes are already covered as part of another Quality Management Plan, the process heading still needs to be identified as part of the Traffic Quality Management Plan; however the details can be minimized to a reference to the other Quality Management Plan and section or paragraph where the details are provided. The referenced Quality Management Plan and section or paragraph must indicate specific requirements with regards to the above processes as it relates to traffic quality management. Notwithstanding, processes that fall within the specific requirements of the Traffic Management Plan must include detailed quality system procedures and process flow charts under the Traffic Quality Management Plan.
- 2.0 TRAFFIC MANAGEMENT QUALITY AUDITS**
- 2.1 Surveillance Quality Audits may be conducted by the Province on a random basis or on specific areas of interest throughout the Term. The objective of these surveillance audits is to monitor the Concessionaire's activities involving its work practices, workmanship and general quality of materials and adherence to the specific Traffic Management requirements set out in Part 4 [Traffic Management Requirements] of Schedule 4 and in Schedule 5 [OMR and End of Term].
- 2.2 The Province's Representative shall, during the performance by the Province of Surveillance Quality Audits, record any observations and inform the Concessionaire of any deficiencies that require further evaluation. Any noted deficiencies shall be resolved to the satisfaction of the Province's Representative through evidence of the Concessionaire's deficiency evaluation findings or Nonconformity process. If the deficiency is not resolved to the reasonable satisfaction of the Province's Representative, then the Province reserves the right to issue a Nonconformity Report to the Concessionaire.

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**APPENDIX F
ENVIRONMENTAL QUALITY MANAGEMENT PLAN**

1.0 ENVIRONMENTAL QUALITY MANAGEMENT PLAN

- 1.1 The Concessionaire shall provide a comprehensive Environmental Quality Management Plan that describes how it intends to manage the environmental components of the Project in accordance with ISO 14001:2004 Standard, the Quality Management System requirements stated in its Quality Manual and the provisions of this Agreement. The Environmental Quality Management Plan is to apply throughout all phases of the Project Work including Design, Construction, Operation, Maintenance and Rehabilitation, and shall generally follow ISO 14001:2004 Standard formatting.
- 1.2 The Environmental Quality Management Plan shall contain an organizational chart identifying key environmental management personnel and the linkage with the Quality Director for the Concessionaire's overall Quality Management System as documented in the Concessionaire's Quality Manual. It shall also contain a description of the responsibilities, qualifications, and authority of the above personnel and the organizational interfaces between the design and other construction, operation, maintenance and rehabilitation disciplines.
- 1.3 The Quality Manager for the EQMP shall:
- (a) have experience in a similar role on a similar successful project and successful completion of the ISO 9001 Lead Auditor Course; and
 - (b) report to the Quality Director.
- 1.4 The Environmental Quality Management Plan shall include or reference detailed quality system procedures and process flow charts for the following processes:
- (a) satisfying and ensuring compliance with the Concessionaire's Environmental Obligations, including the preparation and implementation of an Environmental Management Plan and specific plans as detailed elsewhere in this Agreement;
 - (b) obtaining and maintaining Permits;
 - (c) environmental monitoring and reporting;
 - (d) environmental incident reporting and tracking;
 - (e) External Quality Audits of Principal Contractors and Subcontractors;
 - (f) Internal Quality Audits;
 - (g) control of nonconforming services or products;
 - (h) Corrective Actions, Preventative Actions and opportunities for improvement;
 - (i) document management; and

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- (j) control and retention of Quality Records.

The above procedures and flow charts shall document who does the work, what they do, and what evidence is generated that they have done the work correctly.

- 1.5 The Province's Representative, in the course of its Quality Documentation review, shall pay special attention to the Concessionaire's Environmental Quality Management Plan to verify that the Concessionaire has taken full responsibility for all of the environmental requirements as specified in the Concessionaire's Environmental Obligations and elsewhere in the Agreement, including obtaining approvals from relevant Governmental Authorities and other environmental requirements as outlined in the Agreement.

2.0 ENVIRONMENTAL QUALITY AUDITS

- 2.1 Environmental Surveillance Quality Audits may be conducted by the Province on a random basis or on specific areas of interest throughout the Term as targeted audits. The objective of these environmental surveillance audits is to monitor the Concessionaire's activities involving its work practices, workmanship and general quality of materials. Environmental Quality System audits may be conducted by the Province as part of regular Quality Management System auditing.
- 2.2 The Province's Representative shall, during the performance by the Province of Surveillance Quality Audits, record any observations and inform the Concessionaire of any Nonconformity that requires further evaluation. Any noted Nonconformities shall be resolved to the satisfaction of the Province's Representative through evidence of the Concessionaire's evaluation findings or Nonconformity process. If the Nonconformity is not resolved to the reasonable satisfaction of the Province's Representative, then the Province reserves the right to issue a Nonconformity Report to the Concessionaire.

3.0 QUALITY RECORDS

- 3.1 The Quality Records maintained by the Concessionaire shall include records evidencing conformity to ISO 14001:2004 Standard and compliance with the Concessionaire's Environmental Obligations and the other environmental requirements contained in the Agreement, and all applicable Permits, monitoring reports and written correspondence with agencies, the Province, public consultation, user groups, etc.

4.0 QUALITY MANAGEMENT SYSTEM REPORTING

- 4.1 The Concessionaire's monthly Quality Management System reports shall include a summary of all environmental quality management activities during each month and:
 - (a) environmental monitoring reports;
 - (b) copies of any and all environmental Permits obtained since the previous reporting period, as well as steps taken to obtain any outstanding required environmental permits, approvals and licenses and the results thereof; and
 - (c) steps taken to implement, comply with and satisfy the Concessionaire's Environmental Obligations including compliance with Environmental Laws and the other environmental requirements contained in the Agreement.

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APPENDIX G

AUDIT OF TEMPORARY TRAFFIC MANAGEMENT – SAMPLE SITE REPORT

Contractor	Location
Auditor	Activity
	Date & time

Y/N = Yes / No A-S-N = All – Some – None

Advanced Warning Area

- Signage A - S - N.....
- Visibility A - S - N.....
- Placement A - S - N.....
- Quality A - S - N.....

Transition Area, Buffer Space, Work Area

- Signage A - S - N
- Visibility A - S - N
- Placement A - S - N
- Quality A - S - N
- Delineation A - S - N
- Placement A - S - N
- Quality A - S - N
- Spaced Correctly Y / N

Other issues

- Excavations Y / N.....
- Pedestrians from work Y / N.....
- Pedestrians from traffic Y / N.....
- Cyclists from work Y / N.....
- Cyclists from traffic Y / N.....
- Advance Warning area A - S - N.....
- Transition area A - S - N.....
- Buffer Space A - S - N.....
- Work Area A - S - N.....
- Warning lights A - S - N.....
- Vehicles operating with traffic flow A - S - N.....
- Vehicles parked with traffic flow A - S - N.....
- Vehicles outside zone A - S - N.....
- Entering/leaving with traffic flow A - S - N.....
- Workers safety A - S - N.....
- TCP or TCP Supervisor on site Y / N.....

Termination Area

- Sign placement A - S - N.....
- Sign quality A - S - N.....

General Observations

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SITE CONDITION RATING

TMP Sighted

Yes / No

Category & Item		SCR Points	Tally box	Total
Signs	Missing (including side road)	5 for each sign		
	Spacing (too close/far)	2 for each sign		
	Not visible	3 for each sign		
	Condition marginal	1 for each sign		
	Condition unacceptable	4 for each sign		
	Order incorrect	2 for each set of signs out of order		
	Permanent signs not covered	2 for each sign		
	Unapproved signs used/too small	4 for each sign		
	Sign on wrong side	2 for each sign		
	Sign too low	1 for each sign		
	Speed restriction/de-restriction not appropriate/inconsistent	5 for each occasion		
	Speed limit not correctly aligned	2 for each occasion		
	Sign not upright	1 for each sign		
	Non-compliant support	2 for each support		
	Wrong sign	5 for each sign		
Lateral location incorrect	1 for each sign			
Delineation Devices	Missing	30 where delineation is missing and required		
	Tapers too short	5 for each taper		
	Spacing in tapers	3 for each taper where spacing too great to be effective		
	Spacing in lanes	2 where spacing in lanes/around work area is too great		
	Condition marginal	1 for each device where classified in marginal condition		
	Condition unacceptable	3 for each device in unacceptable condition		
	Using non-approved device	4 for each non-approved device		
	Used incorrectly	2 for each device		
	Road marking incorrect	5 where not adjusted at long term sites		
	Lane Shift	10 for each missing or installed incorrectly		
Miscellaneous	Working in Live Lanes	20 for each occasion		
	Flashing Beacon not used / ineffective	1 for each vehicle		
	High Visibility Garment not worn	5 for each individual		
	High visibility garment unacceptable	5 for each garment in unacceptable condition		
	High visibility garment marginal	3 for each garment in marginal condition		
	No provision for pedestrians	10 where no provision made and required		
	No provision for cyclists	5 where no provision made and required		
	Parking/stopping features not relocated	5 where relocation of feature is required		
	Transition Area, or Buffer Space, or Work Area compromised	2 for unacceptable or no safety zone		
	Excavation not protected	10 for excavation not protected by acceptable method		
	CMS message incorrect	10 for displaying incorrect information		
	Barrier defects	10 for each incorrect or missing barrier component		
Mobile & Semi Static Operations	Pilot vehicle omitted	20 for missing or incorrect location		
	Buffer/Shadow vehicle omitted	20 for missing or incorrect location		
	Vehicle mounted signs	5 for missing or incorrect signs		
	TMA missing	20 for TMA missing when required		
	TMA non-compliant	5 for TMA in use but not of acceptable standard		
	Arrowboard missing	20 for Arrowboard missing when required		
	Arrowboard display incorrect	20 for no display or incorrect display		
SCR POINT TOTAL				

Audit Result (SCR)

Acceptable
(0-10)

Marginal
(11-25)

Needs Improvement
(26-50)

Unacceptable
(51+)

Actions taken

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