SCHEDULE 7
QUALITY MANAGEMENT

PART 1
QUALITY MANAGEMENT SYSTEM

1.1 Quality Management System

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

1.2 Constructor Responsibilities

The Constructor is responsible for all quality assurance and quality control activities set out in this Schedule and that are required to manage its own processes as well as those of its Subcontractors throughout the DB Term or as otherwise required by any other provision of this Agreement. The Constructor shall throughout the DB Term or as otherwise required by any other provision of this Agreement ensure that all aspects of the DB Work 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 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 Constructor's ability to contractually assign matching responsibilities and obligations to its Subcontractors in accordance with this Agreement, the Constructor shall not be relieved of any of the Constructor's responsibilities or obligations set out in this Schedule by the assignment of such responsibilities or obligations to its 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 9001:2000 Standard and any other applicable standards specified in this Schedule;

(b) the DB 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 compliant with the ISO 9001:2000 Standard.

PQ1.4.1b [Intentionally Deleted]

1.4.2 Specific Requirements

(a) [Intentionally Deleted]

(b) [Intentionally Deleted]

(c) The Constructor 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 9001:2000 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 Constructor will prepare and submit to the Authority's Representative, by the dates shown in Table 1.5.1, each of the following as they apply in respect of the DB Work:

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

Performance Measure	Deliverable Name	Due Date	Specification Reference	Review "RP" or Consent "CP" Procedure
PQ1.5.1a	Quality Manual	Submitted 30 days from the Effective Date	Appendix A	CP
PQ1.5.1b	Design Quality Management Plan	Submitted 30 days from the Effective Date	Appendix B	CP
PQ1.5.1c	Construction Quality Management Plan	Submitted 45 days from the Effective Date	Appendix C	CP
PQ1.5.1d	[Intentionally Deleted]			
PQ1.5.1e	Traffic Quality Management Plan	Submitted 45 days from the Effective Date	Appendix E	CP
PQ1.5.1f	Environmental Quality Management Plan	Submitted 30 days from the Effective Date	Appendix F	CP
PQ1.5.1g	Other Quality Management Plans (see below)	Submitted 45 days from the Effective Date	1.5.2	RP
PQ4.1.1a	Quality Audit Plans	Submitted 90 days from the Effective Date	4.1	CP
PQ4.1.1b	Quality Audit Plan Updates	At twelve monthly intervals	4.1	RP
PQ5.9.1a	Monthly Quality Management System reports	By 15th of each following month	5.9	N/A

Performance Measure	Deliverable Name	Due Date	Specification Reference	Review "RP" or Consent "CP" Procedure
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 Authority'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 Authority's Representative.

1.5.2 Specific Requirements

The Constructor shall prepare and submit, or cause to be prepared and submitted, a Quality Management Plan for any other party contracting with the Constructor or any Subcontractor for the purposes of undertaking any material and substantial aspect of the DB Work (but excluding legal and financial advisors) in each case for undertaking the activities covered by that party's contract with the Constructor or any 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 Constructor shall not commence or permit the commencement of any aspect of the DB Work before those parts of the Quality Documentation that concern such aspect of the DB Work have been submitted to the Authority'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 Constructor shall ensure that:

(a) the Constructor complies with the Quality Management System detailed in the Quality Manual and 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 DB Work;

(b) the Designer complies with the Design Quality Management Plan in connection with its design activities;

(c) [Intentionally Deleted]

(d) [Intentionally Deleted]

(e) any other party contracting with the Constructor or any of its Subcontractors 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 Constructor or any such Subcontractor (as the case may be); and

(f) the Constructor shall ensure that any person who performs any portion of the DB Work shall comply with the Quality Management System as it relates to that portion of the DB Work.

1.8 Continuous Improvement in Quality Management System

(a) The Constructor 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 Quality Management System.

(c) The Constructor shall ensure that all of the Constructor's employees and Subcontractors are aware of the importance of continuous improvement and are actively engaged in its implementation in connection with the performance of the DB Work.

PART 2
[INTENTIONALLY DELETED]

PART 3
TESTING

3.1 Testing Requirements

Where the Constructor is required by this Agreement, any of the DB 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 Authority'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 Constructor may request the approval of the Authority'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 DB Work for which it is proposed and meets the intent of ISO/IEC 17025.

3.3 Remedial Work

The Constructor 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 DB 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.

PART 4
QUALITY AUDITS AND MONITORING

4.1 Quality Audit Plans

4.1.1 Performance Measures

PQ4.1.1a The Constructor shall provide the Quality Audit Plans in respect of the DB Work to the Authority's Representative within 90 days after the Effective Date.

PQ4.1.1b The Constructor shall provide updated Quality Audit Plans in respect of the DB Work 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 Constructor on its own processes and those of its Subcontractors, and the planned dates of such Quality Audits.

4.2 Constructor's Quality Audits

4.2.1 General

The Constructor shall conduct Internal Quality Audits and External Quality Audits of its own processes and those of its 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 Constructor's quality auditing process is to confirm that all activities comprising the DB Work are in compliance with those documented in the Quality Manual and Quality Management Plans and to identify all Nonconformities and necessary Corrective Actions and Preventative Actions.

4.2.2 Performance Measures

PQ4.2.2a The Constructor 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 Constructor shall document, or cause to be documented, the results of such Quality Audit in an audit report and make such report available to the Authority'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.

4.3 Authority's Quality Audits

4.3.1 General

The Authority'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 Authority's auditing efforts and resources should be directed. The Authority shall determine the frequency of auditing through regular and ongoing review of the Constructor'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 Constructor shall provide and shall ensure its Subcontractors provide the Authority's auditors with all documentation, records, access, facilities and assistance for the safety and convenience of the Authority's Representative.

4.3.2 Specific Requirements

The following two types of Quality Audits may be conducted by, or on behalf of, the Authority 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 DB Term or as otherwise required by any other provision of this Agreement. The objective of these surveillance audits is to monitor the Constructor's activities involving the DB 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 Authority's lead auditor shall contact the Quality Manager and confirm the scope and schedule of the audit. At the opening meeting with the Constructor, the Authority's lead auditor shall review the audit scope and objectives. The Authority's auditors shall conduct audit interviews, and document any observations on prepared checklists. At the end of the audit interviews, the Authority's lead auditor shall evaluate the observations and identify observed procedural or performance Nonconformities that require Corrective Action. At the closing meeting with the Constructor, the Authority's lead auditor shall discuss the observations and inform the Constructor of any observed Nonconformities and audit recommendations.

4.3.3 Performance Measures

PQ4.3.3a The Constructor shall prepare a Corrective Action plan and submit it to the Authority's Representative within 20 Business Days of the closing meeting referred to in Section 4.3.2(b) of this Schedule.

The Authority reserves the right to conduct follow up reviews on reasonable, but not less than 24 hours', notice to the Constructor, to determine if the Constructor's Corrective Action plan has been implemented and completed.

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

4.4 Authority 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 [Authority's Quality Audits] of this Schedule, the Authority'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 Authority's Representative of not complying with the requirements of this Agreement.

4.5 Deficient Quality Audits

If either:

(a) the Authority's Representative reasonably believes that the Constructor 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 9001:2000 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 Authority'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 Authority's Representative is reasonably satisfied that none of the circumstances described in this Section continue to exist.

4.6 Costs of Audits

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

4.7 Third Party Audits

The Authority shall arrange third party Quality Audits as required under the ISO 9001:2000 Standard on the Quality Management System by an accredited agency acceptable to the Authority, acting reasonably, and these audit reports shall be made available to the Constructor upon request. The Constructor shall cooperate and provide access to all applicable facilities as required for such third party Quality Audits.

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 during the Construction Period and during the Operating Period, the Constructor shall develop and implement a Site Condition Rating checklist acceptable to the Authority, for use by each of the Constructor and the Authority.

(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 Constructor 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 Constructor following assignment of a particular Site Condition Rating, and the response time within which such action must be taken.

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 Constructor's other obligations under this Schedule, including the Constructor'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 Constructor's Quality Management System shall also comply with the requirements and principles of the ISO 9001:2000 Standard, this Schedule, and the ISO 9004:2000 principles, 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: 2000 Standard, the Constructor's Quality Management System shall also incorporate the requirements of the following reference documents:

(a) ISO 9001:2000 Quality Management Systems – Requirements;

(b) ISO 9004:2000 Quality Management Systems – Guidelines for Performance Improvement;

(c) ISO 9000:2000 Quality Management Systems – Fundamentals and Vocabulary; and

(d) ISO 19011:2002 Guidelines for Quality and/or Environmental Management Systems Auditing.

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 DB 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 Constructor shall prepare and submit all required Quality Documentation to the Authority'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 Authority's Representative otherwise agrees) be submitted to the Authority'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 Authority'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.

5.5 Constructor Obligation to Update

The Constructor shall be responsible for 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 9001:2000 Standard and the requirements of this Agreement.

5.6 Changes to Quality Documentation

(a) The Constructor may submit to the Authority'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 Constructor shall from time to time submit to the Authority'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 Constructor does not propose a change that the Authority considers is required pursuant to Section 5.6(b) of this Schedule, the requirement for 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 Authority'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 Constructor 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 9001:2000 Standard and the effective operation of the Quality Management System.

5.9 Quality Management System Reports

5.9.1 Performance Measures

PQ5.9.1a For each month of the DB Term or as otherwise required by any provision of this Agreement, the Constructor shall prepare, and submit to the Authority'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 reports provided by the Constructor pursuant to Section 5.9.1 [Performance Measures] of this Schedule 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 provided by the Constructor pursuant to Section 5.9.1 [Performance Measures] of this Schedule 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 Constructor shall provide the Authority's Representative with such information as the Authority's Representative may request from time to time to demonstrate compliance with this Schedule.

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 Constructor or the Authority discovers a Nonconformity, it shall initiate a Nonconformity Report in accordance with the ISO 9001:2000 Standard as follows:

(i) Constructor initiated Nonconformity Reports - Upon discovery of a Nonconformity, the Constructor shall provide a Nonconformity Report identifying the problem to the Authority's Representative within two Business Days; or

(ii) Authority initiated Nonconformity Reports - If at any time the Authority is notified, or otherwise becomes aware, that there is any Nonconformity, the Authority's Representative may, without prejudice to any other right or remedy available to the Authority, including the assignment of NCE Remittance Points and/or NCE Default Points pursuant to Schedule 10 [Performance Mechanism], issue a Nonconformity Report.

(b) The Nonconformity Report is issued to the Quality Manager, 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 and the Constructor shall be notified of the Nonconformity Report at the time of issue.

(c) The Constructor shall in response to the Nonconformity Report describe a disposition of the Nonconformity and a Corrective Action in accordance with the ISO 9001:2000

Standard, Section 8.3 [Control of Nonconforming Product] and provide such disposition to the Quality Director.

(d) The Constructor shall investigate and respond to all Nonconformity Reports.

(e) The Constructor may object to the issuance of any Nonconformity Report by the Authority's Representative. If such objection has not been resolved by mutual agreement between the Authority's Representative and the Constructor within five Business Days of delivery by the Constructor to the Authority's Representative of notice of the objection, then either party may refer the matter to the Dispute Resolution Procedure for determination.

(f) If the Constructor fails to object to the issue by the Authority's Representative of a Nonconformity Report within five Business Days, the Constructor is deemed to have accepted that Nonconformity Report.

(g) The Nonconformity Report is returned to the Quality Manager for acceptance at which time the Quality Manager 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 Authority's Representative within two Business Days thereafter.

6.2 Nonconformity Report Tracking System

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

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 Constructor and Authority 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 Constructor and Authority;

(d) immediately apply NCE Remittance Points to each Nonconformity Event in accordance with Section 4.1 [Assignment of NCE Remittance Points] of Schedule 10; and

(e) produce monthly summary Reports for delivery to the Authority's Representative of outstanding Nonconformity Reports, NCE Remittance Points and NCE Default Points accrued within each performance threshold category in any given month, and the total NCE Remittance Points and NCE Default Points accrued across all performance threshold categories in any given month.

6.3 Unremedied Nonconformity

The Authority's Representative may issue further Nonconformity Reports if a Nonconformity identified in a Nonconformity Report continues unremedied, and may assign NCE Default Points in respect of such unremedied Nonconformity pursuant to Section 4.4 [Assignment of NCE Default Points] of Schedule 10.

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 Constructor 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 Constructor 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
[INTENTIONALLY DELETED]

APPENDIX A

QUALITY MANUAL

1.0 QUALITY MANUAL

1.1 The Constructor shall provide a comprehensive Quality Manual that describes the Quality Management System for all aspects of the DB Work including the Design and Construction. The Quality Manual shall establish the Quality Policy and Quality Objectives for all aspects of the DB Work and, in accordance with the requirements of the ISO 9001:2000 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 Authority in respect of the DB Work. 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 Constructor's organization involved in performing the DB Work and how key management activities (such as project controls; Design; Construction; 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 Constructor's representative who shall liaise with the Authority's Representative and the Quality Director and act as the single point representative of the Constructor for all matters relating to quality management.

APPENDIX B

DESIGN QUALITY MANAGEMENT PLAN

1.0 DESIGN QUALITY MANAGEMENT PLAN

1.1 The Constructor shall provide a comprehensive Design Quality Management Plan that describes how it intends to manage the design processes for the DB Work in accordance with the ISO 9001:2000 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 Constructor's overall Quality Management System as documented in the Constructor'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. The Design Quality Management Plan shall address all phases and aspects of the DB Work including Design and Construction to the extent such phases and aspects form part of the DB Work.

1.3 The Quality Manager for the DQMP shall be employed by the Constructor and shall:

(a) have experience in a similar role on a similar successful project and successful completion of the lead auditor course;

(b) report information 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 and Preventative Actions;

(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.

APPENDIX C

CONSTRUCTION QUALITY MANAGEMENT PLAN

1.0 CONSTRUCTION QUALITY MANAGEMENT PLAN

1.1 The Constructor shall provide a comprehensive Construction Quality Management Plan that describes how it intends to manage the Construction processes in connection with the DB Work in accordance with the ISO 9001:2000 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 Constructor's overall Quality Management System as documented in the Constructor'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. The Construction Quality Management Plan shall address all phases and aspects of the DB Work including Design and Construction to the extent such phases and aspects form part of the DB Work.

1.3 The Quality Manager for the CQMP shall be employed by the Constructor and shall:

(a) have experience in a similar role on a similar successful project and successful completion of the lead auditor course;

(b) report information 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) Subcontractors' quality assessment and procurement;

(e) External Quality Audits of Subcontractors;

(f) Internal Quality Audits;

(g) control of nonconforming product;

(h) Corrective Actions and Preventative Actions;

(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.

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 Constructor and that of its 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 Authority on a random basis or on specific areas of interest during Construction. The objective of these surveillance audits is to monitor the Constructor's activities involving its work practices, workmanship and general quality of materials.

2.2 The Authority's Representative shall, during the performance by the Authority of Surveillance Quality Audits, record any observations and inform the Constructor of any deficiencies that require further evaluation. Any noted deficiencies shall be resolved to the satisfaction of the Authority's Representative through evidence of the Constructor's deficiency evaluation findings or Nonconformity process. If the deficiency is not resolved to the reasonable satisfaction of the Authority's Representative, then the Authority reserves the right to issue a Nonconformity Report to the Constructor.

APPENDIX D
[INTENTIONALLY DELETED]

APPENDIX E

TRAFFIC QUALITY MANAGEMENT PLAN

1.0 TRAFFIC QUALITY MANAGEMENT PLAN

1.1 The Constructor shall provide a comprehensive Traffic Quality Management Plan that describes how it intends to administer the Traffic Management processes in connection with the DB Work in accordance with the ISO 9001:2000 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 Constructor's overall Quality Management System as documented in the Constructor'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 all phases and aspects of the DB Work including Design and Construction to the extent such phases and aspects form part of the DB Work.

1.3 The Quality Manager for TQMP shall be employed by the Constructor and shall:

(a) have experience in a similar role on a similar successful project and successful completion of the lead auditor course;

(b) report information 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) Subcontractors' quality assessment and procurement;

(i) External Quality Audits of Subcontractors;

(j) Internal Quality Audits;

(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 Authority on a random basis or on specific areas of interest throughout the DB Term. The objective of these surveillance audits is to monitor the Constructor'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.

2.2 The Authority's Representative shall, during the performance by the Authority of Surveillance Quality Audits, record any observations and inform the Constructor of any deficiencies that require further evaluation. Any noted deficiencies shall be resolved to the satisfaction of the Authority's Representative through evidence of the Constructor's deficiency evaluation findings or Nonconformity process. If the deficiency is not resolved to the reasonable satisfaction of the Authority's Representative, then the Authority reserves the right to issue a Nonconformity Report to the Constructor.

APPENDIX F

ENVIRONMENTAL QUALITY MANAGEMENT PLAN

1.0 ENVIRONMENTAL QUALITY MANAGEMENT PLAN

1.1 The Constructor shall provide a comprehensive Environmental Quality Management Plan that describes how it intends to manage the environmental components of the DB Work 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 shall address all phases and aspects of the DB Work, including Design and Construction to the extent such phases and aspects form part of the DB Work, 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 Constructor's overall Quality Management System as documented in the Constructor'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.

1.3 The Quality Manager for the EQMP shall be employed by the Constructor and shall:

(a) have experience in a similar role on a similar successful project and successful completion of the lead auditor course;

(b) report information 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 Constructor'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 Subcontractors;

(f) Internal Quality Audits;

(g) control of nonconforming services or products;

(h) Corrective Actions and Preventative Actions;

(i) document management; and

(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 Authority's Representative, in the course or its Quality Documentation review, shall pay special attention to the Constructor's Environmental Quality Management Plan to verify that the Constructor has taken full responsibility for all of the environmental requirements as specified in the Constructor'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 Authority on a random basis or on specific areas of interest throughout the DB Term as targeted audits. The objective of these environmental surveillance audits is to monitor the Constructor's activities involving its work practices, workmanship and general quality of materials. Environmental Quality System audits may be conducted by the Authority as part of regular Quality Management System auditing.

2.2 The Authority's Representative shall, during the performance by the Authority of Surveillance Quality Audits, record any observations and inform the Constructor of any Nonconformity that requires further evaluation. Any noted Nonconformities shall be resolved to the satisfaction of the Authority's Representative through evidence of the Constructor's evaluation findings or Nonconformity process. If the Nonconformity is not resolved to the reasonable satisfaction of the Authority's Representative, then the Authority reserves the right to issue a Nonconformity Report to the Constructor.

3.0 QUALITY RECORDS

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

4.0 QUALITY MANAGEMENT SYSTEM REPORTING

4.1 The Constructor'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 Constructor's Environmental Obligations including compliance with Environmental Laws and the other environmental requirements contained in the Agreement.

APPENDIX G

AUDIT OF TEMPORARY TRAFFIC MANAGEMENT – SAMPLE SITE REPORT

Contractor ..... **Location** .....

Activity .....

Auditor ..... **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

.....

.....

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 .....

.....