

**SCHEDULE 7
QUALITY MANAGEMENT**

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**BROADWAY SUBWAY PROJECT
PROJECT AGREEMENT
SCHEDULE 7 QUALITY MANAGEMENT**

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Appendix A	Quality Manual
Appendix B	Design Quality Management Plan
Appendix C	Construction Quality Management Plan
Appendix D	Traffic Quality Management Plan
Appendix E	Environmental Quality Management Plan
Appendix F	Site Condition Rating Checklist
Appendix G	Communications, Community Relations and Business Relations Quality Management Plan

**PART 1
QUALITY MANAGEMENT SYSTEM**

1.1 Quality Management System

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

1.2 Project Co Responsibilities

Project Co is responsible for all quality assurance and quality control activities required to manage its own processes as well as those of its Principal Contractors and Subcontractors throughout the Term. Project Co 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 Project Co's ability to contractually assign matching responsibilities and obligations to the Principal Contractors and Subcontractors in accordance with this Agreement, Project Co shall not be relieved of any of Project Co'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 address all aspects of the Project Work for all phases of the Project, including Design and Construction. The Quality Management System shall be integrated into all Project Work, including Traffic Management, safety management, activities as described in Schedule 9 [Communications, Community Relations and Business Relations], and environmental management. The Quality Management System shall include all quality control and quality assurance activities for all aspects of the Project Work for all phases of the Project.

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 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

- (a) The Quality Management System must be certified as being compliant with the ISO 9001 Standard.
- (b) Within 180 days after the Effective Date, Project Co shall submit under the Consent Procedure details to the Province of the accredited ISO 9001 Standard certification agency that Project Co proposes to use for certification of the Quality Management System.
- (c) The Quality Management System must be certified within 365 days from the Effective Date. Project Co shall maintain the certification for the remainder of the Term.

1.4.2 Specific Requirements

- (a) The scope of the certification described in Section 1.4.1 of this Schedule applies to the Quality Management System in its entirety, including the systems and processes described in each individual document described in Section 1.5 [Documentation Deliverables] of this Schedule.
- (b) Certification shall be by an accredited ISO 9001 Standard certification agency acceptable to the Province, acting reasonably, in accordance with Section 1.4.1(b) of this Schedule, which certification is to be maintained by Project Co throughout the Term.
- (c) The scope of certification for the Quality Management System shall be clearly defined to include Design, Construction, Traffic Management, safety management, environmental management and the activities described in Schedule 9 [Communications, Community Relations and Business Relations].
- (d) Project Co 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 during the Term remains, in full compliance with the ISO 9001 Standard, and the requirements of this Schedule and this Agreement.

1.5 Documentation Deliverables

1.5.1 Performance Measures

- (a) Without limiting the generality of Section 1.3 [Quality Management System Requirements] of this Schedule, Project Co 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	Schedule 7 Reference	Review Procedure or Consent Procedure

Performance Measure	Deliverable Name	Due Date	Schedule 7 Reference	Review Procedure or Consent Procedure
PQ1.5.1a	Quality Manual	Submitted prior to performing any Design or Construction, subject to Section 1.5.1(c) of this Schedule, and with allowance for at least 20 Business Days for review by the Province under the Consent Procedure.	Appendix A	Consent Procedure
PQ1.5.1b	Design Quality Management Plan	Submitted prior to performing any Design, subject to Section 1.5.1(c) of this Schedule, and with allowance for at least 20 Business Days for review by the Province under the Consent Procedure.	Appendix B	Consent Procedure
PQ1.5.1c	Construction Quality Management Plan	Submitted prior to performing any Construction, and with allowance for at least 20 Business Days for review by the Province under the Consent Procedure.	Appendix C	Consent Procedure
PQ1.5.1d	Traffic Quality Management Plan	Submitted prior to performing any Construction requiring traffic detours or traffic accommodation, and with allowance for at least 20 Business Days for review by the Province under the Consent Procedure.	Appendix D	Consent Procedure
PQ1.5.1e	Environmental Quality Management Plan	Submitted prior to performing any Design or Construction, and with allowance for at least 20 Business Days for review by the Province under the Consent Procedure.	Appendix E	Consent Procedure

Performance Measure	Deliverable Name	Due Date	Schedule 7 Reference	Review Procedure or Consent Procedure
PQ1.5.1f	Communications, Community Relations and Business Relations Quality Management Plan	Submitted prior to performing any Construction, and with allowance for at least 20 Business Days for review by the Province under the Consent Procedure.	Appendix G	Consent Procedure
PQ1.5.2a	Other Quality Management Plans	Submitted prior to performing any other relevant Project activities (e.g., off-site steel fabrication), and with allowance for at least 20 Business Days for review by the Province under the Consent Procedure.	1.5.2	Review Procedure
PQ4.1.1a	Quality Audit Program	Submitted within 90 days after submittal of the Quality Manual, and with allowance for at least 20 Business Days for review by the Province under the Consent Procedure.	4.1.1	Consent Procedure
PQ4.1.1b	Quality Audit Program Updates	At twelve month intervals after the Quality Audit Program was approved under the Consent Procedure	4.1.1	Review Procedure
PQ5.9.1a	Monthly Quality Management System Reports	Within 15 Business Days of the start of each following month	5.9.1	N/A
PQ4.2.2b	Quality Audit Reports	Within 14 days of audit completion	4.2.2	N/A
PQ4.8k	Traffic Management Auditing Reports	Within 2 Business Days following the audit	4.8(k)	N/A
PQ4.2.2e	Final Quality Report	Within 30 Business Days after Substantial Completion	4.2.2	Consent Procedure

Performance Measure	Deliverable Name	Due Date	Schedule 7 Reference	Review Procedure or Consent Procedure
PQ4.3.4a	Corrective Action Plan	Within 10 Business Days of receiving a Quality Audit Report or a Nonconformity Report, or as otherwise directed by the Province.	4.3.4	Consent Procedure

- (b) 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 for information only.
- (c) Notwithstanding the requirements of Table 1.5.1 and subject to objection by the Province (acting reasonably), Project Co may only proceed with Design components of the Project Work after submitting the Quality Manual and the Design Quality Management Plan under the Consent Procedure but prior to the completion of the Consent Procedure in accordance with Section 2.2 of Schedule 2 [Representatives, Review Procedure and Consent Procedure], provided that:
- (i) concurrent with its submission of the Quality Manual or Design Quality Management Plan (as the case may be) under the Consent Procedure, Project Co provides the Province with notice of the Design components it is proceeding with prior to the completion of the Consent Procedure; and
 - (ii) in all cases any such action shall be taken at Project Co’s sole risk and expense and Project Co shall in any event remain responsible for complying with the Quality Manual and the Design Quality Management Plan once they have been accepted under the Consent Procedure, including making any and all reconstructions, alterations, modifications or other remedial work to the Design components of the Project Work already completed as many be necessary to comply with the accepted Quality Manual and the accepted Design Quality Management Plan.

1.5.2 Other Quality Management Plans

Project Co shall prepare and submit a Quality Management Plan for any other person contracting with Project Co, 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 Project Co, 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

- (a) Project Co will fully implement the Quality Manual and each of the Quality Management Plans on or before the earlier of:
 - (i) the implementation dates set out in the Quality Manual and Quality Management Plans, if any; and
 - (ii) the date that is 180 days after the Effective Date.

1.6.2 Specific Requirements

Except as otherwise permitted under Section 1.5.1(c) of this Schedule, Project Co 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. Without limiting the foregoing:

- (a) Project Co shall not submit any Interim Design submissions or any Design Review packages for any aspect of the Project Work until after the Design Quality Management Plan has been accepted pursuant to the Consent Procedure; and
- (b) Project Co shall not commence any Construction activities until the Construction Quality Management Plan has been accepted pursuant to the Consent Procedure.

1.7 Compliance with Quality Management System

Project Co shall ensure that:

- (a) Project Co complies with the Quality Management System detailed in the Quality Manual and any other Quality Documentation in connection with Project Co's management activities and any other Project Work;
- (b) the Designer complies with the Design Quality Management Plan and any other Quality Documentation in connection with its design and construction-related activities;
- (c) the Design-Build Contractor complies with the Design Quality Management Plan, the Construction Quality Management Plan, the Traffic Quality Management Plan, the Environmental Quality Management Plan, the Communications, Community Relations and Business Relations Quality Management Plan and any other Quality Documentation in connection with all activities under the Design-Build Contract;
- (d) any other person contracting with Project Co, any Principal Contractor or any Subcontractor complies with the relevant Quality Management Plan prepared and implemented pursuant to Section 1.5.2 [Other Quality Management Plans] of this Schedule in connection with the activities covered by that party's contract with Project Co, such Principal Contractor or such Subcontractor (as the case may be); and

- (e) Project Co 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.

Project Co will document in the Quality Records the means by which the above requirements are communicated, understood and verified.

1.8 Continual Improvement

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

PART 2 QUALITY MANAGEMENT PERSONNEL

2.1 Appointment of Quality Director and General Responsibilities

- (a) At all times during the Term prior to Total Completion, Project Co shall employ a Quality Director who shall:
 - (i) 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;
 - (ii) be engaged on a full-time basis with no other responsibilities prior to the Substantial Completion Date;
 - (iii) be engaged on a full-time or part-time basis during the General Project Work Defect Warranty Period; and
 - (iv) be required to report directly to Project Co's Representative.
- (b) The Quality Director shall have a minimum of ten years' experience in a similar quality management representative role for similar successful projects and shall have successfully completed an ISO 9001 Lead Auditor Course.
- (c) The identity of the Quality Director (and any replacement) and his or her job specification and responsibilities shall be subject to the approval of the Province (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 of Schedule 2 [Representatives, Review Procedure and Consent Procedure].

2.2 Specific Responsibilities of the Quality Director

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

- (a) determining, integrating and implementing the actions required to address the risks and opportunities that ensure the Quality Management System will achieve its intended results;
- (b) developing, implementing and maintaining, and ensuring the effective operation of, the Quality Management System;
- (c) verifying that Quality Documentation conforms to applicable Project Requirements prior to submission to the Province;
- (d) coordinating with quality managers and other quality personnel to ensure integration of the Quality Management System with and between all Project disciplines;
- (e) initiating Management Reviews, not less frequently than annually, and taking other actions necessary to ensure the effective operation and continual improvement of the Quality Management System;
- (f) preparing the Quality Audit Program and managing (including scheduling and coordinating) Internal Quality Audits and External Quality Audits of all key processes with Project Co's personnel and with the Principal Contractors and Subcontractors (including the Designer);
- (g) ensuring that all Quality Audits required under Section 4.2 [Project Co'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;
- (h) having the authority to immediately stop any work or activity which is not being performed or carried out in accordance with this Agreement or the Quality Documentation applicable thereto;
- (i) liaising with the Province's Representative and acting as the primary representative for Project Co on all matters relating to quality management;
- (j) managing the process for all matters and issues relating to the certification of the Quality Management System, and the maintenance of certification of the Quality Management System throughout the Term;
- (k) preparing and submitting monthly Quality Management System reports, for information only, to the Province's Representative;
- (l) ensuring that relevant Records are maintained and retained in accordance with this Agreement, the Quality Management System and the Records Management Protocol;

- (m) developing and implementing a program for Correction, and where applicable, Corrective Action in respect of Nonconformities in accordance with Section 6.1 of this Schedule;
- (n) developing and implementing a program for Opportunities for Improvement in respect of potential Nonconformities or continual improvement initiatives; and
- (o) carrying out any other matters which, in accordance with this Agreement, are the responsibility of the Quality Director.

2.3 Quality Management Personnel

Project Co shall:

- (a) not permit any quality management personnel (including the Quality Director who perform quality control for the Design or Construction to perform any other role in the Design or Construction; and
- (b) ensure that the quality management personnel (including the Quality Director) are not required to, and do not, report to leads or managers responsible for the Design or Construction (though such personnel may be employed or retained by a Principal Contractor or a Subcontractor).
- (c) ensure that each quality manager for each Quality Management Plan shall:
 - (i) have expertise in a similar role on a similar successful project and successful completion of an ISO 9001 Lead Auditor course; and
 - (ii) report to the Quality Director.

PART 3 TESTING

3.1 Testing Requirements

Where Project Co is required by this Agreement, any of the Project Requirements, the Design and Construction Certification Procedure or any Quality Documentation to carry out any inspection, calibration, sample, test or trial, such inspection, calibration, sample, test or trial shall be carried out in accordance with the following provisions of this Part 3 and the provisions of the relevant Quality Documentation.

3.2 Accreditation Standards

- (a) All calibrations, samples, tests and trials carried out on or off of the Project Site 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 “General requirements for the competence of testing and calibration laboratories”, as amended,

updated or replaced from time to time, provided that, for specific activities, the Province may accept other industry-recognized accreditation in lieu of ISO/IEC 17025, including:

- (i) concrete and concrete materials: the latest edition of CSA A283, “Qualification Code for Concrete Testing Laboratories”, to the appropriate category for the tests being done;
 - (ii) structural steel and welding: the latest edition of CSA W178.1, “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) Project Co may request the approval of the Province 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 Material Verification Testing

For all materials incorporated into the Project Work, Project Co shall have a laboratory, registered as a corporation in Canada and accredited in accordance with this Agreement, carry out verification of such materials as follows:

- (a) test and verify that the material meets the requirements of the design;
- (b) perform verification testing on materials, including structural steel, miscellaneous steelwork, cement, aggregates, supplementary cementing materials, additives, reinforcing steel, fasteners, bolts, anchor rods, and welding consumables;
- (c) verify that the mill certificates for the material and any other material certifications are valid;
- (d) perform verification testing of steel for boron content; and
- (e) stamp the mill certificates and any other material certifications with the name of the laboratory, the laboratory’s authorized officer, and the names and signatures of the inspectors and testers.

3.4 Structural Component Inspection and Testing

- (a) For manufactured and fabricated components incorporated into a Structure, including structural steel, fabricated steel elements, steel piles, steel strands, stay cables and pre-cast concrete (the “**Structural Components**”), Project Co shall, as a minimum, retain independent testing and inspection companies registered as corporations in Canada and

certified by organizations accredited by the Standards Council of Canada to provide the following:

(i) full time quality inspection and testing at the mills and fabrication facilities, under the direction of a Professional Engineer who shall be on-site on a full time basis or in accordance with a schedule of site visits set out in the Construction Quality Management Plan accepted pursuant to the Consent Procedure, while the manufacture and fabrication of the Structural Components are in process. If the Province accepts a schedule of site visits (provided in the Construction Quality Management Plan) under the Consent Procedure, the Province retains the right to require Project Co to have additional site visits by the Professional Engineer if quality issues arise;

(ii) quality reports and assurances produced under the direction of the Professional Engineer identified in Section 3.4(a)(i) of this Schedule at the following milestones:

(A) upon supply of raw materials to the fabricator; and

(B) at 25%, 50%, 75% and 100% fabrication completion stages,

and such quality reports shall include a record of the fabrication activities, and testing and inspections to date, and any Nonconformities, Corrections and Corrective Actions;

(iii) monthly status reports, signed and sealed by the Professional Engineer identified in Section 3.4(a)(i) of this Schedule, which shall include a status of the stages of the manufacture and fabrication process carried out to the date of the report and a record of the quality reports and assurances identified in Section 3.4(a)(ii) of this Schedule carried out to the date of the report; and

(iv) a full and final report, signed and sealed by the Professional Engineer identified in Section 3.4(a)(i) of this Schedule, following the completion of any manufacture and fabrication process including a summary of all stages of the manufacture and fabrication process and a record of the quality reports and assurances identified in Section 3.4(a)(ii) of this Schedule,

and Project Co shall provide the reports identified in this Section 3.4, except reports for Corrective Actions, to the Province's Representative for information only at the times and the milestones identified in this Section. Quality reports and assurances which record Corrective Actions, as required under this Section 3.4, shall be submitted to the Province in accordance with the Consent Procedure.

(b) Project Co shall notify the Province's Representative no later than 60 days prior to shipping the Structural Components to the Project Site.

(c) Project Co shall cause the responsible Professional Engineer, identified in Section 3.4(a)(i) of this Schedule, to provide a signed and sealed declaration that "by utilizing the standards of care, skill and diligence in accordance with the standards of the profession,

the [insert name/description of the relevant Structural Components] have been manufactured and/or fabricated to meet the requirements of the following specifications: [insert list of all relevant specifications]”.

- (d) Project Co shall cause the responsible designer to provide a signed and sealed declaration that “by utilizing the standards of care, skill and diligence in accordance with the standards of the profession, the [insert name/description of the relevant Structural Components] have been manufactured and/or fabricated to meet the requirements of the relevant Design Data and the provisions of the Project Agreement”.
- (e) Project Co shall submit the declarations referred to in Sections 3.4(c) and 3.4(d) of this Schedule to the Province’s Representative in accordance with the Review Procedure five Business Days prior to any Structural Components leaving the place of manufacture or fabrication.

3.5 Re-Inspection and Re-Testing of Steel Structural Components

- (a) For steel Structural Components manufactured or fabricated outside of Canada or the United States (the “**Applicable Steel Structural Components**”), Project Co shall, prior to incorporation into the Project Infrastructure, re-inspect and re-test 10% of the Applicable Steel Structural Components, at a location in Canada, by a company certified by the Canadian Welding Bureau in accordance with CSA W47.1 to Division 1 and by the Canadian Institute of Steel Construction in the category of steel bridges.
- (b) For each Applicable Steel Structural Component, Project Co shall ensure that:
 - (i) prior to installation, such Applicable Steel Structural Component shall be in a configuration and location that facilitates all re-inspection and re-testing requirements;
 - (ii) the re-inspection and re-testing of such Applicable Steel Structural Component shall be completed in accordance with the testing and inspection requirements of DBSS 421 Structural Steelwork and that such Applicable Steel Structural Component was not damaged during transportation and that the shop assembly is in accordance with DBSS 421 Structural Steelwork; and
 - (iii) the re-inspection of the welding of such Applicable Steel Structural Component is carried out by a CSA 178.2 Level III certified welding inspector accredited with W47.1/W59 to inspect Applicable Steel Structural Components.

Project Co shall provide to the Province’s Representative the results of all re-inspection and re-testing of Applicable Steel Structural Components under this Section 3.5.

3.6 Remedial Work

Project Co shall be responsible for, at its own cost and expense, 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 Construction 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. Project Co shall retain and preserve all test pieces and samples which represent rejected material for such period of time as the Province may reasonably request.

3.7 Test Records and Reports

Project Co shall:

- (a) document all inspections and tests;
- (b) maintain all test records and reports as Quality Records in accordance with Section 5.8 [Quality Records] of this Schedule, ensure they are readily accessible for the audits required by Section 4.2 [Project Co's Quality Audits];
- (c) permit the Province to attend all tests, retests and inspections and provide the Province with all related records and reports for its review;
- (d) provide the Province, on its request, with calibration certificates and records for testing equipment used by Project Co; and
- (e) include the following in connection with all test records and reports:
 - (i) traceability to the item tested;
 - (ii) traceability of the test equipment used;
 - (iii) specific identification of the relevant work and components if unrelated work is on the reports;
 - (iv) actual test results;
 - (v) remarks regarding conformance with this Agreement;
 - (vi) name and position of the person who actually performed the measurements;
 - (vii) name, position, signature and contact details of the person who verified and approved the test measurement; and
 - (viii) contact information of the Principal Contractor or Subcontractor doing the testing on the test report / letterhead.

PART 4 QUALITY AUDITS AND MONITORING

4.1 Quality Audit Program

4.1.1 Performance Measures

- (a) Project Co shall provide the Quality Audit Program to the Province's Representative within 90 days after the Effective Date.

- (b) Project Co shall provide an updated Quality Audit Program at twelve month intervals after acceptance of the initial Quality Audit Program by the Province under the Consent Procedure. At the same time as providing the updated Quality Audit Program, Project Co shall provide an annual summary outlining whether the planned audit schedule was met and whether the Quality Objectives were achieved.

4.1.2 Specific Requirements

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

4.2 Project Co's Quality Audits

4.2.1 General

Project Co 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 ISO 19011, this Schedule, the Quality Documentation and the Quality Audit Program. The purpose of Project Co's quality auditing process is to confirm that all activities comprising the Project Work are in compliance with those documented in the Quality Management System (including the Quality Manual and Quality Management Plans), to identify all Nonconformities, necessary Corrective Actions and Opportunities for Improvement, and to facilitate continual improvement of the Project Work.

4.2.2 Performance Measures

- (a) The Quality Director shall schedule Internal Quality Audits (at least every six months) and External Quality Audits (at least annually) to ensure that all key processes are assessed at least annually.
- (b) Project Co shall prepare a quality audit plan for each Quality Audit describing the activities, arrangements, scope and criteria for the Quality Audit, and shall provide the quality audit plan to the party being audited (whether Project Co, a Principal Contractor, or a Subcontractor) in advance to confirm the scope and schedule of the audit.
- (c) Quality Audits shall be scheduled taking into account the duration of the work to ensure that each Principal Contractor and each Subcontractor is subject to at least one Quality Audit.
- (d) Within 14 days of completion of any Quality Audit, Project Co shall document, or cause to be documented, the results of such Quality Audit in an audit report and notify the Province's Representative that such report is available.
- (e) Project Co will, not later than 30 Business Days after Substantial Completion, submit to the Province the Final Quality Report to provide objective evidence that the quality of the Project Work satisfies the requirements of this Agreement.

4.2.3 Specific Requirements

- (a) Internal Quality Audits and External Quality Audits shall be scheduled taking into account the Quality Objectives, feedback from the Province, the importance of the processes being audited, risks and opportunities, organizational changes affecting Project Co, as well as the results of previous audits.
- (b) Internal Quality Audits and External Quality Audits shall be carried out by personnel who have the education, work experience, auditor training and audit experience required to perform the audit, and who demonstrate an ability to successfully apply these attributes to the auditing role. Such auditors shall be objective and impartial toward the area(s) being audited.
- (c) Where necessary, follow-up audits shall be scheduled by Project Co to ensure that identified Corrections, Corrective Actions and Opportunities for Improvement are carried out in a timely fashion.

4.3 Province's Quality Audits

4.3.1 General

The Province 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 its auditing through regular and ongoing review of Project Co'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 Province may delegate, to any independent auditor or inspection and testing agency, its rights to audit the Project Work. Project Co shall provide and shall ensure its Principal Contractors and Subcontractors provide the Province, and its delegates if applicable, with all documentation, records, access, facilities and assistance for the safety and convenience of the Province.

4.3.2 Types of Quality Audits

Without limiting the Province's general rights to audit the Project Work under this Agreement, 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 Project Co's activities involving the Project Work, including but not limited to work practices, 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.

4.3.3 Audit Observations and Findings

- (a) The Province may, at any time and in its discretion, provide its observations and findings, including deficiencies, procedural or performance nonconformities, to Project Co in an audit report.
- (b) Where the Province initiates a Nonconformity Report, Project Co shall investigate, address and track the Nonconformity in accordance with Part 6 [Nonconformities] of this Schedule.
- (c) All other observations and findings identified by the Province and provided to Project Co in an audit report, shall be reviewed and evaluated by Project Co for Opportunities for Improvement.

4.3.4 Performance Measures

- (a) Project Co shall, where required, prepare a Corrective Action plan and submit it to the Province's Representative within 10 Business Days of receiving a Quality Audit Report or Nonconformity Report from the Province, or as otherwise directed by the Province.
- (b) The Province reserves the right to conduct follow up reviews to determine if Project Co's Corrective Action plan has been implemented and completed.

4.4 Province Monitoring

In addition to carrying out any scheduled and unscheduled Quality Audits as provided in Section 4.3 [Province's Quality Audits] of this Schedule, the Province may, at its discretion, monitor and verify the operation of the Quality Management System, including by carrying out spot checks and making independent inspections and tests of the Project Site or the infrastructure, equipment, material, tools, supplies or other items provided in connection with the Project Work, including any of the foregoing which fails any test or is suspected by the Province of not complying with the requirements of this Agreement.

4.5 Deficient Quality Audits

If either:

- (a) the Province reasonably believes that Project Co 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 Standard or the ISO 19011 Standard by personnel competent to conduct such Quality Audits; or
- (b) any auditing, monitoring or spot checks of the Quality Management Systems reveal material deficiencies in the Quality Management System or the implementation thereof,

the Province 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 is reasonably satisfied that none of the circumstances described in this Section 4.5 continue to exist.

4.6 Costs of Audits

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

4.8 Traffic Management Auditing

- (a) Not used.
- (b) For the purpose of facilitating the conduct of Internal Quality Audits and External Quality Audits by Project Co and the Province, relating to the performance of Traffic Management ("**Traffic Management Auditing**") in an Active Construction Zone, Project Co and the Province shall use the Site Condition Rating checklist attached in Appendix F [Site Condition Rating Checklist] of this Schedule.
- (c) Not used.
- (d) The Site Condition Rating checklist provides the framework for auditing the safety and overall management of Traffic at a Traffic Site against the requirements contained in the Master Traffic Management Plan, the Traffic Management Plan, the applicable Traffic Control Plans, the requirements of Part 4 [Traffic Management] of Schedule 4 and the Traffic Management Manual (collectively, the "**Traffic Management Criteria**").
- (e) Not used.
- (f) Each item in the Site Condition Rating checklist has been assigned a number of points ("**Site Condition Rating Points**") which reflects its relative importance in relation to the other listed items. Site Condition Rating Points shall be assigned to Project Co for each occurrence of non-compliance with Traffic Management Criteria that is identified at the time of the relevant audit (performed by Project Co or the Province), at the Traffic Site that is the subject of such audit. The aggregate of such assigned Site Condition Rating Points shall indicate the applicable site condition rating (the "**Site Condition Rating**") for the subject Traffic Site as at the time of the relevant audit. Site Condition Rating points shall be allotted for a particular Traffic Site in accordance with the Site Condition Rating checklist.

- (g) Table 4.8(g) sets out the Site Condition Ratings, the number of Site Condition Rating Points the assignment of which will result in the assignment of a particular Site Condition Rating, the action required of Project Co following assignment of a particular Site Condition Rating, and the response time within which such action must be taken. As part of the Traffic Quality Management Plan, Project Co shall develop and implement a system which details the required action Project Co shall take to rectify each noncompliance with the Traffic Management Criteria.

Table 4.8(g) Site Condition Ratings

Site Condition Rating	Site Condition Rating Points	Required Action on Site	Response Time
Acceptable	0 - 10	Undertake remedial action to bring the subject site up to an “Acceptable” standard (if applicable).	4 hours (if applicable)
Marginal	11 – 20	Undertake remedial action to bring the subject site up to an “Acceptable” standard.	2 hours
Needs Improvement	21 - 30	Undertake remedial action to bring the subject site up to an “Acceptable” standard.	1 hour
Unacceptable	31+	Immediately cease all work on subject site and undertake remedial action to bring the subject site up to an “Acceptable” standard.	Immediate

- (h) If Project Co does not respond with the required action within the required response time, as provided in Table 4.8(g), a new non-compliance will be deemed to occur at the end of such response time and the applicable Site Condition Rating Points will be doubled for the new non-compliance. The provisions of this Section 4.8(h) will apply and will continue to apply until Project Co rectifies the non-compliance. This may result in a change to the Site Condition Rating and, if applicable, the assignment of NCE Points in accordance with Section 4.8(j) of this Schedule.
- (i) At a minimum, Traffic Management Auditing shall be carried out at least weekly by Project Co, and on a temporary Traffic Control set-up selected by Project Co. Traffic Management Auditing shall be planned taking into consideration the status, importance and level of risk of each traffic control set-up, and generally rotate through the traffic control set-ups implemented for the Project at that time.
- (j) Where a Traffic Site receives an “Unacceptable” Site Condition Rating, as identified in Table 4.8(g) of this Schedule, one (1) NCE Point will be assigned for every 31 Site Condition Rating Points allocated to the particular site, in accordance with Part 8 [NCE Points and Default Points] of Schedule 10 to this Agreement. For example, if a particular site receives 31 Site Condition Rating points, one NCE Point will be awarded, if a particular site receives 62 Site Condition Rating Points, two NCE Points will be awarded, and so on.

- (k) Project Co shall provide copies of Traffic Management Auditing reports with a Site Condition Rating other than “Acceptable” to the Province within two Business Days following the audit.
- (l) The requirements of this Section 4.8 are in addition to, and do not limit, Project Co’s other obligations under this Schedule, including Project Co’s obligations in Part 6 [Nonconformities] of this Schedule.

4.9 Final Quality Report

Project Co will submit a Final Quality Report that includes the following:

- (a) a year-by-year summary, up to the Substantial Completion Date, of the Internal Quality Audits and External Quality Audits performed in each calendar year, the scope of such audits, and the number of Nonconformities discovered by such audits in that calendar year; and
- (b) confirmation that:
 - (i) all scheduled and unscheduled Internal Quality Audits and External Quality Audits have been performed; and
 - (ii) all remedial work, Corrections, and Corrective Action Plans have been completed.

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 G (inclusive) to this Schedule. Project Co’s Quality Management System shall also comply with the requirements and principles of the ISO 9000 Standard, this Schedule, and the principles of the ISO 9004 Standard, including:

- (a) customer focus;
- (b) leadership;
- (c) engagement of people;
- (d) process approach;
- (e) improvement;
- (f) evidence-based decision making; and
- (g) relationship management.

5.2 ISO Reference Documents

Without limiting the requirement of the Quality Management System to comply with the ISO 9001 Standard, Project Co's Quality Management System shall also incorporate the requirements of the following Reference Documents:

- (a) ISO 9001 Quality Management System – Requirements;
- (b) ISO 9004 Quality Management – Quality of an organization – Guidance to achieve sustained success;
- (c) ISO 9000 Quality Management Systems – Fundamentals and vocabulary;
- (d) ISO 19011 Guidelines for auditing management systems;
- (e) ISO 14001 Environmental Management System – Requirements with guidance for use;
- (f) ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories; and
- (g) ISO 10005 Quality Management – Guidelines for Quality Plans.

5.3 Quality Documentation Requirements

The minimum documentation requirements for the Quality Management System are:

- (a) the documents required by ISO 9001;
- (b) the Quality Manual as required pursuant to Section 1.5 [Documentation Deliverables] of this Schedule;
- (c) Quality Management Plans for all aspects of the Project Work as required pursuant to Section 1.5 [Documentation Deliverables] of this Schedule;
- (d) 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;
 - (ii) the Quality Audit Program required pursuant to Section 4.1 [Quality Audit Program] of this Schedule;
- (e) Work Method Statements, as applicable;
- (f) Inspection and Test Plans, as applicable; and
- (g) the Quality Records required pursuant to Section 5.8 [Quality Records] of this Schedule.

5.4 Submission of Quality Documentation

- (a) Project Co 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 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 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 Project Co Obligation to Update

Project Co 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, relevant and in full compliance with the ISO 9001 Standard and the requirements of this Agreement.

5.6 Changes to Quality Documentation

- (a) Project Co 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, Project Co 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 Project Co 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 Project Co 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 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) Project Co shall establish and maintain complete and accurate quality management records (the “**Quality Records**”), which shall form part of the Records.
- (b) The Quality Records shall provide objective evidence of conformance with all requirements of this Agreement, compliance with the ISO 9001 Standard and the effective operation of the Quality Management System.
- (c) The Quality Records shall include records evidencing conformity to its approved Quality Management Plans, procedures, and processes.

5.9 Quality Management System Reports

5.9.1 Performance Measures

For each month of the Term, Project Co 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 the Quality Manual and 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 in respect of each Nonconformity Report: “date open”, “date closed”, “status” (open, pending, closed) and “description of Correction” (Repair, Rework, Reject, Use As Is);
 - (ii) Corrective Action log providing details of the Corrective Actions performed to date and their close-out status;
 - (iii) an Opportunities for Improvement log summarizing the Opportunities for Improvement raised to date, including the following information: reference

numbers, “date open”, “status” (open, pending, closed), “date closed”, and description of how it was closed;

- (iv) a list of all inspection and testing activities conducted during the month and a four month look-ahead schedule for planned inspection and testing activities;
- (v) Internal Quality Audits and External Quality Audits performed during the month and a four month look-ahead schedule for planned future Quality Audits;
- (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;
- (vii) any changes made to the Quality Management System or the Quality Documentation in compliance with the provisions of this Agreement; and
- (viii) progress report photos.

5.10 Additional Information

- (a) The Corrective Action log and Opportunities for Improvement log as described in Sections 5.9.2(b)(ii) and 5.9.2(b)(iii) of this Schedule shall be:
 - (i) maintained and updated throughout the Term; and
 - (ii) made easily accessible to the Province at all times throughout the Term.
- (b) Notwithstanding any other provision of this Schedule, Project Co shall provide the Province’s Representative with such information as the Province may request from time to time to demonstrate compliance with this Agreement, including this Schedule.

PART 6 NONCONFORMITIES

6.1 Nonconformity Reporting Process

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

- (a) If Project Co or the Province discovers a Nonconformity, it shall initiate a Nonconformity Report in accordance with the ISO 9001 Standard, and as follows:
 - (i) Project Co initiated Nonconformity Reports - Upon discovery of a Nonconformity, Project Co shall, within two Business Days of discovering the Nonconformity, issue a Nonconformity Report identifying the problem and provide a copy of the Nonconformity Report to the Province’s Representative; 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 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 [Payment and Performance Mechanism].

- (b) The Nonconformity Report will be issued to the Quality Director. The date of issue shall be recorded denoting the commencement of the time period for which the Nonconformity Report has an ‘open’ status.
- (c) Project Co shall respond to all Nonconformity Reports by reviewing and analyzing the Nonconformity, investigating the cause(s) of the Nonconformity, and determining if similar Nonconformities exist or could potentially occur.
- (d) The Quality Director shall in response to the Nonconformity Report describe a Correction of the Nonconformity and, if applicable, a Corrective Action in accordance with the ISO 9001 Standard. In its response, the Quality Director shall provide a date (the “**Correction Completion Target Date**”) by which the Correction (and Corrective Action, if applicable) will be completed and subject to re-verification by the Quality Director in accordance with Section 6.1(h) of this Schedule.
- (e) Acceptable responses are set out in Table 6.1 for various scenarios.

Table 6.1 Acceptable Responses to Nonconformity Reports

Status of Nonconformity	Correction	Corrective Action (if applicable)
Correction has been undertaken	Describe nature of the Correction (Rework, Repair, Reject, Use As Is). Provide confirmation that the Correction has remedied (if applicable) the Nonconformity	Describe any improvements to process to prevent reoccurrence. Provide a plan committing to scope and timing of the Corrective Action.
Correction is proposed	Describe nature of the Correction (Rework, Repair, Reject, Use As Is). Provide a plan committing to scope and timing of Correction.	Describe any improvements to process to prevent reoccurrence. Provide a plan committing to scope and timing of the Corrective Action.
Objection to NCR and no Correction is proposed	N/A	N/A

- (f) The Quality Director shall change the status of the Nonconformity Report to ‘pending’ once a Correction, a Correction Completion Target Date and, if applicable, a Corrective Action, have been documented for the Nonconformity in accordance with Section 6.1(d) of this Schedule.
- (g) Project Co shall rectify each Nonconformity in accordance with the Correction and, if applicable, the Corrective Action described in the Nonconformity Report. If any Nonconformity arises in respect of a document or course of action that was previously

“accepted” pursuant the Consent Procedure or “received”, “received with comments” or deemed “received” pursuant to the Review Procedure, and rectification of the Nonconformity requires a change or amendment to such document or course of action, then Project Co shall re-submit the document or course of action to the Province’s Representative under the Review Procedure or the Consent Procedure (as applicable).

- (h) Once the Nonconformity has been corrected, it shall be subject to re-verification by the Quality Director to demonstrate conformity to the requirements. If the Quality Director verifies that the Nonconformity has been corrected, the Quality Director shall then change the Nonconformity Report status to “closed” and shall provide a copy of the Nonconformity Report to the Province within two Business Days thereafter.
- (i) Project Co may object to the issuance of any Nonconformity Report by the Province. If such objection has not been resolved by mutual agreement between the Province and Project Co within five Business Days of delivery by Project Co to the Province’s Representative of notice of the objection, then either Project Co or the Province may refer the matter to the Dispute Resolution Procedure for determination.
- (j) If Project Co fails to object to the Nonconformity Report issued by the Province within five Business Days of issuance, Project Co is deemed to have accepted that Nonconformity Report.

6.2 Nonconformity Report Tracking System

Project Co will implement and maintain a live, electronic, internet-based Nonconformity Tracking System to monitor the status of all Nonconformity Reports initiated by the Province and Project Co.

The Nonconformity Tracking System shall be fully operating, with the following minimum requirements, within 30 days from the Effective Date:

- (a) comprise a single repository containing both Project Co 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 Project Co and Province;
- (d) automatically apply NCE Points to each Nonconformity Event in accordance with Schedule 10 [Payment and Performance Mechanism];
- (e) allow for the application of additional NCE Points to individual Nonconformity Reports in accordance with Schedule 10 [Payment and Performance Mechanism]; and
- (f) 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 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 8.4 [Assignment of 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, Project Co 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 Project Co 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.

**APPENDIX A
QUALITY MANUAL**

1.0 QUALITY MANUAL

- 1.1 Project Co shall provide a comprehensive Quality Manual that describes the Quality Management System for all aspects of the Project Work including the Design and Construction phases of the Project, in accordance with the ISO 9001 Standard. The Quality Manual shall contain a description of the scope of the Quality Management System and shall establish the Quality Policy and Quality Objectives for all aspects of the Project Work and 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 with respect to all aspects of the Project Work, including the Design and Construction phases 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, actions to address risks and opportunities, management and control of records and documents, and general 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 Project Co's organization involved in performing the Project Work and how key management activities (such as project controls; Design; Construction; Traffic Management; communications, and environmental management) 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, including other relevant documentation such as any plan, procedure or like document detailed elsewhere in this Agreement, are linked together.
- 1.4 The Quality Manual shall clearly define the reporting function and authority of Project Co's Quality Director who shall liaise with the Province's Representative and act as the single representative of Project Co for all matters relating to quality management.

**APPENDIX B
DESIGN QUALITY MANAGEMENT PLAN**

1.0 DESIGN QUALITY MANAGEMENT PLAN

- 1.1 Project Co 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 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 relationship with the Quality Director for the overall Quality Management System as documented in the Quality Manual. It shall also contain a description of the:
- (a) responsibilities, qualifications, and authority of the above personnel, as well as Principal Contractors and Subcontractors; and
 - (b) the organizational interfaces, reporting and communication among the above personnel, and with other engineering groups, environmental management, and construction disciplines, Principal Contractors and Subcontractors, external stakeholders and others involved in the Project Work.
- 1.3 The Design Quality Management Plan shall, at a minimum, include or reference detailed quality management 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) compliance with the Design and Construction Certification Procedures;
 - (e) identification, evaluation, authorization, documentation and implementation of design changes;
 - (f) design Subcontractor quality assessment and procurement;
 - (g) field reviews;
 - (h) interface with Construction, including the development and review of inspection and test plans by the Designer prior to and during Construction, and ongoing designer review of records during Construction;
 - (i) External Quality Audits of design Subcontractor(s);
 - (j) Internal Quality Audits;

- (k) control of Nonconformities and/or product and re-submission of documents and courses of action under the Review Procedure and Consent Procedure in accordance with Section 6.1(g) of this Schedule;
- (l) Corrective Actions;
- (m) Opportunities for Improvement;
- (n) document management;
- (o) control of Records; and
- (p) management of equipment and human resources, including the assessment of competence and training needs.

The above procedures and flow charts shall document the practices, resources, and sequence of activities to be used to ensure that quality standards, materials, and processes are maintained and verified, including documentation of who does the work, what they do, and what evidence is generated that they have done the work correctly.

- 1.4 The Design Quality Management Plan shall include a sub-plan dedicated to Systems Work, which shall include as a minimum the information set out in Sections 1.2 and 1.3 of this Appendix.
- 1.5 When any of the above processes are addressed as part of other Quality Documentation, such as the Quality Manual or another Quality Management Plan, these processes shall still be provided with their own section heading in the Design Quality Management Plan, but the details of such processes in the applicable section of the Design Quality Management Plan may be limited to a reference to the section or paragraph of the other applicable Quality Documentation where the relevant details are provided, provided that such referenced section or paragraph of such other Quality Documentation includes specific requirements to the applicable process as it relates to design quality management. Notwithstanding the foregoing, processes that fall within the specific requirements for Design must include detailed quality system procedures and process flow charts under the Design Quality Management Plan.

**APPENDIX C
CONSTRUCTION QUALITY MANAGEMENT PLAN**

1.0 CONSTRUCTION QUALITY MANAGEMENT PLAN

- 1.1 Project Co 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 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 relationship with the Quality Director for the overall Quality Management System as documented in the Quality Manual. It shall also contain a description of the:
- (a) responsibilities, qualifications, and authority of the above personnel, as well as Principal Contractors and Subcontractors; and
 - (b) the organizational interfaces, reporting and communication among the above personnel, with design and other disciplines including communications, environmental management and Traffic Management, Principal Contractors and Subcontractors, external stakeholders and others involved in the Project Work.
- 1.3 The Construction Quality Management Plan shall, at a minimum, include or reference detailed quality management 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) management of equipment and human resources, including the assessment of competence and training needs;
 - (f) interface with design and other disciplines for work activities including the development and review of inspection and test plans prior to and during Construction, and coordination of field reviews during Construction;
 - (g) External Quality Audits of Principal Contractors and Subcontractors;
 - (h) Internal Quality Audits;
 - (i) control of nonconforming activities and/or products;
 - (j) Corrective Actions;
 - (k) Opportunities for Improvement;

- (l) document management;
- (m) control of Records; and
- (n) any other processes and procedures that are mandatory under the ISO 9001 Standard.

The above procedures and flow charts shall document the practices, resources, and sequence of activities to be used to ensure that quality standards, materials, and processes are maintained and verified, including documentation of who does the work, what they do, and what evidence is generated that they have done the work correctly.

- 1.4 The Construction Quality Management Plan shall include or reference an Inspection and Test Plan detailing all major inspection and test activities, on and off of the Project Site, for work performed by Project Co, and 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) calibration and certification program that describes the plan and standards applied to the calibration and certification all measuring equipment and tools to be used in the performance of the Project Work and the implementation of the Quality Management System;
 - (d) reference to standards, codes, specifications, and acceptance criteria;
 - (e) reports and checklists required;
 - (f) personnel responsible for inspection, test and monitoring activity;
 - (g) quality assurance review, witness and hold points; and
 - (h) description and frequency of geotechnical instrumentation monitoring and adherence to acceptance criteria.
- 1.5 The Construction Quality Management Plan shall also identify all major work activities requiring detailed Work Method Statements. Work Method Statements shall describe the processes and methodologies required to deliver the Project Work. Work Method Statements shall be developed and in place prior to the commencement of the relevant work activity.
- 1.6 The Construction Quality Management Plan shall include a sub-plan dedicated to Systems Work, which shall include as a minimum the information set out in Sections 1.2, 1.3, 1.4 and 1.5 (to the extent applicable to Systems Work) of this Appendix.
- 1.7 When any of the above processes are addressed as part of other Quality Documentation, such as the Quality Manual or another Quality Management Plan, these processes shall still be provided with their own section heading in the Construction Quality Management Plan, but the details of such processes in the applicable section of the Construction Quality Management Plan may be

limited to a reference to the section or paragraph of the other applicable Quality Documentation where the relevant details are provided, provided that such referenced section or paragraph of such other Quality Documentation includes specific requirements to the applicable process as it relates to construction quality management. Notwithstanding the foregoing, processes that fall within the specific requirements for Construction must include detailed quality system procedures and process flow charts under the Construction Quality Management Plan.

**APPENDIX D
TRAFFIC QUALITY MANAGEMENT PLAN**

1.0 TRAFFIC QUALITY MANAGEMENT PLAN

- 1.1 Project Co 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 Standard; integrate the quality management, quality control, and quality assurance processes provided in the Master Traffic Management Plan; administer the Quality Management System requirements stated in its Quality Manual and the provisions of this Agreement. The Traffic Quality Management Plan shall address all phases of the Project Work including Design and Construction.
- 1.2 The Traffic Quality Management Plan shall contain an organizational chart identifying key Traffic Management personnel and the relationship with the Quality Director for the overall Quality Management System as documented in the Quality Manual. It shall also contain a description of the responsibilities, qualifications, and authority of the above personnel and the organizational interfaces between Traffic Management and other disciplines such as Design, Construction, communications and environmental management.
- 1.3 The Traffic Quality Management Plan shall at a minimum, include or reference detailed quality management system procedures and process flow charts for the following processes:
- (a) satisfying and ensuring compliance with Project Co's Traffic Management obligations, including the preparation and implementation of the Master Traffic Management Plan and Sub-Plans;
 - (b) Traffic Control Plan design input and output review;
 - (c) Traffic Control Plan design verification to ensure that design input requirements have been met;
 - (d) Traffic Control Plan design validation to ensure that the final product is capable of meeting its intended use;
 - (e) Traffic Control Plan design changes;
 - (f) Principal Contractors' and Subcontractors' quality assessment and procurement;
 - (g) External Quality Audits of Principal Contractors and Subcontractors;
 - (h) Internal Quality Audits;
 - (i) control of nonconforming activities and/or product;
 - (j) Project Co's actions to rectify: (i) any nonconforming Traffic activities or nonconforming Traffic products; and (ii) any non-compliance with the Traffic Management Criteria, within the required response times provided in Table 4.8(g) of Schedule 7 [Quality Management];

- (k) Corrective Actions;
- (l) Opportunities for Improvement;
- (m) document management; and
- (n) control of 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.

- 1.4 When any of the above processes are addressed as part of other Quality Documentation, such as the Quality Manual or another Quality Management Plan, these processes shall still be provided with their own section heading in the Traffic Quality Management Plan, but the details of such processes in the applicable section of the Traffic Quality Management Plan may be limited to a reference to the section or paragraph of the other applicable Quality Documentation where the relevant details are provided, provided that such referenced section or paragraph of such other Quality Documentation includes specific requirements to the applicable process as it relates to traffic quality management. Notwithstanding the foregoing, 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.
- 1.5 The Traffic Management Auditing process and Site Condition Rating checklist as described in Section 4.8 [Traffic Management Auditing] of this Schedule shall be incorporated into the Traffic Quality Management Plan.

**APPENDIX E
ENVIRONMENTAL QUALITY MANAGEMENT PLAN**

1.0 ENVIRONMENTAL QUALITY MANAGEMENT PLAN

- 1.1 Project Co shall provide a comprehensive Environmental Quality Management Plan that describes how it intends to manage the environmental components of the Project in accordance with the ISO 14001 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 of the Project Work including Design and Construction.
- 1.2 The Environmental Quality Management Plan shall contain an organizational chart identifying key environmental management personnel and the relationship with the Quality Director for the overall Quality Management System as documented in the Quality Manual. It shall also contain a description of the responsibilities, qualifications, and authority of the above personnel and the organizational interfaces between the environmental management and other disciplines such as design and construction.
- 1.3 The Environmental Quality Management Plan shall include or reference detailed quality management system procedures and process flow charts for the following processes:
- (a) satisfying and ensuring compliance with Project Co'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 activities and/or products;
 - (h) Corrective Actions;
 - (i) Opportunities for Improvement;
 - (j) document management; and
 - (k) control of 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.

- 1.4 When any of the above processes are addressed as part of other Quality Documentation, such as the Quality Manual or another Quality Management Plan, these processes shall still be provided

with their own section heading in the Environmental Quality Management Plan, but the details of such processes in the applicable section of the Environmental Quality Management Plan may be limited to a reference to the section or paragraph of the other applicable Quality Documentation where the relevant details are provided, provided that such referenced section or paragraph of such other Quality Documentation includes specific requirements to the applicable process as it relates to environmental quality management. Notwithstanding the foregoing, processes that fall within the specific requirements of environmental management must include detailed quality system procedures and process flow charts under the Environmental Quality Management Plan.

- 1.5 The Environmental Quality Management Plan shall clearly demonstrate how verification of Project Co's compliance with Project Co's Environmental Obligations, including obtaining approvals from relevant Environmental Authorities, will be carried out.

**APPENDIX F
SITE CONDITION RATING CHECKLIST**

SITE CONDITION RATING

Category & Item		Site Condition Rating Points	Tally box	Total
Regulatory Signs (excluding parking Signs)	Sign missing	31		
	Incorrect Sign	31		
	Sign not located as per TCP	15		
	Sign in poor condition (faded/damaged)	5		
	Sign misaligned/not visible	31		
	Contradictory signs not covered/removed	31		
	Unapproved sign layout/material	15		
	Sign too low	15		
	Sign obscured	31		
	Sign obstructs Traffic	31		
Parking Signs	Sign missing	5		
	Incorrect Sign	5		
	Sign not located as per TCP	5		
	Sign in poor condition (faded/damaged)	5		
	Sign misaligned/not visible	5		
	Contradictory signs not covered/removed	5		
	Unapproved sign layout/material	5		
	Sign too low	5		
	Sign obscured	5		
	Sign obstructs Traffic	15		
Pavement Markings	missing Pavement Markings	15		
	incorrect Pavement Markings	15		
	Pavement Markings not located as per TCP	15		
	Pavement Markings in poor condition (faded)	5		
	Contradictory Pavement Markings not adequately eradicated	31		
Warning Signs	Sign missing	15		
	Incorrect Sign	5		
	Sign not located as per TCP	5		
	Sign in poor condition (faded/damaged)	5		
	Sign misaligned/not visible	5		
	Contradictory Signs not covered/removed	15		
	Unapproved Sign layout/material	5		
	Sign too low	5		
	Sign obscured	5		
	Sign obstructs Traffic	15		
	Flashing arrow board (FAB) missing/not functioning	31		
Flashing arrow board (FAB) not located as per TCP	15			

**BROADWAY SUBWAY PROJECT
PROJECT AGREEMENT
SCHEDULE 7 QUALITY MANAGEMENT**

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Category & Item		Site Condition Rating Points	Tally box	Total	
	Warning Signs not adequate	15			
Traffic Advisory Signs, PDMSs and Information Signs	Incorrect messaging	5			
	Sign not located as per TCP	5			
	Messaging not current/valid	5			
	Contradictory messaging	5			
	Sign obstructs Traffic	5			
Delineation Devices	Guidance	Device not provided as per TCP	5		
		Device in poor condition (damaged/faded)	5		
		Device misaligned or missing	5		
	Safety	Pedestrians	31		
		Workers	31		
		Cyclists	31		
Protective Works	Barriers/fencing not located as per TCP	31			
	Excavation not adequately protected	31			
	Workers not adequately protected	31			
	Barriers/fencing incorrectly located	31			
	Barriers installed with inadequate tapers	15			
	Barriers/fencing misaligned	15			
	Barriers/fencing damaged	15			
	Barriers have exposed ends facing Traffic	31			
Miscellaneous	Change to Illumination resulting in unsafe Traffic conditions or working conditions	15			
	Workers working in live lanes	31			
	PPE not worn by workers	31			
	PPE in poor condition	15			
	Construction equipment/materials obstruct Traffic, pedestrians or cyclists.	31			
Site Condition Rating POINT TOTAL					

Audit Result (Site Condition Rating) *Acceptable* (0-10) *Marginal* (11-20) *Needs Improvement* (21-30) *Unacceptable* (31+)

Actions taken

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APPENDIX G

**COMMUNICATIONS, COMMUNITY RELATIONS AND BUSINESS RELATIONS QUALITY
MANAGEMENT PLAN**

**1.0 COMMUNICATIONS, COMMUNITY RELATIONS AND BUSINESS RELATIONS QUALITY
MANAGEMENT PLAN**

- 1.1 Project Co shall provide a comprehensive Communications, Community Relations and Business Relations Management Plan that describes how it intends to manage communications, community relations and business relations activities of the Project in accordance with the ISO 9001 Standard, the Quality Management System requirements stated in its Quality Manual and the provisions of this Agreement. The Communications, Community Relations and Business Relations Quality Management Plan shall address all phases of the Project Work including Design, Construction and Communications, Community Relations and Business Relations Obligations.
- 1.2 The Communications, Community Relations and Business Relations Management Plan shall contain an organizational chart identifying key management personnel and the relationship with the Quality Director for the overall Quality Management System as documented in the Quality Manual. It shall also contain a description of the responsibilities, qualifications, and authority of the above personnel and the organizational interfaces between communications, community relations and business relations management and other disciplines such as design and construction.
- 1.3 The Communications, Community Relations and Business Relations Quality Management Plan shall include or reference detailed quality management system procedures and process flow charts for the following processes:
- (a) satisfying and ensuring compliance with Project Co's Communications, Community Relations and Business Relations Obligations, including the preparation and implementation of the Communications, Community Relations and Business Relations Plan including all sub-plans, as set out in Schedule 9 [Communications, Community Relations and Business Relations];
 - (b) External Quality Audits of Principal Contractors and Subcontractors;
 - (c) Internal Quality Audits;
 - (d) control of nonconforming activities and/or products;
 - (e) Corrective Actions;
 - (f) Opportunities for Improvement;
 - (g) document management; and
 - (h) control of 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.

- 1.4 When any of the above processes are addressed as part of other Quality Documentation, such as the Quality Manual or another Quality Management Plan, these processes shall still be provided with their own section heading in the Communications, Community Relations and Business Relations Quality Management Plan, but the details of such processes in the applicable section of the Communications, Community Relations and Business Relations Quality Management Plan may be limited to a reference to the section or paragraph of the other applicable Quality Documentation where the relevant details are provided, provided that such referenced section or paragraph of such other Quality Documentation includes specific requirements to the applicable process as it relates to communications, community relations and business relations quality management. Notwithstanding the foregoing, processes that fall within the specific requirements of communications, community relations and business relations must include detailed quality system procedures and process flow charts under the Communications, Community Relations and Business Relations Quality Management Plan.
- 1.5 The Communications, Community Relations and Business Relations Quality Management Plan shall clearly demonstrate how verification of Project Co's compliance with Project Co's Communications, Community Relations and Business Relations Obligations as set out in Schedule 9 [Communications, Community Relations and Business Relations] will be carried out.