

Rev.2 – Issued for tender - Revised (2015-10-06))

1 – Issued for tender (2015-05-20)

Prepared by: P. D. P.	Reviewed by: R. S.	Approved by: M.S.
-----------------------	--------------------	-------------------

1.0 Division 01 – General Requirements

- .1 Division 01 completes the standard PWGSC construction document ("**Standard Acquisition Clauses and Conditions**") for a general contract (lump sum contract).
- .2 The provisions of Division 01, as well as those of the documents mentioned above shall apply to all Divisions and Sections of the Contract, and to all parts of Work.
- .3 Unless otherwise indicated, the Contractor must comply with all requirements of said documents and must ensure that all his Subcontractors and Suppliers have read and understood these provisions and shall abide by them.
- .4 See also the corresponding Sections of the Contract Documents of **Structure, Mechanical and Electrical**, for other general requirements, if applicable.
- .5 See also **Section 01 35 13 – SCC Specific procedure to Project Safety Requirements** and **Section 01 35 14 – Additional Safety Requirements**. The prescriptions of these two Sections override requirements concerning similar issues described elsewhere in the present specification.

2.0 General

- .1 This project consists of all the work for reroofing of the Regional Reception Centre (RRC), on the site at Sainte-Anne-des-Plaines.
- .2 The work includes the materials, scaffolding, labour, tools, equipment, machinery, transport, temporary work and services and supervision required for the performance of the architectural, structural, mechanical and electrical work, including demolition work, all of which shall conform to the applicable conditions in the drawings, specifications and documents indicated in this project manual, including work which is implicitly required and necessary for the completion of the work.
- .3 Construction work includes the following, without being limited to:
 - .1 All related work in areas not included in this project but being affected because of it.
 - .2 Repairs made necessary because of demolition work or connections required.
- .4 The scope of work of each Section is given in the Section.
- .5 See the limits of the Work on the **drawings**.
- .6 Refer also to **Structure, Mechanical and Electrical**.

3.0 Definitions

- 1 The date of "Substantial Performance of the Work" referred to in the present project manual corresponds to the date of "Provisional Reception of the Work", and the "Notice of Substantial Performance" replaces the "Certificate of Provisional Reception".
 - .2 Wherever in the Contract Documents the words "review", "reviewed", "approval", "approved", "direction", "directed", "selection", "selected", "request", "requested", "report", and similar words are
-

used, such reviews, approvals, directions, selections, requests and reports shall be given by the Departmental Representative unless specifically stated otherwise.

- .3 Wherever in the Contract Documents it is specified that work is to proceed or to meet approval, direction, selection or request of jurisdictional authorities or others, such approval, direction, selection or request shall be in writing.
- .4 Wherever in the Contract Documents the words "provide", "apply" or "install", "build", "construct" or "construction" are used they shall include erection, building, selling out, alteration, repair or demolition of work or all work including supply and installation of goods with all labour, products, materials and services required.
- .5 When the expression "as shown", "as indicated" or "if otherwise indicated" are used, it shall mean "as shown on drawings, schedules or elsewhere in the specification".
- .6 When the word "Product" is used in this specification, it includes manufactured materials, assemblies or components, as well as apparatus and equipment to be integrated to the work.
- .7 When the expression "Acceptable product" is used in this specification, it shall mean "Product or material acceptable to the Departmental Representative", and does not exclude submitting comparable products according to the prescriptions of the present specification, therefore substitutions proposed by the bidder may be acceptable if accepted by addendum in accordance to the **Instructions to Bidders** – See also **Section 01 61 00**.
- .8 The expressions "plans" and "drawings" are used it should be understood that both words refers to drawings as listed under the list of drawings for this project.
- .9 Wherever the term "specification" is used it shall always refer to the present project manual.
- .10 Where the expression "Work" is used in this project, it includes the materials, scaffolding, labour, tools, equipment, transport and supervision required for the performance of the architectural, civil, structural, mechanical and electrical work, including demolition work, all of which shall conform to the drawings, specifications and documents indicated in this project manual, including work which is implicitly required and necessary for the completion of the work, as well as all related work in areas not included in this project but being affected because of it, and repairs and replacements made necessary because of demolition work, if applicable, or as required, by all disciplines, with materials identical to or compatible with the existing.
- .11 Wherever the expressions "Site" or "Place of work" are used in the Contract Documents, they designate the same notion.
- .12 When the words "build", "construct" or "construction" are used, they shall mean the erection, the fitting-up, the rebuilding, the reparation or the demolition of a work, or any work comprising supply and installation of goods, including labour, product, material and service required.

4.0 Drawings and Specifications

- .1 Divisions and Sections are numbered as per the CSI/DCC MasterFormat 04 or more recent issues and DDN in general.

- .2 Drawings and specifications are prepared to show graphically and textually the Departmental Representative's intentions as to the form, the arrangement and the materials and their assemblies, according to current construction methods.
- .3 The Contractor should have examined attentively all drawings and specifications in order to evaluate the scope of work. No extras will be allowed for omissions or oversights by him or his Subcontractors.
- .4 All drawings and specifications constitute one whole entity and are complementary, items shown or mentioned in one and not in the other are deemed to be included in the contract work. Specification Sections do not necessarily represent sub-trades or work to be performed by a Sub-contractor. However, unless otherwise indicated, information concerning a discipline must be first obtained from the documents of that discipline, and only in a complementary manner from those of other disciplines.
- .5 It is the Contractor's responsibility to ensure the viability and performance of all materials, assemblies, equipment or system for the usage for which they are intended, and he shall advise the Departmental Representative of any discrepancies or contradictions with respect to the drawings and specifications, including displacement of services or cumbersome elements as soon as he has known them, before the signing of the Contract.
- .6 The Contractor should evaluate the context of the work, as well as work executed by other Contractors, if any. The Contractor should include in his work the necessary coordination between various Contractors, in order to perform his work adequately. He should follow the approved work schedule.
- .7 In specifications, metric and imperial dimensions are given for convenience only. Dimensions given should be verified and coordinated with those on drawings as well as with actual industry practice, and any non concordance drawn to the Departmental Representative attention.
- .8 Notwithstanding the order of priority of documents, whenever there is a conflict between the Contract Documents, or between the prescriptions of the same documents (Division or Section, etc.), the more stringent conditions prevail, such as stricter obligation for the Contractor or a product of higher quality.

5.0 **Additional Documents**

- .1 The Departmental Representative may furnish additional documents for clarification. These additional documents have the same meaning and intent as if they were included with documents referred to in Contract documents.

6.0 **Work Performed Under Separate Contracts**

- .1 Work not to be included in the Contract is noted as "N.I.C.", "H.C" or "by the Departmental Representative" on the drawings or other tender documents.
 - .2 Co-operate with other Contractors (Security, Communications, others, if any) in carrying out their respective works and carry out instructions from Departmental Representative.
-

- .3 Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Departmental Representative, in writing, any defects which may interfere with proper execution of Work.
- .4 The Contractor is not disengaged of his responsibilities concerning work in his contract because of this.

7.0 Job Conditions

- .1 Start work on site only where all preparatory work is done, shop drawings and other documents or elements have been submitted and reviewed, fabrication has started, so as to minimize intervention time on site.
- .2 When safety measures have been reduced because of the work of this Contract, take all protective measures necessary to ensure the safety and the security of the users and the existing facilities.
- .3 Fully cooperate with the Departmental Representative and the occupants of the existing buildings to respect the Work Schedule and execute work adequately.
- .4 Coordinate the work with that of other Contractors on site if any.

8.0 Required Time-Limit for Execution of Work

- .1 The construction schedule will consist of 19 weeks maximum, after the end of the winter period. Work will only begin after the winter period which is between November 23, 2015 and March 11, 2016. Security checks and construction mobilization should be organized to occur before these dates, with the approval of the Departmental Representative. The Contractor shall submit a detailed work schedule in accordance with **Section 01 31 19**.

9.0 Work Schedule

- .1 Work shall be performed according to the following schedule, unless otherwise instructed by the Departmental Representative:
 - .1 **Bloc B: 6 a.m. to 6 p.m.**
The workers should arrive at 6 a.m. Starting at 7 a.m., priority of access through the main entrance will be given to the employees of the establishment, and workers or employees of the construction site should wait their turn.
 - .2 Coordinate with CSC and the Departmental Representative at least to execute outside normal working hours or during the weekend certain work generating noise, vibrations, odours, dust or other nuisances which may disturb his activities.
 - .3 **5 working days** before starting work, the Contractor shall notify the Owner of all products, materials or processes which he intends for use and which can emanate strong odours, toxic vapours or gases. When using such products, materials or processes, the Contractor shall provide adequate ventilation so as not to disturb the users of the building.
-

-
- .4 Notify the Departmental Representative and coordinate with him at least **3 working days** in advance before proceeding with demolition or execution of work, or shut-down of any building services which might affect the daily operation and safety of the users of the existing buildings. Do not proceed without having obtained the Departmental Representative's written permission. Take note of the following restraints: the antenna and the central camera of the USD Block may be disconnected for **2 days** for execution of work at their bases, the siren (alarm) on the roof must remain functional at all times.
 - .5 For interruption of services see also **Existing Services and Shut-Down of Services** in **Section 01 71 00**.
 - .6 In as much as possible, work to be carried out outside the Place of Work must be coordinated to be completed in the shortest time frame possible, within **2 working days**, by working, outside normal working hours or during the weekend, as required.
 - .7 If for any reason (meteorological conditions, strike, etc.) the work site should close, the Contractor needs to advise the CCS and the Departmental Representative.

10.0 Regulations for Work

- .1 Contractor and his staff shall follow site and building procedures and any other regulation as established by the Departmental Representative at the start of work or as described in the **Sections 01 35 13** and **01 35 14**.
 - .2 All members of the staff assigned on the present work as well as the visitors related to the project shall be submitted to security controls (checks by the Canadian Police Information centre - CPIC). the CPIC checks must be provided at least **5 jours** in advance, otherwise a Department of Intelligence and Security Agent (DRS) will be available to do checkings on the day of a non registered visit. The Contractor must submit to the authorities he list of names, addresses and birth dates of all persons implicated on the project (Contractor's, Sub-contractors', Suppliers' personnel, etc.) as well as those of their firms, before starting work. Obtain all required authorisations for all persons who have to come to Place of Work. Obtain prior authorisation from the Departmental Representative to allow access to any worker into the existing buildings.
 - .3 At the entrance every day each worker or visitor shall pass a body search, including with an explosives or narcotics trace detector (Ionscan).
 - .4 A form for security commitment shall be signed by the Contractor.
 - .5 Work permit:
 - .1 A work permit shall be issued by the Departmental Representative to the Contractor to execute work. The Contractor must ensure to obtain a permit before starting work. A new permit will be issued every day.
 - .2 A hot work permit is compulsory when welding, grinding or torch cutting are necessary. The Departmental Representative, before issuing a hot work permit, will visit the Place of Work to identify the obligations and precautions to take.
 - .3 A cold work permit is compulsory for all other work. Any electrical work requiring an interlock must be subjected to a lockout procedure.
 - .4 The work permit must be kept exposed to view until the end of the work.
-

-
- .5 At the end of the work or the day, the Contractor must ask the permit to be closed by the issuer, who must make sure the work is completed and the area of the work is clean.
 - .6 Contractor shall comply with all the directives by the security agents of the building, concerning security and site access.
 - .7 If need be, and according to the situation, the Departmental Representative might decide to carry out sporadic verifications and question the presence, for example, of a company whose name does not appear on the lists transmitted.
 - .8 Members of the staff assigned on the present work shall be escorted by a security agent at all times for work inside the existing buildings.
 - .9 Submit all escorting requests to the Departmental Representative at least **2 days** in advance. When this request is submitted in the prescribed time limit, the cost of the escort shall be paid by the Departmental Representative.
 - .10 All vehicles and persons having access to the Place of Work shall be subjected to searching at all times, at the discretion of the security agents.
 - .11 Neither the Contractor nor his staff shall use the cafeteria or the washrooms, unless specific authorization is granted by the Departmental Representative.
 - .12 No beverages or food shall be consumed on outside the zones permitted by the Departmental Representative.
 - .13 Smoking (tobacco, cigarettes and electronic cigarette) is strictly forbidden inside the building at all times. Smoking (tobacco, cigarettes and electronic cigarette) on the property of the CCS is strictly forbidden, except at the locations designated by the Departmental Representative.
 - .14 No alcoholic beverages or illegal substances shall be brought in or consumed on site and no one under the influence shall be allowed on the premises.
 - .15 No rubbish, bottles or paper bags shall be left in the area outside the building, around the site.
 - .16 Contractor is not allowed under any circumstances to use the building equipment, including the elevator, unless having the Departmental Representative's permission. In that case protect the walls of the elevator before usage.
 - .17 Contractor shall comply with any other internal regulations, as defined by the Owner before work begins.
 - .18 Any person found not complying with the above shall be asked to leave the site immediately. At the third infraction, he will not be allowed to return to the site.
 - .19 Workers shall be required to attend a security and safety procedures training course given by the Departmental Representative and must comply with the security and safety rules, if applicable.
-

11.0 Use of Cellular Phones

- .1 The use of cellular phones will be limited to certain sectors; the Contractor to coordinate with the Owner.

12.0 Photographs

- .1 No cameras will be allowed on site without the Departmental Representative's written consent.
- .2 Photos can be taken, if authorised, only for the Contractor's internal use, and will not be used for publication, marketing or any other purpose without the Departmental Representative's prior written consent.
- .3 It is forbidden to photograph the Departmental Representative's personnel or the users of the facilities.

13.0 Users' Occupancy of Premises

- .1 Existing installations shall remain in operation outside the Work area, the users will occupy premises during entire construction period for execution of normal operations.
- .2 Contractor shall organize his work to ensure the users' activities are not disturbed by vibrations, noise, odours, dust and service shutdowns. In that eventuality the Departmental Representative may require the interruption of work at any moment.
- .3 Collaborate with Departmental Representative in scheduling operations to minimize conflict and to facilitate occupants' use of premises.

14.0 Site Access and Use of Premises by Contractor

- .1 Access to the site for workers and materials and the use of premises by the Contractor shall be coordinated with the Departmental Representative.
 - .2 The Contractor must obtain the Departmental Representative's instructions for access, delivery and disposal of materials, storage, and any other use of site required.
 - .3 The Contractor must ensure that the spaces and the Place of Work is inaccessible to the Departmental Representative's employees at all times, and after working hours (it is a must, that the Place of Work be locked after every work period) unless otherwise permitted by the .
 - .4 Submit to the Departmental Representative's approval, before starting work, a document describing work and circulation procedures.
 - .5 Only those persons whose presence is necessary for the execution of the Work shall have the right to access the site.
 - .6 The Contractor, his employees and Subcontractors shall obtain Departmental Representative's authorization to have access to areas outside the Place of Work.
-

- .7 Do not allow materials or equipment to accumulate in such a way as to encumber the premises.
- .8 Keep all access routes without obstructions at all times. All temporary obstructions will be at the Departmental Representative's discretion and must be approved **5 working days** beforehand. Use adequate signage required for temporary obstructions; install this signage at least **2 working days** beforehand.
- .9 Repair, with materials identical to or compatible with the existing, any damages done to existing areas or surfaces at end of Work, putting them back to at least their original state, if not better, in which they were before the start of Work.

15.0 **Delivery of Materials and Removal of Waste**

- .1 All materials and equipment delivery, and all removal of waste must be executed as per Departmental Representative's instructions.
- .2 The Contractor may use the existing circulation areas to deliver material, and remove waste. He must protect these areas against damages and repair the eventual damages.
- .3 The Contractor must locate the waste containers according to the Departmental Representative's instructions.

16.0 **Salvage**

- .1 Unless otherwise specified, materials on the site at the time of signing of Contract shall remain property of the Departmental Representative.
- .2 Unless otherwise specified, salvaged materials resulting from demolition, and surplus materials and construction debris shall become the property of the Contractor, who must dispose of it away from site.
- .3 It is forbidden to sell on site salvaged material.
- .4 See also **Section 02 41 99**.
- .5 Check also **Mechanical** and **Electrical**, if applicable.

End of Section

1.0 **Related Requirements Specified Elsewhere**

- .1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by the Departmental Representative are specified under various Sections of his specification.
- .2 See also **Section 01 45 00** for the responsibilities of the Contractor with respect to the inspections and tests ordered by the Departmental Representative.

2.0 **Payment Procedure for Inspections and Testing**

- .1 Inspections and testing at the expense of the Contractor:
 - .1 Inspections and test required by laws, decrees, rules, regulations or public ordinances.
 - .2 Inspections and tests undertaken exclusively for the Contractor's own purposes.
 - .3 Testing, tuning, balancing and adjustment of delivery systems and mechanical, electrical and security networks and equipment - See **Mechanical** and **Electrical**.
 - .4 Tests performed in manufacturing plants and certificates of conformity.
 - .5 Tests already specified as required to be undertaken by the Contractor under the Departmental Representative's supervision.
 - .6 Additional tests as specified under **paragraph 2.4** below.
- .2 Inspections and tests at the expense of the Departmental Representative:
 - .1 Agree with the Departmental Representative for the quality and scope of inspections and tests he wants to have executed.
 - .2 The Departmental Representative shall be responsible to hire independent testing and inspection firms. Costs related to these services shall be paid by the Departmental Representative, unless otherwise indicated.
 - .3 The Departmental Representative may also hire an agency to perform thermographic measurements on the building envelope in order to determine any excessive heat loss resulting from air infiltration or exfiltration or from weaknesses in the insulation or vapour barrier installation.
 - .4 The Departmental Representative may also request additional testing, particularly with respect to the quality of finishing materials, waterproofing of joints and in general on any material, equipment or installation the conformity of which, to the Contract Documents, may be put to doubt during the construction period, at his convenience.
 - .5 If the testing and inspections reveal certain defects, non-conformities to the Contract Documents, the Contractor shall undertake the necessary measures to correct the defects and imperfections in accordance with the Contract Documents and shall assume all costs of additional tests, inspections and repairs which the Departmental Representative may require.
 - .6 If the Work in question is found to comply with the Contract Documents, the Departmental Representative will assume the costs of those additional tests and inspections, and the resulting repairs.

End of Section

1.0 **Administrative**

- .1 The Departmental Representative shall decide the frequency of the coordination meetings and site visits at the very first meeting.
- .2 The Departmental Representative will organize site meetings, will set the date and time. The Contractor must be present, as well as representatives of Subcontractors and Suppliers whose presence shall be required by the Contractor or the Departmental Representative. All others concerned will be notified and will be present if need be.
- .3 The Departmental Representative will preside at meetings.
- .4 Reports or minutes of the meetings will be prepared by the Departmental Representative and will be distributed (one copy to each) to the Contractor as well as all those concerned, if need be. The Contractor will take care to reproduce and distribute to his Subcontractors.
- .5 Provide physical space and make arrangements for meetings.
- .6 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

2.0 **Preconstruction meetings**

- .1 Within **15 days** after award of Contract, a first meeting of parties in contract will be organized to discuss and resolve administrative procedures and responsibilities.
 - .2 The Departmental Representative, the Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
 - .3 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
 - .4 Agenda to include:
 - .1 Appointment of official representative of participants in the Work and designation of communication channels.
 - .2 The general procedures for Work progress and the frequency of meetings, which will be established by the Departmental Representative.
 - .3 The trades specific preconstruction meetings (which trades or sub-contracts, at wich dates?.
 - .4 Schedule of Work: in accordance with **Section 01 32 16.07**.
 - .5 Schedule of submission of shop drawings, samples, colour chips. Submit submittals in accordance with **Section 01 33 00**.
 - .6 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with **Section 01 52 00**.
 - .7 Delivery schedule of specified equipment in accordance with **Section 01 32 16.07**.
 - .8 Site security in accordance with **Section 01 56 00**.
 - .9 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
 - .10 Owner provided products.
 - .11 Record drawings in accordance with **Section 01 78 00**.
-

- .12 Maintenance manuals in accordance with **Section 01 78 00**.
- .13 Take-over procedures, acceptance, warranties in accordance with **Section 01 77 00** and **Section 01 78 00**.
- .14 Monthly progress claims, administrative procedures, photographs, hold backs.
- .15 Appointment of inspection and testing agencies or firms.
- .16 Insurances, transcript of policies.
- .17 Any other pertinent topic.

- .5 Hold a trade specific preconstruction meeting **1 week** before beginning work to examine:
 - .1 Work requirements, including mock-up requirements;
 - .2 The state of the support(s);
 - .3 Suggested products, techniques, tools and methods for installation.
 - .4 Coordination with related work.
 - .5 Coordination with work to be executed by other trades.
 - .6 Installations instructions of the manufacturer.
 - .7 Protection measures for the workers against dust or other dangers during work.
 - .8 Terms of warranty or warranties.

1.4 Progress meetings

- .1 During course of Work and prior to project completion, schedule progress meetings as established at the first site meeting.

- .2 Contractor, major Subcontractors involved in Work as well as the Departmental Representative are to be in attendance.

- .3 Agenda to include the following:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.
 - .10 Maintenance of quality standards.
 - .11 Review proposed changes for affect on construction schedule and on completion date.
 - .12 Other business.

End of Section

1.0 Coordination

- .1 Ensure cooperation of Subcontractors and workers in laying out work. Maintain efficient and continuous supervision. Keep a superintendent in the affected areas at all times.
- .2 Ensure that Subcontractors receive relevant information on work in progress which may affect subsequent work, to facilitate mutual progress, and to avoid conflict between any parts of the Work.
- .3 Provide the proper environmental and surface conditions required for the execution of work, and coordinate the sequence of others' work required for completion of own work.
- .4 Ensure that setting drawings, templates, and all other information necessary for the location and installation of materials, boring, sleeves, inserts, anchors, accessories, fastenings, connections, and access panels are provided when work requires cooperative location and installation by other Sections, and that such information is provided to the applicable installer.
- .5 Deliver well in advance materials to be installed by others.
- .6 Coordinate the installation and fitting of sleeves, passages and accessories, and supply and installation of supports and posts.
- .7 Replace work installed which is unsatisfactory for subsequent work.
- .8 Contractor shall be held responsible for incorrect information, or that given too late, required by Subcontractors or other Contractors and bear expenses thus incurred.

2.0 Construction Progress Schedule (W.S.)

- .1 Definitions:
 - .1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.
 - .2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.
 - .3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.
 - .4 Construction work week: Monday to Friday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
 - .5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.
 - .6 Master plan: summary-level schedule that identifies major activities and key milestones.
 - .7 Milestone: significant event in project, usually completion of major deliverable.
 - .8 Project Schedule (W.S.): planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using

Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

- .9 Project planning, monitoring and control system: overall system operated by Departmental representative to enable monitoring of project work in relation to established milestones.

.2 Requirements:

- .1 Ensure Master Plan and Detail Schedules are practical and remain within specified contract duration.
- .2 Plan to complete Work in accordance with prescribed milestones and time frame.
- .3 Limit activity durations to maximum of approximately **10 working days**, to allow for progress reporting.
- .4 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

.3 Submittals:

- .1 Submit to Departmental representative, within **5 working days** of Award of Contract, Bar (GANTT Chart) as Master Plan for planning, monitoring and reporting of project progress. Submit **2 copies**.
- .2 The Department Representative will examine and return the Chart within **5 working days** after receipt.
- .3 Submit project schedule to Departmental Representative within **5 working days** of receipt of acceptance of Master Plan.
- .4 Submit the revised Project Schedule with each demand of payment or each time the Departmental Representative asks for it.
- .5 Distribute copies of the revised Schedule to the following parties:
 - .1 Site office.
 - .2 Sub-contractors.
 - .3 Interested instances.
- .6 Ask the recipients to signal to the Contractor, within **5 working days** after receipt of the revised Schedule, any problem in respecting the indicated calendar.

.4 Submittals schedule:

- .1 Include dates for submitting shop drawings, and other documents and elements.
- .2 Indicate dates for submittals, review time, resubmission time, float time, last date for meeting fabrication schedule.
- .3 Indicate the dates the Departmental Representative must return reviewed documents and elements submitted.

.5 Master plan:

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- .2 Departmental Representative will review and return revised schedules within **5 working days**.
- .3 Revise impractical schedule and resubmit within **5 working days**.
- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

-
- .6 Project schedule:
- .1 Develop detailed Project Schedule derived from Master Plan.
 - .2 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:
 - .1 Award.
 - .2 Shop drawings, samples and other submittals.
 - .3 Permits.
 - .4 Mobilization.
 - .5 Testing and inspection.
 - .6 Supplied equipment with long delivery schedules.
 - .7 Delivery dates of important equipment and materials,
 - .8 Approximate dates of forecasted shut-down of services.
 - .9 The date of Substantial Performance of the Work and relation the completion date stipulated in the Contract Documents.
- .7 Project schedule reporting:
- .1 Update Project Schedule on **bi-weekly** basis reflecting activity changes and completions, as well as activities in progress.
 - .2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts anticipated delays and impact with possible mitigation, dates for site meetings, meetings with Sub-contractors, site visits by the Departmental Representative, as well as all pertinent information.
- .8 Project meetings:
- .1 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage (including overtime work, work during the weekends and during construction vacation, etc.). Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.
 - .2 Weather related delays with their remedial measures will be discussed and negotiated.

End of Section

1.0 Documents and Elements to be Kept on Site

- .1 The Contractor shall maintain at job site, in good state, one copy of each of the following documents and make them available to the Department Representative and other authorized bodies:
 - .1 Building permit (posted)
 - .2 Contract and permit drawings and subsequent revisions
 - .3 Red line "as-built" drawings constantly up-dated
 - .4 Project manuals and subsequent revisions
 - .5 Addenda
 - .6 Standards referred to in the specification, if needed
 - .7 Shop drawings and other submittals reviewed and revised
 - .8 Reviewed samples
 - .9 The list of shop drawings and other submittals not yet reviewed
 - .10 Field test reports (Field reports)
 - .11 Field orders, Supplementary instructions
 - .12 Change orders, Change directives and other changes to the Contract
 - .13 Minutes of site and other job related meetings
 - .14 Work schedules updated and approved
 - .15 Health and safety plan and other documents related to safety
 - .16 Manufacturers' installation or application instructions
 - .17 Other documents required in the Project Manual.
 - .2 Maintain also at site a permanent written job progress record. Make the record available at all times, with copies provided when requested. Include in record the following daily information:
 - .1 Special conditions encountered on site.
 - .2 Commencement and completion dates of the work of each trade in each area of construction site.
 - .3 Attendance of Contractor's and Subcontractors' work forces on site and a record of the work performed.
 - .4 Visits to site by Departmental Representative, jurisdictional authorities, testing and inspection companies, Contractor, Subcontractors, and Suppliers.
 - .3 Documents and samples to include in the project record files:
 - .1 In addition to the documents mentioned in the Contract Documents, keep on site, for the Departmental Representatives use, a copy or a set of documents to be kept on site mentioned **above**.
 - .2 File the documents and the samples of the project in the field office, separate from the documents used for construction. Provide filing cabinets and racks and a secure storage place.
 - .3 Label the documents and classify according to the Section numbers appearing in the Table of contents of the Project Manual. Clearly inscribe "Project Record", in printed letters on each document.
 - .4 Keep the project file documents clean, dry and legible. Do not use them for execution of work.
 - .5 Keep record documents and samples available for inspection by the Departmental Representative .
-

- .4 Promptly provide to the Departmental Representative, at his request, a progress report of the work, giving the required information on the course of the work to date, the actual state and the anticipated progress.
- .5 The Contractor acknowledges that neither the record files mentioned above in **sub-paragraph .2** nor the fact that copies are requested or not by the Departmental Representative or supplied to him, nor the progress reports mentioned above in **sub-paragraph .4** modify in any way the obligations and responsibilities of the Contractor and the right to appeal of the Departmental Representative in terms of the Contract and the law.

2.0 Submittals

- .1 General:
 - .1 Submit as per prescriptions of the Annex at the end of this **Section** and the **technical Sections** of the present project manual, all documents and elements required, which must be coordinated and submitted by the Contractor to the Departmental Representative for review.
 - .2 Not later than **15 days** after award of contract, submit list of Subcontracts, and no later than **15 days** of that submittal, and according to an order predetermined with the Departmental Representative, submit the required documents and elements in a timely manner, to allow for review with no effect to the construction schedule. Failure to submit in ample time will not be considered sufficient reason for an extension of contract time and no claim for extension by reason for such default will be allowed. The Departmental Representative will examine the submittals in a delay predetermined with the Contractor.
 - .3 Coordinate submittals with the requirements of the work and with the contract documents. Separately submitted documents will not be reviewed unless all related documents are also submitted together.
 - .4 Submittals shall be in French.
 - .5 Submittals shall use same dimension units as the ones on the Departmental Representative's drawings. If the elements are not produced or manufactured in metric (SI) units or the characteristics are not given in metric (SI) units, converted values may be accepted.
 - .6 Review and coordinate submittals prior to submission to the Departmental Representative. This coordination shall ensure that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with the requirements of the work and the contract documents. Submittals not stamped, signed, dated and identified as to the specific project will be returned without being examined and shall be considered rejected.
 - .7 Fill the **Submittals Identification Sheet** in the Annex at the end of this **Section** with each submittal.
 - .8 Accompany submittals with a **duplicate** transmittal letter, and indicate:
 - .1 Date;
 - .2 Project title and number;
 - .3 Contractor's name and address, telephone number, fax number, Email, and as required those of Subcontractors, Suppliers and Manufacturers, if applicable, including the names of the contact persons;
 - .4 The nomenclature and the number of shop drawings, technical data sheets and product samples submitted;

- .5 Contractor's stamp, signature of Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents;
 - .6 Identification and quantity of each shop drawing, product data and sample submitted;
 - .7 Identification of the specification Section number and **product abbreviation** as listed in that Section, for work submitted;
 - .8 Any other Project information.
 - .9 Notify Departmental Representative in writing of any deviation to documents and samples submitted stating reason for deviation to contract documents.
 - .10 Contractor's responsibility for deviations in submittals from requirements of contract documents is not relieved by Departmental Representative' review of submittals, unless acceptance of specific deviations is provided in writing.
 - .11 Revise submittals as required by Departmental Representative to be consistent with contract documents and resubmit as directed, without any revision to contract price. If an increase is required due to other revisions, notify Departmental Representative in writing.
 - .12 Notify Departmental Representative, in writing, when resubmitting, of any revisions other than those requested by him.
 - .13 Keep one reviewed copy of each submittal on site.
 - .14 Submit all required coordination drawings for inter trade interface.
 - .15 The fact that the submitted documents and elements are examined by the Departmental representative does not relieve the Contractor of his responsibility to submit complete and exact pieces, in accordance with the Contract requirements.
 - .16 Work affected by the submittal shall not proceed until review of all submitted parts is completed.
 - .17 Keep a record of submittals indicating dates of submission, review, resubmission, etc. Update this record for each site meeting.
 - .18 Keep on site a copy of each submittal, reviewed and corrected, if need be.
 - .19 Unless otherwise indicated, submit the documents in electronic format.
- .2 Shop drawings (S.D.):
- .1 Submit shop drawings for all fabricated items or those built on site.
 - .2 The term "shop drawings" means drawings, diagrams, illustration, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
 - .3 Where required in the **technical Sections**, submit shop drawings bearing stamp and signature of a qualified professional engineer registered or licensed in the province.
 - .4 Ensure field measurements and related adjacent work are coordinated. Indicate these on shop drawings.
 - .5 Check all necessary dimensions of existing work.
 - .6 Indicate in shop drawings:
 - .1 Materials to use, dimensions, thicknesses, finishes and colours, as well as fabrication details.
 - .2 The layout or configuration, with dimensions, including those taken on site, and the tolerances and the clearances.
 - .3 Details of methods of construction and attachment or anchorage and related hardware, if any, and erection diagrams, connections, explanatory notes and other information necessary for completion of work.

- .4 Where articles or equipment attach or connect to other articles or equipment, or to mechanical and electrical services, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to drawings and specifications.
- .7 Where applicable, and if other submittals do not indicate, shop drawings shall show also:
 - .1 Capacity or power;
 - .2 Performance characteristics;
 - .3 Applicable standards;
 - .4 Service weights;
 - .5 Wiring diagrams;
 - .6 Single line and schematic diagrams;
 - .7 Information to verify that superimposed loads will not affect function, appearance, and safety of the work detailed, as well as of the interconnected work;
 - .8 Assumed design loadings, and dimensions and material specifications for load-bearing members;
 - .9 Dimensions and dimensioned locations of proposed chases, sleeves, cuts, and holes in structural members;
 - .10 Relationship with adjacent work.
- .8 Shop drawings review is for the sole purpose of ascertaining conformance with the general design concept. This review shall not imply approval of the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of construction and contract documents. Without restricting generalities of foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or the techniques of construction and installation and for coordination of the work of all trades.
- .9 Submit **1 reproducible copy** with an **electronic version** of each drawing, unless otherwise indicated. The original shall be returned to the Contractor with the Departmental Representative's comments; the Contractor shall be responsible for prints and distribution of copies.
- .10 Submit shop drawings folded into 215 mm x 280 mm (8½" x 11") size with title block appearing on outside face.
- .11 Shop drawings which require extensive revision will be returned for corrections and resubmission.
- .12 Shop drawings not requiring resubmission will be sent back with review comments only.
- .13 No new details or information may be added to the shop drawings after the last revision, without prior approval.
- .14 Perform work as indicated on shop drawings. If modifications are necessary because of fabrication procedures, revise and resubmit the shop drawings.
- .3 Technical data (T.D.):
 - .1 Submit technical data for all products specified, comprising manufacturers' technical literature, including catalogue cuts, brochures, documentation showing product characteristics, performance criteria compatibility constraints with other products and all other pertinent information.
 - .2 Delete information not applicable to project.
 - .3 Supplement standard information to provide details applicable to project.
 - .4 Cross-reference product data information to applicable portions of contract documents.

-
- .5 Include also the following information where applicable:
 - .1 Acoustical capacity of systems and apparatus;
 - .2 Performance curves, indicating points of functioning.
 - .4 Safety information (S.I.):
 - .1 Submit safety information on the hazardous materials specified in the project (WHMIS), as per requirements of Health Canada and Occupational Health and Safety requirements of Human Resources and Social Development Canada.
 - .2 The safety information must include rate of VOC emissions, percentage of toxic materials etc., as well as special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
 - .5 Certificates of conformity (C.C.):
 - .1 Submit certificates of conformity, printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material, attesting that product, system or material meets specification requirements, including performance or design criteria specified, and is compatible with the substrates and adjacent surfaces.
 - .2 Certificates must be dated after award of project contract complete with project name.
 - .3 See also **Section 01 45 00**.
 - .6 Test reports (T.R.):
 - .1 Submit test reports signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accordance with specified requirements.
 - .2 Testing must have been within **3 years** of date of contract award for project.
 - .3 See also **Section 01 45 00**.
 - .7 Field reports (F.R.):
 - .1 Submit manufacturer's field reports documentation of the testing and verification actions taken by manufacturer's representative on site to confirm compliance of products, materials and equipment or systems with manufacturer's standards or instructions and with the prescriptions of the present project manual.
 - .2 Where de stamp and signature of a qualified engineer is required for shop drawings, submit field report by the same engineer, confirming installation in compliance with shop drawings.
 - .3 See also **Section 01 45 00**.
 - .8 Manufacturer's instruction (M.I.):
 - .1 Submit manufacturers' pre-printed instructions for the installation of products, equipment and systems.
 - .2 See also **Section 01 61 00**.
 - .9 Operation and maintenance data (O.M.):
 - .1 Submit operation and maintenance data which will be integrated in the Operation and Maintenance Manual.
 - .2 See **Section 01 78 00**.
-

-
- .10 Product samples (P.S.):
- .1 Unless otherwise indicated, submit samples of all materials and equipment, and their accessories, such as fasteners, trims, etc., indicating quality, finishes and colours, as well as workmanship as specified, with an identification label of 100 mm x 125 mm (4" x 5").
 - .2 Submit samples in **duplicate** of adequate size to represent the material in its intended use on Project. Submit full range of samples when the degree of texture, pattern or colour cannot be represented by a single sample.
 - .3 Present samples of small elements, such as hardware or finishes on rigid boards and include samples of joints in finishes.
 - .4 When samples are oversize, require assembly, or require evaluation at the site, they may be delivered to the site, but only with approval and as directed by the Departmental Representative.
 - .5 If sample is rejected, both samples will be returned. If sample is acceptable, one sample will be returned, marked "Reviewed without comment".
 - .6 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of work, state such in writing to Departmental Representative] prior to proceeding with work.
 - .7 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
 - .8 Should any change of material, colour, texture, finish, dimensions, performance, function, operation, construction, joining, fastening, fabrication techniques, service characteristics, and other qualities be made to a product after a sample has been accepted, request review of the revised characteristics in writing and resubmit samples of the product for approval if required.
 - .9 Accepted samples shall serve as a benchmark for workmanship and quality of material against which the products incorporated in the work shall be judged.
- .11 Mock-ups (M.U.):
- .1 See **Section 01 45 00**.
- .12 Scheduling documents and elements (W.S.):
- .1 See **Section 01 32 16.07**.
- .13 Drawings for coordination (D.C.):
- .1 Prepare coordination drawings to indicate methods of installation of a system in relation with other systems installed in the same area. Ensure that all details of equipment, apparatus, and connections are coordinated.
 - .2 Submit coordination drawings well in advance of fabrication and installation of work affected.
- .14 Standard warranties (S.W.) and extended warranties (E.W.):
- .1 Submit a standard warranty and an extended warranty for supply and installation, as indicated in the **technical Sections** of this specification.
 - .2 The extended warranty shall prolong the standard one year period, starting at the date of Substantial Performance of the Work.
 - .3 Do the required repairs5 replace the defective parts or systems during the prescribed warranty period.
-

-
- .4 Unless otherwise indicated, submit the extended warranty on a standard form of warranty acceptable to the Departmental Representative, such as given in Annex at the end of this **Section**
 - .5 Submit all other extended warranties offered without charge by the manufacturers.
 - .6 See also **Section 01 78 00**.
 - .15 Other documents submittals (O.D.):
 - .1 Supply copies of Contracts signed with the Subcontractors, as well as purchase orders to the Suppliers for equipment and materials.
 - .2 Submit proof of purchase as required by the Departmental Representative.
 - .3 Immediately after award of Contract, submit the documents required by the Commission de la santé et la sécurité au travail (CSST) – See also **Section 01 35 29.06**.
 - .4 The Contractor must prove in writing that the Contractor and the Subcontractors have complied to the CSST requirements.
 - .5 Immediately after award of Contract, submit copies of the insurance policies.
 - .6 Before award of Contract, Contractor must present a detailed cost breakdown, together with the global Contract Price, according to the instructions of the Departmental Representative. Once approved by the latter, this cost breakdown will be used to calculate payments.
 - .7 When required by the Departmental Representative, submit survey drawings, indicating the relative position of various equipment and networks.
 - .8 Agree with Departmental Representative for photographic documentation concerning format, quality, quantity and frequency of photos.
 - .9 See other Sections of **Division 01** and the **technical Sections** for other documents and elements to submit during and at the end of Work.

3.0 **Annex (following pages)**

- Sample form for warranty
 - Submittals identification sheet
 - Submittal list - Architecture
-

SAMPLE FORM FOR WARRANTY

Section(s) specification:

(number and title)

Date:

Departmental Representative:

General Contractor:

Subcontractor:

The present warranty enters in force at the date of Substantial Completion of the Work and is valid for year(s) starting on said date.

This warranty covers all defects of materials and workmanship and of all other aspects concerning the work described in the Section(s) indicated.

This warranty does not apply to damages caused by vandalism, abuse or abnormal usage of the products installed and covered by this warranty.

Excluding an emergency, the Owner shall notify the undersigned as soon as possible in writing about any defect and shall agree on a reasonable delay to execute the repairs during normal working hours.

The suppliers are *(add as many names as necessary)*:

Items:

Name:

Address:

Contact person:

Telephone:

Items:

Name:

Address:

Contact person:

Telephone:

Restrictions: this warranty does not cover the following items:

.....

.....

.....

No other engagement, condition, responsibility, not expressly mentioned herein, can be considered, supposed or implied.

Name of company:

Signature:

Name of the signatory:

Telephone:

Seal:

(Please add the required number of pages or any other necessary precision)

SUBMITTALS IDENTIFICATION SHEET

PROJECT:	DEPT. REP.:	
	DEPT. REP.:	
	O/REF.: PHASE:	
GENERAL CONTRACTOR:		
Project Manager:		
Telephone:		
Fax:		
SUBCONTRACTOR:	DISCIPLINE:	
Address:		
Person responsible:		
Telephone: () Fax: ()		
SUPPLIER:	RECEPTION AND COMMENTS:	
Address:		
Person responsible:		
Telephone: () Fax: ()		
DESCRIPTION OF SUBMITTAL:		
Reference to drawings:		
Reference to specs:		
Division: _____		Section: _____
Article: _____		Page: _____
Product abbreviation: _____		
REMARKS:		
N° OF DRAWING:	Date: Rev.:	

PWGSC – PROJECT : R.051242.017

Roof Repairs – Lot 2 – Bloc B

(CCS) RRC - Sainte-Anne-des-Plaines Institution (Québec)

SUBMITTAL PROCEDURES /
DOCUMENTS TO BE KEPT ON SITE**Section 01 33 00 – Page 11**

LEGEND		
S.D. Shop drawings T.D. Technical data S.I. Safety information C.C. Certificates of conformity T.R. Test reports F.R. Field reports M.I. Manufacturer's instructions O.D. Operation and maintenance data P.S. Product samples outils spéciaux, pièces de rechange	E.M. Extra materials, special tools and spare parts E.S. Erosion and sedimentation control plan P.Q. Proof of qualification M.U. Mock-up W.R. Waste reduction plan C.D. Confirmation of demonstration G. Standard warranties (S.W.) and extended warranties (E.W.) (years of substantial completion) A.B.* "As-Built" drawings	D.C.* Drawings for coordination W.S.* Work schedule O.S.* Other submittals O.M.* Operation and maintenance manual PCK Package (Contract): .1 Envelope .2 Interior work .3 Site work * General documents - See Sections 01 33 00 and 01 78 00
<u>NOTES:</u> .1 Submit documents and elements indicated below as per prescriptions of Sections of Division 01, specially 01 33 00, 01 35 29.06, 01 35 43, 01 45 00, 01 74 21 and 01 78 00. .2 See also the Technical Sections of the specification. .3 See also Divisions 03 and 05 (Structure), Mechanical and Electrical for other requirements.		

Section	Titre de la Section	S.D.	T.D.	S.I.	C.C.	T.R.	F.R.	M.I.	O.M.	P.S.	E.M.	P.Q.	M.U.	W.R.	C.D.	G.	PCK	NOTES
02 41 99	Selective building demolition													•				
05 05 00	Basic metal mat. & finishes																	
05 50 00	Metal work	•	•							•		•				1		
07 52 00	Membrane roofing	•	•	•	•	•	•	•	•	•		•	•			5/ 10		
09 91 00	Painting	•	•	•			•	•	•	•	•	•	•			1		

End of Section

1.0 Reference

- .1 Security requirements defined in this document refer to the Standing Orders of the Institution which apply to the type of work to be executed. In the event of an inconsistency between this document and the Standing Orders, the latter shall prevail.
- .2 Guidelines: Rules and regulations of the Correctional System and Conditional Release.

2.0 Purpose

- .1 Clarify regulations applicable to Contractors, their employees and their sub-trades who will be working at the Institution and identify security measures that apply to the construction, renovation, maintenance and repair work to the institution.

3.0 Definitions

- .1 **"Commercial vehicle"**: Means any motor vehicle which is used for delivery of materials, equipment and tools for construction, renovation, maintenance and repair.
- .2 **"Prohibited items"**:
 - .1 Intoxicants.
 - .2 Weapons, spare weapons, ammunition and any object designed to kill or injure or modified or assembled for this purpose.
 - .3 Explosives or bombs, or parts of explosives or bombs.
 - .4 All unauthorized objects and objects likely to endanger the safety of a person or of the penitentiary.
- .3 **"Penitentiary"**: Institution managed on a permanent or temporary basis by Correctional Service of Canada (CSC), for lodging and / or custody of prisoners. The boundaries of a penitentiary are defined by the property line of the land on which it is located.
- .4 **"Intoxicating substance"**: Any substance which, when introduced into the body of any person, can affect the behaviour, judgment, sense of reality or ability to meet the ordinary demands of daily life of that person excluding caffeine and nicotine and any medication authorized by an officer or by an accredited health professional.
- .5 **"Visitor"**: Any person other than an inmate or an officer of CSC.

4.0 Role and responsibilities

- .1 Working hours of the site must be approved by the Director of the Institution. Although, as required, the working hours may change, due to reasons of security of exceptional nature.
 - .2 The Director associated to the Institution manages regulations and safety requirements applicable to all Contractors, their employees and their sub-trades. The execution of the work by the Contractor shall not impair the operations of the Institution or put safety at risk.
-

- .3 The Director shall ensure that the Contractor, his employees and sub-trades will be given every reasonable freedom of action necessary for a timely and effective execution of the work entrusted to them.
- .4 The Correctional Operations Coordinator is responsible for the enforcement and implementation of appropriate security measures. The Coordinator will be assisted by all the Heads of departments implicated on the project.
- .5 The Correctional Operations Coordinator shall inform the Contractor of security requirements outlined in the current Standing Order.
- .6 The Correctional Operations Manager must attend all site meetings, to be informed and his staff so that he may properly control security on the work site. During these meetings, the Correctional Operations Manager must ensure that the CSC instructions for the safe execution of the contract are understood and correctly applied by everyone. All information for the execution of a construction project and all communications, as well as instructions for the project to be carried out safely must be issued either by the Facility Manager or the Correctional Operations Manager, as required.
- .7 Any supervisor or staff member of the Institution to which Management has entrusted the control of the activities of the Contractor in a specific sector is also responsible for circulation of employees and sub-trades made between the job site sector and any other sector of the Institution.
- .8 Immediately following the awarding of the construction contract, the CSC Project Manager must arrange a meeting between representatives of the Institution and the Contractor so they can finalize the implementation of the various elements necessary for the proper execution of the work.
- .9 At this meeting, the Contractor shall identify the person who will represent him on the site. The Contractor's Representative must ensure that every employee and sub-trade entering the Institution be properly informed and identified.
- .10 The Contractor shall inform all staff of the security requirements applicable to the Institution and must ensure that a copy of said requirements be constantly displayed prominently on the site.
- .11 During the tender period, the Contractor will be invited to visit the work site to verify all existing conditions in order to better understand the magnitude and complexity of the work to be executed.

5.0 Control of contraband - General

- .1 The Contractor must ensure that all those who work for him, directly or indirectly on the site, have an understanding of the definition of prohibited items as outlined in the current Standing Order and articles: 45, 59, 60, 61 of the Rules and Regulations of the Correctional System and Conditional Release, which reads as follows:

OFFENSES PUNISHABLE BY SUMMARY PROCEEDINGS

Article 45:

Commits an offense punishable by summary proceedings, whoever:

- a) is in possession of a prohibited item beyond the check point of the penitentiary;
- b) is in possession of a prohibited item within the check point of the penitentiary;
- c) delivers prohibited items to an inmate or receives it;
- d) without prior authorization, delivers jewellery to an inmate or receives it;
- e) is in a penitentiary without authorization.

VISITOR'S BODY SEARCH

Article 59:

In cases prescribed by law and justified by reasons of security, an Officer of the Institution, without due cause or suspicion may proceed to a discreet body search or pat-down of the visitors.

Article 60:

- (1) An Officer of the Institution, who has reasonable grounds to suspect that a visitor is in possession of a prohibited item or evidence relating to the perpetration of an offense referred to in Article 45 may subject said visitor to a pat-down search.
- (2) After giving the visitor under suspicion the option to immediately leave the penitentiary, the Officer may submit any visitor of same sex to a strip search if the following conditions apply:
 - a. The Officer has reasonable grounds to suspect that the visitor is in possession of a prohibited object or evidence related to the perpetration of an offense referred to in Article 45 and is of the opinion that the strip search is necessary to find the prohibited item;
 - b. The Officer must convince the Director of the Penitentiary of a possible threat with reasonable motives to proceed with a strip search.
- (3) When an Officer has reasonable grounds to believe that a visitor is in possession of a prohibited item or evidence related to the perpetration of an offense under Article 45 and that a strip search is necessary to find the prohibited item:
 - a. The Officer may detain the visitor to either obtain permission from the Director of the Penitentiary to conduct the strip search, or resort to the intervention of police services;
 - b. Once the Officer has convinced the Director of the Penitentiary of the possible threat with reasonable motives and of the need for a strip search, only then the Director may authorize a same sex officer to strip search the visitor.
- (4) The visitor who is detained has the right to know as soon as possible the reasons for his detention and prior to the search, to have the possibility without delay to obtain the assistance of a lawyer and to be informed of his legal rights.

VEHICLE SEARCH

ARTICLE 61:

- (1) In prescribed circumstances by law and justified by reasons of safety, the officer, without precise suspicion and in accordance with regulatory procedures, may conduct a search of vehicles that are at the penitentiary.
 - (2) The officer who has reasonable grounds to believe that prohibited items may be in a vehicle at the penitentiary, in circumstances which would constitute an offense under Article 45, may, with the approval of the Director, search the vehicle.
 - (3) In the case referred to in paragraph (2), the officer may, without authorization, search the vehicle if he has reasonable grounds to believe that the delay to obtain approval would endanger the life or safety of any person or cause the loss or destruction of the prohibited items.
- .2 It is forbidden to consume and possess an alcoholic beverage and / or a narcotic within the boundaries of the property of the Institution. The discovery of an alcoholic beverage or narcotic on the site must be reported immediately to the Director of the Institution which will oversee the identification of the offender(s). Anyone associated with the project and who seems intoxicated or under the influence of a drug or a narcotic or whose behavior seems abnormal, may be subject to have the permission to enter the site and the Institution be revoked or refused.
- .3 Any weapon must not be allowed on the property of CSC without permission.
- .4 It is prohibited at all times to take a photograph without permission within the CSC property. The Director of the Institution may authorize a person to take a photo or photos under certain conditions, if he deems it justified.
- .5 Ropes and flammable materials should be stored in a room locked up and out of reach of inmates and this at any time. When these items need to be used, they must be under constant surveillance by escorts (agents) mandated by CSC.
- .6 Ladders and scaffolding must be stored in a space and in a manner as designated at the beginning of the contract by the Coordinator of the Correctional Operations for the Institution.

6.0 Access to the institution

- .1 When circulating on the CSC property and if they are not accompanied by an escort designated by the Facility Manager or the Correctional Operations Manager, a Correctional Officer may ask the Contractors, their employees and sub-trades to identify themselves at various checkpoints (ex.: motorized patrol, main entrance, etc.). The presence of their vehicle may be registered.
 - .2 The Facilities Manager and / or Manager of Correctional Operations must approve any movement of an employee or sub-trade of the Contractor outside the limits of construction defined below. The employee or sub-trade shall be escorted and may be subjected to a body search and an inspection search of his tools. This person and everything he carries will then be verified with a metal detector and X-Ray scanner. Other techniques for drug detecting may also be used. In exceptional circumstances, verification by pat-down or a strip search may be required by the Director of the Institution. Once such a
-

movement is agreed with the Correctional Operations Coordinator, the authorized persons must proceed to present themselves at the guard house of the Institution. The authorized persons will be given appropriate instructions by the staff at the guard house.

- .3 For the purposes of this project, as defined in the tender documents, the Contractor may access the work site by using the main entrance (service entrance) consisting of two fenced-in barriers with two gates, forming the security perimeter. CSC will assign an Attendant who will be responsible for the identification and control of persons and vehicles entering or leaving the site. These gates are used to access an area inside the security perimeter and enclosed by existing fencing. The construction zone, applicable to the current project, is defined by the two security perimeter fences and the outer wall of the existing buildings.
- .4 Any vehicle entering or leaving the interior of the confines of the Institution will be searched. The search will apply to the driver and the vehicle content.
- .5 Access to the site and the Institution will be refused or permission withdrawn for any person refusing to submit themselves to a search.
- .6 Any anomalies detected will be immediately communicated to the Supervisor of Correctional Operations, who will forward the information to the Unit Manager.
- .7 The Associate Director of the Institution may refuse permission to access the CSC property. He will refuse access when the presence of one or more persons within the boundaries of the property CSC represents a security risk to the Institution.
- .8 In exceptional circumstances or because of activities in the sector concerned, for reasons of security, the Associate Director on the day shift, and the Agent in Charge of the Institution on the evening or night shift, can deny the Contractor, his employees and sub-trades, access to certain areas of the construction site.

7.0 Hiring restrictions

- .1 Without specific prior authorization, it is forbidden for a Contractor working on the CSC property, to hire an ex-convict in the context of this work.

8.0 Parking (and restrictions for vehicles)

- .1 The Correctional Operations Coordinator, shall determine the location or locations to be used by the construction workers for the parking of construction vehicles on the work site. Employees and sub-trades of the Contractor must park their private vehicle in the parking lot intended for visitors and located at the front of the Institution.
 - .2 The windows of all parked vehicles must be closed, their doors and their trunks must be locked and all keys must be removed from vehicles. The CSC reserves the right to inspect at any time any vehicle located on the grounds of the Institution.
 - .3 When entering or leaving the Institution, it is forbidden to give a ride in a vehicle to anyone who is waiting on any of the access roads near the Institution.
-

- .4 Work trailers or mobile workshops parked on the CSC property must be locked at all times. The CSC reserves the right to inspect at any time.

9.0 **Security check and identification card**

- .1 The Contractor must submit to the Correctional Operations Coordinator, a list of people who will be working on the job site, and the information necessary for a security check and a legal background check of their employees, at least **five (5) days** prior to arrival on site.
 - .2 The Preventive Security Officer of the Institution is responsible to carry out a security check for each person who requires access to the CSC property.
 - .3 When the security check is complete, the name of the person verified is added to a computer list, a copy of which can be found at the main entrance of the Institution.
 - .4 The Correctional Officer II, stationed at the main entrance, must verify if each person requesting access to the site is properly identified on the computer list.
 - .5 In the event that a person requires access to the site while his name does not appear on this list, the case will be immediately submitted to the Preventive Security Officer, and that person must remain at the main entrance, pending a decision of his request for access to the work site.
 - .6 Any person whose name appears on the list shall, at his first visit, be escorted to the office of the Preventive Security Officer to be photographed and issued an identity card.
 - .7 An identity card will not be produced for a person making a short visit to the site (less than a day). In these cases, the Preventive Security Officer will notify, in writing, the Correctional Officer II of the main entrance, indicating the duration of the intended stay.
 - .8 A copy of each issued identification card will be permanently displayed at the main entrance or at the security gate as required, except in specific cases where security officials of the Institution consider this display not to be necessary.
 - .9 The issue and control of identity cards for employees of construction are carried out under the responsibility of the Correctional Operations Coordinator. The Preventive Security Officer of the Institution shall maintain a record containing the following information for each of the cards issued: the date of issue, name of the card holder and the company he represents, the date of the cancellation of the card and its destruction, and any other relevant details if applicable, including lost cards, replacements with dates, the construction project number.
 - .10 Correctional Operations Coordinator may request to take close-up photographs of each contractual worker and that these photographs be displayed within the Institution for identification purposes.
 - .11 The Institution is responsible for taking photographs required for the production of identification cards. A sticker will be attached on the back of the identification card to be used for additional information. This information must be provided while the authorization is being issued by the Preventive Security Officer.
-

- .12 When an employee has completed construction work and will not return to the Institution, the Department Head responsible must inform the Preventive Security Officer so that the identification card can be retrieved, cancelled and the updated information be recorded on the registry.
- .13 Within the Institution, the Contractor, his employees and sub-trades must wear their identification card visible at chest level. All the identification cards are the property of CSC, and should never leave the Institution. They allow for proper identification of individuals. The identification cards will be handed out upon arrival of each individual and retrieved upon departure each day. Anyone requesting admission to the Institution must identify themselves with a driver's license or other official photo identification card.
- .14 An identification card which has been lost or damaged must be reported without delay to the Preventive Security Officer who issued it.

10.0 Controlling objects which may compromise security in the institutions

- .1 The Contractor shall submit a detailed list of all tools and all equipment to the Correctional Operations Coordinator, who is responsible for monitoring and updating this list. A copy of this list must be displayed at all times inside the tool trunk or container used for this purpose. The officer in charge of the searches will use this list to audit tools whenever a tool box enters or leaves the Institution or when deemed necessary. Any deviation from this procedure must be approved by the Correctional Operation Coordinator.
- .2 While the tools remain on site, these searches should be made:
 - .1 At the beginning and end of each project;
 - .2 Each week when the duration of the work is more than a week.
- .3 All tools and equipment must be constantly monitored, with particular attention to files, saw blades, steel wires, ropes and ladders.
- .4 All tools and equipment must be stored in locations provided for this purpose and according to the instructions given by officials responsible of the Institution.
- .5 All toolboxes or trunks when not in use will be closed and locked. Any loss of tools or equipment must be reported immediately to the Correctional Operations Supervisor.

11.0 Controlling building security hardware and keys

- .1 In the event that it is necessary, depending on the nature and / or duration of the work, the Institution may supply certain keys to the Contractor. As soon as the Security Maintenance Officer has entrusted the keys to the Contractor he must:
 - .1 Provide to the Security Maintenance Officer a receipt which will indicate the code for each key;
 - .2 Provide a copy of this receipt to the Correctional Officer who is the work site safety supervisor;
 - .3 Obtain and install a lockable metal cabinet, with a sufficient number of hooks to hang all the keys (one per hook);

-
- .4 Appoint an employee of the Contractor, named the Key Master who will be responsible for borrowing and returning the keys, during the extent of the work;
 - .5 Provide appropriate instructions to his employees and sub-trades to ensure proper and safe custody of the keys for the duration of the work.
- .2 The Contractor shall:
- .1 Issue instructions to his employees and his sub-trades indicating that each of the keys must be returned to the Key Master at the end of each working day or as soon as the keys are no longer necessary to perform the work underway.
 - .2 Produce and maintain a registry identifying:
 - .1 The date and time of each borrowed key;
 - .2 The code number of the borrowed key;
 - .3 The name of the borrower;
 - .4 The name of the employer of the borrower;
 - .5 The date and the time the borrowed key was returned and validated each time with a signature from the Key Master;
 - .6 Confirmation, validated by the signature of the Security Guard Officer on site confirming that all keys have been returned to the Key Master at the end of each work day.
 - .3 Submit a written report to the Security Maintenance Officer of the Institution, regarding any key which is lost, damaged, misused or mishandled, by identifying the key in question, with the key code number. The Contractor shall provide a copy of the report to the CSC Officer on the work site.
- .3 Upon receipt of the report required under subparagraph .3 above and taking into account the information contained in this report, the Correctional Operations Coordinator, must decide whether the key in question be replaced with a new key of the same type under a different code number, and if applicable must take action to do so.

12.0 Rules of conduct to respect

- .1 The Contractor, his employees and sub-trades shall:
 - .1 Avoid inmates trying to involve them in their lives or personal problems;
 - .2 Limit their activities to the authorized program;
 - .3 Follow the instructions of the Liaison Officer (Agent) or any Correctional Officer assigned to monitor the site and/or related activities;
 - .4 Refuse to transmit, to any person other than an employee of the Institution, an object or message, written or oral, by an inmate;
 - .5 Refrain from disclosing any personal information (phone number, street address, email address, etc.) to an inmate;
 - .6 At the request of a Correctional Officer, stop all activity and comply with the instructions that he will issue.
-

- .2 Anyone who does not comply with these rules of conduct, will have his permission to access the site or CSC property refused or withdrawn and will be immediately expelled.

13.0 Occupancy of premises

- .1 The Contractor shall use only the minimum space required and assigned for the execution of work and storage of materials and equipment necessary to perform the work.
- .2 The Contractor must agree in advance with the Departmental Representative and CSC Project Manager regarding the designated available space.

14.0 Access and escort

- .1 The Contractor, his employees and sub-trades must always present themselves at the Institution with an official identification card with photograph (ex.: Driver's license).
- .2 The Contractor, his employees and sub-trades must be escorted at all times by a Correctional Officer or (Agent), when they work in the presence or in proximity of an inmate.

15.0 Delivery and access to the work site

- .1 The Contractor shall:
 - .1 Have all the materials and equipment for the project be delivered addressed to the Contractor's name, so that they can be distinguished from deliveries to the Institution. Each related delivery slip should indicate the title of the contract, the name of the Contractor and the building destination of the shipment.
 - .2 Verify with the Correctional Operations Coordinator of the Institution the hours permitted for entering and leaving of vehicles to cross the double fences of the Institution. The Institution does not allow Contractor's vehicles, employees or sub-trades of the Contractor to access the work site outside normal working hours or on weekends, except in cases where the Contractor has obtained prior authorization from the Correctional Operations Coordinator.
 - .3 Give notice at least **24 hours** in advance to the Departmental Representative, when overtime work is necessary. The Head of Works and Maintenance Services will then obtain the required permission from the Correctional Operations Coordinator, so that the necessary resources will be allocated to the safe supervision of the proposed work and related activities.
- .2 No private vehicles are allowed inside the double fences forming the security perimeter of the Institution, unless special permission is granted by the Correctional Operations Coordinator. Trucks delivering materials, equipment and tools have access to the site only when their content is deemed necessary for the execution of the work.

16.0 Maintaining services and clean up

- .1 The Contractor shall:
 - .1 Give notice at least **48 hours** advance to the Departmental Representative for any interruption of existing services (water, electricity, heating, etc.). The Departmental

Representative will inform all concerned officials so that appropriate measures are taken to ensure that the operations of the Institution remain safe despite the interruption of services.

- .2 Take all necessary precautions to ensure that the duration of the interruption is kept to a strict minimum.

- .2 The Contractor shall:

- .1 Remove from site any debris or residue;
- .2 Perform a site inspection to ensure that no tool or item is left on the job site.

End of Section

1.0 Guidelines

- .1 The location of the construction trailer will be determined at the first site meeting.
- .2 Employees and sub-trades of the Contractor are not allowed to use the facilities of the Correctional Service of Canada (CSC) for meals. They will dine on the work site or outside the CSC property.
- .3 Employees and sub trades of the Contractor are not permitted to use the sanitary facilities of the CSC. The Contractor shall provide a construction toilet on the work site.
- .4 Smoking (tobacco, cigarettes and electronic cigarette) is strictly forbidden inside the building at all times. Smoking (tobacco, cigarettes and electronic cigarette) on the property of the CCS is strictly forbidden, except at the locations designated by the Departmental Representative.
- .5 The scaffolding will be dismantled and stored daily. Impact tools using cartridges are not accepted. However, pneumatic percussion tools are allowed.
- .6 The Contractor may use the following services:
 - .1 Electricity: 110 volts, 220 volts and 550 volts. However, all the necessary connections must be made by the Contractor at his own expense;
 - .2 Water and Storage: Details to be finalized during the bidders' visit on site;
 - .3 Telephone: the Contractor, its employees and sub trades shall only have use of a phone that the Contractor may install in the construction trailer at his own expense.
 - .4 Cell Phone: Prohibited for all.
- .7 For details on operations of the Institution, the Contractor shall contact the Departmental Representative, details of which will be provided after awarding the contract.
- .8 A security guard (Agent) will be hired and paid by the Institution so that he may assist the Institution staff to supervise work related to construction activities.
- .9 For operations, contact the Departmental Representative.

End of Section

1.0 General

- .1 Contractor shall manage his operations so that safety and security of the public and of site workers, the users/occupants of the existing installations as well as the protection of the environment always take precedence over cost and scheduling considerations.
- .2 The Contractor commits himself to act as the Maître d'oeuvre as defined by the *Act respecting occupational health and safety* (R.S.Q., c.S-2.1) and the *Safety Code for the construction industry* (S-2.1, r.6).
- .3 The Contractor must comply with all the requirements concerning occupational health and safety, and construction safety on work site as prescribed by the standards, codes, by-laws and other documents listed hereunder in **References**, latest edition in force, in case of discrepancies the more stringent requirements being applicable.
- .4 The Contractor shall be asked by the Departmental Representative to fill on a regular basis a special form concerning inspection of health and safety protection aspects, as well as requirements concerning the protection of the environment, based on the prescriptions of this project manual and the requirements of codes, standards, laws and by-laws in effect.
- .5 See also **Sections 01 35 43** and **01 52 00**.

2.0 References

- .1 CAN/CSA-B149.2 – Propane Storage and Handling Code.
 - .2 CAN/CSA-Z259.1 – Body Belts and Saddles for Positioning and Travel.
 - .3 CAN/CSA-Z259.10 – Full Body Harnesses.
 - .4 CSA Z462 – Workplace Electrical Safety.
 - .5 "Recommended Work Practices for A/C Pipe" of ACPPA.
 - .6 WHMIS (SIMDUT) Requirements.
 - .7 Other requirements of Health Canada.
 - .8 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
 - .9 Other requirements of Labour Canada.
 - .10 National Building Code, 2005.
 - .11 Quebec Construction Code, Chapter 1, Building, 2008, including the National Building Code of 2005 (modified).
 - .12 Provincial safety requirements (Ministère du Travail du Québec, CSST, etc.) including Safety Code for the construction industry, S-2.1, r.6 (2008).
 - .13 Act Respecting Occupational Health and Safety, R.S.Q. Chapter S-2.1 (2011).
 - .14 Regulation respecting occupational health and safety, Q.R.R. S-2.1, R.19.01.
 - .15 Act respecting industrial accidents and occupational diseases, L.R.Q. of Quebec.
 - .16 Regulation respecting industrial and commercial establishments, S-2.1, r-9, (Quebec).
 - .17 Standards of the Fire Commissioner of Canada, CI 301 (Standard for Construction Operations, June 1982), CI 302 (Standard for Welding and Cutting, June 1982), among others.
 - .18 National Fire Code of Canada 2005 (NFC).
 - .19 National Fire Protection Association (NFPA).
 - .20 Underwriter's Laboratories (UL).
 - .21 Underwriter's Laboratories of Canada (ULC).
-

- .22 Occupational Safety and Health Act (OSHA).
- .23 Quebec Code of Electricians.
- .24 CSA C22-1 – Canadian Electrical Code.
- .25 NFPA 70 – National Electrical Code.
- .26 EPA 832R92005 – Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.
- .27 Municipal safety requirements.

3.0 Submittals

- .1 Submittals to be in accordance with **Section 01 33 00**.
- .2 Submit to Departmental Representative, the CSST and the Association paritaire en santé et sécurité du secteur de la construction (ASP Construction)] the site-specific safety program, as outlined in the article **Safety and Health Management** below at least **10 days** prior to start of work. The Contractor must review his program during the course of the project if any change occurs in work methods or site conditions. The Departmental Representative may, after receiving the program or at any time during the project, ask the Contractor to update or modify the program in order to better reflect the reality of the construction site and activities. The Contractor must make the required changes before work begins.
- .3 Submit to Departmental Representative the site inspection sheet, duly completed, at the intervals indicated in **Inspection of Site and Correction of Hazardous Situations** article below, first paragraph.
- .4 Submit to Departmental Representative within **24 hours** a copy of any inspection report, correction notice or recommendation issued by federal or provincial inspectors.
- .5 Submit to Departmental Representative within **24 hours** an investigation report for any accident involving injury and any incident exposing a potential hazard.
- .6 Submit to Departmental Representative all safety data sheets for hazardous material to be used at the site at least three days before they are to be used.
- .7 Submit to Departmental Representative copies of all training certificates required for application of the safety program, in particular:
 - .1 General construction site safety and health courses;
 - .2 Safety officer attestations;
 - .3 First aid in the workplace and cardiopulmonary resuscitation;
 - .4 Work likely to release asbestos dust;
 - .5 Work in confined spaces;
 - .6 Lockout procedures;
 - .7 Wearing and fitting of individual protective gear;
 - .8 Forklift truck;
 - .9 Positioning platform;
 - .10 Any other requirement of Regulations or the safety program.

- .8 Medical examinations: wherever legislation, regulations, directives, specification or a safety program require medical examinations, Contractor must:
 - .1 Prior to start-up, submit to Departmental Representative certificates of medical examination for all concerned supervisory staff and employees who will be on duty when the site opens.
 - .2 Thereafter, submit without delay certificates of medical examination for any newly hired concerned personnel as and when they start work at the site.
- .9 Emergency plan: the emergency plan, as defined in **Safety and Health Management** article below, third paragraph, shall be submitted to Departmental Representative at the same time as the site-specific safety program.
- .10 Notice of site opening: notice of site opening shall be submitted to the Commission de la santé et de la sécurité du travail before work begins. A copy of such notice shall be submitted to Departmental Representative at the same time and another posted in full view at the site. During demobilization, a notice of site closing shall be submitted to the CSST, with copy to Departmental Representative.
- .11 Work permit: the Contractor must pay for and obtain all required municipal, provincial and federal permits, in compliance with the Contract Documents. A copy of the requests for the permits and of the permits must be sent to the Departmental Representative.
- .12 Plans and certificates of compliance: submit to the CSST and to Departmental Representative a copy signed and sealed by engineer of all plans and certificates of compliance required pursuant to the *Construction Safety Code* (S-2.1, r. 6), or by any other legislation or regulation or by any other clause in the specifications or in this contract. Copies of these documents must be on hand at the site at all times.
- .13 Certificate of compliance delivered by the CSST: The certificate of compliance is a document delivered by the CSST confirming that the contractor is in rule with the CSST, i.e. that he had pay out all the benefits concerning this contract. This document must be delivered to Departmental Representative at the end of the work.

4.0 Hazards Assessment

- .1 The Contractor must identify all hazards inherent in each task to be carried out at the site.
 - .2 The Contractor must plan and organize work so as to eliminate hazards at source or promote mutual protection so that reliance on individual protective gear can be kept to a minimum. Where individual protection against falling is required, workers shall use safety harness that meets standard CAN/CSA- Z-259.10. Safety belts shall not be used as protection against falling.
 - .3 Equipment, tools and protective gear which cannot be installed, fitted or used without compromising the health or safety of workers, the public, and the users/occupants of the site shall be deemed inadequate for the work to be executed.
 - .4 All mechanical equipment shall be inspected before delivery to the site. Before using any
-

mechanical equipment, submit to Departmental Representative a certificate of compliance signed by a qualified mechanic. Whenever he suspects a defect or accident risk, Departmental Representative may at any time order the immediate shut-down of equipment and require a new inspection by a specialist of his own choosing.

- .5 For use of equipment for lifting persons or materials, ensure that the inspections required by the standards are met and be able to provide a copy of certificates of inspection upon request of the Departmental Representative.

5.0 Meetings

- .1 Set up a site safety committee, and convene meetings in accordance with the *Construction Safety Code (S-2.1, r.6)*, in the presence of the Departmental Representative, the principal Subcontractors, and a decisional representative of the Contractor; the latter must attend all meetings where the health and safety issues are discussed.
- .2 Keep minutes of these meetings and distribute to all present and to all concerned.

6.0 Legal and Regulatory Requirements

- .1 Comply with all legislation, regulations and standards applicable to the site and its related activities.
- .2 Comply with specified standards and regulations to ensure safe operations at site containing hazardous or toxic materials.
- .3 Regardless of the publication date shown in the construction safety code, always use the most recent version.

7.0 Site Specific Conditions

- .1 At the site, the contractor must take account of the following specific conditions:
 - .1 Demolition work].
 - .2 Waste evacuation.
 - .3 Power activated devices.
 - .4 Torching of membranes.
 - .5 Work in height.
 - .6 Hot work.
 - .7 Lifting material
 - .8 Welding and cutting.

8.0 Safety and Health Management

- .1 Acknowledge and assume all the tasks and obligations which customarily devolve upon a principal Contractor under the terms of the *Act Respecting Occupational Health and Safety (R.S.Q., chapter S-2.1)* and the *Construction Safety Code (S-2.1, r.6)*.
 - .2 Develop a site-specific safety program based on the hazards identified and apply it from the start of project work until close-out is completed. The safety program must take account of all information
-

appearing in article **Site Specific Conditions** above, and must be submitted to all parties concerned, in accordance with the provisions set forth in article **Submittals** above. At a minimum, the site-specific safety program must include :

- .1 Company safety and health policy.
 - .2 A description of the work, total costs, schedule and projected workforce curve.
 - .3 Flow chart of safety and health responsibility.
 - .4 The physical and material layout of the site.
 - .5 First-aid and first-line treatment standards.
 - .6 Identification of site-specific hazards.
 - .7 Risk assessment for the tasks to be carried out, including preventive measures and the procedures for applying them.
 - .8 Training requirements.
 - .9 Procedures in case of accident/injury
 - .10 Written commitment from all parties to comply with the prevention program.
 - .11 A site inspection schedule based on the preventive measures.
- .3 The contractor must draw up an effective emergency plan based on the characteristics and constraints of the site and its surroundings. Submit the emergency plan to all parties concerned, pursuant to the provisions of the article **Submittals** above. The emergency plan must include:
- .1 Evacuation procedure;
 - .2 Identification of resources (police, firefighters, ambulance services, etc.);
 - .3 Identification of persons in charge at the site;
 - .4 Identification of those with first-aid training;
 - .5 Training required for those responsible for applying the plan;
 - .6 Any other information needed, in the light of the site characteristics.
- .4 The plan and program mentioned in the preceding paragraphs must take into account the internal procedures of the Training Centre, a copy of which shall be transmitted to the Contractor before the start of work.

9.0 Responsibilities

- .1 No matter the size of the construction site or how many workers are present at the workplace, designate a competent person to supervise and take responsibility for health and safety. Take all necessary measures to ensure the health and safety of persons and property at or in the immediate vicinity of the site and likely to be affected by any of the work.
- .2 Take all necessary measures to ensure application of and compliance with the safety and health requirements of the contract documents, applicable federal and provincial regulations and standards as well as the site-specific safety program, complying without delay with any order or correction notice issued by the Commission de la santé et de la sécurité du travail.
- .3 Take all necessary measures to keep the site clean and in good order throughout the course of the work

10.0 Communication and Posting

- .1 Make all necessary arrangements to ensure effective communication of safety and health

information at the site. As they arrive on site, all workers must be informed of their rights and obligations pertaining to the site specific safety program. The Contractor must insist on their right to refuse to perform work which they feel may threaten their own health, safety or physical integrity or that of other persons at the site. The Contractor must keep and update a written record of all information transmitted with signatures of all affected workers.

- .2 The following information and documents must be posted in a location readily accessible to all workers:
 - .1 Notice of site opening;
 - .2 Identification of principal Contractor;
 - .3 Company OSH policy;
 - .4 Site-specific safety program;
 - .5 Emergency plan;
 - .6 Data sheets for all hazardous material used at the site;
 - .7 Minutes of site committee meetings;
 - .8 Names of site committee representatives;
 - .9 Names of those with first-aid training;
 - .10 Action reports and correction notices issued by the CSST.

11.0 Unforeseen Circumstances

- .1 Whenever a source of danger not defined in the specifications or identified in the preliminary site inspection, including an accidental spill of contaminating products arises as a result of or in the course of the work, immediately suspend work, take appropriate temporary measures to protect the workers and the public and notify Departmental Representative, both verbally and in writing. Then the Contractor must modify or update the site specific safety program in order to resume work in safe conditions.

12.0 Health/Safety/Hygiene/Environmental Specialists

- .1 As soon as work starts, hire 2 **safety officers**, pursuant to the provisions of sections 2.5.3 and 2.5.4 of the *Construction Safety Code* (S-2.1, r. 6) and give him/her/them the necessary authority to carry out the duties of this position, including authority to stop work on safety and health grounds.
- .2 As of start of work, hire a qualified person whose duties will be to ensure compliance with and application of all legislation, regulations and standards and all contractual requirements pertaining to [specify area of expertise].
- .3 Provide this person with the authority, resources and tools needed for performance of his/her duties.
- .4 The person selected shall meet requirements of the following:
 - .1 CSST.
 - .2 PWGSC
 - .3 Any other organization concerned.
- .5 The person selected shall:

- .1 Have in-depth knowledge of legislation and regulations applicable to the site pertaining to (specify area of expertise).
- .2 Develop and disseminate a safety orientation program for all site workers.
- .3 Ensure that no worker is admitted to the site without having taken the safety orientation program and met all the training requirements of the applicable legislation and the site-specific safety program.
- .4 Inspect the work and ensure compliance with all regulatory requirements and those of the contract documents or the site-specific safety program.
- .5 Keep a daily log of actions taken and submitting a copy to Departmental Representative each week.

13.0 Inspection of Site and Correction of Hazardous Situations

- .1 Inspect the work site and complete the site inspection sheet at least once a week.
- .2 Immediately take all necessary measures to correct any lapses from legislative or regulatory requirements and any hazards identified by a government inspector, by the Departmental Representative, by the site safety and health coordinator or during routine inspections.
- .3 Submit to Departmental Representative written confirmation of all measures taken to correct lapses and hazardous situations.
- .4 Give the safety officer or, where there is no safety officer, the person assigned to safety and health responsibilities, full authority to order interruption and resuming of work as and when deemed necessary or desirable in the interests of safety and health. This person should always act so that the safety and health of the public and site workers and environmental protection take precedence over cost and scheduling considerations.
- .5 Without limiting the scope of the articles **Safety and Health Management** and **Responsibilities** above, Departmental Representative may order cessation of work if, in his/her view, there is any hazard or threat to the safety or health of site personnel or the public or to the environment.

14.0 Power Activated Devices

- .1 Use of power hammers and other explosive-actuated devices must be authorized by Departmental Representative.
- .2 Any person using a power hammer shall hold a training certificate and meet all requirements of Section 7 of the *Construction Safety Code (S-2.1, r. 6)*.
- .3 Any other explosive-actuated device shall be used in accordance with the manufacturer's directions and applicable standards and regulations

15.0 Hot Work - PWGSC

- .1 Hot work means any work where a flame is used or a source of ignition may be produced, i.e., riveting, welding, cutting, grinding, burning and heating.
-

-
- .2 Before the beginning of work, the Contractor must have received the "Hot Work Permit" of PWGSC (ELF 102) completed by the Departmental Representative when the duties to be undertaken involve hot work.
 - .3 Work on construction sites must be carried out in compliance with Fire Commissioner of Canada Standard CI 301, Standard for Construction Operations, June 1982. This standard is available at the following website:
 - .4 A working portable fire extinguisher suitable to the fire risk shall be available and easily accessible within a 5 m radius from any flame, spark source or intense heat.
 - .5 An individual shall be appointed to go on rounds (fire) for a period of 30 minutes after the end of the shift. This individual shall countersign the permit and give it to the person in charge of the work site (or the individual he/she appoints) after the 30 minutes period.
 - .6 The storage of propane cylinders shall comply with the CAN/CSA-B149.2-F00 Propane Storage and Handling Code and meet the specific conditions outlined in this document. The cylinders shall be stored outdoors, in a safe place, away from any unauthorized handling, in a storage cabinet specially designed for this purpose. The cylinders shall be securely kept upright and locked at all times in a place where no vehicles are allowed, unless the cylinders are protected by bars or the equivalent.
 - .7 All of the cylinders used or stored on the work site shall be equipped with a collar designed to protect the valve.
 - .8 Filling the cylinders on the work site is forbidden, unless a procedure compliant with the CAN/CSA B149.2 standard is approved and authorized by the Engineer.

16.0 Welding and Cutting

- .1 For welding and cutting activities, make sure that that the following conditions are met moreover that the ones mentioned above.
 - .2 The works must be carried out in accordance with the articles "3.13 Compressed gas supply" and "3.14 Welding and cutting" of the *Safety Code for the construction industry*, S-2.1, r. 6.
 - .3 Work on construction sites must be carried out in compliance with Fire Commissioner of Canada Standard CI 302, Standard for Welding and Cutting, June 1982.
 - .4 The welding and cutting devices are excessively dangerous with regard to the fire risk on the building work place. The following precautions must be taken at the time of this type of work:
 - .1 Store all compressed gas cylinder on a fireproof fabrics and make sure that the room is well ventilated.
 - .2 Store all oxygen cylinders more than 6 metres from a flammable gas cylinder (ex: acetylene) or a combustible such as oil or grease, unless the oxygen cylinder is separated from it by a wall made of non-combustible material as mentioned in the article 3.13.4 of the *Safety Code for the construction industry*, S-2.1, r. 6.
 - .3 Set up fireproof fabrics when work of welding is done in superposition and that there is risk
-

- of spark fall.
- .4 Store the bottles far from all heat sources.
- .5 Not to store the bottles close to the staircases, exits, corridors and elevators.
- .6 Not to put acetylene in contact with metals with metals such as silver, mercury, copper and alloys of brass having more than copper 65%, to avoid the risk of an explosive reaction.
- .7 Check that welding equipments with electric arc has the necessary tension and are grounded.
- .8 Ensure that the conducting wire of the electric welding equipment are not damaged.
- .9 Place the welding equipment on a flat ground away from the bad weather.
- .10 Move away or protect the combustible materials which can be near the welding equipment.
- .11 Prohibition to weld or cut any closed container.
- .12 Envisage protection measures when welding or cutting is carried out near drains, tanks or other containers containing inflammable materials.
- .13 Do not perform any cutting, welding or work with naked flame on a container, a tank, a pipe or other container containing a flammable or explosive substance unless:
 - .1 Air Samples indicating that work can be made without danger has been taken; or
 - .2 Provisions to ensure the safety of the workers has been done.

17.0 Lockout

- .1 For every work on energized equipment or equipment that may be started accidentally, the Contractor shall draw up and implement a lockout procedure and complete the Request for Electrical Isolation Form provided by the Manager in Charge of Worksite.
- .2 Although the hereunder list is not exhaustive, here are some examples for which the use of the form is obligatory:
 - .1 Main building power feeders
 - .2 Feeder supply panels and sub-panels
 - .3 Bus ducts
 - .4 Motor control centres
 - .5 Emergency power circuits
 - .6 Fire alarm and fire protection equipment
 - .7 Mechanical protective equipment
 - .8 Alarm circuit for building services, including all heating, ventilating and air conditioning equipment
 - .9 Circuits supplying more than one (1) piece of equipment
 - .10 Circuits affecting one (1) single piece of equipment used in a cooling or heating system.
- .3 Notwithstanding the previous paragraphs, the Contractor shall, in emergency situation, receive an oral guarantee of isolation of the Manager in Charge of Worksite and immediately countersign the request of electrical isolation.
- .4 The procedure requested at **paragraph 1** must comply with the principles listed in the "*Le cadenassage*" pamphlet published by the "*Association paritaire pour la santé et la sécurité du travail secteur construction*" (ASP Construction).
- .5 Supervisors and all workers concerned must have followed ASP Construction's "*Les techniques de cadenassage*" course (514 355-6190 or 1 800 361-2061) or an equivalent course given by another

firm.

- .6 Identify every work that must absolutely be done on live equipment and establish the safety measures that will be applied, including the personal protective equipment.

18.0 Special Requirements - Scaffolding

.1 Foundation:

- .1 Scaffolding shall be installed on a solid foundation so that it does not slip or rock.
- .2 Contractors wishing to install scaffolding on a roof, overhang, canopy or awning shall submit their calculations and loads to the Departmental Representative and shall obtain permission from the Departmental Representative before beginning installation.

.2 Assembly, bracing and mooring:

- .1 All scaffolding shall be assembled, braced and moored in accordance with the manufacturer's instructions and the provisions of the *Safety Code for the construction industry*.
- .2 Where a situation requires the removal of part of the scaffolding (e.g., crosspieces), the Contractor shall submit an assembly procedure signed and sealed by an engineer certifying that the scaffolding assembled in that manner will allow the work to be done safely given the loads to which it will be subject.
- .3 For scaffolding where the span between two supports is greater than 3 m, the Contractor shall provide an assembly plan signed and sealed by an engineer.

.3 Protection against falls during assembly:

- .1 Workers working above the ground shall be protected against falls at all times during assembly.
- .2 Before the work begins, the Contractor shall submit to the Departmental Representative a procedure stating the protective measures used and, if applicable, identifying the anchor points for the safety cables or moorings. This procedure shall be in accordance with sections 3.9.4.5, 2.9.1 and 2.10.12 of the *Safety Code for the construction industry*.

.4 Platforms:

- .1 Scaffolding platforms shall be designed and installed in accordance with the provisions of the *Safety Code for the construction industry*.
- .2 If planks are used, they shall be approved and stamped in accordance with section 3.9.8 of the *Safety Code for the construction industry*.
- .3 The platforms shall cover the entire surface protected by the guardrails.
- .4 The above notwithstanding, scaffolding 4 sections (or 6 metres) high or higher shall have a full platform covering the entire surface of the putlogs every 3 m or fraction thereof, and the components of that platform shall not be moved at any time to create an intermediate landing.

.5 Guardrails:

- .1 A guardrail shall be installed on every landing.
- .2 Cross braces shall not be considered guardrails.
- .3 Where scaffolding 4 sections (or 6 metres) high or higher requiring full platforms is used, guardrails shall be installed on each landing at the start of work and shall remain in place

until the work is completed.

- .6 Access:
 - .1 The Contractor shall ensure that access to the scaffolding does not compromise worker safety.
 - .2 Where the platforms of the scaffolding are comprised of planks, ladders shall be installed in such a way that planks extending beyond the platform do not block the way up or down.
 - .3 Notwithstanding the provisions of the *Safety Code for the construction industry*, stairs shall be installed on all scaffolding that has 6 or more rows of uprights or is 6 sections (or 9 metres) high or higher.
- .7 Protection of the public and occupants:
 - .1 The Contractor shall identify the boundaries of and barricade the work area so as to limit access to authorized workers only.
 - .2 The Contractor shall install covered walkways, nets or other similar devices to protect the public or the occupants against falling objects.
- .8 Use of public thoroughfares:
 - .1 Where it is necessary to encroach on a public thoroughfare, the Contractor shall obtain at the Contractor's expense any authorizations and permits required by the competent authority.
 - .2 The Contractor shall install at the Contractor's expense any signage, barricades or other devices needed to ensure the safety and security of the public and the Contractor's own facilities.

19.0 Lifting Material

- .1 Lifting devices shall be positioned in such a way that loads are not carried over workers, occupants or the public.
 - .2 The Contractor must transmit to Departmental Representative a work procedure, signed and sealed by an engineer, including inter alia the position of the crane, a sketch of the trajectory of the transported loads, the length of the mast and a plan of lifting for the handling of loads above occupied buildings. Engineer can, if judge necessary, impose work of evening and weekend.
 - .3 All mobile cranes manufactured after January 1st 1980 must be equipped with a safety device against overload.
 - .4 All mobile cranes with cables manufactured after January 1st 1970, except if they are used for other end than lifting loads, must be provided with a safety device against two-blocking. Regarding mobile cranes with cables manufactured before January 1st 1970, they will have to be equipped with the device at the latest on December 31st 2006.
 - .5 The Contractor shall provide the Departmental Representative with a mechanical service inspection certificate for each lifting device. Inspections must be carried out just prior to the delivery of the equipment to the work site.
 - .6 For all winch installations, the Contractor shall provide the Departmental Representative with the
-

installation method recommended by the manufacturer. If unavailable, the Contractor shall then provide an installation procedure signed and sealed by an engineer. The installation procedure must take into account load bearing capacity, the amount, weight and location of counterweight and any other detail that may affect the capacity and stability of the device.

- .7 In addition to the mechanical service inspection certificate, the annual inspection certificate and the crane logbook must be aboard all crane and crane-truck cabs.
- .8 The entire lifting area shall be closed off to prevent non-authorized people from entering it.
- .9 The Contractor shall obtain all of the permits at his own expense, in the event the thoroughfare must be temporarily closed off to meet the requirement stipulated in the preceding paragraph or for any other reason pertaining to the safety of workers, occupants or the public.
- .10 The Contractor shall carefully inspect all of the slings and lifting accessories and make sure that those in poor condition are destroyed or scrapped.
- .11 Compressed-gas cylinders shall be lifted with a basket specially designed for this purpose.

20.0 Work in Height

1. The Contractor must ensure that any person carrying out work that poses a risk of falling more than 2,4 m use fall protection equipment.
2. Plan and organize work so as to eliminate the danger at source or ensure collective protection, thereby minimizing the use of personal protective equipment. When personal fall protection is required, workers must use a safety harness that complies with CSA standard CAN/CSA Z-259.10 M90. A safety belt must not be used as fall protection.
- .3 Any person working at less than 3 mm from the edge of a roof must use a safety harness that complies with CSA standard CAN/CSA Z-259.10 M90, unless there is a railing 900 mm to 1100 mm high all around the perimeter of the roof.
- 4 Every person using an elevating platform must have a training regarding this equipment.
- 5 Wearing of safety harness is obligatory in any elevating platform with telescopic, articulated or rotary boom.
- 6 Delimit a danger zone in any place where equipment for work in height is used.

21.0 Specific Conditions for Roofing Work

- .1 Protection against fall from heights:
 - .1 Guardrails:
 - .1 Installation of guardrails is mandatory. PWGSC may specify certain restrictions with regard to anchoring, in which case the Contractor must make sure that the guardrails meet all of the requirements in section 3.8 of the Safety Code for the Construction Industry (L.R.Q.,S-2.1, r. 6)

-
- .2 The Contractor agrees not to remove the guardrails until the project is completed. The Departmental Representative will authorize their removal when he is able to attest that all of the work, inspections and corrections required have been carried out.
 - .2 Harnesses:
 - .1 Workers installing the guardrails shall wear safety harnesses.
 - .2 Workers installing and modifying guardrails or flashing shall wear safety harnesses in the event guardrails must be moved temporarily.
 - .3 Workers shall wear safety harnesses when receiving material and giving directions to the crane operator next to a drop.
 - .4 Safety harnesses shall be worn when carrying out work next to a drop where collective protection is not sufficiently safe.
 - .5 The Contractor shall provide a fastening method and safety cable system compliant with section 2.10.12 of the Safety Code for the Construction Industry (L.R.Q., S-2.1, r. 6) for each work site or location.
 - .3 Ladders:
 - .1 All ladders must be at least three rungs taller than the access landing.
 - .2 All ladders must be attached at their summit so that they cannot slide sideways. The Contractor shall implement a system so that this regulation is abided by during finishing (flashing, etc).
 - .4 Scaffolding:
 - .1 All scaffolding must be inspected and assembled as outlined in the *Safety Code for the Construction Industry* (L.R.Q., S-2.1, r. 6).
 - .2 As needed, plans and compliance certifications must be provided to the Departmental Representative before work begins.
 - .3 The Contractor shall make sure that all workers are always protected from falls during scaffolding assembly, as provided in article 3.9.4.5 of the *Safety Code for the Construction Industry* (L.R.Q., S-2.1, r. 6).
 - .2 Lifting material:
 - .1 The Contractor shall provide the Departmental Representative with a mechanical service inspection certificate for each lifting device. Inspections must be carried out just prior to the delivery of the equipment to the work site.
 - .2 For all winch installations, the Contractor shall provide the Departmental Representative with the installation method recommended by the manufacturer. If unavailable, the Contractor shall then provide an installation procedure signed and sealed by an engineer. The installation procedure must take into account loadbearing capacity, the amount, weight and location of counterweight and any other detail that may affect the capacity and stability of the device.
 - .3 In addition to the mechanical service inspection certificate, the annual inspection certificate and the crane logbook must be aboard all crane and crane-truck cabs.
 - .4 Lifting devices shall be positioned in such a way that loads are not carried over workers, occupants or the public.
 - .5 The entire lifting area shall be closed off to prevent non-authorized people from entering it.
 - .6 The Contractor shall obtain all of the permits at his own expense, in the event the thoroughfare must be temporarily closed off to meet the requirement stipulated in the preceding paragraph or for any other reason pertaining to the safety of workers, occupants or the public.
-

- .7 The Contractor shall carefully inspect all of the slings and lifting accessories and make sure that those in poor condition are destroyed or scrapped.
- .8 Compressed-gas cylinders shall be lifted with a basket specially designed for this purpose.
- .3 Protection against burns:
 - .1 Individuals assigned to the boilers shall wear long sleeves, safety glasses and a face shield when filling the boilers.
 - .2 Individuals working with asphalt or other hot liquids shall wear gloves, long sleeves and safety glasses.
- .4 Protection against fire:
 - .1 Work on construction sites must be carried out in compliance with Fire Commissioner of Canada Standard CI 301, Standard for Construction Operations, June 1982. This standard is available at the following website:
 - .2 At the beginning of each shift on every site, the Contractor shall obtain a Hot Work Permit issued by the person in charge of the work location.
 - .3 A working portable fire extinguisher suitable to the fire risk shall be available and easily accessible within a 5 m radius from any flame, spark source or intense heat.
 - .4 An individual shall be appointed to go on rounds (fire) for a period of 30 minutes after the end of the shift. This individual shall countersign the permit and give it to the person in charge of the work site (or the individual he/she appoints) after the 30 minutes period.
 - .5 The storage of propane cylinders shall comply with the CAN/CSA-B149.2-F00 Propane Storage and Handling Code and meet the specific conditions outlined in this document. The cylinders shall be stored outdoors, in a safe place, away from any unauthorized handling, in a storage cabinet specially designed for this purpose. The cylinders shall be securely kept upright and locked at all times in a place where no vehicles are allowed, unless the cylinders are protected by bars or the equivalent.
 - .6 Compressed gas, fuel tanks or containers must be stored at least 10 m from any buildings.
 - .7 The number of propane cylinders on the roof shall not exceed the number of cylinders necessary for a day's work, and cylinders shall at all times be secured upright or held in a cart designed for this purpose.
 - .8 All of the cylinders used or stored on the work site shall be equipped with a collar designed to protect the valve.
 - .9 Filling the cylinders on the work site is forbidden, unless a procedure compliant with the CAN/CSA B149.2 standard is approved and authorized by the Departmental Representative.
- .5 Material and waste management:
 - .1 On the roof, light material and sheet material shall be kept in containers or be securely fastened. In the event this requirement is disregarded in the slightest way, the Departmental Representative may disallow the storage of materials on the roof.
 - .2 The preceding paragraph also applies to waste.
 - .3 Waste shall be discarded as produced using a waste chute or appropriate containers.
 - .4 All waste must be removed from the roof at the end of shifts.
 - .5 Unless otherwise authorized by the Departmental Representative, all waste bins must be placed at least 3 m from any structure or building, and in no case shall they hamper the operations and activities as well as the vehicular circulation of the establishment.

- .6 General protection and work site organization:
- .1 Regardless of the circumstances and the nature of the work, individuals with access to the work site must wear protective footwear and hard hats. The Contractor shall provide chin cups or ratchet suspension helmets to workers who must bend over or crouch down.
 - .2 Covered passageways shall be set up to protect all entrances and exits.
 - .3 A safety perimeter on the ground must be placed under the work zone in order to protect the public and the occupants.
 - .4 The ground work site, material handling area and boiler area shall be clearly sealed off to prevent occupants or the public from accessing the site and areas.
 - .5 Before installing any device that may emit gas or fumes, the Contractor shall receive authorization from the person in charge of the work site, who shall make sure that there is no risk of gas or fumes infiltrating the building's ventilation system.
 - .6 The Contractor shall make sure that the work site is kept clean and tidy for the duration of the work.
 - .7 Copies of material safety data sheets of all controlled products shall be forwarded to the Departmental Representative and to the person responsible of the work site before work begins.
 - .8 The Contractor shall provide sanitary facilities and rest areas compliant with requirements of the Safety Code for the Construction Industry.

End of Section

1.0 Definitions

- .1 Environmental pollution and damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.
- .3 See also **Section 01 41 00**.

2.0 Submittals

- .1 Submittals: in accordance with **Section 01 33 00**.
 - .2 Prior to commencing construction activities or delivery of materials to site, submit **Environmental Protection Plan** for review by Departmental Representative . Environmental Protection Plan is to present comprehensive overview of known or potential environmental issues which must be addressed during construction.
 - .3 Address topics at level of detail commensurate with environmental issue and required construction tasks.
 - .4 Environmental protection plan to include:
 - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
 - .3 Names and qualifications of persons responsible for training site personnel.
 - .4 Descriptions of environmental protection personnel training program.
 - .5 Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plans include measures to minimize amount of mud transported onto paved public roads by vehicles or runoff.
 - .6 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas including methods for protection of features to be preserved within authorized work areas.
 - .7 Spill control plan, including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
 - .8 Non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
 - .9 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, do not become air borne and travel off project site.
 - .10 Contaminant prevention plan that identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with Federal, Provincial, and Municipal laws
-

and regulations for storage and handling of these materials.

- .11 Waste water management plan that identifies methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.

- .5 The Contractor shall be asked to fill on a regular basis a special form concerning inspection of health and safety protection aspects, as well as requirements concerning the protection of the environment, based on the prescriptions of this project manual and the requirements of codes, standards, laws and by-laws in effect.

3.0 Fires

- .1 See **Section 01 52 00**.

4.0 Disposal of Wastes

- .1 See **Section 01 74 21**.

5.0 Drainage

- .1 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .2 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.
- .3 Prevent blocking and damages caused by debris to the drains and to the sanitary, mechanical and electrical systems.

6.0 Notification

- .1 Departmental Representative will notify Contractor in writing of observed non-compliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's environmental Protection plan.
- .2 After receipt of such notice Contractor to inform Departmental Representative of proposed corrective action and take such action for approval by the latter.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

End of Section

1.0 General

- .1 Related requirements specified elsewhere:
 - .1 Verification by affidavits and certification that specified products meet requirements of reference standards: **Section 01 33 00** and **technical Sections**.
 - .2 General requirements for submitting test and inspection reports: **Section 01 33 00**.
 - .3 Payments for inspections and testing: **Section 01 29 83**.
 - .4 Hazardous materials: **Section 01 52 00**

2.0 Codes & Standards

- .1 Perform work in accordance with the Quebec Construction Code including the National Building Code of Canada (NBC), latest edition, and any other applicable compulsory code of provincial or local level, including the modifications until the tender date, whether mentioned in the Project Manual or not..
- .2 Satisfy also the requirements of the National Energy Code of Canada for Buildings (NECB), 2011 (model code – NMECB). Provide conformity attestations required.
- .3 Comply also with CSA, CSST, OSHA, ULC, WHMIS (SIMDUT) requirements, where applicable, and all other quality requirements mentioned in the **technical Sections**.
- .4 Satisfy or exceed requirements of:
 - .1 Contract documents;
 - .2 Standards, codes and referenced documents, the latest edition or modification, as specified in the **technical Sections**. See the legend of the acronyms of the organizations publishing these documents, and the titles of the documents at the end of this **Section**.
 - .3 Health and safety requirements mentioned in **Section 01 35 29.06**.
- .5 For work where no standards or references are mentioned, respect applicable requirements of the documents of the applicable organizations:
 - .1 AABC – Associated Air Balance Council (American Air Balancing Council)
 - .2 AMCA – Air Movement & Control Association Intl.Inc.
 - .3 ANSI – American National Standards Institute
 - .4 ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers
 - .5 ASME – American Society of Mechanical Engineers
 - .6 ASTM – American Society for Testing and Materials
 - .7 CSA – Canadian Standards Association
 - .8 HPB – Health Protection Board, Health Canada
 - .9 CGSB – Canadian General Standards Board
 - .10 EPA – Environmental Protection Agency
 - .11 FDA – Food and Drug Administration (US)
 - .12 IESNA – Illuminating Engineering Society of North America
 - .13 ISA – Instrumentation, Systems and Automation Society
 - .14 ISPE – international Society for Pharmaceutical Engineering
 - .15 MSSVFI – Manufacturers Standardization Society of the Valve and Fittings Industry
 - .16 SMACNA – Sheet Metal and Air Conditioning Contractors Association International
 - .17 TIAC – Thermal Insulation Association of Canada
 - .18 ULC – Underwriters' Laboratories of Canada

- .19 Pertinent codes for vessels and piping under pressure.
 - .20 All other applicable pertinent requirements for the manufacture and installation of materials and equipment specified.
- .6 In case of contradiction or discrepancy between the codes or between the codes or other documents and the specifications, the more stringent requirements prevail.

3.0 Legend of References – Architecture

TABLE OF CONTENTS

1. INITIALS AND ACRONYMS
2. ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
(www.webstore.ansi.org – go to document number)
3. ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS
(www.astm.org/bookstore/comps/229.htm - go to "check the contents")
4. CANADIAN GOVERNMENT STANDARDS
5. CGSB - CANADIAN GENERAL STANDARDS BOARD
(www.tpsgc-pwgsc.gc.ca/cgsb/pubs/catalogue/notice-f.html - go to PDF)
6. CSA - CANADIAN STANDARDS ASSOCIATION
(www.shopcsa.ca, go to Canadian customers, Electronic Catalogue, Full Electronic Catalogue)
7. EUROPEAN STANDARDS
8. ISO – INTERNATIONAL STANDARDS ORGANISATION
9. NFPA – NATIONAL FIRE PROTECTION ASSOCIATION (AGENCY)
(www.nfpa.org/aboutthecodes/list_of_codes_and_standards.asp)
10. ONTARIO PROVINCIAL STANDARDS
11. QUEBEC PROVINCIAL STANDARDS
(www-cert.criq.qc.ca/bnq/documents/catalogue.pdf)
12. SUSTAINABLE BUILDING STANDARDS
(www.cagbc.org/leed/systemes/index.htm) / (<http://www.cagbc.org/AM/Template.cfm?Section=Contact1>)
(www.aqmd.gov/rules/reg/reg11_tofc.html)
(GS: www.greenseal.org/certification/standards.cfm)
13. UL – UNDERWRITERS' LABORATORIES / ULC - UNDERWRITERS' LABORATORIES OF CANADA
(www.ul.com/global/eng/pages/corporate/standards - go to document number)
(www.ulc.ca/about_ulc/order_standards.asp - go to ULC online store / Standards and rel. publications / English)
14. U.S. GOVERNMENT STANDARDS
15. OTHER NORMS AND REFERENCES
(AAMA: www.aamanet.org/search.asp - look for keywords)

Notes:

- .1 Dates indicated in this list of references are for information only. The current editions in force should be considered.
- .2 It is possible to check the latest division date of the standards, or their being valid or withdrawn at the site of IHS Standards Store <http://global.ihs.com>.

1.0 INITIALS AND ACRONYMS

AA.....	Aluminum Association
AAADM.....	American Association of Automatic Door Manufacturers
AABC.....	Associated Air Balanced Council (American Air Balancing Council)
AAC (AAFC).....	Agriculture et agroalimentaire Canada
AAFC (AAC).....	Agriculture and Agri-Food Canada
AAMA.....	American Architectural Manufacturer's Association
AATCC.....	American Association of Textile Chemists and Colorists
AASHTO.....	Association américaine des autoroutes d'état et des officiers de transport
ABMA.....	Association américaine de fabricants de chaudière
ACBAC (CBAC).....	Association canadienne de brique d'argile cuite
ACEC (CRCA).....	Association canadienne des entrepreneurs en couvertures
ACFPA (CSDMA).....	Association canadienne des fabricants des portes d'acier
ACG (CGA).....	Association canadienne du gaz
ACGIH.....	Conférence américaine des hygiénistes industriels gouvernementaux
ACI.....	American Concrete Institute
ACIA (CFIA).....	Agence canadienne d'inspection des aliments
ACIB (CLA).....	Association canadienne de l'industrie du bois
ACNBC.....	Associate Committee on the National Building Code
ACNOR (CSA).....	Association canadienne de normalisation
ACP.....	Association canadienne de pépiniéristes
ACPPA (APTAC).....	Asbestos Cement Pipe Producers Association
ACPPP (CPPA).....	Association canadienne des producteurs de pâtes et papiers
ACR.....	American College of Radiology
ACRI.....	Air Conditioning and Refrigeration Institute
ACTTM (TTMAC).....	Association canadienne de terrazzo, tuile et marbre
ADA.....	Americans with Disabilities Act
AECB (CCEA).....	Atomic Energy Control Board
AECL.....	Atomic Energy of Canada Ltd.
AECQ.....	Association des entrepreneurs de construction du Québec
AERMQ.....	Association des entrepreneurs en revêtement métallique du Québec
AGA.....	American Gas Association
AIA.....	American Institute of Architects
AIHA.....	American Industrial Hygiene Association
AIBC.....	Architectural Institute of British Columbia
AISC.....	American Institute of Steel Construction
AISI.....	American Iron and Steel Institute
ALS.....	American Lumber Standards
AMA.....	Acoustical Materials Association
AMCA.....	Air Movement & Control Association
AMCQ (QMRA).....	Association des maîtres couvreurs du Québec
AMEEC (EEMAC).....	Association des manufacturiers d'équipement électrique et électronique du Canada
ANSI.....	American National Standards Institute
ANC (CNA).....	Association nucléaire canadienne
API.....	American Petroleum Institute
APQ.....	Association Paysage Québec
APTAC (ACPPA).....	Association des producteurs de tuyaux en amiante-ciment
ARCA.....	Alberta Roofing Contractors Association
ARI.....	Air-conditioning and Refrigeration Institute
ASA.....	Acoustical Society of America
ASABC.....	American Society of Architectural Hardware Consultants
ASCE.....	American Society of Civil Engineers
ASHRAE.....	American Society of Heating, Refrigerating and Air-Conditioning Engineers

ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWCI	Association of the Wall and Ceiling Industries-International
AWI.....	American Woodwork Institute / Architectural Woodwork Institute
AWMAC.....	Architectural Woodwork Manufacturers Association of Canada
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA.....	American Water Works Association
BHMA	Building Hardware Manufacturers Association
BIA.....	Brick Institute of America
BIFMA	Business and Institutional Furniture Manufacturer's Association
BNQ.....	Bureau de Normalisation du Québec
BCBC	British Columbia Building Code
BCS (CWB)	Bureau canadien de soudage
BMEC	Building Material Evaluation Committee
BNQ.....	Bureau de normalisation du Québec
BOMA.....	Building Owners and Managers Association
BPF (GMP)	Bonnes pratiques de fabrication
BS.....	British Standards
BSI.....	British Standards Institution
CANPLY	Association canadienne de contreplaqué / Canadian Plywood Association
CBAC (ACBAC).....	Clay Brick Association of Canada
CBDCa (CaGBC)	Conseil du bâtiment durable du Canada
CCA.....	Canadian Construction Association
CCAC (CCPA).....	Canadian Council on Animal Care
CCDC	Canadian Construction Documents Committee
CCDG.....	Cahier des Charges et Devis Généraux
CCE (CEC)	Code canadien de l'électricité (ACNOR)
CCEA (AECB)	Commission de contrôle de l'énergie atomique
CCI (ICT)	Canadian Carpet Institute
CCITT	Comité consultatif international télégraphique et téléphonique
CCMCC	Canadian Concrete and Masonry Codes Council
CCN.....	Conseil canadien des normes
CCP	Code canadien de la plomberie
CCPA	Conseil canadien de protection des animaux
CCQ	Commission de la Construction du Québec
CCS.....	Certified Construction Association
CCTT	Canadian Council of Technicians and Technologists
CE (EC)	Commission européenne
CEBQ	Conseil de l'enveloppe du bâtiment du Québec
CEC (CCE)	Canadian Electrical Code (CSA)
CEE (EEC)	Communauté économique européenne
CEI	Commission électrotechnique internationale
CEMA	Canadian Electrical Manufacturers Association
CFIA (ACIA)	Canadian Food Inspection Agency
CFFM	Canadian Forces Fire Marshall
CGA (ACG)	Canadian Gas Association
CGA.....	Compressed Gas Association
CaGBC (CBDCa)	Canada Green Building Council
CGSB (ONGC)	Canadian General Standards Board
CHVAC.....	Canadian Heating Ventilation Air Conditioning
CIQS.....	Canadian Institute of Quantity Surveyors

CIRI	Canadian Industrial Risk Insurers
CISC (ICCA)	Canadian Institute of Steel Construction
CISCA	Ceiling and Interior Systems Construction Association
CITC	Canadian Institute of Timber Construction
CLA (ACIB)	Canadian Lumbermen's Association
CLS	Canadian Lumber Standards
CLSAB	Canadian Lumber Standards Accreditation Board
CMB	Commission des matériaux du bâtiment
CMHC (SCHL)	Canada Mortgage and Housing Corporation
CNA (ANC)	Canadian Nuclear Association
CNB (NBC)	Code national du bâtiment du Canada
CNLA	Canadian Nursery Landscape Association
CNPI (NFCC)	Code national de prévention des incendies du Canada
CNRC (NRC)	Conseil national de recherches (du Canada)
COPEA	Canadian Outdoor Power Equipment Association/Association Canadienne des fabricants d'outillage
COFI	Council of Forest Industries of British Columbia
CPCA	Association canadienne du ciment Portland
CPCA	Canadian Painting Contractors' Association
CPCI	Institut canadien du béton préfabriqué et précontraint / Canadian Precast/ Prestressed Concrete Institute
CPMA	Canadian Paint Manufacturer's Association
CPPA (ACPPP)	Canadian Pulp & Paper Association
CPSC	Consumer Product Safety Commission
CRCA (ACEC)	Canadian Roofing Contractors Association
CSA (ACNOR)	Canadian Standards Association
CSC (DCC)	Construction Specifications Canada
CSDMA (ACFPA)	Canadian Steel Door Manufacturers Association
CSF	Construction Specifications Foundation
CSI	Construction Specifications Institute
CSH	Construction Specification Handbook
CSMBI	Canadian Sheet Metal Building Institute
CSPI	Corrugated Steel Pipe Institute
CSSBI (ICTAB)	Canadian Sheet Steel Building Institute
CSST	Commission de la santé et sécurité au travail
CTI	Cooling Technology Institute
CTS	Coefficient de transmission du son
CUA	Canadian Underwriters' Association
CUM	Communauté urbaine de Montréal
CWB (BCS)	Canadian Welding Bureau
DCC (CSC)	Devis de construction Canada
DDN	Devis Directeur National
DGPS (HPB)	Direction générale de la protection de la santé (Santé Canada)
DHI	Door and Hardware Institute
DLPA	Decorative Laminate Products Association
DND	Department of National Defence
EACL (AECL)	Energie atomique du Canada limitée
EC	Environnement Canada
EC (CE)	European Commission
EEC (CEE)	European Economic Community
EEMAC (AMEEC)	Electrical & Electronic Manufacturers Association of Canada
EJCDC	Engineers' Joint Construction Documents Committee

EMEA	European Agency for the Evaluation of Medicinal Products
EMT	Electrical Metallic Tubing
EPA	Environmental Protection Agency
ERF	Epoxy Resin Formulation (Society of Plastic Industry)
FCSC	Fellow Construction Specifications Canada
FDA	Food and Drug Administration (US)
FM	Factory Mutual Engineering Corporation
FS	Federal Specifications (and Standards)
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
BPL (GLP)	Bonnes pratiques de laboratoire (Good Laboratory Practices)
GS	Green Seal
GTA	Groupement technique des assureurs
HACCP	Analyse des dangers, maîtrise de points critiques / Hazards Analysis, Critical Control Points
HPB (DGPS)	Health Protection Branch (Health Canada)
HRAI	Heating, Refrigerating and Air Conditioning Institute of Canada
IAAQ	Institut d'acier d'armature du Québec
ICCA (CISC)	Institut canadien de la construction en acier
ICRI	International Concrete Repair Institute
ICT (CCI)	Institut canadien de tapis
ICTAB (CSSBI)	Institut canadien de la tôle d'acier pour le bâtiment
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineers Society
IESNA	Illuminating Engineering Society of North America
IGCC	Insulating Glass Certification Council
IGMA	Insulating Glass Manufacturers Alliance
IPCEA	Insulated Power Cable Engineers Association
IRAC (RAIC)	Institut royal d'architecture du Canada
IRC	Institut de recherche en construction
ISA	Instrumentation, System and Automation Society
ISO	Organisation internationale de normalisation / International Standards Organization
ISPE	International Society for Pharmaceutical Engineering
LCPE	Loi canadienne sur la protection de l'environnement
LEED	Leadership in Energy and Environmental Design
MDDEP	Ministère du développement durable, de l'environnement et des parcs
MIL	US Military Standards
MPI	Master Painters Institute
MOP	Manual of Practice
MSSS	Ministère de la Santé et des Services sociaux
MTQ	Ministère de transports du Québec
NAAMM	National Association of Architectural Metal Manufacturers
NBC (CNB)	National Building Code
NBFU	National Board of Fire Underwriters
NBGQA	National Building Granite Quarries Association Inc.

NCMA	National Concrete Masonry Association
NCRP	National Council on Radiation Protection
NEMA	National Electrical Manufacturers Association
NFCC (CNPI)	National Fire Code of Canada
NFPA	National Fire Protection Association (Agency)
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NMS	National Master Specification
NPA	National Particleboard Association
NRC (CNRC)	National Research Council of Canada
NSF	National Science Foundation
NSWMA	National Solid Wastes Management Association
NTMA	National Terrazzo and Mosaic Association
OAA	Ontario Association of Architects
OAQ	Ordre des architectes du Québec
OBC	Ontario Building Code
OH	Ontario Hydro
OHMPA	Ontario Hot Mix Producers Association
ONGC (CGSB)	Office des normes générales du Canada
OMS (WHO)	Organisation mondiale de la Santé
OPSS	Ontario Provincial Standard Specification
OSHA	Occupational Safety and Health Act
PCA	Portland Cement Association
PCE	Programme Choix Environnemental
PCI	Prestressed Concrete Institute
PDCA	Painting and Decorating Contractors of America
PDI	Plumbing and Drainage Institute
PEI	Porcelain Enamel Institute
PWGSC (TPSGC)	Public Works and Government Services Canada
QMRA (AMCQ)	Quebec Master Roofers' Association / Association des maîtres couvreurs du Québec
RAIC (IRAC)	Royal Architectural Institute of Canada / Institut royal d'architecture du Canada
RBQ	Régie du bâtiment du Québec
SAE	Society of Automotive Engineers
SCAQMD	South Coast Air Quality Management District, California State
SCC	Standards Council of Canada
SCHL	Société canadienne d'hypothèque et de logement
SEFA	Scientific Equipment and Furniture Association
SIMDUT (WHMIS)	Système d'information sur les matières dangereuses utilisées au travail
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SSPC	Society for Protective Coatings
STM	Société de transport de Montréal
TIA	Telecommunications Industry Association
TIAC	Thermal Insulation Association of Canada
TPSGC (PWGSC)	Travaux publics et services gouvernementaux Canada
TPP	Therapeutic Products Programme
TTMAC (ACTTM)	Terrazzo Tile and Marble Association of Canada
UL	Underwriters' Laboratories

ULC	Underwriters' Laboratories of Canada / Laboratoires des assureurs du Canada
ULI	Underwriters' Laboratories Institute
USGBC	U.S. Green Building Council
VA	Veterans Administration (U.S.)
WCLIB	West Coast Lumber Inspection Bureau
WDMA	Window and Door Manufacturers Association
WI	Woodwork Institute
WH	Services Professionnels Inchcape - Warnock Hersey Limitée / Inchcape – Warnock
WHO (OMS)	World Health Organization
WHMIS (SIMDUT)	Workplace Hazardous Materials Information System
WWPA	Western Wood Products Association

2.0 ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE

ANSI A108/A118/A136.1-2011	American National Standards for the Installation of Ceramic Tiles
ANSI A208.1-2009 (?)	Particleboard
ANSI A208.2-2009 (?)	Medium Density Fiberboard (MDF) for Interior Applications
ANSI A250.4-2011 (?)	Test procedure and Acceptance Criteria for Physical endurance for Steel Doors, Frames, Frame Anchors and Hardware Reinforcing
ANSI/ASME B16.26-2011	Cast Copper Alloy Fittings for Flared Copper Tubes
ANSI/ASME B16.29-2012	Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV
ANSI/ASME B18.6.1-1981 (R2008)	Wood Screws (Inch Series)
ANSI/ASME B18.6.4-1998 (R2005)	Thread Forming and Thread Cutting Tapping Screws and Metallic Drive Screws (Inch)
ANSI H35.1/H35.1M-2009	Alloy and Temper Designation Systems for Aluminum
ANSI Z97.1-2009	Safety Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test
ANSI/IIHA Z9.5-2009	Laboratory Ventilation
ANSI/ASHRAE/IES Standard 90.1-2010 (SI Edition) - 2010	Energy Standard for Buildings Except Low-Rise Residential Buildings, SI Edition
ANSI/ASHRAE 110.1995	Method of Testing Performance of Laboratory Fume Hoods
ANSI/BHMA A156.1-2006	American National Standard for Butts and Hinges
ANSI/BHMA A156.2-2011	Bored and Preassembled Locks and Latches
ANSI/BHMA A156.3-2001	Exit Devices
ANSI/BHMA A156.4-2008	Doors Controls-Closers
ANSI/BHMA A156.5-2010	Auxiliary Locks
ANSI/BHMA A156.6-2010	Architectural Door Trim
ANSI/BHMA A156.7-2009	Hinge Templates
ANSI/BHMA A156.8-2010	Door Controls - Overhead Stops and Holders
ANSI/BHMA A156.9-2010	Cabinet Hardware
ANSI/BHMA A156.10-2011	Power-Operated Pedestrian Doors
ANSI/BHMA A156.11-2010	Cabinet Locks
ANSI/BHMA A156.12-2005	Interconnected Locks and Latches
ANSI/BHMA A156.13-2012	Mortise Locks and Latches
ANSI/BHMA A156.14-2002	Sliding and Folding Door Hardware
ANSI/BHMA A156.15-2011	American National Standard for Release Devices-Closer Holder, Electromagnetic and Electromechanical
ANSI/BHMA A156.16-2002	Auxiliary Hardware
ANSI/BHMA A156.17-2004 (R2010)	Self-Closing Hinges and Pivots
ANSI/BHMA A156.18-2012	Materials and Finishes
ANSI/BHMA A156.19-2007	Power Assist and Low Energy Power Operated Doors

ANSI/BHMA A156.20-2006 (R2012)	American National Standard for Strap and Tee Hinges and Hasps
ANSI/BHMA A156.21-2009	American National Standard for Thresholds
ANSI/BHMA A156.115-2006	American National Standard for Hardware Preparation in Steel Doors and Steel Frames
ANSI/BHMA A156.115-W-2006	American National Standard for Hardware Preparation in Wood Doors with Wood or Steel Frames
(ANSI) HPVA HP-1-2010	American National Standard for Hardwood and Decorative Plywood
ANSI/ISA 5.1-2009	Instrumentation Symbols and Identification
ANSI/MH 30.1 – 2007	Specification for Dock Leveling Devices
(ANSI) NAAM MBG 531-2009 (?)	Metal Bar Grating Manual
NSF/ANSI 7-2009	Commercial Refrigerators and Freezes
(ANSI) NEMA LD3-2005	High Pressure Decorative Laminates

3.0 ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS

ASTM A6/A6M - 12a	Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes and Sheet Piling
ASTM A36/A36M - 08	Standard Specification for Carbon Structural Steel
ASTM A53/A53M - 12	Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
ASTM A82/A82M - 07	Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
ASTM A90/A90M - 11	Standard Test Method for Weight (Mass) of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings
ASTM A121 - 07	Standard Specification for Zinc-Coated (Carbon) Steel Barbed Wire
ASTM A123/A123M - 12	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A153/A153M - 09	Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A167 - 99(2009)	Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
ASTM A185/A185M - 07	Standard Specification for Steel Welded Wire, Reinforcement, Plain, for Concrete
ASTM A240/A240M - 12a	Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
ASTM A269 - 10	Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service
ASTM A270/A270M - 10	Standard Specification for Seamless and Welded Austenitic and Ferritic/Austenitic Stainless Steel Sanitary Tubing
ASTM A276 - 10	Standard Specification for Stainless Steel Bars and Shapes
ASTM A283/A283M - 12	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A307 - 12	Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength
ASTM A325 - 10	Standard Specification for Structural Bolts, Steel, Heat Treated 120/105 Ksi Minimum Tensile Strength
ASTM A380 - 06	Standard Practice for Cleaning and Descaling Stainless Steel Parts, Equipment, and Systems
ASTM A450/A450M - 10	Standard Specification for General Requirements for Carbon, Ferritic Alloy, and Austenitic Alloy Steel Tubes
ASTM A480/A480M - 12	Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip
ASTM A492 - 95(2009)	Standard Specification for Stainless Steel Rope Wire
ASTM A496/A496M - 07	Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement
ASTM A497/A497M - 07	Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete

ASTM A513 - 12.....	Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing
ASTM A555/A555M - 05 (2009).....	Standard Specification for General Requirements for Stainless Steel Wire and Wire Rods
ASTM A572/572M - 12.....	Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
ASTM A582/582M – 12e1.....	Standard Specification for Free-Machining Stainless Steel Bars
ASTM A615/A615M - 12.....	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A641/A641M - 09a.....	Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
ASTM A653/A653M - 11.....	Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A666 - 10.....	Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar
ASTM A790/A790M - 12.....	Standard Specification for Seamless and Welded Ferritic/Austenitic Stainless Steel Pipe
ASTM A792/A792M - 10.....	Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
ASTM A814/814M - 08.....	Standard Specification for Cold-Worked Welded Austenitic Stainless Steel Pipe
ASTM A824 - 01(2012).....	Standard Specification for Metallic-Coated Steel Marcellised Tension Wire for Use with Chain Link Fence
ASTM A879/A879M - 12.....	Standard Specification for Steel Sheet, Zinc Coated by the Electrolytic Process for Applications Requiring Designation of the Coating Mass on Each Surface
ASTM A924/A924M - 10a.....	Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process
ASTM A1008/A1008M - 12a.....	Standard Specification for Steel, Sheet, Cold Rolled, Carbon, Structural, High Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable
ASTM A1011/1011M - 12b.....	Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
ASTM B29 - 03(2009).....	Standard Specification for Refined Lead
ASTM B32 - 08.....	Standard Specification for Solder Metal
ASTM B69 - 11.....	Standard Specification for Rolled Zinc
ASTM B88M - 05(2011).....	Standard Specification for Seamless Copper Water Tube (Metric)
ASTM B101 - 12.....	Standard Specification for Lead-Coated Copper Sheet and Strip for Building Construction
ASTM B117 - 11.....	Standard Practice for Operating Salt Spray (Fog) Apparatus
ASTM B140/B140M - 12.....	Standard Specification for Copper-Zinc-Lead (Red Brass or hardware Bronze) Rod, Bar, and Shapes
ASTM B209 - 10.....	Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B209M - 10.....	Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]
ASTM B221 - 12a.....	Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wires, Profiles and Tubes
ASTM B221M - 12a.....	Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes [Metric]
ASTM B265 - 11e1.....	Standard Specification for Titanium and Titanium Alloy Strip, Sheet and Plate
ASTM B280 - 08.....	Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service
ASTM B370 - 12.....	Standard Specification for Copper Sheet and Strip for Building Construction
ASTM B449 - 93(2010)e1.....	Standard Specification for Chromates on Aluminum

ASTM B456 - 11e1.....	Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium
ASTM B633 - 11.....	Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel
ASTM B749 - 03(2009)	Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products
ASTM B766 - 86(2008)	Standard Specification for Electrodeposited Coatings of Cadmium
ASTM C5 - 10	Standard Specification for Quicklime for Structural Purposes
ASTM C28/C28M - 10.....	Standard Specification for Gypsum Plasters
ASTM C33/C33M - 11a.....	Standard Specification for Concrete Aggregates
ASTM C88 - 05	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C90 - 12	Standard Specification for Loadbearing Concrete Masonry Units
ASTM C97/C97M - 09.....	Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
ASTM C99/C99M - 09.....	Standard Test Method for Modulus of Rupture of Dimension Stone
ASTM C109/C109M - 11b.....	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2" or 50 mm Cube Specimens)
ASTM C117 - 04	Standard Test Method for Materials Finer Than 75 µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C123/C123M - 12.....	Standard Test Method for Lightweight Particles in Aggregate
ASTM C126 - 12a	Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units
ASTM C127 - 12	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
ASTM C128 - 12	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption of Fine Aggregate
ASTM C131 - 06	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136 - 06	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C144 - 11	Standard Specification for Aggregate for Masonry Mortar
ASTM C150/C150M - 12.....	Standard Specification for Portland Cement
ASTM C170/C170M - 09.....	Standard Test Method for Compressive Strength of Dimension Stone
ASTM C171 - 07	Standard Specification for Sheet Materials for Curing Concrete
ASTM C177 - 10	Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus
ASTM C207 - 06(2011)	Standard Specification for Hydrated Lime for Masonry Purposes
ASTM C208 - 12	Standard Specification for Cellulosic Fiber Insulating Board
ASTM C241/C241M - 09.....	Standard Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic
ASTM C260/C260M - 10a.....	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C270 - 12a	Standard Specification for Mortar for Unit Masonry
ASTM C279 - 12	Standard Specification for Chemical-Resistant Masonry Units
ASTM C303 - 10	Standard Test Method for Dimension and Density of Preformed Block and Board-Type Thermal Insulation
ASTM C307 - 03(2012)	Standard Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing
ASTM C309 - 11	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C404 - 11	Standard Specification for Aggregates for Masonry Grout
ASTM C410 - 11	Standard Specification for Industrial Floor Brick
ASTM C413 - 01(2012)	Standard Test Method for Absorption of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes

ASTM C423 - 09a	Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
ASTM C472 - 99(2009)	Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete
ASTM C475/C475M - 12	Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board
ASTM C494/C494M - 12	Standard Specification for Chemical Admixtures for Concrete
ASTM C503/C503M - 10	Standard Specification for Marble Dimension Stone
ASTM C509 - 06(2011)	Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material
ASTM C514 - 04(2009)e1	Standard Specification for Nails for the Application of Gypsum Board
ASTM C518 - 10	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
ASTM C531 - 00(2012)	Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes
ASTM C553 - 11	Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications
ASTM C568/C568M - 10	Standard Specification for Limestone Dimension Stone
ASTM C578 - 12b	Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
ASTM C579 - 01(2012)	Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes
ASTM C580 - 02(2012)	Standard Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes
ASTM C612 - 10	Standard Specification for Mineral Fiber Block and Board Thermal Insulation
ASTM C615/C615M - 11	Standard Specification for Granite Dimension Stone
ASTM C618 - 12	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C631 - 09	Standard Specification for Bonding Compounds for Interior Gypsum Plastering
ASTM C635/C635M - 12	Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings
ASTM C636/C636M - 08	Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels
ASTM C645 - 11a	Standard Specification for Nonstructural Steel Framing Members
ASTM C665 - 12	Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing
ASTM C666/C666M - 03(2008)	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C719 - 93(2010)	Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)
ASTM C726 - 12	Standard Specification for Mineral Fiber Roof Insulation Board
ASTM C728 - 05(2010)	Standard Specification for Perlite Thermal Insulation Board
ASTM C754 - 11	Standard Specification for Installation of Steel Framing Members to Receive Screw Attached Gypsum Panel Products
ASTM C794 - 10	Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
ASTM C834 - 10	Standard Specification for Latex Sealants
ASTM C840 - 11	Standard Specification for Application and Finishing of Gypsum Board
ASTM C841 - 03(2008)e1	Standard Specification for Installation of Interior Lathing and Furring
ASTM C843 - 99(2012)	Standard Specification for Application of Gypsum Veneer Plaster
ASTM C844 - 04(2010)	Standard Specification for Application of Gypsum Base to Receive Gypsum Veneer Plaster
ASTM C847 - 12	Standard Specification for Metal Lath
ASTM C880/C880M - 09	Test Method for Flexural Strength of Dimensional Stone

ASTM C881/C881M - 10	Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete
ASTM C882/C882M - 12	Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear
ASTM C919 - 12	Standard Practice for Use of Sealants in Acoustical Applications
ASTM C920 - 11	Standard Specification for Elastomeric Joint Sealants
ASTM C936/C936M - 12	Standard Specification for Solid Concrete Interlocking Paving Units
ASTM C954 - 11	Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033" (0.84 mm) to 0.112" (2.84 mm) in Thickness
ASTM C 979/C979M - 10	Standard Specification for Pigments for Integrally Colored Concrete
ASTM C1002 - 07	Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel products or Metal Plaster Bases to Wood Studs or Steel Studs
ASTM C1036 - 11e1	Standard Specification for Flat Glass
ASTM C1047 - 10a	Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base
ASTM C1048 - 12e1	Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass
ASTM C1063 - 12c	Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster
ASTM C1172 - 09e1	Standard Specification for Laminated Architectural Flat Glass
ASTM C1177/C1177M - 08	Specification for Glass Mat Gypsum Substrate for Use as Sheathing
ASTM C1178/C1178M - 11	Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel
ASTM C1184 - 05	Standard Specification for Structural Silicone Sealants
ASTM C1186 - 08(2012)	Standard Specification for Flat, Fiber-Cement Sheets
ASTM C1278/C1278M - 07a(2011)	Standard Specification for Fiber-Reinforced Gypsum Panel
ASTM C1280 - 12a	Standard Specification for Application of Gypsum Sheathing
ASTM C1289 - 12e1	Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
ASTM C1396/C1396M - 11	Standard Specification for Gypsum Board
ASTM D41/D41M - 11	Standard Specification for Asphalt primer Used in Roofing, Dampproofing, and Waterproofing
ASTM D140/D140M - 09	Standard Practice for Sampling Bituminous Materials
ASTM D217 - 10	Standard Test Methods for Cone Penetration of Lubricating Grease
ASTM D 256 - 10	Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
ASTM D360 - 12	Standard Specification for Shellac Varnishes
ASTM D412 - 06ae2	Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension
ASTM D448 - 12	Standard Classification for Sizes of Aggregate for Road and Bridge Construction
ASTM D522 - 93a(2008)	Test Methods for Mandrel Bend Test of Attached Organic Coatings
ASTM D523 - 08	Standard Test Method for Specular Gloss
ASTM D570 - 98(2010)e1	Standard Test Method for Water Absorption of Plastics
ASTM D578/D578M - 05(2011)	Standard Specification for Glass Fiber Strands
ASTM D635 - 10	Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
ASTM D638 - 10	Standard Test Method for Tensile Properties of Plastics
ASTM D695 - 10	Standard Test Method for Compressive Properties of Rigid Plastics
ASTM D696 - 08	Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30oC and 30oC with a Vitreous Silica Dilatometer
ASTM D698 - 12	Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft.lbf/ft ³ / 600 kN-m/m ³)

ASTM D746 - 07	Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact
ASTM D785 - 08	Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials
ASTM D790 - 10	Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
ASTM D822 - 01(2006)	Standard Practice for Filtered Open-Flame Carbon-Arc Exposure of Paint and related Coatings
ASTM D1004 - 09	Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheet
ASTM D1037 - 12	Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials
ASTM D1044 - 08e1	Standard Test Method for Resistance of Transparent Plastics to Surface Abrasion
ASTM D1056 - 07	Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber
ASTM D1204 - 08	Standard Test Method for Linear Dimensional Changes of Non Rigid Thermoplastic Sheet or Film at Elevated Temperature
ASTM D1248 - 12	Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
ASTM D1308 - 02(2007)	Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
ASTM D1505 - 10	Standard Test Method for Density of Plastics by the Density-Gradient Technique
ASTM D1621 - 10	Standard Test Method for Compressive Properties of Rigid Cellular Plastics
ASTM D1623 - 09	Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics
ASTM D1654 - 08	Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
ASTM D1730 - 09	Standard Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting
ASTM D1751 - 04(2008)	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D1752 - 04a(2008)	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D1761 - 12	Standard Test Methods for Mechanical Fasteners in Wood
ASTM D1784 - 11	Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D1863/D1863M - 05(2011)e1	Standard Specification for Mineral Aggregate Used on Built-up Roofs
ASTM D2047 - 11	Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine
ASTM D2136 - 02(2007)	Standard Test Method for Coated Fabrics - Low-Temperature Bend Test
ASTM D2197 - 10	Standard Test Method for Adhesion of Organic Coatings by Scrape Adhesion
ASTM D2240 - 05(2010)	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D2247 - 11	Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
ASTM D2419 - 09	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2565 - 99(2008)	Standard Practice for Xenon Arc-Type Light-Exposure of Plastics Intended for Outdoor Applications
ASTM D2628 - 91(2011)	Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements
ASTM D2794 - 93(2010)	Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)

ASTM D2832 - 92(2011)	Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings
ASTM D2842 - 12	Standard Test Method for Water Absorption of Rigid Cellular Plastics
ASTM D2859 - 06(2011)	Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials
ASTM D3203/D3203M - 11	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3273 - 12	Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
ASTM D3359 - 09e2	Standard Test Methods for Measuring Adhesion by Tape Test
ASTM D3363 - 05(2011)e2	Standard Test Method for Film Hardness by Pencil Test
ASTM D3389 - 10	Standard Test Methods for Coated fabrics Abrasion resistance (Rotary Platform Abrader)
ASTM D3498 - 03(2011)	Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems
ASTM D3597 - 02(2009)	Specification for Woven Upholstery Fabrics – Plain, Tufted or Flocked
ASTM D3960 - 05	Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
ASTM D4060 - 10	Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
ASTM D4101 - 11	Standard Specification for Polypropylene Injection and Extrusion Materials
ASTM D4146 - 10	Standard Test Method for Formability of Zinc-Rich Primer/Chromate Complex Coatings on Steel
ASTM D4318 - 10	Standard Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils
ASTM D4434/D4434M - 12	Standard Specification for Poly (Vinyl Chloride) Sheet Roofing
ASTM D4595 - 11	Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
ASTM D4637/D4637M - 12	Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane
ASTM D4716 - 08	Standard Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
ASTM D4751 - 12	Standard Test Method for Determining Apparent Opening Size of a Geotextile
ASTM D4791 - 10	Standard Test Method for Flat Articles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4802 - 10	Standard Specification for Poly (Methyl Methacrylate) Acrylic Plastic Sheet
ASTM D5055 - 12	Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists
ASTM D5116 - 10	Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products
ASTM D5456 - 12	Standard Specification for Evaluation of Structural Composite Lumber Products
ASTM D6162 - 00a(2008)	Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements
ASTM D6163 - 00(2008)	Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcement
ASTM D6164/D6164M - 11	Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements
ASTM D6386 - 10	Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting
ASTM D6690 - 12	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM D7234 - 12	Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers
ASTM E11 - 09e1	Standard Specification for Wire Cloth and Sieves for Testing Purposes

ASTM E72 - 10.....	Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
ASTM E73 - 83(2007)	Standard Practice for Static Load Testing of Truss Assemblies
ASTM E84 - 12c.....	Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM E90 - 09.....	Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
ASTM E96/E96M - 10	Standard Test Methods for Water Vapor Transmission of Materials
ASTM E119 - 12a.....	Standard Test Methods for Fire Tests of Building Construction and Materials
ASTM E154 - 08a.....	Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
ASTM E162 - 12a.....	Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source
ASTM E220 - 07a.....	Test Method for Calibration of Thermocouples by Comparison Techniques
ASTM E283 - 04(2012)	Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
ASTM E330 - 02(2010)	Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E331 - 00(2009)	Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E336 - 11.....	Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings
ASTM E413 - 10.....	Classification for Rating Sound Insulation
ASTM E477 - 06a.....	Standard Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers
ASTM E 478 - 08.....	Standard Test Methods for Chemical Analysis of Copper Alloys
ASTM E547 - 00(2009)	Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls, by Cyclic Static Air Pressure Difference
ASTM E557 - 12.....	Standard Guide for Installation of Operable Partitions
ASTM E580/E580M - 11b	Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels in Areas Subject to Earthquake Ground Motions
ASTM E605 - 93(2011)	Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members
ASTM E648 - 10e1.....	Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source
ASTM E662 - 13.....	Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
ASTM E695 - 03(2009)	Standard Method of Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading
ASTM E736 - 00(2011)	Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
ASTM E759 - 92(2011)	Standard Test Method for Effect of Deflection of Sprayed Fire-Resistive Material Applied to Structural Members
ASTM E760 - 92(2011)	Standard Test Method for Effect of Impact on Bonding of Sprayed Fire-Resistive Material Applied to Structural Members
ASTM E761 - 92(2011)	Standard Test Method for Compressive Strength of Sprayed Fire-Resistive Material Applied to Structural Members
ASTM E783 - 02(2010)	Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors
ASTM E795 - 05(2012)	Standard Practices for Mounting Test Specimens During Sound Absorption Tests
ASTM E814 - 11a.....	Standard Test Method for Fire Tests of Penetration Fire Stops Systems
ASTM E859 - 93(2011)	Standard Test Method for Air Erosion of Sprayed Fire-Resistive Materials (SFRMs) Applied to Structural Members

ASTM E937 - 93(2011)	Standard Test Method for Corrosion of Steel by Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members
ASTM E1105 - 00(2008)	Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cycle Static Air Pressure Difference
ASTM E1110 - 06(2011)	Standard Classification for Determination of Articulation Class
ASTM E1111 - 07	Standard Test Method for Measuring the Interzone Attenuation of Open Office Components
ASTM E1264 - 08e1	Standard Classification for Acoustical Ceiling Products
ASTM E1333 - 10	Standard Test Method for Determining Formaldehyde Concentrations in Air and Emissions Rates from Wood Products Using a Large Chamber
ASTM E1477 - 98a(2008)	Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers
ASTM E1745 - 11	Standard Specification for Water Vapour Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs
ASTM E1886 - 05	Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
ASTM E1996 - 12a	Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes
ASTM E2174 - 10ae1	Standard Practice for On-Site Inspection of Installed Fire Stops
ASTM E2268-04(2011)	Standard Test Method for water Penetration of Exterior windows, Skylights, and Doors by Rapid Pulsed Air Pressure Difference
ASTM F150 - 06	Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring
ASTM F468 - 12	Standard Specification for Nonferrous Bolts, Hex Cap Screws, and Studs for General Use
ASTM F710 - 11	Standard Practice for Preparing concrete Floors to Receive Resilient Flooring
ASTM F788 - 12	Standard Specification for Surface Discontinuities of Bolts, Screws, and Studs, Inch and Metric Series
ASTM F821/F821M-01(2012)	Standard Specification for Domestic Use Doors and Frames, Steel, Interior, Marine
ASTM F925 - 02(2008)	Standard Test Method for Resistance to Chemicals of Resilient Flooring
ASTM F970 - 07(2011)	Standard Test Method for Static Load Limit
ASTM F1066 - 04(2010)e1	Standard Specification for Vinyl Composition Floor Tile
ASTM F1267 - 12	Standard Specification for Metal, Expanded, Steel
ASTM F1292 - 09	Standard Specification for Impact Attenuation of Surfacing Materials within the Use Zone of Playground Equipment
ASTM F1303 - 04(2009)	Standard Specification for Sheet Vinyl Floor Covering with Backing
ASTM F1344 - 12	Standard Specification for Rubber Floor Tile
ASTM F1514 - 03(2008)	Standard Test Method for Measuring Heat Stability of Resilient Flooring by Color Change
ASTM F1515 - 03(2008)	Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change
ASTM F1700 - 04(2010)	Standard Specification for Solid Vinyl Floor Tile
ASTM F1859 - 12	Standard Specification for Rubber Sheet Floor Covering Without Backing
ASTM F1860 - 12	Standard Specification for Rubber Sheet Floor Covering With Backing
ASTM F1861 - 08(2012)e1	Standard Specification for Resilient Wall Base
ASTM F1869 - 11	Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
ASTM F 1903 - 10	Standard Practice for Testing for Biological Responses to Particles In Vitro
ASTM F1913 - 04(2010)	Standard Specification for Vinyl Sheet Floor Covering Without Backing

ASTM F1951 - 09b.....	Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment
ASTM F2034 - 08.....	Standard Specification for Sheet Linoleum Floor Covering
ASTM F2169 - 12.....	Standard Specification for resilient Stair Treads
ASTM F2440 - 11.....	Standard Specification for Indoor Wall/Feature Padding
ASTM G21 - 09.....	Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi
ASTM G152 - 06.....	Standard Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G153 - 04(2010).....	Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G154 - 12.....	Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials

4.0 CANADIAN GOVERNMENT STANDARDS

Health Canada, Health Products and Food Branch Inspectorate.	
.....	Good Manufacturing Practices Guidelines, Ottawa, 2011
Health Canada, Office of Laboratory Security	
.....	The Laboratory Bio-Safety Guidelines, Ottawa, 3rd Edition - 2004.
Health Canada, Office of Controlled Substances – Therapeutic Products Program	
.....	Directive on Physical Security Requirements for Controlled Substances, December 1999
Justice Canada	Medical Devices Regulations, sor/98-282, Food and Drugs Act (R.S., 1985, c. F-27)
NRCC.....	National Building Code of Canada (NBC), 2010
NRCC.....	National Energy Code of Canada for Buildings (NECB), 2011
NRCC.....	National Fire Code of Canada (NFCC), 2010
PWGSC - MD15128.....	Laboratory Fume Hoods – Guidelines for Departmental Representatives, Design Professionals and Maintenance Personnel, PWGSC, Mechanical and Maintenance Engineering, Real Property Branch, 2008
RWDI	Report #487-1605, October 1987, "Performance of fume hoods in simulated laboratory conditions", for the Health Protection Branch, Health and Welfare Canada

5.0 CGSB – CANADIAN GENERAL STANDARDS BOARD

CAN/CGSB-4.2 – 9.2-M90 / 12.3-2005 – Textile Test Methods
CAN/CGSB-4.162-M80 - Hospital Textiles – Flammability Performance Requirements
CAN/CGSB-7.1-98 - Lightweight Steel Wall Framing Components
CAN/CGSB-8.1-88 - Sieves, Testing, Woven Wire, Inch Series
CAN/CGSB-8.2-M88 – Sieves, Testing, Woven Wire, Metric
CAN/CGSB-11.3-M87 - Hardboard
CAN/CGSB-12.1-M90 - Tempered or Laminated Safety Glass
CAN/CSGB-12.3-M91 - Flat, Clear Float Glass
CAN/CSGB-12.4-M91 - Heat Absorbing Glass
CAN/CGSB-12.6-M91 - Transparent (One-Way) Mirrors
CAN/CGSB-12.8-97 (Jan.01) - Insulating Glass Units
CAN/CGSB-12.9-M91 - Spandrel Glass
CAN/CGSB-12.10-M76 - Glass, Light and Heat Reflecting
CAN/CGSB-12.11-M90 - Wired Safety Glass
CAN/CGSB-12.12-M90 - Plastic Safety Glazing Sheets

CAN/CGSB-12.13-M91 - Patterned Glass

CAN/CGSB-12.20-M89 - Structural Design of Glass for Buildings

CAN/CGSB-25.20-95 - Surface Sealer for Floors

CGSB 31-GP-107Ma (Nov.90) - Non-Inhibited Phosphoric Acid Base Metal Conditioner and Rust Remover

CGSB 37-GP-9Ma - Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing

CGSB 37-GP-56M (Dec.85) - Membrane, Modified, Bituminous, Prefabricated and Reinforced for Roofing

CAN/CGSB-51.32-M77 - Sheathing, Membrane, Breather Type

CAN/CGSB-51.33-M89 - Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction

CAN/CGSB-51.34-M86 (Nov.88) - Vapour Barrier, Polyethylene Sheet for Use in Building Construction

CGSB 51-GP-51M (Feb.81) - Polyethylene Sheet for Use in Building Construction

CAN/CGSB-138.1-96 - Fabric for Chain Link Fence

CAN/CGSB-138.2-96 - Steel Framework for Chain Link Fence

CAN/CGSB-138.3-96 - Installation of Chain Link Fence

CAN/CGSB-138.4-96 - Gates for Chain Link Fence

CAN/CGSB-148.1 NO.4-94..... Methods of Testing Geosynthetics - Geotextiles - Normal Water Permeability
Under No Compressive Load

6.0 CSA – CANADIAN STANDARDS ASSOCIATION

CAN/CSA-A23.1-09/A23.2-09 - Concrete Materials and Methods of Concrete Construction / Methods of Test and
Standard Practices for Concrete

CAN/CSA-A23.3-04 (R2010) - Design of Concrete Structures

CSA A23.4-09 - Precast Concrete - Materials and Construction

CAN/CSA-A82-06 (R2011) – Fired Masonry Brick Made from Clay or Shale

CSA A123.1-05/A123.5-05 (R2010) - Asphalt Shingles Made from Organic Felt and Surfaced with Mineral Granules /
Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules

CAN/CSA-A123.2-03 (R2008) - Asphalt-Coated Roofing Sheets

CSA A123.3-05 (R2010) - Asphalt Saturated Organic Roofing Felt

CAN/CSA-A123.4-04 (R2008) - Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems

CSA A123.17-05 (R2009) - Asphalt Glass Felt Used in Roofing and Waterproofing

CSA A123.21-10 – Standard Test Method for Dynamic Wind Uplift Resistance of Membrane Roofing Systems

CAN3-A123.51-M85 (R2011) - Asphalt Shingle Application on Roof Slopes 1:3 and steeper

CAN3-A123.52-M85 (R2011) - Asphalt Shingle Application on Roof Slopes 1:6 to Less Than 1:3

CAN/CSA-A165 Series-04 (R2009) - CSA Standards for Concrete Masonry Units

CAN/CSA-A179-04 (R2009) - Mortar and Grout for Unit Masonry

CSA A231.1-06/A231.2-06 (R2010) – Precast Concrete Slabs / Precast Concrete Pavers

CAN/CSA-A370-04 (R2009) - Connectors for Masonry

CAN/CSA-A371-04 (R2009) - Masonry Construction for Buildings

AAMA/WDMA/CSA/101/I.S.2/A440-08 - Specification for Windows, Doors, and Skylights

AAMA/WDMA/CSA/101/I.S.2/A440S1-09 – Canadian Supplement to AAMA/WDMA/CSA/101/I.S.2/A440-05

CAN/CSA-A440-00/A440.1-00 (R2005) – Windows / Special Publication, User Selection Guide to A440-00

CAN/CSA-A440.2-09/A440.3-09 - Energy Performance of Windows and Other Fenestration Systems / User Guide to
CSA A440.2-09

CAN/CSA-A440.4-07 (R2012) – Windows, Door and Skylights Installation

CAN/CSA-A660-F10 – Certification des fabricants de systèmes de bâtiment en acier

CAN/CSA-A3000-08 - Cementitious Materials Compendium

ASME A17.1-2007/ CAN/CSA B44-07 - Safety Code for Elevators and Escalators
 CAN/CSA-B44.1-11 / ASME-A17.5-11 – Elevator and Escalator Electrical Equipment
 CSA B51-09 - Boiler, Pressure Vessel, and Pressure Piping Code
 CSA B52-F05 (C2009) – Code sur la réfrigération mécanique
 CAN/CSA-B137 Series-09 - Thermoplastic Pressure Piping Compendium
 CAN/CSA-B149.2-10 – Propane Storage and Handling Code
 CAN/CSA-B355-09 - Lifts for Persons with Physical Disabilities
 CSA B651-12 - Accessible Design for the Built Environment

CSA C22.1-12 - Canadian Electrical Code, Part I, Safety Standard for Electrical Installations
 CSA C22.2 No. 247-92 (R2008) – Operators and System of Doors, Gates, Draperies and Louvres
 CSA C22.10-10 - Québec Construction Code, Chapter V- Electricity- Canadian Electrical Code, Part I (20th Edition) with Québec Amendments

CSA F378 Series-11 – Solar Collectors

CSA G4-09 - Steel Wire Rope for General Purpose and for Mine Hoisting and Mine Haulage
 CSA-G30.18-09 – Carbon Steel Bars for Concrete Reinforcement
 CSA G40.20-04/G40.21-04 (R2009) - General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel

CAN/CSA O80 SERIES-08 (R2012) Wood Preservation
 CSA O112.9-10 Evaluation of Adhesives for Structural Wood Products (Exterior Exposure)
 CSA O112.10-08 Evaluation of Adhesives for Structural Wood Products (Limited Moisture Exposure)
 CSA O121-08 Douglas Fir Plywood
 CAN/CSA O122-06 (R2011) Structural Glued-Laminated Plywood
 CSA O141-05 (R2009) Softwood Lumber
 CSA O151-09 Canadian Softwood Plywood
 CSA O153-13 Poplar Plywood
 CSA O325-07 (R2012) Construction Sheathing

CSA S16-09 Design of Steel Structures
 CSA S136-07 (R2012) Commentary on North American specification for the design of cold-formed steel structural members
 CAN/CSA-S136-07 (R2012) North American Specification for the Design of Cold-Formed Steel Structural Members
 CAN/CSA-S157-05/S157.1-05 (R2010) Strength Design in Aluminum / Commentary on CSA S157-05
 CAN/CSA-S269.3-M92 (R2008) Concrete Formwork
 CSA S304.1-04 (R2010) Design of Masonry Structures
 CSA S413-07 (R2012) Parking Structures

CSA W47.1-09 Certification of Companies for Fusion Welding of Steel
 CSA W47.2-11 Certification of Companies for Fusion Welding of Aluminum
 CSA W48-06 (R2011) Filler Metals and Allied Materials for Metal Arc Welding
 CSA W55.3-08 Certification of Companies for Resistance Welding of Steel and Aluminum
 CSA W59-03 (R2008) Welded Steel Construction (Metal Arc Welding)
 CSA W59.2-M1991 (R2008) Welded Aluminum Construction
 CSA W186-M1990 (R2012) Welding of Reinforcing Bars in Reinforced Concrete Construction

CSA Z11-12 Portable Ladders
 CSA Z32-09 Electrical Safety and Essential Electrical Systems in health care facilities
 CAN/CSA-Z91-02 (R2008) Health and Safety Code for Suspended Equipment Operations
 CSA-Z259.1-05 (R2010) Body Belts and Saddles for Positioning and Travel
 CSA-Z259.10-12 Full Body Harnesses
 CAN/CSA-Z271-10 Safety Code for Suspended Elevating Platforms

CSA Z316.5-04 (R2009)	Fume Hoods and Associates Exhaust Systems
CAN/CSA-Z317.2-10	Special Requirements for Heating, Ventilation, and Air-Conditioning (HVAC) Systems in Health Care Facilities
CAN/CSA-Z317.13-12	Infection Control During Construction, Renovation and Maintenance of Health Care Facilities
CSA Z462-12	Workplace Electrical Safety
CSA Z600-08	Safety of Corded Window Covering Products
CAN/CSA-Z614-07 (R2012)	Children's Play Spaces and Equipment

7.0 EUROPEAN STANDARDS

EC - Directorate, General III	Industry Pharmaceuticals and cosmetics, the rules governing medicinal products in the European Union, Volume 4, Good manufacturing practices, Guidelines for Medicinal products for human and veterinary use
EC - Good Manufacturing Practice, Revision to Annex 1...	Manufacture of Sterile Products, November 2008
EN 101	Dureté superficielle suivant l'échelle Mohs
EN 154	Résistance à l'abrasion

8.0 ISO – INTERNATIONAL STANDARDS ORGANIZATION

ISO 13485: 2003.....	Medical Devices – Quality Management Systems – System Requirements for Regulatory Purposes
ISO 14644.....	Cleanrooms and association controlled environments - Part 1: Classification of air cleanliness (1999), Part 2: Specification for testing and monitoring to prove continued compliance with ISO 14644-1 (2000), Part 3: Test Methods (2005), Part 4: Design, Construction and Start-up (2001), Part 5: Operations (2004), Part 6: Vocabulary (2007), Part 7: Separative Devices (2004), Part 8: Classification of airborne molecular contamination (2006), Part 9: Classification of surface cleanliness by particle concentration (2012)

9.0 NFPA – NATIONAL FIRE PROTECTION ASSOCIATION (AGENCY)

NFPA 13-2013.....	Standard for the Installation of Sprinkler Systems
NFPA 24-2013	Standard for the Installation of Private Fire service Mains and their Appurtenances
NFPA 30-2012	Flammable and Combustible Liquids Code
NFPA 45-2011	Standard on Fire Protection for Laboratories Using Chemicals
NFPA 68-2007	Standard on Explosion Protection by Deflagration Venting
NFPA 70-2011	National Electrical Code
NFPA 80-2013	Standard for Fire Doors, and Other Opening Protectives
NFPA 99-2012	Standard for Health Care Facilities
NFPA 101-2012	Life Safety Code
NFPA 252-2012	Standard methods of Fire Tests of Door Assemblies
NFPA 701-2010	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films
NFPA 1999-2008	Standard on Protective Clothing for Emergency Medical Operations

10.0 ONTARIO PROVINCIAL STANDARDS

Ontario Building Code (OBC), 2006	
OPSS 102-1992	Weighing of Materials
OPSS 1001-2005	Material Specification for Aggregates – General
OPSS 1003-2006	Aggregates - Hot Mixed, Hot Laid, Asphaltic Concrete
OPSS 1010-2004	Aggregates - Granular A, B, M and Select Subgrade Material
OPSS 1101-2007	Performance Graded Asphalt Cement
OPSS 1150-2010	Specification for Hot Mixed Asphalt
OPSS 1154-1993	Specification for Hot Mixed, Hot Laid, Asphaltic Concrete Containing Reclaimed Asphaltic Pavement

11.0 QUEBEC PROVINCIAL STANDARDS

NQ 0605-100 (2001)	Aménagement paysager à l'aide de végétaux
NQ 0605-200 (2001)	Entretien arboricole et horticole
NQ 0605-300 (2001)	Produits de pépinières et de gazon
NQ 0605-400 (2001)	Produits de serres
BNQ 0605-500 (2008)	Aménagement paysager à l'aide de matériaux inertes
BNQ 1809-300 (2007)	Travaux de construction-Clauses techniques générales-Conduites d'eau potable et d'égout
BNQ 1809-500 (2006)	Travaux de construction-Trottoirs et bordures en béton
NQ 2560-114 (2002)	Travaux de génie civil - Granulats
BNQ 2560-500 (2003)	Granulats - Détermination de l'indice pétrographique du potentiel de gonflement sulfatique des matériaux granulaires - Méthode d'essai pour l'évaluation de l'IPPG
BNQ 2560-510 (2003)	Granulats - Guide d'application de la méthode d'essai pour la caractérisation du potentiel de gonflement sulfatique des matériaux granulaires
NQ 2560-600 (2002)	Granulats - Matériaux recyclés fabriqués à partir de résidus de béton, d'enrobés bitumineux et de briques – Classification et caractéristiques
BNQ 2624-210 (2010)	Bordures en béton préfabriquées - Caractéristiques dimensionnelles, géométriques et physiques
NQ 3315-112 (1996)	Glissières de sécurité - Éléments de glissement en tôle d'acier ondulée galvanisée et accessoires
NQ 3660-950 (2003)	Innocuité des produits et des matériaux en contact avec l'eau potable (03-04-11)
CNRC	Code de construction du Québec, chapitre 1, bâtiment et CNB – Canada 2005 (modifié)
CSST	Normes de la Commission de la santé et de la sécurité du travail (Québec)
Electrical Code 2010	
MTQ	Cahier des charges et devis généraux - Infrastructures routières - Construction et réparation – Édition 2013 (CCDG)
MTQ	LC 21-040 Analyse granulométrique (méthode d'essai)
Regulation respecting energy conservation in new buildings, E-1.1, r.1, 2011	
Safety code for the construction industry, S-2.1, r.6, 2008	

12.0 SUSTAINABLE BUILDING STANDARDS

CaGBC	LEED Canada Reference Guide for Green Building Design and Construction 2009
CaGBC	LEED Canada for Existing Buildings: Operations and Maintenance 2009
FSC-STD-01-001-(2012)	FSC Principle and Criteria for Forest Stewardship
FSC-STD-20-002-(2012)	Structure and Content of Forest Stewardship Standards V2-1
GPS (MPI)	Green Performance Standard
GS-11	Green Seal Standard for Paints and Coatings
SCAQMD Rule 1113-11	Architectural Coatings
SCAQMD Rule 1168-05	Adhesives and Sealants Applications

13.0 UL – UNDERWRITERS' LABORATORIES / ULC - UNDERWRITERS' LABORATORIES OF CANADA

UL 325–2002	Standard for Door, Drapery, Gate, Louver and Window Operators and Systems
UL 586-2009	Standard for High-Efficiency, Particulate, Air Filter Units
UL 723-2008	Standard for test for Surface Burning Characteristics of Building Materials

CAN/ULC-S101-07-EN	Standard Methods of Fire Endurance Tests of Building Construction and Materials
CAN/ULC-S102-10- EN	Method of Test for Surface Burning Characteristics of Building Materials and Assemblies
CAN/ULC-S102.2-10- EN	Method of Test for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies
CAN/ULC-S104-10- EN	Méthode normalisée des essais de comportement au feu des portes
CAN/ULC-S105-09- EN	Standard Specification for Fire Door Frames Meeting the Performance Required by CAN/ULC- S104
ULC CAN4-S106-M80-EN	Standard Method of Fire Tests of Window and Glass Block Assemblies
CAN/ULC-S107-10- EN	Method of Fire Tests of Roof Coverings
CAN/ULC-S109-03- EN	Flame Tests of Flame Resistant Fabrics and Films
CAN/ULC-S113-07- EN	Standard Specifications for Wood Core Doors Meeting the Performance Required by CAN4-S104-77 for 20 minutes Fire Rated Closure Assemblies
CAN/ULC-S114-05- EN	Standard Method of Test Determination of Non-Combustibility in Building Materials
CAN/ULC-S115-11- EN	Standard Method of Fire Tests of Firestop Systems
CAN/ULC-S126-06- EN	Standard Method of Test for Fire Spread Under Roof-Deck Assemblies
CAN/ULC-S133-07- EN	Standard for Door Closers Intended for Use with Swinging Doors
CAN/ULC-S138-06- EN	Standard method of test for fire growth of insulated building panels in a full-scale room configuration
CAN/ULC-S533-08- EN	Standard for Egress Door Securing and Releasing Devices
CAN/ULC-S701-11- EN	Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering
CAN/ULC-S702-09-AM1- EN.....	Standard for Thermal Insulation Mineral Fibre, for Buildings
CAN/ULC-S703-09- EN	Standard for Cellulose Fibre Insulation (CFI) for Buildings
CAN/ULC S704-11- EN.....	Standard for Thermal Insulation Polyurethane and Polyisocyanurate Boards, Faced
CAN/ULC-S705.1-01-AM3- EN.....	Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density - Material – Specification
CAN/ULC-S705.2-05- EN	Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density, Installer's Responsibilities – Specification
CAN/ULC-S706-09-ER1- EN	Standard for Wood Fibre Thermal Insulation for Buildings
CAN/ULC-S710.1-11- EN	Standard for thermal Insulation-Bead-Applied One Component Polyurethane Air Sealant Foam, Part 1
CAN/ULC-S710.2-11- EN	Standard for thermal Insulation-Bead-Applied One Component Polyurethane Air Sealant Foam, Part 2
CAN/ULC-S770-09- EN	Standard method Determination of L-term Thermal Resistance of Closed-Cell Thermal Insulating Foams

14.0 **U.S. GOVERNMENT STANDARDS**

L - F - 475A (3).....	(U.S. Federal Specification for Vinyl Sheet Goods)
NAVY RR-T-650E	Treads, Metallic and non-metallic, skid resistant
OSHA 1910-106.....	Hazardous Materials
QQ-S-775E	(U.S. Federal Specification for Steel Sheets, Carbon, Zinc-Coated (Galvanized) by the Hot-dip Process
QQ-L-201f (1965, with amend.2, Nov.17, 1970)	(U.S. Federal Specification for Lead Sheet)
U.S. Dept. of Health and Human Services, FDA, 21 CFR 177.2600	(Rubber articles Intended for Repeated Use)
U.S. Dept. of Health and Human Services, FDA, 21 CFR Part 11,	Electronic Records; Electronic Signatures
U.S. Dept. of Health and Human Services, FDA, 21 CFR Parts 808, 812 and 820,	Exemptions from Federal Prevention of State and Local Medical Device Requirements; Investigational Device Exemption, Quality System regulation
U.S. Dept. of Health and Human Services, FDA, Guidance for Industry: Sterile Drug Products Produced by Aseptic Processing – Current Good Manufacturing Facilities, September 2004	

U.S. FED STD. 141

U.S. FED.STD. 595B - Colors Use in Government Procurement

15.0 OTHER NORMS AND REFERENCES

AA	Aluminum Design Manual (2010)
AA DAF 45 (1997).....	Designation System for Aluminum Finishes
AA	Standards for Anodized Architectural Aluminum
AA	Aluminium Sheet Metal Work in Building Construction
AA Teal Sheets	International Alloy Designations and Chemical Composition Limits for Wrought Aluminum and Wrought Aluminum Alloys incluant l'addendum du 11 février 2011
AAFC.....	HACCP Dairy Models / Modèles génériques HACCP
AAMA 501-05.....	Methods of Test for Exterior Walls
AAMA 501.1-05.....	Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure
AAMA 501.2-09.....	Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls and Sloped Glazing Systems
AAMA 502-12.....	Voluntary Specification for Field testing of Newly Installed Fenestration Products
AAMA 603.8	Voluntary Performance requirements and Test procedures for Pigmented Organic Coatings on Extruded Aluminium
AAMA 611-12.....	Voluntary Specifications, Performance Requirements and Test Procedures for Anodized Architectural Aluminium
AAMA 1503-09.....	Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors, and Glazed Wall Sections
AAMA 2603-02.....	Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminium Extrusions and Panels
AAMA 2604-10.....	Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminium Extrusions and Panels
AAMA 2605-11	Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminium Extrusions and Panels
AAMA CW-10-12.....	Care and Handling of Architectural Aluminum From Shop to Site
AAMA CW-DG-1-96.....	Aluminum Curtain Wall Design Guide Manual
AAMA TIR-A1-04	Sound Control for Fenestration Products
AECB	Regulatory Guide R-52 – Rev.1, "Design Guide for Basic and Intermediate Level Radioisotope Laboratories", June 1991
AIA	Guidelines for Design and Construction of Hospital and Health Care Facilities (2010).
AISC.....	Specification for Structural Steel Buildings, February 18, 2010 (ANSI/AISC 360-10)
AJQ	Association des jardineries du Québec – Various publications
AMA 1-II	Ceiling Sound Transmission Tests by the Two-Room Method
AMCA.....	Standards
AMCQ	Devis couvertures
ASHRAE	Handbook: Fundamentals, Refrigeration, HVAC Applications and HVAC Systems and Equipment
ASME B18.6.4-2005	Thread Forming and Thread Cutting Tapping Screws and Metallic Drive Screws (Inch Series)
ASME BPE-2012.....	Bioprocessing Equipment Standard
Association Canadienne des Pépiniéristes et des Paysagistes	Canadian Standards for Nursery Stock
AWI / AWMAC / WI	Architectural Woodwork Standards, 1st edition, 2009
AWPA M2-11	Standard for inspection of treated Wood Products
AWS D1.1/D1.1M - 2010.....	Structural Welding Code - Steel
AWS D1.3/D1.3M - 2008.....	Structural Welding Code - Sheet Steel
AWS D18.1/D18.1M - 2009...	Specification for Welding of Austenitic Stainless Steel Tube and Pipe Systems in Sanitary (hygienic) Applications
AWS D18.2 – 2009.....	Guide to Weld Discoloration Levels on Inside of Austenitic Stainless Steel Tube (Large)

BIA	Brick Institute of America, Technical Notes
CCAC	Canadian Council on Animal Care, Guide to the Care and Use of Experimental Animals – Volume 1, 2nd edition, 1993, Volume 2, 1984
CCAC	Canadian Council on Animal Care, Guidelines on: Laboratory animal facilities - Characteristics, design and development, 2003
CCI	Contract Manual of Carpet Installation
CCMCC	Firewall - A Design Guide
CertiWood	The Plywood Handbook, 2005
CFIA	FSEP/HACCP, Hazards Analysis, Critical Control Points, Food Safety Enhancement Program
CFIA	National Dairy Council, Dairy Establishment Inspection Manual
CISC	Code of Standard Practice
CISC/CPMA Standard 1-73a	A Quick-drying one-coat Paint for Use on Structural Steel
CISCA	Recommended Test Procedures for Access Floors (updated 2007)
CLA	Canadian Hardwood Flooring - The Longstanding Choice (Grading Rule)
CNLA	Canadian Standards for Nursery Stock (Latest Edition)
CPSC 16 CFR Ch.11	Part 1201 Category I and II, Safety Standard for Architectural Glazing Materials
CRCA	Roofing Specification Manual
CSDMA	Canadian Commercial for Steel Door and Frame Specifications, latest edition
CSSBI	Lightweight Steel Framing Design Manual
CSSBI	Standards for Steel Building Systems
CSSBI S5-2011	Guide Specification for Wind Bearing Steel Studs
DHI	Recommended Locations for Builder's Hardware
EPA 832/R-92-005	Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices
Evan Terry Associates, PC	Americans with Disabilities Act Facilities Compliance, A Practical Guide, John Wiley and Sons, Inc.,
ESD Association Standard 7.1	Resistance Characteristics of Materials.
FDA 21 CFR 177.2600	Rubber articles intended for repeated use
FM Global	Approval Guide
FM Global	Loss Prevention Data Sheets
FSC	Norme Boréale nationale, Août 2004
FS TT-P-645	Primer, paint zinc-mlybdate, alkyd type
GA	Normes de Gypsum Association
GA-214-10	Recommended levels Gypsum Board Finish
GANA	Glazing Reference Manual 2009
ICRI	CSP (concrete surface profile) guidelines
ISA 5.3-1983	Graphic Symbols for Distributed Control / Shared Display Instrumentation, Logic and Computer Systems
ISA 5.4-1991	Instrument Loop Diagrams
ISPE	Baseline Pharmaceutical Engineering Guide for New and Renovated Facilities: Volume 3, Sterile Manufacturing Facilities, September 2011
MIL D 3134J	Deck Covering Materials
MPI #4	Block Filler, Latex, Interior/Exterior
MPI #50	Primer Sealer, Latex, Interior
MPI #60	Floor Paint, Latex, Low Gloss

MPI #128.....	Varnish, Water Based, Clear, Satin
MPI #130.....	Varnish, Water Based, Clear, Gloss
MPI #143.....	Latex, Interior, Institutional Low Odor/VOC, Flat (MPI Gloss Level 1)
MPI #144.....	Latex, Interior, Institutional Low Odor/VOC, (MPI Gloss Level 2)
MPI #146.....	Latex, Interior, Institutional Low Odor/VOC, (MPI Gloss Level 4)
MPI #147.....	Latex, Interior, Institutional Low Odor/VOC, Semi-Gloss (MPI Gloss Level 5)
MPI #149.....	Primer Sealer, Interior, Institutional Low Odor/VOC
NAAMM - AMP 510-92.....	Metal Stairs Manual, 1992
NACE RP 01 88.....	Discontinuity (holiday) Testing of New Protective Coatings on Conductive Substrate
National Research Council.....	Guide for the Care and Use of Laboratory Animals, Washington, D.C., 2011
NCHRP 244.....	Condition evaluation of Concrete Bridges relative to reinforcement Corrosion, volume 5: methods of evaluating the Effectiveness of penetrating Sealers
NCMA.....	TEK No.28
NEMA LD3-2005.....	High Pressure Decorative Laminates
NEMA 4.....	Stainless Steel Enclosures (Enclosure type constructed for either indoor or outdoor use to provide a degree of protection)
NEMA 4X.....	Stainless Steel Enclosures (Enclosures constructed for either indoor or outdoor use to provide a degree of protection - An additional level of protection against corrosion; and that will be undamaged by the external formation of ice on the enclosure)
NHLA.....	Rules for the Measurement and Inspection of Hardwood and Cypress, 2011
NLGA.....	Canadian Lumber Grading Manual (2001)
NLGA.....	Standard Grading Rules for Canadian Lumber (2012)
OAA/OGCA Document 100.....	Recommended Procedures Concerning Substantial Performance of Construction Contracts and Completion Take-Over of Projects
OSHA 29 CFR 1910.23.....	Protection for floor openings
PCA.....	Recommended Practices for Laying Concrete Blocks
PCE-44.....	Adhésifs
PCE-45.....	Produits d'étanchéité et de calfeutrage
PCE-76.....	Enduits
PCI.....	Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products
PCI.....	Recommended Practice for Glass Fibre Reinforced Concrete Panels, 2001
QMRA.....	Fire Prevention Manual
SEFA 1-2010.....	Recommended Practices for Laboratory Fume Hoods
SEFA 2-2010.....	Recommended Practices for Installations
SEFA 3-2010.....	Recommended Practices for Laboratory Work Surfaces
SEFA 4-2010.....	Glossary of Terms for Recommended Practices
SEFA 5-2010.....	Scope of Work Recommended Practices
SEFA 7-2010.....	Recommended Practices for Fixtures
SEFA 8-M-2010.....	Recommended Practices for Metal Laboratory Grade Furniture, Casework, Shelving and Tables
SEFA 8-PH-2010.....	Recommended Practices for Phenolic Laboratory Grade Furniture, Casework and Shelving
SEFA 8-PL-2010.....	Recommended Practices for Plastic Laminate Laboratory Grade Furniture, Casework, Shelving and Tables
SEFA 8-P-2010.....	Recommended Practices for Polypropylene Laboratory Grade Furniture, Casework, Shelving and Tables
SEFA 8-W-2010.....	Recommended Practices for Wood Laboratory Grade Furniture, Casework, Shelving and Tables

SEFA 9-2010.....	Recommended Practices for Ductless Enclosures
SEFA 11-2010.....	Recommended Practices for Liquid Chemical Storage Cabinets
SSPC-Paint 20	Zinc-Rich Coating, Type 1 - Inorganic and Type II - Organic
SSPC	Systems and Specifications, SSPC Painting Manual, Volume 2, 2012 Edition
TTMAC.....	Specification Guide 09 30 00, Tile Installation Manual (latest edition)
UBC (Uniform Building Code) 42-1	
VA Master Specification PG-18-1	
Ville de Montréal - 4M-VM-10	Devis technique normalisé pour les enrobés à chaud (last edition)

End of Section

1.0 General

- .1 Related requirements specified elsewhere:
 - .1 Verification by affidavits and certification that specified products meet requirements of reference standards: **Section 01 33 00** and **technical Sections**.
 - .2 General requirements for submitting test and inspection reports: **Section 01 33 00**.
 - .3 Payments for inspections and testing: **Section 01 29 83**.
 - .4 Hazardous materials: **Section 01 52 00**

2.0 Qualifications of Labour and Execution (P.Q.)

- .1 Unless otherwise specified in a more detailed manner, workmanship shall be of the highest quality recognized by the trade executing the work in accordance with established standard practices, the Contractor using the best methods recommended by the manufacturer of the product, to obtain best possible quality and as approved by the Departmental Representative.
- .2 Technical requirements, methods of operation and procedures specified in this specification constitute the minimum requirements. The warranties and the conventions of the manufactures must be respected and must remain valid during the prescribed period.
- .3 Assign work only to skilled workers, suppliers and subcontractors who have complete knowledge, not only of the conditions of this specification, but of jurisdictional requirements, and reference standards and specifications.
- .4 All work, including demolition, must be carried out by qualified workers, having their Qualification Certificate, registered with CSST, and if not, accredited by the manufacturer's of the products. The Departmental Representative reserves right to require the dismissal from site of workers deemed incompetent or careless.
- .5 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.
- .6 A qualified superintendent will be on the job at all times, who can be reached by cell phone at all times.
- .7 Submit work reports, if required.
- .8 Before starting work, Contractor shall provide written documentation showing the qualifications of the specialized firms and workers required as specified under the **technical Sections** of this specification, for the kind and scope of work required.

3.0 Tolerances for Installation of Work

- .1 Unless acceptable tolerances are otherwise specified in a Section:
 - .1 "Plumb and level" shall mean plumb or level within 3 mm in 3 m (1/8" in 10'-0").
 - .2 "Square" shall mean not in excess of 10 seconds lesser or greater than 90 degrees.
 - .2 See also **Structure**, **Mechanical** and **Electrical** for other requirements, if any.
-

4.0 Inspection and Testing

- .1 This Section establishes requirements for performance of inspection and testing specified under **"Submittals"**, **"Source Quality Control"** and **"Field Quality Control"** in the technical Sections of the specification.
- .2 Inspection and Testing done by independent agencies ordered by the Departmental Representative do not, in any way, limit the Contractor's responsibility for ensuring that products and execution of the work meet contract requirements; inspection and testing required to this end, must be executed by the Contractor.
- .3 The Contractor shall engage and pay for the services of an approved company for mill tests and certificates of compliance, inspections and tests required by jurisdictional authorities, or required by this contract, to be carried out under the Departmental Representative' supervision, and additional inspections and tests as may be performed for the Subcontractor's own purposes and convenience. Include cost of this inspection and testing in the contract price – See also **Section 01 29 83**.
- .4 Upon receipt of reports of inspections and tests, the Departmental Representative, in consultation with the Departmental Representative, will decide upon any action that may be required.
- .5 If the Departmental Representative are to observe the inspections, tests or approvals required by the contract documents, they will do so promptly and, where practicable, at the source of supply.

5.0 Qualifications and Reference Standards

- .1 Qualifications of inspection and testing companies:
 - .1 Companies engaged for inspection and testing, hired by the Departmental Representative or the Contractor, shall provide equipment, methods of recording and evaluation, and knowledgeable personnel to conduct tests precisely as specified in reference standards.
 - .2 If requested, submit affidavits and copies of certificates of calibration, as per ASTM standards, prepared by an accredited firm to verify that testing equipment was calibrated and its accuracy verified within the previous twelve months period.
- .2 Reference standards:
 - .1 Perform inspection and testing in accordance with standards quoted and as required by procedures specified in reference standards mentioned in specification Sections applicable to the work being inspected and tested.

6.0 Responsibilities of the Contractor

- .1 Cooperate with inspection and testing companies in all respects.
 - .2 Provide labour and facilities required for:
 - .1 Access for inspections and testing personnel.
-

- .2 Samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in work; deliver them to testing laboratory as required.
- .3 Obtaining and handling samples and materials on site.
- .4 Facilitating inspections and testing.
- .5 Making good work uncovered to complete inspection and testing work.
- .6 Providing sufficient space to store and cure test samples.

- .3 Employment of inspection/testing agencies does not relax responsibility to perform work in accordance with Contract Documents.

- .4 Notify the Departmental Representative well in advance so that arrangements may be scheduled with the testing company and all concerned.

- .5 Promptly send to the laboratory or prepare in place samples and/or materials required for testing, as specifically requested in specifications.

- .6 Pay costs for uncovering and making good work that is covered before required inspection or testing and review by the Departmental Representative.

- .7 Make good work disturbed by inspection and test.

- .8 When it is discovered on inspection that work is proceeding with incorrect materials or methods, ensure that corrections are immediately made and that work improperly completed is replaced.

- .9 If defects are revealed during inspection and/or testing, the appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to the Departmental Representative. Pay costs for retesting and reinspection.

- .10 Submit required documents and elements as required in **Section 01 33 00** and her **Annex**, and the **technical Sections**, and as prescribed at **Section 01 45 00**.

7.0 Responsibilities of Contractor's Inspection and Testing Companies

- .1 Determine from specifications and drawings the extent of inspection and testing work required for this project. Notify the Departmental Representative of any omissions or discrepancies in the work specified.

- .2 Perform applicable inspection and testing work described in the specification and as may be additionally directed.

- .3 Provide competent inspection and testing personnel when notified by the Contractor that applicable work is proceeding. Inspection personnel shall cooperate with the Departmental Representative and Contractor to expedite the work.

- .4 Inform the Departmental Representative of intended scheduling of inspection and of each visit of inspection personnel to the work site and fabricator's operations.

- .5 Notify the Departmental Representative and Contractor of deficiencies and irregularities in work immediately as they are observed in course of inspections and tests.
- .6 Inspection and testing companies shall not perform any of the Contractor's work, and shall not authorize:
 - .1 Performance of work that is not in strict accordance with the contract documents.
 - .2 Approval or acceptance of any part of the work.

8.0 Procedures to be Followed by Contractor's Inspection and Testing Companies

- .1 Perform specified inspection and testing only in accordance with specified reference standards, or as approved.
- .2 Observe and report on compliance of work to requirements of contract documents.
- .3 Ensure that inspectors are on site or at fabricator's operations for full duration of critical operations, and as otherwise required to determine that work is being performed in accordance with the contract documents.
- .4 Identify samples.
- .5 Identify sources of materials.
- .6 Review and report on progress of work. Report on count of units fabricated and inspected at fabricator's operations.
- .7 Observe and report on conditions of significance to work in progress at time of inspection or at fabricator's operations. Include when applicable and if critical to work in progress:
 - .1 Time and date of inspection.
 - .2 Air temperature in temporary enclosures, if applicable, and temperature of materials, and adjacent surfaces.
 - .3 Humidity of air, and moisture content of materials and adjacent surfaces.
 - .4 Presence of sunlight, wind, rain, snow and other weather conditions.
- .8 Ensure that only materials from the work and intended for use therein are tested where required by the specification.
- .9 Determine locations for work to be tested.

9.0 Submittals

- .1 Certificates of conformity (C.C.):
 - .1 Submit certificates which are required in the technical Sections of the Specification.
 - .2 Submit certificates in duplicate and signed and certified by a responsible officer of the certifying company.
 - .3 Submit also certificates and proof of acceptance by authorities and standards publishing organizations, as required by the latter..
- .2 Inspection and testing reports (T.R. / F.R.):

- .1 Submit **1 copy** and an **electronic version** of inspection and test reports required, in number of copies as specified under **technical Sections** of this specification.
- .2 The reports must be signed by an authorised representative of the inspection or test company concerned.
- .3 Each report shall include:
 - .1 Date of issue.
 - .2 Project title and number.
 - .3 Name and address of Inspection and Testing Company.
 - .4 Name and signature of inspector or tester.
 - .5 Date of inspection or test.
 - .6 Identification of product (**with its abbreviation**) and specification Section covering inspected or tested work.
 - .7 Source of material or sample tested.
 - .8 Type of inspection or test.
 - .9 Comments and observation on compliance to specification requirements and/or standards.
- .4 Submit inspection and testing reports in addition to:
 - .1 Departmental Representative
 - .2 Jurisdictional authorities where they require such reports.
 - .3 Subcontractors and/or Suppliers or manufacturers concerned.

10.0 **Mock-Ups (M.U.)**

- .1 Submit field-erected mock-ups of work, complete with specified materials and workmanship, if applicable, as required by **Section 01 33 00**.
- .2 Erect mock-ups in appropriate sizes and at locations acceptable to Departmental Representative, if applicable, as required in individual Sections.
- .3 Leave enough time for review by Departmental Representative.
- .4 Failure to prepare mock ups in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 Reviewed mock-ups will become a **benchmark** for workmanship and material against which work installed will be verified.
- .6 Reviewed mock-ups may be integrated into finished work, or must be removed, in accordance to the Departmental Representative' instructions.

11.0 **Defective Products and Work**

- .1 Until the Departmental Representative takes possession of the Work, products and work found defective, not in accordance with the specification, or subjected to damages caused by the Contractor's, his employees' or sub-contractors' negligence or caused by fire, weather conditions or any other reason during or after construction, or before expiration of the warranty period as specified, will be rejected from the work, without regard to previous inspections as applicable, and must be replaced at no cost to the Departmental Representative.
-

- .2 Remove products and work rejected by the Departmental Representative from site immediately, included or not in the finished work.
- .3 Replace rejected work and provide material and labour for replacement as required by the specification. Previous inspection and payment shall not relieve the Contractor from the obligation of providing sound satisfactory and quality work in compliance with this specification.
- .4 Replacement of rejected material shall not be the cause of any delay to the project completion.
- .5 If in the opinion of the Departmental Representative it is not expedient to correct defective work or work not performed in accordance with the Contract Documents, the Departmental Representative may deduct from the contract price the amount between the value of work performed and the value of work called for by the Contract Documents, the amount of which shall be determined by the Departmental Representative.

12.0 Environmental Requirements

- .1 Respect all environmental requirements for the handling, storage and installation of products.

End of Section

1.0 Temporary Services

.1 Electric power and lighting:

- .1 Departmental Representative will pay for temporary power during construction for temporary lighting and operating of power tools, to a maximum supply of 230 volts 30 amps. Provide and pay for need in excess to this maximum.
- .2 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal, in accordance with governing regulations and ordinances.
- .3 Location of temporary electrical distribution shall be coordinated with the Departmental Representative. Make sure not to muddle cables.
- .4 Provide weathertight enclosures for electric equipment.
- .5 Make connections available to any parts of the work within a distance of 30 m (100'-0").
- .6 Provide power for temporary facilities and site offices.
- .7 Install temporary lighting for:
 - .1 Emergency exit to provide protection and safety to entire project in accordance to Health and Safety Code, to meet all recommended safety levels.
 - .2 Execution of work throughout work areas as required, evenly distributed, and adequate lighting level for proper installation and application of materials.
- .8 Maintain temporary lighting until completion of inspection.

.2 Communication facilities:

- .1 Provide and pay for temporary communication facilities, specially telephone, fax, data hook up lines and equipment necessary for own use and use of Departmental Representative; connect same to the main networks.
- .2 Ensure that telecommunication equipment does not cause interferences to the equipment used simultaneously by the existing building, including radio frequencies, if applicable.

.3 Water supply:

- .1 The Departmental Representative will supply the water and pay the expenses for its consumption.
- .2 Arrange for connection with appropriate utility company and pay all costs for installation, maintenance and removal, in accordance with governing regulations and ordinances.
- .3 Make good damaged work.

.4 Fire protection:

- .1 Maintain fire protection as required by jurisdictional authorities.
- .2 See **section 01 52 00**.

.5 Connections to other utilities:

- .1 Make arrangements for connection to other utilities not mentioned above, such as telephone, etc., as required for temporary use during construction.
- .2 Pay connection and disconnection charges, and for use of services required by construction.

End of Section

1.0 References

- .1 The temporary facilities and controls shall be in conformity with by-laws and regulations in force, as well as with standards and documents concerned, latest edition in force.
- .2 See also **Section 01 35 29.06**.

2.0 General

- .1 Prepare and obtain approval from the Departmental Representative and CSC a site plan for each phase, indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation. Identify areas which have to be gravelled to prevent tracking of mud. Indicate use of supplemental or other staging area. Be aware of the following constraints:
 - .1 Bloc B: the site trailer and the waste container will be installed facing Building B, on the side of Pavillon A and G.
 - .2 Include in the work, all construction facilities and temporary controls as indicated on **drawings** or as necessary for the work, or as required by jurisdictional authorities, or as otherwise specified, including the preparation of the areas designated for their installation or relocation. Install to meet needs of construction as work progresses. Maintain construction and temporary facilities during use, relocate them as required by the work, remove them at completion of work and make good adjacent work and property affected by their installation.
 - .3 Include in the work, construction and temporary facilities to provide for construction safety such as temporary barriers and enclosures, bracing, supports, storage, sanitation and first aid facilities, fire protection devices, electrical supply, temporary heat, ventilation, construction equipment with its supports and guards, stairs, ramps, platforms, runways, ladders, scaffolds, guardrails, temporary flooring, rubbish chutes, and walkways, lighting, all as required of the Contractor by existing applicable regulations of jurisdictional authorities and as prescribed in other **Sections** of the contract documents.
 - .4 Pay for and obtain all permits for temporary facilities and controls.
 - .5 Take all necessary measures to prevent propagation of dust.
 - .6 Provide proof of conformity that all construction facilities and temporary controls meet applicable standards and regulations.
 - .7 Erect temporary work, in conformity with standard CSA 269-1 with new materials only unless use of recycled materials is approved.
 - .8 Ensure that structural, mechanical, and electrical characteristics of temporary facilities are suitable and adequate for intended use. Be responsible that no injuries are caused to persons and that no property damages occur due to failure of temporary facilities resulting from placing, location, rigidity, lack of protection, structural integrity, removal, or any other cause.
 - .9 Provide temporary utilities controls in order to complete work expeditiously.
-

- .10 Ensure that all temporary services and connexions do not have an impact on the functioning and efficiency of the existing facilities.
- .11 Apply two coats of paint, in approved colours, on exposed side of temporary constructions, such as all temporary barriers and enclosures, storage sheds, offices, supports, bracings and rear side of signs, etc. Use appropriate paint type for exterior elements.

3.0 **Parking**

- .1 Parking on site will be allowed. A parking zone will be identifies at the start of Work
- .2 Provide and maintain adequate access to project site.

4.0 **Site Offices**

- .1 Provide temporary spaces required for the administration of the work, including meeting room accommodating 12 persons, with a table and ergonomic chairs.
- .2 Provide required systems to maintain 22°C inside temperature year round.
- .3 Finish inside walls and ceiling with plywood, hardboard or wallboard and paint in selected colours. Finish floor as required.
- .4 Install electrical lighting system to provide min 750 lx, using surface mounted, shielded commercial fixtures with 10% upward light component.
- .5 Provide electrical outlets at 4000 mm (13'- 4") c.c.
- .6 Telephone service for the Departmental Representative. Costs shall be paid by those who make the calls.
- .7 Provide and install a fax machine and a photocopying machine. Pay for the services and make them available to the Departmental Representative.
- .8 Provide for the Departmental Representative's use washroom facilities adjacent to office complete with flush or chemical type toilet, lavatory and mirror and maintain supply of paper towels and toilet tissue.
- .9 Maintain space in clean condition; clean daily.
- .10 Provide a clearly marked and fully stocked first-aid kit in a readily available location.
- .11 Coordinate the location of Subcontractors' own offices as necessary.

5.0 **Sanitary Facilities**

- .1 Provide sanitary facilities for the use of workers complying with current rules and regulations.

- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition at all times, cleaning after each shift to the Departmental Representative's satisfaction..

6.0 Storage and Workshops

- .1 Provide and install temporary lockable storage facilities, that can resist the elements with floor above ground, or of container type, to store materials, tools and equipment as well as recycling goods subject to damage when exposed.
- .2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with construction activities, as well as to the operations and the activities of the existing facilities.
- .3 Provide heated area as workshop to fabricate small items and light work on site.
- .4 Maintain these spaces.
- .5 Neither the Departmental Representative nor the users of the existing buildings will be responsible for the security of the Contractor's, the Subcontractors, or Suppliers' tools, equipment, materials and documents.

7.0 Construction Aids

- .1 Hoisting:
 - .1 Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment. Make financial arrangements with subcontractors for use thereof.
 - .2 Hoists and cranes shall be operated by qualified operators.
 - .2 Scaffolding and equipment:
 - .1 Contractors shall be responsible for the supply, erection and safe maintenance of all necessary facilities such as scaffolds, temporary enclosures, access ramps, stairs, ladders, flying scaffolding, platforms, and ensure the maintenance for the proper execution of the work and for the use of all trades.
 - .2 The Departmental Representative and the testing personnel will use the scaffolding to inspect the work, as applicable.
 - .3 Design and construct falsework in accordance with applicable standards.
 - .4 Construct and maintain scaffolding in rigid, secure and safe manner, in accordance with applicable standards. Erect scaffolding independent of walls.
 - .5 All scaffolding, false work and equipment shall satisfy the Departmental Representative's safety requirements.
 - .6 Each user of scaffolding shall be responsible for its examination and testing for safety before using it. He shall make it secure if necessary, or shall notify the Contractor in writing that he will not commence work until it is made secure; otherwise he will be held responsible for accidents due to its lack of safety.
 - .7 Remove scaffolding promptly when no longer required, but not before inspection by the Departmental Representative.
 - .3 Material handling equipment:
-

- .1 No motorized material handling equipment can be used on the premises without the Departmental Representative's authorization
- .2 It is not permitted to use any material handling equipment, as well as equipment, tools or materials belonging to the Departmental Representative.
- .2 Motorized material handling equipment shall be used only by qualified, licensed operators.
- .3 All motorized material handling equipment used inside the plant shall be electrically powered and must be in safe working order and have the required capacity.
- .4 All such equipment shall be removed once the work is completed.
- .4 Motorized site vehicles and equipment:
 - .1 Ensure all motorized vehicles coming or operating on site are in good state and regularly maintained.
 - .2 Turn off the motors of these vehicles and equipment when not in use.
 - .3 Drive and manipulate with caution, respecting at all times speed and loading limits and circulation plan (away from or outside river banks and wooded areas, etc.).
 - .4 If need be, store and manipulate petroleum products and all other contaminants, and do refuelling of motors (on plane and non porous surfaces) in safe areas reserved for that purpose, at not less than 30 m from water stretches and sewer pits. Provide adequate means to remove consequences of accidental spills.
 - .5 Do not do on site the regular maintenance of motors.

8.0 Structural Safety

- .1 Ensure no part of work is subjected to loading or work that will endanger its safety or will cause permanent deformation.
- .2 Take all necessary steps to prevent movement, settlement, or damage of adjacent areas and services. Provide bracing, shoring and enclosure as required.
- .3 No welding, cutting or other modifications to existing structural elements will be allowed without a written approval by the Departmental Representative.

9.0 Security

- .1 Maintain security at all times, during working hours, at night, during week-ends and holidays and whenever construction is shut down because of a strike, a lockout, an accident or an act of God.
- .2 Ensure that doors and hardware at entry points used by Contractor function properly.
- .3 Fully and brightly illuminate site and building all night and every night, including the identification of emergency exits.
- .4 Guard dog patrols will not be permitted at anytime.
- .5 When the Contractor has to be present in the existing facilities outside normal hours of the establishment, cost of security guard will be normally paid by the Departmental Representative. Notify the Departmental Representative **48 hours** in advance. In case of useless requests, if the

Contractor does not show up, or if the guard's presence is required for less than 4 hours, the cost will be invoiced to the Contractor.

- .6 If need be, hire at your own expense trustworthy security personnel to ensure supervision of the site and the material therein.

10.0 Fire Prevention

- .1 All necessary precautions must be taken to eliminate any possible fire hazards, including satisfying Departmental Representative's special requirements.
- .2 Provide sufficient and adequate fire fighting equipment, in first class order, to protect against any fire emergency in area of construction work, in accordance to the requirements of concerned insurance companies and the codes and regulations in force, and maintain said equipment.
- .3 Provide portable fire extinguishers of at least 5 lbs capacity, Type ABC, minimum two (2) per floor and per building.
- .4 It shall be the duty and responsibility of the Contractor performing any cutting or welding to comply with the safety provisions of the National Fire Code pertaining to such work and the Contractor shall be responsible for all damages resulting from a failure to so comply.
- .5 Precautions shall also be taken during and after the torch welding of roof membrane as required, if applicable.
- .6 Free access must be maintained at all times to any fire hydrants or fire fighting equipment.
- .7 In areas affected by construction activities, the Contractor shall be responsible for providing adequate and unobstructed passage at all times in case of fire emergency.
- .8 Under no circumstances burning of materials or rubbish on the site will be permitted.
- .9 It is forbidden to use motors burning fuels and propane gas reservoirs, except torches for welding roof membranes and hoisting equipment for delivery of materials.

11.0 Discovery of Hazardous Materials

- .1 If during demolition sprayed or trowelled asbestos, PCP (polychlorobiphenyls), mold or other hazardous materials are found, interrupt work and notify the Departmental Representative. Do not continue work before receiving written instructions from the Departmental Representative.

12.0 Minimum Work Practice: Products Containing Asbestos

- .1 No materials containing asbestos shall be utilised on site.
 - .2 However, if the case arises, the Departmental Representative should be notified immediately. Asbestos fibres inhalation may represent a health hazard, and even without in any way guaranteeing their effectiveness as protection against health hazards, the following practices shall apply:
-

- .1 Comply with safety standards and codes.
 - .2 When working with asbestos-containing materials workers shall wear respirators acceptable to Labour Canada or Provincial Labour Department as suitable for the asbestos exposure in the work area. Workers shall also be educated as to risks, and be trained in safe work practices. Power tools shall be equipped with high efficiency particulate air-filtered vacuum equipment.
 - .3 When working in an enclosed area, separate the work area from the rest of the project by a barrier capable of preventing the spread of asbestos fibres outside of the work area.
 - .4 When working with asbestos-cement pipe comply with recommendations of the Asbestos-Cement Pipe Producers Association "Recommended Work Practices for A/C Pipe" subject to the more stringent requirements in the preceding article.
 - .5 Upon Substantial Completion of Work, clean work areas using wet methods or high efficiency particulate air-filtered vacuum equipment. Remove waste asbestos-containing material in sealed containers clearly labelled as to contents to a disposal area acceptable to the authorities having jurisdiction.
 - .6 In the event of conflict between these requirements and those of Provincial Government, Labour Canada, Health and Welfare Canada and Environment Canada the more stringent requirements shall apply.
- .2 Submit the name and qualification of asbestos recovering Subcontractor, as well as complete protocole and scheme required, and obtain Departmental Representative's approval before beginning work.

13.0 Handling of Hazardous Materials

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of material safety data sheets acceptable to Labour Canada and Health Canada.
- .2 Deliver copies of WHMIS data sheets (S.I.) to Departmental Representative for all materials (chemicals, sealants, welding materials, paint, concrete additives, fire proofing, etc.) prior to commencement of the work.
- .3 Notify Departmental Representative **48 hours** in advance for any work to be done in an occupied area using hazard material such as paint finish or adhesives (Canadian Labour Code, Part II, art.10).
- .4 Contractor and subcontractors are responsible for training their employees regarding chemical hazards, precautionary measures, emergency procedures, etc.

14.0 Signage

- .1 Safety and instruction signs and notices:
 - .1 Signs and notices for safety and instruction shall be in French or in both official languages (French/English). Graphic symbols shall conform to CAN/CSA-Z321.
- .2 Maintenance and disposal of site signs:

- .1 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier as directed by the Departmental Representative.

- .3 No other signs or advertisements, other than warning signs, are permitted on site.

15.0 Removal of Temporary Facilities

- .1 Remove temporary facilities from site promptly when work is completed.
- .2 When work stops due to vacation periods or for any other reasons, ensure the continuous usage of the temporary services until the end of such stoppage, or until the Departmental Representative authorizes the removal of such services.

End of Section

1.0 Access Roads

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
 - .2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Departmental Representative.
 - .3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs.
 - .4 Protect travelling public from damage to person and property.
 - .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
 - .6 Verify adequacy of existing roads and allowable load limit on these roads. Immediately repair damage to roads caused by construction operations., and make them good at the end of the construction, such that the resulting condition is as good or superior to that prior to the commencement of the work.
 - .7 Maintain access to property, as well as emergency exits free of obstacles.
 - .8 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to work.
 - .9 Construct haul roads with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
 - .10 Location, grade, width, and alignment of construction and hauling roads: subject to approval by Departmental Representative
 - .11 Ensure site access, including overhead clearances for use by emergency response vehicles.
 - .12 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
 - .13 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
 - .14 Install adequate signage and if required, supply and install traffic control equipment, such as stop signs, speed bumps, traffic signals, barricades and flares, lights or lanterns, and mechanical signalling devices required for the execution of work and the protection of the public. Have personnel to direct traffic safely into and out of the site, inside and outside the site, if necessary.
 - .15 Dust control: adequate to ensure safe operation at all times.
 - .16 Provide snow removal during period of work.
-

- .17 Remove, upon completion of work, haul roads designated by Departmental Representative.

2.0 Temporary Barriers and Enclosures

.1 Site enclosures:

- .1 Erect where necessary temporary 2440 mm (8'- 0") high site enclosures using minimum 89 mm x 89 mm (3½" x 3½") construction grade lumber framing at 1220 mm (4'- 0") centres, constituting the principal structure, with minimum 38 mm x 89 mm (1½" x 3½") members between them, and 1220 mm x 2440 mm x 12.7 mm (4'- 0" x 8'- 0" x ½") exterior grade fir plywood as per CSA O121; fully braced against wind pressure.
- .2 Apply plywood panels vertically, flush and butt jointed. Provide 300 mm (12") diameter openings at 10 m (33'- 0") centres, with 50 mm x 50 mm (2" x 2") wire mesh from the interior side.
- .3 Where indicated, erect new temporary site enclosures, 2440 mm (8'- 0") high, made of wire-mesh panels "Protec" by Omega II Fence Systems , complete with one pedestal per panel, 2 fasteners per pedestal, the link between the panels, etc. Submit a price for same kind of used panels.
- .4 Provide lockable truck entrance gates and at least one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys.
- .5 Where indicated erect temporary site enclosure using new 1830 mm (6'- 0") high snow fence wired to rolled steel "T" bar fence posts spaced at 2440 mm o.c. (8'- 0"). Provide one lockable truck gate. Maintain fence in good repair.
- .6 Install enclosures around trees and vegetation in order to protect them from damages caused by equipment used or certain construction practices.

.2 Weather enclosures:

- .1 Include in work temporary weathertight enclosures as a protection against the elements, to maintain environmental conditions required until building is closed-in.
- .2 Erect heated enclosures, to maintain temperature above +5°C and to maintain work progress.
- .3 Erect enclosures to provide access for installation of materials and completion of interior work.
- .4 Design enclosures to withstand wind pressure and snow loads as required by jurisdictional authorities.
- .5 Check loading requirements to ensure that the building structure is not overloaded.

.3 Guard rails and barricades:

- .1 Provide as required by governing authorities and as indicated.

3.0 Protection of Work, Property and Persons

- .1 Include in work necessary methods, materials and construction to ensure that no damage or harm to new or existing work, including site work (hard and soft landscaping and plants), materials, equipment, fixtures, as well to the property, adjacent properties, and persons resulting from the work of this contract, during demolition, execution or close-down. Repair such damage, if it occurs, to Departmental Representative' approval.
-

-
- .2 Protect roadways, sidewalks, ramps, curbs, grassed areas, trees and shrubs and all other installation, and make good any damage to Departmental Representative' approval.
 - .3 Protect, and if damaged make good, adjacent private and public property.
 - .4 Be liable for injury caused by demolition or execution of work.
 - .5 Provide railings, gates, etc., as absolute necessity during the construction period.
 - .6 Give constant close supervision to roofing work and waterproofing membranes following their installation, during the time they are temporarily protected or exposed, to ensure that no damage occurs to them before completion of building. Protect especially against damage from traffic or work performed on top of completed roofing when temperature is over 27°C.
 - .7 Ensure that physical protection is installed for waterproofing membranes or that barricades or guards prevent traffic over horizontal membranes until permanent protection is provided. Inspect membranes with waterproofing subcontractor and an inspector from the testing laboratory before they are finally covered. Make good damaged membranes.
 - .8 Protect metal deck and roofing on which construction activities are on going, and on which materials are stored, with substantial planking.
 - .9 Protect roofs and canopies during construction to ensure that no damage occurs. Provide protection by materials of sufficient thickness to prevent all damage to structure and finish, and to waterproofing qualities of membranes, whenever each of these individual components is exposed. Damage shall include harm resulting from all construction work, such as material drops, wheel and foot traffic, failure to remove debris, operation of machinery and equipment, and scaffolding and hoisting operations. Positively secure protection to prevent displacement from any cause.
 - .10 Protect finished surfaces of completed work from damage by restriction of access or by use of barriers or other obstacles. Establish with each subcontractor the suitability of such protection in each case.
 - .11 Where needed, cover air returns and evacuation openings with polyethylene sheets 125 microns (5 mils) thick, or with other adequate means and seal the perimeter; replace residual filters weekly.
 - .12 Protect existing interior spaces below areas of work by locating drop cloths and hardboard panels as necessary with all joints adequately taped or sealed.
 - .13 Protect entire work, materials and equipment, during temporary shut-down for whatever reason.

4.0 Disposal of Waste and Cleaning

- .1 See **Section 01 74 11 and 01 74 21**.

End of Section

1.0 General

- .1 Manufactured products, materials, assemblies or components, equipment, fixtures and articles (called «products» in the specification), incorporated in work, shall be new, not damaged or defective, and of best quality (in accordance with specification requirements, including applicable obligatory standards, codes or regulations) for purpose intended. If requested, provide evidence as to type, source and quality of products provided. Note that the term "new" used herein does not exclude newly manufactured products that have some or all of the materials recycled from other sources.
 - .2 Obtain specified products from suppliers in the same locality as the Project whenever possible.
 - .3 Unless otherwise specified, use products of the same manufacturer for materials and equipment of the same class, type or category.
 - .4 Products for use in the project and on which the Tender was based shall be in production at that time and available on the market.
 - .5 Products delivered to the Project site for incorporation in the work shall be considered the property of the Departmental Representative, but shall be paid for only after they have been incorporated into the work.
 - .6 Maintain adequate protection and security of products stored on the site.
 - .7 Do not install permanently incorporated labels, trademarks and nameplates, in visible locations, unless required for operating instructions in mechanical or electrical rooms, or by jurisdictional authorities.
 - .8 Verify and ensure compatibility of products, including adhesives and primers, as well as the concerned substrate, coming into contact with each other.
 - .9 Replace defective products – See **Defective Products and Work (Section 01 45 00)**.
 - .10 In the event of a disagreement concerning the quality or the appropriateness of a product, the matter shall be decided by the Departmental Representative, based on the requirements of the contract documents.
 - .11 Pay costs of transportation of products required in the performance of work.
 - .12 Ensure that products used on site, whether for building, cleaning or other purposes, do not interfere with, do not inconvenience, and do not present any risks to health and safety of people and animals .
 - .13 For the quality of the execution of work sees **Qualifications of Labour and Execution (Section 01 45 00)**.
 - .14 See also the technical Sections of Architecture, Structure, Mechanical and Electrical for particular requirements concerning products.
-

2.0 Availability

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of work.
- .2 Foresee and plan reception of products on site.
- .3 In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that work may be delayed for such reason, Departmental Representative reserve right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

3.0 Product Handling, Storage and Protection

- .1 Schedule early delivery of products to enable work to be executed without delay. Before delivery, arrange for receiving at site.
 - .2 Deliver, handle and store products so that no damage occurs to their quality, nor in any other way be detrimental to their function and appearance, preventing adulteration and soiling, and in accordance with manufacturer's instructions, where applicable.
 - .3 Do not deliver materials or equipment to the site prior to required date at installation if such materials or equipment:
 - .1 Do not have adequate area on site.
 - .2 Cannot be properly weather protected.
 - .3 Cannot be given proper storage maintenance.
 - .4 Will be easily damaged by construction site activities.
 - .4 The Contractor shall be entirely responsible during the course of the operations to direct the delivery of all materials to the proper entrance as the work proceeds. The normal traffic to and from the facilities must be allowed to flow uninterrupted.
 - .5 It shall be the responsibility of the Contractor to inspect the conditions of all material and equipment consigned to him upon receipt of same, whether or not it is purchased and/or provided by the Departmental Representative.
 - .6 Move stored products or equipment which interfere with operations of the occupants or of other contractors. Coordinate with the latter.
 - .7 During transportation, storage and installation, ensure that products are not exposed to an environment which would increase their moisture content beyond the maximum specified.
 - .8 Deliver products only when environmental conditions are adequate.
 - .9 The Contractor shall ask his suppliers to indicate clearly on the delivery slips the name of the consignee to whom products are addressed.
-

- .10 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Label packaged products to describe contents, quantity and other information as specified.
 - .11 Do not remove from packaging or bundling until required in work.
 - .12 Store products requiring protection against the weather under enclosures with secure protection against all harmful environmental conditions, at temperatures required for their installation.
 - .13 Store manufactured products in accordance with manufacturer's instructions, which must be joined to the products.
 - .14 Store sheet material, steel, lumber and similar products on flat solid platforms raised clear of ground. Slope to shed moisture.
 - .15 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins.
 - .16 Store finished products, woodwork and any product which can be easily damaged under cover at all times, in weatherproof storage (containers, etc.).
 - .17 Do not store hydraulic binders directly on the ground or on a concrete floor, or in contact with the walls.
 - .18 Store and mix paints in a heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
 - .19 Store and handle flammable liquids and other hazardous materials in approved safety containers and as otherwise prescribed by safety authorities. Store no flammable liquids or other hazardous materials in bulk within the project.
 - .20 Do not store demolition or construction material on roof.
 - .21 Additional storage and special protection requirements may be specified in other Sections of this specification.
 - .22 Replace products which are damaged in storage, without cost to the Departmental Representative, to his the satisfaction.
 - .23 Touch-up damaged factory finished surfaces to Departmental Representative' satisfaction. Use touch-up materials to match original. Do not paint over name plates.
 - .24 It is forbidden to install defective materials.
 - .25 Remove without delay all refused or damaged products and equipment off site.
 - .26 See **Sections 01 35 29.06** and **01 52 00** for safety measures required.
-

4.0 Specified Products

- .1 Products specified as "Acceptable product", bearing manufacturer's name etc., are given as the minimum acceptable quality for those products from the point of view of physical and chemical properties, visual characteristics, texture, colour, performance, etc., as described in the technical data sheets of the manufacturer.
- .2 For products specified by reference standards, the onus shall be on the Contractor to establish that such products meet reference standard requirements, presenting affidavits from the supplier, as prescribed in **Section 01 30 00**, or submit inspection and testing reports at his own expense, or both, depending on the case, to prove compliance with the specification. Products exceeding minimum requirements established by reference standards will be accepted for the work if such products are compatible with adjacent work and products.
- .3 Where products are specified to match existing, and unless otherwise prescribed, they shall be identical or similar to the existing with respect to the following characteristics:
 - .1 Composition and grade.
 - .2 Colour.
 - .3 Pattern and texture.
 - .4 Dimensions.
 - .5 General aesthetic effect.
 - .6 Durability and warranty.The Contractor has to submit for review all required articles, such as data sheets, shop drawings, samples, etc., as for any other product specified.
- .4 Where it is indicated that a colour or texture is to be selected, it will be selected by the Departmental Representative.
- .5 When there is any doubt concerning conformity of certain products or systems to the pertinent standards, the Departmental Representative reserves the right to check them by tests.
- .6 If the products or systems comply with the Contract Documents, the Departmental Representative will pay the costs of said tests, otherwise it is the Contractor who will pay them.

5.0 Substitution of Products

- .1 As described below, no substitutions shall be allowed without written approval from the Departmental Representative.
 - .2 The Departmental Representative will only consider these request if he/she judges the materials proposed as substitutions as being comparable to the products specified.
 - .3 The requests for substitutions must be accompanied with the following detailed information:
 - .1 Reason for the substitution.
 - .2 Data sheets for the materials, assemblies or system proposed as alternatives to those specified.
 - .3 Comparison of costs and delivery times.
 - .4 A confirmation that the substitutions can be integrated to work with no negative impact with
-

respect to function, performance, space, costs, delivery time, installation foreseen, effect on other work, and spare parts and service are readily available.

- .5 The benefits to the Departmental Representative, including savings, performance, etc.
- .4 After the Contract is signed, no delay can be justified because of non availability or of late delivery of products. If after close of bidding, the Departmental Representative have not been notified of any foreseeable delays which could affect the execution of the work, the Departmental Representative reserves the right to substitute the intended products with comparable products which may be delivered more quickly, without any increase being made to the Contract price and without any reduction in quality
- .5 Should the proposed substitution be approved in whole or in part, Contractor shall assume full responsibility to verify compatibility with adjacent or related material, and pay for all costs related to other work resulting from substitution.
- .6 The approval of substitution, during the bidding period, will be issued in writing to all bidders.

6.0 Homologated Products

- .1 All products which are required to be listed by government or independent agencies as being approved products, should bear the label of the agency concerned.

7.0 Fastenings

- .1 Include in work all necessary fastenings, anchors, inserts, attachment accessories, and adhesives, whether specified or not, in sufficient quantity to ensure permanent secure anchorage of materials, assemblies, components, and equipment, and according to the manufacturers' instructions for each particular product to be installed.
- .2 Provide metal fastenings and accessories identical to (in texture, colour and finishes) or compatible with the substrate, unless indicated otherwise.
- .3 Do not install wood plugs or blocking for fastenings in concrete, masonry, or metal construction, unless specified or indicated on drawings.
- .4 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .5 If concealed, use heavy hexagon heads, semi-finished, unless otherwise specified.
- .6 Do not use fastenings which cause spalling or cracking of materials in which installed.
- .7 Obtain Departmental Representative' approval before using explosive actuated fastening devices.
- .8 It is forbidden to use forged (fake) fasteners.
- .9 Unless stainless steel fastenings (grade 304 or more corrosion resistant) are specified in the pertinent Sections of the specification, use non-corrosive or hot-dipped galvanized steel fastenings for exterior work.

- .10 Avoid different metals which will set up electrolytic action causing damage to fastenings or components or both.
- .11 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent fastening.
- .12 All anchors cast in concrete, shall be steel, in mill finish.
- .13 Steel anchors in masonry work shall be galvanized.
- .14 Bolts may not project more than one diameter beyond nuts.
- .15 Conceal fasteners where indicated. Space fasteners evenly and lay out neatly.
- .16 Exposed fastenings shall be spaced evenly in an organized pattern. Their number shall be kept to a minimum. Exposed fasteners shall be of same metal, texture, colour and finish as metal substrate in which they occur.
- .17 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use stainless steel or resilient washers with stainless steel.

8.0 **Manufacturer's Instructions (M.I.)**

- .1 Unless otherwise indicated, comply with the manufacturer's most recent written instructions for materials and equipment use and installation. Do not rely on instructions printed on labels, packages or containers.
- .2 Promptly notify Departmental Representative in writing of any discrepancies between manufacturer's instructions and this specification, to allow Departmental Representative to take necessary measures.
- .3 Improper installation or erection of products and failing to comply with these without revision requirements, authorizes Departmental Representative to request removal and re-installation of work without revision to the Contract price and without any time extension.
- .4 See also **Section 01 33 00**.

9.0 **Construction Equipment and Plant**

- .1 Upon request, demonstrate to the satisfaction of the Consultant that the construction equipment and plant are adequate to manufacture, deliver, install and complete work, to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed.
- .2 Maintain construction equipment and plant in good operating order - See also **Section 01 52 00**.

10.0 **Annex**

- Substitution request

SUBSTITUTION REQUEST

PROJECT:		DEPARTMENTAL REPRESENTATIVE:	
		DEPARTMENTAL REPRESENTATIVE:	
		REF. NO.:	PHASE:
CONTRACTOR:		SPECIFICATION SECTION:	
Project Manager:		Article, paragraph:	
Telephone:		Specified item:	
E-Mail:		Product identification (abbreviation):	
Reason for substitution:			
Proposed product::			
	COMPARISON		
Properties:	Specified product	Proposed product	
1.			
2.			
3.			
4.			
5.			
6.			
Cost:			
Delivery time:			
Installation time:			
Warranty:			
Specific advantage of substitution to Owner:			
The undersigned Contractor certifies that:			
1. Proposed substitution does not affect design and dimensions shown, as well as performance specified.			
2. Proposed substitution has no adverse effect on other trades, construction schedule or specified requirements.			
3. Proposed substitution is readily available.			
4. Attached are the technical data sheets and specifications for both specified and proposed products.			
Remarks:			
Signature of Contractor		Date:	Rev.:
Signature of Departmental Representative		Date:	Rev.:
		Approved: _____	Rejected: _____

End of Section

1.0 Examination of Existing Conditions

.1 Existing conditions:

- .1 Before starting work, prepare a report, including photographs, of existing conditions with respect to own work area, identifying damages to the buildings or parts of building.
- .2 Present this report to the Departmental Representative for confirmation and acceptance.
- .3 Unless otherwise proven, any other damages identified during or at the end of work shall be attributed to the Contractor and shall be repaired at his expense, to the Departmental Representative's satisfaction.
- .4 See also **Section 01 73 00**.

.2 Existing work and previously completed work:

- .1 Verify dimensions of existing or completed work in place before fabrication of work to be incorporated with it. As specified in the article **Site Visit in Instructions to Bidders**.
- .2 Verify that previously executed work and surfaces are satisfactory for installation or application, or both, and that performance or the schedule of subsequent work will not be adversely affected.
- .3 Report to the Departmental Representative if any defects in previously completed work will affect the quality of subsequent work or the construction schedule.
- .4 Do not start work unless corrective measures have been taken to the satisfaction of the Contractor or trade concerned.
- .5 Commencement of work will constitute acceptance of site conditions and previously executed work as satisfactory, and no claims can be made later in this respect.

.3 Measurement and localisation:

- .1 Before commencing installation of work, verify that its layout is accurate, in accordance with the intent of drawings, and that positions, levels and clearances to adjacent work are maintained.
- .2 The Contractor shall verify all dimensions, lines, levels, locations, etc., indicated on the drawings and shall satisfy himself that these are correct before starting work.
- .3 If previous work is installed in wrong location, advise the Departmental Representative immediately and ask to rectify it before construction continues.

2.0 Existing Services and Shut-Down of Services

- .1 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility, including communications and electrical services.. Adhere to approved schedule and provide notice to affected parties.
- .2 By temporary services or otherwise, ensure for the Departmental Representative uninterrupted use of existing services, at all times, and assume all direct or indirect costs in case of failure or unforeseen inherent damages. .
- .3 All the above mentioned work to be executed by specialized subcontractors.
- .4 See also **Section 01 11 01** for shutdown of services.

End of Section

1.0 General

- .1 Submit required documents and samples as per **Section 01 33 00**.
- .2 Execute work in accordance with the Contract Documents, the manufacturers' instructions, the directives of the Departmental Representative, and take also into consideration the following.

2.0 Removal and Replacing of Existing Work

- .1 All items of materials and work indicated or specified to be removed for the proper installation of new work shall be taken down by the Contractor, they shall become his property and shall immediately be removed by him from the premises, unless stated otherwise.
- .2 The Contractor shall repair and replace all items of existing work which are removed or damaged on account of work or alterations and shall leave all rooms and areas in which work or removals and alterations have been done in a complete and refinished condition as far as his work is concerned.

3.0 Expected State of Repair

- .1 Make good by repairing or replacing those parts or elements of the work rejected or found defective. Coordinate with work on adjacent surfaces as needed.
- .2 Making good must be done by specialists having good knowledge of the materials and equipment used; this work must be performed in a manner that no part of work is damaged or may be at risk of being damaged.

4.0 Cutting and Patching

- .1 Approvals for cutting, piercing and patching work :
 - .1 Submit written request and detailed schedule **48 hours** in advance of any cutting or alteration which affects the existing or new work, in particular:
 - .1 Structural integrity of any element;
 - .2 Integrity of weather-exposed or moisture-resistant elements;
 - .3 Efficiency, maintenance, or safety of any operational element;
 - .4 Visual qualities of exposed elements;
 - .5 Work of Departmental Representative or other contractors.
 - .2 Include in request:
 - .1 Identification of project.
 - .2 Location and description of affected Work.
 - .3 Statement on necessity for cutting or alteration.
 - .4 Description of proposed Work, and products to be used.
 - .5 Alternatives to cutting and patching.
 - .6 Effect on Work of Departmental Representative or separate contractor.
 - .7 Written permission of affected separate contractor.
 - .8 Date and time work will be executed.
 - .3 Obtain the Departmental Representative's written approval before cutting or boring any structural element.
-

.2 Preparation:

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

.3 Execution:

- .1 Fit several parts together, to integrate with other work.
- .2 Uncover work to install ill-timed work.
- .3 Remove and replace defective and non-conforming work.
- .4 Provide openings:
 - .1 In non-structural elements of work for penetrations of mechanical and electrical work.
 - .2 In structural elements of the work for penetrations of architectural, mechanical and electrical work in accordance with details indicated on the structural drawings, or as per shop drawings signed by a professional structural engineer.
- .5 Provide adequate structural supports for any roof opening with shop drawings sealed and signed by a structural engineer, as required.
- .6 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
- .7 Execute work by methods to avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.
- .8 Prepare proper surfaces to receive patching and finishing.
- .9 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .10 Cut and break rigid materials using power saw or core drill. Pneumatic or impact tools may be used only with the Departmental Representative's express permission. No fuel-fired equipment will be allowed.
- .11 If damages occur to existing surfaces to be preserved or to new surfaces, restore work with compatible and identical new products, matching existing when sight-exposed.
- .12 Fit work airtight and weather resistant to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .13 Ensure structural, thermal and air/vapour barrier integrity and continuity between existing and new work at all times.

5.0 **Demolition and Alteration Work**

- .1 See **Section 02 41 99.**

6.0 **Waste Management and Cleaning**

- .1 See **Section 01 74 11 and 01 74 21.**

End of Section

1.0 Cleaning**.1 General:**

- .1 Keep the site clean and exempt of the accumulation of construction waste other than those collected by the Departmental Representative or other designated persons.
- .2 Use skilled labour for cleaning purposes, as per manufacturers' recommendations.
- .3 Take all necessary measures with the authorities having jurisdiction with a view to eliminating all waste and disposal materials.
- .4 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- .5 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .6 Provide adequate ventilation during use of volatile or noxious substances. Use of permanent building ventilation systems is not permitted for this purpose.

.2 Materials:

- .1 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning product manufacturer.

.3 Cleaning during construction:

- .1 Remove waste materials and debris daily from the site.
- .2 Provide sufficient number of containers for collection of waste materials and debris on site.
- .3 Provide separate containers for recyclable waste, in accordance with the directives of the Departmental Representative.
- .4 Schedule cleaning operations so that resulting dust, debris and other contaminants will not contaminate building systems.
- .5 Keep passages and access routes completely clear of materials and equipment at all times.
- .6 Clean roads used by Contractor's vehicles daily.
- .7 Coordinate with Departmental Representative for snow removal.

.4 Final cleaning:

- .1 When construction work is almost over, remove scaffolding, temporary protection and surplus materials, tools and equipment not required for the rest of the work, and make good defects noted at this stage. However, before removing scaffolding, notify the Departmental Representative, so that he coordinates his inspections.
- .2 Do the final cleaning to prepare the site for Provisional Acceptance (Substantial Performance).
- .3 Clean all existing surfaces in spaces affected by the work, such as walls, structure, etc.
- .4 Clean manufactured articles in accordance with manufacturer's directions.
- .5 Clean existing areas under contract to condition at least equal to that previously existing and to the approval of the Departmental Representative.
- .6 Sweep and clean paved and other surfaces of grounds affected by this Contract.
- .7 Coordinate with Departmental Representative for snow removal.

End of Section

1.0 Waste Management

- .1 Waste management criteria:
 - .1 Do waste management respecting the criteria for the preservation of the environment and for sustainable development.
 - .2 Separate recyclable and salvageable materials and treat them separately.
 - .2 Storage, handling and protection:
 - .1 Store, materials to be reused, recycled and salvaged in locations as directed by Departmental Representative.
 - .2 Unless specified otherwise, materials for removal become Contractor's property.
 - .3 Protect, stockpile, store and catalogue salvaged items. Separate non salvageable materials from salvaged items. Transport and deliver non salvageable items to licensed disposal facility.
 - .4 Protect surface drainage, mechanical and electrical from damage and blockage.
 - .5 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - .1 On site source separation is recommended.
 - .2 Remove co mingled materials to off site processing facility for separation.
 - .3 Provide waybills for separated materials.
 - .3 Disposal of waste and generalities:
 - .1 Do not bury or burn rubbish or waste materials, liquid or solid, on site.
 - .2 Do not dispose of all sort of waste materials into waterways, storm, or sanitary sewers.
 - .3 Remove materials from deconstruction as deconstruction/disassembly work progresses.
 - .4 Prepare project summary to verify destination and quantities on a material by material basis as identified in pre demolition material audit.
 - .4 Reduction of demolition and construction waste:
 - .1 Minimize the waste resulting from the purchase of new material by:
 - .1 The purchase of fastenings, paint, caulking, joint compounds and other materials in bulk containers.
 - .2 Requesting suppliers to bring back their packaging material as far as is possible or to provide re-usable packaging such as protection covers etc. instead of throw away packaging such as card board.
 - .3 The re-use of waste material, such as plastic wrappings, as garbage bags or protective wrapping for materials. Sealant buckets, for example, make excellent tool boxes.
 - .2 Minimise the waste resulting from the installation of new materials by the re-use of resultant waste material such as:
 - .1 The use of scrap metal for patching and left-over gypsum board to patch holes in partitions.
 - .2 The insertion of drywall waste (i.e. clean gypsum board off-cuts) into the interior of new hollow walls, with the Departmental Representative's approval.
 - .3 The use of clean wood off-cuts where appropriate.
 - .4 The use of re-usable form work.
 - .3 Minimise losses caused by site wastage by:
 - .1 Specifying pre-cut materials.
 - .2 Ensuring that materials arrive on site only when required so as to prevent loss
-

- caused by weather and materials being wasted by damage.
- .3 Return all damaged materials to suppliers immediately to prevent them becoming waste material.
- .4 Protect materials from weather to avoid becoming waste material.
- .5 Give preference, wherever possible, to suppliers who give credit for non-used material and who take back these same materials.

End of Section

1.0 Project Closeout - General

- .1 Apart from all requirements prescribed in the various **technical Sections** of this specification, the conditions described in the **following articles** shall be fully adhered to.
- .2 Meetings about the warranties prior to Performance of work:
 - .1 **Four (4) weeks** before performance of work, hold a meeting with the Departmental Representative, as per **01 33 00**, during which examine:
 - .1 The work requirements;
 - .2 The manufacturer's instructions concerning the installation and the terms of the warranty offered by the latter.
 - .2 The Departmental Representative will establish the communication procedure to follow in the following cases:
 - .1 Notice of failure of elements, materials or systems covered by a warranty.
 - .2 Determination of priorities relative to types of failures.
 - .3 Determination of a reasonable time for intervention.
 - .3 Provide name, address and phone number of the bonding company charged to do the emergency and repair services under the warranty.
 - .4 Ensure that the company offices are in the local service zone of the element / work guaranteed, that resource persons are available at all times and that they are capable of providing information concerning emergencies / repairs under warranty.

2.0 Final Inspection and Notice of Substantial Performance

- .1 Prior to application for Notice of Substantial Performance:
 - .1 Ensure that the minimum conditions prescribed have been satisfied.
 - .2 Inspect the work accompanying the Subcontractors involved, locate the defects and deficiencies and do the necessary repairs, all in compliance with the Contract Documents.
 - .3 Ensure also that the building is clean and in condition for occupancy.
 - .3 Only following this inspection do notify the Departmental Representative in writing, of satisfactory completion of the work and request a review.
 - .4 Submit the documents and elements –See **Section 01 78 00**.
 - .2 The Departmental Representative, with the Contractor, will inspect the work to locate the visible defects and deficiencies. The Contractor must do the required corrections.
 - .3 Submit an affidavit stating that:
 - .1 Work has been completed, inspected and found complying with the Contract Documents.
 - .2 Defects and deficiencies found during the inspections have been corrected.
 - .3 The certificates required by the Fire Marshall have been submitted.
 - .4 The personnel of the Departmental Representative has received the necessary training for maintenance.
 - .5 Work is ready for final inspection.
 - .4 Final inspection:
 - .1 When all preceding stages have been completed, request a final inspection of the work, which shall be done by the Departmental representative and the Contractor.
-

- .2 When the Departmental Representative considers work is complete, complete the items which have not been executed, and ask for a new inspection.

End of Section

1.0 Submittals

.1 General:

- .1 Provide submittals in accordance with **Section 01 33 00**.
- .2 Instructions to be prepared by competent people having good knowledge of the functioning and maintenance of the products described.
- .3 The copies submitted shall be returned with Departmental Representative's comments.
- .4 If need be, review the contents of the documents before resubmitting.
- .5 **Two weeks** prior to Substantial Performance of the Work, submit to the Departmental Representative **4 final copies** of operating and maintenance manuals (O.M.).
- .6 Provide only new spare parts, maintenance materials and special tools (E.M.) of same quality and manufacture as products provided in Work.
- .7 Provide evidence, if requested, for type, source and quality of products supplied.
- .8 Defective products shall be rejected, even if they had been inspected previously, and they have to be replaced without cost.
- .9 Assume cost of transport of these products.
- .10 All labels required for operation or maintenance requirements for equipment or apparatus must be in both official languages (English and French).

.2 Transmit the following documents with last Request for Payment:

- .1 Affidavit stating that all wages and salaries have been fully paid to the date of the request, as per scale of salaries foreseen in the decree relative to the construction industry and the trades in the region where work has been executed.
- .2 Certificate attesting that the Contractor has respected the health and safety requirements of the province ("Loi de la Commission de la santé et de la sécurité au travail du Québec") and paid its fees to the body having jurisdiction.
- .3 Certificate from the government agency for accident compensation stating that all fees have been paid by Contractor (as per "la Loi de la CCQ" in Quebec)
- .4 Affidavit stating that all workers' medical fees and expenses incurred because of or related to work, if required by provincial or other authorities, have been paid for.
- .5 All test reports certifying conformity of materials, components equipment and systems with Contract requirements.
- .6 All inspection certificates of different performances involved.
- .7 Manufacturers' certificates.
- .8 All guarantees and extended warranties required by all **technical Sections**.
- .9 Every other guarantee certificate required by federal, provincial, or municipal by-laws and ordonnances.
- .10 All change orders and other changes to the Contract.
- .11 "As-built" (A.B.) drawings, operation and maintenance manuals (O.M.), extra materials, special tools and spare parts (E.M.) as described **below**.

- .3 When the above mentioned submittals as well as other submittals prescribed in the present specification have been received by the Departmental Representative, and if he considers work is complete, and deficiencies and defects are corrected, the Departmental Representative will pay the unpaid balance (remaining holdbacks) of the current Contract Price then due.
-

2.0 **Warranties and Bonds (S.W. / E.W.)**

- .1 Procedures:
 - .1 See **Section 01 30 00** for general requirements.
 - .2 Develop warranty management plan to contain information relevant to Warranties.
 - .3 Submit warranty management plan, **30 days** before planned pre-warranty conference, to Departmental Representative's approval.
 - .4 Warranty management plan to include required actions and documents to assure that Departmental Representative receives warranties to which it is entitled.
 - .5 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
 - .6 Submit, warranty information made available during construction phase, to Departmental Representative for approval prior to each monthly pay estimate.
 - .7 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within **10 days** after completion of applicable item of work.
 - .4 Verify that documents are in proper form, contain full information, and are notarized.
 - .5 Co-execute submittals when required.
 - .6 Retain warranties and bonds until time specified for submittal.
 - .8 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
 - .9 Conduct joint **4 month** and **9 month** warranty inspection, measured from time of acceptance, by Departmental Representative.
 - .10 Include information contained in warranty management plan as follows:
 - .1 Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Contractors, subcontractors, manufacturers or suppliers involved.
 - .2 Listing and status of delivery of Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and commissioned systems, such as fire protection, alarm systems, sprinkler systems, lightning protection systems.
 - .3 Provide list for each warranted equipment, item, feature of construction or system indicating:
 - .1 Name of item.
 - .2 Model and serial numbers.
 - .3 Location where installed.
 - .4 Name and phone numbers of manufacturers or suppliers.
 - .5 Names, addresses and telephone numbers of sources of spare parts.
 - .6 Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates.
 - .7 Cross-reference to warranty certificates as applicable.
 - .8 Starting point and duration of warranty period.

- .9 Summary of maintenance procedures required to continue warranty in force.
- .10 Cross-Reference to specific pertinent Operation and Maintenance manuals.
- .11 Organization, names and phone numbers of persons to call for warranty service.
- .12 Typical response time and repair time expected for various warranted equipment.
- .4 Contractor's plans for attendance at **4 month** and **9 month** post-construction warranty inspections.
- .5 Procedure and status of tagging of equipment covered by extended warranties.
- .6 Post copies of instructions near selected pieces of equipment where operation is critical for warranty and/or safety reasons.
- .11 Respond in timely manner to oral or written notification of required construction warranty repair work.
- .12 Written verification to follow oral instructions.
- .13 Failure to respond will be cause for the Departmental Representative to proceed with action against Contractor.
- .2 Warranty tags:
 - .1 Tag, at time of installation, each warranted item. Provide durable, oil and water resistant tag approved by Departmental Representative.
 - .2 Attach tags with copper wire and spray with waterproof silicone coating.
 - .3 Leave date of acceptance until project is accepted for occupancy.
 - .4 Indicate following information on tag:
 - .1 Type of product/material.
 - .2 Model number.
 - .3 Serial number.
 - .4 Contract number.
 - .5 Warranty period.
 - .6 Inspector's signature.
 - .7 Construction Contractor.

3.0 Record (As-Built) Drawings (A.B.)

- .1 The Owner will provide **3 sets** of white prints for record drawing purposes.
- .2 Maintain on site project drawings and record accurately showing any deviation from contract documents, change incurred due to site conditions and others from Change Orders.
- .3 Record changes in a clean and legible manner on the second set which will be transmitted to the Departmental Representative immediately before inspection of Work for the review for the notice of Substantial Performance.
- .4 Record changes in red on white prints and submit two sets to the Consultants as "as-built", as well as one copy on diskette or CD at completion of project and prior to final inspection.
- .5 Record the following information:
 - .1 Field changes of dimension and detail.

- .2 Changes made by Change Directives, Change Orders or Field Orders.
- .6 The Departmental Representative will examine from time to time the updated post-construction drawings to check the exactitude of the modifications.
- .7 If the Departmental Representative considers that these drawings are not exact, he/she may, by a notice of one week given to the Contractor, do the necessary corrections at the Contractor's expense.
- .8 See also **Section 01 33 00**.

4.0 **Materials and Finishes**

- .1 Building products, applied materials, and finishes: include product data, with catalogue number, **the product abbreviation** as per the present specification, size, composition, and colour and texture designations.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional requirements: as specified in individual technical Sections.

5.0 **Operation and Maintenance Manual (O.M.)**

- .1 Definition:
 - .1 The Operation and Maintenance Manual is an organized compilation of operating and maintenance data (O.D.) including detailed technical information, documents and records describing operation and maintenance of individual products or systems as specified in the appropriate **technical Sections**.
- .2 Generalities:
 - .1 Cooperate with all subcontractors to assemble, coordinate, bind and index required data into Operation and Maintenance Manual.
 - .2 **2 copies** of the complete Operation and Maintenance Manual should be submitted to the Owner.
 - .3 All data should be in French or bilingual.
 - .4 Organize data in same numerical order as Contract Specifications.
 - .5 Label each section with tabs protected with celluloid covers fastened to divider sheets.
 - .6 Type lists and notes.
 - .7 Drawings, diagrams and manufacturer's literature must be legible.
 - .8 Oversized documents to insert in Manual, shall be folded and inserted in labelled envelopes, which can then be inserted through 3 holes within the binder.
- .3 Binders:
 - .1 Binders to be in vinyl, hard cover, 3 "D" ring, loose leaf, sized for 215 mm x 280 mm (8 1/2" x 11") paper, with spine pocket.

-
- .2 Binders must not exceed 75 mm (3") thickness or be more than 2/3 full.
 - .3 Identify each binder on spline as "Operation Data and Maintenance Manual", volume 1, etc., and show contents.
 - .4 On the cover identify each binder with type or printed title 'Project Record Documents'; list title of project and table of contents.
 - .5 Arrange content by systems, under Section numbers and sequence of Table of Contents.
 - .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
 - .7 Text to be manufacturer's printed data, or typewritten data.
 - .8 Drawings to be provided with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
 - .9 Bind separately one complete set of reviewed final shop drawings, in the order of the technical Sections, including corrections and changes made during construction.
 - .10 Binders should also satisfy Owner's requirements if different from the above.
- .4 Contents:
- .1 Each binder shall contain a cover sheet indicating:
 - .1 Date submitted.
 - .2 Project title, location and project number.
 - .3 Names, addresses, telephone and fax numbers of Contractors and Consultants.
 - .4 Table of contents of the binder.
 - .2 Each binder shall also contain table of contents of all binders.
 - .3 Binder no. 1 shall contain:
 - .1 Complete list of Sub-contractors and Suppliers, with address, telephone and fax numbers and contact person, as well as products supplied.
 - .2 List of extra materials as specified **below**.
 - .3 List of special tools as specified **below**.
 - .4 List of spare parts as specified below. List all recommended spares to be maintained on site to ensure optimum efficiency. List all special tools appropriate to unique application. All parts/tools detailed must be identified as to manufacturer, manufacturer part number and supplier (including address).
 - .5 Warranties, guarantees required.
 - .6 Copies of approvals and certificates.
 - .7 Copies of Notices of Substantial Performance.
 - .8 Any other document mentioned in **Article 1.0 – Submittals** not included in the other binders.
 - .4 Binder no. 1 or Remaining binders shall contain the following, as specified in the individual **technical Sections**, in the order of those Sections:
 - .1 List of shop drawings.
 - .2 Technical data sheets of all products and materials used and test reports, if any, and maintenance instructions.

End of Section
