RENOVATION PROJECT OF THE M2 TRAINING BUILDING
LA MACAZA CORRECTIONAL FACILITY
550-2-352-3201

GENERAL AND TECHNICAL ARCHITECTURAL SPECIFICATION

FOR CONSTRUCTION

DATE
2019-01-15

ARCHITECT PROJECT #
17-104

ARCHITECT SEAL

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SPECIFICATION CONTAINING 178 PAGES, INCLUDING COVER PAGE

END OF SECTION

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DIVISION 01 – GENERAL REQUIREMENTS

DIVISION 02 – EXISTING CONDITIONS

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ARCHITECTURE

1.1 List of architectural drawings

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A900	CONSTRUCTION – DOORS SCHEDULE

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

.2 Section 01 35 13 - CSC Safety

1.2 DESCRIPTION OF WORK

.1 Work to be performed under this contract includes the renovation of the M2 building which is part of a medium-security penal institution located at La Macaza, in the regional county municipality (RCM) of Antoine-Labelle, and designated as the building in this contract.

.2 Project includes the following works. The list below is not necessarily complete and does not relieve the Contractor from its obligation to complete the entire project according to good practice, and to the general intentions and principles described in this specification and in the drawings.

1. Complete replacement of electrical installations.
2. Complete replacement of mechanical installations.
3. Modification of plumbing systems.
4. Installation of sprinkler pipes
5. Modification work on the steel structure.
6. Addition of a floor section on the first floor.
7. Addition and modification of exterior windows.
8. Addition and replacement of exterior doors.
9. Addition of an internal staircase.
10. Complete renovation of the two floors.
11. Repairment of all finishes.

.3 This contract excludes supply and installation of furniture, unless specified otherwise in the drawings.

1.3 TENDERER SITE VISITS

.1 For security reasons, site visit inside the penitentiary will be done at a fixed time, at a moment specified in the tender documents. The meeting will take place at the main entrance of the institution concerned. The site visit is optional but highly recommended.

.2 Carry out an examination of the site and its particular conditions which could affect the work. The submission of a tender implies a confirmation from the tenderer that he accepts these conditions.

1.4 SECURITY CONTROL

.1 All workers will be required to undergo a security check in order to gain access to the facility.

.2 Section 01 35 13 describes the detailed procedures of this security investigation.

.3 At the beginning of the work, a special assembly will be held on the site in the presence of the establishment representatives to define safety instructions and site work in a prison environment.

1.5 CODES, STANDARDS AND OTHER REFERENCE MATERIAL

.1 Execute work in accordance with the National Building Code of Canada (2010), including all amendments published up to the date of the bid closing, and with any other provincial or local code that may apply. In case of discrepancy or contradiction, the strictest requirements will prevail.

.2 Execute work to meet all the requirements in the:

.1 contract documents;
.2 specified standards and codes and other reference documents.

1.6 REQUIRED DOCUMENTATION

.1 Keep on site a copy of each of the following documents:
.1 Contract drawings;
.2 Specification;
.3 Addenda;
.4 Revised shop drawings;
.5 Change orders;
.6 Other amendments to the contracts;
.7 Reports of field tests;
.8 Approved work schedule;
.9 Installation instructions provided by the Manufacturers.

1.7 WORK SCHEDULE

.1 Immediately after receiving a notice of acceptance of your offer, undertake the planification of a work schedule. Works detailed in this document, including the correction of construction defects, must be completed within timeframe specified in said document. Failure to meet the schedule will result in action being taken in accordance with Public Services and Procurement Canada (PSPC) standard acquisition clauses and conditions.

.2 Within the 10 working days following the contract award, submit the work schedule which specifies benchmarks to monitor the project progress, and the date of completion of the works, **which must be completed within 19 weeks** following the award of the contract.

.3 Within 10 working days following the contract award, submit shop drawings, data sheets, samples and safety survey forms for approval.

.4 Sequence of work is detailed as follows:

.1 Kick-off meeting and submission of schedule, shop drawings, data sheets, samples and safety survey forms for approval.
.2 Approval of submitted documents.

.3 Beginning of work.

.4 Submit operation and maintenance manuals for approval.

.5 Provisional acceptance.

.6 Training of maintenance and/or operation personnel.

.7 Correction of deficiencies.

.8 Final acceptance.

.5 Within 10 business days of the contract award, the Contractor must provide, in a manner deemed acceptable by the project manager, a schedule of work including:

.1 Submission dates of shop drawings; materials and samples;

.2 Delivery dates of the following equipment and materials: steel structure; main ventilation unit; lighting fixtures; integrated cabinetmaking;

.3 Start and end dates of the work described in each section of the specifications;

.4 Final date of completion of the work in relation to the completion timeframe stipulated in the contract documents.

.6 Provisional revision to the project status report, based on the submitted schedule, will be undertaken at the discretion of the CSC Project Manager The schedule will be updated by the Contractor, with the cooperation and approval of the CSC Project Manager.

1.8 ACCEPTANCE OF EQUIVALENT

.1 Where materials are specified by name or trade mark or the name of the manufacturer or supplier, the bid must be based on the use of the designated materials. During the tendering period, substitute materials may be considered provided that the contracting authority receives in writing complete technical data at least ten (10) days prior to the bid closing date. If alternate materials are approved for submission, an addendum to the tenders documents will be issued.

.2 It is the Contractor's responsibility to provide proof of equivalency. The request for equivalence must be clearly presented and include all the relevant details in order for it to be analysed.

.3 The main criteria for acceptance of equivalents are: construction, performance, capacity, dimensions, arrangement of fittings, availability of spare parts, ease of maintenance, delivery dates, existence of similar devices in service for some time, material, color, texture and standards encountered.

.4 If the use of a device accepted as an equivalent causes changes to the installations shown on the plans or in the specifications, these changes will be the responsibility of the General Contractor who will also have to take care of the modifications that may be required in the works of specialized contractors because of these changes.

1.9 COST BREAKDOWN

.1 At the signing of the contract, the Contractor must provide a detailed breakdown of costs related to this contract, and he must also indicate the overall price of the contract on the **bid**

form provided in the Appendix. Once approved, the cost breakdown will serve as a base for calculating down payments.

1.10 PAYMENTS

.1 Payment will be made on a monthly basis, proportionally to the work progress. Before sending an invoice, the Contractor must submit a payment request for approval, broken down according to the bid form, with the percentage of completion for each item. A deduction of 5% will have to be applied to the total amount of the pre-tax payment request. The holdback will be payable upon final acceptance of the work.

1.11 MEASUREMENT FOR PAYMENT

.1 Notify the Professionals well in advance of the start of the work to enable them to perform the measurement required for payment.

1.12 USE OF SITE BY THE CONTRACTOR

.1 During construction, the institution must be kept in full operation. For this purpose, the CSC Project Manager or the institutional Security Officer may request the Contractor to temporarily stop the execution of work temporarily so as not to compromise the activities of the establishment.

.2 Use of the premises; limited access to the site enclosure. Work identified to be carried out outside the site must be performed by a team accompanied by an escort provided by CSC, see section 01 35 13 - CSC Safety.

.3 Maintain existing services in the part of the building unaffected by works.

.4 No vehicles or mobile construction equipment may be left inside the establishment outside working hours. Construction vehicles must be put away (stored) in the parking lot in front of the postern (main entrance). Refer to Section 01 35 13 - CSC Safety.

1.13 NOISY ENVIRONMENT AND MOBILE PHONE

.1 No radio or "blaring" equipment is allowed on the construction site.

.2 The use or holding of a cell phone is prohibited within the boundaries of the establishment.

1.14 ON-SITE PARKING

.1 The Contractor must limit himself to the parking areas authorized by the Director of the establishment.

1.15 ON-SITE MEETING

.1 Plan on-site meetings throughout the course of the work.

.2 The Architect will organize and chair the meetings, prepare the agenda, set the date and time, and prepare and distribute the meeting minutes.

.3 Find a room or another space to hold the meetings, and make the necessary arrangements.

.4 Representatives of the Contractor, subcontractors and suppliers attending project meetings are entitled and authorized to act on behalf of the parties they represent.

1.16 STAKEOUT WORK

.1 Establish marks and stakeout work in details, in accordance with control points and grades as shown in the plans and specifications.

.2 Take full responsibility for the staking of the work and ensure its complete execution according to the location, lines and grades indicated.

.3 Provide the necessary material for staking and implantation.

.4 Provide the required materials, such as rules and templates, to facilitate the Engineer's job of inspecting stakeout work.

.5 Provide the stakes and other survey posts required for the staking work.

1.17 LOCATION OF APPLIANCES AND EQUIPMENTS

.1 Location of the appliances and equipments as well as the electrical outlets indicated in the drawings or specifications must be considered as approximate.

.2 Install appliances and equipment as well as distribution system components to minimize congestion and retain as much floor space as possible, in accordance with the manufacturer's recommendations for safety, access and service, and maintenance.

.3 Inform the Project Manager when installation date is approaching and seek approval for the designated location.

.4 When requested by the Project Manager, submit tracking plans indicating the relative position of the various equipment and networks.

1.18 CONCEALED WORKS

.1 Unless otherwise specified, conceal pipes, ducts and wiring in floors, walls and ceilings of the finished areas.

1.19 DRILLING AND SEALING

.1 Obtain Engineer’s approval before cutting or drilling a bearing, or inserting a sleeve.

.2 Carry out the drilling and sealing necessary for the installations to be connected or linked to other installations in a precise and fitted manner.

.3 Make perforation so that banks are clean, straight and smooth.

.4 Where the addition of a new installation involves the modification to an existing installation, perform the drilling, sealing and other necessary repairs to restore the existing installation to its previous conditions.

1.20 EXISTING NETWORKS

.1 When the work executed requires a connection to an existing network, carry out such work at times determined by the competent authorities, causing the least possible interference with the movement of pedestrians and vehicles.

.2 Submit work schedule to the CSC Project Manager and obtain his approval at least 48 hours in advance before any interruption to an existing network or service. Proceed to the interruption according to the approved schedule and notify the affected people in advance.

.3 In the event that unidentified facilities are discovered during the work, notify the Engineer immediately and send him a written report on the findings.

.4 Remove all abandoned service lines within 2 m of the works. Seal the pipes where they have been cut with a plug or other watertight device, as directed by the Engineer.

.5 Keep a record of the location of the pipelines that are maintained in service, diverted or abandoned.

1.21 OWNER'S OCCUPANCY OF THE PREMISES

.1 The Owner will occupy the part of the building unaffected by the work during the entire construction period and will continue its normal activities during this period.

.2 Collaborate with the Owner to establish the work schedule, to reduce conflicts and facilitate the use of the premises by the latter.

1.22 CHANGES, ADJUSTMENTS OR REFERRALS TO EXISTING BUILDINGS

.1 Execute work with the least possible disruption to the occupants and the public and ensuring, as far as possible, normal use of premises unaffected by the work. Collaborate with the CSC Project Manager to facilitate the execution of the work.

.2 At no time should the safety measures be reduced due to the works being execute. Take the necessary measures to ensure the required safety.

.3 When work is being done in a busy location, provide and install any necessary protection for furniture, equipment and finishes, install dust screens, temporary warning signs, and clean at the end of each evening of work.

1.23 ADDITIONAL DRAWINGS

.1 Professionals may provide the Contractor with additional drawings for clarification. These additional drawings will have the same meaning and scope as if they were part of the contract documents.

1.24 REMNANTS AND ANTIQUITIES

.1 Protect remains, antiques and other items of historical or scientific interest, such as angular stones and their contents, commemorative plaques and other objects bearing inscriptions found during the work.

.2 Notify the CSC Project Manager immediately and wait for written instructions before proceeding with work at this location.

.3 The remains, antiques and other objects of historical or scientific interest become the property of the Crown.

1.25 RESTRICTIONS ON TOBACCO USE

.1 Comply with the restrictions that apply on tobacco use on the Crown property.

1.26 PRESENCE OF ASBESTOS

.1 Removal of asbestos fiber applied by spraying or troweling can be dangerous for health. If, during the execution of the work, the Contractor discovers materials that look like spray-applied or trowel-applied asbestos, he must stop work and immediately notify the CSC Project Manager. Do not resume work until written instructions have been received from the CSC Project Manager on that matter.

1.27 OPERATIONS MANUAL

.1 The Contractor must provide, for approval, three (3) copies of an Operations Manual which will include the following items:

- a table of contents;
- the list of suppliers and their contact;
- information warranty letters;
- approved shop drawings;
- maintenance and operating manuals;
- "as built" drawings.

1.28 PERSONNEL TRAINING

.1 The Contractor shall plan two (2) training periods;

- one for the personnel in charge of systems maintenance and new facilities;
- one for the users of the system.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 ADMINISTRATIVE

.1 Submit to the Professionals submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit 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.

.2 Do not proceed with Work affected by submittal until review is complete.

.3 Present shop drawings, product data, samples and mockups in SI Metric units.

.4 Where items or information is not produced in SI Metric units converted values are acceptable.

.5 Review submittals prior to submission to the Professionals. This review by the Contractor represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

.6 Notify the Professional, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.7 Verify field measurements and affected adjacent Work are co-ordinated.

.8 Contractor's responsibility for errors and omissions in submission, as well as deviations in submission from requirements of Contract Documents is not relieved by the Professional's review of submittals.

.9 Keep one reviewed copy of each submission on site.

1.3 SHOP DRAWINGS AND PRODUCT DATA

.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

.2 Submit shop drawings bearing stamp and signature of qualified professional engineer registered or licensed in the Province of Quebec, Canada.

.3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.4 Allow 7 days for the Professionals' review of each submission.

.5 Adjustments made on shop drawings by the Professionals are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the Professionals prior to proceeding with Work.

.6 Make changes in shop drawings as the Professionals may require, consistent with Contract Documents. When resubmitting, notify the Professionals in writing of revisions other than those requested.

.7 Accompany submissions with transmittal letter, containing:

- .1 Date.
- .2 Project title and number.
- .3 Contractor's name and address.
- .4 Identification and quantity of each shop drawing, product data and sample.
- .5 Other pertinent data.

.8 Submissions include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name and address of:
  - .1 Subcontractor.
  - .2 Supplier.
  - .3 Manufacturer.
- .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .5 Details of appropriate portions of Work as applicable:
  - .1 Materials and fabrication details.
  - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
  - .3 Setting or erection details.
  - .4 Capacities.
  - .5 Performance characteristics.
  - .6 Standards.
  - .7 Operating weight.
  - .8 Wiring diagrams.
  - .9 Single line and schematic diagrams.
  - .10 Relationship to adjacent work.

.9 After the Professionals' review, distribute copies of shop drawings.

.10 Submit one (1) electronic copy of shop drawings for each requirement requested in specification Sections and as the Professional may reasonably request.

.11 Submit (1) electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by the Professionals where shop drawings will not be prepared due to standardized manufacture of product.

.12 Submit (1) electronic copy of manufacturers instructions for requirements requested in specification Sections and as requested by the Professionals.

.1 Electronic documents describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.

.13 Submit (1) electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by the Professionals.

.14 Delete information not applicable to project.

.15 Supplement standard information to provide details applicable to project.

.16 If upon review by the Professionals, no errors or omissions are discovered or if only minor corrections are made, the electronic copy will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

.17 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.4 SAMPLES

.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to the Professionals' office.

.3 Notify the Professionals in writing, at time of submission of deviations in samples from requirements of Contract Documents.

.4 Where colour, pattern or texture is criterion, submit full range of samples.

.5 Adjustments made on samples by the Professionals are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the Professionals prior to proceeding with Work.

.6 Make changes in samples which the Professionals may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.5 PROGRESS PHOTOGRAPHS

.1 Keep a file of photographs throughout Work to document the site conditions before Work and during the progress of Work. If features not described in the Contract Documents are identified, document them exhaustively. Keep photographs and submit one (1) electronic copy at full completion.

1.6 CERTIFICATES AND TRANSCRIPTS

.1 Immediately after award of Contract, submit the relevant documents required by the Work Place Health and Safety Committee.

.2 Submit transcription of insurance immediately after award of Contract.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 PURPOSE

.1 To ensure that the construction project and the activities of the establishment are carried out without interruption or undue hindrance and that the security of the establishment is maintained at all times.

1.3 DEFINITIONS

.1 "Prohibited Items" means:

.1 Intoxicating substances, including alcoholic beverages, drugs or narcotics;

.2 Weapons or weapons, ammunition and any object designed to kill, injure or incapacitate a person, or any object modified or assembled for these purposes, the possession of which has not been previously authorized;

.3 Explosives or bombs, or their components;

.4 Amounts of money, exceeding regulatory limits [$ 2500]; and

.5 Any other article not described in paragraphs a) to d), possessed without prior authorization, and which may endanger the safety of persons or the penitentiary.

.2 "Unauthorized smoking items" means tobacco products including, but not limited to, cigarettes, cigars, tobacco, chewing tobacco and snuff, cigarette rollers, matches and lighters that are considered unauthorized items.

.3 "Commercial Vehicle" means any motorized vehicle intended for the transportation of equipment, equipment or tools required for the construction project.

.4 "CSC" means Correctional Service Canada. Protect structures by temporary means until permanent closures are installed.

.5 "Director" means the director of the institution, as the case may be, or their authorized representative.

.6 "Construction employees" means the employees of the General Contractor, the Sub-contractors, equipment operators, equipment suppliers, testing and inspection laboratories, and regulatory agencies.

.7 "Departmental Representative" means the project manager of Public Works, Government Services Canada (PWGSC) or Correctional Service Canada (CSC) depending on the project.

.8 "Perimeter" means the area of the facility surrounded by secure fences or walls limiting the movement of inmates.

.9 "Construction Zone" means the area where, as indicated in the Contract Documents, the Contractor will be permitted to work. It may or may not be isolated from the security enclosure of the institution.

1.4 PRELIMINARY ACTIONS

.1 Before Work, the Contractor must meet with the Director to:

.1 Discuss the nature and scope of all project activities;

.2 Establish acceptable security measures on both sides in accordance with this directive and the specific needs of the institution.

.2 The Contractor must:

.1 Ensure all construction employees are aware of CSC security requirements;

.2 Ensure that CSC's security requirements are always prominently displayed on the construction site;

.3 Collaborate with facility staff to ensure construction employees meet all safety requirements.

1.5 CONSTRUCTION EMPLOYEES

.1 The Contractor must provide the Director with a list of names with dates of birth for all employees who work on the construction site, as well as a completed security check form for each employee.

.2 Allow two (2) weeks for processing security clearance requests. No employee will be admitted to the institution without a duly approved security clearance or a recent photo ID, such as a provincial driver's license. Security clearances are unique to each CSC institution and any authorization obtained from another institution is not valid for the institution where this project will be conducted.

.3 The Director may require the faces of construction employees to be photographed and photographs to be displayed at appropriate locations in the establishment or transferred to a database for identification purposes. The Director may require that photo ID cards be produced for all construction employees. These cards must be left at the designated entrance where they will be given to the cardholder upon arrival at the establishment. They must be worn prominently on their clothing at all times while at the institution.

.4 Access to the institutional property is prohibited to anyone if there are reason to believe that he/she might be a security threat.

.5 Anyone employed on the construction site will be immediately removed from the property if:

.1 He appears to be under the influence of alcohol, drugs or narcotics;

.2 He has abnormal or disorderly behavior

.3 He is in possession of a forbidden object.

1.6 VEHICLES

.1 Anyone leaving an unattended vehicle on the CSC property must close the windows, lock the doors and trunks, and remove the keys. The owner of the vehicle or the employee of the company that owns the vehicle must ensure that the keys are kept safe on his person.

.2 At any time, the Director may limit the number and type of vehicles allowed on the premises of the establishment. .

.3 Equipment deliverers required for the project will be required to obtain a security clearance, but they must not leave their vehicle for the duration of their stay in the establishment. The director may require that they be accompanied by an employee of the establishment or a commissionaire.

.4 If the Director allows trailers to be left inside the institution's security perimeter, the doors must remain securely locked at all times, as must the windows, when trailers are left unoccupied. The windows will be protected by an expanded metal lattice. All trailers used by the Contractor for storage, both inside and outside the perimeter, must be securely locked when not in use.

1.7 PARKING

.1 The Director will identify the authorized parking areas for vehicles of construction employees. Parking in other locations will be prohibited and offending vehicles may be towed.

1.8 DELIVERIES

.1 Any delivery of materials, equipment or tools for the project must be addressed to the Contractor to distinguish it from shipments destined for the establishment. The Contractor must ensure that his employees are on site to receive shipments as CSC staff will not accept **any** deliveries of materials, equipment or tools for the Contractor.

1.9 TELEPHONES

.1 No telephone, fax or computer equipment connected to the Internet will be permitted within the security perimeter of the institution without the prior authorization of the Director.

.2 The Director will ensure that telephones, fax machines and computers with an Internet connection are not installed in an inmate-accessible area. Access to each computer will be protected by a password, thus prohibiting any Internet connection by unauthorized personnel.

.3 Unless expressly authorized by the Director, mobile phones or digital cordless telephones, including, but not limited to, messaging devices, pagers, BlackBerries, telephones used as two-way radios, are prohibited in the establishment. If mobile phones are eventually allowed their user will not allow their use by inmates.

.4 The Director may authorize but restrict the use of two-way radios.

1.10 WORKING HOURS

.1 The work week at the establishment runs from Monday to Friday, from 07:00 to 18:00.

.2 Work is not permitted on weekends or statutory holidays without the express permission of the Director, which must be requested at least seven (7) days in advance. In the event of an emergency, or in any other circumstance, this period may be canceled by the Director.

1.11 WORK OUTSIDE NORMAL HOURS OF WORK

.1 Director's permission is required for any work performed outside normal working hours. The Contractor shall give at least forty-eight (48) hours' notice when it is necessary to perform approved work outside normal working hours. If overtime work is required to complete an urgent task, for example, to pour concrete or to ensure construction safety, the Contractor must notify the Director as soon as he or she is aware of such a necessity, and then follow the directions given by the Director. Costs incurred by Canada as a result of this situation could be charged to the Contractor.

.2 When performing work outside normal hours, or working on a weekend or statutory holiday, and such additional work is authorized by the Director, the Director or the person designated by the Director may assign additional security personnel. Costs associated with this assignment could be billed to the Contractor.

1.12 TOOLS AND EQUIPMENT

.1 Maintain on site a complete list of tools and equipment that will be used during the construction project. Make this list available for inspection when required.

.2 Maintain the list of tools and equipment specified above throughout the construction project.

.3 Never leave tools unattended, especially power tools, cartridge tools, cartridges, files, saw blades, carbide saws, wires, ropes, ladders, and any type of lifting equipment .

.4 Store tools and equipment in approved safe locations.

.5 Lock all toolboxes after use. Contractor's employees must keep keys with them at all times.

.6 Secure and lock un-erected scaffolds; when erected, the scaffolding must be securely fixed to the satisfaction of the Director.

.7 Immediately notify the Director of any loss or disappearance of any tool or equipment.

.8 The Director will ensure that security personnel conduct controls of the Contractor's tools and equipment, based on the list provided by the Contractor:

.1 at the beginning and at the end of each construction project;

.2 every week, if the project lasts more than a week.

.9 Some tools/ equipment, such as cartridges and hacksaw blades, are items for which control is very strict. At the beginning of the day, the Contractor will be given a sufficient quantity to carry on the work of the day. The blades/ cartridges used will be delivered to the representative at the end of each working day.

.10 When propane or natural gas is used to heat the project, the establishment will require an employee of the Contractor to supervise the construction site outside of working hours.

1.13 KEYS

.1 Keys for the Detention Hardware Store

.1 The Contractor shall arrange with the Provider/ Installer of the Detention Hardware to have the keys of the Detention Hardware delivered directly to the Institution at the attention of the Security Equipment Maintenance Agent.

.2 This Agent will give the Contractor a receipt for the keys of the Detention hardware store.

.3 The Contractor will provide a copy to the Ministerial Representative.

.2 Other Keys

.1 During the construction project, the Contractor will use construction barrels in the finishing locks.

.2 The Contractor will provide its employees, and sub-contractors as required, with instructions for the safe storage of construction keys.

.3 At the end of each phase of the construction project, the CSC representative, in collaboration with the lock manufacturer, must:

.1 Establish an operational key statement;

.2 Receive keys and operational barrels for locks directly from the manufacturer;

.3 Remove and return the construction barrels and install the final barrels.

.4 Once permanent detention locks are in place, CSC officers escorting construction employees will be required to obtain keys from the Security Equipment Maintenance Agent to open the doors for the Contractor's needs. This person must inform his employees that only CSC officers who provide the escorts will be allowed to use these keys.

1.14 DETENTION HARDWARE

.1 Return all existing detention hardware removed to the Director of the establishment to ensure that it is disposed of or kept in a safe place for future use.

1.15 PRESCRIPTION DRUGS

.1 The Contractor's employees who are required to take prescription medication during the work day are required to obtain the authorization of the Director to be authorized to bring with them to the establishment the daily dosage of the drug.

1.16 RESTRICTIONS ON TOBACCO USE

.1 Contractors and construction employees are not permitted to smoke inside correctional facilities or outdoors in the perimeter of a correctional facility. They must not, within the perimeter, have in their possession unauthorized tobacco products.

.2 Contractors and construction employees who violate this policy will be asked to immediately stop smoking or dispose of any unauthorized tobacco products. If they refuse to obey, they will be ordered to leave the establishment.

.3 Smoking will only be allowed outside the perimeter of the correctional facility at a location designated by the Director.

1.17 PROHIBITED ITEMS

.1 Weapons, ammunition, explosives, alcoholic beverages, drugs and narcotics are prohibited on the premises of the establishment.

.2 The discovery of prohibited object(s) on the construction site and the identification of the person(s) responsible for the presence of these objects must be immediately reported to the Director.

.3 Contractors must be vigilant with respect to their employees and the employees of their sub-contractors, since the discovery of a prohibited object may result in the cancellation of the security clearance of the employee involved. A serious offense could result in the eviction of the company in question from the establishment site, for the duration of the construction project.

.4 If weapons or ammunition are found in the vehicle of a contractor, subcontractor, supplier or employee thereof, the security clearance of the driver of the vehicle will be revoked on the field.

1.18 SEARCH

.1 Any person and vehicle accessing the property of the establishment may be searched.

.2 Where the Director has reasonable grounds to believe that an employee of the Contractor is in possession of contraband or a prohibited item, he may require that person to be searched.

.3 The personal effects of any employee arriving at the establishment may be screened for the presence of prohibited drug residues.

1.19 ACCESS TO THE ESTABLISHMENT

.1 Except with the express authorization of the Director, construction and commercial vehicles will not be admitted to the establishment outside normal working hours.

1.20 VEHICLE TRAFFIC

.1 Vehicles may enter and leave the facility, under escort, through the vehicle barrier at the following times:

.1 07:00 to 18:00

Construction vehicles may not leave the facility until an account of the detainees have been completed.

.2 The Contractor must notify the Director twenty-four (24) hours in advance of the arrival of heavy equipment, such as concrete mixers, cranes, etc.

.3 Vehicles loaded with soil or garbage, or any other vehicle deemed impossible to search, must be constantly monitored by CSC employees or Commissionaires reporting to the Director.

.4 Before a commercial vehicle is admitted into the premises of the establishment, the Contractor or his representative must certify that the contents of the vehicle are definitely necessary for the construction project.

.5 Access to CSC property will be refused to any vehicle whose contents, in the opinion of the director, represent a risk to the security of the establishment.

.6 Private vehicles of construction employees are not allowed inside the security perimeter of medium or maximum security institutions without the express authorization of the director.

.7 Subject to the prior authorization of the Director, a vehicle may be used in the morning to bring a group of employees to the site and to bring them back in the evening. This vehicle will not be able to stay on the premises during the day.

.8 With the authorization of the Director, some equipment may be left on the site at night or on weekends. These must be locked and their battery removed. The Director may require equipment to be attached with a chain and padlock to another fixed object.

1.21 CIRCULATION OF CONSTRUCTION EMPLOYEES ON THE PROPERTY OF THE ESTABLISHMENT

.1 Subject to the need to maintain adequate security, the Director will allow the Contractor and his employees as much freedom of action and movement as possible.

.2 However, notwithstanding the preceding paragraph, the Director may:

.1 Prohibit or restrict access to any part of the establishment;

.2 Require that throughout the construction project, or at certain times, construction employees be accompanied by a CSC security officer or commissioner in certain areas of the institution.

.3 All construction employees must remain on site during the coffee/ health breaks and dinner. They are not allowed to eat in the correctional officers' rest room or in the institution's dining room.

1.22 MONITORING AND INSPECTION

.1 Construction activities and the movement of personnel and vehicles will be monitored and inspected by CSC security personnel to ensure that established security standards are met.

.2 CSC staff will ensure that construction workers understand the need for monitoring and inspections and that this understanding is maintained throughout the project.

1.23 WORK STOPPAGE

.1 At any time, the Director may direct the Contractor, its employees, contractors or their employees not to enter or leave the work site immediately due to a safety incident in progress in the establishment. The site contractor's foreman must then note the name of the CSC employee transmitting the order, the time of the instruction, and comply with the order received as soon as possible.

.2 The Contractor must inform the Departmental Representative of the situation within twenty-four (24) hours of the work stoppage.

1.24 CONTACT WITH DETAINEES

.1 It is forbidden, without specific authorization, to get in touch with prisoners, to talk to them, to give them objects or to receive them from them. Failure to comply with this directive will result in the expulsion of the employee's site and the revocation of his/ her security clearance.

.2 It should be noted that cameras are prohibited on CSC property.

.3 Notwithstanding the foregoing, if the Director authorizes the use of cameras, it shall remain strictly forbidden to photograph CSC inmates or employees or any part of the establishment whose photographing is not necessary to the execution of this contract.

1.25 COMPLETION OF THE CONSTRUCTION PROJECT

.1 Upon completion of the construction project or, as the case may be, the taking over of the facilities, the Contractor shall remove all materials, tools and equipment that are not identified in the construction contract as to be left at the establishment.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 SECTION CONTENT

.1 The Contractor must manage its activities so that the health and safety of the public and site personnel and the protection of the environment always take precedence over cost and schedule issues.

1.3 REFERENCES

.1 Commission des normes, de l'équité, de la santé et de la sécurité au travail (CNESST).

.2 Canada Labor Code, Part II, Canada Occupational Safety and Health Regulations.

.3 Canadian Standards Association (CSA).

.4 Workplace Hazardous Materials Information System (WHMIS) / Health Canada.

.1 Material Safety Data Sheet (MSDS).

.5 Act respecting occupational health and safety, S.R.Q., Chapter S-2.1, 2017.

.6 Safety Code for the construction industry, S-2.1, r 4, 2017.

1.4 SUBMITTALS

.1 Submit documents and samples required in accordance with Section 01 33 00 - Submittal Procedures.

.2 Transmit to the Departmental Representative the prevention program specific to the construction site, at least ten (10) days before the start of work. The Contractor must subsequently update its prevention program if the course of work differs from its initial projection. The Departmental Representative may, following the reception of the program and at any time during the work, require that the program be modified or supplemented to better reflect the reality of the site. The Contractor must then make the necessary corrections before starting work.

.3 Submit to the Departmental Representative, within 24 hours, a copy of any inspection report, correction notice, or recommendation issued by federal or provincial inspectors.

.4 Submit to the Departmental Representative, within 24 hours, an investigation report for any accident resulting in an injury and any incident that highlights a risk potential.

.5 Submit to the Departmental Representative all Material Safety Data Sheets for controlled products used on the construction site, at least three (3) days before they are used on site.

.6 Provide copies of training certificates that are required for the implementation of the prevention program to the Departmental Representative, including:

.1 Health and general safety training for construction sites

.2 Security Officer Certification
.3 First Aid in the workplace and CPR
.4 Works likely to emit asbestos dust
.5 Work in confined space
.6 Lockout procedure
.7 Wearing and adjusting of personal protective equipment
.8 Safe driving of forklifts
.9 Working in confined Lifting work platforms
.10 And any other training required by regulation or by the prevention program

.7 Medical examinations : When medical examinations are required, under a law, regulation, directive, estimate or prevention program, the Contractor must:

.1 Before the mobilization, send to the Departmental Representative attestations of medical examinations of its supervisory staff and his employees covered by the first paragraph of this article who will be present at the opening of the site.
.2 Transmit thereafter as and without delay the medical examination certificates of all new arrivals to the site which are referred to in the first paragraph of this article.

.8 Emergency plan: the emergency plan must be sent to the Departmental Representative at the same time as the prevention program.

.9 Notice of Opening of the Construction Site: the notice of opening of the construction site must be transmitted to the CNESST before the beginning of work, with a copy to the Departmental Representative. A copy of this notice must also be displayed prominently on the construction site. During the demobilization, the closure notice must be sent to the CNESST, with a copy to the Departmental Representative.

.10 Engineering plans and certificates of conformity: the Contractor must send to the CNESST and the Departmental Representative a copy signed and sealed by an engineer of all the plans and certificates of conformity that are required under the Safety Code for the construction industry (S-2.1, r.4), or any other Act, by-law or clause of the specification or the contract. A copy of these documents must be available at all times at the site.

.11 Certificate of conformity issued by the CNESST: the attestation of conformity is a document issued by the CNESST confirming that the Contractor is in good standing with the CNESST, that is to say that he has paid all the sums due to a given contract. This document must be provided to the Departmental Representative at the end of the work.

1.5 RISK ASSESSMENT

.1 The Contractor must identify the hazards related to each task completed on the construction site.

.2 The Contractor must plan and organize the work in such a way as to promote the elimination of the source of these hazards or the collective protection and thus minimize the use of personal protective equipment. When personal fall protection is required, workers should use a safety harness in accordance with CAN / CSA-Z-259.10-M90. Seat belt must not be used as a fall protection.

.3 Equipment, tools or means of protection that can not be installed or used without compromising the health and safety of workers or the public are deemed to be inadequate for the work to be performed.

.4 All mechanical equipment must be inspected before delivery to the site. Before the use of mechanical equipment, the Contractor must send the Departmental Representative a certificate of conformity signed by a competent mechanic. The Departmental Representative may, at any time, if he suspects a defect or a risk of accident, order the immediate shutdown of the equipment and require a second inspection by a specialist of his choice.

1.6 MEETINGS

.1 A decision-making representative of the Contractor must attend all meetings discussing health and safety on the job site.

1.7 REGULATING AUTHORITY REQUIREMENTS

.1 Comply with all laws, regulations and standards that apply to the execution of the work.

.2 Observe prescribed standards and regulations to ensure normal work on sites contaminated with hazardous or toxic materials.

.3 Notwithstanding the date of publication of the standards indicated in the Safety Code for the construction industry, the version in effect at the time of its application must always be used.

1.8 HEALTH AND SAFETY MANAGEMENT

.1 Accept and assume all the duties and obligations normally assigned to the supervisor under the Act respecting occupational health and safety (S.R.Q., chapter S-2.1) and Safety Code for the construction industry (S-2.1, r.4).

.2 Develop a site-specific prevention program based on hazards identification and implement this program from the beginning of the project to the final stage of demobilization. It must be sent to all concerned, in accordance with the provisions of Article 1.4. The prevention program must include at least:

.1 The company's health and safety policy;

.2 The description of the work, the total cost of the work, the schedule and the expected staffing curve;

.3 The organization chart of health and safety responsibilities;

.4 The physical and material organization of the site;

.5 First aid and first aid standards;

.6 The identification of hazards in relation to the site;

.7 Identification of hazards in relation to the tasks performed, including preventive measures and methods of implementation;

.8 The required training;

.9 The procedure in case of accident/ injury;

.10 The written commitment of all workers to respect this prevention program;

.11 A site inspection grid based on preventive measures.

.3 The Contractor must develop an effective emergency plan, in relation to the characteristics and constraints of the site and its environment. The emergency plan must be sent to all concerned, in accordance with the provisions of Article 1.4. The emergency plan must include:

.1 Evacuation procedure;

.2 Identification of resources (police, firefighters, ambulances, etc.);

.3 Identification of the persons responsible on the site;

.4 Identification of first-aiders;

.5 The training required for the persons responsible for its application;

.6 And any other information that would be necessary, given the characteristics of the site.

1.9 RESPONSIBILITIES

.1 Appoint a competent person as supervisor and responsible for health and safety. Take all necessary measures to ensure the health and safety of people and property on the construction site and in the immediate vicinity of the construction site that may be affected by the work.

.2 Take all necessary measures to ensure compliance with health and safety requirements contained in the contract documents, federal and provincial regulations, applicable standards and site-specific prevention program and comply without delay with any order or correction notice issued by the CNESST.

.3 Take all necessary measures to keep the site clean and tidy throughout the work.

1.10 COMMUNICATION AND DISPLAY

.1 Take all necessary steps to ensure effective communication of health and safety information on site. Upon arrival at the site, all workers must be informed of the particularities of the prevention program, their obligations and their rights. The Contractor must insist on the right of the workers to refuse to perform work if they believe that this work may compromise their health, safety, physical integrity or that of others present on the site. He must keep a register on the construction site and update it with the information transmitted and the signature of all the workers who received this information.

.2 The following information and documents must be displayed in a location easily accessible to the workers:

.1 Notice of Opening of the Construction Site;

.2 Identification of the project manager;

.3 Company policy on OSH;

.4 Site-specific prevention program;

.5 Emergency plan;

.6 Material Safety Data Sheets for all controlled products used at the site;

.7 Meeting minutes of the committee meetings on the construction site;

.8 Name of the rescuers;

.9 Intervention and correction reports issued by the CNESST.

1.11 CONTINGENCIES

.1 When a source of danger not specified in the specifications and not identifiable during the preliminary inspection of the site appears by the fact or during the execution of the work, the Contractor must stop work immediately, implement measures of temporary protection for workers and the public and notify the Departmental Representative verbally and in writing. The Contractor must then make the necessary modifications to the prevention program so that the work can resume safely.

1.12 DYNAMITING

.1 Dynamiting and any other use of explosives is prohibited unless authorized in writing by the Departmental Representative.

1.13 SEALANT GUNS AND OTHER CARTRIDGE DEVICES

.1 Sealant guns or other cartridge devices are prohibited on the property of CSC. Refers to Section 01 35 13

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 INSPECTION

.1 Allow the Owner and the Professionals access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.

.2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by the Professionals instructions, or law of Place of Work.

.3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

.4 The Professionals will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, the Contractor shall correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, the Owner] shall pay cost of examination and replacement.

1.3 ACCESS TO WORK

.1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

.2 Cooperate to provide reasonable facilities for such access.

1.4 PROCEDURES

.1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.

.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.5 REJECTED WORK

.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by the Departmental Representative as failing to conform to Contract Documents. Replace or reexecute in accordance with Contract Documents.

.2 Make good other Contractor's work damaged by such removals or replacements promptly.

.3 If in opinion of the Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by the Departmental Representative.

1.6 REPORTS

.1 Submit two (2) copies of inspection and test reports to the Departmental Representative.

.2 Provide copies to subcontractor of work being inspected or tested.

1.7 EQUIPMENT AND SYSTEMS

.1 Submit adjustment and balancing reports for mechanical and electrical systems, as well as the other systems of the building.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.3 INSTALLATION AND REMOVAL

.1 Prepare site plan 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.

.2 Indicate use of supplemental or other staging area.

.3 Provide construction facilities in order to execute work expeditiously.

.4 Remove from site all such work after use.

1.4 SCAFFOLDING

.1 Scaffolding in accordance with CAN/CSA-S269.2.

.2 Provide and maintain scaffolding, ladders, platforms, temporary stairs and other equipment required to execute Work.

1.5 HOISTING

.1 Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.

.2 Hoists and cranes are to be operated by qualified operator.

1.6 SITE STORAGE/LOADING

.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.7 SECURITY

.1 Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays.

1.8 EQUIPMENT, TOOL AND MATERIALS STORAGE

.1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.9 SANITARY FACILITIES

.1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

.2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

.3 When permanent water and drain connections are completed, provide temporary water closets and urinals complete with temporary enclosures, inside building.

1.10 CONSTRUCTION SIGNAGE

.1 Provide and erect project sign, within three (3) weeks of signing Contract, in a location designated by the Departmental Representative.

.2 Indicate on sign, name of the Owner, the Consultants and the Contractor, of design style established by the Departmental Representative.

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

.4 Provide project identification site sign comprising framing and one 1200 x 2400 mm signboard as detailed and as described below.

.1 Signboard: 19 mm Medium Density Overlaid Douglas Fir Plywood to CSA O121.

.2 Paint: alkyd enamel to CAN/CGSB1.59 over exterior alkyd primer to CAN/CGSB 1.189.

.3 Fasteners: hotdip galvanized steel nails and carriage bolts.

.4 Vinyl sign face: printed project identification, self adhesive, vinyl film overlay, supplied by the Departmental Representative.

.5 Direct requests for approval to erect Consultant/Contractor signboard to the Departmental Representative. For consideration general appearance of Consultant/Contractor signboard must conform to project identification site sign. Wording in both official languages.

.6 Signs and notices for safety and instruction in both official languages Graphic symbols to CAN/CSAZ321.

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

1.11 PROTECTION AND MAINTENANCE OF TRAFFIC

.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 the 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. Contractor: responsible for repair of damage to roads caused by construction operations.

.7 Construct access and haul roads necessary.

.8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.

.9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.

.10 Dust control: adequate to ensure safe operation at all times.

.11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by the Departmental Representative.

.12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.

.13 Provide snow removal during period of Work.

.14 Remove, upon completion of work, haul roads designated by the Departmental Representative.

1.12 CLEAN-UP

.1 Remove construction debris, waste materials, packaging material from work site daily.

.2 Clean dirt or mud tracked onto paved or surfaced roadways.

.3 Store materials resulting from demolition activities that are salvageable.

.4 Stack stored new or salvaged material not in construction facilities.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 INSTALLATION AND REMOVAL

.1 Provide temporary controls in order to execute Work expeditiously.

.2 Remove from site all such work after use.

1.3 HOARDING

.1 Erect temporary site enclosure using new 2.4 m high snow fence wired to rolled steel "T" bar fence posts spaced at 2.4 m on centre. Provide one (1) lockable truck gate. Maintain fence in good repair.

.2 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

1.4 GUARD RAILS AND BARRICADES

.1 Provide secure, rigid guard rails and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs.

.2 Provide and install these elements as required by governing authorities.

1.5 WEATHER ENCLOSURES

.1 Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.

.2 Design enclosures to withstand wind pressure and snow loading.

1.6 DUST TIGHT SCREENS

.1 Provide dust tight screens or partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.

.2 Maintain and relocate protection until such work is complete.

1.7 FIRE ROUTES

.1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.8 PROTECTION FOR OFFSITE AND PUBLIC PROPERTY

.1 Protect surrounding private and public property from damage during performance of Work.

.2 Be responsible for damage incurred.

.2 Be responsible for damage incurred.

1.9 PROTECTION OF BUILDING FINISHES

.1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.

.2 Provide necessary screens, covers, and hoardings.

.3 Confirm with the Departmental Representative locations and installation schedule three (3) days prior to installation.

.4 Be responsible for damage incurred due to lack of or improper protection.

1.10 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 Within text of each specifications section, reference may be made to reference standards. Conform to these reference standards, in whole or in part as specifically requested in each specifications section.

.2 If there is question as to whether products or systems are in conformance with applicable standards, the Departmental Representative and the Professionals reserve right to have such products or systems tested to prove or disprove conformance.

.3 Cost for such testing will be born by the Departmental Representative in event of conformance with Contract Documents or by the Contractor in event of nonconformance.

1.3 QUALITY

.1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.

.2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve the Contractor of his responsibility, but is precaution against oversight or error. The Contractor will remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

.3 Should disputes arise as to quality or fitness of products, decision rests strictly with the Professionals based upon requirements of Contract Documents.

.4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.

.5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.4 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 the Professionals of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

.2 In event of failure to notify the Departmental Representative or the Professionals at commencement of Work and should it subsequently appear that Work may be delayed for

such reason, the Professionals reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.5 STORAGE, HANDLING AND PROTECTION

.1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.

.2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.

.3 Store products subject to damage from weather in weatherproof enclosures.

.4 Store cementitious products clear of earth or concrete floors, and away from walls.

.5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.

.6 Store sheet and panel materials, and lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.

.7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.

.8 Remove and replace damaged products at own expense and to satisfaction of the Owner.

.9 Touchup damaged factory finished surfaces to the Owner's satisfaction. Use touchup materials to match original. Do not paint over name plates.

1.6 TRANSPORTATION

.1 Pay costs of transportation of products required in performance of Work.

.2 Transportation cost of products supplied by Owner will be paid for by the Owner. Unload, handle and store such products.

1.7 MANUFACTURER'S INSTRUCTIONS

.1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.

.2 Notify the Professionals in writing, of conflicts between specifications and manufacturer's instructions, so that the Professionals will establish course of action.

.3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes the Professionals to require removal and reinstallation at no increase in Contract Price or Contract Time.

1.8 QUALITY OF WORK

.1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify the Professionals if required Work is such as to make it impractical to produce required results.

.2 Do not employ anyone unskilled in their required duties. The Professionals reserve right to require dismissal from site, workers deemed incompetent or careless.

.3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with the Departmental Representative and the Professionals, whose decision is final.

1.9 COORDINATION

.1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.

.2 The Contractor is responsible for coordination and placement of openings, sleeves and accessories.

1.10 CONCEALMENT

.1 In finished areas conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.

.2 Before installation inform the Professionals if there is interference. Install as directed by the Professionals.

1.11 REMEDIAL WORK

.1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.

.2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.12 LOCATION OF FIXTURES

.1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.

.2 Inform the Professionals of conflicting installation. Install as directed.

1.13 FASTENINGS

.1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.

.2 Prevent electrolytic action between dissimilar metals and materials.

.3 Use noncorrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.

.4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.

.5 Keep exposed fastenings to a minimum, space evenly and install neatly.

.6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.14 FASTENINGS EQUIPMENT

.1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.

.2 Bolts may not project more than one diameter beyond their diameter.

.3 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.15 PROTECTION OF WORK IN PROGRESS

.1 Prevent overloading of parts of building. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated without written approval of the Professionals.

1.16 EXISTING UTILITIES

.1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work.

.2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00 Submittal Procedures.

.2 Submit written request in advance of cutting or alteration which affects:

- .1 Structural integrity of elements of project.
- .2 Integrity of weatherexposed or moistureresistant elements.
- .3 Efficiency, maintenance, or safety of operational elements.
- .4 Visual qualities of sightexposed elements.
- .5 Work of Owner or separate contractor.

.3 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 Owner or separate contractor.
- .7 Written permission of affected separate contractor.
- .8 Date and time work will be executed.

1.3 MATERIALS

.1 Required for original installation.

.2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 Submittal Procedures.

1.4 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.

1.5 EXECUTION

.1 Execute cutting, fitting, and patching, including excavation and fill, to complete Work.

.2 Fit several parts together, to integrate with other Work.

.3 Uncover Work to install illtimed Work.

.4 Remove and replace defective and nonconforming Work.

.5 Provide openings in nonstructural elements of Work for penetrations of mechanical and electrical Work.

.6 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.

.7 Employ original installer to perform cutting and patching for weatherexposed and moistureresistant elements, and sightexposed surfaces.

.8 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.

.9 Restore work with new products in accordance with requirements of Contract Documents.

.10 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

.11 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material in accordance with Section 07 84 00 - Firestopping, full thickness of the construction element.

.12 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.

.13 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

1.6 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 PROJECT CLEANLINESS

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris.

.2 Remove waste materials from site at daily regularly scheduled times.

.3 Clear snow and ice from access to building. Remove from site.

.4 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.

.5 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.

.6 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

.7 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.3 FINAL CLEANING

.1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

.3 Prior to final review remove surplus products, tools, construction machinery and equipment.

.4 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.

.5 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, and floors.

.6 Clean lighting reflectors, lenses, and other lighting surfaces.

.7 Vacuum clean and dust building interiors, behind grilles, louvres and screens.

.8 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.

.9 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.

.10 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.

.11 Remove dirt and other disfiguration from exterior surfaces.

.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 WASTE MANAGEMENT GOALS

.1 Prior to start of Work conduct meeting with the Owner to review and discuss PWGSC's Waste Management Plan and Goals.

.2 Accomplish maximum control of solid construction waste.

.3 Preserve environment and prevent pollution and environment damage.

1.2 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections..

1.3 DEFINITIONS

.1 Class III: non-hazardous waste - construction renovation and demolition waste.

.2 Inert Fill: inert waste - exclusively asphalt and concrete.

.3 Materials Source Separation Program (MSSP): consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.

.4 Recyclable: ability of product or material to be recovered at end of its life cycle and remanufactured into new product for reuse.

.5 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.

.6 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

.7 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:

.1 Salvaging reusable materials from remodelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.

.2 Returning reusable items including pallets or unused products to vendors.

.8 Salvage: removal of structural and nonstructural materials from deconstruction/disassembly projects for purpose of reuse or recycling.

.9 Separate Condition: refers to waste sorted into individual types.

.10 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.

.11 Waste Management Co-ordinator (WMC) : contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.

1.4 SUBMITTALS

.1 Submittals in accordance with Section 01 33 00 Submittal Procedures.

1.5 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)

.1 Prepare MSSP and have ready for use prior to project startup.

.2 Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by the Owner.

.3 Provide onsite facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.

.4 Provide containers to deposit reusable and recyclable materials.

.5 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.

.6 Locate separated materials in areas which minimize material damage.

.7 Collect, handle, store onsite, and transport offsite, salvaged materials in separate condition.

.1 Transport to approved and authorized recycling facility, or to users of material for recycling.

.8 Collect, handle, store onsite, and transport offsite, salvaged materials in combined condition.

.1 Ship materials to site operating under Certificate of Approval..

.2 Materials must be immediately separated into required categories for reuse or recycling.

1.6 STORAGE, HANDLING AND PROTECTION

.1 Store, materials to be reused, recycled and salvaged in locations as directed by the Owner.

.2 Unless specified otherwise, materials for removal become Contractor's property.

.3 Protect, stockpile, store and catalogue salvaged items.

.4 Separate nonsalvageable materials from salvaged items. Transport and deliver nonsalvageable items to licensed disposal facility.

.5 Protect structural components not removed for demolition from movement or damage.

.6 Support affected structures. If safety of building is endangered, cease operations and immediately notify the Professionals.

.7 Protect surface drainage, mechanical and electrical from damage and blockage.

.8 Separate and store materials produced during dismantling of structures in designated areas.

.9 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.

.1 Onsite source separation is recommended.

.2 Remove comingled materials to offsite processing facility for separation.

.3 Provide waybills for separated materials.

1.7 DISPOSAL OF WASTES

.1 Do not bury rubbish or waste materials.

.2 Do not dispose of waste, volatile materials, mineral spirits, oil, or paint thinner into waterways, storm, or sanitary sewers.

.3 Remove materials from deconstruction as deconstruction/disassembly Work progresses.

1.8 USE OF SITE AND FACILITIES

.1 Execute work with least possible interference or disturbance to normal use of premises.

.2 Maintain security measures established by existing facility.

1.9 SCHEDULING

.1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 APPLICATION

.1 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

3.2 CLEANING

.1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.

.2 Cleanup work area as work progresses.

3.3 DIVERSION OF MATERIALS

.1 Onsite sale of waste materials is not permitted.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 INSPECTION AND DECLARATION OF SUBSTANTIAL PERFORMANCE

.1 Contractor's Inspection: Contractor and Subcontractors to conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify the Professionals in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.

.2 Request the Professionals' inspection.

.2 Professionals' Inspection: Professionals to inspect Work with Contractor and Owner, and identify defects and deficiencies.

.3 Declaration of Substantial Performance: the Professionals will issue a Certificate of Substantial Performance along with a list of deficiencies and defects to be corrected. The Contractor must make the required corrections.

.4 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

1.3 INSPECTION AND DECLARATION OF WORK COMPLETION

.1 Completion Tasks: submit written certificates that tasks have been performed as follows:

.1 Work: completed and inspected for compliance with Contract Documents.

.2 Defects: corrected and deficiencies completed.

.3 Equipment and systems: tested, adjusted, balanced and fully operational.

.4 Certificates required by Utility companies: submitted.

.5 Operation of systems: demonstrated to Owner's personnel.

.6 Work: complete and ready for final inspection.

.2 Final Inspection: When completion tasks are done, request final inspection of Work by the Owner, the Professionals and the Contractor. When Work incomplete according to the Owner and the Professionals, the Contractor must complete outstanding items and request re-inspection.

.3 Declaration of Work Completion: when the Owner and the Professionals consider deficiencies and defects corrected and requirements of Contract entirely met, make application for Certificate of Work Completion.

.4 Final Payment: When the Owner and the Professionals consider final deficiencies and defects corrected and requirements of Contract met, make application for final payment.

.5 Payment of Holdback: after issuance of Certificate of Work Completion, submit application for payment of holdback amount in accordance with contractual agreement.

1.4 FINAL CLEANING

.1 Clean in accordance with Section 01 74 11 - Cleaning.

.2 Remove surplus materials, excess materials, rubbish, tools and equipment in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 Submittal Procedures.

.2 Instructions must be prepared by competent person who have the required knowledge of operating and maintenance of the products described.

.3 Two (2) weeks prior to Substantial Performance of the Work, submit to the Owner, two (2) final copies of operating and maintenance manuals.

.4 Provide spare parts, maintenance materials and special tools of same quality and manufacture as products provided in Work.

.5 Provide evidence, if requested, for type, source and quality of products supplied.

.6 Defective products will be rejected, regardless of previous inspections, removed and replaced at own expense.

.7 Pay costs of transportation of products required to replace defective products.
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1.3 FORMAT

.1 Organize data as instructional manual.

.2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf of 219 x 279 mm with spine and face pockets.

.3 When multiple binders are used correlate data into related consistent groupings. Identify contents of each binder on spine.

.4 Cover: identify each binder with title of project and identify subject matter of contents.

.5 Arrange content by Section numbers and sequence of Table of Contents.

1.4 CONTENTS PROJECT RECORD DOCUMENTS

.1 Table of Contents for Each Volume: provide title of project;

- .1 Date of submission..
- .2 Names, addresses, and telephone numbers of the Contractor, the Owner and the Professionals with name of responsible parties.
- .3 Schedule of products and systems, indexed to content of volume.

.2 For each product or system:

- .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

.3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.

.4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

.5 Training: refer to Section 01 79 00 Demonstration and Training.

1.5 AS BUILT DOCUMENTS AND SAMPLES

.1 Maintain, in addition to requirements in General Conditions, at site for Departmental Representative one record copy of:

.1 Change Orders and other modifications to Contract.

.2 Field test records.

.3 Inspection certificates.

.4 Manufacturer's certificates.

.2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.

.3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.

.4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.

.5 Keep record documents and samples available for inspection by Departmental Representative.

1.6 EQUIPMENT AND SYSTEMS

.1 For each item of equipment and each system include description of unit or system, and component parts. Give function, normal operation characteristics and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.

.2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.

.3 Include installed colour coded wiring diagrams.

.4 Operating Procedures: include startup, breakin, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and any special operating instructions.

.5 Maintenance Requirements: include routine procedures and guide for troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

.6 Provide servicing and lubrication schedule, and list of lubricants required.

.7 Include manufacturer's printed operation and maintenance instructions.

.8 Include sequence of operation by controls manufacturer.

.9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

.10 Provide installed control diagrams by controls manufacturer.

.11 Provide Contractor's co-ordination drawings, with installed colour coded piping diagrams.

.12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

.13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

.14 Include test and balancing reports as specified in Section 01 45 00 - Quality Control.

.15 Additional requirements: as specified in individual specification sections.

1.7 MATERIALS AND FINISHES

.1 Building products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for reordering custom manufactured products.

.2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.3 Moistureprotection and weatherexposed 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 specifications sections.

1.8 SPARE PARTS

.1 Provide spare parts, in quantities specified in individual specification sections.

.2 Provide items of same manufacture and quality as items in Work.

.3 Deliver to site; place and store.

.4 Receive and catalogue items. Submit inventory listing to Owner. Include approved listings in Maintenance Manual.

.5 Obtain receipt for delivered products and submit prior to final payment.

1.9 EXTRA STOCK MATERIALS

.1 Provide maintenance and extra materials, in quantities specified in individual specification sections.

.2 Provide items of same manufacture and quality as items in Work.

.3 Deliver to site as directed; place and store.

.4 Receive and catalogue items. Submit inventory listing to Owner. Include approved listings in Maintenance Manual.

.5 Obtain receipt for delivered products and submit prior to final payment.

1.10 SPECIAL TOOLS

.1 Provide maintenance and extra materials, in quantities specified in individual specification sections.

.2 Provide items of same manufacture and quality as items in Work.

.3 Deliver to site location as directed; place and store.

.4 Receive and catalogue items. Submit inventory listing to Owner. Include approved listings in Maintenance Manual.

1.11 DELIVERY, STORAGE AND HANDLING

.1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.Store in original and undamaged condition with manufacturer's seal and labels intact.

.2 Store components subject to damage from weather in weatherproof enclosures.

.3 Store paints and freezable materials in a heated and ventilated room.

.4 Remove and replace damaged products at own expense and for review by the Owner.

1.12 WARRANTIES AND BONDS

.1 Develop warranty management plan to contain information relevant to Warranties.

.2 Submit warranty management plan, thirty (30) days before planned pre-warranty conference, to Owner approval.

.3 Warranty management plan to include required actions and documents to assure that the Owner receives warranties to which it is entitled.

.4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.

.5 Submit, warranty information made available during construction phase, to Owner for approval prior to each monthly pay estimate.

.6 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 ten (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.

.7 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.

.8 Conduct joint four (4) month and (9) month warranty inspection, measured from time of acceptance, by the Owner.

.9 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 HVAC balancing, pumps, motors, transformers, and commissioned systems such as fire protection, alarm systems, and sprinkler 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 four (4) and nine (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.

.10 Respond in timely manner to oral or written notification of required construction warranty repair work.

.11 Written verification to follow oral instructions. Failure to respond will be cause for the Owner to proceed with action against Contractor.

1.13 PRE-WARRANTY MEETING, PRIOR TO WORK COMPLETION

.1 Convene meeting with the Owner to review and understand the requirements of this section. Hold meeting prior to contract completion, at a time determined by the Owner.

.1 Owner to establish communication procedures for:

.1 Notifying construction warranty defects.

.2 Determine priorities for type of defects.

.3 Determine reasonable response time.

.2 Contact information for bonded and licensed company for warranty work action: provide name, telephone number and address of company authorized for construction warranty work action.

.3 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.14 WARRANTY TAGS

.1 Tag, at time of installation, each warranted item. Provide durable, oil and water resistant tag approved by the Owner.

.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’s signature.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 ADMINISTRATIVE REQUIREMENTS

.1 Demonstrate scheduled operation and maintenance of equipment and systems to Owner's personnel two (2) weeks prior to date of final inspection.

.2 Owner: provide list of personnel to receive instructions, and co-ordinate their attendance at agreed upon times.

1.3 QUALITY ASSURANCE

.1 When specified in individual Sections requiring manufacturer to provide authorized representative to demonstrate operation of equipment and systems, instruct Owner's personnel and provide written report that demonstration and instructions have been completed.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 Submittal Procedures.

.2 Give time and date of each demonstration, with list of persons present.

1.5 CONDITIONS FOR DEMONSTRATION AND INSTRUCTIONS

.1 Ensure equipment and systems have been inspected and put into operation.

.2 Ensure testing, adjusting, and balancing has been performed, and equipment and systems are fully operational.

.3 Provide complete copies of operation and maintenance manuals that will be used for demonstration and related training sessions.

1.6 PREPARATION

.1 Verify conditions for demonstration and instructions comply with requirements.

.2 Verify designated personnel are present.

1.7 DEMONSTRATION AND INSTRUCTIONS

.1 Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, and maintenance of each item of equipment at agreed upon times, at the equipment location.

.2 Instruct personnel in phases of operation and maintenance using operation and maintenance manuals as basis of instruction.

.3 Review contents of manual in detail to explain aspects of operation and maintenance.

.4 Prepare and insert additional data in operations and maintenance manuals when needed during instructions.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 Canadian Standards Association (CSA International)

.1 CSA S350[M1980(R1998)], Code of Practice for Safety in Demolition of Structures.

1.3 SUBMITTALS

.1 Submit shop drawings in accordance with Sections 01 33 00 Submittal Procedures.

.2 Before proceeding with demolition of load bearing walls or of other walls and where required by authority having jurisdiction submit for review by the Professionals shoring and underpinning drawings prepared by qualified professional engineer registered or licensed in the Province of Quebec, showing proposed method.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.5 SITE CONDITIONS

.1 Review "Designated Substance Report" and take precautions to protect environment.

.2 Should material resembling spray or trowelapplied asbestos or other designated substance listed as hazardous be encountered, stop work, take preventative measures, and notify the Professionals immediately.

.1 Do not proceed until written instructions have been received from the Professionals.

.3 Notify the Owner before disrupting building access or services.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 PREPARATION

.1 Inspect site with the Professionals and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.

.2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.

.3 Notify and obtain approval of utility companies before starting demolition.

.4 Disconnect, cap, plug or divert, as required, existing public utilities within the property where they interfere with the execution of the work, in conformity with the requirements of the authorities having jurisdiction. Mark the location of these and previously capped or plugged services on the site and indicate location (horizontal and vertical) on the record drawings. Support, shore up and maintain pipes and conduits encountered.

.1 Immediately notify Owner and utility company concerned in case of damage to any utility or service, designated to remain in place.

.2 Immediately notify the Engineer should uncharted utility or service be encountered, and await instruction in writing regarding remedial action.

3.2 PROTECTION

.1 Prevent movement, settlement, or damage to adjacent structures, utilities, and parts of building to remain in place. Provide bracing and shoring required.

.2 Keep noise, dust, and inconvenience to occupants to minimum.

.3 Protect building systems, services and equipment.

.4 Provide temporary dust screens, covers, railings, supports and other protection as required.

.5 Do Work in accordance with Section 01 35 30 - Health and Safety Requirements.

3.3 SALVAGE

.1 Refer to demolition drawings and specifications for items to be salvaged for reuse.

.2 Remove items to be reused, store as directed by the Professionals, and reinstall under appropriate section of specification.

3.4 SITE REMOVALS

.1 Remove items as indicated.

.2 Removal of Pavements, Curbs and Gutters:

.1 Square up adjacent surfaces to remain in place by saw cutting or other method approved by the Professionals.

.2 Protect adjacent joints and load transfer devices.

.3 Protect underlying and adjacent granular materials.

3.5 DEMOLITION

.1 Remove elements of existing building to permit new construction. Sort materials into appropriate piles for recycling.

.2 Trim edges of partially demolished building elements to tolerances as defined by the Professionals to suit future use.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 Canadian Standards Association (CSA International)

- .1 CAN3 A165 SERIES[94(R2000)], CSA Standards on Concrete Masonry Units [covers: A165.1, A165.2, A165.3].
- .2 CSA A179[94(R1999)], Mortar and Grout for Unit Masonry.
- .3 CSAA370[94(C1999)], Connectors for Masonry.
- .4 CSAA371[94(R1999)], Masonry Construction for Buildings.
- .5 CSA G30.14[M1983(R1998)], Deformed Steel Wire For Concrete Reinforcement.
- .6 CAN/CSA G30.18[M92], BilletSteel Bars for Concrete Reinforcement.
- .7 CSAS304.1-[94(R2001)], Masonry Design for Buildings.

1.3 SUBMITTALS

.1 Product Data:

- .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 Submittal Procedures.

.2 Manufacturer's Instructions: submit manufacturer's installation instructions.

.3 Shop Drawings :

- .1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedures.
- .2 Shop drawings consist of bar bending details, lists and placing drawings.
- .3 On placing drawings, indicate sizes, spacing, location and quantities of reinforcement and connectors.

1.4 STORAGE AND HANDLING

.1 Protect on site stored or installed material from moisture damage in accordance with manufacturer's printed instructions.

Part 2 Products

2.1 MASONRY UNITS

.1 All masonry units must come from the same manufacturer.

.2 Standard hollow concrete block units: to CAN3A165 Series (CAN3A165.1).

- .1 Structural capacity of 15 MPa.

.2 Classification: H15/ A/ O.

.3 Size: 90mm wide x 190mm high x 390mm long. Thickness equivalent to 26mm.

.4 Size: 140mm wide x 190mm high x 390mm long. Thickness equivalent to 80mm.

.5 Size: 190mm wide x 190mm high x 390mm long. Thickness equivalent to 106mm.

.6 Special shapes: provide purposemade shapes for lintels and bond beams, as indicated.

.3 Standard solid concrete block units: to CAN3A165 Series (CAN3A165.1).

.1 Structural capacity of loads of 15 MPa.

.2 Classification: H15/ A/ O.

.3 Size: 90mm wide x 190mm high x 390mm long.

.4 Acceptable products: as manufactured by Permacon or an approved equivalent.

2.2 REINFORCEMENT AND CONNECTORS

.1 Bar reinforcement: to CSAA371 and CAN/CSA G30.18.

.2 Wire reinforcement: to CSAA371 and CSA G30.14.

.3 Connectors shall be corrosion resistant: to CSAA370 and CSAS304.

2.3 MORTAR AND GROUT

.1 Mortar: to CSA A179.

.1 Use aggregate passing 1.18 mm sieve where 6 mm thick joints are indicated.

.2 Colour: grey.

.2 Mortar Type: S, based on property specifications.

.3 Following applies regardless of mortar types and uses specified above:

.1 Mortar for grouted reinforced masonry: type S, based on property specifications.

.4 Grout: to CSA A179, Table 3.

2.4 ACCESSORIES

.1 Nailing Inserts: 0.5 mm minimum thickness, galvanized.

.2 Bolts: 12 mm diameter x 150 mm long with ends bent 50 mm at 90 degrees.

Part 3 Execution

3.1 INSTALLATION

.1 Do masonry work in accordance with CSAA371 except where specified otherwise.

.1 Bond: running stretcher bond with vertical joints in perpendicular alignment and centred on adjacent stretchers above and below.

.2 Coursing height: 200 mm for one block and one joint.

.3 Jointing: tool where exposed or where paint or other finish coating is specified to provide smooth compressed surface.

.2 Build masonry plumb, level, and true to line, with vertical joints in alignment.

.3 Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.

3.2 CONSTRUCTION

.1 Exposed masonry:

.1 Remove chipped, cracked, and otherwise damaged units, in exposed masonry and replace with undamaged units.

.2 Cut out for electrical switches, outlet boxes, and other recessed or built-in objects. Make cuts straight, clean, and free from uneven edges.

.2 BuildingIn:

.1 Install masonry connectors and reinforcement where indicated on drawings.

.2 Build in items required to be built into masonry.

.3 Prevent displacement of built-in items during construction. Check plumb, location and alignment frequently, as work progresses.

.4 Brace door jambs to maintain plumb. Fill spaces between jambs and masonry with mortar.

.5 Install loose steel lintels over openings where indicated.

.3 Concrete block lintels:

.1 Install reinforced concrete block lintels over openings in masonry where steel or reinforced concrete lintels are not indicated.

.2 End bearing: not less than 200 mm.

.4 Support of loads:

.1 Use 15 MPa concrete to Section 03 30 00 Cast-in-place Concrete, where concrete fill is used in lieu of solid units. See Engineering specifications.

.2 Install building paper below voids to be filled with concrete; keep paper 25 mm back from faces of units.

.5 Provision for movement:

.1 Leave 3 mm space below shelf angles.

.2 Leave 6 mm space between top of non-load bearing walls and partitions and structural elements. Do not use wedges.

.3 Built masonry to tie in with stabilizers, with provision for vertical movement.

.6 Interface with other work:

.1 Cut openings in existing work as indicated.

.2 Openings in walls: approved by the Engineer.

.3 Make good existing work. Use materials to match existing.

.7 Install masonry connectors and reinforcement in accordance with CSAA370, CSAA371 and CSAS304.1 unless indicated otherwise.

.8 Prior to placing concrete, obtain Engineer's approval of placement of reinforcement and connectors.

3.3 BONDING AND TYING

.1 Bond walls of two or more wythes using metal connectors in accordance with CSAS304, CSAA371 and as indicated.

.2 Tie masonry veneer to backing in accordance with NBC, CSAS304.1, CSAA371 and as indicated.

3.4 REINFORCED LINTELS AND BOND BEAMS

.1 Reinforce masonry lintels and bond beams as indicated.

.2 Place and grout reinforcement in accordance with CSAS304.1, CSAA371, and CSAA179.

3.5 GROUTING

.1 Grout masonry in accordance with CSAS304.1, CSAA371 and CSAA179 and as indicated.

3.6 ANCHORS

.1 Supply and install metal anchors as indicated.

3.7 LATERAL SUPPORT AND ANCHORAGE

.1 Supply and install lateral support and anchorage in accordance with CSAS304.1 and as indicated.

3.8 SITE TOLERANCES

.1 Tolerances in notes to Clause 5.3 of CSAA371 apply.

3.9 PROTECTION

.1 Protect masonry and other work from marking and other damage. Protect completed work from mortar droppings. Use non-staining coverings.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM)

.1 ASTM A53/A53M[02], Specification for Pipe, Steel, Black and HotDipped, ZincCoated Welded and Steamless.

.2 ASTM A269[02], Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.

.3 ASTM A307[02], Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB1.40[97], Anticorrosive Structural Steel Alkyd Primer.

.2 CAN/CGSB1.181[92], ReadyMixed, Organic ZincRich Coating.

.3 Canadian Standards Association (CSA International)

.1 CAN/CSAG40.20/G40.21[98], General Requirements for Rolled or Welded Structural Quality Steel.

.2 CAN/CSAG164[M92(R1998)], Hot Dip Galvanizing of Irregularly Shaped Articles.

.3 CAN/CSAS16.1[01], Limit States Design of Steel Structures.

.4 CSA W48[01], Filler Metals and Allied Materials for Metal Arc Welding (Developed in cooperation with the Canadian Welding Bureau).

.5 CSA W59[1989(R2001)],Welded Steel Construction (Metal Arc Welding) (Imperial Version).

.4 The Environmental Choice Program

.1 CCD047a[98], Paints, Surface Coatings.

.2 CCD048[98], Surface Coatings Recycled Waterborne.

1.3 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 Submittal Procedures.

.2 Shop Drawings

.1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedures.

.2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

1.4 QUALITY ASSURANCE

.1 Certificates: submit documents signed and sealed by a Structural Engineer member of the *Ordre des Ingénieurs du Québec*, certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

.1 Packing, Shipping, Handling and Unloading:

.1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Storage and Protection:

.1 Cover exposed stainless steel surfaces with pressure sensitive heavy protection paper or apply strippable plastic coating, before shipping to job site.

.2 Leave protective covering in place until final cleaning of building. Provide instructions for removal of protective covering.

Part 2 Products

2.1 METAL FABRICATIONS

.1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.

.2 Use selftapping shakeproof hexagonal headed screws on items requiring assembly by screws or as indicated.

.3 Where possible, fit and shop assemble work, ready for erection.

.4 When on-site assemble work is required, components must have been previously assembled in the shop prior to transportation to verify alignments and ensure they can be installed without modifications on site.

.5 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

2.2 FINISHES

.1 Galvanizing:

.1 Hot dipped galvanizing with zinc coating 600 g/m² to CAN/CSAG164.

.2 Components of railings and handrails should be inspected to eliminate any rough patch or protruding residue from hot dipped galvanizing that could be a nuisance or injure users.

.2 Shop painting:

.1 Apply one shop coat of rust-resistant primer to metal items, with exception of galvanized or concrete encased items.

.2 Clean surfaces to be field welded; do not paint.

2.3 ANGLE LINTELS

.1 Steel angles: size of supports as indicated in engineering documents for openings.

.2 Weld or bolt back to back angles to profiles as indicated.

.3 Finish: shop painted coat of primer.

2.4 FOLDED STEEL SHEET

.1 Galvanized steel sheet around the existing slab:

.1 3 mm thick;

.2 Profiled by welding or bending;

.3 Predrilled on the site, according to the localisation of the fastening device.

.4 Provide overlapped joint at each section junction to make them smoke-tight.

2.5 EXTERIOR STEEL STAIRWAY

.1 Entire design of exterior stairway must be approved by a Structural Engineer.

.2 All the components of the stairway must be galvanized.

.3 Columns:

.1 Dimensions 89 x 89mm.

.2 Anchored at the base on a concrete pillar.

.3 Mechanically attached to the landing structure.

.4 Stringers:

.1 "C" profile structure.

.2 Mechanically attached to the landing structure.

.5 Steps:

.1 Steel grating consisted of vertical blades of 3mm x 50mm minimum height spaced 25mm with twisted bars welded to blades perpendicularly spaced 75mm.

.2 Anti-slip nosing with protruding perforations or grooves.

.3 Steps dimensions à illustrated in documents.

.4 Welded to the stringers.

.6 Open risers.

.7 Landings:

.1 "C" profile structure.

.8 Guardrails:

.1 Bottom and top horizontal round profile tubing, with a diameter of 38 mm. Welded to the posts.

.2 Start, finish and intermediate post spaced of 915 mm; with a round profile and a diameter of 38mm. Mechanically fastened to the top of the stringer using welded anchor plates.

.3 Vertical struts of 10 x 10 mm, spaced of 102 mm and welded to the horizontal tubing.

.4 Heights as illustrated in the documents.

.9 Handrails:

.1 Round profile tubing with a diameter of 38 mm.

.2 Fastened mechanically or welded to each post using a handrail support.

.3 Height as illustrated in the documents.

.4 305 mm horizontal extension at the bottom and top, as illustrated in the documents.

2.6 INTERIOR STAIRWAY WITH STEEL PURLINS

.1 Entire design of Stairway must be approved by a Structural Engineer.

.2 The stairway components must be painted with a primer, and when visible, with a finishing paint.

.3 Stringers:

.1 "C" profile structure.

.2 Mechanically fixed to the landing structure and the floor.

.3 Steps:

.1 Made of steel purlins, 50 mm thick, filled with concrete.

.2 Nose with beveled profile of 6 x 6 mm.

.3 Size of steps as illustrated in the documents.

.4 Welded to the stringers.

.4 Riser:

.1 Closed by the extension of the rear plate of the step purlin.

.5 Handrails:

.1 Round profile tubing with a diameter of 38 mm.

.2 Fastened mechanically to the wall with a handrail support and adequate anchoring, each 915 mm.

.3 Height as illustrated in the documents.

.4 305 mm horizontal extension at the bottom and top, as illustrated in the documents.

2.7 GRATING STEEL INTERIOR STAIRWAYS

.1 Entire design of Stairway must be approved by a Structural Engineer.

.2 The stairway components must be painted.

.3 Stringers:

.1 Notched stringers.

.2 Mechanically fixed to the landing structure and the floor.

.4 Steps:

.1 Made of grating consisting of vertical strips of 3 mm x 50 mm high, with a minimum space of 25 mm, with twisted bars welded to slats perpendicularly spaced of 75 mm.

.2 Anti-slip nose with protruding perforations or grooves.

.3 Steps size as illustrated in the documents.

.4 Welded to the stringers.

.5 Open risers.

.6 Guardrails:

.1 Bottom and top horizontal round profile tubing, with a diameter of 38 mm. Welded to the posts.

.2 Start, finish and intermediate post spaced of 915 mm; with a round profile and a diameter of 38mm. Mechanically fastened to the top of the stringer using welded anchor plates.

.3 Vertical struts of 10 x 10 mm, spaced of 102 mm and welded to the horizontal tubing.

.4 Heights as illustrated in the documents.

.7 Handrails:

.1 Round profile tubing with a diameter of 38 mm.

.2 Fastened mechanically or welded to each post using a handrail support.

.3 Height as illustrated in the documents.

.4 305 mm horizontal extension at the bottom and top, as illustrated in the documents.

Part 3 Execution

3.1 ERECTION

.1 Do welding work in accordance with CSA W59 unless specified otherwise.

.2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.

.3 Provide suitable means of anchorage acceptable to the Engineer such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.

.4 Exposed fastening devices to match finish and be compatible with material through which they pass.

.5 Provide components for building by other sections in accordance with shop drawings and schedule.

.6 Make field connections with bolts to CAN/CSAS16.1, or weld.

.7 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.

.8 Touchup rivets, field welds, bolts and burnt or scratched surfaces after completion of erection with primer.

.9 Touchup galvanized surfaces with zinc rich primer where burned by field welding.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American National Standards Institute (ANSI)

- .1 ANSI/NPA A208.1[1999], Particleboard.
- .2 ANSI A208.2[02], Medium Density Fiberboard (MDF) for Interior Applications.
- .3 ANSI/HPVA HP-1-[04], Standard for Hardwood and Decorative Plywood.

.2 American Society for Testing and Materials International (ASTM)

- .1 ASTM E1333[96(2002)], Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates From Wood Products Using a Large Chamber.
- .2 ASTM D2832[92(R2005)], Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.
- .3 ASTM D5116[06], Standard Guide For SmallScale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.

.3 Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Architectural Woodwork Institute (AWI)

- .1 Architectural Woodwork Quality Standards Illustrated, 8th edition, Version 1.0 (2005).

.4 Canadian General Standards Board (CGSB)

- .1 CAN/CGSB71.20[M88], Adhesive, Contact, Brushable.

.5 Canada Green Building Council (CaGBC)

- .1 LEED Canada-NC Version 1.0-[2004], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations.

.6 Canadian Standards Association (CSA International)

- .1 CSA B111[74(R2003)], Wire Nails, Spikes and Staples.
- .2 CSA O112.4 Series[M1977(R2006)], Standards for Wood Adhesives.
- .3 CSA O112.5SeriesM[1977(R2006)], Urea Resin Adhesives for Wood (Room and HighTemperature Curing).
- .4 CSA O112.7Series M[1977(R2006)], Resorcinol and PhenolResorcinol Resin Adhesives for Wood (Room and IntermediateTemperature Curing).
- .5 CSA O121[M89(R2003)], Douglas Fir Plywood.
- .6 CSA O141[05], Softwood Lumber.

.7 CSA O151[04], Canadian Softwood Plywood.

.8 CSA O153[M1980(R2003)], Poplar Plywood.

.7 International Organization for Standardization (ISO)

.1 ISO 14040[2006], Environmental ManagementLife Cycle Assessment Principles and Framework.

.2 ISO 14041[98], Environmental ManagementLife Cycle Assessment Goal and Scope Definition and Inventory Analysis.

.8 Forest Stewardship Council (FSC)

.1 FSC Accredited Certified Bodies.

.9 National Electrical Manufacturers Association (NEMA)

.1 ANSI/NEMA LD3[05], High-Pressure Decorative Laminates.

.10 National Hardwood Lumber Association (NHLA)

.1 Rules for the Measurement and Inspection of Hardwood and Cypress [1998].

.11 National Lumber Grades Authority (NLGA)

.1 Standard Grading Rules for Canadian Lumber [2005].

.12 South Coast Air Quality Management District (SCAQMD), California State (SCAQMD)

.1 SCAQMD Rule 1113-[04], Architectural Coatings.

.2 SCAQMD Rule 1168-[05], Adhesives and Sealants Applications.

1.3 SUBMITTALS

.1 Provide Submittal submissions: in accordance with Section 01 33 00 Submittal Procedures.

.2 Provide shop drawings in accordance with Section 01 33 00 Submittal Procedures.

.1 Indicate details of construction, profiles, jointing, fastening and other related details.

.2 Indicate materials, thicknesses, finishes and hardware.

.3 Indicate locations of service outlets in casework, typical and special installation conditions, and connections, attachments, anchorage and location of exposed fastenings.

.3 Provide samples in accordance with Section 01 33 00 Submittal Procedures.

.1 Provide duplicate colour samples of laminated plastic for colour selection.

.2 Provide duplicate samples of laminated plastic joints, edging, cutouts and postformed profiles.

.4 Quality assurance submittals:

.1 Manufacturer's Instructions: manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

.1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.

.2 Plywood, particleboard, OSB and wood based composite panels in accordance with CSA and ANSI standards.

.3 Delivery, Storage, and Handling:

.1 Deliver, handle, store and protect materials of this section in accordance with Section 01 61 00 - Common Product Requirements.

.1 Protect millwork against dampness and damage during and after delivery.

.2 Store millwork in ventilated areas, protected from extreme changes of temperature or humidity.

Part 2 Products

2.1 MATERIALS

.1 Softwood lumber: unless specified otherwise, S4S, moisture content 15 % or less in accordance with following standards:

.1 CSA O141.

.2 NLGA Standard Grading Rules for Canadian Lumber.

.3 AWMAC premium grade, moisture content as specified.

.2 Machine stressrated lumber is acceptable for all purposes.

.3 Hardwood lumber: moisture content 15 % or less in accordance with following standards:

.1 National Hardwood Lumber Association (NHLA).

.2 AWMAC premium grade, moisture content as specified.

.4 Douglas fir plywood (DFP): to CSA O121, standard construction.

.5 Canadian softwood plywood (CSP): to CSA O151, standard construction.

.6 Interior matformed wood particleboard: to ANSI A208.1. Density: 45 lbs minimum.

.7 **Type-1** Laminated plastic for flatwork:

.1 to NEMA LD3, Grade 10/HGS (for horizontal or vertical surfaces)

.2 1.1 mm thick;

.3 Colour: Formica “Neutral Twill” #8826-58 with Matte Finish or approved equivalent.

.8 **Type-2** Laminated plastic for flatwork:

.1 to NEMA LD3, Grade 10/HGS (for horizontal or vertical surfaces)

.2 1.1 mm thick;

.3 Colour: Formica “Smoke Quarstone” #6220-RD with Radiance Finish or approved equivalent.

.9 **Type-3** Laminated plastic for flatwork:

.1 to NEMA LD3, Grade 10/HGS (for horizontal or vertical surfaces)

.2 1.1 mm thick;

.3 Colour: Formica “Dover White” #7197-58 with Matte Finish or approved equivalent.

.10 Laminated plastic backing sheet: Grade QR, not less than 0.5 mm thick or same thickness and colour as face laminate.

.11 Thermofused Melamine: to NEMA LD3, Grade 10/HGS (for horizontal or vertical surfaces)

.1 High wear resistant thermofused melamine: equal or exceed 400 cycles (Minimum standard for HPL abrasion test).

.12 Nails and staples: to CSA B111.

.13 Wood screws: plain, type and size to suit application.

.14 Splines: metal.

.15 Laminated plastic adhesive:

.1 Adhesive: contact adhesive to CAN/CGSB71.20.

2.2 MANUFACTURED UNITS

.1 Casework:

.1 Fabricate caseworks to AWMAC premium quality grade.

.2 Furring, blocking, nailing strips, grounds and rough bucks and sleepers.

.1 Board sizes: "standard" or better grade.

.2 Softwood lumber: "standard" light framing or better grade.

.3 Case bodies (ends, divisions and bottoms).

.1 Particleboard: 16 mm thick.

.2 **Type-1** laminated plastic on each side.

.3 Edge banding: Exposed in final assembly. Strips same width as particleboard. Matching colour in 3 mm PVC.

.4 Backs:

.1 Particleboard: 16 mm thick.

.2 **Type-1** laminated plastic on the inside.

.3 Laminated plastic backing sheet on the back side.

.5 Shelving:

.1 Particleboard, laminated with thermofused melamine: 16 mm thick.

.2 Colour: white.

.3 Edge banding: Exposed in final assembly. Strips same width as particleboard. Matching colour in 3 mm PVC.

.2 Drawers:

.1 Fabricate drawers to AWMAC premium grade supplemented as follows:

.2 Sides and Backs.

.1 Particleboard, laminated with thermofused melamine: 16 mm thick.

.2 Colour: white.

.3 Edge banding: Exposed in final assembly. Strips same width as particleboard. Matching colour in 3 mm PVC.

.3 Fronts:

.1 Particleboard: 16 mm thick, with thermofused melamine surface.

.2 **Type-1** laminated plastic on the front and back side.

.3 Edge banding: Exposed in final assembly. Strips same width as particleboard. Matching colour in 3 mm PVC.

.3 Counters, backsplashes and toe-kick:

.1 Counters:

.1 Softwood and poplar plywood [DFP or CSP or PP]: 19 mm thick.

.2 Thickness: 2 layers of 19 mm, 38 mm in total.

.3 Sanded surface: Select Quality.

.4 One piece of **type-2** laminated plastic on top.

.5 Laminated plastic backing sheet on the back.

.6 Edge banding: Exposed in final assembly. Strips same width as counters. Matching colour in 3 mm PVC.

.2 Backsplashes and toe-kick:

.1 Softwood and poplar plywood [DFP or CSP or PP]: 19 mm thick.

.2 Sanded surface: Select Quality.

.3 One piece of **type-2** laminated plastic on top.

.4 Laminated plastic backing sheet on the back.

.5 Edge banding: Exposed in final assembly. Strips same width as counters. Matching colour in 3 mm PVC.

.4 Shop assemble work for delivery to site in size easily handled and to ensure passage through building openings.

.5 The elements into which appliances, equipment and other equipment must be built-in or contiguous to such appliances must be made to the appropriate dimensions, which have been obtained beforehand.

.6 Ensure adjacent parts of continuous laminate work match in colour and pattern.

.7 Laminated plastic must be glued to the substrate in accordance with the instructions of the adhesive manufacturer. It must fit perfectly the support and adhere over the entire surface. The sheets used must be up to 3050 mm in length and must not have seams within 600mm maximum of the opening provided for a sink.

.8 Exposed edges of panels must be covered with a 3-mm thick PVC strip, colour matching the laminate. Chamfer exposed edges uniformly at approximately 20 degrees.

.9 A backing sheet must be placed on the panel opposite surface.

Part 3 Execution

3.1 INSTALLATION

.1 Do architectural woodwork to Quality Standards of the Architectural Woodwork Manufacturers Association of Canada (AWMAC), except where specified otherwise.

.2 Install prefinished millwork at locations shown on drawings. Position accurately, level, plumb straight.

.3 All nails, screws and other assemblies must be concealed and not visible from the outside.

.4 Fasten and anchor millwork securely. Provide heavy duty fixture attachments for wall mounted cabinets.

.5 Use draw bolts in countertop joints.

.6 Scribe and cut as required to fit abutting walls and to fit properly into recesses and to accommodate piping, columns, fixtures, outlets or other projecting, intersecting or penetrating objects.

.7 At junction of plastic laminate counter back splash and adjacent wall finish, apply small bead of sealant.

.8 Apply water resistant building paper over wood framing members in contact with masonry or cementitious construction.

.9 Fit hardware accurately and securely in accordance with manufacturer's written instructions.

3.2 CLEANING

.1 Proceed in accordance with Section 01 74 11 - Cleaning.

.2 Clean millwork and cabinet work drawers, inside cupboards and outside surfaces.

.3 Remove excess glue from surfaces.

3.3 PROTECTION

.1 Protect millwork and cabinet work from damage until final inspection.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM C553-[02], Specification for Mineral Fibre Blanket Thermal Insulation for Commercial and Industrial Applications.

.2 ASTM C665[01e1], Specification for MineralFiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

.3 ASTM C1320[05], Standard Practice for Installation of Mineral Fiber Batt and Blanket Thermal Insulation for Light Frame Construction.

.2 Canadian Standards Association (CSA International)

.3 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULC-S702-[1997], Standard for Mineral Fibre Insulation.

1.3 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

Part 2 Products

2.1 SOUNDPROOFING WOOL

.1 Fiberglass blanket for acoustic insulation, to use in interior partitions.

.1 Acceptable material: Owens Corning's *Quiétude*.

.2 Thickness: suitable for the steel studs of the partition.

2.2 INSULATING WOOL

.1 Semi-rigid insulating rockwool blanket, to use around the floor and the firebreak inserts.

.1 Acceptable material: Rockwool's *AFB* or an approved equivalent.

.2 Insulating fiberglass blanket to use around the openings of the exterior walls..

.1 Acceptable material: Owens Corning's *Ecotouch* or an approved equivalent.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 Canadian Urethane Foam Contractors' Association (CUFCA)

.2 Green Seal Environmental Standards

.1 Standard GC-03-[93], Anti-Corrosive Paints.

.2 Standard GS-11-[97], Architectural Paints.

.3 Health Canada/ Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheet (MSDS).

.4 Vrxwk#Frdvw#Dlu#Txdolw|#P dqdjhp hqw#Slvwulfw#VFDT¸,/#Frdiruqld#Vwdwh1

.1 VFDT¸#Jxdh#14460^39'/#Dufklwhfwxudd#Frdwlqjv.

.5 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULCS101[04], Standard methods of fire endurance tests of building construction and materials.

.2 CAN/ULCS102[03], Method of test for surface burning characteristics of building materials and assemblies.

.3 CAN/ULCS705.1[01], Standard for thermal insulation - Spray applied rigid polyurethane foam, medium density, Material - Specification

.4 CAN/ULCS705.2[05], Standard for thermal insulation - Spray applied rigid polyurethane foam, medium density, Material - Application.

1.3 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, limitations and finish.

.3 Manufacturer's Instruction:

.1 Submit manufacturer's installation instructions, including any indication of particular methods of handling, installing and cleaning.

1.1 QUALITY ASSURANCE

Workers responsible for the installation of insulation foam must meet the requirements of the CUFCA Quality Assurance Program.

.1 Qualification:

- .1 Installer: worker specialized in the installation of sprayed insulation, having at least five (5) years of experience, approved by the Manufacturer.
- .2 Manufacturer: A company with at least five (5) years of experience in manufacturing products similar to those that will be installed during this project, and having sufficient production capacity to deliver the required products at deadlines.

.2 Health and safety: worker protection

- .1 Provide protection according to the manufacturer's recommendations and CAN/ ULCS705.2.
- .2 Workers must not eat, drink or smoke while installing foam insulation.

1.4 EXISTING CONDITIONS

.1 Ensure continuous ventilation of the work area, by inlet of fresh air and extraction of stale air, during application and for 24 hours after application, in order to maintain a non-toxic environment, unpolluted and safe.

.2 Protect surfaces and materials adjacent to work against damage that may be caused by spraying beyond established limits, dispersion and chalking of insulating material.

.3 Only apply insulation when the surface temperature and the ambient air temperature are within the limits specified by the Manufacturer.

Part 2 Products

2.1 MATERIALS

.1 Insulation: polyurethane foam to be sprayed, in accordance with CAN/ULCS705.1.

.2 Insulation: low expansion polyurethane foam, in accordance with CAN / ULCS705.1.

.3 Primers: in accordance with the manufacturer's recommendations, taking into account the conditions of the surfaces to be insulated.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION

.1 Apply insulation to clean surfaces in accordance with the requirements and the manufacturer's written instructions.

.2 Also apply a primer where recommended by the manufacturer.

.3 Apply the specified thickness of insulation (no greater than a 10 mm-difference).

3.3 CLEANING

.1 Perform cleaning in accordance with section 01 74 10 - Cleaning.

.2 After completion of the installation and performance review, remove surplus materials and equipment, waste, tools and equipment from the construction site.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 DEFINITIONS

.1 Fire Stop Material: device intended to close off opening or penetration during fire or materials that fill openings in wall or floor assembly where penetration is by cables, cable trays, conduits, ducts and pipes and poke-through termination devices, including electrical outlet boxes along with their means of support through wall or floor openings.

.2 Single Component Fire Stop System: fire stop material that has Listed Systems Design and is used individually without use of high temperature insulation or other materials to create fire stop system.

.3 Multiple Component Fire Stop System: exact group of fire stop materials that are identified within Listed Systems Design to create on site fire stop system.

.4 Tightly Fitted; (ref: NBC Part 3.1.9.1.1 and 9.10.9.6.1): penetrating items that are cast in place in buildings of noncombustible construction or have "0" annular space in buildings of combustible construction.

.1 Words "tightly fitted" should ensure that integrity of fire separation is such that it prevents passage of smoke and hot gases to unexposed side of fire separation.

1.3 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Manufacturer’s Instruction: Submit manufacturer's installation instructions, including any indication of particular methods of handling, installing and cleaning.

1.4 QUALITY ASSURANCE

.1 Qualifications:

.1 Installer: person specializing in fire stopping installations with 5 years of experience, and approved by manufacturer.

Part 2 Products

2.1 MATERIALS

.1 Fire stopping and smoke seal systems: in accordance with CAN-ULCS115.

.1 Asbestosfree materials and systems capable of maintaining effective barrier against flame, smoke and gases in compliance with requirements of CAN-ULCS115 and not to exceed opening sizes for which they are intended.

.2 Fire stop system rating: as indicated in the documents.

.2 Service penetration assemblies: systems tested to CAN-ULCS115.

.3 Service penetration fire stop components: certified by test laboratory to CAN-ULCS115.

.4 Fireresistance rating of installed fire stopping assembly in accordance with NBC.

.5 Fire stopping and smoke seals at openings intended for ease of reentry such as cables: elastomeric seal.

.6 Fire stopping and smoke seals at openings around penetrations for pipes, ductwork and other mechanical items requiring sound and vibration control: elastomeric seal.

.7 Primers: to manufacturer's recommendation for specific material, substrate, and end use.

.8 Damming and backup materials, supports and anchoring devices: to manufacturer's recommendations, and in accordance with tested assembly being installed as acceptable to authorities having jurisdiction.

.9 Sealants for vertical joints: nonsagging.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 PREPARATION

.1 Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials.

.1 Ensure that substrates and surfaces are clean, dry and frost free.

.2 Prepare surfaces in contact with fire stopping materials and smoke seals to manufacturer's instructions.

.3 Maintain insulation around pipes and ducts penetrating fire separation without interruption to vapour barrier.

.4 Mask where necessary to avoid spillage and over coating onto adjoining surfaces; remove stains on adjacent surfaces.

3.3 INSTALLATION

.1 Install fire stopping and smoke seal material and components in accordance with manufacturer's certified tested system listing.

.2 Seal holes or voids made by through penetrations, pokethrough termination devices, and unpenetrated openings or joints to ensure continuity and integrity of fire separation are maintained.

.3 Provide temporary forming as required and remove forming only after materials have gained sufficient strength and after initial curing.

.4 Tool or trowel exposed surfaces to neat finish.

.5 Remove excess compound promptly as work progresses and upon completion.

3.4 SEQUENCES OF OPERATION

.1 Proceed with installation only when submittals have been reviewed by the Professionals.

.2 Install floor fire stopping before interior partition erections.

.3 Metal deck bonding: fire stopping to precede spray applied fireproofing to ensure required bonding.

3.5 FIELD QUALITY CONTROL

.1 Inspections: notify the Professionals when ready for inspection and prior to concealing or enclosing fire stopping materials and service penetration assemblies.

3.6 SCHEDULE

.1 Fire stop and smoke seal at:

.1 Penetrations through fire resistance rated masonry, concrete, and gypsum board partitions and walls.

.2 Joint between floor slabs and prefabricated steel sheeting exterior walls.

.3 Top of fire resistance rated masonry and gypsum board partitions.

.4 Intersection of fire resistance rated masonry and gypsum board partitions.

.5 Control and sway joints in fire resistance rated masonry and gypsum board partitions and walls.

.6 Penetrations through fire resistance rated floor slabs, ceilings and roofs.

.7 Openings and sleeves installed for future use through fire separations.

.8 Around mechanical and electrical assemblies penetrating fire separations.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM)

.1 ASTM C919[02], Standard Practice for Use of Sealants in Acoustical Applications.

.2 Canadian General Standards Board (CGSB)

.1 CGSB 19GP5M[1984], Sealing Compound, One Component, Acrylic Base, Solvent Curing (Issue of 1976 reaffirmed, incorporating Amendment No. 1).

.2 CAN/CGSB19.17[M90], OneComponent Acrylic Emulsion Base Sealing Compound.

.3 Department of Justice Canada (Jus)

.1 Canadian Environmental Protection Act, 1999 (CEPA).

.4 General Services Administration (GSA) Federal Specifications (FS)

.1 FSSSS200[E(2)1993], Sealants, Joint, TwoComponent, JetBlastResistant, Cold Applied, for Portland Cement Concrete Pavement.

.5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.6 Transport Canada (TC)

.1 Transportation of Dangerous Goods Act, 1992 (TDGA).

1.3 SUBMITTALS

.1 Submit product data in accordance with Section 01 33 00 Submittal Procedures.

.2 Manufacturer's product to describe.

.1 Caulking compound.

.2 Primers.

.3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.

.3 Submit manufacturer's instructions in accordance with Section 01 33 00 Submittal Procedures.

.1 Instructions to include installation instructions for each product used.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Unused sealant material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.

1.5 PROJECT CONDITIONS

.1 Environmental Limitations:

.1 Do not proceed with installation of joint sealants under following conditions:

.1 When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4.4 degrees C.

.2 When joint substrates are wet.

.2 JointWidth Conditions:

.1 Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

.3 JointSubstrate Conditions:

.1 Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.6 ENVIRONMENTAL REQUIREMENTS

.1 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

Part 2 Products

2.1 SEALANT MATERIALS

.1 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.

.2 When low toxicity caulks are not possible, confine usage to areas which offgas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize offgas time.

.3 Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESIGNATIONS

.1 Sealant for doors, windows and coatings:

.1 Single component material: 100% inert silicone.

.2 Acceptable material: ADSEAL 4580 serie (neutral curing).

.3 Exterior colour: #458-42 Slate or to suit window flashings.

.4 Interior colour: White.

.2 Soundproofing sealant for partitions:

.1 Single component elastomeric material.

.2 Acceptable material: SS100 by 3M.

.3 Colour: White.

.3 Finish sealant for exposed joints:

.1 Acrylic-based single component material.

.2 Paintable.

.3 Colour: White.

.4 Finish sealant for bathrooms and kitchen:

.1 Single component material: 100% silicone.

.2 Resistant to mildew and mould.

.3 Acceptable material: ADSEAL KB 4800 series (acetoxy silicone).

.4 Colour: Transparent

.5 Preformed Compressible and Non Compressible backup materials.

.1 Polyethylene, Urethane, Neoprene or Vinyl Foam.

.1 Extruded cell foam backer rod.

.2 Size: oversize 30 to 50 %.

.2 High Density Foam.

.1 Extruded closed cell polyvinyl chloride PVC, extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m^3 density, or neoprene foam backer, size as recommended by manufacturer.

.6 Bond Breaker Tape.

.1 Polyethylene bond breaker tape which will not bond to sealant.

2.3 JOINT CLEANER

.1 Noncorrosive and nonstaining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.

.2 Primer: as recommended by Manufacturer.

Part 3 Execution

3.1 PROTECTION

.1 Protect installed Work of other trades from staining or contamination.

3.2 SURFACE PREPARATION

.1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.

.2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.

.3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.

.4 Ensure joint surfaces are dry and frost free. Prepare surfaces in accordance with manufacturer's directions.

3.3 PRIMING

.1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.

.2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 BACKUP MATERIAL

.1 Apply bond breaker tape where required to manufacturer's instructions.

.2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.5 APPLICATION

.1 Sealant.

.1 Apply sealant in accordance with manufacturer's written instructions.

.2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.

.3 Apply sealant in continuous beads.

.4 Apply sealant using gun with proper size nozzle.

.5 Use sufficient pressure to fill voids and joints solid.

.6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.

.7 Tool exposed surfaces before skinning begins to give slightly concave shape.

.8 Remove excess compound promptly as work progresses and upon completion.

.2 Curing.

.1 Cure sealants in accordance with sealant manufacturer's instructions.

.2 Do not cover up sealants until proper curing has taken place.

.3 Cleanup.

.1 Clean adjacent surfaces immediately and leave Work neat and clean.

.2 Remove excess and droppings, using recommended cleaners as work progresses.

.3 Remove masking tape after initial set of sealant.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM A653/A653M[06a], Specification for Steel Sheet, ZincCoated (Galvanized) or ZincIron AlloyCoated (Galvannealed) by the HotDip Process.

.2 ASTM B29[03], Standard Specification for Refined Lead.

.3 ASTM B749[03], Standard Specification for Lead and Lead Alloy Strip, Sheet and Plate Products.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB1.181[99], ReadyMixed Organic ZincRich Coating.

.2 CGSB 41GP19Ma[84], Rigid Vinyl Extrusions for Windows and Doors.

.3 Canadian Standards Association (CSA International)

.1 CSAG40.20[04]/G40.21[04], General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.2 CSA W59[03], Welded Steel Construction (Metal Arc Welding).

.4 Canadian Steel Door Manufacturers' Association (CSDMA)

.1 CSDMA, Recommended Specifications for Commercial Steel Doors and Frames, [2000].

.2 CSDMA, Selection and Usage Guide for Commercial Steel Doors, [1990].

.5 National Fire Protection Association (NFPA)

.1 NFPA 80[99], Standard for Fire Doors and Fire Windows.

.2 NFPA 252[03], Standard Methods of Fire Tests of Door Assemblies.

.6 South Coast Air Quality Management District (SCAQMD), California State

.1 SCAQMD Rule 1113-[04], Architectural Coatings.

.2 SCAQMD Rule 1168-[05], Adhesives and Sealants Applications.

.7 Underwriters' Laboratories of Canada (ULC)

.1 CAN/ULCS701[01], Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.

.2 CAN/ULCS702[97], Standard for Thermal Insulation, Mineral Fibre, for Buildings.

.3 CAN/ULCS704[01], Thermal Insulation, Urethane and Isocyanurate Boards, Faced.

.4 CAN4S104[M80], Standard Method for Fire Tests of Door Assemblies.

.5 CAN4S105[M85], Standard Specification for Fire Door Frames Meeting the Performance Required by CAN4S104.

1.3 SYSTEM DESCRIPTION

.1 Design Requirements:

.1 Design exterior frame assembly to accommodate to expansion and contraction when subjected to minimum and maximum surface temperature of 35 degrees C to 35 degrees C.

.2 Steel fire rated doors and frames: labelled and listed by an organization accredited by Standards Council of Canada in conformance with CAN4-S104 for ratings specified or indicated.

1.4 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Provide product data: in accordance with Section 01 33 00 - Submittal Procedures.

.3 Provide shop drawings: in accordance with Section 01 33 00 - Submittal Procedures.

.1 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners, openings, glazed and louvred, arrangement of hardware and fire rating, and finishes.

.2 Indicate each type frame material, core thickness, reinforcements, glazing stops, location of anchors and exposed fastenings and reinforcing fire rating finishes.

.3 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

Part 2 Products

2.1 PRIMER

.1 Touchup prime CAN/CGSB1.181.

2.2 PAINT

.1 Field paint steel doors and frames in accordance with Section 09 91 23 Interior Painting. Protect weatherstrips from paint. Provide final finish free of scratches or other blemishes.

2.3 ACCESSORIES

.1 In accordance with Section 08 71 00 - Door Hardware.

.2 Fabricate glazing stops as formed channel, minimum 16 mm height, accurately fitted, butted at corners and fastened to frame sections with countersunk oval head sheet metal screws.

.3 Metallic paste filler: to manufacturer's standard.

.4 Fire labels: metal rivited metal plate or self-adhesive label. Installed on the hidden edge of the door and frame.

.5 Glazing: In accordance with Section 08 80 50 - Glazing.

.6 Make provisions for glazing as indicated and provide necessary glazing stops.

.1 Provide removable stainless steel glazing beads for use with glazing tapes and compounds and secured with countersunk stainless steel screws, dry glazing of snapon type.

.2 Design exterior glazing stops to be tamperproof.

2.4 FRAMES FABRICATION GENERAL

.1 Fabricate frames in accordance with CSDMA specifications.

.2 Fabricate frames to profiles and maximum face sizes as indicated.

.3 Exterior frames: 1.9 mm welded, thermally broken type construction.

.4 Interior frames: 1.9 mm welded or knockeddown type construction.

.5 Blank, reinforce, drill and tap frames for mortised, templated hardware, and electronic hardware using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.

.6 Manufacturer's nameplates on frames and screens are not permitted.

.7 Conceal fastenings except where exposed fastenings are indicated.

.8 Provide factoryapplied touch up primer at areas where zinc coating has been removed during fabrication.

2.5 FRAME ANCHORAGE

.1 Provide appropriate anchorage to floor and wall construction.

.2 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.

.3 Provide 2 anchors for rebate opening heights up to 1520 mm and 1 additional anchor for each additional 760 mm of height or fraction thereof.

.4 Locate anchors for frames in existing openings not more than 150 mm from top and bottom of each jambs and intermediate at 660 mm on centre maximum.

2.6 FRAMES: WELDED TYPE

.1 Welding in accordance with CSA W59.

.2 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.

.3 Cope accurately and securely weld butt joints of mullions, transom bars, centre rails and sills.

.4 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.

.5 Securely attach floor anchors to inside of each jamb profile.

.6 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.

.7 Acceptable material: Métalec CS series.

2.7 FRAMES: KNOCKEDDOWN TYPE

.1 Ship knockeddown type frames unassembled.

.2 Provide frames with mechanical joints which interlock securely and provide functionally satisfactory performance when assembled and installed in accordance with CSDMA Recommended Installation Guide for Steel Doors and Frames.

.3 Securely attach floor anchors to inside of each jamb profile.

.4 Acceptable material: Métalec CS series..

2.8 DOOR FABRICATION GENERAL

.1 Doors: swing type, flush, with provision for glass and/or louvre openings as indicated.

.2 Exterior steel doors: insulated core construction.

.3 Interior steel doors, not fire rated: honeycomb construction.

.4 Interior steel doors, fire rated: insulated core construction.

.5 Fabricate doors with longitudinal edges locked seam and welded. Seams: grind welded joints to a flat plane, fill with metallic paste filler and sand to a uniform smooth finish.

.6 Doors: manufacturers' proprietary construction, tested and/or engineered as part of a fully operable assembly, including door, frame, gasketting and hardware in accordance with ASTM E330.

.7 Blank, reinforce, drill doors and tap for mortised, templated hardware.

.8 Factory prepare holes 12.7 mm diameter and larger except mounting and through bolt holes, on site, at time of hardware installation.

.9 Reinforce doors where required, for surface mounted hardware.

.10 Provide factory applied touchup primer at areas where zinc coating has been removed during fabrication.

.11 Provide fire labelled doors for those openings requiring fire protection ratings, as scheduled. Test such products in conformance with CAN4S104 and list by nationally recognized agency having factory inspection service and construct as detailed in FollowUp Service Procedures/Factory Inspection Manuals issued by listing agency to individual manufacturers.

.12 Manufacturer's nameplates on doors are not permitted.

2.9 DOORS: INSULATED CORE CONSTRUCTION

.1 Exterior doors and interior doors with fire rating from 0h to 45min. Form face sheets for exterior doors from 1.6 mm sheet steel.

.2 Insulated core:

.1 Polyisocyanurate core: Form face sheets for exterior doors with closed honeycomb, with a density of 54kg/m³, fire rated polyurethane core laminated under pressure to face sheets.

2.10 DOORS: HONEYCOMB CORE CONSTRUCTION

.1 Interior doors without fire rating. Form face sheets for exterior doors from 1.6 mm sheet steel and honeycomb core.

.2 Honeycomb core:

.1 Honeycomb core with honeycomb up to 25 mm, of Kraft paper with a density of at least 16kg / m³: Fire rated polyurethane core laminated under pressure to face sheets.

2.11 THERMALLY BROKEN DOORS AND FRAMES

.1 Exterior doors made of 1.9mm thick steel cladding sheets with thermal break and an insulated core with a minimum RSI of 2.0.

.2 Separate exterior parts from interior parts with continuous interlocking thermal break.

.3 Thermal break: rigid polyvinylchloride extrusion conforming to CGSB 41GP19Ma.

.4 Fabricate thermally broken frames separating exterior parts form interior parts with continuous interlocking thermal break.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION GENERAL

.1 Install labelled steel fire rated doors and frames to NFPA 80 except where specified otherwise.

.2 Install doors and frames to CSDMA Installation Guide.

.3 Before installing exterior doors, make sure to seal the edge of the opening with a self-adhesive membrane such as Sopréma's "Sopraseal Stick 1100-T" with primer such as Sopréma's "Sopraseal stick primer"or an approved equivalent.

3.3 FRAME INSTALLATION

.1 Set frames plumb, square, level and at correct elevation.

.2 Secure anchorages and connections to adjacent construction.

.3 Brace frames rigidly in position while buildingin. Install temporary horizontal wood spreader at third points of door opening to maintain frame width. Provide vertical support at centre of head for openings over 1200 mm wide. Remove temporary spreaders after frames are builtin.

.4 Make allowances for deflection of structure to ensure structural loads are not transmitted to frames.

.5 Caulk perimeter of frames between frame and adjacent material.

.6 Maintain continuity of air barrier and vapour retarder.

3.4 DOOR INSTALLATION

.1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08 71 00 - Door Hardware.

.2 Provide even margins between doors and jambs and doors and finished floor and thresholds as follows.

.1 Hinge side: up to 3.0 mm.

.2 Latchside and head: up to 3 mm.

.3 Finished floor and thresholds: 6 mm.

.3 Adjust operable parts for correct function.

3.5 FINISH REPAIRS

.1 Touch up with primer finishes damaged during installation.

.2 Fill exposed frame anchors and surfaces with imperfections with metallic paste filler and sand to a uniform smooth finish.

3.6 GLAZING

.1 Install glazing for doors in accordance with Section 08 80 50 Glazing.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 Aluminum Association (AA), Designation System for Aluminum Finishes (2000)

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB1.40[97], Anticorrosive Structural Steel Alkyd Primer.

.2 CAN/CGSB79.1[M91], Insect Screens.

.3 Canadian Standards Association (CSA) International

.1 CSAA440[00]/A440.1[00], A440[00], Windows / Special Publication A440.1[00], User Selection Guide to CSA Standard A440[00], Windows.

.2 CAN/CSAG164[M92(R1998)], Hot Dip Galvanizing of Irregularly Shaped Articles.

.3 CAN/CSAZ91[M90(R2000)], Safety Code for Window Cleaning Operations.

1.3 SHOP DRAWINGS

.1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedures.

.2 Indicate materials and details in full size scale for head, jamb and sill, profiles of components, interior and exterior trim, junction between combination units, elevations of unit, anchorage details, description of related components and exposed finishes, fasteners, and caulking. Indicate location of manufacturer's nameplates.

1.4 CLOSEOUT SUBMITTALS

.1 Provide operation and maintenance data for windows for incorporation into manual specified in Section 01 78 00 Closeout Submittals.

Part 2 Products

2.1 MATERIALS

.1 Materials: to CSAA440/A440.1 supplemented as follows:

.2 All windows by same manufacturer.

2.2 WINDOW TYPE AND CLASSIFICATION

.1 Types:

.1 Exterior sliding windows:

.1 Aluminum frames and sash with thermal break in PVC.

.2 Horizontal sliding, two leafs with central lock where the inner shutters meet.

.3 Two sealed units, removable, with double glazing (see Specification section 08 80 50 - Glazing).

.4 Aluminium extrusion lattice screen.

.5 Acceptable material: Altek C-738 Model or approved equivalent.

.6 Exterior and interior colour: White.

.2 Exterior fire stop windows, fixed:

.1 Welded steel frame of 1.35mm thick and 150 mm deep x 38 mm wide.

.2 Steel glass stop of 20 x 20 mm minimum.

.3 Vertical mullion, steel welded, 1.35 mm thick and 75mm deep x 38mm wide.

.4 Two sealed units, fixed, with double glazing

.5 Maximum dimension of each glass panel: 0.84m²

2.3 FABRICATION

.1 Fabricate in accordance with CSAA440/A440.1 supplemented as follows:

.2 Fabricate units square and true with maximum tolerance of plus or minus 1.5 mm for units with a diagonal measurement of 1800 mm or less and plus or minus 3 mm for units with a diagonal measurement over 1800 mm.

.3 Face dimensions detailed are maximum permissible sizes.

.4 Final dimensions of the openings must be taken on site before being made.

.5 Brace frames to maintain squareness and rigidity during shipment and installation.

.6 Finish steel clips and reinforcement with shop coat primer to CAN/CGSB1.40, 380 g/m² zinc coating to CAN/CSAG164.

2.4 ALUMINUM FINISHES

.1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.

.1 Electrolytically deposited colour anodic finish: White-coloured.

2.5 GLAZING

.1 Glaze windows in accordance with CSAA440/A440.1.

2.6 HARDWARE

.1 Hardware: stainless steel or white bronze sash locks and aluminum handles to provide security and permit easy operation of units.

.2 Locks: provide operating sash with spring loading locking device, to provide automatic locking in closed position.

.3 Provide special keyed opening device for windows normally locked.

Part 3 Execution

3.1 WINDOW INSTALLATION

.1 Install in accordance with CSAA440/A440.1.

.2 Before installing windows, make sure to seal the edge of the opening with a self-adhesive membrane such as Sopréma's "Sopraseal Stick 1100-T" with primer such as Sopréma's "Sopraseal stick primer"or an approved equivalent.

3.2 SILL INSTALLATION

.1 Install metal sills with uniform wash to exterior, level in length, straight in alignment with plumb upstands and faces..

.2 Cut sills to fit window opening.

.3 Secure sills in place with anchoring devices located at ends joints of continuous sills and evenly spaced 600 mm on centre in between..

.4 Maintain 9 mm space between butt ends of continuous sills. For sills over 1200 mm in length, maintain 3 to 6 mm space at each end.

3.3 CAULKING

.1 Seal joints between windows and window sills with sealant. Bed sill expansion joint cover plates and drip deflectors in bedding compound. Caulk between sill upstand and windowframe. Caulk butt joints in continuous sills.

.2 Apply sealant in accordance with Section 07 92 00 - Joint Sealing. Conceal sealant within window units except where exposed use is permitted by the Professionals.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

.2 Section 01 33 00 Submittal Procedures.

.3 Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

.4 Section 01 61 00 - Common Product Requirements.

.5 Section 01 78 00 Closeout Submittals.

.6 Section 06 40 00 Architectural Woodwork.

1.2 REFERENCES

.1 Canadian General Standards Board (CGSB).

.1 CAN/CGSB69.25[M90]/ANSI/BHMA A156.9[1982], Cabinet Hardware.

1.3 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Hardware List:

.1 Submit contract hardware list in accordance with Section 01 33 00 Submittal Procedures.

.2 Indicate specified hardware, including make, model, material, function, finish and other pertinent information.

.3 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

.4 Closeout Submittals:

.1 Provide maintenance data, parts list, and manufacturer's instructions for incorporation into maintenance manual specified in Section 01 78 00 Closeout Submittals.

1.4 DELIVERY, STORAGE, AND HANDLING

.1 Packing, Shipping, Handling and Unloading:

.1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements..

.2 Package items of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

.2 Storage and Protection:

.1 Store cabinet hardware in locked, clean and dry area.

Part 2 Products

2.1 HARDWARE ITEMS

.1 Use one manufacturer's product for all similar items.

2.2 CABINET HARDWARE

.1 Cabinet hardware: to CAN/CGSB69.25, designated by letter B and numeral identifiers as listed below.

.1 Richelieu's Inserta Clip Top Hinges - 120°, Model 71T559180, or equivalent. Two (2) hinges per door.

.2 Cam Mounting Plate: Richelieu's Model 173H710180, Nickel finish, or equivalent. Two (2) plates per door.

.3 Polished stainless steel pull: Richelieu's Model 75126, or equivalent. One (1) pull per opening section (door or drawer).

.4 Single slotted pilaster, Richelieu's Model 2552GXX, 16 mm x full height of Richelieu's cabinet, or equivalent. Two (2) pilasters per shelf side.

.5 Pilaster Shelf Clip, Richelieu's Model CP2562G, Zinc finish. Four (4) clips per shelf.

.6 Full Extension Concealed Undermount Slide, Richelieu's Movento Model 760H6000B, of appropriate length, or equivalent. Two (2) slides per drawer.

2.3 FASTENINGS

.1 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.

.2 Exposed fastening devices to match finish of hardware.

.3 Use fasteners compatible with material through which they pass.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 INSTALLATION

.1 Install hardware to standard hardware location dimensions in accordance with manufacturer's recommendations and to project design requirements.

3.3 ADJUSTING

.1 Adjust cabinet hardware for optimum, smooth operating condition.

.2 Lubricate hardware and other moving parts.

.3 Adjust cabinet door hardware to provide tight fit at contact points with frames.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 Canadian Steel Door and Frame Manufacturers' Association (CSDFMA).

.1 CSDFMA Canadian Metric Guide for Steel Doors and Frames (Modular Construction): standard hardware location dimensions.

.2 Canadian General Standards Board (CGSB).

.1 CAN/CGSB69.17[M86(R1993)], Bored and Preassembled Locks and Latches.

.2 CAN/CGSB69.18[M90]/ANSI/BHMA A156.1[1981], Butts and Hinges.

.3 CAN/CGSB69.19[93]/ANSI/BHMA A156.3[1984], Exit Devices.

.4 CAN/CGSB69.20[M90]/ANSI/BHMA A156.4[1986], Door Controls (Closers).

.5 CAN/CGSB69.21[M90]/ANSI/BHMA A156.5[1984], Auxiliary Locks and Associated Products.

.6 CAN/CGSB69.22[M90]/ANSI/BHMA A156.6[1986], Architectural Door Trim.

.7 CAN/CGSB69.24[M90]/ANSI/BHMA A156.8[1982], Door Controls Overhead Holders.

.8 CAN/CGSB69.28[M90]/ANSI/BHMA A156.12[1986], Interconnected Locks and Latches.

.9 CAN/CGSB69.29[93]/ANSI/BHMA A156.13[1987], Mortise Locks and Latches.

.10 CAN/CGSB69.30[93]/ANSI/BHMA A156.14[1991], Sliding and Folding Door Hardware.

.11 CAN/CGSB69.32[M90]/ANSI/BHMA A156.16[1981], Auxiliary Hardware.

.12 CAN/CGSB69.33[M90]/ANSI/BHMA A156.17[1987], Selfclosing Hinges and Pivots.

.13 CAN/CGSB69.34[93]/ANSI/BHMA A156.18[1987], Materials and Finishes.

.14 CAN/CGSB69.36[M90]/ANSI/BHMA A156.20[1984], Strap and Tee Hinges and Hasps.

1.3 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Hardware List:

.1 Submit contract hardware list in accordance with Section 01 33 00 Submittal Procedures.

.2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.

.3 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

.4 Closeout Submittals

.1 Provide operation and maintenance data for door closers, locksets, door holders, electrified hardware and fire exit hardware for incorporation into manual specified in Section 01 78 00 Closeout Submittals.

1.4 QUALITY ASSURANCE

.1 Regulatory Requirements:

.1 Hardware for doors in fire separations and exit doors certified by a Canadian Certification Organization accredited by Standards Council of Canada.

1.5 DELIVERY, STORAGE, AND HANDLING

.1 Packing, Shipping, Handling and Unloading:

.1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Package each item of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

.2 Storage and Protection:

.1 Store finishing hardware in locked, clean and dry area.

1.6 MAINTENANCE

.1 Extra Materials:

.1 Provide maintenance materials in accordance with Section 01 78 00 Closeout Submittals.

.2 Supply two sets of wrenches for locksets and fire exit hardware.

Part 2 Products

2.1 HARDWARE ITEMS

.1 Use one manufacturer's products only for similar items.

2.2 DOOR HARDWARE

2.3 FASTENINGS

.1 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.

.2 Exposed fastening devices to match finish of hardware.

.3 Where pull is scheduled on one side of door and push plate on other side, supply fastening devices, and install so pull can be secured through door from reverse side. Install push plate to cover fasteners.

.4 Use fasteners compatible with material through which they pass.

2.4 KEYING

.1 Provide three (3) masterkeys for construction site locks.

.2 Contractor must supply and install temporary construction cores and provide only permanent cores. He must order permanent cores to the supplier which will contact CSC for authorization to proceed and to make an agreement of delivery to CSC. CSC will install those permanent cores.

2.5 MANUFACTURERS

Code	Name
CBE	Best Canada
CDM	Dorma
CGA	Gallery
CPR	Precision Canada
CSC	Schlage
CSD	Stanley Door Closers
CST	Stanley
DJ	Don-Jo
TR	Trimco
UNIQ	Unique Mfg
ONW	Onward

2.6 LIST OF FINISH

Code	Description
SL	Silver
26D	Satin Chrome
32D	Stainless steel, Brushed
622	Matte Black
626	Satin Chrome, Plated
628	Satin Aluminium, Clear anodized
630	Stainless steel, Brushed
689	Painted Aluminium
C26D	Satin Chromium, Lacquered
C32D	Stainless steel, Brushed
NOIR	Black
GLV	Galvanised

2.7 LIST OF OPTIONS

Code	Description
DA	Delayed Action
FL	Certified Fire-rated Hardware
MS	Metal Screw
AVB	Variable Breaking
NRP	Non-Rremovable Pin
SRS	Shear-Resistant Stud
VIT	Visual Indicator Turnstile
# 5-2	Concealed Single Installation
SEC.ST	Foolproof pin
7/8 "LTC	ANSI Lock - 7/8" Flat Lip

2.8 HARDWARE GROUPS

Group #1 Exterior double door

Door: P100A

8	Hinges	FBB191 4 1/2 X 4 NRP	32D	CST
2	Exit devide	2201	630	CPR
2	Door closers	CLD-4550 CS AVB	689	CSD
2	Overhead stops	912S	626	CDM
2	Kick plates	GSH 80A 12" x L.R.	C32D	CGA
2	Weatherstrip	1650(2x) x 17V(1x) x L.R.	628	UNIQ
2	Door bottom	2100 x L.R.	628	UNIQ
2	Adhesive anti-smoke	CF-12 x perimeter	NOIR	UNIQ
1	Astragal	100A x L.R.	628	UNIQ
1	Threshold	AB2 x ABBT x AB4 x AB2 x V22 x L.R.	628	UNIQ

Group #2 Large single door - Training room

Door: P102

3	Hinges	FBB179 4 1/2 X 4 NRP	26D	CST
1	Exit device	2108 X 4908C	630	CPR
1	Permanent removable core	20-740	626	CSC
1	Cylindre(s) à tige sans noyau	20-757	626	CSC
1	Door closer	CLD-4550 STD W/PA BRKT	689	CSD
1	Kick plate	GSH 80A 12" x L.R.	C32D	CGA
1	Door stop	GSH 209	C26D	CGA
1	Weatherstrip	1650(2x) x 17V(1x) x L.R.	628	UNIQ
1	Adhesive anti-smoke	CF-12 x perimeter	NOIR	UNIQ
1	Door bottom	320V x L.R.	UNIQ	

Group #3 Single door - Outside exit

Door: P102

4	Hinges	FBB191 4 1/2 X 4 NRP	32D	CST
1	Exit device	2108 X 4908C	630	CPR
1	Mortise cylinder, without core	20-771 x CAM B502-948	626	CSC
1	Permanent removable core	20-740	626	CSC
1	Door closer	CLD-4550 EDA AVB	689	CSD
1	Overhead stop	912S	626	CDM
1	Kick plate	GSH 80A 12" x L.R.	C32D	CGA
1	Door bottom	2100 x L.R.	628	UNIQ
1	Weatherstrip	1650(2x) x 17V(1x) x L.R.	628	UNIQ
1	Adhesive anti-smoke	CF-12 x perimeter	NOIR	UNIQ
1	Threshold	AB2 x ABBT x AB4 x AB2 x V22 x L.R.	628	UNIQ

Group #4 Single door - Common room

Door: P103

3	Hinges	FBB179 4 1/2 X 4 NRP	26D	CST
1	Passage lockset	45H-0N3S	626	CBE
1	Overhead stop	912S	626	CDM

Group #5 Single door - Fire-break exit door

Doors: P104, P205, P211

3	Hinges	FBB179 4 1/2 X 4 NRP	26D	CST
1	Exit device	FL 2114 X 4914C	630	CPR
1	Door closer	CLD-4550 STD W/PA BRKT	689	CSD
1	Door stop	GSH 209	C26D	CGA
1	Adhesive anti-smoke	CF-12 x perimeter	NOIR	UNIQ
1	Door bottom	320V x L.R.	UNIQ	

Group #6 Single door - Fire-break for mechanical/ conciergerie

Doors: P105, P111, P209, P212

3	Hinges	FBB179 4 1/2 X 4 NRP	26D	CST
1	Mortise lock - storage	45H-7D3S L/C	626	CBE
1	Mortise cylinder, without core	20-771 x CAM B502-948	626	CSC
1	Permanent removable core	20-740	626	CSC
1	Door closer	CLD-4550 STD W/PA BRKT	689	CSD
1	Overhead stop	912S	626	CDM
1	Adhesive anti-smoke	CF-12 x perimeter	NOIR	UNIQ
1	Door bottom	320V x L.R.	UNIQ	

Group #7 Double door - Storage

Doors: P106, P112

6	Hinges	FBB179 4 1/2 X 4 NRP	26D	CST
2	Flush bolts	GSH 401 12	C26D	CGA
1	Mortise lock - storage	45H-7D3S L/C 7/8"LTC	626	CBE
1	Mortise cylinder, without core	20-771 x CAM B502-948	626	CSC
1	Permanent removable core	20-740	626	CSC
2	Door stop	GSH 209	C26D	CGA

Group #8 Single door for private accessible washroom

Door: P108

3	Quick-release hinges	FBB248 4 1/2	26D	CST
1	Mortise lock - private	45H-0LT3S VIT	626	CBE
1	Door closer	CLD-4551 STD W/PA BRKT DA	689	CSD
1	Kick plate	GSH 80A 12" x L.R.	C32D	CGA

1	Door stop	GSH 209	C26D	CGA

Group #9 Single door for public washroom

Doors: P109, P201, P207

3	Hinges	FBB179 4 1/2 X 4 NRP	26D	CST
1	Passage lockset	45H-0N3S	626	CBE
1	Door closer	CLD-4551 STD W/PA BRKT DA	689	CSD
1	Kick plate	GSH 80A 12" x L.R.	C32D	CGA
1	Door stop	GSH 209	C26D	CGA

Group #10 Single door - Storage

Doors: P113, P202, P203, P203A, P209A

3	Hinges	FBB179 4 1/2 X 4 NRP	26D	CST
1	Mortise lock - storage	45H-7D3S L/C	626	CBE
1	Mortise cylinder, without core	20-771 x CAM B502-948	626	CSC
1	Permanent removable core	20-740	626	CSC
1	Door stop	GSH 209	C26D	CGA

Group #11 Single door - Office

Doors: P114, P115, P206, P208, P210

3	Hinges	FBB179 4 1/2 X 4 NRP	26D	CST
1	Mortise lock - office	45H-7AB3S L/C	626	CBE
1	Mortise cylinder - without core	20-771 x CAM B502-948	626	CSC
1	Permanent removable core	20-740	626	CSC
1	Door stop	GSH 209	C26D	CGA
1	Adhesive anti-smoke	CF-12 x perimeter	NOIR	UNIQ
1	Door bottom	320V x L.R.	UNIQ	

Group #12 Exterior single door, blast-resistant

Door: P116

3	Continuous hinges	FBB199 4 1/2 X 4 NRP	32D	CST
1	Mortise lock - storage	45H-7D3S L/C	626	CBE
1	Mortise cylinder, without core	20-771 x CAM B502-948	626	CSC
1	Door closer	CLD-4550 EDA AVB	689	CSD
1	Overhead stop	912S	626	CDM
1	Door bottom	2100 x L.R.	628	UNIQ
1	Weatherstrip	1650(2x) x 17V(1x) x L.R.	628	UNIQ
1	Adhesive anti-smoke	CF-12 x perimeter	NOIR	UNIQ
1	Threshold	AB2 x ABBT x AB4 x AB2 x V22 x L.R.	628	UNIQ

Group #13 Single door - High security room

Door: P200

3	Heavy-duty hinges	FBB168 4 1/2 X 4 NRP SEC.ST SRS	26D	CST
1	Mortise lock - storage	45H-7D3S L/C	626	CBE
1	Mortise cylinder, without core	20-771 x CAM B502-948	626	CSC
1	Permanent removable core	20-740	626	CSC
1	Door closer	CLD-4550 STD W/PA BRKT	689	CSD
1	Overhead stop	912S	626	CDM
1	Kick plate	GSH 80A 12" x L.R.	C32D	CGA
1	Bolt protection cap	ILP-212	SL	DJ

Group #14 Single door - High security room

Door: P200A

3	Heavy-duty hinges	FBB168 4 1/2 X 4 NRP SEC.ST SRS	26D	CST
1	Mortise lock - storage	45H-7D3S L/C	626	CBE
1	Mortise cylinder, without core	20-771 x CAM B502-948	626	CSC
1	Permanent removable core	20-740	626	CSC
1	Door closer	CLD-4550 STD W/PA BRKT	689	CSD
1	Overhead stop	912S	626	CDM
1	Kick plate	GSH 80A 12" x L.R.	C32D	CGA
1	Bolt protection cap	LP-111	630	DJ

Group #15 Surface sliding door

Door: P204

1	Heavy-Duty Galvanized Steel Box Rail	24654115GABC	GLV	ONW
4	Single rail bracket	24651073GAV	GLV	ONW
2	Rail End Cap	24651087GABC	GLV	ONW
2	Double axle box rail hangers with ball bearings and short threaded fixed mounting pin	24651384XV	GLV	ONW
1	Single door guide	24651394XV	GLV	ONW
1	Jamb latch	24651076XV	GLV	ONW
1	Door stop	24651070XV	GLV	ONW

Group #16 Exterior double door

Door: P209B

6	Hinges	FBB191 4 1/2 X 4 NRP	32D	CST
2	Pull handle	GSH 5030-2-630 x MTG 5-2 x MS	630	CGA
2	Lever	243T	622	TR
2	Lever	244B	622	TR
1	Weatherstrip	2200 x perimeter	628	UNIQ
2	Door bottoms	2100 x L.R.	628	UNIQ
1	Adhesive anti-smoke	CF-12 x perimeter	NOIR	UNIQ
2	Astragals	100A x L.R.	628	UNIQ
1	Threshold	AB2 x ABBT x AB4 x AB2 x V22 x L.R.	628	UNIQ

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

.2 Furnish metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.

.3 Furnish manufacturers' instructions for proper installation of each hardware component.

3.2 INSTALLATION

.1 Install hardware to standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association.

.2 Use only manufacturer's supplied fasteners. Failure to comply may void manufacturer's warranties and applicable licensed labels. Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.

3.3 ADJUSTING

.1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.

.2 Lubricate hardware, operating equipment and other moving parts.

.3 Adjust door hardware to provide tight fit at contact points with frames.

3.4 CLEANING

.1 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacture's instructions.

.2 Remove protective material from hardware items where present.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American National Standards Institute (ANSI).

- .1 ANSI/ASTM E330[02], Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

.2 American Society for Testing and Materials International, (ASTM).

- .1 ASTM C542[94(1999)], Specification for LockStrip Gaskets.
- .2 ASTM D790[02], Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- .3 ASTM D1003[00], Test Method for Haze and Luminous Transmittance of Plastics.
- .4 ASTM D1929[96(R2001)e1], Test Method for Determining Ignition Temperature of Plastics.
- .5 ASTM D2240[02b], Test Method for Rubber Property Durometer Hardness.
- .6 ASTM E84[01], Test Method for Surface Burning Characteristics of Building Materials.
- .7 ASTM F1233[98], Test Method for Security Glazing Materials and Systems.

.3 Canadian General Standards Board (CGSB).

- .1 CAN/CGSB12.1[M90], Tempered or Laminated Safety Glass.
- .2 CAN/CGSB12.2[M91], Flat, Clear Sheet Glass.
- .3 CAN/CGSB12.3[M91], Flat, Clear Float Glass.
- .4 CAN/CGSB12.5[M86], Mirrors, Silvered.
- .5 CAN/CGSB12.11[M90], Wired Safety Glass.

.4 Canadian Standards Association (CSA International).

- .1 CSA A440.2[98], Energy Performance Evaluation of Windows and Sliding Glass Doors.
- .2 CSA Certification Program for Windows and Doors [2000].

.5 Environmental Choice Program (ECP).

- .1 CCD045[95], Sealants and Caulking.

.6 Flat Glass Manufacturers Association (FGMA).

- .1 FGMA Glazing Manual - [1997].

.7 Laminators Safety Glass Association (LSGA).

- .1 LSGA Laminated Glass Design Guide [2000].

1.3 SYSTEM DESCRIPTION

.1 Performance Requirements:

.1 Provide continuity of building enclosure vapour and air barrier using glass and glazing materials as follow:

.1 Utilize inner light of multiple light sealed units for continuity of air and vapour seal.

.2 Size glass to withstand wind loads, dead loads and positive and negative live loads as measured in accordance with ANSI/ASTM E330.

.3 Limit glass deflection to flexural limit of glass with full recovery of glazing materials.

1.4 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Shop Drawings:

.1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedures.

.3 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

.4 Closeout Submittals:

.1 Provide maintenance data including cleaning instructions for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.5 SITE CONDITIONS

.1 Environmental Requirements:

.1 Install glazing when ambient temperature is 10 degrees C minimum. Maintain ventilated environment for 24 hours after application.

.2 Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

Part 2 Products

2.1 MATERIALS: FLAT GLASS

.1 Float glass: to CAN/CGSB12.3, Mirror glazing (selected) quality, 6 mm thick.

.2 Sheet glass: to CAN/CGSB12.2, AASpecial selected, 6 mm thick.

.3 Safety glass: to CAN/CGSB12.1, transparent coloured, 6 mm thick.

.1 Type: polished on each side (transparent).

.2 Mesh type: diamond-shaped or square meshes, middle of overall glass thickness, with a wire of 0.4 mm minimum, 13 mm-spaced.

2.2 MATERIALS: SEALED INSULATING GLASS

.1 Insulating glass units: to CAN/CGSB12.8, double unit, 6 mm overall thickness.

.1 Glass: to CAN/CGSB12.2

.2 Glass thickness: 6 mm inner light and 6 mm outer tempered light.

.3 Intercavity space thickness: 12 mm between middle and outer lights with low conductivity spacers.

.4 Glass coating: low "E" membrane, Select 73 on surface number 3.

.5 Inert gas fill: argon

2.3 MATERIALS: FIREPROOF SEALED INSULATING GLASS

.1 Insulating glass units: to CAN/CGSB12.8, double unit, 6 mm overall thickness.

.1 Glass: to CAN/CGSB12.11

.2 Glass thickness: 6 mm inner light and 6 mm outer armoured light.

.3 Intercavity space thickness: 12 mm between middle and outer lights with low conductivity spacers.

.4 Glass coating: low "E" membrane, Select 73 on surface number 3.

.5 Inert gas fill: argon

2.4 ACCESSORIES

.1 Setting blocks: Neoprene or Silicone, to suit glazing method, glass light weight and area.

.2 Spacer shims: Neoprene or Silicone, self adhesive on one face, 75 mm long x one half height of glazing stop x thickness to suit application.

.3 Glass pliers: standard type recommended by the Manufacturer.

.4 Lockstrip gaskets: to ASTM C542.

.5 Mirror attachment accessories:

.1 Stainless or galvanized steel clips.

.2 Mirror adhesive, chemically compatible with mirror coating and wall substrate.

.3 Mirror frames.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 EXAMINATION

.1 Verify that openings for glazing are correctly sized and within tolerance.

.2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.

3.3 PREPARATION

.1 Clean contact surfaces with solvent and wipe dry.

.2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.

.3 Prime surfaces scheduled to receive sealant.

3.4 INSTALLATION: EXTERIOR WET METHOD (SEALANT AND SEALANT)

.1 Perform work in accordance with FGMA Glazing Manual, IGMAC and Laminators Safety Glass Association - Standards Manual for glazing installation methods.

.2 Place setting blocks at 1/4 points and install glazing light or unit.

.3 Install removable stops with glazing centred in space by inserting spacer shims both sides at 600 mm intervals, 6 mm below sight line.

.4 Fill gaps between glazing and stops with sealant to depth of bite on glazing, maximum 9 mm below sight line to ensure full contact with glazing and continue air and vapour seal.

.5 Apply sealant to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

3.5 INSTALLATION: INTERIOR DRY METHOD (TAPE AND TAPE)

.1 Perform work in accordance with FGMA Glazing Manual, IGMAC and Laminators Safety Glass Association - Standards Manual for glazing installation methods.

.2 Cut glazing tape to length and set against permanent stops, projecting 1.6 mm above sight line.

.3 Place setting blocks at 1/4 points, with edge block maximum 150 mm from corners.

.4 Rest glazing on setting blocks and push against tape for full contact at perimeter of light or unit.

.5 Place glazing tape on free perimeter of glazing in same manner described.

.6 Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.

.7 Knife trim protruding tape.

3.6 INSTALLATION: MIRRORS

.1 Set in frame.

.2 Place plumb and level.

3.7 CLEANING

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.2 Remove traces of primer, caulking.

.3 Remove glazing materials from finish surfaces.

.4 Remove labels after work is complete.

.5 Clean glass and mirrors using approved non-abrasive cleaner in accordance with manufacture's instructions.

.6 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.8 PROTECTION OF FINISHED WORK

.1 After installation, mark light with an "X" by using removable plastic tape or paste.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

- .1 ASTM C36/C36M[01], Specification for Gypsum Wallboard.
- .2 ASTM C475[01], Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
- .3 ASTM C645[00], Specification for Nonstructural Steel Framing Members.
- .4 ASTM C754[00], Specification for Installation of Steel Framing Members to Receive ScrewAttached Gypsum Panel Products.
- .5 ASTM C840[01], Specification for Application and Finishing of Gypsum Board.
- .6 ASTM C960/C960M[01], Specification for Pre-Decorated Gypsum Board.
- .7 ASTM C1002[01], Specification for Steel SelfPiercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
- .8 ASTM C1047[99], Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
- .9 ASTM C1178/C1178M[01], Specification for Glass Mat WaterResistant Gypsum Backing Board.

.2 Underwriters' Laboratories of Canada (ULC)

- .1 CAN/ULCS102[1988(R2000)], Surface Burning Characteristics of Building Materials and Assemblies.

1.3 SUBMITTALS

.1 Submit samples in accordance with Section 01 33 00 Submittal Procedures 01 00 10 - General Instructions.

1.4 DESIGN REQUIREMENTS

.1 Partition assembly to be fire resistance rated.

1.5 STORAGE AND HANDLING

.1 Transport materials without altering the original packaging, the container or the original lot, and without concealing the brand name or the designation used by the manufacturer.

.2 Store materials inside, level, under cover. Protect from weather, damage from construction operations and other causes, in accordance with manufacturer's printed instructions.

.3 Handle materials to prevent damage to edges or surfaces. Protect metal accessories and trim from being bent or damaged.

Part 2 Products

2.1 NON-STRUCTURAL METAL FRAMING

.1 Nonload bearing channel stud framing: to ASTM C645, hot dipped galvanized steel sheet, cal. 25, for screw attachment of gypsum board and equipped with knockout service holes at 460 mm centres.

.2 Inferior window sills: to ASTM C645, hot dipped galvanized steel sheet, cal. 25, to screw plasterboard, in widths to suit stud sizes, 32 mm flange height.

.3 Inferior window sills: to ASTM C645, hot dipped galvanized steel sheet, cal. 25, to screw plasterboard, in widths to suit stud sizes, 64 mm flange height with oblong slots to allow deflection.

.4 Metal channel stiffener: 19 x 1.4mm thick cold rolled steel, coated with rust inhibitive coating.

2.2 GYPSUM BOARD

.1 Type X board: to ASTM C79/C79M, Type X, 16 mm thick, 1200 mm wide x maximum practical length, ends square cut, edges tapered.

.2 Shaft wall board: to ASTM C1658 and CAN/ULC S114, Type X, for shaft walls, 25 mm thick, 610 mm wide x 2400 mm length, ends square cut, edges tapered.

2.3 ACCESSORIES

.1 Insulating strip: 3 mm thick Ethafoam strip, lengths as required, to be inserted between the runners and any concrete surface along the entire length of the partition.

.2 Steel drill screws: to ASTM C1002

.3 Casing beads, corner beads, control joints and edge trim: to ASTM C1047, metal by hotdip process, 0.5 mm base thickness, perforated flanges, one piece length per location.

.4 Joint tape strip: paper with heavy-duty cross fibers or transversal fibers, resistant to cracking and stretching. For panel joints and interior angles.

.5 Joint compound: to ASTM C475, dust reduction, asbestos free.

Part 3 Execution

3.1 ERECTION OF FRAMING

.1 Install steel framing members to receive screw-attached gypsum board in accordance with ASTM C754 except where specified otherwise.

.2 Align partition runners at floor and ceiling and secure at 600 mm on centre maximum. Always insert a strip of ethafoam of equivalent width between partition tracks and any concrete surface.

.3 Place studs vertically at 400 mm on centre and not more than 50 mm from abutting walls, and at each side of openings and corners. Position studs in runners at floor and ceiling.

Cross brace steel studs as required to provide rigid installation to manufacturer's instructions.

.4 Erect metal studding to tolerance of 1:1000.

.5 Co-ordinate simultaneous erection of studs with installation of service lines. When erecting studs ensure web openings are aligned.

.6 Provide two studs extending from floor to ceiling at each side of openings wider than stud centres specified. Secure studs together, 50 mm apart using column clips or other approved means of fastening placed alongside frame anchor clips.

.7 Erect track at head of door/window openings and sills of sidelight/window openings to accommodate intermediate studs. Secure track to studs at each end, in accordance with manufacturer's instructions. Install intermediate studs above and below openings in same manner and spacing as wall studs.

.8 Provide 16 mm plywood backing between studs for attachment of fixtures behind lavatory basins, toilet and bathroom accessories, and other fixtures including grab bars and towel rails, attached to steel stud partitions. Height of 152 mm more than the attachment on each side. Full width between the studs. To be fixed tapping with the face of the studs and on the side lining of the studs.

.9 Install steel studs or furring channel between studs for attaching electrical and other boxes.

.10 Extend partitions to ceiling height except where noted otherwise on drawings.

3.2 ERECTION OF GYPSUM BOARD AND ACCESSORIES

.1 Do application and finishing of gypsum board in accordance with ASTM C840 except where specified otherwise.

.2 Do not install plasterboard before frames, anchors, shims, acoustic insulation materials, and electrical and mechanical installations have been approved.

.3 In the case of sound rated, install acoustical insulation between the studs over the entire height of the partition, from the floor to the ceiling deck without leaving empty cavities in the wall. Draw a bead of continuous soundproofing sealant along the perimeter of the partition.

.4 In the case of fire-stop partitions, install the insulation mat between the studs over the entire height of the partition, from the floor to the ceiling deck without leaving empty cavities in the partition. Draw a continuous bead of fire-retardant sealant along the perimeter of the partition, making sure to secure the gypsum board in the bead to create a continuous barrier. Do not wait until the sealer bead has hardened.

.5 Install gypsum boards in direction that will minimize number of endbutt joints. Stagger end joints at least 406 mm.

.6 When the partition requires multiple layers of gypsum, screw a single layer at a time onto framing elements or furring. Follow manufacturer's recommendations regarding the number of screws to use and spacing.

3.3 INSTALLATION

.1 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces where practical. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges.

.2 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated.

.3 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces.

.4 If a wall requires two layers of gypsum, finish joints between the boards of the first layer using a taping compound and at least 2 coats of joint compound..

.5 Finish corner beads, control joints and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.

.6 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after surface finish is completed.

.7 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American National Standards Institute (ANSI)/Ceramic Tile Institute (CTI)

- .1 ANSI A108.1[99], Specification for the Installation of Ceramic Tile (Includes ANSI A108.1AC, 108.4.13, A118.1.10, ANSI A136.1).
- .2 CTI A118.3[92], Specification for Chemical Resistant, Water Cleanable Tile Setting and Grouting Epoxy and Water Cleanable Tile Setting Epoxy Adhesive (included in ANSI A108.1).
- .3 CTI A118.4[92], Specification for Latex Cement Mortar (included in ANSI A108.1).
- .4 CTI A118.5[92], Specification for Chemical Resistant Furan Resin Mortars and Grouts for Tile Installation (included in ANSI A108.1).
- .5 CTI A118.6[92], Specification for Ceramic Tile Grouts (included in ANSI A108.1).

.2 American Society for Testing and Materials International (ASTM)

- .1 ASTM C144[04], Specification for Aggregate for Masonry Mortar.
- .2 ASTM C207[06], Specification for Hydrated Lime for Masonry Purposes.
- .3 ASTM C847[06], Specification for Metal Lath.
- .4 ASTM C979[05], Specification for Pigments for Integrally Coloured Concrete.

.3 Canadian General Standards Board (CGSB)

- .1 CGSB 71GP22M[78(AMEND.)], Adhesive, Organic, for Installation of Ceramic Wall Tile.
- .2 CAN/CGSB75.1[M88], Tile, Ceramic.
- .3 CAN/CGSB25.20[95], Surface Sealer for Floors.

.4 Canadian Standards Association (CSA International)

- .1 CAN/CSAA3000[03(R2006)], Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).

.5 South Coast Air Quality Management District (SCAQMD), California State

- .1 SCAQMD Rule 1168-[05], Adhesives and Sealants Applications.

1.3 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Provide product data in accordance with Section 01 33 00 - Submittal Procedures.

.3 Provide samples in accordance with Section 01 33 00 Submittal Procedures.

.1 Floor tile: submit duplicate sample panels of each colour, texture, size, and pattern of tile.

.2 Wall tile: submit duplicate sample panels of each colour, texture, size, and pattern of tile.

.3 Grout: submit two (2) samples of grout of each colour and texture.

1.4 AMBIENT CONDITIONS

.1 Maintain air temperature and structural base temperature at ceramic tile installation area for 48 hours before, during, and 48 hours after, installation, and in accordance with manufacturer's recommendations.

1.5 MAINTENANCE

.1 Extra Materials:

.1 Provide maintenance materials in accordance with Section 01 78 00 Closeout Submittals.

.2 Provide minimum 2% of each type and colour of tile required for project for maintenance use. Store where directed.

.3 Maintenance material same production run as installed material.

Part 2 Products

2.1 FLOOR TILE

.1 Glazed ceramic tile: 302 mm x 604 mm x 9 mm size, rectified edges, smooth slip resistant surface.

.1 Installation pattern in accordance with documents.

.2 Water absorption: <0.5%
.3 Tear resistance:> 35N / mm²
.4 Abrasion resistance: PEI 4
.5 Stain resistance: Class 5
.6 Slip resistance: R = 10c
.7 Accepted material: Soligo's "Gravel" Model in "Green Grey" colour #CA70692 or approved equivalent.

2.2 BASE TILE

.1 Glazed ceramic base tile:

.1 Size: 604 mm x 150 mm high.

.2 Base: coved; type, size, colour and texture to match adjacent flooring material.

.3 Accepted material: Soligo's "Gravel" Model in "Green Grey" colour #CA70692 or approved equivalent.

2.3 MORTAR AND ADHESIVE MATERIALS

.1 Cement: to CSAA5.

.2 Sand: to ASTM C144, passing 16 mesh.

.3 Hydrated lime: to ASTM C207.

.4 Latex additive: formulated for use in cement mortar and thin set bond coat.

.5 Water: potable and free of minerals and chemicals which are detrimental to mortar and grout mixes.

2.4 BOND COAT

.1 Dry set cement mortar: to ANSI A108.1.

.2 Organic adhesive: to ANSI A136.1.

.3 Latex Cement mortar: to ANSI A108.1, twocomponent universal dryset mortar.

.1 Mortars and grouts must be resistant to urine, dilute acids, diluted alkalis, sugar, brine and kitchen waste, as well as aromatic solvents, oil-based solvents and hydrocarbons distillate solvents.

2.5 GROUT

.1 Colouring Pigments:

.1 Pure mineral pigments, limeproof and nonfading, complying with ASTM C979.

.2 Colouring pigments to be added to grout by manufacturer.

.3 Job coloured grout are not acceptable.

.4 Colour: Flextile "North Sea Grey" #563.

.2 Latex Cement Grout: to ANSI A108.1, fast curing, high early strength, polymermodified, stain resistant, sanded mix for floors, unsanded mix for walls and floors with polished tiles commercial tile grout.

2.6 ACCESSORIES

.1 Dimensions of the moldings must correspond to the appropriate thickness of the tiles for which they are used.

.2 Finishing profile:

.1 For exposed baseboard.

.2 Extruded aluminium.

.3 Acceptable material: Schlüter®-SCHIENE model or equivalent.

.3 Reduction profiles:

.1 For transition between floor coverings.

.2 Extruded aluminium elements.

.3 Acceptable material: Schlüter®-RENO-U model or equivalent.

.4 Prefabricated movement profiles:

.1 To install on the control joint between concrete slabs.

.2 Perforated anchoring wings, made of rigid PVC, with a soft CPE movement zone to allow occurring movements.

.3 5 mm wide movement zone.

.4 Acceptable material: Schlüter®-DILEX-BWS Model or equivalent.

2.7 PATCHING AND LEVELLING COMPOUND

.1 Cement base, acrylic polymer compound, manufactured specifically for resurfacing and leveling concrete floors. Products containing gypsum are not acceptable.

.2 Have not less than the following physical properties:

.1 Compressive strength 25 MPa.

.2 Tensile strength 7 MPa.

.3 Flexural strength 7 MPa.

.4 Density 1.9.

.3 Capable of being applied in layers up to 50 mm thick, being brought to feather edge, and being trowelled to smooth finish.

.4 Ready for use in 48 hours after application.

2.8 CLEANING COMPOUNDS

.1 Specifically designed for cleaning masonry and concrete and which will not prevent bond of subsequent tile setting materials including patching and leveling compounds and elastomeric waterproofing membrane and coat.

.2 Materials containing acid or caustic material are not acceptable.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 WORKMANSHIP

.1 Do tile work in accordance with TTMAC Tile Installation Manual 2006/2007, "Ceramic Tile", except where specified otherwise.

.2 Apply tile or backing coats to clean and sound surfaces.

.3 Fit tile around corners, fitments, fixtures, drains and other builtin objects. Maintain uniform joint appearance. Cut edges smooth and even. Do not split tiles.

.4 Make joints between tile uniform and approximately 1.6 mm wide, plumb, straight, true, even and flush with adjacent tile. Ensure sheet layout not visible after installation. Align patterns.

.5 Lay out tiles so perimeter tiles are minimum 1/2 size.

.6 Sound tiles after setting and replace hollowsounding units to obtain full bond.

.7 Make internal angles square, external angles rounded.

.8 Install divider strips at junction of tile flooring and dissimilar materials.

.9 Install movement profile moldings, centered and aligned with the floor construction profile. Extend the moldings along the entire length of exposed flooring. Keep expansion joints of the building free of mortar and grout.

.10 Allow minimum 24 hours after installation of tiles, before grouting.

.11 Clean installed tile surfaces after installation and grouting cured.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM C635[00], Specifications for the Manufacture, Performance and Testing of Metal Suspension Systems for Acoustical Tile and LayIn Panel Ceilings.

.2 ASTM C636[96], Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and LayIn Panels.

.3 ASTM E1477[98a(2003)], Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of IntegratingSphere Reflectometers.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB92.1[M89], Sound Absorptive Prefabricated Acoustical Units.

.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.4 Underwriter's Laboratories of Canada (ULC)

.1 CAN/ULCS102[2003], Surface Burning Characteristics of Building Materials and Assemblies.

1.2 SUBMITTALS

.1 Submit samples in accordance with Sections 01 33 00 Submittal Procedures and 01 00 05 - General Instructions.

.1 Submit duplicate samples of each type acoustical units.

.2 Submit Product Data for each product.

1.3 DESIGN REQUIREMENTS

.1 Maximum deflection: 1/360th of span to ASTM C635 deflection test.

1.4 STORAGE AND HANDLING

.1 Store materials inside, level, under cover. Protect from weather, damage from construction operations and other causes, in accordance with manufacturer's printed instructions.

.2 Handle materials to prevent damage to edges or surfaces. Protect metal accessories and trim from being bent or damaged.

Part 2 Products

2.1 ACOUSTICAL CEILING PANELS

.1 Acoustic units for suspended ceiling system with a high noise reduction coefficient

Type 1:

.1 In accordance with CAN/ULCS102

.2 Type: Rockfibre.

.3 Fire rating: Class A.
.4 Noise Reduction Coefficient (NRC) designation of 0.90.
.5 Light Reflectance (LR) range of 0.86.
.6 Pattern: Smooth texture.
.7 Colour: White.
.8 Flame spread rating of 5 or less in accordance with CAN/ULCS102.
.9 Smooth developed 0 or less in accordance with CAN/ULCS102.
.10 Edge type: Square.
.11 Size 610 mm x 1220 mm x 19 mm thick.
.12 Accepted material: Rockfon "Alaska" Model or approved equivalent.

.2 Standard Acoustic units for suspended ceiling system

Type 2:

.1 In accordance with CAN/ULCS102
.2 Type: Rockfibre.
.3 Fire rating: Class A.
.4 Noise Reduction Coefficient (NRC) designation of 0.75.
.5 Light Reflectance (LR) range of 0.85.
.6 Pattern: Smooth texture.
.7 Colour: White.
.8 Flame spread rating of 5 or less in accordance with CAN/ULCS102.
.9 Smoke developed 0 or less in accordance with CAN/ULCS102.
.10 Edge type: Square.
.11 Size 610 mm x 1220 mm x 16 mm thick.
.12 Accepted material: Rockfon "Artic" Model or approved equivalent.

2.2 STANDARD ACOUSTICAL SUSPENSION

.1 Seismic Category: C.
.2 Intermediate duty system to ASTM C635.
.3 Basic materials for suspension system: commercial quality cold rolled steel, zinc coated.
.4 Suspension system: non fire rated, two directional exposed tee bar grid.
.5 Exposed tee bar grid components: shop painted satin sheen, white colour. Components die cut. Main tee with double web, rectangular bulb and 25 mm rolled cap on exposed face. Cross tee with rectangular bulb; web extended to form positive interlock with main tee webs; lower flange extended and offset to provide flush intersection.
.6 Hanger wire: galvanized soft annealed steel wire, 3.6 mm diameter for access tile ceilings.
.7 Hanger inserts: purpose made.
.8 "L" shaped edge profiles: 25 mm wide, in galvanized steel with pre-painted white face.
.9 Fasteners # 1496.01 around the perimeter, not attached to the suspension, 9mm clearance from the wall.
.10 Accessories: splices, clips, wire ties, retainers and wall moulding [flush] [reveal], to complement suspension system components, as recommended by system manufacturer.
.11 Safety cables for luminaires.
.12 Acceptable material: Chicago Metallic #211.01 series or approved equivalent.

2.3 EARTHQUAKE-PROOF ACOUSTICAL SUSPENSION

.1 Seismic Category: D-E-F.

.2 Heavy duty system, seismic type, to ASTM C635.

.3 Basic materials for suspension system: commercial quality cold rolled steel, zinc coated.

.4 Suspension system: non fire rated, two directional exposed tee bar grid.

.5 Exposed tee bar grid components: shop painted satin sheen, white colour. Components die cut. Main tee with double web, rectangular bulb and 25 mm rolled cap on exposed face. Cross tee with rectangular bulb; web extended to form positive interlock with main tee webs; lower flange extended and offset to provide flush intersection.

.6 Hanger wire: galvanized soft annealed steel wire, 3.6 mm diameter for access tile ceilings, 203 mm from the wall.

.7 Hanger inserts: purpose made.

.8 "L" shaped edge profiles: 25 mm wide, in galvanized steel with pre-painted white face.

.9 Fasteners # 1496 around the perimeter, attached to the suspension on two adjacent walls, 19mm clearance from the two unattached walls.

.10 Accessories: splices, clips, wire ties, retainers and wall moulding [flush] [reveal], to complement suspension system components, as recommended by system manufacturer.

.11 Safety cables for luminaires.

.12 Acceptable material: Chicago Metallic #200.01 series or approved equivalent.

Part 3 Execution

3.1 INSTALLATION OF SUSPENSION SYSTEM

.1 Installation: in accordance with ASTM C636 except where specified otherwise.

.2 Do not erect ceiling suspension system until work above ceiling has been inspected by the Professionals.

.3 Secure hangers to overhead structure using attachment methods as indicated by the Manufacturer.

.4 Install hangers spaced at maximum 1200 mm centres and within 150 mm from ends of main tees.

.5 Lay out centreline of ceiling both ways, to provide balanced borders at room perimeter. System according to reflected ceiling plan.

.6 Install wall moulding to provide correct ceiling height.

.7 Completed suspension system to support superimposed loads, such as lighting fixtures, diffusers and grilles.

.8 Support at light fixtures with additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.

.9 Interlock cross member to main runner to provide rigid assembly.

.10 Finished ceiling system to be square with adjoining walls and level within 1:1000.

3.2 INSTALLATION OF ACOUSTIC PANELS

.1 Install acoustical panels and tiles in ceiling suspension system.

.2 Coordinate ceiling work to accommodate components of other sections, such as light fixtures, diffusers, speakers, sprinkler heads, to be built into acoustical ceiling components.

.3 Paint the edge of the cut panels with the paint supplied by the manufacturer.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM F1066[04], Standard Specification for Vinyl Composition Floor Tile.

.2 ASTM F1344[04], Standard Specification for Rubber Floor Tile.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB25.20[95], Surface Sealer for Floors.

.2 CAN/CGSB25.21[95], DetergentResistant Floor Polish.

.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.4 South Coast Air Quality Management District (SCAQMD), California State

.1 SCAQMD Rule 1168-[05], Adhesives and Sealants Applications.

1.3 SUBMITTALS

.1 Provide product data and samples in accordance with Section 01 33 00 - Submittal Procedures.

.1 Submit duplicate tile samples in size specified. Submit duplicate wallbase, nosing and treads samples, 300 mm long.

.2 Closeout Submittals:

.1 Provide maintenance data for resilient flooring for incorporation into manual specified in Section 01 78 00 Closeout Submittals.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

1.5 ENVIRONMENTAL REQUIREMENTS

.1 Maintain air temperature and structural base temperature at flooring installation area as recommended by the Manufacturer for 48 hours before, during and for 48 hours after installation.

1.6 MAINTENANCE

.1 Extra Materials:

.1 Provide 1 m² of each colour, pattern and type flooring material required for this project for maintenance use.
.2 Extra materials from same production run as installed materials.
.3 Identify each container of floor tile and each container of adhesive.
.4 Deliver to Owner, upon completion of the work of this section.
.5 Store where directed by Owner.

Part 2 Products

2.1 MATERIALS

.1 Vinyl composition tile **TYPE 1:**

.1 Non asbestos.
.2 Plain surface, pre-sealed.
.3 300 x 305 mm size.
.4 3.2 mm thick.
.5 Accepted material: Johnsonite "Azrock VCT" Model or approved equivalent.
.6 Colour: White #V-202 "Salt & Pepper"

.2 Vinyl Wall Base **TYPE 1:**

.1 Non asbestos.
.2 Plain surface, pre-sealed.
.3 300 x 305 mm size.
.4 3.2 mm thick.
.5 Accepted material: Johnsonite "Azrock VCT" Model or approved equivalent.
.6 Colour: White #V-202 "Salt & Pepper"

.3 Resilient stair riser, stair tread and stair nosing:

.1 Material: rubber.
.2 Onepiece length for stair riser, stair tread and stair nosing.
.3 Stair nosing height: 50 mm high.
.4 Stair tread height: 1067 mm high.
.5 Texture surface: Bamboo type.
.6 Accepted material: VIBMTR Model.
.7 Colour: Charcoal #20.
.8 Traction strip: black-coloured.

.4 Primers and adhesives: recommended by flooring manufacturer for specific material on applicable substrate, above, at or below grade.

.1 Flooring adhesives.
.2 Stair tread and stair nosing adhesives.
.3 Coved wallbase adhesives.

.5 Wax: type recommended by flooring manufacturer.

.6 Control joint profile:

.1 To install on control joint between the concrete slabs.

.2 With stainless steel anchoring wings and a soft thermoplastic rubber movement zone.

.3 Movement zone: 6 mm-wide.

.4 Acceptable material: Schluter®-DILEX-EKSB.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSPECTION

.1 Ensure concrete floors are dry, by using test methods recommended by tile manufacturer.

3.3 SUBFLOOR TREATMENT

.1 Remove existing resilient flooring.

.2 Remove or treat old adhesives to prevent residual, old flooring adhesives from bleeding through to new flooring and/or interfering with the bonding of new adhesives.

.3 Clean floor and apply filler; trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured and dry.

.4 Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes and other defects with sub-floor filler.

.5 Prime concrete subfloor to flooring manufacturer's printed instructions.

3.4 TILE APPLICATION

.1 Provide high ventilation rate, with maximum outside air, during installation, and for 48 to 72 hours after installation. If possible, vent directly to outside. Do not let contaminated air recirculate through district or whole building air distribution system. Maintain extra ventilation for at least one month following building occupation.

.2 Apply adhesive uniformly using recommended trowel in accordance with flooring manufacturer's instructions. Do not spread more adhesive than can be covered by flooring before initial set takes place.

.3 Lay flooring with joints parallel to building lines to produce symmetrical tile pattern. Border tiles minimum half tile width.

.4 Install flooring to square grid pattern with joints aligned, at quarter-turn.

.5 As installation progresses, and immediately after installation, roll flooring in 2 directions with 45 kg minimum roller to ensure full adhesion.

.6 Cut tile and fit neatly around fixed objects.

.7 Install flooring in pan type floor access covers. Maintain floor pattern.

.8 Terminate flooring at centerline of door in openings where adjacent floor finish or colour is dissimilar. Where a marble threshold is installed, terminate flooring perfectly aligned with the threshold.

3.5 STAIR APPLICATION

.1 Finish stair risers with resilient tile and install prior to tread material.

.2 Install stair nosings, stair treads and stair risers one piece for full width of stair. Adhere over entire surface and fit accurately.

3.6 BASE APPLICATION

.1 Lay out base to keep number of joints at minimum. Base joints at maximum length available or at internal or premoulded corners.

.2 Clean substrate and prime with one coat of adhesive.

.3 Apply adhesive to back of base.

.4 Set base against wall and floor surfaces tightly by using 3 kg hand roller.

.5 Install straight and level base.

.6 Scribe and fit to door frames and other obstructions. Use premoulded end pieces at flush door frames.

3.7 CLEANING

.1 Proceed in accordance with Section 01 74 11 - Cleaning.

.2 Remove excess adhesive from floor, base and wall surfaces without damage.

.3 Clean, seal and wax floor and base surface to flooring manufacturer's instructions. In carpeted areas clean, seal and wax base surface before carpet installation.

3.8 PROTECTION

.1 Protect new floors from time of final set of adhesive until final waxing.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 Department of Justice Canada (Jus)

.1 Canadian Environmental Protection Act (CEPA), 1999, c. 33

.2 Environmental Protection Agency (EPA)

.1 EPA Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 - [1995], (for Surface Coatings).

.3 Health Canada / Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.4 Master Painters Institute (MPI)

.1 MPI Architectural Painting Specifications Manual, [2004].

.5 National Fire Code of Canada - [1995]

.6 Society for Protective Coatings (SSPC)

.1 SSPC Painting Manual, Volume Two, 8th Edition, Systems and Specifications Manual.

.7 Transport Canada (TC)

.1 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34 .

1.3 WORK EXTENT

.1 All surfaces inside the building and in the work area must be finished painted for, unless indicated in the documents that no paint finish is to be applied:

.1 New and existing gypsum partitions, up to 152 mm above a ceiling.

.2 New and existing concrete block partitions, up to 152 mm above a ceiling.

.3 New or existing exposed structural elements, such as columns, beams, joists and braces, steel or wood decking.

.4 Doors and frames, new or existing.

.5 Unfinished steel window frames.

.6 Existing windows' cheeks, heads and inner shelves made of plywood.

.7 Finishing moldings around new and existing windows.

.8 New or existing radiators.

.9 Non-galvanized steel stairs: steps, risers, stringers, railings, handrails and other exposed fasteners.

.10 Exposed steel ventilation ducts and rigid steel electrical conduits, other than in rooms M2-107, M2-209 and M2-209A.

.11 Any other exposed existing element that has already been painted.

.12 Any other new item requiring finishing and not listed in other sections of the specification.

1.4 QUALITY ASSURANCE

.1 Qualifications:

.1 Contractor: minimum of five (5) years proven satisfactory experience..

.2 Journeymen: qualified journeymen who have "Tradesman Qualification Certificate of Proficiency" engaged in painting work.

.3 Apprentices: working under direct supervision of qualified trades person in accordance with trade regulations.

1.5 SUBMITTALS

.1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit product data and instructions for each paint and coating product to be used.

.2 Submit product data for the use and application of paint thinner.

1.6 MAINTENANCE

.1 Extra Materials:

.1 Deliver extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Section 01 78 00 Closeout Submittals.

.2 Quantity: provide one (1) - four (4) litre can of each type and colour of primer and finish coat. Identify colour and paint type in relation to established colour schedule and finish system, and specify the colours selected for the different products.

1.7 DELIVERY, STORAGE AND HANDLING

.1 Storage and Protection:

.1 Provide and maintain dry, temperature controlled, secure storage.

.2 Store materials and supplies away from heat generating devices.

.2 Store temperature sensitive products above minimum temperature as recommended by manufacturer.

.3 Keep areas used for storage, cleaning and preparation clean and orderly. After completion of operations, return areas to clean condition.

.4 Remove paint materials from storage only in quantities required for same day use.

1.8 SITE CONDITIONS

.1 Heating, Ventilation and Lighting:

.1 Provide heating facilities to maintain ambient air and substrate temperatures for 24 hours before, during and after paint application until paint has cured sufficiently.

.2 Provide continuous ventilation for seven (7) days after completion of application of paint.

.3 Provide temporary ventilating and heating equipment where permanent facilities are not available or supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.

.4 Provide minimum lighting level of 323 Lux on surfaces to be painted.

.2 Temperature, Humidity and Substrate Moisture Content Levels:

.1 Perform no painting when substrate and ambient air temperatures are not expected to fall within MPI or paint manufacturer's prescribed limits.

.3 Surface and Environmental Conditions:

.1 Apply paint finish in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.

.2 Apply paint to adequately prepared surfaces and to surfaces within moisture limits.

.3 Apply paint when previous coat of paint is dry or adequately cured.

Part 2 Products

2.1 MATERIALS

.1 Provide paint materials for paint systems from single manufacturer.

.2 Conform to latest MPI requirements for interior painting work including preparation and priming.

.3 Materials primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc., in accordance with MPI Architectural Painting Specification Manual "Approved Product" listing.

.4 Paints, coatings, adhesives, solvents, cleaners, lubricants, and other fluids:

.1 Waterbased, water soluble, water cleanup and latex-based.

.2 Manufactured without compounds which contribute to ozone depletion in the upper atmosphere.

.3 Manufactured without compounds which contribute to smog in the lower atmosphere.

.4 Do not contain methylene chloride, chlorinated hydrocarbons, toxic metal pigments.

.5 Formulate and manufacture water-borne surface coatings with no aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or their compounds.

2.2 COLOURS

.1 Walls (gypsum boards and concrete blocks):

.1 Such as SICO® 6207-31 “Freezing Rain” or equivalent.

.2 SICO® “Eggshell” finish or equivalent, with a gloss level of 5 to 12%.

.2 Exposed vertical surfaces (columns, bracing):

.1 Such as SICO® 6207-31 “Freezing Rain” or equivalent.

.2 SICO® “Eggshell finish” or equivalent, with a gloss level of 5 to 12%.

.3 Exposed horizontal surfaces (beams, joists and steel decking):

.1 Such as SICO® 6207-21 “Grey Drizzle” or equivalent.

.2 SICO® “Flat” finish or equivalent, with a gloss level of 0 to 5%.

.4 Doors, steel door frames and steel window frames:

.1 Such as SICO® 6207-63 “Eye of the storm” or equivalent.

.2 SICO® “Melamine” finish or equivalent, with a gloss level of 20 to 30%.

.5 Woodwork (around existing windows and moulding):

.1 Such as SICO® 6207-21 “Grey Drizzle” or equivalent.

.2 SICO® “Melamine” finish or equivalent, with a gloss level of 20 to 30%.

.6 Non-galvanized steel stairs and radiators:

.1 Such as SICO® 6207-63 “Eye of the storm” or equivalent.

.2 SICO® “Melamine” finish or equivalent, with a gloss level of 20 to 30%.

.7 Mechanical ducts and electrical conduits:

.1 Such as SICO® 6207-21 “Grey Drizzle” or equivalent.

.2 SICO® “Flat” finish or equivalent, with a gloss level of 0 to 5%.

.8 Other exposed elements:

.1 Same colour and finish as the adjacent surface.

2.3 MIXING AND TINTING

.1 Perform colour tinting operations prior to delivery of paint to site.

.2 Mix paste, powder or catalyzed paint mixes inaccordance with manufacturer's written instructions.

.3 Thin paint for spraying in accordance with paint manufacturer's instructions.

.4 Remix paint in containers prior to and during application to ensure breakup of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

2.4 INTERIOR PAINTING SYSTEMS

.1 System for gypsum, gypsum boards and cast concrete ceilings:

.1 Apply one coat of primer sealer latex paint, such as SICO® Expert 870-130 or 870-799, or an approved equivalent. MPI-50. VOC : <150g/L.

.2 Apply two coats of latex paint flat for ceilings such as SICO® Expert 871-066, or an approved equivalent. VOC : <50g/L.

.2 System for gypsum and gypsum boards walls:

.1 Apply one coat of primer sealer latex paint, such as SICO® Expert 870-130 or 870-799, or an approved equivalent. MPI-50. VOC : <150g/L.

.2 Apply two coats of 100% acrylic Velvet finish latex paint, with low VOC, such as SICO® Expert 873 series or an approved equivalent. MPI-44. VOC : <150g/L.

.3 System for concrete block walls:

.1 Apply one coat of primer concrete block filler, such as SICO® Expert 675-115, or an approved equivalent. MPI-4. VOC : <100g/L.

.2 Apply two coats of 100% acrylic Velvet finish latex paint, with low VOC, such as SICO® Expert 873 series or an approved equivalent. MPI-44. VOC : <150g/L.

.4 System for wood surfaces to be painted (doors and woodwork):

.1 Seal wood-nodes and resin streaks with one coat of shellac.

.2 Apply one coat of waterborne alkyd primer such as GoPrime 150-135 or SICO® Expert 890-114, or an approved equivalent.

.3 Apply two coats of 100% acrylic latex paint, with Melamine finish and low VOC, such as SICO® Expert 875 series, or an approved equivalent. MPI-43. VOC : <150g/L

.5 System for ferrous metal surfaces, with or without primer:

.1 Apply two coats of SICO® Expert 632 series anti-rust paint for metal surfaces.

.6 System for large surface steel deck ceilings and steel decking:

.1 Apply as indicated dry fall spray latex paint, such as SICO® Expert 871-140 or an approved equivalent. MPI-118 and MPI-133. VOC : <50g/L

.7 System for galvanized or zinc-plated metal surfaces:

.1 Treat the surface with a metal conditioner and rust remover such as Corrostop Ultra 635-104 or an approved equivalent.

.2 Rinse with clear water (under pressure).

.3 Apply one coat of Rust Free Galvanized Metal Primer such as Corrostop Ultra 635-045 or an approved equivalent. VOC : <150g/L

.4 Apply two coats of 100% acrylic latex paint, with Melamine finish and low VOC, such as SICO® Expert 875 series, or an approved equivalent. MPI-43. VOC : <150g/L

.8 System for concrete block walls on the garage side.

.1 Clean and prepare the surface according to the manufacturer's recommendations for removing efflorescence and limescale and salt deposits.

.2 Rinse with clear water (under pressure). Let it dry.

.3 Apply two coats of water-repellent sealer such as Sika's Sikagard® SN-100 or an approved equivalent.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheet.

3.2 GENERAL

.1 Perform preparation and operations for interior painting in accordance with MPI Architectural Painting Specifications Manual except where specified otherwise.

.2 Apply paint materials in accordance with paint manufacturer's written application instructions.

3.3 EXAMINATION

.1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to the Professionals damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.

3.4 PREPARATION

.1 Protection:

.1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable nonstaining covers or masking. If damaged, clean and restore surfaces as directed by the Professionals.

.2 Protect items that are permanently attached such as Fire Labels on doors and frames.

.3 Protect factory finished products and equipment.

.2 Surface Preparation:

.1 Remove electrical cover plates, light fixtures, surface hardware on doors, bath accessories and other surface mounted equipment, fittings and fastenings prior to undertaking painting operations. Identify and store items in secure location and re-installed after painting is completed.

.2 Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.

.3 Place "WET PAINT" signs in occupied areas as painting operations progress.

.3 Clean and prepare surfaces in accordance with MPI Architectural Painting Specification Manual requirements. Refer to MPI Manual in regard to specific requirements and as follows:

.1 Remove dust, dirt, and other surface debris by wiping with dry, clean cloths, vacuuming or compressed air.

.2 Wash surfaces with a biodegradable detergent and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.

.3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.

.4 Allow surfaces to drain completely and allow to dry thoroughly.

.5 Prepare surfaces for waterbased painting, waterbased cleaners should be used in place of organic solvents.

.6 Use trigger operated spray nozzles for water hoses.

.7 Many waterbased paints cannot be removed with water once dried. Minimize use of mineral spirits or organic solvents to clean up waterbased paints.

.4 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining

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.6 Use trigger operated spray nozzles for water hoses.

.7 Many waterbased paints cannot be removed with water once dried. Minimize use of mineral spirits or organic solvents to clean up waterbased paints.

.4 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats. Apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.

.5 Where possible, prime non-exposed surfaces of new wood surfaces before installation. Use same primers as specified for exposed surfaces.

.1 Apply vinyl sealer to MPI #36 over knots, pitch, sap and resinous areas.

.2 Apply wood filler to nail holes and cracks.

.3 Tint filler to match stains for stained woodwork.

.6 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.

.7 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with MPI requirements. Remove traces of blast products from surfaces, pockets and corners to be painted by brushing with clean brushes, blowing with clean dry compressed air or vacuum cleaning.

.8 Touch up of shop primers with primer as specified.

3.5 APPLICATION

.1 Method of application to be as approved by the Professionals. Apply paint by brush, roller, air sprayer and airless sprayer. Conform to manufacturer's application instructions unless specified otherwise.

.2 Respect the spread rate according to the surface and the manufacturer's recommendations.

.3 Brush and Roller Application:

- .1 Apply paint in uniform layer using brush and/or roller type suitable for application.
- .2 Work paint into cracks, crevices and corners.
- .3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.
- .4 Remove runs, sags and brush marks from finished work and repaint.

.4 Spray application:

- .1 Provide and maintain equipment that is suitable for intended purpose, capable of atomizing paint to be applied, and equipped with suitable pressure regulators and gauges.
- .2 Keep paint ingredients properly mixed in containers during paint application either by continuous mechanical agitation or by intermittent agitation as frequently as necessary.
- .3 Apply paint in uniform layer, with overlapping at edges of spray pattern. Back roll first coat application.
- .4 Brush out immediately all runs and sags.
- .5 Use brushes and rollers to work paint into cracks, crevices and places which are not adequately painted by spray.

.5 Use dipping, sheepskins or daubers only when no other method is practical in places of difficult access.

.6 Apply coats of paint continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.

.7 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.

.8 Sand and dust between coats to remove visible defects.

.9 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as tops of interior cupboards and cabinets and projecting ledges.

.10 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.6 MECHANICAL/ELECTRICAL EQUIPMENT

.1 Paint finished area exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment with colour and finish to match adjacent surfaces, except as indicated.

.2 Touch up scratches and marks on factory painted finishes and equipment with paint as supplied by manufacturer of equipment.

.3 Do not paint over nameplates.

.4 Keep sprinkler heads free of paint.

.5 Paint fire protection piping red.

.6 Do not paint interior transformers and substation equipment.

3.7 SITE TOLERANCES

.1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.

.2 Ceilings: no defects visible from floor at 45 degrees to surface when viewed using final lighting source.

.3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

3.8 RESTORATION

.1 Clean and reinstall hardware items removed before undertaken painting operations.

.2 Remove protective coverings and warning signs as soon as practical after operations cease.

.3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.

.4 Protect freshly completed surfaces from paint droppings and dust. Avoid scuffing newly applied paint.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 ACTION SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Shop Drawings:

.1 Indicate materials, thicknesses, sizes, finishes, colours, construction details, removable and interchangeable components, mounting methods, schedule of signs.

.2 Submit drawntoscale details for individually fabricated or incised lettering indicating word and letter spacing.

.3 Samples:

.1 Submit duplicate representative sample of each type sign, sign image and mounting method including, but not limited to: graphics, cast letters, sign box installation method, channel letters, and wall plates fixed mounting installation method.

Part 2 Products

2.1 MATERIALS

.1 Engraving sheet: 3 mm thick Gravoply plastic sheet, black exposed face with a white core.

2.2 SIGN GRAPHICS

.1 Sign graphics: well defined, arranged for balanced appearance, and properly word and letter spaced.

.2 Engraving: apply sign images using pantograph mechanical engraving machine to obtain incised letters on a white background.

2.3 DOOR PLATES

.1 Door number plate:

.1 Plate dimension: 50 mm high x 200 mm wide.

.2 Door number in white letters on a black background, preceded by a red square.

.3 Font: Capital letters, bold, Arial, 25 mm high, right align and spaced at 19 mm from the right border, vertically centered.

.4 Red square of 25mm x 25mm aligned to 19mm from the left of the plate, vertically centered.

.5 Room numbering as indicated on the plans.

.6 One plate per inner door.

.2 Room names plates:

.1 Plate dimension: 150 mm high x 300 mm wide.

.2 Room name in white letters on a black background.

.3 Name in French on the left, vertical line in the center, and name in English on the right.

.4 Font for French: Capital letters, bold, Arial, 15 mm high, left align and spaced at 8 mm from the left border.

.5 Font for English: Capital letters, bold, Arial, 15 mm high, right align and spaced at 8 mm from the right border.

.6 Vertical line of 134 mm high, at 8 mm from high and low borders, line thickness of 2 mm. Centered on the plate.

.7 Naming of the rooms as indicated on the plans.

2.4 DOOR PLATES

.1 Washroom pictographs:

.1 Plate of 150 mm x 150 mm.

.2 Women pictograph: rooms M2-109 and M2-207.

.3 Men pictograph: : rooms M2-110 and M2-201.

.4 Universal unisex pictograph: room M2-108.

2.5 FABRICATION

.1 Fabricate signs in accordance with details, specifications and shop drawings.

.2 Build units square, true, accurate to size, free from visual or performance defects.

.3 Polish exposed edges of plastic to smooth, slightly convex profile.

Part 3 Execution

3.1 INSTALLATION

.1 Manufacturer's Instructions: compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheets.

.2 Erect and secure signs plumb and level at elevations as directed by the Professionals.

.3 Comply with sign manufacturer's installation instructions and approved shop drawings.

.4 Install door and wall plates on the outside of the room.

.5 Plates for door numbers must be installed using 2 selftapping metal screws with round head in zinc-coated steel painted in black (1 on each side). Install on the horizontal part of the frame, at the head and centered horizontally and vertically.

.6 Room name plates for doors must be installed using 4 selftapping metal screws with round head in zinc-coated steel painted in black (1 in each corner). Install on the outside of the door, centered horizontally, the bottom at 1450 mm from the finished floor. In the case of a half glazed door, install the plate centered horizontally and at 8 mm from the bottom of the glass trim. In the case of a glazed door, install the plate at 8 mm on the side of the glass trim and the bottom at 1450mm from the finished floor. In the case of a double door, install a single plate on the right door.

.7 Pictograph plates for doors must be installed using 4 selftapping metal screws with round head in zinc-coated steel painted in black (1 in each corner) with masonry or gypsum anchoring depending on the location. Install on the wall, on the outside of the room, on the striker side, the bottom at 1450 mm from the finished floor and 25mm from the door frame side.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM).

.1 ASTM A167[2004], Standard Specification for Stainless and HeatResisting ChromiumNickel Steel Plate, Sheet, and Strip.

.2 Canadian General Standards Board (CGSB).

.1 CAN/CGSB71.20[M88], Adhesive Contact Brushable.

.3 Canadian Standards Association (CSA)/CSA International

.1 CSA-B651-[04], building and installations accessibility : design regulation.

.4 Forest Stewardship Council (FSC)

.1 FSC-STD-01-001-[2004], FSC Principle and Criteria for Forest Stewardship.

.2 FSC-STD-20-002-[2004], Structure and Content of Forest Stewardship Standards V2-1.

.3 FSC Accredited Organisations.

.5 Workplace Hazardous Materials Information System (WHMIS)

.1 Data Sheet.

.6 South Coast Air Quality Management District (SCAQMD), California State

.1 SCAQMD Rule 1168-[05], Adhesives and Sealants Applications.

1.3 SUBMITTALS

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit the required product data as well as the manufacturer's specifications and documentation for washroom partitions and related accessories. Include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:

.1 Indicate fabrication details, plans, elevations, hardware, and installation details.

.4 Manufacturer's Instructions:

.1 Manufacturer’s Instruction: Submit manufacturer's installation instructions, including any indication of particular methods of handling, installing and cleaning.

.5 Closeout Submittals:

.1 Provide maintenance data, parts list, and manufacturer's instructions for incorporation into maintenance manual specified in Section 01 78 00 Closeout Submittals.

Part 2 Products

2.1 MATERIALS

.1 Partitions: 19 mm thick, solid laminate panels for washrooms and other sanitary spaces.

.2 Laminate sheets, **type 1**: Formica® Laminate in "Neutral Twill", color # 8826-58 with matte finish or equivalent, vertical grain.

.3 Laminated plastic adhesive: to CAN/CGSB71.20.

.4 Sealant: waterproof glue or sealant recommended by the laminate Manufacturer.

.5 Hinges:

.1 Heavy duty, nonlubricating.

.2 Material/finish: stainless steel casting.

.3 Swing: as indicated in the documents.

.4 Return movement: gravity.

.5 Adjustable dooropen angle.

.6 Emergency access feature.

.6 Latch set: surface mounted, combination latch, doorstop, keeper and bumper, stainless steel, emergency access feature.

.7 Wall brackets and fittings, fasteners and hardware: commercial type, 304 stainless steel with satin finish, burglarproof.

.8 Floor leveling device: galvanized with a 10 mm diameter threaded rod, and adjustment nuts.

.9 Stainless steel shoes.

.10 Stainless steel top rails.

.11 Edges for wall mounting: continuous "U" edge, stainless steel.

.12 Door pull: barrier free type, suited for inswinging doors, stainless steel.

2.2 DIMENSION

.1 Partitions on each side of the toilet and their door must consist of solid panels, starting at 305mm from the floor up to 1829 mm from the floor, full depth of the cabin and in one piece. Keep a 305mm gap between the top of the panel and the head bar.

.2 Partitions on each side of the showers must consist of solid panels, extending from the floor to the head bar (2134 mm in total), full depth of the cabin and in one piece. Door must consist of a solid panel starting at 305 mm from the floor up to 1829 mm from the floor, in one piece.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 INSTALLATION

.1 Ensure supplementary anchorage, if required, is in place.

.2 Do work in accordance with CSAB651.

3.3 ERECTION

.1 Partition erection.

- .1 Install partitions secure, plumb and square.
- .2 Leave 12 mm space between wall and panel or end pilaster.
- .3 Anchor mounting brackets to masonryconcrete surfaces using screws and shields, to blocking/backing must be provided hollow walls using bolts and toggle type anchors.
- .4 Attach panel and pilaster to mounting brackets with through type sleeve bolt and nut.
- .5 Provide for adjustment of floor braced pilasters variations with screw jack through steel saddles made integral with pilaster. Conceal floor fixings with stainless steel shoes.
- .6 Provide templates for locating threaded studs through finished ceilings.
- .7 Equip doors with hinges, latch set. Adjust and align hardware for easy, proper function. Set door open position at 90 degrees from closed door.
- .8 Install hardware elements.

.2 Floor supported and overhead braced partition erection.

- .1 Attach pilars to floor with pilar supports and level, plumb, and secure with a jackscrew.
- .2 Secure pilaster shoes in position.
- .3 Secure headrail to pilaster face with not less than two fasteners per face.
- .4 Set tops of doors parallel with overhead brace when doors are in closed position.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

1.2 REFERENCES

.1 .Aluminum Association (AA).

.1 DAF 45-[03], Designation System for Aluminum Finishes.

1.3 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 Submittal Procedures.

.2 Shop Drawings :

.1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedures.

.2 Shop drawings must indicate, in a large scale, sizes, material details, finish, anchorage and connectors.

.3 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

Part 2 Products

2.1 MATERIALS

.1 Metal corner protectors: 75mm x 75mm x 1220mm long and 1mm thick, with a bend radius of 3 mm, type-304 stainless steel with satin finish, with removable protective paper, mechanical fastening and adhesive mounting.

.2 Angle of corner protectors must be of 88 degrees or have a slight return in order to properly close on each wall without leaving any gap.

2.2 ACCESSORIES

.1 Fastening: selftapping, stainless steel, for flush mounting.

.2 Adhesive: water-repellent, as recommended by the manufacturer for each surface type considered.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

1. Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.1 INSTALLATION

.1 Install the protectors on a firm support surface, with all the elements leveled, securely fastened and in perfect alignment.

.2 Fasten the wall protectors at 300mm centre distance with adhesive and mechanical fasteners.

.3 Install the protective corners directly from the ground.

3.2 CLEANING

.1 Remove protective coverings only once cleaning is over.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 The Trade contractor is responsible for obtaining a copy of all sections of this specification, even if it seems irrelevant to his specialty, otherwise it will be acknowledged that he accepts the clauses and prescriptions of all sections of this specification. The Trade contractor must consult the table of contents of the specifications for the complete list of sections.

.2 Section 01 33 00 - Submittal Procedures.

.3 Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

.4 Section 08 80 50 - Glazing: Mirrors.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM)

.1 ASTM A167[99], Standard Specification for Stainless and HeatResisting ChromiumNickel Steel Plate, Sheet, and Strip.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB1.81[M90], Air Drying and Baking Alkyd Primer for Vehicles and Equipment.

.2 CAN/CGSB1.88[92], Gloss Alkyd Enamel, Air Drying and Baking.

.3 CAN/CGSB12.5[M86], Mirrors, Silvered.

.4 CGSB 31GP107Ma[90], Noninhibited Phosphoric Acid Base Metal Conditioner and Rust Remover.

.3 Canadian Standards Association (CSA)

.1 CAN/CSAB651[95], BarrierFree Design.

1.3 SHOP DRAWINGS

.1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedures.

.2 Indicate size and description of components, base material, surface finish inside and out, hardware and locks, attachment devices, description of roughinframe, buildingin details of anchors for grab bars.

1.4 CLOSEOUT SUBMITTALS

.1 Provide maintenance data for toilet and bath accessories for incorporation into manual specified in Section 01 78 00 Closeout Submittals.

1.5 EXTRA MATERIALS

.1 Provide special tools required for accessing, assembly/disassembly or removal for toilet and bath accessories in accordance with requirements specified in Section 01 78 00 Closeout Submittals.

Part 2 Products

2.1 MATERIALS

.1 Fasteners: concealed screws and bolts hot dip galvanized, exposed fasteners to match face of unit. Expansion shields fibre, lead or rubber as recommended by accessory manufacturer for component and its intended use.

2.2 COMPONENTS

.1 Toilet tissue dispenser: multi-roll; surface mounted; type-304 satin-finish 0.8 mm stainless steel cabinet with a stainless steel dispensing mechanism. Holds two rolls up to 130mm diameter.

.1 Acceptable material: Bobrick® B-4288 Model or approved equivalent.

.2 Combination towel dispenser/ waste receptacle: surface mounted wall unit; approximately 445 mm wide x 1430 mm high x 210 mm deep. Interior of 0.8mm galvanized steel and exterior of 0.8mm stainless steel. Suitable for dispensing folded paper towels. Removable galvanized steel waste receptacle, lockable access door with continuous full height stainless steel hinge. Minimum capacity of waste bin: 45.5 L.

.1 Acceptable material: Bobrick® B-3949 Model or approved equivalent.

.3 Soap dispenser: surface mounted wall unit; type-304 satin-finish 1.0 mm stainless steel. Suitable for liquid soap. Pushin valve operates with less than 5 pounds of force. 180 mm wide x 155 mm high x 65 mm deep, without the spout. self contained 1.2 L tank. Epoxy-sealed container to prevent warping and leakage. Soap dispenser with concealed, vandal-resistant mounting. Locked, hinged stainless steel lid requiring a key to open.

.1 Acceptable material: Bobrick® B-4112 Model or approved equivalent.

.4 Feminine napkin disposal bin: surface mounted wall unit; type-304 satin-finish 0.8 mm stainless steel; 190 mm wide x 255 mm high x 95 mm deep. Continuous hinged door and integral finger depression for opening cover.

.1 Acceptable material: Bobrick® B-270 Model or approved equivalent.

.5 Shower curtain: matte white vinyl, 0.2 mm thick; antibacterial and fire resistive. Nickel-plated brass grommets along the top, one every 152 mm. 1065 mm wide x 1830 mm high.

.1 Acceptable material: Acceptable material: Bobrick® B-204-2 Model or approved equivalent.

.6 Shower curtain hooks: 2 mm diameter type-304 stainless steel; 35mm wide x 65 mm high for 25 mm diameter and 32 mm diameter hooks. 7 hooks per shower curtain.

.1 Acceptable material: Bobrick® B-204-1 Model or approved equivalent.

.7 Shower rods: 25 mm dia x 1.0 mm wall thickness stainless steel tubing of required length with satin chrome finished flanges. Shower rod material and anchorage to withstand downward pull of 0.9 kN.

.1 Acceptable material: Bobrick® B-207 x 36 Model or approved equivalent.

.8 Robe hook: Type-304 stainless steel surface-mounted hook strip, with three (3) hooks. Mounting strip is 610 mm wide x 100 mm high x 10 mm thick . Hooks are 25 mm wide x 165 mm high x 57mm deep.

.1 Acceptable material: Bobrick® B-232 x 36 Model or approved equivalent.

.9 Grab bar:

.1 1.2 mm stainless steel tubing with satin-finish and 32mm outside diameter. Concealed mounting flanges with two holes for attachment to wall, 80 mm diameter, cal. 11. Ends are heliarc welded to concealed mounting flanges. Clearance between the grab bar and wall is 32 mm. With stainless steel snap flange covers, cal. 22, and adequate wall anchor. Peened gripping surface; bars and anchors withstanding a pulling force of 2.2 kN downwards.

.1 Acceptable material: Bobrick® B-5806.99 x 18 and B-5806.99 x 36 Models or approved equivalent.

.10 Tilt mirror: wall mounted unit; 457 mm wide x 915 mm high x 10 mm thick; made of two components. Type-304 stainless steel frame, with corners are welded, ground, and polished smooth and integral screw-head lock. Fixed-position mirror, 6 mm thick float glass, guaranteed for 15 years against silver spoilage. All edges shall be protected by plastic filler strips and back shall be protected by full-size 3mm thick polystyrene padding.

.1 Acceptable material: Bobrick® B-293 Series 1836 Model or approved equivalent.

.11 Channel frame mirror: wall mounted unit; 1220 mm wide x 915 mm high. One piece type-430 stainless steel channel frame with 45 degree mitered corners. Fixed-position mirror, 6 mm thick float glass, guaranteed for 15 years against silver spoilage. Back is protected by full-size polyethylene padding. Galvanized steel concealed wall hanger with a locking device to secure mirror.

.1 Acceptable material: Bobrick® B-165 Series 4836 Model or approved equivalent.

.12 Shower anteroom shelf: wall mounted, 127 deep x 610 mm wide, type-304 stainless steel.

.1 Acceptable material: Bobrick® B-295 Model or approved equivalent.

.13 Utility Shelf: wall mounted, 205 deep x 915 mm wide, type-304 stainless steel, with 3 rag hooks and 4 mop/broom holders.

.1 Acceptable material: Bobrick® B-224 Model or approved equivalent.

2.3 FABRICATION

.1 Weld and grind joints of fabricated components flush and smooth. Use mechanical fasteners only where approved.

.2 Wherever possible form exposed surfaces from one sheet of stock, free of joints.

.3 Brake form sheet metal work with 1.5 mm radius bends.

.4 Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.

.5 Back paint components where contact is made with building finishes to prevent electrolysis.

.6 Hot dip galvanize concealed ferrous metal anchors and fastening devices to CSA G164.

.7 Shop assemble components and package complete with anchors and fittings.

.8 Deliver inserts and roughin frames to job site at appropriate time for buildingin. Provide templates, details and instructions for building in anchors and inserts.

.9 Provide steel anchor plates and components for installation on studding and building framing.

2.4 FINISHES

.1 Chrome and nickel plating: to ASTM B456, polished finish.

.2 Type-304 (or superior quality) stainless steel, satin finish.

.3 Manufacturer's or brand names on face of units not acceptable.

Part 3 Execution

3.1 INSTALLATION

.1 Install and secure accessories rigidly in place as follows:

.1 Stud walls: install steel backplate to stud prior to plaster or drywall finish. Provide plate with threaded studs or plugs.

.2 Hollow masonry units or existing plaster/drywall: use toggle bolts drilled into cell/wall cavity.

.3 Toilet/shower compartments: use male/female through bolts.

.2 Install grab bars on builtin anchors provided by bar manufacturer.

.3 Use tamper proof screws/bolts for fasteners.

.4 Fill units with necessary supplies shortly before final acceptance of building.

.5 Install mirrors in accordance with Section 08 80 50 Glazing.

3.2 SCHEDULE

.1 Locate accessories where indicated and as follows.

.2 Toilet tissue dispenser: one in each toilet compartment mounting height 711 mm F.F.F.

.3 Paper towel dispenser and combined waste bin: one in each washroom, as indicated. Maximum height of dispenser and operable part from floor 1300 mm.

.4 Soap dispenser: one per two wash basins. Maximum height of dispenser and operable part from floor 987 mm.

.5 Feminine napkin disposal bin: one in each female toilet compartment mounting height 508 mm F.F.F.

.6 Shower rod and curtain: one at each shower compartment mounting height 1900 mm F.F.F.

.7 Robe hook: one in each shower stall, mounting height 1450 mm F.F.F.

.8 Grab bar: two in each handicapped toilet compartment. Mounting height 900 mm F.F.F, 457mm-bar at center on the toilet; 915 mm-bar at 300 mm from the back wall.

.9 Tilt mirror: one at each wash basin in the handicapped toilet compartment, height of bottom edge of mirror from floor 1000 mm.

.10 Fixed-position mirror: one above each splashboard, full-width of the furniture, height of bottom edge of mirror from floor 915 mm, or resting on the splashboard.

.11 Shelf: one in each shower anteroom, mounting height from floor 1750 mm.

.12 Utility shelf: one in each conciergerie and laundry room, mounting height from floor 1500 mm.

END OF SECTION