

**Part 1 General**

**1.1 WORK COVERED BY CONTRACT DOCUMENTS**

- .1 Work of this Contract includes but is not limited to the replacement of four rooftop HVAC units: AHU-1, CU-1, AHU-2, and AMU-1 at the Osborne Community Correctional Centre.

**1.2 TIME OF COMPLETION**

- .1 Work under this contract is to be performed in a timely manner. Commence planning and preparatory work immediately upon receipt of official notification of acceptance of Contract and complete the work within time stipulated in the Construction Tender.

**1.3 INTERPRETATION OF DOCUMENTS**

- .1 In the event of discrepancies or conflicts in interpreting the Plans (drawings) and Specifications,
  - .1 Section 01 00 00 - General Requirements takes precedence over technical specification sections in other Divisions;
  - .2 Specifications take precedence over drawings bound with specifications.
- .2 Drawings and specifications are complementary. When work is shown or mentioned on the drawings but is not indicated in the specifications, or when work is indicated in the specifications but is not shown or mentioned on the drawings, it shall nevertheless be included in the Contract.
- .3 The sub-division of the Specification into sections, identified by title and number, is for convenience only and does not modify the singularity of the document, nor does it operate to make or imply that the Departmental Representative is an arbiter to establish the limits or extent of contract between Contractor and Subcontractors or to determine the limits or extents of work that may be decided by trade unions or contractors' organizations. Extras to the Contract will not be considered on the grounds of differences in interpretation of the Specification and/or Drawings as to which trade performs the work.

**1.4 INSTITUTION REQUIREMENTS**

- .1 Refer to the document "Institutional Requirements for PWGSC Contractors", attached in Other Documents.

**1.5 DEFINITIONS**

- .1 For the purposes of this Section, "OCCC" or "Institution" means Osborne Correctional Community Centre.
- .2 The word "provide" means "supply, install, and commission".
- .3 Workplace Hazardous Materials Information System (WHMIS):

- .1 A Canada-wide system designed to give employers and workers information about hazardous materials used in the workplace. Under WHMIS, information on hazardous materials is to be provided on container labels, material safety data sheets (MSDS), and worker education programs. WHMIS is put into effect by a combination of federal and provincial laws.
- .2 Submit to Departmental Representative current Material Safety Data Sheet (MSDS) for each hazardous material required prior to bringing hazardous material on site.

#### **1.6 CONTRACTOR'S USE OF SITE**

- .1 Use of the site shall be governed by the document "Institutional Requirements for PWGSC Contractors".

#### **1.7 SPECIAL REQUIREMENTS**

- .1 Before work is undertaken to specific areas, ensure that all materials and trades required are available to finish work in as short a period as possible.
- .2 Perform all work during regular hours of operation of the buildings between 07:30 and 16:30. Prior to completing each shift, restore these areas to a fully operational and safe condition, completely ready for its intended use during regular hours of operation.
- .3 If work is required to be performed outside of regular working hours due to special and compelling circumstances, notice of at least 48 hours must be provided in writing to the Departmental Representative.

#### **1.8 INTERRUPTION OF SERVICES**

- .1 Where Work involves breaking into or connecting to existing services affecting other facilities on site, give Departmental Representative 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions to a minimum. Carry out interruptions at times directed by Departmental Representative.

#### **1.9 FIRE/SMOKE DETECTORS**

- .1 In order to prevent false alarms, notify the Departmental Representative to deactivate applicable fire alarm zones in the affected area when work is underway within the range of smoke detectors, and which work could result in their being set off. Confirm deactivation prior to proceeding with the work. Advise the Departmental Representative to have these zones reconnected on completion of each nights work shift.
- .2 Ensure that appropriate alternative measures are in place during the time any fire alarm devices are deactivated. Alternative measures must be approved by Departmental Representative prior to implementation.

#### **1.10 INSTITUTION OCCUPANCY**

- .1 Cooperate with the Departmental Representative and the Institution to minimize conflict within normal operations of the institution.

- .2 The Institution will be occupied during entire construction period for execution of normal operations.

#### **1.11 SCHEDULES REQUIRED**

- .1 Replacement of the three rooftop units shall be phased so that two units are operational at all times throughout construction unless otherwise approved by the Departmental Representative.
- .2 Submit Construction Progress Schedule in form of a horizontal Gantt bar chart within 5 working days after award of contract.
- .3 After review, revise and resubmit schedule to comply with revised project schedule.
- .4 During progress of work, revise and resubmit as directed by Departmental Representative.
- .5 Submit three opaque reproductions, of which two copies to be retained by Departmental Representative.
- .6 Distribute copies of revised schedule to:
  - .1 Jobsite Office
  - .2 Subcontractors
  - .3 Other concerned parties
- .7 Instruct recipients to report to Contractor within 5 days, any problems anticipated by timetable shown in schedule.

#### **1.12 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING**

- .1 Confirm all dimensions on site.
- .2 Maintain integrity of exits at all times.
- .3 Maintain fire fighting access. Provide and maintain temporary fire protection equipment during performance of the Work. Supply fire extinguishers to protect the work in progress and the Contractor's physical plant on site.
- .4 Move furniture as necessary and approved by the Departmental Representative to perform the work, and upon completion of each day's work return everything back to its original location.
- .5 Execute work with least possible interference or disturbance to occupants and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.
- .6 Provide temporary barriers, warning signs in locations where renovation and alteration work is adjacent to areas used by OCCC and which will be operative during such work.
- .7 Existing operations must remain in service without interruption during construction period.

- .8 Provide tacky mats (soil walk off type) or temporary carpets to prevent traffic from carrying construction debris into other parts of the building.
- .9 Make good any damage to existing finishes or furniture caused by work under the contract. Making good means restoration to at least original condition in terms of strength, workmanship and appearance. Protect all furniture and belongings of tenants.

#### **1.13 SITE MEETINGS**

- .1 Departmental Representative shall arrange project meetings, set the agenda, assume responsibility for setting times, and recording and distributing minutes.
- .2 Notify Subcontractors and other participants as required.

#### **1.14 ON-SITE DOCUMENTS**

- .1 Maintain at job site, one copy each of the following:
  - .1 Contract drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Reviewed shop drawings.
  - .5 Change orders.
  - .6 Other modifications to Contract.
  - .7 Field test reports.
  - .8 Copy of approved Work schedule.
  - .9 Manufacturers' installation and application instructions.
  - .10 Permits.
  - .11 Project Record Documents (for "as-built" purposes).

#### **1.15 SUBMITTALS**

- .1 Submit to Departmental Representative submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 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.
- .3 Work affected by submittal shall not proceed until review is complete.
- .4 Submit shop drawings in Metric units for each requirement requested in specification Sections and as Departmental Representative may reasonably request. All submittals to be provided in PDF format.
  - .1 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 coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

- .2 Manufacturer's "standard ("off-the-shelf) drawings" will only be accepted as shop drawings for review providing that all the additional information specified herein and shown on the drawings is included. Should the shop drawings submitted for review not include all the information asked for, they will be stamped "re-submit" and returned to the Contractor for re-submission. The Departmental Representative will not be responsible for delays due to improperly prepared or submitted shop drawings.
- .5 Submit product data sheets or brochures in Metric units for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product. Submit in quantity Contractor requires for distribution to suppliers and subcontractors plus two (2) copies which will be retained by the Departmental Representative. Include applicable web site addresses for manufacturers for future reference. Delete information not applicable to project. Supplement standard information to provide details applicable to project.
- .6 Submit specified samples in Metric units, and in duplicate, as requested in respective specification sections, including full range of colours, prepaid to Departmental Representative for review and use in preparation of the colour schedule. Label samples with origin and intended use. Where colour, pattern or texture is criterion, submit full range of samples. Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.
- .7 Where items or information is not produced in SI Metric units converted values are acceptable.
- .8 Provide mock-ups as indicated and where directed.
- .9 Submissions shall 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 Fabrication.
    - .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.
- .10 Allow 14 days for Departmental Representative's review of each submission.
- .11 Contractor's responsibilities:
  - .1 Review shop drawings, product data and samples prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated 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 shall be considered rejected.
  - .2 Verify field measurements and affected adjacent Work are coordinated.
  - .3 Contractor's responsibility for errors and omissions in submittals is not relieved by Departmental Representative's review of submittals.
  - .4 Contractor's responsibility for deviations in submittals from requirements of Contract documents is not relieved by Departmental Representative's review of submittals, unless Departmental Representative gives written acceptance of specified deviations.
  - .5 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract documents stating reasons for deviations.
  - .6 Verify field measurements and affected adjacent Work are coordinated.
  - .7 After Departmental Representative's review, make any changes which Departmental Representative may require consistent with contract documents. When resubmitting, notify Departmental Representative in writing of any revisions other than those requested.
- .12 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, transparency of larger drawings, or one print of smaller drawings, 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.
- .13 Departmental Representative's review:
  - .1 Adjustments made on shop drawings, product data or samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
  - .2 The review of shop drawings by the Departmental Representative is for the sole purpose of ascertaining conformance with the general design concept. This

review shall not mean that the Departmental Representative approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Construction and Contract Documents. Without restricting the generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of the work of all sub-trades.

- .14 Distribute at least one copy of shop drawings and product data which carry Departmental Representative's stamp to each of the following:
  - .1 Job site file.
  - .2 Record documents file.
  - .3 Subcontractors.
  - .4 Supplier.
  - .5 Fabricator
- .15 Distribute samples as directed.

#### **1.16 PERMITS AND BY-LAWS**

- .1 Comply with all laws and regulations relating to the work, whether federal, provincial or municipal and pay for all permits and certificates required with respect to the execution of the work.
- .2 Submit applications, documents and obtain and pay for all permits and certificates required in respect to the execution of the work, including building permits from local authority having jurisdiction.

#### **1.17 CONSTRUCTION SAFETY MEASURES**

- .1 Without restricting other provisions or requirements of the Contract, observe construction safety measures of National Building Code 2010, Part 8, National Fire Code Section 5.6, Provincial Government, Workers'/Workmen's Compensation Board and municipal authority provided that in any case of conflict or discrepancy more stringent requirements shall apply.
- .2 Comply with requirements of FCC No. 301.

#### **1.18 REFERENCES AND CODES**

- .1 Perform Work in accordance with National Building Code of Canada (NBC) including all amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
  - .1 Contract documents.
  - .2 Specified standards, codes and referenced documents.

**1.19 HAZARDOUS MATERIAL**

- .1 Asbestos: Asbestos abatement in accordance with Section 02 28 00.02 - Asbestos Abatement – Intermediate Precautions.
- .2 Immediately stop work and notify Departmental Representative if additional material resembling asbestos is encountered in course of demolition work.

**1.20 BUILDING SMOKING ENVIRONMENT**

- .1 Comply with smoking restrictions.

**1.21 CONSTRUCTION FACILITIES**

- .1 Provide construction facilities in order to execute work expeditiously.
- .2 Comply with the document "Institutional Requirements for PWGSC Contractors".
- .3 Remove from site all such work after use or when directed by the Departmental Representative or the OCCC.
- .4 Provide and maintain scaffolding, ladders swing staging, platforms and other elevating devices required.
- .5 Provide, operate and maintain hoists and cranes required for moving of materials and equipment.
- .6 Accept liability for damage, safety of equipment and overloading of existing equipment.
- .7 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .8 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.
- .9 Parking will be permitted in designated areas on site.
- .10 Provide office heated to 20C, well lighted and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table. Location on site to be approved by Departmental Representative.
- .11 Electrical power source and water source, but not connections or extensions, will be made available within the existing building.
- .12 Provide and maintain temporary lighting throughout project as required.
- .13 Provide and maintain sanitary facilities for work force on site.
- .14 Make own arrangements for telephone. Cell phones are not permitted in OCCC.
- .15 Provide temporary heating to work areas as required to maintain space temperatures above 10C at all times.



**1.22 EQUIPMENT, TOOL, AND MATERIALS STORAGE**

- .1 Comply with the document "Institutional Requirements for PWGSC Contractors".
- .2 No space is available for storage of materials within the project building. Materials must be stored in Contractor's off-site facilities.
- .3 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials in accordance with Institution requirements. Locate where directed by the Departmental Representative.
- .4 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities and in compliance with Institution requirements.

**1.23 TEMPORARY CONTROLS**

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.
- .3 Site enclosures:
  - .1 Comply with requirements of local authorities having jurisdiction, with NBCC 2010 Part 8, and with Provincial Government Regulation, the Workers'/Workmen's compensation Board and the Municipal Authority.
- .4 Provide temporary enclosures to secure building from entry of unauthorized personnel during construction period.
- .5 For construction during winter season, provide necessary hoarding and heating to maintain minimum 5C temperature.
- .6 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 as required by governing authorities.
- .7 Weather enclosures:
  - .1 Provide temporary weathertight enclosures and protection for exterior openings until permanently closed. Design enclosures to withstand wind pressure.
  - .2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.
  - .3 Design enclosures to withstand wind pressure and snow loading.
- .8 Dust tight screens:
  - .1 Provide dust tight screens partitions to localize dust generating activities, and for protection of workers and finished areas of Work.

- .2 Maintain and relocate protection until such work is complete or instructed by the Departmental Representative or OCCC to remove it.
- .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 Departmental Representative locations and installation schedule 3 days prior to installation.
  - .4 Be responsible for damage incurred due to lack of or improper protection.

**1.24 FIRES**

- .1 Fires and burning of rubbish on site not permitted.

**1.25 DISPOSAL OF WASTES**

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

**1.26 MATERIALS**

- .1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) 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 responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 For material and equipment specifically indicated or specified to be re-used in the work, use special care in removal, handling, storage and reinstallation, to assure proper function in the completed work. Arrange for transportation, storage and handling of products which require off-site storage, restoration or renovation. Pay all costs for such work. Replace or make good to Departmental Representative's satisfaction and at no additional cost any components, materials damaged during removal and reinstallation.
- .4 Should any dispute arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .5 Use products of one manufacturer for material and equipment of same type or classification unless otherwise specified.
- .6 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.

- .7 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
- .8 Within 7 days of written request by Departmental Representative, submit following information for materials and equipment proposed for supply:
  - .1 Name and address of manufacturer,
  - .2 Trade name, model and catalogue number,
  - .3 Performance, descriptive and test data,
  - .4 Manufacturer's installation or application instructions,
  - .5 Evidence of arrangements to procure.
- .9 In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.
- .10 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .11 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.
- .12 Store products subject to damage from weather in weatherproof enclosures.
- .13 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.
- .14 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .15 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.
- .16 Pay costs of transportation of products required in performance of Work.
- .17 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.
- .18 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative may establish course of action.
- .19 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

- .20 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
- .21 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .22 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.
- .23 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.
- .24 Be responsible for coordination and placement of openings, sleeves and accessories.

**1.27 SETTING OUT OF WORK**

- .1 Assume full responsibility for and execute complete layout of work.

**1.28 CONCEALMENT**

- .1 In finished areas, do not conceal pipes in walls and ceilings, except where indicated otherwise.
- .2 Before installation, inform Departmental Representative if there is interference. Install as directed by Departmental Representative.

**1.29 REMEDIAL WORK**

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate 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.

**1.30 LOCATION OF FIXTURES**

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Departmental Representative of conflicting installation. Install as directed.

**1.31 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 non-corrosive 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 Generally, conceal fasteners. 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.
- .7 Obtain Departmental Representative's approval before using explosive actuated fastening devices.

### **1.32 PROTECTION OF WORK IN PROGRESS**

- .1 Adequately protect Work completed or in progress. Work damaged or defaced due to failure in providing such protection is to be removed and replaced, or repaired, as directed by Departmental Representative, at no increase in Contract Price or Contract Time.
- .2 Prevent overloading of any part of building. Do not cut, drill or sleeve any load bearing structural member, unless specifically indicated, without written approval of Departmental Representative.

### **1.33 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 OCCC.
- .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.

### **1.34 CONTRACTOR'S OPTIONS FOR SELECTION OF MATERIALS**

- .1 The Departmental Representative's decision shall be final and conclusive in respect of the work in accordance with General Condition GC31 Interpretation of Contract by Departmental Representative, including whether or not the quality of any materials supplied or proposed to be supplied meets the requirements of the contract.
- .2 When materials are specified by referenced standard, select any material that meets or exceeds the specified standard.
- .3 The terms "Acceptable Material", "Acceptable Product" and "Standard of Acceptance" are each deemed to be a complete and working commodity as described by a manufacturer's name, catalogue number, trade name or any combination thereof. Any such named materials may be selected by the Contractor.

- .4 Where materials are required to be listed on the "Canadian General Standards Board, Qualified Products List" select any manufacturer so listed.
- .5 Materials specified by "Prescriptive" or "Performance" specification, select any material meeting or exceeding specification.
- .6 When materials are specified by a Standard, Prescriptive or Performance specifications, upon request of the Departmental Representative, obtain from manufacturer an independent testing laboratory reporting, showing that the material or equipment meets or exceeds the specified requirements.

### **1.35 SUBSTITUTION**

- .1 Proposals for use of alternative materials substituted for "Specified Material(s)" or "Specified Product(s)" may only be made in accordance with the Instructions to Tenderers.
- .2 No substitutions will be permitted without prior written approval of Departmental Representative.
- .3 Proposals for substitution, submitted after award of contract, must include statements of respective costs of items originally specified and the proposed substitution. Proposals will only be considered by Departmental Representative if:
  - .1 Materials selected by tenderer from those specified, are not available,
  - .2 Delivery date of materials selected from those materials specified would unduly delay completion of contract, or
  - .3 Alternative material to those specified, which are brought to the attention of and considered by Departmental Representative as equivalent to the material specified and will result in a credit to the Contract amount.
- .4 Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on project. Pay for design or drawing changes required as result of substitution.
- .5 Amounts of all credits arising from approval of substitutions will be determined by Departmental Representative and Contract Price will be reduced accordingly.

### **1.36 CLEANING**

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
- .2 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide on-site dump containers for collection of waste materials and debris.
- .5 Remove waste material and debris from site and deposit in waste container at end of each working day.

- .6 Dispose of waste materials and debris off site.
- .7 Provide written proof, either by copy of the landfill waybill, or other provincially approved certificate, that disposal of waste materials meets any/all Provincial or Municipal regulations.
- .8 Clean interior areas prior to start of finish work, and maintain areas free of dust and other contaminants during finishing operations.
- .9 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .10 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .11 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .12 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

**1.37 FINAL CLEANING**

- .1 Remove waste products and debris and leave Work clean and suitable for occupancy.
- .2 Remove stains, spots, marks and dirt on all surfaces caused by performance of the Work.
- .3 Clean equipment and fixtures to a sanitary condition; clean or replace filters of mechanical equipment.
- .4 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- .5 Remove debris and surplus materials from crawl and ceiling areas and other accessible concealed spaces.

**1.38 RECORD DOCUMENTS**

- .1 In addition to requirements in General Conditions and the document "Institutional Requirements for PWGSC Contractors" attached following this section, maintain one copy of the following for record drawing purposes:
  - .1 One set of white prints of Contract drawings.
  - .2 One set of sepias of Contract drawings, provided by Departmental Representative.
  - .3 Specifications.
  - .4 Addenda.
  - .5 Change orders and other modifications to the Contract.
  - .6 Reviewed shop drawings.
  - .7 Field test records.

- .8 Inspection certificates.
- .9 Construction progress schedule.
- .2 Store Record Documents in field office apart from documents used for construction. Provide files, racks and secure storage. Do not use Record Documents for construction purposes.
- .3 Keep Record Documents and samples available for inspection by Departmental Representative.
- .4 Record information accurately on the set of white prints of contract drawings and in a copy of the specifications.
- .5 Mark changes with red fine tip felt marking pens.
- .6 Contract drawings and shop drawings - legibly mark each item to record actual construction, including:
  - .1 Depths of various elements of foundation in relation to datum established on contract drawings.
  - .2 Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvement.
  - .3 Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.
  - .4 Field changes of dimension and detail.
  - .5 Changes made by change order or field order.
  - .6 Details not on original contract drawings.
  - .7 References to related shop drawings and modifications.
- .7 Specifications - legibly mark each item to record actual construction, including:
  - .1 Manufacturer, trade name and catalogue number of each product actually installed, particularly optional items and substitute items.
  - .2 Changes made by addenda and change orders.
- .8 Record information concurrently with construction progress in detail and format required by Departmental Representative until final completion. Do not conceal work until required information has been recorded.
- .9 Label documents "Record Document", and sign and date documents as certification of accuracy.
- .10 Prior to Final Completion, neatly transfer information to the second set of documents according to the notations on the marked up white prints and submit both sets to the Departmental Representative, in final form 15 days prior to final inspection. Departmental Representative will return with comments after final inspection. Revise content of documents as required. Within 10 days of receiving documents with Departmental Representative's comments, revise and resubmit to Departmental Representative.



**1.39 OPERATION AND MAINTENANCE MANUAL**

- .1 O & M manual: an organized compilation of operating and maintenance data including detailed technical information, documents and records describing operation and maintenance of individual products or systems as specified in individual sections.
- .2 Assemble, coordinate, bind and index required data in Operation and Maintenance Manual.
- .3 Submit complete operation and maintenance manual to Departmental Representative 6 weeks prior to application for Interim Certificate of Completion of project.
- .4 Submit 3 copies in English.
- .5 Organize data into same numerical order as contract specifications.
- .6 Material: label each section with tabs protected with celluloid covers fastened to hard paper dividing sheets.
- .7 Type lists and notes.
- .8 Drawings, diagrams and manufacturers literature must be legible.
- .9 Binders: vinyl, hard covered, 3 "D" ring, (not "O" ring) loose leaf, sized for 215 x 280 mm paper, with spine pocket. Identify contents of each binder on spine.
- .10 Binder 1 contents:
  - .1 Cover sheet containing:
    - .1 Date submitted.
    - .2 Project title, location and project number.
    - .3 Names and addresses of Contractor, all sub-contractors, suppliers, and local service representatives.
  - .2 Table of Contents of all binders.
  - .3 List of maintenance materials in accordance with Section 1.40.
  - .4 List of special tools in accordance with Section 1.40.
  - .5 List of spare parts in accordance with Section 1.40.
  - .6 Warranties, guarantees.
  - .7 Copies of approvals, and certificates.
- .11 Contents of remaining binders:
  - .1 Cover sheet containing:
    - .1 Date submitted.
    - .2 Project title, location and project number.
  - .2 Table of Contents of individual binder.
  - .3 Provide data as specified in individual sections of Divisions 02 to 16.
    - .1 List of equipment including service depot.

- .2 Nameplate information including equipment number, make, size, capacity, model number and serial number.
  - .3 Parts list.
  - .4 Installation details.
  - .5 Operating instructions, calibration sheets, design capacities and other pertinent design data.
  - .6 Maintenance instructions for equipment including lubrication instructions and daily, weekly, monthly and annual checks for equipment.
  - .7 General overall equipment layouts with details of each unit with parts list complete with a list of recommended spare parts.
  - .8 Instructions on the adjustment of wear and replacement of parts.
- .12 Shop drawings: bind separately one complete set of reviewed shop drawings and product data.

**1.40 MAINTENANCE MATERIALS, SPECIAL TOOLS AND SPARE PARTS**

- .1 Specific requirements for maintenance materials, tools and spare parts are specified in individual sections of Division 02 to 26.
- .2 Deliver maintenance materials, special tools and spare parts to Departmental Representative and store in designated room as directed by Departmental Representative.
- .3 Prepare lists of maintenance materials, special tools, and spare parts for inclusion in Manual.
- .4 Maintenance materials:
  - .1 Deliver specified items packaged to prevent damage.
  - .2 Identify, on carton or package, colour, room No., system or area as applicable where item is used.
- .5 Special tools:
  - .1 Assemble special tools as specified.
  - .2 Include following:
    - .1 Identification tag reference.
    - .2 Identification of equipment or system for which tools are applicable.
    - .3 Instruction on intended use of tool.
  - .3 Identify special tools to indicate equipment or systems for which tools are intended.
- .6 Spare parts:
  - .1 Assemble spare parts as specified.
  - .2 Include the following:
    - .1 Part number.
    - .2 Identification of equipment or system for which parts are applicable.

- .3 Installation instructions as applicable.
- .4 Name and address of nearest supplier.
- .3 Identify spare parts to indicate equipment or system for which parts are applicable.

**1.41 INSTRUCTION OF OPERATING STAFF**

- .1 Provide trained personnel to instruct staff on maintenance, adjustment and operation of all systems, on all equipment provided and on maintenance of finishes. Instruct staff on changes or modification in equipment made under terms of guarantee.
- .2 Provide instruction during regular work hours prior to acceptance and turnover.

**Part 2 Products**

**2.1 NOT USED**

**Part 3 Execution**

**3.1 NOT USED**

**END OF SECTION**