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**100-1045 Main Street**

**Moncton**

**New Brunswick**

**E1C 1H1**

**Bid Fax: (506) 851-6759**

**SOLICITATION AMENDMENT  
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

**Vendor/Firm Name and Address**

**Raison sociale et adresse du  
fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**

Acquisitions NB/PEI (Moncton Office) – Bureau

d'acquisitions N.-B./Î.-P.-É. (Moncton)

1045 Main Street / 1045, rue Main

Moncton

New Bruns

E1C 1H1

<b>Title - Sujet</b> Pool Bathhouse Repairs - Fundy NB	
<b>Solicitation No. - N° de l'invitation</b> EC373-202055/A	<b>Amendment No. - N° modif.</b> 003
<b>Client Reference No. - N° de référence du client</b> EC373-202055	<b>Date</b> 2019-12-23
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$PWJ-003-5659	
<b>File No. - N° de dossier</b> PWJ-9-42098 (003)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2020-01-09</b>	<b>Time Zone Fuseau horaire</b> Atlantic Standard Time AST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Young (PWJ), Leesa	<b>Buyer Id - Id de l'acheteur</b> pwj003
<b>Telephone No. - N° de téléphone</b> (506) 871-1716 ( )	<b>FAX No. - N° de FAX</b> (506) 851-6759
<b>Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

N° de l'invitation - Sollicitation No.  
EC373-202055A  
N° de réf. du client - Client Ref. No.  
R.087633.001

N° de la modif - Amd. No.  
003  
File No. - N° du dossier

Id de l'acheteur - Buyer ID  
PWJ003  
N° CCC / CCC No. / N° VME - FMS

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## **Modification No 003 à l'invitation à soumissionner**

Titre : Remise en état du pavillon de bain de la piscine Fundy - Fundy (N.-B.)

Cette modification est émise pour publier les addendum ci-inclus.

- (1) Addendum # 1 – Section 11 01 10, dated December 20<sup>th</sup>, 2019
- (2) Section 07 31 29, Wood Shingle Roofing
- (3) Section 08 71 00, Door Hardware
- (4) Section 22 42 02, Plumbing Fixtures & Trim
- (5) Section 23 34 00, Commercial Fans

Toutes les autres conditions de l'invitation à soumissionner demeurent inchangées.

Toute question relative à cette modification doivent être adressées à :

Nom: Leesa Young

1045, rue Main

Moncton (N.-B.), E1C 1H1

N° de téléphone: (506) 871-1716

N° de télécopieur: (506) 851-6759

Courriel: [leesa.young@pwgsc-tpsgc.gc.ca](mailto:leesa.young@pwgsc-tpsgc.gc.ca)

## 1.1 ADDENDUM

- .1 The following changes and clarifications to the drawings and specifications are to be incorporated in the tender documents:

.1 Specifications:

- .1 Section 22 42 02 – Plumbing Fixtures and Trims  
Add Section as attached.

.2 Section 07 31 29 – Wood Shingle Roofing

- .1 3.1.5 Revise to read – "Replace cut out portions of sheathing boards with boards of equal sectional dimensions, and specified grade. Seat each end of board on rafter, with 25 mm bearing, and secure to rafter with nails. Assume 10% deck replacement. Provide unit price prior to beginning work for amounts over or under 10%."

.3 Section 08 71 00 – Door Hardware

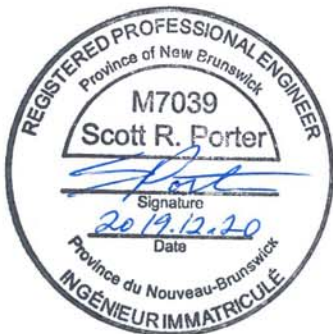
- .1 2.3.4 Add section to read – "Door Threshold:  
.1 KC Crowder MFG Inc. CT-23, CT-103, CT-100 or approved equivalent.  
.2 To be temporarily installed at Door 001 C/D. Coordinate installation with Departmental Representative."

.2 2.3.5 Add section to read – "Barrier Free Door Operators:

- .1 Power assisted door closer, complete with actuators and control boxes.  
.2 Mount operators on either push or pull sides of doors as required to place them inside the building.  
.3 Actuation of operators by manual push button.  
.6 Actuator: Hardwired low voltage actuator with stainless steel 114 mm round plate, engraved blue filled with handicap symbol.  
.7 Supply switched line voltage to control box. Locate switch adjacent to box.  
.8 Supply low voltage wiring to each actuator.  
.9 Mount control box in location as directed by Departmental Representative.  
.10 Actuators to be flush mounted at interior, surface wall mounted at exterior. Locations to be confirmed by Departmental Representative.  
.11 Doors D001A, D001B, D001C/D, D007A/B AND D0014A/B shall be fitted with door operators.

.4 Section 23 34 00 – Commercial Fans

- .1 2.3.2 Revise to read – "Standard of acceptance Airius D-15-SP OR Greenheck."



.2 Drawings:

- .1 .1 Reference Drawing E-1, E-1, detail 2 "Main Floor – Power and Communications"
- Add keynote to read –  
"8. Supply and install one (1) new 15A-1p breaker in Panel "NP" c/w 2#12 RW90 + BND, 21mm conduit for new door operator and barrier free buttons at main entrance. New door operator and buttons shall be supplied and installed by Division 8, and 120V for door operator and low voltage wiring to barrier free buttons by Division 26. Wiring and conduits to door operator and buttons shall be concealed within walls. Coordinate on site for door operator location prior to installation with Departmental Representative."

.3 Clarifications:

- .1 Window Replacements:
- Window work is limited to restoration and conservation, and three (3) window replacements. Refer to window schedule on A-16 for detailed information on replacements.
- .2 Mechanical Ductwork:
- All new mechanical ducting to be located inside wall cavities.
- .3 Roofing Materials:
- Shingles to be as specified by Section 07 31 29.

**END OF SECTION**

## **Part 1 - General**

### **1.1 RELATED REQUIREMENTS**

- .1 Section 01 33 00 - Submittal Procedures
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 73 00 - Execution
- .4 Section 01 78 00 - Closeout Submittals.
- .5 Section 02 41 19 - Selective Demolition, Cutting and Patching
- .6 Section 06 10 53 - Miscellaneous Rough Carpentry
- .7 Section 07 62 00 - Sheet Metal Flashing and Trim
- .8 Section 07 72 00 - Roof Accessories

### **1.2 REFERENCE STANDARDS**

- .1 Canadian Standards Association (CSA)
  - .1 Canadian Standards Association (CSA International).
  - .2 CSA A123.3-98, Asphalt Saturated Organic Roofing Felt.
  - .3 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
  - .4 CSA 0118.1-97(R2002), Western Cedars Shakes and Shingles.
  - .5 CAN/CSA-G164-M92(R2003), Hot Dip
  - .6 Galvanizing of Irregularly Shaped Articles.
  - .7 CAN/CSA-O141-05, Softwood Lumber.
  - .8 CSA O151-04, Canadian Softwood Lumber.
  - .9 National Lumber Grades Authority (NLGA) Standard Grading Rules for Canadian Lumber. March 1, 2007 issue.
- .2 Cedar Shake and Shingle Bureau (CSSB).
  - .1 CSSB-97, Cedar Shake and Shingle Grading Rules.
  - .2 CSSB New Roof Construction Manual for Roof Application Details 2002.

### **1.3 QUALITY ASSURANCE**

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood in accordance with CSA and ANSI standards.

### **1.4 SUBMITTALS**

- .1 Samples:
  - .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
  - .2 Submit duplicate full-size shingles, of finish and profile specified.
  - .3 Submit samples of all types of underlayment and screens.
  - .4 Submit samples of all coatings (shingle stains and wood paint).

### **1.5 MOCK UPS**

- .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.
- .2 Construct portion of shingling showing underlayment, repetitive pattern, weather exposure, built-in flashings, fitting, dressing and nailing.
- .3 Construct portion of shingling including roof peak, showing shingling and nailing.

- .4 Construct mock-up for each flashing detail for chimney and valley/dormer connections for approval prior to implementing work.
- .5 Advise Departmental Representative minimum three (3) working days prior to constructing mock-ups.
- .6 Allow 48 hours after completing mock-up for inspection of mock-up before proceeding with work.
- .7 When accepted, mock-up will demonstrate minimum standard of quality require for this work. Approved mock-up may remain as part of finished work.

#### **1.6 STORAGE, DELIVERY AND HANDLING**

- .1 Packing, Shipping, Handling and Unloading:
  - .1 Deliver, handle, store and protect materials as to prevent damage.
  - .2 Remove only in quantities required for same day use.
- .2 Storage and Protection:
  - .1 Provide and maintain dry, off-ground weatherproof storage.
  - .2 Cover top of piles to keep out rain and prevent over-drying of bundles or loose shingles in top layer.
- .3 Pre-Installation Preparation:
  - .1 Shingles must reach hygroscopic equilibrium with ambient air prior to installation. Store shingles outside, out of direct sunlight and rain, for a minimum of seven (7) days for hygroscopic equilibrium to occur.

#### **1.7 WASTE MANAGEMENT & DISPOSAL**

- .1 Minimize waste and separate waste materials for reuse and recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

#### **1.8 UN-UNUSED MATERIALS**

- .1 Unused shingles remain property of Owner.
- .2 Return unused shingles to Owner. Retain packaging or rewrap shingles to form complete bundles.
- .3 Label packages to identify product, quantity and manufacturer/supplier.
- .4 Deliver and store in location designated by Departmental Representative.

### **Part 2 - Products**

#### **2.1 MATERIALS**

- .1 Circular Sawn Shingles.
  - .1 Species: Western Red Cedar.
  - .2 Grade: #1 Blue Label.
  - .3 Profiles: 1.6 mm at point, minimum 9.5 mm at butt end.
  - .4 Widths: Random widths, 100 mm minimum, 350 mm maximum,
  - .5 Lengths: 457 mm.
  - .6 Grain: edge grain.
  - .7 Wood: 100% heartwood, clear from bottom 280 mm, free from excessive grain sweeps or cross grain.
- .2 Underlayment:
  - .1 Self-adhesive underlayment: self-adhered composite membrane consisting of a high softening point, SBS rubberized asphalt compound integrally laminated to a

- cross-laminated polyethylene film with Self-adhesive underlayment:(Cont'd) anti-slip coating. Blueskin PE 200 HT by Bakor, or approved equal.
- .2 Primer for metal and masonry surfaces: Aquatic Primer by Bakor or approved equal.
- .3 Sealing Compound, Polybitume 570-05 by Bakor or approved equal.
- .3 Flashing:
  - .1 Chimney: lead sheet, free of inclusions, laminations and other defects; weight: base flashings 19.6 kg/m<sup>2</sup> (4 lbs/ft<sup>2</sup>), cap flashings 24.4 kg/m<sup>2</sup> (5 lbs/ft<sup>2</sup>); maximum length on installation: 1000 mm.
  - .2 Patination Oil: available in 1 and 2.5 litre cans, coverage approximately 60 m<sup>2</sup>/litre.
  - .3 Bituminous Paint: compatible with lead, for coating lead to be in direct contact with mortar.
  - .4 Bond breaker tape: masking tape or approved equal to prevent mortar bond to lead flashing at one side of joint.
  - .5 Fasteners for lead: Clips to be lead coated copper, 24 ounce. Fastening screws for clips to be stainless steel.
  - .6 Valleys and Dormers: center-crimped, painted, galvanized steel or aluminum; weight: flashing to be 0.45 mm (28 gauge), non-staining, non-corrosive metal; maximum length of sections 2440 mm with minimum 152 mm overlap at joints.
- .4 Wire Nails:
  - .1 Shingle and Common, 14 gauge, hot-dipped zinc coated to CSA B111 1974 R2003. Length: sufficient to penetrate 19 mm into roof sheathing, but not penetrate through underside of sheathing. Staples are not acceptable fasteners for this Work.
  - .2 Exposed shingle nails: oval-headed siding nails, hot-dipped galvanized, length as in clause 4.1 above.
- .5 Sheathing Boards:
  - .1 Eastern White Pine, No.1 grade, dressed 4 sides, kiln dried, moisture content 19% or less, thickness to match existing.
- .6 Ventilated Underlayment:
  - .1 Per the requirements of Section 07 72 00 Roof Accessories.
- .7 Eave Fascia and Gable Trim:
  - .1 Dimensions, profile and wood species to match existing removed. Finish with exterior linseed oil paint per the requirements of Section 09 03 61 and Section 09 91 23. Colour to match existing or acceptable equivalent with approval of Departmental Representative.
- .8 Gable Trim:
  - .1 Moulding width to cover gap between top of gable fascia and underside of shingle overhang. Dimensions, profile and wood species to match existing removed. Finish with exterior linseed oil paint per the requirements of Section 09 03 61 and Section 09 91 23. Colour to match existing or acceptable equivalent with approval of Departmental Representative.
- .9 Wood Shingle Finish:
  - .1 undercoat "Sansin SDF" clear base and two-coat wood finish "Sansin ENS", pigmented in exterior saturated colour "Forest Green 68" or acceptable equivalent with approval of Departmental Representative.
- .10 Pressure preservative treatment: to CSA O118.1, Appendix F.
- .11 Insect screen: PVC coated fibreglass yarn, black.

### **Part 3 - Execution**

#### **3.1 REMOVALS**

- .1 Carefully remove existing vent stack collars and save for reinstatement.
- .2 Remove existing roofing, flashings and underlay, and expose sheathing of roof.
- .3 Withdraw existing shingle and flashing nails, set those which break off. Leave surfaces free from dirt and loose material.
- .4 Departmental Representative to inspect roof sheathing. Take up, cut out and remove portions of sheathing boards affected by fungal or insect attack. Remove existing fascia board at eaves.
- .5 Replace cut out portions of sheathing boards with boards of equal sectional dimensions, and specified grade. Seat each end of board on rafter, with 25 mm bearing, and secure to rafter with nails. Assume 10% deck replacement. Provide unit price prior to beginning work for amounts over or under 10%.

#### **3.2 INSTALLATION OF CHIMNEY COLLAR**

- .1 Install galvanized steel collar at chimney to support vertical upturn of self-adhesive underlayment, as shown on Drawings.
- .2 Prime collar as per manufacturer's instructions, prior to installation of self-adhesive underlayment.

#### **3.3 UNDERLAYMENT**

- .1 Install building paper over existing roof deck prior to installing vertical and horizontal battens as detailed in Drawings
- .2 Install insect screening at eave edge of roof prior to attaching vertical battens. Wrap screen over horizontal batten edge and attach to block eave vent openings as shown on Drawings.
- .3 Install self-adhesive underlayment over horizontal battens at eaves, hips, dormer, peak and chimney as shown on Drawings. Install with minimum overlap 150 mm at edges and laps. Prime metal and masonry surfaces prior to installation of self-adhesive underlayment.
  - .1 Install one full roll width (914 mm) of self-adhesive underlayment on top of horizontal strapping at eaves, as eave protection. Keep edge 25 mm back from edge of strapping board at eaves to conceal.
  - .2 Install one full roll width (914 mm) of self-adhesive underlayment at gable edges.
  - .3 Install one full roll width (914 mm) of self-adhesive underlayment in valleys with half of roll width each side of valley.
  - .4 Install one full roll width (914 mm) of self-adhesive underlayment on each side of roof peaks and dormer peak.

#### **3.4 INSTALLATION OF FLASHINGS**

- .1 Valleys
  - .1 Install new valley flashing over self-adhesive underlayment at roof valleys.
    - .1 Flashing sections to be at least 610 mm in width and a maximum of 2440 mm in length and on installation shall overlap a minimum of 152 mm.
    - .2 Flashing shall extend a minimum of 200 mm of under the adjacent shingles with an open valley width of approximately 203 mm.
    - .3 Flashing sections shall be attached using a minimum of fasteners to hold each section in place.



- .2 Chimney
  - .1 Base
    - .1 Flashings shall be at least 100 mm high and shall project at least 100 mm on to roof, or greater where shown on Drawings.
    - .2 On sloped intersections sheets shall be lapped 75 mm minimum.
    - .3 When run horizontally sheets shall be lapped a minimum 100 mm.
  - .2 Cap Flashing or Counter Flashings:
    - .1 Extend flashings 50 mm under top course of shingles at sides of chimney.
    - .2 Apron flashing to extend over one full course of shingles below, and lower edge to be secured with metal clips, as shown on Drawings.
    - .3 Reglet: insert chimney cap flashing not less than 30 mm into existing, reused mortar joints with lead plugs 25 mm wide and maximum 300 mm apart, minimum two plugs per length of flashing.
  - .3 Bituminous Paint, for Lead Flashings:
    - .1 All lead flashings to be in contact with mortar to be coated with thick coat of bituminous paint prior to installation, in areas where required to prevent direct mortar contact.
  - .4 Patination Oil, (for Lead flashings):
    - .1 Shake can vigorously before use.
    - .2 Coat full underside of lead prior to installation.
    - .3 Coat exposed surfaces before turning clips around edges. Coat clips.
    - .4 Coat between laps and adjoining sheets.
    - .5 Rub in well with soft, lint-free cloth.
    - .6 Do not use linseed oil as an alternative to Patination Oil.

### 3.5 APPLICATION

- .1 Do wood shingle work in accordance with National Building Code except where indicated otherwise.
- .2 Install shingles over dry substrate.
- .3 Space shingles approximately 6 mm apart.
- .4 Stagger joints minimum of 40 mm in succeeding courses. Ensure that in any 3 courses no two joints are in alignment.
- .5 Nailing:
  - .1 For concealed nailing, use two nails per shingle. Space nails 20 mm from edge with additional nails 100 mm apart across face of shingle, and 40 mm above butt line of following course.
  - .2 Drive nails flush but do not crush shingles.
  - .3 For exposed nailing, use oval-headed siding nails, galvanized.

### 3.6 SHINGLE ROOFING

- .1 Starter Course:
  - .1 Double shingles at eaves with butts projecting 50 mm beyond first roof sheathing boards and minimum of 19 mm beyond eave moulding trim at gable ends.
- .2 Coursing Pattern:
  - .1 Coursing pattern to have double shingles every third course for all roof areas.
- .3 Typical course:
  - .1 Install shingles with approximately 127 mm weather exposure and having triple thickness of shingle at any given point. Contractor to verify and replicate weather exposure spacing of existing shingles. Adjust course to align with lower edge of chimney.
  - .2 Lay shingles with grain perpendicular to eaves.

- .3 Avoid lining up joints with centre line of hearts and do not break a joint below centre line of hearts.
- .4 Keep shingles 25 mm clear of any vertical flashing.
- .4 Finishing the Roof Peak:
  - .1 Stop building paper, plywood strapping and board strapping short of roof deck peak such that there is a horizontal gap of 50 mm as shown on Drawings, for ventilation.
  - .2 Install prefabricated cedar ridge vent as per manufacturer's instructions.
  - .3 Selection of ridge vent product with approval of Departmental Representative.
  - .4 Install prefabricated taper-sawn ridge cap over ridge vent or fabricate a ridge cap using existing shingle supply to install over ridge vent. See Drawings for installation configuration.
- .5 Finishing the Eaves/Fascia:
  - .1 Attach new fascia to exterior rafter tails and paint to finish. Existing soffit and trims to remain in place.
  - .2 Dimensions and profile of new fascia trims to match existing removed.

### **3.7 CLEANING**

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.
- .2 Remove roofing nails that have fallen on ground using high powered, earth magnets or other collection devices. Nail pickup to Departmental Representative's approval.

**END OF SECTION**

## **Part 1 - General**

### **1.1 RELATED REQUIREMENTS**

- .1 Section 08 11 00 - Metal Doors and Frames.
- .2 Section 08 14 16 - Flush Wood Doors.
- .3 Section 02 41 19 - Selective Demolition, Cutting and Patching

### **1.2 REFERENCE STANDARDS**

- .1 American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA).
  - .1 ANSI/BHMA A156.1-2016, Butts & Hinges.
  - .2 ANSI/BHMA A156.2-2011, Bored and Preamsembled Locks and Latches.
  - .3 ANSI/BHMA A156.4-2013, Door Controls - Closers.
  - .4 ANSI/BHMA A156.5-2014, Cylinder and Input Devices for Locks.
  - .5 ANSI/BHMA A156.16-2013, Auxiliary Hardware.
  - .6 ANSI/BHMA A156.16-2002, Auxiliary Hardware.
- .2 Canadian Steel Door and Frame Manufacturers' Association (CSDMA).
  - .1 Recommended Dimensional Standards for Commercial Steel Doors and Frames, 2000.

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for door hardware and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Samples:
  - .1 Submit for review and acceptance of each unit.
  - .2 Samples will be returned for inclusion into work.
  - .3 Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.
  - .4 After approval samples will be returned for incorporation in Work.
- .4 Hardware List:
  - .1 Submit contract hardware list.
  - .2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.
- .5 Manufacturer's Instructions: submit manufacturer's installation instructions.

### **1.4 CLOSEOUT SUBMITTALS**

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual.

### **1.5 MAINTENANCE MATERIALS SUBMITTALS**

- .1 Extra Stock Materials:
  - .1 Supply maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
  - .2 Tools:
    - .1 Supply 2 sets of wrenches for locksets, fire exit hardware and door closers.

## **1.6 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.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

## **1.7 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Package items of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.
- .4 Storage and Handling Requirements:
  - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect door hardware from nicks, scratches, and blemishes.
  - .3 Protect prefinished surfaces with wrapping.
  - .4 Replace defective or damaged materials with new.

## **Part 2 - Products**

### **2.1 HARDWARE ITEMS**

- .1 Use one (1) manufacturer's products only for similar items.

### **2.2 DOOR HARDWARE**

- .1 Levers, Pull and Locks:
  - .1 Lever sets: brass construction, full lip strike plate to suit; privacy and passage function as scheduled.
    - .1 Lever: modern design, 117 mm long x 54 mm projection, 41 mm clearance.
    - .2 Rosette: 63 mm diameter x 9.5 mm thick.
    - .3 Acceptable Materials: Emtek Aston Lever with disk rosette.
    - .4 Finish: as selected by Departmental Representative from manufacturer's complete finish range.
  - .2 Door Pulls:
    - .1 Interior Partition Doors: brass construction; thru-bolted with decorative washer and caps.
      - .1 Size: 27 mm wide x 219 mm long, 54 mm projection. 25 mm x 1.5 mm base.
      - .2 Acceptable Materials: Emtek Baden Pull.
      - .3 Finish: as selected by Departmental Representative from manufacturer's complete finish range.
    - .2 Exterior Double Doors: brass/ bronze construction, concealed surface mount installation. General size and appearance to match existing brass/ bronze door pull.
- .3 Pocket Door Lock:
  - .1 Lock: mortise lock body, keyed cylinder on exterior side; spring mounted recessed edge pull.
  - .2 Size:
    - .1 Lock body: 158 mm high x 88 mm deep.
    - .2 Overall face dimensions: 73 mm wide x 185 mm high.
  - .3 Acceptable Materials: Emtek Modern Rectangular Pocket Door Mortise.

- .4 Finish: as selected by Departmental Representative from manufacturer's complete finish range.
- .4 Deadbolt: to ANSI/BHMA A156.5, mortise type, Grade 1, stainless steel bolt with 25 mm throw.
  - .1 Function:
    - .1 Privacy: Cylinder outside, lock/unlock thumb turn inside, complete with occupancy indicator when locked.
    - .2 Classroom: cylinder outside, unlock only thumbturn inside.
  - .2 Finish: to match lever set.
- .5 Privacy Latch: Finish to be selected by Departmental Representative from manufacturer's complete finish range. Finish to coordinate with other door hardware components.
- .2 Hinges:
  - .1 Butt hinges: to ANSI/BHMA A156.1, quantity and size to suit door size and weight. Finish to be selected by Departmental Representative to match door locks, latches, pulls and levers.
- .3 Door Closers:
  - .1 Door closers: to ANSI/BHMA A156.4, parallel arm mounting; size to suit door size and weight; full plastic cover, painted finish. Provide colour matched rust inhibitive finish on arm.
    - .1 Finish colour to be selected by Departmental Representative from manufacturer's complete colour range.
- .4 Smoke seals: Silicone bulb with self-adhesive backing; length equal to jambs and head. Colour as selected by Departmental Representative.

### 2.3 MISCELLANEOUS HARDWARE

- .1 Sliding Barn Door Hardware:
  - .1 Flat bar track, 50 mm high x 6 mm thick x length to suit.
  - .2 Carrier: face mounted, to suit door size and weight.
  - .3 Accessories: provide track mounted stops, mounting bracket, guide roller and channel, anti-lift pin, and other accessories for complete installation.
  - .4 Finish to be selected from manufacturer's complete colour range.
- .2 Door stops: to ANSI/BHMA A156.16, Classification L02101, wall mounted, cast construction; convex face.
  - .1 Colour/ finish to be selected by Departmental Representative from Manufacturers complete colour range.
- .3 Coat Hooks:
  - .1 Flat bar, 128 mm long x 25 mm wide x 3 mm thick, bent to provide 47 mm overall projection, 10 kg. load capacity.
  - .2 Acceptable Materials: Richelieu Contemporary Metal Hook - 1223.
  - .3 Finish: as selected by Departmental Representative from manufacturer's complete finish range.
- .4 Door Threshold:
  - .1 KC Crowder MFG Inc. CT-23, CT-103, CT-100 or approved equivalent.
  - .2 To be temporarily installed at Door 001 C/D. Coordinate installation with Departmental Representative.
- .5 Barrier Free Door Operators:
  - .1 Power assisted door closer, complete with actuators and control boxes.
  - .2 Mount operators on either push or pull sides of doors as required to place them inside the building.
  - .3 Actuation of operators by manual push button.
  - .6 Actuator: Hardwired low voltage actuator with stainless steel

- 114 mm round plate, engraved blue filled with handicap symbol.
- .7 Supply switched line voltage to control box. Locate switch adjacent to box.
- .8 Supply low voltage wiring to each actuator.
- .9 Mount control box in location as directed by Departmental Representative.
- .10 Actuators to be flush mounted at interior, surface wall mounted at exterior.  
Locations to be confirmed by Departmental Representative.
- .11 Doors D001A, D001B, D001C/D, D007A/B AND D0014A/B shall be fitted with door operators.

## **2.4 FASTENINGS**

- .1 Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.
- .2 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.
- .3 Exposed fastening devices to match finish of hardware.
- .4 Where pull is scheduled on one side of door supply fastening devices, and install so pull can be secured through door from reverse side.
- .5 Use fasteners compatible with material through which they pass.

## **2.5 KEYING**

- .1 Doors to be keyed in coordination with Departmental Representative.
- .2 Supply keys in duplicate for every lock in this Contract.
- .3 Supply three (3) master keys for each master key or grand master key group.
- .4 Hand over permanent cores and keys to Departmental Representative.

## **Part 3 - Execution**

### **3.1 INSTALLATION**

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.
- .2 Supply metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.
- .3 Supply manufacturers' instructions for proper installation of each hardware component.
- .4 Install hardware to standard hardware location dimensions in accordance with CSDFMA Canadian Metric Guide for Steel Doors and Frames (Modular Construction).
- .5 Where door stop contacts door pulls, mount stop to strike bottom of pull.
- .6 Install key control cabinet.
- .7 Use only manufacturer's supplied fasteners.
  - .1 Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.
- .8 Remove construction locks when instructed by Departmental Representative.
  - .1 Install permanent cores and ensure locks operate correctly.

### **3.2 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 ensure tight fit at contact points with frames.

### **3.3 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.
  - .1 Leave Work area clean at end of each day.
  - .2 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacturer's instructions.
  - .3 Remove protective material from hardware items where present.
  - .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00 - Cleaning.
- .2 Waste Management: separate waste materials in accordance with Section 01 74 19 - Waste Management and Disposal.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

### **3.4 DEMONSTRATION**

- .1 Maintenance Staff Briefing:
  - .1 Brief maintenance staff regarding:
    - .1 Proper care, cleaning, and general maintenance of projects complete hardware.
    - .2 Description, use, handling, and storage of keys.
    - .3 Use, application and storage of wrenches for door closers, locksets, hardware, etc.
- .2 Demonstrate operation, operating components, adjustment features, and lubrication requirements.

### **3.5 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by door hardware installation.

### **3.6 SCHEDULE**

- .1 Per Architectural Drawings.

### **3.7 HARDWARE GROUPS**

- .1 Group 01 (Family Washrooms)
  - .1 Door Lever (Passage)
  - .2 Deadbolt (Privacy, with Occupancy Indicator)
  - .3 Coat Hook
  - .4 Door Stop
  - .5 Hinges to suit
  - .6 Door Closer
- .2 Group 02 (Changing Rooms and WC's)
  - .1 Door Pull
  - .2 Privacy Latch
  - .3 Coat Hook
  - .4 Door Stop
  - .5 Hinges to suit
- .3 Group 03 (Janitor)
  - .1 Door Lever (Passage)
  - .2 Deadbolt (Classroom)
  - .3 Door Closer
  - .4 Smoke seals
  - .5 Door Stop
  - .6 Hinges to suit
- .4 Group 04 (Staff Washroom)
  - .1 Door Lever (Privacy)
  - .2 Coat Hook
  - .3 Door Stop
  - .4 Hinges to suit
- .5 Group 06 (Sliding Pocket Door)
  - .1 Pocket Door Lock
  - .2 Pocket Sliding Door Track to suit
- .6 Group 07 (Sliding Barn Door)
  - .1 Sliding Barn Door Track



- .7 Group 08 (Double Exterior Doors)
  - .1 Bronze door pull to match general appearance of existing to be replaced
  - .2 Door sweep

**END OF SECTION**

## **Part 1 - General**

### **1.1 REFERENCES**

- .1 Canadian Standards Association (CSA).
  - .1 CAN/CSA-B45 Series-02, CSA Standards on Plumbing Fixtures.
  - .2 CAN/CSA-B125.2-05, Plumbing Fittings.

### **1.2 PRODUCT DATA**

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Indicate: dimensions, construction details and roughing-in dimensions for all fixtures and trim.

### **1.3 MAINTENANCE DATA**

- .1 Provide maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.
- .2 Data to include:
  - .1 Description of plumbing fixtures and trim giving manufacturer's name, type, model, year and capacity
  - .2 Details of operation, servicing and maintenance.
  - .3 Recommended spare parts list.

### **1.4 FIXTURES AND TRIM**

- .1 Architectural drawings to govern in determination of number and location of fixtures.
- .2 Exposed plumbing brass to be chrome plated.
- .3 Caulk around bases of water closets to floors and wall hung lavatories to walls with mildew resistant silicone sealant, white in color, and tooled to smooth bead.
- .4 Product description takes precedence over model numbers.
- .5 Fixtures: Manufactured in accordance with CAN/CSA-B45.
- .6 Trim and Fittings: Manufactured in accordance with CAN/CSA-B125.
- .7 All fixtures used shall be CSA approved.

## **Part 2 - Products**

### **2.1 WATER CLOSETS**

- .1 WC-1: Barrier Free Water closet, 4.8 Lpf .
  - .1 Bowl: White vitreous china with anti-microbial ceramic glaze, 54mm (2 1/8") fully glazed trapway, high efficiency syphon jet, wall-mounted, elongated, 381 mm floor to top of bowl, 38 mm top spud, MaP score of 1000 Grams @ 4.8 Lpf.

- .1 Standard of Acceptance: Zurn Z5615-BWL, American Standard, Kohler.
- .2 Flush valve: Manually operated top spud.
  - .1 Chrome plated, polished exterior.
  - .2 Chloramine resistant dual seal diaphragm with clog resistant triple filtered bypass.
  - .3 Manually operated flush handle, with non-hold open and no leak feature, vacuum breaker.
  - .4 Standard of Acceptance: Zurn Z6000AV, Sloan, American Standard.
- .3 Seat: Elongated, open front moulded solid plastic, less cover, SS check hinge, posts, washers and nuts.
  - .1 Standard of Acceptance: Bemis C1955SS, Olsonite, Centoco.
- .4 Fixture carrier: Narrow wall, adjustable, vertical siphon jet water closet support system, Dura-coated cast iron carrier, with hydro-mechanically optimized sweep, 9" maximum wall cavity requirement, 50mm vent, faceplate, gasket, etc.
  - .1 Standard of Acceptance: Zurn Z-1202-N4, Mifab, Jay R. Smith.

## 2.2 LAVATORIES

- .1 L-1: Barrier free, White vitreous china, wall hung half pedestal, three holes, 100 mm centers, front overflow and bottom outlet, concealed arm carrier ready.
  - .1 Standard of Acceptance: Zurn Z5340-PED, American Standard, Crane.
  - .2 Trim: Supply fitting to be manually operated, single lever, chrome, ceramic disc cartridge, vandal resistant 1.9 L outlet. Waste to be offset cast plug with open grid strainer. Trap to be cast brass adjustable P-trap with cleanout, covering system conforming to Barrier-Free requirements.
    - .1 Standard of Acceptance:
      - Faucet: Zurn AquaSense Z7440-XL.
      - Supply fitting: Teck, Powers, Crane, Sloan.
      - Waste fittings: Teck 33T290, Powers, Zurn.
      - Trap: Teck 33T311, Powers, Zurn.
  - .3 Pipe Covers: Truebro Lav Shield
- .2 L-2: Hand wash, White vitreous china, 500mm wide x 260mm deep, left side faucet hole, wall hung, rear overflow and bottom outlet, trap cover ready.
  - .1 Standard of Acceptance: Duravit Starck 3, American Standard, Crane.
  - .2 Trim: Supply fitting to be solid brass, single handle operated, brushed nickel, single sink opening, 0.14 L/S outlet. Waste to be offset cast plug with open grid strainer. Trap to be cast brass adjustable P-trap with cleanout.
    - .1 Standard of Acceptance:
      - Faucet: Aquabraxs 61044.
      - Supply fitting: Teck, Powers, Crane, Sloan.

Waste fittings:	Teck 33T290, Powers, Zurn.
Trap:	Teck 33T311, Powers, Zurn.
Pipe Cover:	Duravit 086518.

## 2.3 URINALS

- .1 U-1 & U-2: Wall mounted low flow urinal, 1.9 Lpf.
  - .1 Urinal: Low consumption vitreous china c/w 19 mm top spud, outlet flange and rubber gasket with integral trap, high efficiency washdown, 350mm extended rim, vandal resistant outlet strainer. Colour: white.
    - .1 Acceptable products: Zurn Z5755-U, American Standard, Crane.
- .2 Flush Valve: Manually operated, quiet diaphragm, chrome plated flushometer, clog resistant, triple filtered by-pass, non-hold open, no leak handle, vacuum breaker.
  - .1 Acceptable Products: Zurn Z6003AV, American Standard, Sloan.
- .3 Urinal Carrier with welded steel integral foot support, Dura-coated heavy tubular uprights and heavy gauge supporting plates.
  - .1 Acceptable Products: Zurn Z-1221, J.R. Smith, Ancon.
- .4 Wall access element with round stainless steel cover.
  - .1 Acceptable Products: Zurn, J.R. Smith.
- .5 Plastic drainage piping required at drains per National Building Code.
- .6 Mounting Heights:
  - .1 U-1: Height to be 610 mm.
  - .2 U-2: Height to be 432 mm.

## 2.4 JANITORS SINKS

- .1 JS-1: Precast 610 mm x 610 mm x 254 mm high composite base, integral 1,200 mm high stainless steel wall guards, chrome plated brass drain body and stainless steel caps on all sides.
  - .1 Standard of Acceptance: Zurn Z1996-24, Williams, Fiat.
- .2 Trim: Faucet with wall brace, cross indexed handles, pail hook, hose outlet, integral stops, vacuum breaker and escutcheons, polished chrome plated finish.
  - .1 Standard of Acceptance: Zurn Z843M1, Teck, Chicago.
- .3 Accessories: Minimum 760 mm long rubber hose with brass coupling and stainless steel hose bracket. Stainless steel mop hanger with 3 rubber spring loaded grips.
- .4 Standard of Acceptance:
  - .1 Hose and bracket: Fiat #832-AA, Williams T-35, Teck 28T911, Zurn.
  - .2 Mop hanger: Zurn JP1996-MH, Fiat #889-CC, Williams T-40, Teck 28T910.

## **2.5 SHOWER HEADS AND VALVES**

- .1 SH-1 & SH-2:
  - .1 SH-1 Shower head: Vandal resistant, solid brass, chrome plated finish. Head to have 8.3 L/min maximum flow with brass ball,
  - .2 SH-2 Shower head: Removable wand with 1500mm flexible metal hose, 600mm wall mounted slide bar for shower head
  - .3 Shower valve to have ceramic pressure balancing cartridge, adjustable hot water limit stop, metal exposed trim and lever blade handle, and adjustable stop screw. Set limit to 40°C maximum water temperature. Integral service stops required. Diverter valve and tub spout not required.
    - .1 Standard of Acceptance: Zurn Temp-Gard III – Z7302 (SH-2) & Z7000i7 (SH-1).

## **2.6 KITCHEN SINKS**

- .1 KS-1: 18-gauge stainless steel single bowl drop-in sink, single hole, 520mm x 530mm x 210mm deep.
  - .1 Standard of Acceptance: Novanni JE2020, Kindred.
  - .2 Trim: single control kitchen faucet, retractable dual function pull down spray, polished chrome, 430mm high, 250 mm total spout projection, 1.75 gpm, ceramic cartridge.
    - .1 Standard of Acceptance: ALT Bettola #40875.

## **2.7 FIXTURE TRAPS**

- .1 PVC or Brass P traps complete with cleanouts on all fixtures which do not have built-in traps. Chrome plated brass in all exposed places.

## **2.8 ROUGHING-IN OF FIXTURES**

- .1 Rough in for equipment by others complete with valved supplies, wastes and vents, capped.

## **Part 3 - Execution**

### **3.1 FIXTURE INSTALLATION**

- .1 Connect fixtures complete with supplies and drains, trapped, supported level and square. Hot water faucet connections shall be on left. Wall hung fixtures to be securely and firmly mounted.
- .2 Mounting heights for wall hung fixtures and showers measured from finished floor:
  - .1 Standard: to comply with manufacturers roughing-in details unless otherwise indicated or specified.

### **3.2 COMMISSIONING**

- .1 Flush valves: Adjust settings to suit site conditions.
- .2 Aerator screens and strainers: Remove, clean out and reinstall.
- .3 Maximum temperature settings to be verified using a digital thermometer.

**END OF SECTION**

## **Part 1 - General**

### **1.1 REFERENCES**

- .1 Air Movement and Control Association International, Inc. (AMCA).
  - .1 AMCA 99-1986, Standards Handbook.
  - .2 ANSI/AMCA 210-1985, Laboratory Methods of Testing Fans for Rating.
  - .3 AMCA 300-1985 Revised 1987, Reverberant Room Method for Sound Testing of Fans.
  - .4 AMCA 301-1990, Methods for Calculating Fan Sound Ratings from Laboratory Test Data.
- .2 American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE).
  - .1 ANSI/ASHRAE 51-1985, Laboratory Methods of Testing Fans for Rating.
- .3 Canadian General Standards Board (CGSB).
  - .1 CGSB 1-GP-181M-77, Coating, Zinc Rich, Organic, Ready Mixed.

### **1.2 SHOP DRAWINGS AND PRODUCT DATA**

- .1 Submit shop drawings and product data in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Provide fan curves and sound rating data, showing point of operation, electrical data, dimensions, construction and accessories.

### **1.3 OPERATION AND MAINTENANCE DATA**

- .1 Provide operation and maintenance data for incorporation into manual specified in Section 01 78 00 – Closeout Submittals.

### **1.4 MANUFACTURED ITEMS**

- .1 Catalogued or published ratings shall be those obtained from tests carried out by manufacturer or those ordered by him from independent testing agency signifying adherence to codes and standards in force.
- .2 Provide confirmation of testing.

## **Part 2 - Products**

### **2.1 FANS GENERAL**

- .1 Fans: statically and dynamically balanced, constructed in conformity with AMCA 99.
- .2 Sound ratings: comply with AMCA (Air Moving and Conditioning Association) 301, tested to AMCA 300. Unit shall bear AMCA certified sound rating seal.
- .3 Performance ratings: based on tests performed in accordance with ANSI/AMCA 210, and ANSI/ASHRAE 51. Unit shall bear AMCA certified rating seal.
- .4 Factory primed before assembly in colour standard to manufacturer.
- .5 Vibration isolation: spring-type base and hanging isolators c/w mounting brackets.

- .6 Flexible connections: to Section 23 33 00 - Duct Accessories.

## **2.2 IN-LINE CENTRIFUGAL FANS (EF-1)**

- .1 Fan:
  - .1 Welded aluminum construction
  - .2 Backward incline blade, non-overloading, statically and dynamically balanced.
  - .3 Stainless steel shaft.
  - .4 Stainless steel nameplate.
  - .5 Stainless steel hardware.
  - .6 Polyethylene extended lube lines.
  - .7 Variable speed V-Belt drive, 1.5 SF.
- .2 Bearings; heavy duty, split pillow-block pre-lubricated bearing, with dust excluding seals and a certified minimum rated life of 500,000 hours.
- .3 Disconnect switch in NEMA 4 enclosure, wired and mounted to unit.
- .4 Unit to be c/w backdraft damper, on discharge side, full opening size, aluminum blades.
- .5 Housing:
  - .1 Heavy gauge galvanized steel housing, painted (factory default color).
- .6 Motor:
  - .1 208V, 1ph, capable of 387 L/S (820 cfm) of airflow at 187 Pa (0.75" W.C.).
- .7 Acceptable material: Twin City Fan, Model BSI-100A.

## **2.3 DESTRATIFICATION FAN**

- .1 Inline destratification fan, aluminum housing, 333 mm diameter, 406 cfm, 800 sqft coverage area, 29 dB, c/w wall mounted variable speed controller. Electrical requirements: 17 W, 120V, 1-phase, 60 Hz.
- .2 Standard of Acceptance: Airius D-15-SP or Greenheck.

## **EXECUTION**

### **3.1 FAN INSTALLATION**

- .1 Install fans as indicated, complete with vibration isolators, flexible electrical leads and flexible connections.
- .2 Provide sheaves and belts required for final air balancing.
- .3 Bearings and extension tubes to be easily accessible.
- .4 Access doors and access panels to be easily accessible.

**END OF SECTION**