# COV ENGAGEMENT VENUE 511 WEST BROADWAY

FOR

THE CITY OF VANCOUVER, VANCOUVER BC

**PROJECT MANUAL**
Issued for Tender: September 21, 2018
CAR Project: 1713

CONTENTS




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**ISSUED FOR TENDER SPECIFICATIONS**

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January 2018

## TRIOVEST CONTRACTOR'S PROCEDURES AND GUIDELINES, PROVIDED BY THE CITY OF VANCOUVER

### 1.0 GENERAL

.1 This is an outline for contractors and suppliers of Triovest Realty Advisors Ltd. These requirements are not limited to those items listed, nor does this guideline preclude any obligations as set out in tender documents or general instructions to Contractors.

### 1.1 PRIOR TO COMMENCEMENT

.1 A copy of the building permit for work must be posted clearly at the construction site and a photocopy provided to Building Management.

.2 The Contractor must advise Building Management of commencement date.

.3 The Contractor should arrange to meet Building Management prior to commencing work to become familiar with the site, review parking, loading zones, waste disposal and other requirements and responsibilities.

.4 Proof of Insurance and WCB from all Contractors or subtrades working on the project must be provided to Building Management.

### 1.2 EMERGENCY CONTACT

.1 Contractors are required to post on the Premises a name and telephone number for emergency contact. A list of Contractors, complete with contact names and emergency telephone numbers must be provided to Building Management.

### 1.3 FIRE EVACUATION

.1 Contractors are subject to Fire Warden's instruction on occupied floors. If the floor is vacant, Contractors are to vacate the floor using the stairs in the event of a fire alarm.

### 1.4 SAFETY

.1 Contractors must observe and comply with all applicable construction safety regulations. Any additional safety regulations, which may be imposed by Building Management, must also be complied with immediately and fully. Contractors shall provide and maintain adequate First Aid facilities during the construction period. Contractors must be aware of proper handling procedures and conduct themselves in accordance with current W.H.M.I.S. legislation and OH & S standards. Contractors/Suppliers must ensure that all hazardous materials have W.H.M.I.S. Labels clearly displayed on the product container or packaging and must provide M.S.D.S. sheets to the Senior Building Engineer or Building Management prior to commencing work in the building. The Chief Engineer must approve storage of materials in the building. All materials will be stored in a neat and orderly fashion and only stored in designated areas.

.2 Existing linoleum, VA tile, pipe insulation or blown wool insulation must not be removed without specific prior approval and direction of the Building Manager. When working with any hazardous or odorous materials, the construction area should remain isolated from the general building. This may require specific protection or air handling shutdown, again on the required approval and direction of the Building Manager. The Contractor must take all necessary precautions to ensure the safety of Tenants. When working in public or traffic areas, warning signs must be clearly displayed. All tools, cords, etc. should be well maintained to ensure they do not create a hazard to tenants or other people in the work area. All common areas and fire exits are to be kept clear of equipment, debris and construction materials. When erecting temporary demising walls, consideration must be given as to whether construction doors or passageways are necessary to provide egress from occupied areas for purposes of fire escape. Use of flame or smoke producing equipment, to do soldiering, welding, or cutting will be brought to Building Management's attention and appropriate fire fighting equipment will be kept on site. Work on fire safety equipment and systems will be brought to the Building Manager's attention.

.3 No smoking is permitted on site.

.4 Fire Alarm Panels may not be temporarily disconnected at anytime without the approval of Building Management. At least 48 hours advance notice will be required if arrangements to disconnect the fire alarms or panel are required.

## 1.5 REMOVAL OF BASE BUILDING MATERIAL

.1 Any elements of the Base Building such as, but not limited to, ceiling components, doors, doorframes, hardware, light fixtures, speakers, etc. shall only be removed with the approval of the Building Manager. Unless otherwise directed in writing by the Building Manager, such elements shall remain the property of, and must be turned over to the Building Manager. Salvage materials (intact and of value) may be deemed the property of the owner and should be made available for storage on the Building Manager's direction. Remnants of new floor and wall covering materials should also be retained for storage and repair stock.

## 1.6 PROTECTION AND DAMAGES

.1 When making deliveries to the building, the Contractor/Supplier must take all necessary precautions to ensure that no damage occurs to the building or the property. Damages and any incidents relating to the property must be reported to the Building Manager immediately.

.2 The Contractor will be held responsible for any damage to the property caused as a result of the negligence of personnel under his/her direction or supervision including suppliers and delivery people. Where protection is not already in place, the Contractor is to ensure that loading areas, entries, walkways, walls, doors and casings, elevator openings, floors and finishes are all adequately protected, covered or shielded to prevent damage and extraordinary wear.

## 1.7 WORK AREAS

.1 All construction materials, tools, equipment and workbenches must be kept within the Premises throughout construction. All public walkways, malls, lobbies, washrooms and stairs shall be kept clean of construction materials. Common areas and washrooms affected are to be kept free of debris at all times and should be cleaned at day's end. Work areas should also be cleared and cleaned as required to avoid accumulations of trash and dirt. Overhead work areas should be guarded by cautionary signage and exits must not be obstructed at any time. The Contractor must ensure that the job site is left in a clean and orderly fashion at all times. No materials or tools shall be stored in Base Building Mechanical, Electrical or Telephone Rooms or in the freight elevator or in any of the Foreman's access routes. The Building Management will without notice remove such materials and back-charge the Contractor for the cost of this service

## 1.8 FLOOR LOADING

.1 Drywall may not be stacked higher than 610 mm (24"). No suspended loads will be attached to the underside of the floor or roof except for normal suspended ceiling and lighting systems. No load greater than the design live load uniformly distributed shall be imposed on any concrete floor. Do not overload the structure. Special high-density items must be subject to floor load capacity approvals by the Landlord's engineer, for example: file banks, libraries, vaults, etc.

## 1.9 GARBAGE REMOVAL

.1 The Contractor is responsible for the daily removal of all garbage and debris from the Premises in containers provided by the Contractor and to be to locate as designated by Building Management. Deliveries and bin placement must be scheduled with the Building Management. Should it become necessary, due to inaction by the Contractor, for the Building Management to remove Contractor garbage or construction debris, the Contractor will be charged for the cost of such service. Temporary storage of garbage or debris outside the Premises will not be permitted.

## 1.10 CONSTRUCTION WASTE

.1 No concrete, metals, steel studs, aluminum, copper, brass, electrical wiring, drywall, wood, carpeting, glass, plastic, or lighting are to be disposed of in building compactors/dumpsters. Contractors are strongly encouraged to recycle these items.

.2 Contractors must arrange for the proper disposal of all construction debris as use of the regular bin for this purpose is strictly prohibited.

## 1.11 DEMOLITION AND CONSTRUCTION DUST CONTROL

.1 The Tenant's contractor must sub-contract the Property Manager's approved HVAC Contractor to change filters on air-handling equipment at the commencement of construction, and again, upon completion (where applicable). HVAC must also be turned off during demolition and construction to prevent air intake of excessive dust. When construction or demolition occurs on occupied multitenant floors, temporary hoarding or plastic sheeting must be installed to protect common areas and other tenants from exposure to dust.

### 1.12 ODOUR CONTROL

.1 No lead based paint is allowed. Only latex paint may be applied during normal business hours. All other products, such as stain, oil-based paint, lacquer, etc., or any odour-producing building materials such as carpet glues, sealants, welding equipment must be utilized or applied after normal business hours or after such time as it won't compromise tenant working conditions.

### 1.13 SECURITY

.1 The Contractor is fully responsible for the physical security of the Premises and the contents there throughout the Fixturing Period. Security access letters are required for a specific evening or as a standing post order to security services advising them of contractors expected to be on site during non-operational hours. These can be acquired through the Building Management. Contractors or Tenants requiring the use of the elevators after hours or weekends will be responsible for hiring security. (After Hours: 5:00 p.m. to 8:30 a.m. Weekdays and 24 hours Weekends and Holidays). Access to the building is Weekdays 7:00 a.m. to 6:00 p.m. unless there is security in place.

### 1.14 LANDLORD'S ACCESS TO PREMISES

.1 The Landlord shall have free access to the Premises at all times for the purposes of completing, correcting or inspecting any work.

### 1.15 WORK CONFLICT

.1 Contractors' work shall be performed in a manner that will not interfere or conflict with any activities of the Building Management, other Contractors, Tenants or the operations of the Building.

### 1.16 TEMPORARY FIRE PROTECTION

.1 The Contractor is responsible for maintaining operable fire extinguishers in the Premises throughout the construction period and any other additional fire safety devices required beyond those provided as part of the B ase Building construction.

### 1.17 NOISE

.1 Any work that disturbs the "quiet enjoyment" of the tenants will not be permitted during the hours of 7:00 a.m. to 6:00 p.m. If work disturbs the Building tenants then it will be necessary for the Contractor(s) to perform all work after 6:00 p.m. and before 7:00 a.m. When working in vacant or common areas adjoining existing tenants, the Contractor shall erect temporary demising walls to reduce the effects of noise and dust, prior to commencement of construction.

.2 Triovest office is to be advised minimum 3 business days in advance of any work that will affect other tenants in the building.

.3 All suite improvement work must be carried out in full accordance with the applicable municipal bylaws and building rules/regulations are followed as outlined. Any disruptive and/or noisy work is to be done after hours to avoid disturbance to neighboring tenants.

## 1.18 ACCESS AND DELIVERIES

.1 Personnel access and material deliveries are to be made only by routes designated by Building Management. The handling of items, which, due to weight or dimension, require special treatment, must be reviewed and arranged with Building Management. No access shall be permitted on any part of the roof of the Building without prior consent. All prolonged use (longer than 15 minutes) of the service elevator and the loading docks shall be coordinated through the Building Management. All materials shall be delivered through the loading dock facilities. Deliveries within the Building shall utilize appropriate rubber tired containers only. Any contractor found moving materials into the building in an unauthorized manner will be removed from the building. Personnel are required to use the designated freight or service elevators, which will be made available during regular business hours and after hours as arranged through Building Management. Freight elevator, floors, walls and ceilings must be protected from damage during transportation of materials. The Building Management will supply elevator pads if required. Any additional protection required to prevent damage shall be supplied by the contractor. Any damage, whether or not reported will be repaired by the Landlord at the Tenant's expense.

## 1.19 ELEVATORS

.1 If use of the freight elevator is required, the Contractor must contact Building Management. There should be no delivery of materials, where it will be necessary to lock out an elevator, between 7:45 a.m. to 9:00a.m., 11:45 a.m. to 1:15 p.m. or 3:45 p.m. to 5:30 p.m. The Contractor must ensure that elevator blankets and other forms of protection are in place and all other necessary precautions are taken to protect the elevator cab. Deliveries are to be made in the freight elevator only. Any damage caused to the elevator cab will be the responsibility of the Contractor.

## 1.20 PARKING

.1 All parking by Contractors is the responsibility of the Contractor. Building Management makes no representation that any parking will be available. Under no circumstances are vehicles to park in visitor parking or block access to the parkade or loading zones.

## 1.21 DRILLING OR CUTTING

.1 Contractors are not permitted to drill, cut or chase openings of any description in any part of the Base Building structure without prior approval of Building Management. If such work is deemed necessary and acceptable to the Building Manager and the Building Manager's structural engineers, it will be carried out after regular working hours by the Contractor. Any floor penetrations shall be adequately fire stopped in accordance with applicable codes. Any work of this type may require x-ray or Electro-magnetic inspection of the slab prior to drilling at the Contractor's expense. Any damage to cast-in electrical wiring will also be the responsibly of the Contractor. The Contractor, at their expense, will do all drilling or cutting of openings through the roof.

### 1.22 TESTING AND TIE-INS

.1 The Contractor must obtain Building Management's permission prior to any testing or installation of any tie-ins to mechanical, electrical, fire protection or life safety systems. The Contractor will be held fully responsible for any damages that may result from such tie-ins. Contractors must refrain from anchoring any electrical or mechanical lines from the sprinkler system. All electrical, plumbing and mechanical lines in the ceiling space must be tie-wrapped in a neat and orderly fashion. These lines should not be left hanging loose in the ceiling space. It is requested that any connections or shutdowns of plumbing or electrical work be done before or after normal business working hours; between the hours of 6:00 p.m. and 6:00 a.m., unless prior approval is received from Building Management. Building Management must be contacted at least 48 hours prior to proceeding with this work, as it is necessary to advise the Tenants of our responsibilities.

### 1.23 EXPLOSIVE ACTIVATED TOOLS

.1 Explosive activated tools may not be used to secure fasteners, which support ceiling suspension systems or equipment suspended from the underside of slabs.

### 1.24 WELDING

.1 No open flames for welding, cutting or other purposes are permitted without prior written consent of the Building Manager. If pressurized gas cylinders are used, the Contractor shall ensure their use is in accordance with requisite safety provisions and requirements. An operational fire extinguisher has to be available in the immediate vicinity of the work.

### 1.25 FASTENINGS

.1 The Contractor is not permitted to mechanically fasten to curtain walls, window frames, or special fire rated structures. Clips in lieu of screws must be used to fasten interior walls to the ceiling grid showing partition details at the T-bar and mullion.

### 1.26 ACCESS PANELS

.1 The Contractor must provide access panels of sufficient size in wall or ceiling construction as directed by engineering consultants, the Building management and/or as required by Code to permit necessary access to equipment and/or services.

### 1.27 ELECTRICAL

.1 All wiring not fire rated will be in conduit.

.2 Flex cabling to lighting and down unmovable walls only.

.3 All conduit and cabling will be secured to the soffit or hangers rather than tied to existing conduit or tied to ceiling tile wires.

.4 All holes entering the electrical rooms are to be sealed with block mortar.

.5 All holes entering and exiting fire rated areas are to be sealed with appropriate fire rated sealants.

.6 Disconnected or redundant cabling is to be removed back to the source, for example, the electrical room.

.7 All new or relocated circuits are to be indicated in the electrical panel doors.

.8 Ceiling mounted lighting fixtures are to match building standard.

.9 Tubing, ballasts and incandescents are to match building standard.

.10 No fibre-optics are to be installed in the building without the prior approval of Triovest Realty Advisors (B.C.) Ltd.

**1.28 GENERAL INFORMATION**

.1 All Personnel must wear uniforms or identification that clearly identify the company that they work with. There are no exceptions to this rule. Triovest identification badges must also be worn and are available through the building operators.

.2 Copies of the City Inspection Directives should be copied to Building Management.

.3 Building Management reserves the right to approve all Contractors used on any project undertaken within the Building.

.4 The Contractor's failure to comply with the foregoing regulations may discontinue further invitations to tender future projects.

**1.29 CONTACTS**

.1 TRIOVEST REALTY ADVISORS INC.
Address: 600-789 West Pender Street, Vancouver, BC
Telephone No.: (604) 684-1198
Facsimile No.: (604) 684-9122
Website: www.triovest.com

.2 In the event of an after-hours emergency, our 24-hour on call staff is available by dialing (604) 684-1198.

.3 EMERGENCY CONTACTS:

Vancouver Fire Department 911
Vancouver Police 911
Ambulance Service 911

END OF SECTION 09 91 00
August 2018

## 1.1 NOTIFICATION OF AUTHORITIES

.1 Notify the appropriate authorities of intention to carry out operations in the vicinity of a utility or structure at least one week prior to the commencement of such operation and obtain approval for access to any operations carried out on adjacent public property.

## 1.2 DOCUMENTS REQUIRED

.1 The following documents will be kept on site throughout the entire period of the work.

.a Contract Drawings.

.b Specifications.

.c Addenda.

.d Reviewed Shop Drawings.

.e Change Orders.

.f Change Directives

.g Field Test Reports.

.h Vancouver Building Bylaw (VBBL) 2014, B.C. Plumbing Code, B.C. and Canadian Electrical Codes, together with all supplements, and Occupational Environment Regulations.

## 1.3 LABOUR CONDITIONS

.1 It is the responsibility of the Contractor and the Subcontractors in formulating the bid to ascertain the labour conditions existing on the site with particular respect to union or non-union labour and to comply with these conditions. The cost of doing so shall be included in the Contract Price.

## 1.4 FEES, PERMITS, LICENSES

.1 The Building Permit will be obtained and paid for by the Owner. The Contractor will obtain all other permits, licenses including a business license and certificates required for performance of the work. Provide the inspection authorities with such plans and information as may be required for issue of acceptance certificates. Furnish inspection certificates to the Consultant in evidence that works installed conform with the requirements of the authority having jurisdiction. Fees and permits (other than Building Permit) will be paid by the Contractor.

## 1.5 CODES AND STANDARDS

.1 Execute the work in accordance with the VBBL and Supplements, Occupational Environment Regulations, and all other applicable codes and standards.

.2 Conform to the latest issue of codes and standards specified, as amended and revised on the date of receipt of Bids unless otherwise required to meet applicable Codes and Standards.

.3 Materials and workmanship must conform to or exceed applicable standards of Canadian Government Specification Board (CGSB), Canadian Standards Association (CSA), American Society for Testing and Materials (ASTM) and other referenced organizations.

.4 If required by the Consultant, the manufacturer/supplier shall furnish documentation indicating compliance with the requirements of the Vancouver Building ByLaw including, and where required, certification by a Professional Engineer registered in the Province of British Columbia.

**1.6 ALTERNATIVE AND EQUIVALENT PRODUCTS**

.1 Only products and methods specified shall be used, or such products and methods approved as equivalent. Alternative products and methods may be used only where approved in writing by the Consultant prior to the submission of the Bid Price. If requested by the Consultant, alternatives may be considered after submission of the Stipulated Bid Price.

.2 Application for approval of equivalent or alternative products will be received by the Consultant up to seven (7) working days prior to close of Bids, other than as noted above.

.3 Submit request for approval to the Consultant. List specification section or drawing number and page, brand, model, and manufacturer of specified product and proposed product, with full supporting technical specifications, data, and samples and any other special requirements listed in the section.

.4 Only requests with full and complete documentation will be considered. Incomplete submissions will be rejected without review of any kind.

.5 Approval of products does not relieve the Contractor from meeting the requirements of the specifications, and for all maintenance that may be required for incorporation of them into the work.

.6 If any alternative product is used, whether specified or later approved, the Contractor shall make all changes to the Work necessitated by use of the alternative at no extra cost to the Owner.

**1.7 WORKERS' COMPENSATION**

.1 Prior to commencing work and prior to receiving payment for Substantial Performance of the Work, provide evidence of compliance with all requirements of the Workers' Compensation Board, including payments due thereunder.

.2 At any time during the term of the Contract, when requested by the Consultant, provide such evidence of compliance for any or all subcontractors.

**1.8 PROTECTION OF PUBLIC WORK AND PROPERTY**

.1 Adequately protect all work completed or in progress. Any work damaged or defaced due to failure to provide such protection shall be removed and replaced or repaired, as directed by the Consultant at no increase in the Contract Price.

.2 Prevent overloading of any part of the building. Do not cut, drill or otherwise sleeve any load-bearing structural member without written approval of the Consultant.

.3 The Contractor shall assume responsibility for any damage to existing paving, walks, adjacent building and property, services, lawn, trees, landscape etc., caused by construction operations. The Contractor shall repair and make good same, or bear the expense of such repairing.

.4 The Contractor shall notify the Consultant immediately of any damage to existing amenities or services and shall remove and replace its work at no additional charge to allow repairs or replacement to affected damaged amenities or services. The Contractor shall take proper measures to maintain access to existing electrical pull boxes, valve boxes and allied services concealed underground and on the surface.

**1.9 COOPERATION AND COORDINATION**

.1 Provide all necessary barrier and hoarding to ensure safety of the public.

.2 The Contractor shall take every common and reasonable precaution to avoid damage and minimize interruption to Owner's property, adjacent property and services and programming schedule. All costs associated with making good any damage and/or providing temporary service or protection shall be borne by the Contractor.

.3 Coordinate the work of sub-contractors with efficient and continuous supervision.

.4 Cooperate with the authorities having jurisdiction and other Contractors engaged in simultaneous development of adjacent facilities. Coordinate access to the site, the location, removal or adjustment of temporary fences, sheds and utility services.

.5 Where appropriate the Contractor shall coordinate the work of all trades requiring suspension or fixing devices to be incorporated into the structure. Where required, such suspension or fixing devices are to be built into the structure and/or by of the type specified or detailed herein, the Contractor shall submit to the Consultant details of the device he proposes to use accompanied by such information as the Consultant may require to assess the capability of the proposed device.

**1.10 SPECIFICATIONS**

.1 The Contractor shall be responsible for all materials and labour required to complete the work to the full intent of the Drawings and Specifications including changes made by Addenda, Supplemental Instructions, Change Directives or Change Orders. The Specifications are complementary to the Drawings and Details and what is required by any one shall be as binding as if required by all.

.2 The Definitions and General Conditions of the Contract, Supplementary Conditions, and General Requirements all form an integral part of each individual section of the Specifications and shall be read, interpreted, and coordinated with all other parts.

**1.11 TRADEMARKS AND LABELS**

.1 Trademarks and labels, including applied labels shall not be visible in the finished work. Such trademarks or labels shall be removed by grinding if necessary, or painted out where the particular materials is being painted. The exception of this requirement shall be those essential to obtain identification of mechanical and electrical equipment and where required by Code to ensure compliance.

### 1.12 CONCEALMENT

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

### 1.13 REQUESTS FOR SITE REVIEW

.1 Requests for Interim and Final Reviews must be in writing. The Contractor requests for Interim Review will read "fully completed". The Contractor's final request will read "all deficiencies fully completed". Requests for these reviews must be in writing no later than seven (7) days prior to review.

### 1.14 REVIEW AND TESTING EXTRA COSTS

.1 When Interim or Final Reviews and tests of installation, assemblies, and equipment by the Consultant, Municipal, Public Utility and/or manufacturer's inspectors indicate deficiencies, all costs incurred by any of these authorities to revisit the project site for further review and tests will be paid by the Contractor.

.2 Requests for Site Reviews to be in writing to the Consultant or applicable authority.

### 1.15 DISPOSAL OF WASTES

.1 Fires, burning or burying of rubbish and waste materials on the site are not permitted.

.2 Disposal of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers are prohibited.

.3 Provide a container for waste. Drywall and other hazardous material shall be kept separate. Dispose of all waste materials in a legal manner and as specified.

### 1.16 CLEANING DURING CONSTRUCTION

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

.2 Maintain project grounds and public properties free from accumulations of waste materials and rubbish.

.3 If required, provide street cleaning in the immediate vicinity to remove any construction or demolition waste from the site.

### 1.17 MAKING GOOD

.1 The Contractor shall make good all surfaces and installations disturbed in any way by its operations in fulfilling the Contract.

.2 Making good shall mean that the surfaces and/or services within them shall be close to the same standard of finish and plane used for adjoining surfaces.

### 1.18 ADJACENT PROPERTY

.1 The Contractor shall conduct construction operations with minimum interference to adjacent roadways, sidewalks, fields, park and access facilities in general. Keep such areas free from materials, debris, and equipment at all times. Confine operations to areas designated by the Consultant and/or Owner. Maintain fire vehicular access to the Project Site at all times.

### 1.19 FIRE SAFETY PLAN AND MANUAL

.1 Provide Information for Fire Safety Plans and Fire Safety Plan Manual in strict accordance with the B.C. Fire Code and other municipal and provincial regulations.

### 1.20 NOISE

.1 Every effort must be made to keep noise levels to a minimum and as required by the Noise ByLaw

.2 Any unnecessary noises such as radios are not permitted.

### 1.21 MAINTENANCE AND REPLACEMENT MATERIAL

.1 The following products require 10% additional quantity amounts for future use:

.a Paints (all colours)

.b Felts (all colours)

.c Light fixtures

.d Carpet

.e Millwork Hardware

.f Felt Baffles

END OF SECTION 01 00 00
January 2018

## 1.1 GENERAL

.1 In addition to general responsibility for the complete work, the Contractor shall be specifically responsible for items contained in this section.

.2 Notify all trades of the provisions of the Contract Documents.

.3 The arrangement and division of these specifications is not to be construed as establishing the limits of responsibility of sub-trades. The Contractor shall be responsible for delineating the scope of subcontracts and for coordinating all of the work.

.4 The imperative verb, wherever used in the Contract Documents, denotes work to be carried out, or responsibilities to be assumed, by the Contractor.

## 2.1 LOCATION OF WORK

.1 511 West Broadway, Vancouver, BC

## 3.1 DESCRIPTION OF WORK

.1 Site: Refer to drawings.

.2 Description:

Renovated commercial retail space to provide capacity for various City of Vancouver departments to “hot-desk” for limited periods and also to accommodate general public viewing and engagement with City programming. Work includes limited demolition, new GWB partition walls, new carpet, acoustic baffles, millwork, new glazed entry doors, mechanical, and electrical work.

.3 Work Includes: the work of this contract shall include the furnishing of all labour, materials, plant, equipment and services necessary for the renovations.

.4 The work is to be bid as a stipulated price bid.

.5 The Contractor shall indicate, all cash allowances, separate prices, unit prices and alternate prices as identified in the bid form.

.6 Substantial Completion of the work is required by **May 31, 2018**.

END OF SECTION 01 11 00
January 2018

## 1.1 RELATED WORK

.1 Section 01 70 00 Execution and Close Out Requirements.

## 1.2 DESCRIPTION OF WORK

.1 Schedule, form, content.

.2 Schedule revisions.

## 1.3 SCHEDULES REQUIRED

.1 Submit the following schedules:

.a Construction schedule.

.b Submittal schedule for shop drawings and product data.

.c Submittal schedule for timelines of Owner furnished products.

.d Material order schedule.

.e Product delivery schedule.

.f Waste Management Plan

## 1.4 FORMAT

.1 Prepare schedule in the form of a horizontal bar chart.

.2 Provide a separate bar for each trade or operation.

.3 Provide horizontal time scale identifying the first work day of each week.

.4 Format for listing: the chronological order of the start of each item of work.

.5 Identification of listing: by specification subjects.

## 1.5 SUBMISSION

.1 Submit initial schedule with Bid.

.2 Submit revised progress schedule if progress of work is delayed more than five (5) days. Refer to Clause 1.7.5.

.3 Distribute copies of the reviewed schedule to:

.a Job site office.

.b Subcontractors.

.c Consultant.

.d Owner.

.4 Instruct recipients to report to the Contractor within five (5) days, any problems anticipated by the timetable shown in the schedule.

**1.6 MATERIAL AVAILABILITY**

.1 Immediately upon signing the contract the Contractor and his subtrades shall review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, the Contractor shall notify the Consultant of such, in order that substitutions or other remedial action may be authorized in time to prevent delay in performance of work.

.2 In the event of failure to notify the Consultant at commencement of work and should it subsequently appear that work may be delayed for such reasons, the Consultant reserves the right to substitute more readily available products of similar character, at no increase in contract price.

**1.7 CONSTRUCTION PROGRESS SCHEDULE**

.1 Include the complete sequence of construction activities.

.2 Include the dates for the commencement and completion of each major element of construction.

.3 Show projected percentage of completion for each item as of the first day of each month.

.4 Indicate progress of each activity to date of submission of schedule.

.5 If progress schedule is revised, show changes occurring since previous submission of schedule:

.a Major changes in scope.

.b Activities modified since previous submission.

.c Revised projections of progress and completion.

.6 Provide a narrative report to define:

.a Problem areas, anticipated delays, and the impact on the schedule.

.b Corrective action recommended and its affect.

.c The affect of changes on schedules of other contractors.

END OF SECTION 01 32 00
JANUARY 2018

## 1.1 WORK INCLUDED

.1 Submit shop drawings, product data and samples required by the Contract Documents directly to the Consultant.

.2 Designate in the construction schedule, or in a separate coordination schedule, the dates for submission and the dates that reviewed shop drawings, product data and samples will be needed.

## 1.2 SHOP DRAWINGS

.1 Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on the Contract Drawings.

.2 Refer to Divisions 15 and 16 for requirements specific to those Divisions.

.3 When shop drawings have been received by the Consultant he shall mark with the following information:

**REVIEWED** **( )**

**REVIEWED AS MODIFIED** **( )**

**REVISE AND RESUBMIT** **( )**

**NOT REVIEWED** **( )**

**Name of Consultant**

**By:** _____

**Date:** _____

**It shall be understood that this review by the Consultant is for the sole purpose of ascertaining conformance with the general design concept.**

**This review shall not mean that the Consultant 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 meeting all requirements of the Contract Documents. 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, for coordination of the work of all subtrades.**

## 1.3 PRODUCT DATA

.1 Preparation:

.a Clearly mark each copy to identify pertinent products or models.

.b Show performance characteristics and capacities.

.c Show dimensions and clearances required.

.d Show wiring or piping diagrams and controls.

.2 Manufacturer's Standard Schematic Drawings and Diagrams:

.a Modify drawings and diagrams to delete information which is not applicable to the work.

.b Supplement additional information to provide information specifically applicable to the work.

**1.4 SAMPLES**

.1 Office samples shall be of sufficient size and quantity to clearly illustrate:

.a Functional characteristics of the product, with integrally related parts and attachment devices.

.b Full range of colour, texture and pattern.

.2 Field Samples and Mock-ups:

.a Contractor shall erect, at the project site, at a location acceptable to the Consultant/Owner Representative.

.b Size or area - that specified in the respective specification section.

.c Remove mock-ups at conclusion of work or when acceptable to the Consultant/Owner Representative.

**1.5 SUBMISSION REQUIREMENTS**

.1 Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the work or in the work of any other Contractor.

.2 Number of submittals required:

.a Product Data: Submit the number of copies which the Contractor requires, plus three copies which will be retained by the Consultant and Owner Representative.

.b Samples: Submit the number stated in each specification section.

.c Shop Drawings: Submit 7 sets of prints (or as agreed), 3 of which will be retained by the Consultant/Owner Representative or as specified in Structural, Mechanical, Electrical and Refrigeration divisions. Alternately, if agreed, digital submissions may be acceptable. However, signed and sealed shop drawings shall be submitted in print format with original seals and signatures included.

.3 Submittals shall contain:

.a The date of submission and the dates of any previous submissions.

.b The project title and number.

.c Contract identification.

.d The names of the Contractor, the Supplier and the Manufacturer.

.e Identification of the product, with the specification number.

.f Field dimensions, clearly identified as such.

.g Relation to adjacent or critical features of the work or materials.

.h Applicable standards, such as CSA, CGSB or ASTM numbers.

.i Identification of deviations from Contract Documents.

.j Identification of revisions on re-submittals.

.k Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the work and of the Contract Documents.

**1.6 RESUBMISSION REQUIREMENTS**

.1 Make any corrections or changes in the submittals required by the Consultant/Owner Representative and resubmit until stamped as reviewed.

.2 Shop drawings and product data:

.a Review initial drawings or data, and resubmit as specified for the initial submittal.

.b Indicate any changes which have been made other than those requested by the Consultant.

.3 Samples: Submit new samples as required for initial submittal as soon as possible after notification of the rejection or disapproval of the original submission and shall be marked "re-submitted sample."

**1.7 DISTRIBUTION**

.1 Distribute reproductions of shop drawings and copies of product data which carry the Consultant/Owner Representative stamp to:

.a Job site file.

.b Record document file. (2 sets)

.c Subcontractors.

.d Supplier or fabricator.

.2 Distribute samples which carry the Consultant/Owner Representative stamp of approval as directed by the Consultant/Owner Representative.

**1.8 EXTENDED GUARANTEES AND WARRANTIES**

.1 In addition to guarantee requirements of the General Conditions to which all work of this Contract for all the work of this Contract to be Guaranteed for one (1) year after the date of the issue of the Certificate of Substantial Performance by the Consultant, the Contractor shall note that extended guarantee periods are required by the documents for some items as specified in the particular trade section.

.2 The Contractor shall, in case of work performed by his Subcontractors and when guarantees are required, secure such guarantees from the Sub Contractors and furnish them to the Owner on or before Substantial Performance of the Project.

.3 All guarantee and Warranties shall be bound into the operations and maintenance manuals.

.4 Extended warranties shall commence on termination of the standard one (1) year warranty granted in this contract and shall be an extension of these same provisions.

END OF SECTION 01 33 00
January 2018

## 1.1 RELATED WORK

.1 Section 01 33 00 Submittal Procedures (to confirm product quality).

.2 Divisions 21, 22, 23, 25 and 26: Material and workmanship quality to referenced standards.

## 1.2 DESCRIPTION OF WORK

.1 Inspection and testing, administrative and enforcement requirements.

## 1.3 INDEPENDENT INSPECTION AGENCIES

.1 The Owner may engage and pay for additional concrete, geotechnical and independent roofing inspection. The Owner may employ and pay for the services of other independent testing laboratories to perform designated testing. In all cases:

.a The Contractor shall co-operate with the laboratory to facilitate the execution of its required services.

.b Employment of the laboratory shall in no way relieve Contractor's obligations to perform the work of the contract.

.2 The cost of inspections and tests required by laws, ordinances, rules, guarantees/warranties, regulations, orders or approvals of public authorities relating to the work and for the preservation of public health shall be included, arranged and paid for directly by the Contractor.

.3 Inspections and testing specified in trade sections as the Contractor's responsibility shall be paid for by the Contractor or Subcontractor as applicable.

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

## 1.4 INSPECTION

.1 The Owner, Consultant and their appointed representatives shall have access to the work. If parts of the work are in preparation at locations other than the place of the work, access shall be given 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 Consultant's instructions, or the law of the place of the work.

.3 If the 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 the inspections or tests satisfactorily completed and make good such work.

## 1.5 PROCEDURES

.1 Notify the appropriate agency and Consultant in advance of the 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 an orderly sequence so as not to cause delay in the work.

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

**1.6 CONTRACTOR'S RESPONSIBILITIES**

.1 Co-operate with laboratory personnel, provide access to work to manufacturer's operations.

.2 Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

.3 Provide to the laboratory the preliminary design mix proposed to be used for concrete; and other materials which require control by the testing laboratory.

.4 Furnish copies of products test reports as required.

.5 Furnish incidental labour and facilities:

.a To provide access to work to be tested.

.b To obtain and handle samples at the project site or at the source of the product to be tested.

.c To facilitate inspections and tests.

.d For storage and curing of test samples.

.6 Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

.7 When tests of inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred.

.8 Employ and pay for the services of a separate and approved, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required when initial tests indicate work does not comply with Contract Documents.

**1.7 EQUIPMENT/SYSTEMS**

.1 Submit adjustment and balancing reports for mechanical and electrical systems.

.2 Refer to Division 21 Fire Protection, Division 22 Plumbing, Division 23 HVAC, Division 25 Controls, and Division 26 Electrical for requirements.

END OF SECTION 01 40 00
January 2018

## 1.1 DESCRIPTION OF THE WORK

.1 Furnish, install and maintain temporary facilities required for construction of the work, remove upon completion.

.2 Provide one (1) separate portable toilet for park users for the duration of construction.

## 1.2 REQUIREMENTS OF REGULATORY AGENCIES

.1 Comply with all related requirements of the Workers' Compensation Board.

.2 Comply with requirements of all regulatory authorities having jurisdiction including utility requirements.

## 1.3 FIELD OFFICES AND SHEDS

.1 Contractor's Offices:

.a Although a site office may not be present, the contract documents and regulatory documents are expected to be available for review on site.

.b If required, meetings may be held at the COV Engineering Services Offices.

.c Provide, adequate first aid facilities as required by regulatory authority having jurisdiction.

.2 Equipment and Tool Storage: Provide and maintain, in a clean and orderly condition, adequate lockable storage for tools and equipment.

.3 Materials Storage: Provide and maintain, in a clean and orderly condition, suitable lockable areas for storage and protection of materials which require such protection.

.4 Construction Area, Access and Parking:

.a Confine operations on the site to those areas actually required for the work.

.b Confine operations, materials, storage, equipment, parking and deliveries to designated work areas of site as agreed to prior to starting work on site, and as shown on schedule of work. Any encroachment onto public property or other private property must be with permission. Refer to Site Plan.

## 1.4 TEMPORARY FACILITIES

.1 Sanitary Facilities: provide sufficient sanitary facilities for workers in accordance with local health authorities. Maintain facilities in clean condition~~. Provide one (1) separate portable toilet for park users for the duration of construction.~~

.2 Water Supply: Make necessary arrangements for water with the Owner.

.3 Temporary Heating:

.a Provide all temporary heating required during construction period including attendance, maintenance and fuel. Maintain temperatures to be suitable to the work underway in all areas in which construction is in progress, unless indicated otherwise in specifications. At all times protect the work from detrimental effects of extreme temperatures. Properly ventilate all heated areas.

.b Use approved heating devices only.

.c Be responsible for any damages to the work due to failure in providing adequate heat and protection during construction.

.6 Fueled Welding Machines and Air Compressors: Fueled welding machines and air compressors required are the responsibility of the respective users. Locate outside the building.

.7 Hoisting:

.a Provide, operate and maintain hoists and portable cranes required for moving of materials and equipment. Make financial arrangements with Subcontractors for use thereof.

.b Hoists and cranes shall be operated by qualified operator.

.8 Extra Hard Hats

.a Provide a minimum of 4 hard hats on site at all times for use of Consultants and other authorized visitors.

.9 Fire Extinguishers

.a Maintain sufficient fire extinguishers on site at all times.

.10 The Contractor is to be responsible for providing and paying for all power, both temporary and available in the building during construction.

## 1.5 BARRIERS

.1 Hoarding: If required, metal fencing is required around the entire construction site. Fencing to be a minimum of 1.8m in height. Fencing to be “Modu-Loc” or equivalent, and is to be approved by Owner’s Representative before installation. The Contractor is to ensure fencing is secure at all times, so as to prevent intrusion into the construction site by any unauthorized persons. Panels to be pinned to the ground and bolted together. Contractor is responsible for maintaining the integrity of the fencing in a vertical position at all times. Fencing is to be reviewed by the Owner’s Representative before the start of any construction activities and is to remain in place until Substantial Completion.

## 1.6 SITE ACCESS

.1 Provide and maintain access, sidewalk crossings, ramps and construction runways as may be required by workers for access to and on site.

.2 Conform to requirements of governing authorities when required, and when necessary, make arrangements with adjacent property owners.

.3 Locate these traffic facilities where they are least disruptive to the public.

.4 Coordinate with drawings and with Owner requirements.

**1.7 NOISE ABATEMENT**

.1 The Contractor shall comply with the requirements of Municipal and/or Provincial bylaws regarding noise abatement and shall take all necessary steps to ensure the generation and transmission of noise and vibration which is found to be objectionable shall be corrected or controlled at no additional cost to the Owner.

**1.8 PROTECTION OF WORK AND PROPERTY**

.1 Protection of Offsite and Public Property:

.a Protect adjacent property from damage during the performance of the work.

.b Be responsible for all damage incurred due to improper protection.

.c Protect existing trees and fields. Comply with temporary access requirements as specified and shown on drawings. Be responsible for all damage.

.2 Fire Protection:

.a Provide and maintain adequate temporary fire protection equipment during performance of work, as required by insurance companies having jurisdiction and governing codes, regulations and bylaws.

.b Where subjected to low temperatures, extinguishers are to be anti-freeze type and be ULC labeled.

.c Remove combustible debris from site daily and deposit in refuse containers.

**1.9 CONSTRUCTION SAFETY**

.1 The Contractor shall be responsible for all safety measures in connection with his construction means, methods, techniques, sequences and procedures.

.2 The Contractor shall provide, maintain and adjust all safety nets, screens, protective covers, guardrails, barricades or safety platforms required for protection of his work and the workmen employed by him. The contractor shall also provide all necessary guards, signs, etc., as required to fully protect all persons from loss, damage or injury to their person or property and shall be wholly responsible should any loss, damage or injury occur through the neglect, carelessness or incompetence of themselves or their employees.

.3 The Contractor shall comply with all applicable laws and regulations of Federal, Provincial and Municipal authorities concerning construction safety.

.4 The Contractor shall comply with the Workers' Compensation Act of British Columbia Accident Prevention Regulations (latest edition) and shall provide all necessary safety requirements as prescribed by the Act for his work.

.5 Precautions shall be taken to prevent the overloading of any part of the structure, false work, formwork, or scaffolding during the progress of the work, and any damage resulting from such overloading shall be made good at the expense of the Contractor. No load bearing members shall be cut, drilled or sleeved without the written approval of the Consultant. The Contractor shall obtain written approval from the Structural Engineer prior to allowing any fork lifts or other heavy machinery on any suspended slab.

.6 The Contractor shall allow for the cost of all clothing, supplies and equipment necessary to provide protection to all persons in his employ in accordance with the provisions of the Safety Codes of both the Province of British Columbia and the Workers' Compensation Board. Such items to include protective clothing, safety helmets and the like.

.7 Scaffolding or temporary stages shall be provided by the Contractor as required for his work and to meet construction safety regulations. Such equipment shall be self-supporting throughout and comply with applicable jurisdictional and code requirements. Scaffolding and temporary stages, when not in use shall be shifted if necessary to permit installation of other work and shall be removed promptly when not required.

.8 Review information provided in the Tender Package related to existing hazardous materials. Follow procedures required regarding abatement and work including hazardous materials.

END OF SECTION 01 50 00
January 2018

## 1.1 RELATED WORK

.1 Section 01 40 00 Quality Requirements (and inspection of Work).

## 1.2 DESCRIPTION OF WORK

.1 Reference standard.

.2 Product quality, availability, storage, handling, protection, transportation.

.3 Manufacturer's instructions.

.4 Workmanship, co-ordination, cutting, fastenings.

## 1.3 REFERENCE STANDARDS

.1 Within the text of the Specifications, reference may be made to the following standards (current editions):

.a ACI - American Concrete Institute

.b AWCC - Association of Wall and Ceiling Contractors of B.C.

.c AWMAC – Architectural Woodwork Manufacturers Association of Canada.

.d ASTM - American Society of Testing and Materials

.e VBBL – Vancouver Building Bylaw.

.f BCFC - British Columbia Floor Covering Association

.g CEC - Canadian Electrical Code (published by CSA)

.h CEMA - Canadian Electrical Manufacturer's Association

.i CGSB - Canadian General Standards Board

.j CISC - Canadian Institute of Steel Construction

.k CKCA - Canadian Kitchen Cabinet Association

.l CLA - Canadian Lumberman's Association

.m CMHC - Canadian Mortgage and Housing Corporation

.n CPCA - Canadian Painting Contractor's Association

.o CRCA - Canadian Roofing Contractor's Association

.p CSA - Canadian Standards Association

.q FM - Factory Mutual Engineering Corporation

.r IGMAC – Insulating Glass Manufacturers' of Canada.

.s MPI - Master Painters Institute.

.t NAAMM - National Association of Architectural Metal Manufacturer's

.u NBC - National Building Code

.v NEMA - National Electrical Manufacturer's Association

.w RCABC - Roofing Contractors Association of B.C.

.x TTMAC - Terrazzo, Tile and Marble Association of Canada

.y ULC - Underwriter's Laboratories of Canada

.2 Conform to these standards, in whole or in part, as indicated in the Specifications.

.3 If there is a question as to whether any product or system is in conformance with applicable standards, the Consultant reserves the right to have such products or systems tested to prove or disprove conformance.

**1.4 PRODUCTS AND MATERIALS**

.1 Quality:

.a Products, materials, equipment and articles (referred to as products throughout the specifications) incorporated in the Work shall be new, not damaged or defective, and of the best quality (compatible with specifications) for the purpose intended. If requested, furnish evidence as to type, source and quality of products provided.

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

.c Should any dispute arise as to the quality or fitness of products, the decision rests strictly with the Consultant based upon the requirements of the Contract Documents

.d Unless otherwise indicated in the Specifications, maintain uniformity of manufacture for any particular or like item throughout the building.

.e 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.

.2 Availability:

.a 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 the Consultant of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of work.

.b In the event or failure to notify the Consultant at commencement of work and should it subsequently appear that Work may be delayed for such reason, the Consultant reserves the right to substitute more readily available products of similar character, a no increase in Contract Price.

.3 Storage Handling and Protection:

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

.b Store packaged or bundled products in original and undamaged condition with manufacturer's seals and labels intact. Do not remove from packaging or bundling until required in the work.

.c Store products subject to damage from weather in weatherproof enclosure.

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

.e 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.

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

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

.h Remove and replace damaged products at own expense and to the approval of the Consultant.

.4 Transportation:

.a Pay costs of transportation of products required in the performance of work.

## 1.5 MANUFACTURER'S INSTRUCTIONS

.1 Unless otherwise indicated in the 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 Consultant of conflicts between the specifications and manufacturer's instructions, prior to proceeding with the affected work.

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

## 1.6 WORKMANSHIP

.1 General:

.a Workmanship shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Consultant if required Work is such as to make it not possible to produce required results.

.b Do not employ any unfit person or anyone unskilled in his required duties. The Consultant reserves the right to require the dismissal from the site of workers deemed incompetent, careless, insubordinate or otherwise objectionable.

.c Decisions as to the quality of fitness of workmanship in cases of dispute rest solely with the Consultant, whose decision is final.

.2 Coordination:

.a Ensure co-operation of workers in laying out work. Maintain efficient and continuous supervision. Co-ordinate the work of different trades to make the parts of the Work come together properly.

.b Be responsible for co-ordination and placement of openings, sleeves and accessories

.3 Cutting and Remedial Work:

.a Perform cutting and remedial work required to make the parts of the Work come together. Co-ordinate the work to ensure this requirement is maintained.

.b Should work performed outside this contract necessitate cutting and, or remedial work to be performed, the cost of such work will be valued by the Consultant as provided in GC 6.2, valuation and Certification of Changes in the Work.

.c Perform cutting and remedial work by specialists familiar with the materials affected. Perform in a manner to neither damage nor endanger any portion of Work.

.d The operation and programming of the existing facilities may not be affected.

.4 Location of Fixtures:

.a Consider the location of fixtures, outlets, and mechanical and electrical items indicated as schematic if not specifically dimensioned. Confirm locations with Consultant prior to proceeding with the work.

.b Report any coordination or installation conflicts to the Consultant for clarification prior to proceeding with the work.

.5 Fastenings:

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

.b Prevent electrolytic action between dissimilar metals and materials.

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

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

.e Keep exposed fastenings to a minimum, space evenly and install neatly. Exposed fasteners shall match colour and finish of surround surfaces.

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

.6 Protection of Work In Progress:

.a 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 the Consultant, at no increase in Contract Price.

.b Prevent overloading of any part of the building. Do not cut, drill or sleeve any load bearing structure member, unless specifically indicated, without written approval of the Consultant.

**1.7 EXISTING UTILITIES**

.1 When breaking into or connecting to existing services or utilities, execute work at times directed by local governing authorities, with a minimum of disturbance to adjacent Work, and/or building occupants and pedestrian and vehicular traffic.

.2 Ensure continuity of operation and coordinate any shutdown giving 48 hours notice with adjacent facility supervisor.

END OF SECTION 01 60 00
January 2018

## 1.1 RELATED WORK

.1 Section 01 32 00: Construction Progress Documentation. (Submission of record drawings and operating/maintenance manuals).

.2 General Conditions of the Contract: fiscal provisions, legal submittals, and other administrative requirements.

## 1.2 DESCRIPTION OF WORK

.1 Final cleaning.

.2 Systems demonstration.

.3 Document submission.

.4 Project commissioning.

.5 Inspection and takeover procedure.

.6 Make submissions as per Section 01 78 39 Project Record Documents.

## 1.3 CLEANING

.1 Description: execute cleaning, during progress of the work, and at completion of the work, as specified herein.

.2 Disposal Requirements:

.a Conduct cleaning and disposal operations to comply with codes, ordinances, regulations and anti-pollution laws.

.b Dispose of rubbish, debris and waste materials at periodic intervals away from the site and in a legal manner.

.c Materials: use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces. Use as recommended by surface material manufacturer and cleaning material manufacturer.

.d During Construction:

.i Execute periodic cleaning to keep the work the site and adjacent properties free from accumulations of waste materials, rubbish and wind blown debris, resulting from construction operations.

.ii Provide on-site containers for the collection of waste materials, debris and rubbish. Remove and dump as required to maintain orderly, neat site. Do not allow overflow of debris onto adjacent sites under any condition.
Refer to 01 74 00.

.iii Keep in slab ductwork in a clean and dry condition. Execute period cleaning as required to maintain this condition.

.e Dust Control:

.i Clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until painting is finished.

.ii Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

.f Final Cleaning:

.i Employ only skilled workers for final cleaning.

.ii Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, mechanical.

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

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

.v Wax, seal, shampoo or prepare all floor finishes, as recommended by the manufacturer.

.vi Make a thorough inspection of all finishes, fitments, and equipment and ensure a proper workmanship and operation.

.vii Remove all dirt and other disfigurations from exterior surfaces.

.viii Clean and sweep roofs, gutters, areaways, sumps and catch basins.

.ix Sweep and wash clean all paved areas.

.x Perform final cleaning of interior and exterior of all windows and glass doors. This cleaning must include cleaning of all sliding door tracks.

.xi Prior to final completion or Owner occupancy, Contractor shall conduct an inspection of sight-exposed interior and exterior surfaces, and all work areas, to verify that the entire work is clean.

## 1.4 SYSTEMS DEMONSTRATION

.1 Prior to final inspection, demonstrate operation of each system to the Consultant's and Owner's representatives.

## 1.5 PROJECT COMMISSIONING

.1 Expedite and complete deficiencies and defects identified by the Consultant.

.2 Review maintenance manual contents, operating, maintenance instructions, record "as-built" drawings, spare parts, materials for completeness. Provide 2 hard copy sets of maintenance and operations manuals, 2 full-sized hard copies of drawings (all disciplines) and digital copies of same in PDF.

.3 Submit required documentation such as statutory declarations, Workers' Compensation Certificates, warranties, certificates of approval or acceptance from regulating bodies.

.4 Attend "end of work" testing and break-in or start-up demonstrations. Refer to Article 1.4.2.

.5 Review inspection and testing reports to verify conformance to the intent of the documents and that changes, repairs or replacements have been completed.

.6 Meet with other Consultants, structural, mechanical electrical, to co-ordinate completion, testing approvals if and when requested by Consultant.

.7 Arrange and co-ordinate instruction of Owner's staff in care, maintenance and operation of building systems and finishes by suppliers and Subcontractors.

.8 When partial occupancy of uncompleted project is required by the Owner, co-ordinate Owner's uses, requirements, access, with Contractor's requirements to complete the project.

.9 Provide on-going review, inspection and attendance to building call-back, maintenance and repair problems during the warranty periods.

.10 Attend 1 year warranty inspection.

## 1.6 INSPECTION / TAKE OVER PROCEDURES

.1 Prior to application for certificate of Substantial Performance, and/or completion, carefully inspect the work and ensure it is complete, that major and minor construction deficiencies are complete and/or corrected and the building is clean and in condition for occupancy and meets the terms and conditions of “Substantial Performance” as outlined by the Lien Legislation of British Columbia. Notify the Consultant in writing of satisfactory completion of the work and request an inspection.

.2 During the Consultant's inspection, a list of deficiencies and defects will be tabulated. Correct same within the time allocated.

## 1.7 REINSPECTION FEES

.1 Should the Contractor require reinspection of a partial list of deficiencies or should the Consultant be required to perform more than one reinspection due to the failure of the Work to comply with the claims of status and completion made by the Contractor:

.a The Owner will compensate the Consultant for such additional services.

.b The Owner will deduct the amount of such compensation from the final payment to the Contractor.

END OF SECTION 01 70 00
January 2018

## 1.1 DOCUMENTS

.1 This section of the Specifications forms part of the Contract Documents and is to be read, interpreted, and coordinated with all other parts.

## 1.2 WASTE DIVERSION GOALS FOR THE PROJECT

.1 The Owner has established that this Project shall generate the least amount of waste possible and that processes shall be employed that ensure the generation of as little waste as possible including prevention of damage due to mishandling, improper storage, contamination, inadequate protection or other factors as well as minimizing over packaging and poor quantity estimating.

.2 The Waste Diversion Goals and Waste Management Plan shall apply to the full scope of this project including and not limited to deconstruction waste for the wading pool and deconstruction waste from the existing building. 85% waste diversion is a minimum requirement.

.3 Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be salvaged for reuse and or recycled. Waste disposal in landfills or incinerators shall be minimized. On new construction projects this means careful recycling of job site waste, on demolition projects this also means careful removal for salvage.

.4 The Contractor shall:

.a Separate and legally dispose of materials as required by law and regulations of authorities having jurisdiction and in accordance with the Waste Management Plan and its classified divisions of materials; and

.b divert from transfer stations and landfills in within the Greater Vancouver Sewerage and Drainage District 100% of all banned substances; and

.c divert from all transfer stations and landfills 85%, by weight, of the materials removed from the Site.

## 1.3 CODE OF PRACTICE

.1 In addition to other requirements specified herein it is a requirement for the Work of this project that the Contractor comply with recommendations and remove materials to disposal and recycling facilities that comply with the “Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw No. 183, 1996”.

.2 For a listing of licensed facilities, contact the Metro Vancouver Solid Waste Regulatory program at 604-436-6777 or, see: http://www.metrovancouver.org/services/permits/Pages/solidwaste.aspx

## 1.4 WASTE MANAGMENT PLAN

.1 Waste Management Plan: Within 10 calendar days after receipt of Notice of Award of Contract, or prior to any waste removal, or prior to the commencement of the demolition or deconstruction work, whichever occurs soonest, the Contractor shall prepare, deliver to the City, and adhere to a Waste Management Plan consisting of a Waste Diversion Plan and a Waste Diversion, in each case as described in more detail below.

.2 The Waste Diversion Plan shall include:

.a Analysis of the proposed job site waste to be generated, including all materials in the structure and the materials that need to be tracked (see below), the types of recyclable and waste materials generated (by volume or weight). In the case of demolition, a list of each item proposed to be salvaged during the course of the project should also be prepared.

.b Alternatives to Landfilling: the Contractor shall prepare a Removal Plan, including whether material will be salvaged (removed intact) for
(1) reuse,
(2) recycled, or
(3) disposed of;
and the names of all proposed disposal, reuse and recycling facilities

.c List of compulsory materials to be recycled, shall include, at minimum, the following materials:

.i Corrugated cardboard.

.ii Clean dimensional wood, palette wood.

.iii Concrete/Brick/Concrete Block/Asphalt.

.iv Scrap Metal.

.v Drywall.

.vi Paint (return to Paint Depot).

.2 The Waste Diversion Report shall identify, with respect to each tracked material (as identified in b. below), the tonnage of the material:
(1) salvaged,
(2) recycled and
(3) disposed of,
and the name of each facility where material was hauled:

a. Legible copies of all receipts issued by all receiving facilities;

b. The removal material is to be classified into the following material divisions:
1. Wood
2. Metals – copper
3. Metals – aluminium
4. Metals – steel
5. Glass
6. Masonry
7. Concrete
8. Drywall
9. Architectural misc.
10. Asphalt
11. Miscellaneous fittings
12. Hazardous materials discovered
13. Other

.3 The City of Vancouver Kent Yard can accept concrete deconstruction material.

.4 It is preferred that reports are submitted electronically.

.5 Meetings: Contractor shall conduct Project Waste Management meetings. Meetings shall include subcontractors affected by the Waste Management Plan. At a minimum, waste management goals and issues shall be discussed at the following meetings:

.a Pre-bid meeting.

.b Pre-construction meeting.

.c Regular job-site meetings.

.6 Materials Handling Procedures: prevent contamination of materials to be recycled and salvaged and handle materials consistent with requirements for acceptance by designated facilities. Where space permits, source separation is recommended. Where materials must be co-mingled they must be taken to a processing facility for separation off site.

.7 Transportation: The Contractor may engage a hauling subcontractor or self haul or make each subcontractor responsible for their own waste. In any case compliance with these requirements is mandatory.

.8 Submit to the Consultant and/or Owner way-bills, invoices and other documentation confirming that all materials have been hauled to the required locations.

.9 Waste Management Plan Implementation:

.a Manager: The Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the project.

.b Distribution: The Contractor shall distribute copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, the Owner, and the Consultant.

.c Instruction: The Contractor shall provide on-site instruction of appropriate separation, handling, and recycling to be used by all parties at the appropriate stages of the Project. On demolition projects the Contractor shall provide on-site instructions for salvage and requirements for reusing salvaged materials within the project, either in new construction or in a renovation.

.d Separation facilities: The Contractor shall lay out and label a specific area to facilitate separation of materials for potential recycling and salvage. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials. The requirement for separation will only be waived if the Contractor can demonstrate to the Owner/Consultant that there is insufficient room to accommodate it. If this is the case the materials must be sent to a processing facility for separation off site.

.e Hazardous wastes: Hazardous wastes shall be separated, stored, and disposed of in accordance with the requirements of the authorities having jurisdiction including the Provincial Waste Management Act and B.C. Special Waste Regulation.

.f Application for Progress Payments: The Contractor shall submit with each Application for Progress Payment a summary of waste materials, recycled, salvaged and disposed of by the Project using the form appended to this specification or a form generated by the Contractor containing the same information. Failure to submit this information shall render the Application for Payment incomplete and shall delay Progress Payment. The Summary shall contain the following information:

The amount (in cubic yards or [metric] tonnes) of material land filled or incinerated from the Project, the identity of the landfill, incinerator and/or transfer station. For each material recycled or salvaged from the Project, include the amount (in cubic yards or tonnes or in the case of salvaged items state quantities by number of items) and the destination (i.e. the material recovery facility, transfer station, landfill, incinerator or used building materials yard).

END OF SECTION 01 74 00
January 2018

## 1.1 RELATED WORK

.1 Section 01 33 00 Submittal Procedures - shop drawings, samples, manufacturer's instructions.

.2 Section 01 32 00 Construction Progress Documentation.

.3 Section 01 40 00 Quality Requirements - tests and inspection reports.

.4 Individual Specifications Sections: Specific requirements for operation and maintenance.

## 1.2 DESCRIPTION OF WORK

.1 Project record documents, samples, specifications.

.2 Equipment and systems.

.3 Product data, materials and finishes, and related information.

.4. Operation and maintenance data.

.5 Warranties, guarantees.

## 1.3 QUALITY ASSURANCE

.1 Prepare instructions and data by personnel experienced in maintenance or operation of described products.

## 1.4 FORMAT

.1 Organize data in the form of an instructional manual.

.2 Binders: commercial quality, three ring size.

.3 When multiple binders are used, correlate data into related consistent groupings.

.4 As-built drawings to be provided as outlined in 1.5.3.

## 1.5 PROJECT RECORD DOCUMENTS

.1 Maintain at the job site, one record copy of each of the following:

.a Contract drawings.

.b Project manual.

.c Addenda.

.d Change orders.

.e Other modifications to Contract, including Field Instructions.

.f Field reports.

.g Reviewed shop drawings.

.h Test reports.

.i Copy of approved construction schedule.

.j Manufacturer's installation and application instructions.

.k Colour/Material schedule.

.l Vancouver Building By-Law, B.C. Plumbing Code. B.C. and Canadian Electrical Codes, together with all supplements.

.m Approved Building Permit drawings and Posting Card.

.n Reports from building authorities/inspectors.

.o Progress copies of As-Built Record Drawings, updated regularity as the Work progresses.

.2 Maintenance of Documents and Samples:

.a Store documents in Contractor's field office apart from documents used for construction.

.b Maintain documents in a clean, dry legible condition and in good order. Do not use record documents for construction purposes.

.c Make documents and samples available at all times for inspection by the Consultant.

.3 Recording Project Record Drawings:

.a Maintain one complete set of white prints: Architectural, Structural, Civil, Mechanical, Electrical and other disciplines applicable to project on site. Record variations from the original contract as they occur and update on a daily basis. Include in this recording any changes made by job site instruction, change order, clarification details or Drawings and other forms of written modification issued by the Consultant or his consultants. Record changes in red using suitable notation; ensure revisions to elevations and detailed location of concealed services are noted.

.b Review: Make the marked-up white prints available for the Consultant's or his consultant's review at any time. Locate the marked-up white prints in the site office and keep the marked-up white prints updated on a daily basis.

.c On completion of work: Prepare for the City a set of CAD and PDF, as-built record drawings showing changes in the Work made during construction. Provide the City with an electronic copy for each drawing and a set of whiteprints. The drawings shall include changes shown on marked-up prints, drawings and other data furnished and certified correct in writing by the Contractor in a manner acceptable to the Consultant. The Consultant will not be responsible for the accuracy of the information provided by the Contractor. The Consultant shall state in the specifications the as-built information and format to be provided by the Contractor.

.d Required Detail: On as-built drawings shall include but not be limited to:

.i Changes to structural elements showing new sizes, lengths, profiles, elevations, and materials used.

.ii Changes to architectural details, finishes, and locations, showing full extent of change by redrawn relevant details and noting the final type of material and finishes used.

.iii Changes to, and final actual type, size, and location of plumbing, mechanical, and electrical items; indicate accurate location in plan, of water, sewer and gas lines, and electrical ducts and conduits including telephone and fire alarm lines. Invert elevations, accurate to within 25mm are required at each junction, at high and low points, at horizontal and vertical changes in direction, and at every 30m of run of water, sewer, electrical, telephone, fire alarm, and gas lines. Similarly, provided information at both ends of culverts, at manholes, catch basins, cleanouts, hydrants, pulling pits, and at entry points to building.

.iv Refer: Refer to any special requirements specified under the Structural, Mechanical, and Electrical Divisions of Work.

.v Holdback: A holdback shall be withheld from the last progress draw until such time that acceptable "As-Built Drawings" and mechanical and electrical maintenance manuals are submitted to the Owner.

.vi Whiteprints: Sign each drawing for identification and to certify that each drawing is accurate. Provide a certificate in the words set out following this paragraph; signatures to be those of a person authorized to sign on behalf of and to bind the Contractor. Deliver one complete set of as-built drawings so certified to the Consultant; this certified set will be the official set of As-Built Drawings. Include the following information on the official as-built drawing set:

**FORM OF CERTIFICATE**

***(Project Description)***

**I/We (the Contractor) hereby certify that the set of As-Built Drawings attached hereto, comprising (_____) sheets, is a complete set of the As-Built Drawings for this Project. I/We further certify that the drawings show fully and accurately structural details and services, whether exposed or hidden, (including the location thereof) and that these drawings are intended to be relied on by the Owner and his agents in repairs, modifications or additions to the project.**

**CONTRACTOR:** **SIGNED:** _____

**PER:** _____

**DATE:** _____

**WITNESS:** **SIGNED:** _____

**DATE:** _____

## 1.6 OPERATING AND MAINTENANCE DATA

.1 Copies: submit to Consultant four (4) copies of the approved manufacturer's latest printed specifications, directions and drawings fully describing the installation and operating instructions and in the case of equipment outlining the extent of available servicing and extent of any applicable guarantees. Without being limited to the following, include:

.a Copies of technical brochures and related printed data for all manufactured products.

.b Maintenance procedure for finished surfaces.

.c Copy of hardware schedule.

.d Copy of paint schedule with supplier's paint chips used and referenced with colour numbers.

.e Description, operation and maintenance procedure for equipment and systems installed including parts lists.

.f Names, addresses, telephone numbers, and contact of Subcontractors and suppliers.

.g Guarantees, warranties, and bonds, referencing project name and address, guarantee commencement date (i.e. date of Substantial Performance), length and expiry date of guarantee; signature and seal of Contractor; complete set of final reviewed shop drawings in form as specified.

.h Any supplementary requirements as per specific Trades Section of the specifications.

.i Balancing Report.

.2 Test Reports: Provide two duplicate copies, unless otherwise specified, of test reports required under the specific Sections of the Specification; reports shall be by an independent, recognized testing agency, with testing conforming to specified standard, acceptable to Consultant.

.3 Certificates: issue minimum one copy to Consultant prior to any installation of related work.

**1.7 EQUIPMENT AND SYSTEMS**

.1 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 Panelboard Circuit Directories: provide electrical service characteristics, controls and communications.

.3 Include installed colour coded wiring diagrams.

.4 Operating Procedures: include start-up, break-in, and routing normal operating instructions and sequences. Include regulation, control, stopping, shut-down, 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 code 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 price, and recommended quantities to be maintained in storage.

.14 Additional Requirements: as specified in individual specification sections.

**1.8 MATERIALS AND FINISHES**

.1 Building Products, Applied Materials and Finishes: include product data, with catalog 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 agent and methods, and recommended schedule for cleaning and maintenance.

.3 Moisture Protection and Weather Exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.4 Additional Requirements: as specified in individual specifications sections.

**1.9 WARRANTIES, GUARANTEES AND BONDS**

.1 General:

.a Compile specified warranties, guarantees and bonds.

.b Co-execute submittals when so specified.

.c Review submittals to verify compliance with Contract Documents.

.d Submit to Consultant for review and then submit to the Owner.

.2 Submittal Requirements:

.a Assemble warranties, guarantees, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors.

.b Number of original (fax or photocopies are not acceptable) copies required: one (1) each.

.3 Time of Submittals:

.a Make submittals within ten (10) days prior to date of Substantial Performance and prior to final request for payment.

.b For items of work, where acceptance is delayed materially beyond the date of Substantial Performance, provide updated submittal within ten (10) days after acceptance, listing the date of acceptance as the start of the warranty period

.c Submit warranties, guarantees bonds, service and maintenance contracts as specified in the respective sections of the specifications.

**1.10 SUMMARY OF SUBMITTALS**

.1 Substantial Performance: at the time of the Substantial Performance inspection and prior to the issuance of the Certificate of Substantial Performance the Contractor will submit to the Owner, where applicable the following:

.a As-built and record drawings, Operating and Maintenance manuals, balancing reports, spare parts, keys, test reports, certificates and Occupancy Permit.

.b Provide 3 sets of documents in 3 ring binders + 3 CDs including all of the Project Record Documents.

END OF SECTION 01 78 39
January 2018

## 1.0 GENERAL

1.1 SECTION INCLUDES

.1 Demolition and removal; or removal, storage and relocation or reinstallation of elements shown on drawings and as required to complete the new construction and renovation.

.2 Removal of light fixture ballasts containing PCB's to be turned over to COV for disposal.

.3 Removal of demolition material from the property and disposal of same, in a legal manner.

1.2 ASBESTOS ABATEMENT

.1 The Contractor shall review the Contract Documents and examine the site and promptly report to the COV Project Manager any errors, inconsistencies or omissions he may discover, concerning the presence of asbestos-containing materials. If suspect asbestos material is discovered during the normal progress of the project, the Contractor shall not proceed with the affected portion of the Work until he has received direction from the Project Manager.

.2 Should there be asbestos-containing materials present on the site, either specifically stated in the Contract Documents or discovered during the project, the scheduling, instruction and training of the trade and subtrade personnel on the site for the duration of the project is the sole responsibility of the Contractor. All applicable WCB-BC and COV regulations and guidelines must be strictly adhered to.

1.3 QUALITY ASSURANCE

.1 Codes and Regulations: Do all demolition work according to the requirements of the City of Vancouver, VBBL, and the Workers' Compensation Board of B.C. Accident Prevention Regulations.

.2 Qualifications of Workers: Provide a Supervisor who shall be present at all times during the demolition work and who shall be thoroughly familiar with the work required and who shall direct all work. Provide one (1) person on site who is responsible for maintaining the safety barriers and protection of the workers and the public.

1.4 EXISTING CONDITIONS

.1 The Contractor shall accept the site as it exists and will be responsible for all demolition work as required.

.2 The Contractor shall visit the site at his own expense prior to the submission of tenders and take whatever time is required to ascertain existing site conditions and surrounding features related to the proposed demolition and new construction work, and ensure himself that conditions are suitable for execution of the work.

.3 No additional sums of money will be allowed for any items resulting from lack of familiarity with the site conditions. Report any discrepancies to the Consultant.

.4 Prior to start of work arrange for a site visit together with Consultant, to examine existing exterior and interior site conditions adjacent to demolition and new construction work. Take pictures of any existing damage and record same in writing to avoid any disputes at a later date.

1.5 PROTECTION AND HOURS OF WORK

.1 Provide temporary enclosures for securing off of work and the maintenance of any services necessary to the proper and efficient operation of the project.

.2 Protect site improvements such as sidewalks, benches, curbs, existing landscaped and asphalt areas, and all interior finishes that lie along the path of removal.

.3 Conduct construction operations with minimum interference to existing buildings operations, adjacent buildings, adjacent public or private roadways, in parking lots, sidewalks and access facilities in general. Keep such areas free of material debris and equipment at all times.

.4 The Contractor shall provide any hoardings, barricades, warning signs and lights, as necessary, for the protection of all people and property on and adjacent to the site as specified herein or as required by the COV, "the authority having jurisdiction" or by the Worker's Compensation Board of British Columbia. The Contractor shall alter, adapt, maintain, relocate and remove these additional barricades, etc., as necessary due to the work.

.5 All barricades provided by the Contractor shall be removed from the site upon completion of the work and any damage caused repaired to the satisfaction of the Owner.

.6 The Contractor shall separate the work being done in existing buildings from the remainder of the building by using solid hoardings and dustproof screens.

.7 Where work is confined inside a room the room door shall be temporarily weatherstripped to prevent dust from leaving the room. Existing fixtures and furniture shall be protected with tarps or solid hoarding.

.8 Prior to cutting openings in corridors and other public areas the work area shall be hoarded off from floor to ceiling with solid hoarding constructed of studs at minimum of 600 mm o.c. sheathed with minimum 4.7 mm plywood and all joints taped to prevent dust from migrating into the remainder of the building. Temporary weatherstripped doors shall be installed in hoardings for access.

.9 Air supply and return ducts and chases shall be securely sealed or temporary filters installed to prevent migration of dust and noise through the air system.

.10 Exterior openings shall be securely closed after working hours with solid hoardings using minimum 38 mm x 89 mm studs at 600 mm o.c. sheathed with 16 mm plywood. Opening shall be weatherstripped to prevent moisture from entering the building.

.11 In buildings which have Security Alarms, the working hours shall be restricted to normal operation hours of the building, unless special arrangements are made with the Owner. Approval for entry or exit of buildings with Security Alarms after normal working hours will be at the discretion of Campus Security.

.12 Prevent movement, settlement or damage to existing building, finishes, services, walks, paving and parts of existing building to remain. Provide shoring and bracing as required. Make good any damage and be liable for injury or damage caused by demolition.

.13 All safety exits must be maintained throughout the duration of this work.

1.6 SAFETY CODE

.1 Unless otherwise specified, carry out demolition work in accordance with Canadian Construction Safety Code.

1.7 COORDINATION AND COOPERATION

.1 The Contractor shall take every common and reasonable precaution to avoid damage and minimize interruption to Owner's property and services. All costs associated with making good any damage and/or providing temporary service or protection shall be borne by the Contractor.

.2 Cooperate and coordinate with the work of other related trades on which the work of this section depends, in order that the work may proceed on an orderly and timely basis in accordance with the Contractor's schedule and to avoid duplication of costs and work.

1.8 MAKING GOOD

.1 “Making Good” shall be defined as preparing new surfaces which are identical to adjacent surfaces (with similar backing materials, eg. Cement render on masonry backing), and finished off in such a manner that there are absolutely no visible traces (at a distance of 600 mm / 2 feet), between existing work and the work of new patching. “Making good” therefore, extends to the complete re-finishing of entire surface areas as is necessary, to junction points or inside or outside corners of walls, partitions and ceilings.

.2 “Making good” for painting refers to satisfactorily preparing finish surfaces for paint, so that newly patched surfaces are indistinguishable from immediately adjacent existing finishes of similar materials.

.3 All alteration and restoration required to be performed shall be done whether or not shown on the drawings or specified. (Example, where wall is indicated to be removed, make good at floor, ceiling and junction with other walls). Thus whenever existing assemblies are removed or altered, the Scope of Work of the Contract will include all remedial work and “making good” of services and finishes that are affected by the removal or alteration.

.4 Where existing items are removed, “make good” to existing surfaces if they are to remain exposed.

**2.0 PRODUCTS**

2.1 MATERIALS

.1 General: Refer to related sections of this specification for reference in general to basic materials to be used in the work of this section.

.2 Make Good: Materials shall be either recycled or new, structurally sound and matching in dimensions of the profile and character of the existing construction.

.3 Materials resulting from the demolition that are not required to make good existing surfaces, or required by the Owner for other purposes, shall become the property of the Contractor and shall be removed from the site and disposed of in a legal manner.

## 3.0 EXECUTION

3.1 PREPARATION

.1 Shut-off, disconnect, cap-off and seal all plumbing, mechanical, and electrical services, in accordance with the requirements of Plant Operations and the authorities having jurisdiction, before starting demolition.

3.2 DEMOLITION

.1 The work described in this section shall include the items as shown on the drawings and other related Contract Documents and apparent from site investigations.

.2 Carry out all necessary temporary bracing and supporting to structure as required during building demolitions.

.3 Prevent debris from blocking items including, but not limited to, surface drainage inlets and systems, elevators, mechanical and electrical systems which must remain in operation.

.4 Carry out all demolitions and making good. Patch and make good to a standard at least equal to that of adjacent surfaces when related work is completed.

.5 Remove materials from demolition promptly as the demolition work progresses. Materials shall not be sold at the site. The Contractor will be assumed to have allowed for any credit he may obtain for such materials.

.6 In the event that asbestos is found in the area of the demolition, the asbestos material is not to be disturbed, the Owner is to be notified immediately and arrangements will be made for asbestos removal, prior to completing the demolition.

.7 Any items containing PCB's should be stockpiled in a safe location. The Project Manager should be notified and the COV will subsequently remove and dispose of such items.

.8 No heavy equipment causing excessive vibrations to the existing structure are permitted.

.9 Prevent overloading of any part of the building. Do not cut, drill or otherwise sleeve any structural member without written approval of the Consultant.

.10 Execute cutting, fitting and patching required to make work fit together properly.

.11 Make cut clean, true, smooth edges. Make patches inconspicuous in final assembly.

.12 Locate and make holes through floor slabs for review by the Consultant (Engineer) prior to commencement of cutting.

.13 At locations where reinforcing bars have been cut during demolition, paint ends of bars with zinc-rich paint, Galvicon or pre-approved alternate.

.14 Demolish parts of existing building as shown on drawings. Include removal or removal and relocation of equipment, fixtures, and services as indicated.

.15 Demolish existing walls with care, do not damage adjacent surfaces noted to remain.

.16 Demolish existing concrete block masonry walls in small sections. Demolish in a manner to minimize dust. Keep masonry materials wetted.

.17 Saw cut existing concrete floor slab in straight lines, remove only as much concrete as required.

.18 Remove existing millwork fixtures, services, and building components where required for refinishing, altering or make good of existing surfaces, and replace same as work progresses.

.19 Refer to drawings for items to be removed and turned over to the COV.

3.3 PROTECTION

.1 Protect adjacent work, unaffected by the work of this contract, from damage, staining, disfigurement caused by the work of this section.

.2 Provide necessary enclosed refuse chutes and containers to handle demolition material.

.3 Promptly as the work proceeds, and on completion keep the premises clean and free from rubbish, debris, surplus materials and equipment.

3.4 CLEAN-UP

.1 Upon the completion of all demolition work, remove all equipment, material and debris and leave the area clean.

END OF SECTION 02 05 00
January 2018

## 1.1 SECTION INCLUDES

.1 Wood bucks and backing where required.

.2 Plywood sheathing where detailed and indicated.

.3 Rough hardware and fasteners.

.4 Preservative treatment, fire retardant treatment.

.5 This section is to be read in conjunction with Structural sections and notes. Where a conflict exists, confirm specification requirements with Consultant.

## 1.2 RELATED WORK

~~.1 Section 05 50 00 Metal Fabrications.~~

.2 Section 06 20 00 Finish Carpentry.

.3 Section 09 91 00 Painting.

## 1.3 REFERENCE STANDARDS

.1 Conform to the following standards for work in this section.

.2 Current Vancouver Building By-Law (VBBL).

.3 Canadian Standards Association (CSA) Publications:

.a CSA B111-1974 (R1998); Wire Nails, Spikes and Staples.

.b CSA O86.1-94; Engineering Design in Wood.

.c CSA-O80 Series 97, Amendment 2, 01 Feb 2000: Wood Preservation.

.d CSA O121-M1978 (R1998); Douglas Fir Plywood.

.e CAN/CSA O141-91 (R1999); Softwood Lumber.

.f CGSB-51.34-M86 (vapour barrier).

## 1.4 QUALITY ASSURANCE

.1 Grading: All dimension lumber shall be graded according to the National Lumber Grade Authority Rules, latest issue, for Douglas Fir, Pacific Coast Hemlock, and Western Red Cedar. Size, grading, and inspection to CSA O141-91. Species groups to CSA O86-01.

.2 Standards: CSA standards for CCA and ACA Preservative Treatment and in accordance with CSA O80 Series-97.

.3 All plywood shall be graded to CSA O121-M1978 (R1998) or O151-M1978.

**1.5 PRODUCT DELIVERY, STORAGE AND HANDLING**

.1 All timber items shall be stored under cover, not in contact with the ground, and stacked for maximum air circulation and ventilation until installed in place.

.2 Protect materials from the elements during transportation to the site.

**1.6 CONDITIONS**

.1 Examine all conditions on which the successful work of the section depends.

.2 Report any unsatisfactory conditions to the Consultant in writing.

.3 Start of work shall imply acceptance of conditions.

**2.1 MATERIALS (GENERAL)**

.1 General: All materials shall be new and of the quality and grade specified, except specific existing lumber or timbers to be re-used or framing to be re-used, where identified by the Consultant during deconstruction. No second, off grades or materials not meeting tolerance specifications will be accepted in the finished work.

.2 Grading:

.a All timber shall be graded according to the National Lumber Grade Authority No.Rule latest issue, for Coastal Douglas Fir, Hem/Fir, and Western Red Cedar.

.b All materials shall be new, S4S or as specified, and bear mill identification and grade stamp.

.c Mill identification or grade stamps shall not be viable on any wood construction exposed to view.

.d Maximum 19% exterior, 12% interior, unless otherwise specified; protect all lumber against moisture before and after installation to prevent defects.

**2.2 PLYWOOD - GENERAL**

.1 Sheathing: Fir plywood with waterproof glues for exterior work behind finishes.

.2 Interior Finishes: Exposed interior finishes to be G1S or G2S or Crezone faced plywood.

.3 Cabinets to be 19mm (3/4”) G1S fir plywood. If a clear finish is desired, use G1S or G2S birch plywood or maple plywood.

.4 Subfloor: Use T&G 16mm (5/8”) D.F. plywood glued and crewed to structure.

.5 Underlay: Use 12.5 mm (1/2”) G1S Plywood with the jints taped and filled were resilient flooring is installed.

.6 Wall backing: Fir plywood, thickness as detailed, exterior grade, and preservatively treated when used as backing for window and exterior door frames.

.7 Ensure that plywood backing is installed straight and carefully aligned where metal flashings occur and take extra care at architecturally visible roof edges and canopy. It is the responsibility of this section to provide a high quality substrate for subsequent flashing installation.

.8 Provide fire retardant treated plywood in equipment rooms where required.

## 2.3 DIMENSIONED LUMBER AND PLYWOOD

| | ITEMS | SPECIES | GRADE & DESCRIPTION |
|---|---|---|---|
| .1 | Blocking, strapping, framing and backing (general use, non-structural). | Hem-Fir or Douglas Fir | Utility or better, pressure treated for all roof and parapet components and all wood in contact with concrete and where indicated. Dimensions as shown. |

## 2.4 ACCESSORIES

| | ITEMS | MATERIAL | GRADE & DESCRIPTION |
|---|---|---|---|
| .1 | Powder activated | Steel | Hilti or Ramset fasteners |
| .2 | Miscellaneous | Galvanized Steel | Anchor bolts triple anchors, rough grips, straps, nails, hardware and fasteners. |

## 2.5 ROUGH HARDWARE

.1 Including machine bolts, washers, leg bolts, drift pins, dowels and such like. Shall conform to CSA B33.1-1961; nails, spikes and staples shall conform to CSA B111-1974 (R1998), galvanized in interior locations, high humidity areas, and elsewhere where liable to corrosion and in treated lumber. Do not use power driven staples or “T” head nails.

## 2.6 CONNECTION STEEL

.1 Shall be mild structural steel, conforming to CSA G40.21-M1992, Grade 350W galvanized at all locations.

## 2.7 PRESSURE TREATMENT

.1 Pressure Treatment (for plywood sheathing): Chromated Copper Arsenate Type to 6 Kg/$m^3$ retention or refusal in accordance with CSA O80 Series.

.2 Pressure Treatment (for lumber): Pressure Type, Chromated Copper Arsenate Type, Boliden or Wolman Salts to 0.23 retention or refusal.

.3 Treat all freshly cut surfaces of pressure treated lumber.

**3.1 INSTALLATION**

.1 Workmanship: Erection methods and procedures shall meet minimum set out in the VBBL Standards. Where this specification exceeds the above standards, the specification shall govern. Work to be done by skilled tradesmen in accordance with best trade practice and as directed by the Structural Engineer and Architect.

.2 General : All members shall be so framed, anchored, fastened, tied, and braced together to provide the strength and rigidity necessary for the purpose for which they are used. All nails or staples shall be in accordance with the B.C. Building Code (latest edition). All members shall be arranged true to lines, levels and elevations, plumb and uniformly spaces as required, noted, and detailed.

.3 Provide and install wood blocking as required and where detailed in partitions at door jambs and to receive handrails, grab bars and washroom accessories.

.4 Dampproofing: All wood resting on concrete or masonry shall have a continuous strip of sill gasket.

**3.2 ALL FRAMING NAILING**

.1 Lengths and spacings at least in accordance with NBC Residential Standards.

**3.3 PROTECTION AND CLEAN-UP**

.1 At completion and during progress of the work, remove all surplus materials from the site.

.2 Protect the work of other sections from damage resulting from the work of this section.

.3 Field touch-up with CCA preservative solution should not be allowed to splash or splatter adjacent finished surfaces.

END OF SECTION 06 10 00
January 2018

## 1.1 SECTION INCLUDES

.1 Installation of new and existing wood doors. (Not applicable for this project)

.2 Installation of pressed steel frames and hollow metal doors, new and existing.

.3 Supply and installation of miscellaneous shelving.

.4 Installation of finish hardware.

.5 Installation of architectural woodwork as specified in Section 06 40 00.

## 1.2 RELATED WORK

.1 Section 05 50 00 Metal Fabrications.

.2 Section 06 40 00 Architectural Woodwork.

.3 Section 08 11 13 Hollow Metal Doors and Frames.

.4 Section 08 21 00 Wood Doors.

.5 Section 08 41 13 Aluminum Entrances and Storefront.

.6 Section 08 70 00 Finish Hardware.

## 1.3 QUALITY ASSURANCE

.1 All items shall meet the requirements of the Architectural Woodwork Manufacturers Association of Canada for Custom Grade, and this manual shall form part of this specification. If modifications to this standard occur in this specification or on the drawings, the modifications shall govern. All fasteners and hardware in humid areas, such as Natatorium, and drying areas to be non-corrosive.

.2 Lumber grading shall conform to NLGA, National Lumber Grade Authority.

.3 Plywood, particleboard, and hardboard shall be graded in accordance with applicable CSA or CGSB standards.

.4 Douglas Fir plywood grades to conform to requirements for Standard and painted finish.

.5 All wood framing shall be Douglas Fir or Hemlock, kiln dried. For paint finish, clear material shall be selected.

## 1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

.1 Store, handle, and protect materials to prevent marring of surfaces. Cover in an approved manner to protect from damage. Any disfigured or twisted fabrications will be rejected.

.2 Materials shall not be delivered or stored on site until immediately prior to installation commencing. Only quantities sufficient to permit efficient installation are to be delivered at any one time.

.3 Do not install any millwork when the performance of the whole assembly would be prejudiced. Moisture equilibrium of finished products shall not be subjected to excessive changes.

**1.5 SHOP DRAWINGS**

.1 Prepare shop drawings showing fastening devices, design and installation details of all upper cabinets.

**2.1 MATERIALS**

.1 General: All materials used in this Contract shall be of the highest quality as manufactured by nationally recognized manufacturers and of the type indicated on the drawings and in these specifications.

.2 Under no circumstances may MDF be used on this project.

**2.3 MATERIALS (ACCESSORIES)**

.1 Fasteners: All fasteners shall be adequately sized to fasten millwork and carry imposed loads. Fasten millwork items as required to resist seismic loading. Refer to details and confirm types and sizes of all typical fastener types on shop drawings.

.2 Wall hung cabinets to be designed and sized to resist seismic loading and loading imposed by the weight of the cabinets and their contents. As a minimum use additional fasteners with minimum 1" (25 mm) dia washers or as otherwise required.

**3.1 EXAMINATION**

.1 Examine all surfaces to which the work of this section is applied, and ensure all conditions are suitable to provide a complete and satisfactory installation.

.2 Commencement of work will indicate acceptance of surfaces and conditions.

**3.3 INSTALLATION OF WOOD DOORS (NOT APPLICABLE TO THIS PROJECT)**

.1 Place frames prior to construction and enclosing of walls and ceilings, set frames accurately in position plumbed, aligned, and braced securely until permanent anchors are set. (Coordinate with Section 08 40 00.) After all construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.

.2 Hang all wood doors to open and close smoothly with no binding whatsoever. An even margin shall be kept between door and jamb, sufficient on all sides to allow free action of the door. Re-adjust and check all doors upon completion of the work, correcting restrictions to the free action of the door caused by moisture or improper fixing of hardware of frame, etc.

.3 Fit new and existing wood doors accurately in their respective frames with clearances specified in Canadian Door and Frame, Manufacturers Association Standards, plumb, free swinging, smooth operating, and with even margins.

.4 Doors to have clearance of 1/8" (3 mm) jambs and at head, and unless an undercut is specified, ½" (12mm) at sills (unless otherwise noted or required for hardware installation).

.5 Ensure that doors are hung to correct location in accordance with the Door Schedule. Secure doors and hardware plumb, true, and square, so that they operate without binding.

### 3.4 INSTALLATION OF PRESSED STEEL FRAMES AND HOLLOW METAL DOORS

.1 Place frames prior to construction and enclosing of walls and ceilings. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After all construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.

.2 Fit new and existing hollow metal doors accurately in their respective frames with clearances specified in Canadian Door and Frame, Manufacturers Association Standards, plumb, free swinging, smooth operating, and with even margins.

### 3.5 FINISH HARDWARE INSTALLATION

.1 Coordinate and cooperate with the installation of finish hardware in accordance with the manufacturer's instructions. Fit accurately, using full complement of screws and draw up tight.

### 3.6 PROTECTION AND CLEAN-UP

.1 Protect adjacent work from damage, staining, and disfigurement caused by the work of this section.

.2 Promptly as the work proceeds and on completion, keep the premises clean and free from rubbish, debris, surplus materials, and equipment accumulation.

END OF SECTION 06 20 00
January 2018

## 1.1 DESCRIPTION

.1 The work of this section includes the supply, fabrication, and delivery to the job site, of architectural woodwork indicated on the drawings and as specified.

.2 Architectural woodwork shall include all clear, kiln dried, dressed, or resawn material exposed to view in a finished building interior and exterior, including casework, frames, paneling, trim, and other wood-related products.

.3 Exposed to view interior and exterior wood.

## 1.2 RELATED WORK

.1 Section 06 10 00 Rough Carpentry.

.2 Section 06 20 00 Finish Carpentry.

.3 Section 08 70 00 Finish Hardware.

.4 Section 09 91 00 Painting.

.5 Mechanical, sinks in plastic laminate countertops.

.6 Electrical, electrical outlets, and lighting

## 1.3 QUALITY ASSURANCE STANDARDS

.1 The Quality Standards for Architectural Woodwork by the Architectural Woodwork Manufacturers Association of Canada (AWMAC), 1998 Edition, hereafter referred to as the Manual, together with authorized additions and amendments, shall be used as a reference standard and shall form part of this project specification.

.2 Where modifications to the AWMAC Quality Standards contained within the Manual are included in this project specification, then such modifications shall govern in case of conflict. Modifications, however, may void warrantee.

.3 Any reference to Custom or Premium grade in this specification shall be as defined in the Manual.

.4 Any item not given a specific quality grade shall be Custom grade as defined in the Manual.

.5 A copy of the AWMAC Quality Standards Manual shall be made readily available for reference purposes.

.6 All architectural woodwork to be used in the project shall meet the requirements of the AWMAC Quality Standards Manual.

.7 References in this specifications to part and item numbers mean those parts and items contained within the AWMAC Quality Standards Manual.

.8 Materials and installation shall be in imperial measurement as specified.

.9 Millworker to be a member in good standing with AWMAC BC.

## 1.4 SUBMITTALS

.1 Shop Drawings:

.a Shop drawings for architectural woodwork shall be prepared and submitted for review to the Design Authority in accordance with Section 01 33 00.

.b Shop drawings shall show construction details of all architectural woodwork and general arrangements; typical and special installation conditions; materials being supplied and all connections, attachments, anchorage and location of exposed fastenings, as applicable.

.c Shop drawings shall incorporate plans, elevations, sections, and details for all architectural woodwork. The details shall show and specify all thicknesses, types and finishes, and all cabinet hardware.

.d No work shall be fabricated until the shop drawings have been reviewed and all other related submittals and samples as required by the specifications, have been approved by the Design Authority.

.2 Samples:

.a Submit samples, 625 square centimetres (100 square inches) in duplicate of each wood species which is to receive finish at the job site, to the Design Authority for approval.

.b Submit finished samples, 625 square centimetres (100 square inches) in duplicate of each finish to be applied at the factory, to the Design Authority for approval. A sample must be given to the Architectural Woodwork Manufacturer to match prior to submitting his own match.

.c Different or alternate cabinet hardware from that specified shall be submitted to the Design Authority for approval.

.d Approved samples shall become the standard for the work.

.3 Brochures: Submit manufacturer's descriptive literature of specialty items not manufactured by the Architectural Woodwork Manufacturer as requested by the Design Authority.

## 1.5 PRODUCT HANDLING AND STORAGE

.1 The Architectural Woodwork Manufacturer and the Contractor shall be jointly responsible to make certain that architectural woodwork and wood doors are not delivered until the building and storage areas are sufficiently dry so that the architectural woodwork will not be damaged by excessive changes in moisture content.

.2 Architectural woodwork delivery, storage, and handling shall be in accordance with Section 703 of the Manual.

.3 Wood door delivery storage and handling shall be in accordance with Section 704 of the Manual.

.4 Delivered materials which are damaged in any way or do not comply with these specifications will be rejected by the Design Authority and shall be removed from the job site and replaced with acceptable materials.

**1.6 GUARANTEE**

.1 This trade Contractor shall furnish the Owner with a two (2) year AWMAC Guarantee Certificate or an equivalent maintenance bond, to the full value of the architectural woodwork subcontract, certifying that the architectural woodwork has been manufactured and/or installed in accordance with the standards incorporated in the AWMAC Quality Standards Manual, (Latest Edition – 2003).

.2 The Guarantee shall cover replacing and refinishing to make good any defects in architectural woodwork due to faulty workmanship or defective materials supplied by this architectural woodwork subcontractor, which appear during a two (2) year period following the date of substantial completion of the Project.

**1.7 INSPECTION**

.1 Architectural woodwork shall be manufactured and/or installed to the specified AWMAC Quality Standards and shall be subject to an inspection at the plant and/or site by an appointed inspector approved by the AWMAC chapter. Such inspection costs shall be included in the tender price for this project. Shop drawings shall be submitted for review or approval before any work is commenced. Any work which does not meet the specified AWMAC Quality Standards, shall be replaced by the wood door subcontractor at no additional cost to the Owner, and to the satisfaction of the Consultant and the Inspector.

**2.1 GENERAL**

.1 Use clean stock only and comply with AWMAC Quality Standards for following grades.

***.2 All plywood to be veneer core. No MDF or particle board core is permitted on this project where plywood is indicated.*** All countertops with sinks to have veneer core plywood under laminate.

.3 All MDF to be formaldehyde free.

.4 All adhesives to be Low V.O.C.

.5 Environmental:

.a Source: The harvesting of some species of wood is an environmental threat only in certain areas of the world. The use of endangered wood species in millwork, casework and furniture products must not be used. Confirm the source of all woods used. Information is available in publications such as Environment By Design and The Environmental Resource Guide of the American Institute of Architects, as well as other sources. Some alternatives to Tropical Rainforest Woods are:

| | |
|---|---|
| Cabinet: | Ash, Birch, Cherry, Cypress, Hemlock, Magnolia, Oak, Pine, Spruce, Sycamore, Walnut |
| Furniture: | Beech, Birch, Cherry, Magnolia, Hard Maple, Oak, Pecan, Pine, Poplar, Sycamore, Walnut |
| Veneer: | Birch, Oak, Poplar, Red Gum, Maple |

Trim: Birch, Douglas Fir, Hemlock, Magnolia, Oak, Pine, Spruce

Use of local manufacturers is preferred

.b Manufacturer: Avoid adhesives, preservatives, hardeners, synthesizing agents and finish coatings that contain formaldehyde and high VOC content MDF to be formaldehyde free and recycle certified Plywood: Exterior grade (ie. manufactured with formaldehyde-free adhesives).

**2.2 CASEWORK**

.1 General:

.a Use clean stock only and comply with AWMAC Quality Standards for following grades:

.2 Casework for Stain Finish:

.a AWMAC Quality Grade: Custom.

.b Construction: Casework shall conform to AWMAC Design Details

.c Refer to drawings for thickness, profiles and special details.

.d Semi exposed casework construction to be Natural Birch, rotary cut plywood. Provide 3mm Type 2 edge banding.

.3 Casework Hardware:

All cabinet hardware shall be furnished and installed by the architectural woodwork manufacturer. Hardware to be commercial grade and as follows, unless alternates are approved prior to fabrication. The architectural woodwork manufacturer is encouraged to submit alternates if, in their experience, such alternates will function correctly and integrate with their manufacturing techniques:

.a Drawer Slides: Medium duty slides, 75 lb per pair (based on 450mm slide), full extension Accuride.

.b Shelf Standards and Brackets: type optional with manufacturer.

.c Concealed Hinges for 19mm thick doors: Blum 125 degree Clip, 125 degree opening, nickel plated steel, self closing, full overlay.

.d Cabinet and Drawer Pulls: Richelieu Contemporary Metal Pull Product #56325160195, Brushed Nickel, 160mm oc,

.e Locks for 19mm thick doors and drawers: Optional with manufacturer. Keying AUE1, coordinate keying with section 08 70 00. Aluminum natural coloured anodized finish.

.4 High Pressure Laminate Countertops and Backsplashes:

.a Countertops shall be as per details to AWMAC Quality Standards.

.b Edge type shall conform to drawings.

.c Blacksplash shall conform to AWMAC detail No.3 as per AWMAC Detail Sheet 2.6.

d. Laminate shall be: Manufacturer: Formica High Gloss, colour as per Architect choice, refer to Section 09 99 99 Colour Schedule.

.5 Factory Finishing:

.a Finishes shall be applied in accordance with Part 5, Item 8 of AWMAC Quality Standards. Degree of Sheen: flat. Refer also to Section 09 91 00.

.b Field Touch Up: Field touch-up shall be the responsibility of the installing Contractor and shall include the filling and touch-up of exposed job made nail or screw holes, refinishing of raw surface resulting from job fitting, repair of hob inflicted scratches and mars, and final cleaning up of the finished surfaces.

.c Countertops shall have Granite finish to AWMAC Part 2, Item 7 and to conform to clause 2.2.7.

**3.1 JOB CONDITIONS**

.1 Job Conditions for installation of architectural woodwork shall be as specified under Section 702 and 714 of the Manual.

.2 Installation

.a Cabinet and Casework: Install in accordance with Part 6, Item 5 of the AWMAC Quality Standards.

.b Paneling: Install in accordance with Part 6, Item 6 of the AWMAC Quality Standards for Custom grade.

.c Interior Frames: Install in accordance with Part 6, Item 7 of the AWMAC Quality Standards.

.d Wood Doors: Install in accordance with Part 6, Item 9 of the AWMAC Quality Standards.

.e Finish Hardware: Install finish hardware to wood doors in accordance with Part 6, Item 10 of the AWMAC Quality Standards.

.f Installation shall be as specified in Section 06 20 00.

END OF SECTION 06 40 00
January 2018

## 1.1 SECTION INCLUDES

.1 Supply and installation of wood doors and frames, flush construction, solid core.

## 1.2 RELATED SECTIONS

.1 Section 06200 Finish Carpentry, installation of doors and frames.

.2 Section 08800 Glass & Glazing.

.3 Section 09900 Painting.

## 1.3 QUALITY ASSURANCE STANDARDS

.1 The " Architectural Woodwork Standards " of the Architectural Woodwork Manufacturers Association of Canada (AWMAC), Latest Edition, together with authorized additions and amendments, shall be used as a reference standard and shall form part of this project specification.

.2 Where modifications to the AWMAC Architectural Woodwork Standards contained within the Manual are included in this project specification, then such modifications shall govern in case of conflict.

.3 Any reference to Economy, Custom or Premium grade in this specification shall be as defined in the AWMAC Architectural Woodwork Standards.

.4 Any item not given a specific quality grade shall be Custom grade as defined in the latest edition of the AWMAC Architectural Woodwork Standards.

.5 A copy of the AWMAC Architectural Woodwork Standards shall be made readily available for reference purposes.

.6 All wood doors and frames to be used in the project shall meet the requirements of the AWMAC Architectural Woodwork Standards for the particular grade specified.

.7 Reference in this specification to part and item number means those parts and items contained within the AWMAC Architectural Woodwork Standards.

.8 Materials and installation shall be in metric measurement as specified.

.9 All wood doors shall be of specified grade as defined by AWMAC Manual and conform to CAN/CSA O132.2 SERIES-90 (R1998).

## 1.4 SUBMITTALS - SHOP DRAWINGS

.1 Prepare and submit to the Consultant for review shop drawings for architectural woodwork.

.2 Shop drawings shall show construction details of all architectural woodwork, general arrangements, locations of all service outlets, etc.; typical and special installation conditions; the material being supplied and all connections, attachments, anchorage and location of exposed fastenings, as applicable.

.3 Shop drawings shall incorporate plans, elevations, sections and details for all work included in this section. The details shall show and specify all thicknesses, types and finishes and all hardware.

.4 No work shall be fabricated until the shop drawings and all other related submittals, documentation and samples as required by the specifications, have been reviewed by the Consultant.

**1.5 PRODUCT DELIVERY, STORAGE AND HANDLING**

.1 Deliver all doors to site, factory primed where possible, as specified and protected as necessary to prevent damage or deterioration.

.2 Deliver no doors until conditions are suitable and doors are actually required for installation.

.3 Store all doors in a dry place; free from extremes of temperature; properly stacked and protected according to manufacturer's and the Architectural Woodwork Manufacturers Association directions.

**1.6 GUARANTEE**

.1 This trade Contractor shall furnish the Owner with a two (2) year AWMAC Guarantee Certificate or an equivalent maintenance bond, to the full value of the wood door subcontract, certifying that the wood doors have been manufactured and/or installed in accordance with the standards incorporated in the AWMAC Quality Standards Manual, (Latest Edition – 2003).

.2 The Guarantee shall cover replacing and refinishing to make good any defects in wood doors due to faulty workmanship or defective materials supplied by this wood door subcontractor, which appear during a two (2) year period following the date of substantial completion of the Project.

**1.7 INSPECTION**

.1 Architectural woodwork shall be manufactured and/or installed to the specified AWMAC Architectural Woodwork Standards and shall be subject to an inspection at the plant and/or site by an appointed inspector approved by the AWMAC chapter. Such inspection costs shall be included in the tender price for this project. Shop drawings shall be submitted for review or approval before any work is commenced. Any work which does not meet the specified AWMAC Architectural Woodwork Standards, shall be replaced by the wood door subcontractor at no additional cost to the Owner, and to the satisfaction of the Consultant and the Inspector.

**2.1 FLUSH WOOD DOOR TYPES MATERIALS AND CONSTRUCTION**

.1 Flush Wood Doors:

.a AWMAC Quality Architectural:

.i Faces for Transparent (Clear) Finish: rotary cut Select White Maple.

.ii Faces for Paint Finish: Paint Grade veneers.

.b Core Construction: Core shall be to AWMAC Quality Standards.

.c Door Vertical Edges: Shall be AWMAC Type D as per AWMAC Architectural Woodwork Standards.

.d Doors and transoms shall be veneered matched. Joint between doors and transoms shall be as detailed.

### 3.1 WORKMANSHIP AND FABRICATION

.1 Doors shall be factory cut out for door hardware including all rough-in for all future electrified hardware as scheduled. Obtain approved copy of Door Hardware Schedule and perform all necessary cuttings in accordance with schedule. Obtain necessary templates required for hardware.

### 3.2 INSTALLATION OF DOORS

.1 Installation by Section 06 20 00.

### 3.3 FINISHING

.1 Finishes shall be field applied by Section 09 90 00. The Contractor may choose to factory finish in accordance with systems specified in Section 09 90 00.

END OF SECTION 08 21 00
January 2018

## 1.1 SECTION INCLUDES

.1 Aluminum Entrances and Screens.

.2 For Glass and glazing to the above items, refer to Section 08 81 00 Glass Glazing.

## 1.2 RELATED WORK

.1 Section 07 92 00 Joint Sealants.

.2 Section 08 70 00 Finish Hardware.

.3 Section 08 81 00 Glass Glazing

## 1.3 QUALITY ASSURANCE

.1 Design Standard: Kawneer Canada has been selected as a design standard. Metro Aluminum is preapproved as equivalent to the products specified. Other manufacturers of similar products are invited to submit their proposals for equivalent or alternative acceptance.

## 1.4 SUBMITTALS

.1 Shop Drawings: Submit shop drawings of all typical items. Completely detail items indicating all dimensions and methods of attachment. Confirm all dimensions on the site. Show coordination with related work and building envelope details.

.2 Each shop drawing submitted shall bear the stamp of approval from a Structural Engineer registered in the Province of British Columbia and contain a statement that the system design meets the structural requirements of the British Columbia Building Code.

.3 Samples: Submit samples of typical aluminum and hardware components in selected finish.

## 1.5 DESIGN RESPONSIBILITY

.1 Allow for deflection at the window and door frame heads.

.2 Aluminum Entrances shall be designed to meet or exceed the requirements of the Vancouver Building By-Law (VBBL). The shop drawing for the aluminum entrances and storefront shall be signed and sealed by a Professional Engineer registered in the Province of British Columbia. The Engineer shall also submit with the shop drawings a signed and sealed Letter of Assurance in accordance with the VBBL for the design related item.

.3 At the completion of the work provide a Letter of Compliance in accordance with VBBL, signed and sealed by the Engineer confirming that the aluminum entrances and storefront have been designed and installed to meet or exceed the requirements of the VBBL.

## 1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

.1 Deliver and store materials undamaged and, where applicable, in their original wrappings or containers with the manufacturer's labels and seals intact. Store materials on a dry floor in a weatherproof enclosure.

**1.7 CONDITIONS**

.1 Examine all conditions on which the successful work of this section depends.

.2 Report to the Consultant in writing defects of work prepared by other trades and unsatisfactory site conditions. Starting of the work shall imply acceptance of surfaces.

**1.8 GUARANTEE/WARRANTY**

.1 Provide the manufacturer's standard warranty on aluminum components and a five year warranty on sealed units.

**2.1 MATERIALS**

.1 General: All materials used in this Contract shall be of the highest quality as manufactured by nationally recognized manufacturers and of the type indicated on the drawings and in these specifications.

.2 Aluminum Members: Extruded from 6063-T5 alloy free from defects impairing strength, appearance, and durability.

.3 Fastenings: Stainless steel, aluminum or other corrosion resistant material.

.4 Reinforcement Steel: Steel as reinforcement to aluminum members and fixing support for aluminum frames to be medium structural steel conforming to CSA G40.20/G40.21-98, Type 44W.

.5 Sills: as detailed.

.6 Metal Flashings, Cladding (Head, Mullion, Sill): Provide matching aluminum flashings, cladding and infill panels to all locations as indicated on the drawings and as required for complete installation (Finished in the same manner as window to which they are colour matched). All fastenings concealed. Flashing minimum 20 gauge.

.7 Glass:

.a Refer to Section 08 81 00 Glass Glazing for glass

.b Thickness of Glass: Conform to VBBL wind load requirements where applicable and according to maximum glass sizes. Tempered as required to meet VBBL for strength. Refer also to drawings for thicknesses were noted.

.8 Aluminum Finish: All exposed aluminum shall be as indicated on the Finishes List.

**2.2 FRAMING**

.1 Single Glazing (Interior non thermally broken): Kawneer 400. Approved equivalent is Metro Aluminum Series 1750 or equivalent pre-approved by the Architect.

**2.3 DOORS**

.1 Interior Building Doors: Kawneer 500 Wide Style or equivalent pre-approved by the Architect. 44.5 mm (1-3/4 inches) thick, 127.0 mm (5 inch) wide top rail, 127 mm (5 inch) wide vertical stiles, 165.1 mm (6-1/2 inch) wide bottom rail; square glazing stops.

**2.4 HARDWARE**

.1 Door Hardware: To be supplied by Section 08 70 00 and coordinated and installed by Section 08 41 13. Hardware to be installed to avoid on site cutting of door frames, stops or door frames. Any cutting not illustrated in shop drawings or reviewed by Consultant may be rejected.

**2.5 MATERIALS (GLAZING)**

.1 General: Sealants, tapes, gaskets, separators, joint fillers, and back-up materials shall be physically and chemically compatible with each other and with adjacent materials.

.2 Backing or Glazing Tape: Macro-polyisobutylene preformed tape with continuous built-in shim. Tremco polyshim tape or approved equivalent.

.3 Sealants (Glass to Glass): Silglaze (no primer) as manufactured by G.E. or Dow Corning #780 with surface conditioner A, as manufactured by Dow Corning or approved equivalent.

.4 Backing: Closed cell polyethylene tape, non-staining and compatible with sealant.

.5 Primer: As manufactured by sealant manufacturer.

.6 Gasket, Shims, Setting Blocks, and Spacers: Extruded vinyl, neoprene, EPDM strips, as required.

**3.1 EXAMINATION**

.1 Examine all surfaces to which the work of this section is applied, and ensure that all conditions are suitable to provide a complete and satisfactory installation.

.2 Commencement of work will indicate acceptance of surfaces and conditions.

.3 Report any unsatisfactory surfaces or conditions to the Consultant.

**3.2 INSTALLATION (GENERAL)**

.1 Install storefront wall system to manufacturer instructions.

.2 Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

.3 Provide attachment at head of frame system as required to accommodate building movement.

.4 Provide alignment attachments and shims to permanently fasten system to building structure.

.5 Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

.6 Provide thermal isolation where components penetrate or disrupt building insulation.

.7 Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.

.8 Coordinate attachment and seal of perimeter air and vapour barrier materials.

.9 Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

.10 Install operating sash.

.11 Install flashings.

.12 Set thresholds in bed of mastic and secure.

.13 Install hardware using templates provided. Refer to Section 08 71 00 for installation requirements.

.14 Install glass in accordance with manufacturer's instructions.

**3.3 INSTALLATION OF ALUMINUM WORK**

.1 Supply all inserts, bolts, and other fixing required to be installed. Coordinate with other trades in setting out and setting of inserts, anchors, etc., as work proceeds.

.2 Set members level, plumb, and square as required and in proper alignment with other work. Erect in accordance with the manufacturer's directions using non-corrosive fixings. Extend thresholds full door width in one piece, notch and drill for hardware, keeps, etc.

.3 Do all necessary sealing and caulking within frame members, abutting construction and doors to ensure a complete weatherproof installation.

.4 Note: Back-paint with bituminous paint, the face of all aluminum sections and surfaces which come in contact with other materials which might cause electrolytic or chemical reaction.

**3.4 INSTALLATION OF GLASS**

.1 All glazing shall be carried out in accordance with typical details of reviewed shop drawings and the manufacturer's written specifications. Perimeter clearance must be sufficient to avoid all point loading and provide for sufficient clearance of glass to metal.

.2 Clean all contact surfaces prior to installation.

.3 Apply stops using glazing tapes or full sealant joint, all in strict accordance with the manufacturer's printed instruction to achieve maximum performance and provide maximum security.

**3.5 FINAL ADJUSTMENT**

.1 Adjust all doors and windows to operate smoothly without binding or jambing or undue pressure.

.2 Check and re-adjust work just prior to final inspection. Leave the work in complete and smooth operating condition.

**3.6 PROTECTION AND CLEAN-UP**

.1 Protect adjacent work from damage, staining, and disfigurement caused by the work of this section.

.2 Promptly as the work proceeds, and on completion, keep the premises clean and free from rubbish, debris, surplus materials, and equipment accumulation.

.3 Be responsible for all glass breakage during the progress of the work, and glass so broken shall be replaced at no additional cost to the Owner.

.4 All work shall be intact at final takeover.

.5 All glass shall be clearly marked after installation. Materials for protection markings on glass, and also adhesive for manufacturer's label, shall be either neutral or slightly acidic. In no case shall such materials be alkaline. Any staining of glass or other surfaces by alkaline materials will be cause for rejection.

.6 All glass shall be left clean. Remove excess glazing tape, stains, rubbish, and any other surplus materials from the site resulting from the work of this section.

.7 Remove protection and clean all aluminum using mild soap powders of a type that will not harm aluminum.

.8 All products shall be delivered to the site protected with plastic covering which shall remain in place for the duration of the construction period.

END OF SECTION 08 41 13
January 2018

1.1 REQUIREMENTS INCLUDED

.1 Furnish all labor, material, equipment and services necessary for the supply to the site, of the Finish Hardware as indicated on the drawings, schedules and specified herein.

.2 Include also the furnishing of all templates and schedules required by manufacturers of hollow metal doors and pressed steel frames and other such work to enable the manufacturers to make proper provisions in their work to receive the Finish Hardware.

.3 All Finish Hardware to made to conform to A.N.S.I. standard dimensions.

1.2 RELATED WORK

.1 Section 08 11 13 Hollow Metal Doors and Frames

1.3 QUALITY ASSURANCE

.1 Standards: In all cases where C.G.S.B. (Canadian Government Specifications Board), C.S.A. (Canadian Standards association), ASTM (American Society for Testing and Materials), or other standards are quoted, this shall be taken to mean the latest edition of that particular standard including all revisions.

.2 Materials shall conform to those as specified, in brand and quality, unless otherwise approved in writing by the Consultant. No claim as to their unsuitability or unavailability or this Subcontractor's unwillingness to use the same, will be considered, unless such claims are made in writing prior to the closing of bids.

.3 Qualifications: Hardware supplier shall be an established contract builders hardware firm who shall have in his employ one or more A.H.C. (Architectural Hardware Consultant) who are members in good standing of the DHI (Door and Hardware Institute)and who will be responsible for the complete hardware contract.

1.4 SUBMITTALS

.1 Samples: If required by the consultant, a returnable sample of each item of proposed hardware shall be submitted for approval not later than ten (10) days after requested. Samples to be properly tagged, indicating name of supplier, name of manufacturer, item number, intended function and location. Installed item to equal in all respects to approved samples.

.2 Submit the following to Consultant:

.a Five (5) copies of a detailed hardware schedule for the Consultant's approval within two (2) weeks of being awarded this contract.

.b Indicate manufacturer's name and article number in complete detail including active hands of pairs of doors, degree of opening and other information pertinent to the intended function of the door and frame details.

.3 In addition to hardware, the schedule shall include, for each heading or group of doors, Consultant's door reference number as per Door Schedule, the room designations, door size and material and label requirements.

.4 The schedule shall also incorporate detailed keying for final approval by the owner.

.5 Provide "as-installed" hardware list, including name of supplier, to the Consultant upon substantial performance of the contract.

.6 List to be complete with key to explain manufacturer's names, abbreviations and codes.

.7 Templates shall not be issued or material supplied until the hardware list has been approved. Provide additional copies of the hardware lists to the Consultant on request.

1.5 COMPLIANCE WITH REGULATIONS

.1 The hardware supplier shall check the listed hardware for compliance with local fire codes and regulations regarding required hardware for fire doors and report to the Consultant, any discrepancies or omission in the listed hardware in this respect. Failure to report any such discrepancies of omission render supplier responsible for cost of rectification.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

.1 All hardware shall be delivered to the site in accordance with the construction schedule prepared by the Contractor. All hardware shall be inspected on site for compliance to specifications before installation, stored in the original sealed packages in a locked, secure place until required for installation. The Contractor will be responsible for receiving and storing of hardware at the site. Hardware suppliers shall tag and deliver any sealed packages to the contractor.

.2 Hardware shall be supplied complete with required screws, bolts and fastenings necessary for proper installation, wrapped in paper and packed in the same package as hardware. Each package shall be legibly labeled indicating that portion of work for which it is intended. Door hardware to delivered unopened original boxes.

.3 Mail one copy of hardware delivery sheets to the Consultant at time of each shipment.

1.7 TEMPLATES

.1 Templates shall be supplied by the hardware supplier to all trades requiring them.

1.8 GUARANTEE

.1 All Finish Hardware, except door closers shall be guaranteed by the hardware manufacturer, by written certification, for a period of one (1) year from certified date of substantial performance against any defects in the design, materials, finish, function and workmanship and that any defects will be made good by the manufacturer at not additional cost to the owner. A similar guarantee for a ten (10) year period shall be provided for door closers by the manufacturer.

2.1 MATERIALS

.1 Hardware shall be best grade, entirely free from imperfections in manufacture and finish and shall be supplied in accordance with the hardware list specified herein.

.2 The following list of manufactures and products are considered approved for this project and no variations from the listed or pre-approved alternate items will be permitted.

.3 Installed item to be equal in all respects to approved samples.

.4 Supply all templates as required. Frame manufacturer will allow for maximum swing of doors when templating for closers. On pairs of doors RHR Leaf is to be active unless otherwise noted.

.5 Any doors not listed shall have hardware as listed for similar locations.

.6 Package hardware with all necessary screws and fittings, clearly labeled with door number as per Door Schedule, as to intended location. Included all necessary installation instructions.

2.2 APPROVED MANUFACTURERS

.1 Use one manufacturer's product only for all similar items.

.2 The following is a list of approved manufacturers:

.a Hinges:

- Lawrence Brothers Inc.
- Stanley of Canada
- CR Laurence
- Hagar Hinge Canada

All hinges shall be satin, stainless steel with NRP pins. 1½ pair bolts required for each door. Medium or heavy duty.

.b Passage, Privacy and Locksets:

- Sargent Hardware of Canada, 8 Line
- OB Design
- Schlage Lock, Co., D. Series
- CR Laurence
- Rhodes lever handle or Orbit Design © series in corrosive locations.

All with satin stainless steel finish.

.c Closers:

- Sargent Hardware of Canada
- CR Laurence
- LCN of Canada, Super Smoothie, 4041 Series

Satin stainless steel.

.d Panic Hardware:

- CR Laurence H-100-D Blumcraft

Satin stainless steel. all fire rated door hardware shall have ULC labels as required.

.e Flush Bolts:

- Sargent Hardware of Canada ltd.

- CR Laurence
- Hagar of Canada

.f Wall and Floor Stops:

- CR Laurence
- Canadian Builders Hardware Manufacturers Hagar of Canada.

.g Weatherstripping, Thresholds and seals:

- Pemko Manufacturing Co.
- CR Laurence
- A.K. Draft Seal Ltd.

2.3 KEYS AND KEYING

.1 All locks to be keyed to the existing master keying system and to Owner's requirements.

.2 All keys stamped "Do Not Copy".

.3 Supply:

.a 3 Ea. Keys per lock or cylinder.

.b 3 Only construction keys

.c 3 Only Master keys per MK group.

.d 1 Ea. Key cabinets to suit with 50% expansion capacity.

.4 Obtain details of keying from the Owner before ordering. Allow sufficient type line spacing to allow the owner to insert keying information after each Lock or Cylinder.

.5 Note:

.a All cylinders to be factory keyed and shipped installed in locks by contractor.

.b Construction keys only to Contractor at site.

.c Master keys, blank keys, operating keys, key control system and extractor keys to be sent via registered mail by factory direct to the Owner or the Owner's representative.

3.1 INSTALLATION

.1 Installation will be done under other sections.

3.2 HARDWARE MOUNTING

.1 Shall be in accordance with the recommended locations as per standard locations for builders hardware locations (metric) as listed in Canadian Metric conversion Guide for Steel Doors and Frames prepared by the Canadian Steel Door and Frame Manufacturers association and B.C. Code for the Physically and Visually Handicapped.

3.3 ATTACHMENT

.1 Include all necessary screws, special screws, bolts, special bolts, expansion shields, and other devices required for proper hardware application.

3.4 COORDINATION

.1 Confer with the various sections of work to be sure that they will conform to and fit actual conditions on the job.

4.1 FINISH HARDWARE SCHEDULE

.1 The following hardware set schedule is provided as a comprehensive guide to define the quality, functions, design, type and finish of required finish hardware and defines requirements for one (1) opening only. See door schedule for quantities of required sets.

.2 Examine hardware set schedule, door schedule and all contract documents for the true quantities of hardware required, their exact location, function and operation, and check delivered items to ensure that all requirements are met.

.3 Schedule of Finish Hardware: See drawings.

END OF SECTION 08 70 00
January 2018

1.1 REQUIREMENTS INCLUDED

.1 Furnish all labor, material, equipment and services necessary for the supply to the site, of the Finish Hardware as indicated on the drawings, schedules and specified herein.

.2 Include also the furnishing of all templates and schedules required by manufacturers of hollow metal doors and pressed steel frames and other such work to enable the manufacturers to make proper provisions in their work to receive the Finish Hardware.

.3 All Finish Hardware to made to conform to A.N.S.I. standard dimensions.

1.2 RELATED WORK

.1 Section 08 11 13 Hollow Metal Doors and Frames

1.3 QUALITY ASSURANCE

.1 Standards: In all cases where C.G.S.B. (Canadian Government Specifications Board), C.S.A. (Canadian Standards association), ASTM (American Society for Testing and Materials), or other standards are quoted, this shall be taken to mean the latest edition of that particular standard including all revisions.

.2 Materials shall conform to those as specified, in brand and quality, unless otherwise approved in writing by the Consultant. No claim as to their unsuitability or unavailability or this Subcontractor's unwillingness to use the same, will be considered, unless such claims are made in writing prior to the closing of bids.

.3 Qualifications: Hardware supplier shall be an established contract builders hardware firm who shall have in his employ one or more A.H.C. (Architectural Hardware Consultant) who are members in good standing of the DHI (Door and Hardware Institute)and who will be responsible for the complete hardware contract.

1.4 SUBMITTALS

.1 Samples: If required by the consultant, a returnable sample of each item of proposed hardware shall be submitted for approval not later than ten (10) days after requested. Samples to be properly tagged, indicating name of supplier, name of manufacturer, item number, intended function and location. Installed item to equal in all respects to approved samples.

.2 Submit the following to Consultant:

.a Five (5) copies of a detailed hardware schedule for the Consultant's approval within two (2) weeks of being awarded this contract.

.b Indicate manufacturer's name and article number in complete detail including active hands of pairs of doors, degree of opening and other information pertinent to the intended function of the door and frame details.

.3 In addition to hardware, the schedule shall include, for each heading or group of doors, Consultant's door reference number as per Door Schedule, the room designations, door size and material and label requirements.

.4 The schedule shall also incorporate detailed keying for final approval by the owner.

.5 Provide "as-installed" hardware list, including name of supplier, to the Consultant upon substantial performance of the contract.

.6 List to be complete with key to explain manufacturer's names, abbreviations and codes.

.7 Templates shall not be issued or material supplied until the hardware list has been approved. Provide additional copies of the hardware lists to the Consultant on request.

1.5 COMPLIANCE WITH REGULATIONS

.1 The hardware supplier shall check the listed hardware for compliance with local fire codes and regulations regarding required hardware for fire doors and report to the Consultant, any discrepancies or omission in the listed hardware in this respect. Failure to report any such discrepancies of omission render supplier responsible for cost of rectification.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

.1 All hardware shall be delivered to the site in accordance with the construction schedule prepared by the Contractor. All hardware shall be inspected on site for compliance to specifications before installation, stored in the original sealed packages in a locked, secure place until required for installation. The Contractor will be responsible for receiving and storing of hardware at the site. Hardware suppliers shall tag and deliver any sealed packages to the contractor.

.2 Hardware shall be supplied complete with required screws, bolts and fastenings necessary for proper installation, wrapped in paper and packed in the same package as hardware. Each package shall be legibly labeled indicating that portion of work for which it is intended. Door hardware to delivered unopened original boxes.

.3 Mail one copy of hardware delivery sheets to the Consultant at time of each shipment.

1.7 TEMPLATES

.1 Templates shall be supplied by the hardware supplier to all trades requiring them.

1.8 GUARANTEE

.1 All Finish Hardware, except door closers shall be guaranteed by the hardware manufacturer, by written certification, for a period of one (1) year from certified date of substantial performance against any defects in the design, materials, finish, function and workmanship and that any defects will be made good by the manufacturer at not additional cost to the owner. A similar guarantee for a ten (10) year period shall be provided for door closers by the manufacturer.

2.1 MATERIALS

.1 Hardware shall be best grade, entirely free from imperfections in manufacture and finish and shall be supplied in accordance with the hardware list specified herein.

.2 The following list of manufactures and products are considered approved for this project and no variations from the listed or pre-approved alternate items will be permitted.

.3 Installed item to be equal in all respects to approved samples.

.4 Supply all templates as required. Frame manufacturer will allow for maximum swing of doors when templating for closers. On pairs of doors RHR Leaf is to be active unless otherwise noted.

.5 Any doors not listed shall have hardware as listed for similar locations.

.6 Package hardware with all necessary screws and fittings, clearly labeled with door number as per Door Schedule, as to intended location. Included all necessary installation instructions.

2.2 APPROVED MANUFACTURERS

.1 Use one manufacturer's product only for all similar items.

.2 The following is a list of approved manufacturers:

.a Hinges:

- Lawrence Brothers Inc.
- Stanley of Canada
- Hagar Hinge Canada

All hinges shall be satin, stainless steel with NRP pins. 1½ pair bolts required for each door. Medium or heavy duty.

.b Passage, Privacy and Locksets:

- Sargent Hardware of Canada, 8 Line
- OB Design
- Schlage Lock, Co., D. Series
- Rhodes lever handle or Orbit Design © series in corrosive locations.

All with satin stainless steel finish.

.c Closers:

- Sargent Hardware of Canada
- LCN of Canada, Super Smoothie, 4041 Series

Satin stainless steel.

.d Panic Hardware:

- Sargent Hardware of Canada
- 90 series
- Von-Duprin of Canada, 88 series.

Satin stainless steel. all fire rated door hardware shall have ULC labels as required.

.e Flush Bolts:

- Sargent Hardware of Canada ltd.
- Hagar of Canada

.f Wall and Floor Stops:

- Canadian Builders Hardware Manufacturers Hagar of Canada.

.g Weatherstripping, Thresholds and seals:

- Pemko Manufacturing Co.
- A.K. Draft Seal Ltd.

2.3 KEYS AND KEYING

.1 All locks to be keyed to the existing master keying system and to Owner's requirements.

.2 All keys stamped "Do Not Copy".

.3 Supply:

.a 3 Ea. Keys per lock or cylinder.

.b 3 Only construction keys

.c 3 Only Master keys per MK group.

.d 1 Ea. Key cabinets to suit with 50% expansion capacity.

.4 Obtain details of keying from the Owner before ordering. Allow sufficient type line spacing to allow the owner to insert keying information after each Lock or Cylinder.

.5 Note:

.a All cylinders to be factory keyed and shipped installed in locks by contractor.

.b Construction keys only to Contractor at site.

.c Master keys, blank keys, operating keys, key control system and extractor keys to be sent via registered mail by factory direct to the Owner or the Owner's representative.

3.1 INSTALLATION

.1 Installation will be done under other sections.

3.2 HARDWARE MOUNTING

.1 Shall be in accordance with the recommended locations as per standard locations for builders hardware locations (metric) as listed in Canadian Metric conversion Guide for Steel Doors and Frames prepared by the Canadian Steel Door and Frame Manufacturers association and B.C. Code for the Physically and Visually Handicapped.

3.3 ATTACHMENT

.1 Include all necessary screws, special screws, bolts, special bolts, expansion shields, and other devices required for proper hardware application.

3.4 COORDINATION

.1 Confer with the various sections of work to be sure that they will conform to and fit actual conditions on the job.

4.1 FINISH HARDWARE SCHEDULE

.1 The following hardware set schedule is provided as a comprehensive guide to define the quality, functions, design, type and finish of required finish hardware and defines requirements for one (1) opening only. See door schedule for quantities of required sets.

.2 Examine hardware set schedule, door schedule and all contract documents for the true quantities of hardware required, their exact location, function and operation, and check delivered items to ensure that all requirements are met.

.3 Schedule of Finish Hardware: See drawings.

END OF SECTION 08 70 00
January 2018

## 1.1 WORK INCLUDED

.1 Metal support systems for walls and furring.

.2 Metal support systems for suspended GWB ceilings and soffits as detailed.

.3 Fire rated assemblies enclosing mechanical and electrical services.

.4 Concealed backing for wall hung millwork and equipment. Coordinate with Section 06 10 00 to avoid duplication.

.5 Metal framing, z-girts and hat channels under for metal roofing, if required.

## 1.2 RELATED WORK

.1 Section 09 29 00 Gypsum Board Systems.

## 1.3 QUALITY ASSURANCE

.1 Work of this section shall conform to the B.C. Wall and Ceilings (BCWC) Specifications Standards Manual.

## 1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

.1 Deliver and store all materials undamaged in original wrappings or containers, with manufacturer's labels and seals intact.

.2 Steel studs, carrying and furring channels, lath, and accessory items shall be protected from dampness and damage, stored under cover, off floor, on wood supports or pallets.

## 1.5 DESIGN RESPONSIBILITY

.1 It is a requirement of this Section that all stud partitions and walls be designed to accommodate building deflections as shown on structural drawings or if not shown span/360.

.2 It is the responsibility of this section to design steel studs and furring all interior walls and all seismic restraint to meet all applicable codes. Submit confirmation signed and sealed by a Structural Engineer registered in British Columbia that this requirement has been met.

.3 Provide Letter of Assurance on completion of installation of the Work of this section that it has been fabricated and installed in accordance with the requirements of the Vancouver Building By-Law. Letter to be signed and sealed by a Professional Engineer registered in the Province of British Columbia.

## 1.6 SHOP DRAWINGS

.1 Submit Shop Drawings as required. The Professional Engineer responsible for the Shop Drawings shall inspect the installation of the work for conformance with his design and the shop drawings and shall upon completion of the work, provide to the Consultant certification of substantial conformance of the work with the drawings and contract documents.

## 2.1 MATERIALS

.1 General: All materials used in this contract shall be of the highest quality as manufactured by nationally recognized manufacturers and of the type indicated on the drawings and in this specification.

.2 All components used in fire rated assemblies shall be in accordance with the applicable ULC, Warnock Hersey, or Vancouver Building By-Law referenced assembly.

## 2.2 INTERIOR PARTITION COMPONENTS

.1 Steel Stud, Track, and Furring: Manufactured from minimum 0.53 mm (25 ga.) light weight unless otherwise noted, electro zinc coated sheet steel, 'C' shape with knurled faces on flanges or legs, and knock-out pass through holes in web. Profiles, size, and spacing shall be as shown on the drawings.

NOTE: Partition walls to reinforce existing concrete masonry unit (CMU) walls as indicated on drawings and to be designed by a Professional Engineer registered in the Province of British Columbia. Submit Letters of Assurance and signed and sealed shop drawings as required by clause 1.5 in this section.

.2 At walls where special sheathing board and tile backer boards are to be attached, the stud system must be designed and sized such that deflections in excess of L/360 do not occur under any anticipated loading. The minimum stud system at all tile locations should in no case consist of less than 0.91mm (20 ga.) steel studs, 400mm o.c. (or as otherwise required by sheathing board manufacturer).

## 2.3 LOAD BEARING STEEL STUDS

.1 As recommended by an engineer registered in British Columbia. Refer to Article 1.5.1. Utilize heavy gauge deep leg deflection track to accommodate deflection.

## 2.4 SUSPENSION SYSTEMS

.1 Hangers: Hangers supporting main runners of suspended ceilings shall be galvanized wire; diameter zinc coated or cadmium plated steel round rods with rust inhibitive coating. Type of wire used shall conform to the following table:

| AREA SUPPORTED | MAXIMUM DIAMETER OF HANGERS |
|---|---|
| Up to 1.15 $m^2$ (12.5 sq. ft.) | 3.6 mm dia. (9 gauge) wire |
| Up to 1.48 $m^2$ (16.0 sq. ft.) | 4.8 mm (3/16") dia. rods |

.2 Inserts: Inserts shall be able to develop full strength of hangers they support as follows:

| SIZE OF HANGER | STRENGTH IN TENSION AT 110 MPA (16,000 LB./SQ. IN) |
|---|---|
| 3.6 mm dia (9 gauge) wire | 136 kg (300 lb.) |
| 4.8 mm (3/16") dia. Rods | 199 kg (400 lb.) |

Inserts shall be of type suitable for attachment to applicable surface.

.3 Main Runners (carrying Channels)-Ceilings: Cold formed steel channels shall be of dimensions and weight as follows and protected with rust inhibitive coating

Main Runners shall be not less than 38 mm x 12.7 mm x 1.4 mm (1 1/2" x 17 ga). channels.

| MAXIMUM SPACING: | |
|---|---|
| OF HANGERS | OF MAIN RUNNERS |
| 900 mm (3'-0") | 1200 mm (4'-0") |
| 1000 mm (3'-6") | 1000 mm (3'-6") |
| 1200 (4'-0") | 900 mm (3'-0") |

.4 Cross Furring-Ceilings: Cross furring members shall be hat shaped furring channels. The maximum spacing of furring channels shall conform to the following requirements, based on board thicknesses and layers.

| BOARD THICKNESS | MAX. FURRING SPACING |
|---|---|
| Single 12.7 mm (1/2") board | 400 mm (16") o.c. |
| Single 15.9 mm (5/8") board | 600 mm (24" o.c.) |
| Double layer | 400 mm (16" o.c.) |

.5 Tie Wire: Tie wire for attaching furring to main runners of suspended ceilings shall be two strands of 1.21 mm diameter (18 ga.) galvanized soft annealed steel wire.

**2.5 FURRING**

.1 Refer to wall types on drawings.

.2 Walls and Vertical Surfaces: Where required hat shaped or 'Z' bar light gauge steel furring member for screw attachment of stucco wire lath and gypsum wallboard. Roll formed or break shape hot dipped galvanized to G60 for exterior use and a wiped coat zinc coating to ASTM 525 for interior application.

**2.6 FASTENERS AND ACCESSORIES**

.1 Steel Stud Partitions or Suspension Systems: Powder activated fasteners, fastener and charge from manufacturer's standard range to suit structural conditions, and fixing requirements and in accordance with manufacturer's recommendations. Ramset, Hilti or approved equivalent.

.2 Appropriate hand driven or screw fasteners for fastening to framing.

.3 Screws: Lengths as required to suit applications, self tapping corrosion resistant drywall screws.

.4 Acoustic Gasket or Tape: Self-adhesive foam tape 6 mm x 25 mm closed cell neoprene and/or polyvinyl chloride.

.5 Acoustic Caulking: Synthetic rubber acoustic sealant meeting CAN/CGSB 19.21-M87. Tremco acoustic sealant, Grace Acousticaulk or approved equivalent.

.6 Resilient furring channel (if required), D-1007 DWF channel as supplied by Mantane Construction Products Ltd. or approved equivalent.

.7 Other Acoustic Components: (if required) as noted on drawings.

**3.1 EXAMINATION**

.1 Inspect all surfaces prior to commencement of the work of this section. Starting work shall imply acceptance.

.2 Protect adjoining surfaces against damage resulting from work of this section.

**3.2 INSTALLATION (STEEL STUD AND TRACK)**

.1 Unless noted otherwise all partitions shall be full height from floor to underside of structure above.

.2 Determine partition type and location from drawings, stud spacing, gauge, sizes of built-ins for rough openings, access panels locations and sizes. Erect in strict accordance with the manufacturer's written directions and by mechanics skilled in this trade to provide plumb, level, and true wall surfaces.

.3 Install floor and ceiling track seated on two continuous strips of foamed tape (lap tape at joints to ensure continuity). Fasten securely to concrete at maximum 600 mm o.c. using approved concrete fasteners.

.4 Install studs to specified centres, cut short at top to allow for necessary deflection allowances. Friction-fit stud in top track and securely fasten with piercing locking tool at both sides of floor track for each stud.

.5 Install double steel studs at door and window openings by boxing method, back to back, or nesting to suit pressed steel frame condition and provide most stable installation.

.6 Install channel stiffener above door heads. Stiffener to run to closest stud adjacent to boxed jamb studs.

.7 Install continuous channel stiffener at mid-point of all stud partitions not exceeding 3.60 meters in height and at third (1/3) points for all partitions exceeding 3.6 meters in height.

.8 Where studs butt walls of concrete, treat as for floor and ceiling track, installing two continuous strips of foamed tape, lapping tape at all joints to ensure continuity, and fasten to abutting walls using approved fasteners.

.9 Install all backing for electrical, all rough openings for building in washroom accessories, mirrors, vanities, light cover reflectors, and access panels supplied and installed by others, or supplied and installed under this section. Coordinate with Section 06 10 00 to provide solid wood backing for washroom accessories. Blocking to be sized and positioned to allow for sufficient installation tolerance of accessories.

**3.3 INSTALLATION (FURRING)**

.1 Install in vertical or horizontal pattern to suit conditions, centre at 600 mm or 400 mm as required, or detailed to provide solid backing for applications of GWB or plywood backing board.

.2 All fastening to substrate or structure to be by approved powder-activated or drill-in type fasteners satisfying WCB requirements and recommendations of that manufacturer.

.3 Install all backing for electrical, washroom accessories, mirrors, and build in chases and openings for access doors and built-ins installed under this section or supplied and installed by others.

**3.4 INSTALLATION (STUD TYPE SUSPENSION SYSTEMS FOR DRYWALL)**

.1 General: Install steel stud and track suspension systems in strict accordance with material manufacturer's instruction. Select spacing, size, and gauge of members to suit job conditions of structural configuration, ductwork, piping, and electrical, using tables of allowable sizes for components.

.2 Framing: Fasten track to vertical wall elements of steel stud, masonry or concrete with drill-in type inserts as specified. Cut and fit framing at maximum 24" centres or as recommended to suit size, gauge, and spans. Multiple spans may be obtained by installing hangers spaced not to exceed span and stud spacing limits. Splice or lap studs at each hanger.

.3 Reinforcing Backing: Install all backing, framing, and reinforcing as required for installation of fixtures, ducts, diffusers, access panels, grilles, and other items to be built into the work.

### 3.5 CLEAN-UP

.1 Promptly as work proceeds and at completion, clean up and remove from premises all rubbish and surplus materials resulting from work of this section.

END OF SECTION 09 22 00
January 2018

## 1.1 DESCRIPTION OF WORK

.1 Gypsum board, plain and fire rated, to walls and ceilings.

.2 Acoustic caulking, tape, and metal trim.

.3 Finishing of gypsum wallboard, ie, taping, filling, and sanding.

.4 Special sheathing board under tile in wet areas as noted.

.5 Special sheathing board to exterior walls.

.6 Fire rated duct enclosures.

## 1.2 RELATED SECTIONS

| | | |
|---|---|---|
| .1 | Section 06 10 00 | Rough Carpentry for plywood backing. |
| .2 | Section 07 21 00 | Thermal Insulation. |
| .3 | Section 09 22 00 | Metal Support Systems. |
| .4 | Section 09 30 00 | Tiling. |
| .5 | Section 09 65 00 | Resilient Flooring. |
| .6 | Division 15 | Mechanical for access panels. |

## 1.3 QUALITY ASSURANCE

.1 Work of this section shall conform to the B.C. Wall and Ceilings (BCWC) Specifications Standard Manual.

## 1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

.1 Deliver and store all materials undamaged in original wrappings or containers with the manufacturer's labels and seals intact.

.2 Corner and casing beads shall be shipped in rigid containers and protected from damage and dampness.

.3 Store wallboard flat, off the floor, protected from damage by dampness, weather or construction activities. Cementitious materials shall be kept dry and away from damp surfaces. Distribute as required to avoid exceeding live load capacity of the floor.

## 1.5 CONDITIONS

.1 Inspect all surfaces prior to commencement of the work of this section. Starting work shall imply acceptance. Protect adjoining surfaces against damage resulting from work of this section.

**1.6 DESIGN RESPONSIBILITY**

.1 Providing anchorage and reinforcing to meet code requirements including seismic restraint shall be this subcontractor's responsibility.

.2 Provide letter of confirmation on completion that the Work of this Section that it has been fabricated and installed in accordance with the requirements of all codes. Letter to be signed and sealed by a Professional Engineer registered in the Province of British Columbia.

**2.1 GWB DRYWALL, SPECIAL SHEATHING AND SPECIAL SHEATHING TILE BACKER**

.1 Gypsum Wall Board: Generally ½" thickness throughout unless specifically noted otherwise. Fire rated or water resistant to suit wall and ceiling types and provide required fire rating. 5/8" and ½" thicknesses in single or multiple layers 1220 mm (4'-0") wide, in lengths as long as practical to minimize end joints. Where required, use fire rated board type "X" ULC labeled Fireguard or approved equal meeting CAN/CSA-A82.27-M91.

.2 Special Sheathing for Damp areas: Utilize glass reinforced impact and mold resistant gypsum board "CGC Sheetrock Glass-Mat Panels Mold Tough VHI" or approved alternative, on all change rooms, washrooms, mechanical and storage rooms walls and ceilings to receive paint, tile or wall coverings.

.3 Special Sheathing Tile Backer: Utilize "DensShield Tile Backer" or approved alternative

.4 Special Sheathing for Exterior walls to receive insulation: utilize silicone treated gypsum board "Dens-Glass Gold".

**2.2 ACCESSORIES AND SPECIALTIES FOR DRYWALL**

.1 Gypsum Board Screws: Conforming to ASTM C646, self-drilling, self-threading case hardened screws with Phillips type head (bugle head). On screwable steel studs and furring drywall screws shall have a minimum penetration of 12.7 mm (1/2"), as follows:

| | | |
|---|---|---|
| Single Layer: | 12.7 mm (1/2") | #6 screw 25.4 mm (1"). |
| | 15.9 mm (5/8") | #6 screw 28.6 mm (1 1/8") or 31.8 mm (1 1/4") |
| Double Layer: | 12.7 mm (1/2") | #7 screw 41.3 mm (1 5/8") |
| | 15.9 mm (5/8") | #7 screw 47.6 mm (1 7/8") |

.2 Joint Treatment Materials:

.a Gypsum Board Tape: 50 mm (2") spark perforated paper tape, of type recommended by manufacturer of gypsum board products.

.b Gypsum Board Jointing Compound: Casein, vinyl or latex base; slow setting; low shrinkage, noncombustible bedding and finishing compounds of type recommended by manufacturer of gypsum board. Special mixes for filling and finishing.

.c Water: Fresh, clean, potable, free from deleterious matter or alkalis.

.3 Wallboard Adhesive: Laminating adhesive for laminating gypsum board to gypsum board, gypsum board to rigid insulation and gypsum board to concrete and/or masonry shall be of a type specially formulated for the intended purpose and as commercially available.

.4 Corner and Casing Beads: Suit requirements of drywall conditions. Corner beads, cornerite, etc., to be fabricated from or galvanized sheet steel, not less than 26 US gauge, or P.V.C. type as manufacture by Plastic Components Inc. with perforated or expanded metal flanges. Stops and corner beads to be square type. Only fillable type J or L beads are acceptable. All accessories to be concealed on the finished work.

.5 Access Panels: Refer to Mechanical.

.6 Mesh: As noted on drawings.

**2.3 ACOUSTIC CONTROL COMPONENTS**

.1 Acoustic Caulking: Synthetic rubber acoustic sealant meeting CAN/CGSB 19.21-M87. Tremco acoustic sealant or approved equal.

.2 Foam Tape: Self-adhesive closed cell, 6 mm x 25 mm (1/4” x 1”) neoprene and/or polyvinyl chloride. Westex, NW1P or equivalent.

.3 Resilient Channels: Minimum 0.53 mm (25 ga.) sheet steel galvanized to Z180 (G60) designation in accordance with ASTM A653/A653M-00; size 63.5 mm (2 1/2") as commercially available. Coordinate with Section 09 22 00 to avoid duplication.

**3.1 GENERAL**

.1 Prior to commencement of work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

.2 Do not apply drywall unless the work which is to receive it and site conditions are SATISFACTORY, and the temperature of the building is 12$^{O}$C to 21$^{O}$C maximum for 72 hours prior, during, and after application.

.3 Avoid concentrated or irregular heat during drying. Provide ventilation to dry gypsum drywall fillers properly.

.4 Partitioning systems go to underside of structural or beam elements unless specifically detailed otherwise.

### 3.2 INSTALLATION OF GYPSUM BOARD AND WALLS/PARTITIONS

.1 Drywall partition types are designated on the drawings in accordance with wall types listed in Wall Construction Schedule. Fire resistance rated walls and ceilings (where applicable): Comply with installation requirements of testing agency for wall and ceiling systems detailed on drawings in addition to these specifications.

.2 GWB generally ½" thickness, unless noted otherwise, single and double layer applications. Gypsum wallboard shall be erected by mechanics skilled in this trade, in strict accordance with the manufacturer's directions, to requirements of CSA Specification A82.31-M1980. Apply at right angles to studs, or vertically with joints located over studs or furring members for fire-rated assemblies, butting edges to moderate contact in as long lengths of board as practical to minimize end joints. Stagger all end joints and support on framing members, space Type S screws fasteners at 12" o.c. starting at the centre of the sheet and working toward the ends. Maintain a minimum of 3/8" from edges and ends of panels to screws. Apply trim in accordance with the manufacturer's recommendations.

.3 Laminated (Two Layer Application Fireproofing): Apply at right angles or parallel with first layer to suit fire rating, taking care to offset or stagger joints. Laminate panels using adhesive or joint filler method to provide fire-rated assemblies and in strict accordance with the manufacturer's recommendations. Use screws in conjunction with adhesive or joint laminating compound. Locate joints over framing members.

.4 Partitions shall extend from floor to underside of concrete slab or structure over unless indicated and/or listed otherwise. All ceilings shall be minimum of 12.7 mm (1/2") gypsum board unless otherwise noted.

.5 Install gypsum board to avoid butt-end joints if possible to reduce the amount of joint finishing.

.6 Do not locate joints on same stud on opposite sides of partitions. Stagger end joints occurring on same side of partitions.

.7 Keep vertical joints at least 300 mm (1'-0") from the jamb lines of door, window and other openings.

.8 Cut sheets to fit accurately; butt edges of boards in moderate contact; do not force into place. Remove ragged edges or burrs with rasp or sandpaper.

.9 Cut and fit of gypsum board to accommodate recessed items in partitions and/or furring.

.10 Allow deflection spaces between drywall partitions and building structural framing components to allow for movement of framing components.

.11 Box-in electrical and telephone outlets in fire-rated demising walls with drywall, typical.

.12 Increase if necessary, depth and width of all furrings, bulkheads, chases, etc. to contain and conceal electrical and heating risers, rainwater leaders, plumbing wastes, hot and cold water supplies and provide gypsum board concealment to all pipes in visually exposed heated spaces. Check mechanical, plumbing and electrical drawings for extent of piping and conduits.

.13 Adhesive Application - Gypsum Board to Concrete: Apply adhesive to back of wallboard using method recommended by adhesive manufacturer. Erect wallboard immediately and press firmly into place. Drive supplementary concrete nail fasteners to hold wallboard in place until adhesive has set. Allow at least 24 hours for adhesive to set before taping and finishing wallboard.

.14 Provide duct enclosures to meet fire ratings as required by the VBBL.

**3.3 INSTALLATION (GWB DRYWALL CEILINGS)**

.1 Gypsum Panel Erection: Apply gypsum panels of maximum practical length with long dimension at right angles to furring channels or steel studs. Position end joints over channel web and stagger in adjacent rows. Fur ends and edges closely, but not forced together. Fasten panels to channels with Type S screws spaced 12" o.c. in field of panels and along abutting ends and edges.

**3.4 INSTALLATION OF ACOUSTIC CAULKING**

.1 Install to complete periphery of all sound rated walls. All surfaces to be clean, free of dust, and must be cleaned with compressed air or vacuums immediately prior to installation of caulking.

.2 Seal perimeter joints between partition and all pipes and ducts that pass through drywall partitions, with sealant as specified.

.3 Foam tape is specified in installation of steel stud and track and shall be used at party wall construction and as detailed. Coordinate to ensure satisfactory installation.

**3.5 INSTALLATION OF DRYWALL ACCESSORIES**

.1 Corner and Casing Bead: Select to suit GWB requirements and details. Install as detailed to all reveals, external angles or corners and junctions where drywall abuts other materials and to create all special reveals as detailed on the drawings. Installation shall be in strict accordance with the manufacturer's instructions.

.2 Access Panels: Install in all locations as required to provide access to mechanical controls (dampers, valves, etc.). Coordinate finish and fire rating to suit wall types. Access panels will be supplied by Division 15.

**3.6 SPECIAL SHEATHING BOARD AND TILE BACKER BOARD**

.1 Install sheathing board and backer board in conformance with the manufacturer's printed instructions, the requirements of the fire rated testing authority and as a minimum standard to installation of gypsum wall sheathing specifications of BCWC Manual and as specified herein for gypsum wall sheathing. Taping and filling of joints shall be in accordance with the manufacturer's recommendations using special manufacturer's recommended tapes.

**3.7 FINISHING**

.1 Finish gypsum wallboard in accordance with Section 9.6 - Part 3 Item 12.2 of the AWCC Specifications Standards Manual and as follows:

.a Level 1 for areas totally concealed from view in the finished work including partitions above ceilings to underside of structure above.

.b Level 4 for surfaces to receive vinyl wall covering, flat or low gloss finishes or storage and other designated non public areas. (refer to Section 09 91 00).

.c Level 5 for surfaces to receive Semi-gloss or gloss finishes except as noted above.

.2 Joints in partitions carried above ceilings and where scheduled shall be taped and filled only.

.3 Rooms without Base Mould or Trim: Finish gypsum board joints to floor slab.

**3.8 PROTECTION AND CLEAN-UP**

.1 Protect the work of other trades from damage resulting from the work of this section.

.2 Promptly as work proceeds and at completion, clean up and remove from the premises and the project site all rubbish and surplus materials resulting from work of this section.

END OF SECTION 09 29 00
January 2018

**1.1 SECTION INCLUDES**

.1 Supply and installation of carpet tile and accessories to areas as scheduled.

**1.2 QUALITY ASSURANCE**

.1 All carpet shall meet a minimum standard CMHC, CGSB, and the BC Building By-law requirements.

.2 Flame resistance to CAN/ULC – S1022-M88 and conforming to the Hazardous Products Act.

**1.3 SUBMITTALS**

.1 Guarantees/Warranties: The manufacturer of the carpet selected shall provide a 15 year warranty against excessive surface wear, edge ravel, backing separation, shrinking, stretching, and static electricity.

.2 Samples: Samples of the selected carpet and accessories shall be submitted to the Consultant for approval prior to ordering materials. These samples shall be accompanied by the manufacturer's specifications covering the construction of the carpet and underlayment.

.3 Shop Drawings: Submit shop drawings showing all typical areas to be covered by carpet. No work to start prior to approval of shop drawings.

.4 Maintenance data and Materials: Provide maintenance data for the Owner's maintenance. Turn over to the Owner all pieces greater than 600 mm x 600 mm in size remaining at job completion.

**1.4 DELIVERY, STORAGE AND HANDLING**

.1 All carpet should be delivered to the job site in the original mill wrappings with each carton having its register number properly marked on each carton. The carpet shall be protected from damage, dirt, stains, and moisture. All carpet shall be of first quality manufacture.

**1.5 CONDITIONS**

.1 Inspect substrate prior to start of work. Ensure that all surfaces are sound, cured, non-dusting, smooth, and free from defects likely to be detrimental to the work.

.2 Notify the Consultant in writing of all defects likely to impair finished work. Start of work implies acceptance of surfaces and conditions.

.3 Maintain ambient temperature of 21° C minimum for 72 hours before, during, and after installation.

**2.1 MATERIALS (CARPET)**

.1 General: All materials used in this Contract shall be of the highest quality as manufactured by nationally recognized manufacturers and of the type indicated on the drawings and in these specifications.

.2 Carpet: see finish schedule 09999. Carpet to match existing City of Vancouver stock.

**2.2 MATERIALS (ACCESSORIES)**

.1 Leveling Compound: (if required) purpose made to carpet manufacturer's recommendations.

.2 Accessories:

.a Edge Moulding and Transition Strips: Submit samples for Consultant's selection.

.b Rubber Nosing: Johnsonite, Profile: Submit samples for Consultant's selection.

.c Accessories Adhesive: Contact cement as required by accessory manufacturer.

.d Carpet Adhesive: Low V.O.C. of brand recommended by the carpet manufacturer.

.e Sealer (for Concrete Substrated): Compatible type as recommended by the carpet manufacturer, if required at direct glue-down areas.

**3.1 WORKMANSHIP AND INSTALLATION**

.1 Preparation: Remove all grease, dirt and dust remaining, fill cracks, holes, and joints with approved join filler and rough grind to eliminate all irregularities. Sweep and vacuum substrate clean.

**3.2 INSTALLATION (GENERAL)**

.1 Install carpet and associated materials in accordance with this specification and methods recommended by the manufacturer and in strict accordance with approved seaming layout. Carpet tile to be laid using 1/4 Turn Method, tile to be trimmed as required to create a straight edge at termination of carpet and transition to resilient flooring.

.2 Ensure that the base, if used, is installed before start of carpeting.

.3 Seal all edges of cut-out and finish with positive binding methods to produce a trim free finish.

.4 Prior to commencing installation of carpet, "feather" at door to allow for difference in floor material.

.5 Utilize leveling compound to feather out level differences in floor levels.

.6 Utilize pre-finished metal transition strips between different flooring materials.

**3.3 INSTALLATION DIRECT GLUE DOWN PROCEDURE FOR CARPET**

.1 Manufacturer's standard release adhesive to be used as per manufacturer's recommendations.

**3.4 PROTECTION, SCRAP, AND CLEAN-UP**

.1 This Contractor shall clean up as the work progresses and shall remove from the site all rubbish resulting from his operation.

.2 On completion of the installation, all dirt, carpets, scraps, accessories, underlayment, and adhesives must be removed from the surface of the carpet and premises, and the carpet must be thoroughly vacuumed with a beater-type vacuum cleaner. Any soiled spots or excessive adhesive on the carpet shall be removed with the proper spot remover. All loose pieces of yarn must be removed with sharp scissors.

.3 Protect the work of other sections from damage resulting from the work of this section.

END OF SECTION 09 68 00
January 2018

## 1.1 SECTION INCLUDES

.1 All labor, materials, tools and other equipment, services and supervision required to complete all interior and exterior painting and decorating work as indicated on Finish Schedules and to the full extent of the drawings and specifications.

.2 The work shall also include all touch-ups and field painting necessary to complete the above noted work.

.3 Surface preparation to receive painting and finishing is not included under this section of work, except for priming and back-priming and specific pre-treatments noted herein or specified in the Master Painters Institute (MPI) Painting Specification Manual.

## 1.2 QUALITY ASSURANCE

.1 Only qualified journeymen who have a Tradesman Qualification Certificate of Proficiency shall be engaged in painting and decorating work. Apprentices may be employed provided they work under the direct supervision of a qualified journeyman in accordance with trade regulations.

.2 All materials, preparation and workmanship shall conform to the standards contained in the latest edition of the Master Painters Institute (MPI) Architectural Painting Specification Manual (hereafter referred to as the MPI Painting Manual) as issued by the local MPI Accredited Quality Assurance Association having jurisdiction.

.3 All paint manufacturers and products used shall be as listed under the Approved Product List section of the MPI Painting Manual.

## 1.3 REGULATORY REQUIREMENTS

.1 Conform to work place safety regulations for storage, mixing, application and disposal of all paint related materials to requirements of those authorities having jurisdiction.

## 1.4 SUBMITTALS / MOCK-UP

.1 Submit an invoice list of all painting materials ordered for project work to Paint Inspection Agency indicating manufacturer, types and quantities for verification and compliance with specification and design requirements.

.2 Submit two sets of Material Safety Data Sheets (MSDS) prior to commencement of work for review and for posting at job site as required.

.3 At project completion provide an itemized list complete with manufacturer, paint type and colour coding for all colours used for Owner's later use in maintenance.

.4 When requested by the Consultant, prepare and paint a designated surface, area, room or item (in each colour scheme) to requirements specified herein, with specified paint or coating showing selected colours, gloss/sheen, textures and workmanship to MPI Painting Specification Manual standards for review and approval. When approved, surface, area, room and/or items shall become acceptable standard of finish quality and workmanship for similar on-site work.

### 1.5 PRODUCT DELIVERY, STORAGE, HANDLING AND ENVIRONMENTAL REQUIREMENTS

.1 Deliver and store all painting materials in sealed, original labeled containers bearing manufacturer's name, brand name, type of paint or coating and colour designation, standard compliance, materials content as well as mixing and/or reducing and application requirements in strict accordance with manufacturer and MPI requirements.

.2 Comply with requirements of authorities having jurisdiction, in regard to the use, handling, storage and disposal of hazardous materials.

.3 Perform no painting or decorating work when the ambient air and substrate temperatures, relative humidity and dew point and substrate moisture content is below or above requirements for both interior and exterior work.

.4 Ensure adequate continuous ventilation and sufficient heating and lighting is in place.

.5 Apply paint only to dry, clean, properly cured and adequately prepared surfaces in areas where dust is no longer generated by construction activities such that airborne particles will not affect the quality of finished surfaces.

### 2.1 MATERIALS

.1 All materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with the MPI Painting Manual Approved Product listing and shall be from a single manufacturer for each system used.

.2 Other paint materials such as linseed oil, shellac, etc. shall be the highest quality product of an approved manufacturer listed in the MPI Painting Manual and shall be compatible with other coating materials as required.

### 2.1 ENVIRONMENTAL REQUIRMENTS

.1 Paints and Coatings are to comply with the following standards:

.a Architectural Paints, Coatings and Primers applied to interior walls and ceilings shall not exceed the VOC limits in Section 4.4 of the Green Seal Standard GS-11, Paints, Second Addition, May 12, 2008 or the most current standard.

.b Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates shall not exceed the VOC limits of Section 4.4 of the Green Seal Standard GS-11, Paints, Second Addition, May 12, 2008 or the most current standard.

.c Note that colourant has been included in VOC content for GS-11 standard.

.d All other paints and coatings are not to exceed the VOC limits of the State of California's South Coast Air Quality Management District (SCAQMD) Rule #1113, or most current standard. This includes, but limited to, clear finishes, stains, floor coatings, sealers and shellacs.

**2.2 MIXING AND TINTING**

.1 Unless otherwise specified herein or pre-approved, all paint shall be ready-mixed and pre-tinted. Re-mix all paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity. Where thinner is used, addition shall not exceed paint manufacturer's recommendations.

**2.3 FINISH, COLOUR, GLOSS / SHEEN**

.1 Unless otherwise specified herein, all painting work shall be in accordance with MPI Premium Grade finish requirements.

.2 Colours shall be as selected by the Consultant from a manufacturer's full range of colours. Refer to Section 09 99 99 Colour and Finish Schedule for identification and location of colours.

.3 Refer to the MPI Painting Manual for finish, colour and gloss / sheen requirements.

**3.1 CONDITION AND PREPARATION OF SURFACES**

.1 The condition and preparation requirements for all surfaces shall be in accordance with MPI Painting Manual requirements.

.2 If the existing surface to be repainted has epoxy paint it is the responsibility of this section to degloss the surface with the appropriate preparation method and apply a bonding primer.

**3.2 APPLICATION**

.1 Do not paint unless substrates are acceptable and/or until all environmental conditions (heating, ventilation, lighting and completion of other subtrade work) are acceptable for applications of products.

.2 Apply paint or stain in accordance with MPI Painting Manual Premium Grade finish requirements.

.3 Painting coats specified are intended to cover surfaces satisfactorily when applied at proper consistency and in accordance with manufacturer's recommendations. Apply a minimum of four coats of paint where deep or bright colours are used to achieve satisfactory results.

**3.3 INTERIOR PAINT AND COATING SYSTEMS**

Paint interior surfaces in accordance with the following MPI Painting Manual requirements:

~~.1 Concrete Vertical Surfaces (including Horizontal Soffits):~~

~~EXISTING (at all locations, dry):~~
~~RIN 3.1C "E3" Water based light industrial coating. G5 on walls and G3 on ceilings.~~

~~.2 Dressed Lumber: (including door, doors and window frames, casings, molding, etc…)~~

~~EXISTING (at all locations):~~
~~RIN 6.3T High Performance Architectural Latex~~

~~Prior to application of finish coat, the doors should be cleaned with mixture of TSP and water (under MPI RSP-13), and then sanded to de-gloss. Prime with MPI #39 Latex Primer.~~

.3 Plaster and Gypsum Board: (gypsum board systems, drywall, sheet rock type material, etc)

NEW AND EXISTING (at all locations unless otherwise noted):
INT 9.2B High performance architectural latex G3 finish
Level 3 drywall finish, MPI #52

NEW (for projection walls):
INT 9.2B High performance architectural latex G1 finish
Level 5 drywall finish, MPI #53

NEW (Dry Erase Paint):
Two component dry erase paint complete with MPI #6 Primer.

**3.5 MECHANICAL / ELECTRICAL EQUIPMENT AND RELATED SURFACES**

.1 Unless otherwise specified or noted, paint all “unfinished” conduits, piping, hangers, ductwork and other mechanical and electrical equipment with colour and texture to match adjacent surfaces, in the following areas:

.a where exposed-to-view in all exterior and interior areas.

.b in all interior high humidity interior areas.

.c in all boiler room, mechanical and electrical rooms.

.2 In unfinished areas leave exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment in original finish and touch up scratches and marks. Do not paint over nameplates.

.3 Paint the inside of all ductwork where visible behind louvers, grilles and diffusers beyond sight line with primer and one coat of matt black (non-reflecting) paint. Paint the inside of light valances gloss white.

.4 Refer to Mechanical and Electrical specifications for painting, banding, stenciling of other surfaces / equipment.

**3.6 FIELD QUALITY CONTROL**

.1 Painted surfaces shall be considered to lack uniformity and soundness in accordance with defects noted in the MPI Painting Manual.

.2 Painted surfaces rejected by the inspector shall be made good at the expense of the Contractor in accordance with MPI Painting Manual requirements.

### 3.7 PROTECTION AND CLEAN-UP

.1 Protect all newly painted exterior surfaces from elements condensation and contamination until paint coatings are completely dry. Erect barriers or screens and post signs to warn of or limit or direct traffic.

.2 Remove all spilled, splashed, splattered or over sprayed paint as work progresses, remove waste materials and keep area free from an unnecessary accumulation of tools, equipment, surplus materials and debris.

END OF SECTION 09 91 00
August 2018

## 1.1 GENERAL

.1 This Section of the Specification forms part of the Contract Documents and is to be read, interpreted and coordinated with all the other parts.

## 1.2 RELATED WORK UNDER OTHER SECTIONS

| | | |
|---|---|---|
| .1 | Section 05 50 00 | Metal Fabrications |
| .3 | Section 06 40 00 | Architectural Woodwork |
| .2 | Section 08 11 13 | Hollow Metal Doors and Frames |
| .3 | Section 08 21 00 | Wood Doors |
| .4 | Section 08 41 13 | Aluminum Entrances and Storefront |
| .5 | Section 08 81 00 | Glass Glazing |
| .6 | Section 09 29 00 | Gypsum Board Systems |
| .7 | Section 09 30 00 | Tiling |
| .8 | Section 09 65 00 | Resilient Flooring |
| .9 | Section 09 68 00 | Carpet Tile |
| .10 | Section 09 91 00 | Painting |
| .11 | Section 10 80 00 | Miscellaneous Specialties |

## 1.3 REGULATORY REQUIREMENTS

.1 Conform to work place safety regulations for storage, mixing, application and disposal of all paint related materials to requirements of those authorities having jurisdiction.

## 1.4 SUBMITTALS / MOCK-UP

.1 At project completion provide an itemized list complete with manufacturer, paint type and coding for all colours used for Owner's later use in maintenance.

.2 Prepare and paint a designated surface, area, room or item (in each colour scheme) to requirements specified herein, with specified paint or coating showing selected colours, gloss/sheen, textures and workmanship to MPI Painting Specification Manual standards for review and approval. When approved, surface, area, room and/or items shall become acceptable standard of finish quality and workmanship for on-site work and colour designation.

## 2.1 FINISH SCHEDULE

.1 All finishes are subject to review and confirmation by the Owner. Contractor to first request confirmation of the colours and finishes, and then provide samples for Owner review.

.2 Interior Finishes.

| .a | **ARCHITECTURAL WOODWORK** | |
|---|---|---|
| | Kitchen P-LAM 1 | Plastic Laminate PL-1 to match Formica 912-AN "Storm" in Infiniti Finish. |

| | | |
|---|---|---|
| | Kitchen P-LAM 2 | Plastic Laminate PL-1 to match Formica 949-58 “White” in Sparkle Finish |
| | Kitchen Counter Tops | Solid Surfacing SS-1 to match Corian “Designer White” |

| | | |
|---|---|---|
| .b | **WOOD DOORS** | |
| | Solid wood core doors | Paint PT-1 |

| | | |
|---|---|---|
| .c | **ALUMINUM ENTRANCES AND STOREFRONT** | |
| | Aluminum frames and door stiles | Clear anodized |

| | | |
|---|---|---|
| ~~.d~~ | ~~**GLASS GLAZING**~~ | |
| | ~~Vinyl Privacy Film~~ | ~~Clear~~ |

| | | |
|---|---|---|
| .e | **CARPET TILE** | |
| | Field Tile | Interface Super Flor Tile in 609008 Grey, Dimensions: 610 mm x 610 mm x 5.6 mm |

| | | |
|---|---|---|
| .f | **PAINTING** | |
| | PT-1 (at all locations unless otherwise noted. | To match Benjamin Moore OC-68 “Distant Gray” MPI 52 |
| | PT-2 (for projection walls) | To match Benjamin Moore OC-68 “Distant Gray” MPI 53 |
| | PT-3 (dry erase wall) | Notable Dry Erase Paint K500, “White”, 2 Coats |
| | PT-4 | *For future selection. Allow for deep colour.* |

| | | |
|---|---|---|
| .g | **MISCELLANEOUS SPECIALTIES** | |
| | Suspended Acoustic Baffles | Suspended acoustic baffle to match Filzfelt Akustika in 170-Asche |

| | |
|---|---|
| | Dimensions: 2134 mm x 305 mm x 25.4 mm with banded edges. |
| Felt Surfacing F-1 | Nonwoven textile felt surfacing to match Filzfelt 170-Asche |
| Felt Surfacing F-2 | *Nonwoven textile felt surfacing for future selection.* |
| Felt Surfacing F-3 | *Nonwoven textile felt surfacing for future selection.* |

END OF SECTION 09 99 99
August 2018

**1.1 WORK INCLUDED**

.1 Refer to listed items in Article 3.3.

.2 Typical Vanity Top (refer to Architectural drawings)

**1.2 COORDINATION**

.1 Purchasing, installation, expediting and coordination are the responsibility of this section.

**1.3 SUBMITTALS**

.1 Shop drawings: Submit manufacturer's literature showing all construction details, dimensions, gauges, thicknesses, description of materials and metal finishing specifications.

.2 Samples: Submit colour or representation of manufacturer's standard samples showing finish or operation, if required by the Consultant.

**1.4 PRODUCT DELIVERY, STORAGE AND HANDLING**

.1 Deliver items to site in manufacturer's unopened labeled containers and crating, store inside building off floor on pallets or shelves, covered in approved manner to protect from damage.

**2.1 PRODUCTS**

.1 Article 3.3 - Schedule of Items.

**3.1 INSTALLATION**

.1 Install manufactured specialty items in accordance with details, approved shop drawings and manufacturer's latest instructions, specifications and approved installation templates.

.2 Exposed fastenings, unless otherwise approved, shall be of the same material, colour, and finish as the base metal on which they occur.

.3 Finished work shall be plumb and level and free from distortion and defects, detrimental to appearance or performance. Starting work implies that the installer accepts substrates and conditions on which its work depends.

.4 Securely install at heights and locations indicated or if not indicated at heights and locations as field directed by the Consultant. Where toilet room is indicated to be handicapped accessible, install toilet accessories at locations and heights required by the Vancouver Building By-Law and as approved by the Consultant.

**3.2 PROTECTION AND CLEAN-UP**

.1 Adjust operating parts to work easily, smoothly and correctly.

.2 Repair minor damage to eliminate all evidence of repairs.

.3 Clean exposed surfaces using non-abrasive materials and methods recommended by the manufacturer of the product being cleaned.

.4 Remove and replace any item that cannot in the opinion of the Consultant be successfully cleaned or repaired.

.5 Protect during installation any adjacent surfaces from damage due to the work of this section.

.6 Protect items installed under this section from damage resulting from the work of other sections.

.7 Promptly as the work proceeds and on completion, remove all crating, wrapping surplus materials and equipment.

**3.3 SCHEDULE OF ITEMS**

.1 General: Manufacturer's model numbers and brand names have been given to indicate a standard of quality only. Other manufacturers having equal or alternative type products of the standards named are invited to submit to the Consultant their request for approval as equal or alternative.

.2 Toilet and bath accessories:

.1 HC Grab Bars:

Toilets - Stainless steel, satin finish with knurled grip area 38 mm (1 ½") dia., concealed fasteners with cover plate, 120° x 48" and straight bars to British Columbia Building Code standards.

.2 Toilet Tissue Dispenser: Bobrick B-2892 Surface-Mounted Twin Jumbo-Roll Toilet Tissue Dispenser (stainless steel, satin finish).

.3 Napkin Disposal: Bobrick B-270 (stainless steel, satin finish).

.4 Waste Bin: To be supplied by Owner and installed by the Contractor.

.5 Soap Dispenser: To be supplied by Owner and installed by the Contractor.

.6 Mirror: Bobrick B-165 Mirror with Stainless Steel Channel Frame (or equivalent), 24" x 36" and 18" x 60" – refer to drawings for locations and quantities.

.7 Paper Towel Dispenser: Bobrick B-2620 Surface-Mounted Paper Towel Dispenser (stainless steel, satin finish).

.8 Wall Hooks: Bobrick B-542 Coat Hook (stainless steel, satin finish)

END OF SECTION 10 80 00
January 2018