# Addition to
# HOUSE 22
# 285 BRITANNIA DRIVE WEST . OSHAWA

SACCOCCIO
WEPPLER
ARCHITECTS INC

UOIT
CHALLENGE INNOVATE CONNECT

UNIVERSITY OF ONTARIO
INSTITUTE OF TECHNOLOGY

ADDITION TO

# HOUSE 22

## UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

**PROJECT No. 18101** **DEC 2017**

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**ADDITION TO**
**HOUSE 22**

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**CARPENTRY**

**SECTION 06100-1**

## PART 1 - GENERAL

### 1.01 GENERAL

Conform to the requirements of Division 01.

### 1.02 SCOPE

Mention herein or indication on the drawings of articles, materials, operation or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment, and services to complete the carpentry work.

### 1.03 EXAMINATION

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction or levels to the Architect. The work of this division shall not commence until such defects have been corrected.

### 1.04 PROTECTION OF WORK

Provide temporary protection as is necessary to cover and protect all steps, sub-sills, door and window frames, and other carpentry work or masonry work from damage.

## PART 2 - PRODUCTS

### 2.01 HARDWARE

(a) All rough hardware shall be provided under this Section.

(b) The contractor shall take delivery of, check and install all finish hardware.

### 2.02 LUMBER

(a) All lumber for framing and load-bearing lumber shall be merchantable Spruce, No. 1 and 2 grade.

(b) All lumber for “Rough Carpentry” other than framing or load bearing lumber shall be merchantable spruce or white pine No. 1 and 2 common.

(c) All lumber indicated on the drawings as pressure-treated (PT) shall be white pine No. 1 and 2, vacuum/pressure impregnated in accordance with CSA 080.1 to an average net retention of 4.0kg/cubic metre Wolman C.C.A. preservative.

(d) All the above lumber shall conform to the official grading rules of the Canadian Lumberman’s Association, Ottawa, Ontario for the particular lumber and grade.

2.03 **WOOD PRESERVATIVE**

(a) Wood preservative shall be Pentox (green) as manufactured by Osmose-Pentox Inc., Toronto. Where treated wood surfaces are to be painted, a colour preservative shall be used.

(b) Apply two coats of Wolman 'End Cut Preservative' to any field cut-pressure treated wood.

2.04 **PLYWOOD**

(a) Where indicated or specified herein, finished plywood shall be **stain grade select white birch** grade one, good two sides, free of knots, sap streaks, or other defects and thoroughly seasoned and kiln dried.

(b) Fir plywood shall be exterior grade Douglas Fir Plywood manufactured in strict accordance with CSA Specification 0121-M, and shall be edge marked with certification symbol "DFP EXTERIOR", for solid wood core plywood. Provide plywood with tongue and groove edging.

2.05 **FINISH LUMBER**

(a) Interior plywood for finished carpentry work shall be manufactured in strict accordance with CSA Specification 0115-M. Plywood shall be of grades as follows:-

1. Grade A-3 for birch veneer plywood which is to have a natural or stained finish in exposed work.
2. Grade 1-3 for all birch veneer plywood which is to be painted.
3. Grades A-3 and 1-3 shall be sanded on one side.

**PART 3 - EXECUTION**

3.01 **FRAMING**

(a) All framing lumber and other rough woodwork shall be properly framed, closely fitted and accurately set to the required lines and levels and rigidly secured in place.

3.02 **FURRING AND BEARING PLATES**

(a) Wherever indicated, wood furring members and bearing plates of the dimensions shown shall be bolted to structural steel sections to form bearings or nailers for the various mateials.

(b) Wherever indicated, wood furring members and bearing plates of the dimensions shown shall be bolted to concrete and masonry.

3.03 **GROUNDS AND BLOCKING**

(a) Provide all wood blocks, plugs and strips, required to secure the work of this and other divisions to the masonry and concrete.

(b) Provide and install for this and other divisions all necessary grounds where required.

(c) Provide and set all wood blocking and strips, required to secure finished work of other divisions to other materials.

3.04 **STRAPPING**

(a) All strapping shall be spaced 300mm o/c unless otherwise noted.

(b) All 19mm strapping shall be nailed with 65mm nails and 38mm strapping to be nailed with 75mm nails. All strapping shall be lined up to a true uniform surface using long straight-edge over large areas.

(c) All 75mm strapping shall be nailed with 114mm nails. All strapping shall be lined up to a true uniform surface.

3.05 **WORKMANSHIP, ASSEMBLY AND INSTALLATION**

(a) All finished woodwork shall be built in accordance with measurement taken on the job and in conformity with the drawings.

(b) Work shall be assembled at the mill so far as practical and delivered ready for erection. When it is necessary to cut and fit on the job, materials shall be made with ample allowance for cutting.

(c) All exposed connections in the finished work shall be glued to prevent the opening of joint lines. Where finished woodwork is to have a 'Natural Finish' or a stain and varnish finish, material connections shall be as concealed so far as possible or where visible, and shall be as inconspicuous as possible with all such connections glued.

(d) The construction of the finished woodwork shall take into consideration the expansion and contraction of the material.

(e) Exposed surfaces shall be machine sanded to an even smooth surface at the mill and hand sanded to an even smooth surface ready for the finish before being fitted in place

(f) Finished work shall be erected plumb, true to a level and square.

(g) Unless otherwise specified, finished work shall be blind nailed where possible. Surface nails where used shall be set. Work shall be securely nailed or screwed to studs, blocking or furring.

(h) All trim shall be coped on in-corners.

(i) Scribing, mitring and joining shall be done accurately and neatly to conform to details.

3.06 **TRIM**

(a) All trim shall be quiet grained solid select White Birch.

(b) Interior trim shall be cut to length of rooms where practical, and otherwise trim shall be joined with angle cuts and the ends glued together and sanded smooth.

(c) Trim shall be erected plumb, square and true to a level with an even margin at all locations. Trim shall be set flush with adjoining work where shown.

3.07 **CLEANING**

The building shall be swept out and all packing cases, wastes, dirt, rubbish, plant tools removed from the premises.

3.08 **FINISHING HARDWARE**

(a) Installation shall be carried out as specified in this Section, in accordance with the Hardware Schedule and manufacturers instructions.

(b) Obtain complete templates from hardware supplier and furnish to hollow metal door and frame and aluminum door and frame suppliers, for preparation of their work to receive hardware.

(c) Obtain manufacturers installation instructions from hardware supplier for each type of product used under this section.

(d) All door closers and overhead stops shall be installed with through-bolts on wood doors.

(e) All pull handles shall be installed with through-bolts concealed by the push plate on the opposite side of the door.

(f) The finish hardware installer is to ensure that all locksets/latchsets/deadlocks are of the correct hand before installation to ensure that the cylinder is in the correct position. Handing is the responsibility of the hardware installer.

(g) The finish hardware installer is to ensure that all exit devices are of the correct hand prior to installation. Handing is part of the installation procedure.

(h) All non-sized and/or universal door closers are to be fully adjusted in strict accordance with the manufacturer's installation instructions. Adjustment is inclusive of spring power, closing speed, latching speed and back-check at the time of installation.

(i) All delayed action door closers are to be adjusted to 40 second delay for barrier free accessibility and/or movement of materials.

3.08 **FINISHING HARDWARE** (Cont'd)

(j) The Contractor shall retain the services of a certified Architectural Hardware Consultant to inspect the hardware to verify that hardware has been supplied and installed in accordance with the specifications and the Hardware Schedule and that it is adjusted and functioning property. The Architectural Hardware Consultant shall supervise the installation of all products supplied under this section by means of regular inspection throughout the course of construction. Allow for 2 inspections before one final inspection. A written report shall be provided to the Architect and Owner following each inspection.

(k) Hardware dimensions with respect to mounting heights shall be the distance from the finish floor to the centre line of finish hardware ***unless indicated otherwise***.

| | |
|---|---|
| . Locksets/Latchsets (centre line of lever) | 1025mm |
| . Deadlocks | 1524mm / 1200mm (BF Lavs) |
| . Exit Devices (centre line of push pad) | 975mm |
| . Push Plates/Door Pulls | 1100mm |

(l) The recommended mounting heights are to be considered a general guide unless conditions such as intermediate rails, lines of glass etc. dictate otherwise. Finish hardware mounting heights may be predetermined by the manufacturer when using mullions and/or vertical rod devices.

3.09 **COMPLETION, ADJUSTMENT AND REFINISHING**

On completion of all work in the building all interior wood work and fittings shall be carefully gone over and all necessary adjustments made to doors or other fittings damaged during erection or in adjusting and refitting, shall be carefully repaired or replaced and refinished, and all interior work and fittings shall be thoroughly rubbed down and touched up as may be required and the whole left in perfect condition.

**EXTERIOR CLADDING**

**SECTION 07465-1**

## PART 1 - GENERAL

### 1.01 GENERAL

Conform to the requirements of Division 01.

### 1.02 SCOPE

Mention herein or indication on the drawings of articles, materials, operations or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment, and services to complete the exterior cladding system.

### 1.03 EXAMINATION

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction or levels to the Architect. The work of this section shall not commence until such defects have been corrected.

### 1.04 CHECKING DIMENSIONS

Check all dimensions concerning this work as shown on the drawings and report all discrepancies to the Architect before commencing installation. Structure shall be plumb to within 1:1000 of overall wall height.

### 1.05 DELIVERY

(a) Package, crate and cover components to protect exposed surfaces from damage.

(b) Store components off ground to prevent twisting, bending and defacement. Slope cladding to shed moisture.

(c) Upon arrival, materials shall be inspected for damage, and manufacturer informed or any discrepancies.

### 1.06 SHOP DRAWINGS

(a) Shop drawings shall clearly indicate material thicknesses, finishes, connections, inserts, joint conditions, method of anchorage, number of anchors, supports, fasteners, reinforcements, joint locations, method of supporting and integrating mechanical and electrical fixtures, trim and accessories.

1.07 **SAMPLE WALL**

(a) Following the installation instructions, install a minimum 2.4m x 2.4m sample of the cladding system for approval prior to proceeding with the balance of the work. Sample shall be erected as part of the finished wall and shall be the standard for judging the completed work.

(b) Submit colour samples of the cladding and caulking, for approval, prior to finish painting of cladding.

## PART 2 - PRODUCTS

2.01 **CLADDING**

(a) The cladding shall be face fastened non-combustible fiberglass reinforced cementitious panel, as manufactured by Synstone.

(b) Wall cladding shall conform to CAN4-S114-05.

(c) Wall cladding shall be Synstone **Contempo**, Smooth Light finish, 13mm thick.

(d) Cladding colours shall be as selected later by the Architect from the manufacturers standard colour range.

2.02 **SUB GIRT SYSTEM**

(a) Cladding load transfer grids shall be formed from minimum 1.2mm (18ga) galvanized steel conforming to ASTM A653M Grade 230 with Z275 coating.

2.03 **FASTENING**

Fasteners shall be stainless steel and colour matched to wall cladding. Sufficient quantities of fasteners of the proper size shall be provided for anchoring the work.

2.04 **FINISH**

Submit samples of cladding colour for approval.

2.05 **AIR BARRIER MEMBRANE**

(a) Air barrier over wood panels, behind cladding shall be **Blueskin VP160** Air Barrier Membrane, as manufactured by Bakor. Fully prime substrate as recommended by manufacturer.

2.06 **CAULKING**

Caulking compound shall be **DYmeric** epoxidized polyurethane terpolymer sealant to CGSB CAN2-19.24-M80, as manufactured by Tremco Ltd. Caulking shall match cladding colours.

## PART 3 - EXECUTION

### 3.01 PREPARATION

Develop all dimensions from the architectural drawings and coordinate with field dimensions to obtain final cladding layout prior to fabrication.

### 3.02 INSTALLATION

(a) Install air barrier membrane over substrate in accordance with manufacturer's instructions. Air barrier membrane to be installed prior to installation of sub girts. Coordinate the installation of the air barrier membrane with other trades to ensure complete enclosure of the building envelope.

(b) The support system shall be anchored to the structure as required to transmit the design loads. Framing and other components shall be straight to match plane of cladding as required to meet the installed cladding tolerances with straight, sharply formed edges. After their correct position has been determined and allowances for expansion, building movement, uniform joint width and alignment of all parts has been determined, the support system shall be permanently fastened.

(c) Installed cladding shall not deviate from overall plane or alignment by more than 1:1000.

(d) Install flashings to divert any moisture to the exterior. Provide starter flashings, interior and exterior corners, edgings, perimeter and drip flashing around doors, windows and louvres.

(e) Install metal trim behind panel joints. Metal trim colour to be selected by the Architect.

(f) Panel joints shall be a consistent width of 8mm.

(g) Mitre all outside corners.

(h) Remove all excess materials, debris and equipment.

(i) Clean all cladding and flashing to be free of grime and dirt at completion of installation.

**ROOFING**

**SECTION 07500-1**

## PART 1 - GENERAL

### 1.01 GENERAL

Conform to the requirements of Section 01000 General Instructions.

### 1.02 SCOPE

Mention herein or indication on the drawings of articles, materials, operation or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment and services to complete the roofing and sheet metal flashing.

### 1.03 EXAMINATION

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction or levels to the Architect. The work of this division shall not commence until such defects have been corrected.

### 1.04 SAMPLING AND TESTING

(a) An inspection company shall be shall be selected by the Owner for testing materials and on-site inspection during construction. If required and where directed by the Architect, the inspection company shall make cut tests on the finished roof. Tests shall be carried out in the presence of the Architect and in accordance with the method prescribed by the Canadian Roofing Contractors Association. The costs of all tests and inspections shall be paid for by the Owner.

(b) The inspection company shall remove samples of the roofing to its laboratory for examination to ascertain whether or not the samples conform to the specifications. Copies of inspection company's reports on all tests shall be forwarded directly to the Architect. The roofing sub-contractor shall make all necessary repairs to the roof areas which have been damaged by testing, restoring the roof membrane.

### 1.05 GUARANTEE

(a) The Contractor shall upon completion of the work and acceptance by the Architect, obtain for the Owner the Ontario Industrial Roofing Contractors' Association Standard Form of Warranty covering the making good of any and all defects in materials and/or workmanship in the roofing and flashing installation.

(b) The guarantee shall cover the making good of the built up roofing membrane and the metal flashing through a period of **ten years**. In each case, the guarantee shall commence from the date of Substantial Performance. The guarantee shall include the two provisions of labour and materials promptly for the making good of defects in the roofing upon written notification by the Owner that defects exist.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

(a) Roofing system shall be loose laid and mechanically fastened TPO membrane roofing over insulation on wood roof deck.

(b) The name of the roofing materials manufacturer shall be submitted with the name of the roofing sub-contractor for the approval of the Architect. All roofing materials shall be compatible, supplied by **one** manufacturer. Products manufactured by Johns-Manville form the basis of this specification. Products of other manufacturers, meeting the requirements of the specification and subject to the approval of the Architect and Roofing Consultant, may be used.

(c) Roofing membrane shall be fabric reinforced Thermoplastic Polyolefin (TPO) sheet, 45 mils thick, exposed face colour white.

(d) Slip sheet shall be JM 3oz Polyester Slipsheet.

(e) Bonding adhesive shall be JM TPO Low VOC Membrane Adhesive.

(f) Metal termination bars shall be manufacturers standard predrilled stainless steel bars.

(g) Fasteners shall be factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

(h) Roof insulation shall be **E'NRG'Y 3** polyisocyanurate foam roof insulation, 38mm thickness, as manufactured by Johns-Manville, conforming to CAN/ULC-S704. Maximum insulation panel size shall be 1200mm x 1200mm.

(i) Metal flashings shall be 0.559mm (24ga) 8000 series prepainted steel. Colour of flashing to be as later selected by the Architect.

## PART 3 - EXECUTION

### 3.01 PREPARATION

(a) All roof surfaces shall be swept clean and shall be free from debris.

(b) All roof surfaces shall be dry and free from water.

(c) Install roofing membrane in accordance with roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer and requirements in this Section.

(d) Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.

3.01 **PREPARATION** (Cont'd)

(e) Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system.

(f) Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.

(g) Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation with joints and edges sealed.

(h) Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.

(i) Remove and discard temporary seals before beginning work on adjoining roofing.

(j) Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 **INSTALLATION**

(a) Mechanically fasten roof insulation to roof deck with five anchors with 75mm diameter plates per 1200mm x 1200mm insulation panel. Provide 2mm gaps at joints in insulation.

(b) Install roofing membrane over area to receive roofing in accordance with roofing system manufacturer's written instructions.

(c) Unroll roofing membrane and allow to relax before installing.

(d) Install sheet in accordance with roofing system manufacturer’s written instructions.

(e) Mechanically fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.

(f) Apply roofing membrane with side laps shingled with slope of roof deck.

(g) Apply lap sealant to seal cut edges of roofing membrane. Verify field strength of seams a minimum of twice daily and repair seam sample areas. Remove and repair any unsatisfactory sections before proceeding with Work. Repair tears, voids, and lapped seams in roofing membrane that do not meet requirements. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

(h) Secure one edge of roofing membrane using fastening plates or metal battens centered within membrane splice and mechanically fasten roofing membrane to roof deck. Field-splice seam.

(i) Proceed with installation only after unsatisfactory conditions have been corrected.

3.03 **APPLICATION OF BASE FLASHING**

(a) Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.

(b) Apply solvent-based bonding adhesive at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.

(c) Flash penetrations and field-formed inside and outside corners per manufacturer's installation instructions.

(d) Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.

(e) Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

(f) Proceed with installation only after unsatisfactory conditions have been corrected.

3.04 **APPLICATION OF METAL FLASHING**

(a) All metal flashing shall be applied using a type of lockjoint which will prevent buckling of metal and provide for proper contraction and expansion and produce surface free from warp, wave, buckle, dents or other defects. Corners shall be square and surfaces straight and to true planes. Joints of any one run of flashing shall be placed in even lengths unless otherwise permitted.

(b) All metal flashing are to be jointed by means of lock seams.

(c) All edges of metal flashing to be folded.

(d) Provisions shall be made for expansion using Type "S" lock joints at 2400mm, end of each sheet.

(e) **No face nailing or fastening shall be permitted.**

(f) Provide prepainted metal flashing on all roof curbs for roof mounted mechanical equipment **before** the units are placed on the curbs.

**SEALANTS AND FIRESTOPPING**

**SECTION 07900-1**

## PART 1 - GENERAL

### 1.01 GENERAL

Conform to the requirements of Section 01000 General Instructions.

### 1.02 SCOPE

Mention herein or indication on the drawings of articles, materials, operations, or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment and services to complete the caulking and fire-stopping.

### 1.03 EXAMINATION

Examine the work of other divisions that are to be caulked or fire-stopped under this section. Report any defects in construction or levels to the Architect. The work of this section shall not commence until such defects have been corrected.

### 1.04 PREPARATION

(a) Clean all joints of mortar drippings, wood shavings, dirt, dust, grease and other extraneous matter.

(b) Where necessary, prime all joints using a brush that will reach all parts of the joint to be filled.

### 1.05 GUARANTEE

On completion of work, this contractor shall supply the Owner with a written guarantee from the manufacturer for a minimum of **two years**. Defective work shall include, but is not limited to, joint leakage, cracking, crumbling, melting, running, loss of adhesion, loss of cohesion, staining of adjoining or adjacent work or surfaces, etc..

## PART 2 - PRODUCTS

### 2.01 MATERIALS

(a) All caulking compound shall be **DYmeric** epoxidized polyurethane terpolymer sealant to CGSB CAN2-19.24-M80 and **Tremsil 300** silicone construction sealants to CGSB CAN2-19.13-M82 as manufactured by Tremco Ltd.

(b) Fire-stopping materials shall be **Fyre-sil** Self Leveling and **Fyre-sil** specialty grade construction silicone as manufactured by Tremco Ltd.. Fire-stopping materials manufactured by 3M or A/D Fire Protection Systems Inc., meeting the specified fire resistance ratings and having ULC approval and design designation, may be used.

2.01 **MATERIALS** (Cont'd)

(c) Dymeric shall be **mixed to match** colour of adjacent surfaces. Provide samples of mix to Architect for approval prior to commencing work.

(d) All caulking compounds shall be of gun grade consistency.

**PART 3 - EXECUTION**

3.01 **APPLICATION OF SEALANT**

(a) **DYmeric** sealant shall be provided on the interior and exterior between:

1. Hollow metal door frames and gypsum board.
2. Hollow metal or steel window frames and gypsum board.
3. Window sash and gypsum board.

(b) **Tremsil 300** sealant shall be provided:

1. Along the top edge of all countertops and splashes at junction with walls.
2. Around all plumbing fixtures at junction with floors and walls.

(c) All caulking of exterior work including the caulking of sills, metal flashings, and metal copings, shall be done on the exterior side of the building wall.

(d) All caulking of interior work shall include caulking of both sides of door and window frames.

(e) All caulking shall be done by the gun method.

(f) Caulking of the interior and exterior perimeter of all exterior window frames, shall be included under this section.

(g) Gun nozzles shall be of proper size to fit the joints and materials shall be applied with sufficient pressure to fill voids and joints solid and make a near smooth bead free from ridges, wrinkles, sags, air pockets and embedded impurities. Beads in corners are not to extend more than 6mm beyond the face of the frame or wall. Superficial pointing with a skin bead is not acceptable for control and expansion joints.

(h) Provide **extruded polyolefin foam Sof Rod backing rods** and bond breakers as recommended by sealant manufacturer and compatible with caulking compounds used.

(i) Apply sealants only to completely dry surfaces and at air and material temperatures above minimum established by the manufacturers product specifications.

(j) Apply sealants in interior areas only after completion of painting operations. Sealants are **not** to be painted over.

## 3.02 APPLICATION OF FIRE STOPPING

(a) Fire stopping work shall include the sealing, as an effective barrier against the passage of gases, flame and smoke, all gaps around service penetrations through floors and walls and at terminations of floors at walls in accordance with CAN4-S115 and CAN4-S101.

(b) Fire-resistance rating of fire stopping material assembly must meet or exceed the fire-resistance rating of the floor or wall section being penetrated.

(c) Fyre-sil Self Leveling and Specialty Grade construction silicone shall be provided at:

1. Penetrations through concrete or gypsum board fire separations, floors and walls.
2. Openings and sleeves installed for future use through fire separations.
3. Mechanical and Electrical assemblies penetrating fire separations.

(d) Fire stopping around penetrations for pipes, ducts and other mechanical items requiring sound and vibration control shall be a non-rigid elastomeric seal.

(e) Damming and backup materials shall be mineral wool insulation, installed the full depth of the fire separation, less the thickness of the sealant, compressed to 25% in accordance with the manufacturers recommendation and with the tested assembly being installed as acceptable to authorities having jurisdiction.

(f) Fire stopping materials used on floors shall be self-leveling and on wall shall be non-sagging.

(g) Examine sizes and conditions of voids to be filled to establish correct thickness and installation of fire stopping materials. Properly clean and dry substrates and surfaces to meet manufacturer's instructions.

(i) Advise Architect when fire stopping materials are in place and ready for review. Do not conceal or enclose fire stopping materials prior to review by Architect and authorities having jurisdiction.

## 3.03 CLEANING

(a) Remove dust, paint, loose mortar and other foreign matter from joints to be caulked and dry joint surfaces. Remove dust, silt, scale and coatings from ferrous metal surfaces to be caulked by wire brush, grinding or sandblasting. Remove oil, grease and other coatings from non-ferrous metal surfaces to be caulked with xylol, toluol or methylethylketone. Test a concealed area of the material to ensure cleaners will not adversely effect the specified finish.

(b) Adjacent materials which have been soiled shall be cleaned immediately and left in a neat, clean condition. Remove excess material and droppings using recommended cleaners as the work progresses. Remove any masking tape immediately after tooling of joints.

(c) Clean up and remove all surplus materials, empty packages, rubbish and equipment, immediately on completion of this work.

**HOLLOW METAL FRAMES**

**SECTION 08100-1**

## PART 1 - GENERAL

### 1.01 GENERAL

Conform to the requirements of Division 01.

### 1.02 SCOPE

Mention herein or indication on the drawings of articles, materials, operations or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment, and services to provide the hollow metal frames and screens.

### 1.03 EXAMINATION

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction or levels to the Architect. The work of this section shall not commence until such defects have been corrected.

### 1.04 CHECKING DIMENSIONS

Check all dimensions concerning this work as shown on the drawings and report all discrepancies to the Architect before commencing fabrication. Refer to Door Schedule, Hardware Schedule and Specifications for mounting heights of door hardware.

### 1.05 SHOP DRAWINGS

(a) Submit shop drawings for all items in this section, for the review of the Architect. Cost of shop drawing preparation shall be paid for under this Section.

(b) Shop drawings shall clearly indicate all materials and equipment being supplied and shall show all methods of attachment and anchorage and indicate mounting heights of all door hardware.

## PART 2 - PRODUCTS

### 2.01 PRESSED STEEL FRAMES

Pressed steel frames shall be manufactured by S.W. Fleming Co. Ltd..

## PART 3 - EXECUTION

### 3.01 FRAME FABRICATION

(a) Form frame members from minimum 1.626mm (0.064") wiped coat galvanized satin coat or colour bond sheet steel to ASTM A525 Coating Class ZF75(W25). Guard boxes shall be sheet steel not less than 0.457mm. Miscellaneous hardware reinforcement shall be steel stock 3mm thick.

(b) Frames shall be accurately manufactured according to the manufacturer's written specification. Cut frame mitres accurately and fully welded. **Knock down frames will not be permitted**. Fill all exposed surface depressions and all butted joints resulting from fabrication of frames with metallic paste filler, uniform finish. Frames shall be provided with spreaders at floor line. Frames shall be assembled in position and arc welded or spot welded. Frame profiles indicated on the drawings shall be formed from **one piece of steel**, with the exception of mullions. Frame profiles that have been assembled from two or more pieces and welded or filled, will not be accepted.

(c) Reinforce all interior steel door frames to adequately receive all fixing points of hinge, closers, holders, etc. Minimum hinge reinforcement to be 4.762mm split channel or bar stock. Hinge reinforcing shall be recessed from rebate of frame to suit thickness of hinges as later specified in the hardware schedule.

(d) Exterior frames shall be thermally broken.

### 3.02 INSTALLATION

(a) Set all frames plumb, level and true. Protect frames from damage during and after erection.

(b) Check frames for correct size, hand and hardware preparation. If improperly sized, handed or prepped, return to factory for corrections. **Modifications of frames on site will not be permitted.**

(c) Exposed fasteners for frames abutting existing surfaces (existing wall anchors) shall be filled with metallic paste filler and sanded smooth to receive paint finish.

(d) Install rubber frame bumpers, in prepared holes in frames, with adhesive to prevent removal.

**WOOD DOORS**

**SECTION 08210-1**

## PART 1 - GENERAL

### 1.01 GENERAL

Conform to the requirements of Division 01.

### 1.02 SCOPE

Mention herein or indication on the drawings of articles, materials, operations or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment, and services to provide the wood doors.

### 1.03 EXAMINATION

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction or levels to the Architect. The work of this section shall not commence until such defects have been corrected.

### 1.04 CHECKING DIMENSIONS

Check all dimensions concerning this work as shown on the drawings and report all discrepancies to the Architect before commencing fabrication. Refer to Door Schedule, Hardware Schedule and Specifications for mounting heights of door hardware.

### 1.05 SUBMISSIONS

(a) Shop drawings shall be submitted for all items in this section, for the review of the Architect. Cost of all shop drawings shall be paid for under this Section.

(b) Shop drawings shall clearly indicate all materials and equipment being supplied and shall show all methods of attachment and anchorage and elevations indicating location, size and kind of each door, construction, swing, label, undercut, and hardware location and machining requirements. Include location and extent of hardware blocking, fire ratings, requirement for factory finishing, glass and other pertinent data.

(c) Submit two sets of 203mm by 254 mm selected veneer samples with the clear lacquer finish, for review. Samples shall represent the color selected on veneer typical of grain patterns and coloration for the specified specie and cut selected.

1.06 **PROJECT CONDITIONS**

(a) Maintain environmental conditions including temperature, humidity, and ventilation within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits. Inspect for damage prior to installation.

(b) Environmental Limitations: Do not deliver or install wood materials until building is enclosed and weatherproof, wet Work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during remainder of construction period.

(c) Do not install wood materials that are wet, moisture damaged, or mould damaged. Indications that materials are wet or moisture damaged include discoloration, sagging, or irregular shape. Indications that materials are mould damaged include fuzzy or splotchy surface contamination and discoloration

## PART 2 - PRODUCTS

2.01 **WOOD DOORS**

(a) All interior wood doors shall be solid core AA grade flat cut White Birch veneer, with solid 22mm Birch standard edges, **Series 7000** doors manufactured by RK Doors, Concord, ON. Veneer grain shall be vertical.

(b) All exterior wood doors shall be solid core paint grade Birch veneer, with solid 22mm Birch standard edges, **Series 9000** doors manufactured by RK Doors, Concord, ON.

(c) All doors shall be factory prepared to receive all hardware.

(d) All doors shall have a factory applied multi coat clear finish.

## PART 3 - EXECUTION

3.01 **EXAMINATION**

(a) Do not begin installation until adjacent construction has been properly prepared.

(b) If adjacent construction preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

(c) Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.

3.01 **EXAMINATION** (Cont'd)

(d) Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mould damaged.

(e) Do not proceed with installation until substrates and materials have been properly prepared and deviations from manufacturer's recommended tolerances are corrected. Prepare surfaces and materials using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

(f) Proceed with installation only after unsatisfactory conditions have been corrected Commencement of installation constitutes acceptance of conditions.

3.02 **PREPARATION**

(a) Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

(b) Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

3.03 **INSTALLATION**

(a) Install wood doors in accordance with manufacturer's instructions.

(b) Install wood door hardware in accordance with door and hardware manufacturer's instructions. Adjust hardware for proper door function and latching, and for smooth operation without excessive force or excessive clearance.

(c) Doors shall be fit to hang in frames with equal spacing at head and jambs and maximum 12mm gap at bottom. Bevel edges of doors to prevent binding on frames.

(d) Provide **square profile** birch glass stop around all door lites. Size stops for 6mm glass and glazing tape specified. Set glass stop fasteners below the surface and fill holes flush with filler to match colour of wood. Stops to extend 2mm beyond the face of the door to avoid interference with the lever door handles.

(e) Seal top and bottom edges of doors with clear shellac if cut on site for fitting.

**GLAZING**

**SECTION 08800-1**

## PART 1 - GENERAL

1.01 **GENERAL**

Conform to the requirements of Division 01.

1.02 **SCOPE**

Mention herein or indication on the drawings of articles, materials, operations or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment and services to complete the glazing.

1.03 **EXAMINATION**

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction or levels to the Contractor and Architect. The work of this section shall not commence until such defects have been corrected.

## PART 2 - PRODUCTS

2.01 **GLASS**

(a) All glass shall bear manufacturer's label indicating quality and direction of draw marks. Labels to be left in place until final cleaning.

(b) Sheet glass shall be 'A' quality of Canadian Manufacturer.

(c) Low E glass shall be 6mm clear tempered Solarban 60 (3) as manufactured by PPG Canada Inc.

(d) Tempered glass shall be 6mm clear with etched label marks on one corner.

(e) Glass manufactured by Oldcastle and Pilkington LOF Glass, meeting the requirements of the specification, will be accepted.

(f) Provide Tremco Polyshim II tape both sides of glass in doors and frames.

2.02 **SEALED UNITS**

(a) Hermetically sealed units shall be provided in all exterior doors and frames, as manufactured by Alumiseal or other manufacturer acceptable to the Architect and Owner. All units shall be filled with **argon** gas.

(b) Hermetically sealed units for lites in exterior doors and frames shall be 25mm thick and made up as follows:

Outer Sheet: 6mm laminated glass

Inner Sheet: 6mm clear tempered Low E glass with coating on surface 3.

(c) 12.7mm minimum argon filled space between sheets of glass. All units to be fabricated with a warm edge spacer and a polysulphide perimeter seal.

(d) Provide a written guarantee covering sealed units for a minimum of 10 years from date of acceptance.

**PART 3 - EXECUTION**

3.01 **GLASS INSTALLATION**

(a) All glass shall be accurately cut to fit opening with equal bearing on entire perimeter of the pane.

(b) Glazing tape shall be applied in strict accordance with manufacturer's directions.

(c) Glass shall be installed in all frames and doors using glazing tape on both sides of glass.

(d) Labels are to remain on glass until reviewed on site by the Architect.

3.02 **CLEANING**

During installation remove all corrosive or foreign materials or drippings resulting from work of this section or other trades. Provide the Contractor with instructions for the proper method and materials to be used in the final cleaning of finished surfaces.

**GYPSUM BOARD SYSTEM**

**SECTION 09200-1**

## PART 1 - GENERAL

### 1.01 GENERAL

Conform to the requirements of Division 01.

### 1.02 SCOPE

Mention herein or indication on the drawings of articles, materials, operations or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment, and services to complete the Gypsum Board work.

### 1.03 EXAMINATION

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction or levels to the Architect. The work of this section shall not commence until such defects have been corrected.

### 1.04 CHECKING DIMENSIONS

Check all dimensions concerning this work as shown on the drawings and report all discrepancies to the Architect before commencing fabrication.

### 1.05 RUBBISH

Promptly as the work proceeds, and on completion, clean up and remove from the building site all rubbish and surplus materials that remain from any part of the foregoing work.

## PART 2 - PRODUCTS

### 2.01 GYPSUM BOARD

(a) Gypsum board for all walls and partitions shall be fire rated 15.9mm thick ULC labeled **CGC Sheetrock Mold Tough (VHI)** mould and very high impact resistant Type X gypsum panels to ASTM C1396/C1396M-04.

(b) Gypsum board for ceilings and bulkheads shall be fire rated 15.9mm thick ULC labeled **CGC Mold Tough**, Type X gypsum panels to ASTM C1396/C1396M-04.

(c) Gypsum boards manufactured by Georgia Pacific Canada or Certainteed Canada, meeting the requirements of the specification for mold, fire and impact resistance, may be used.

## 2.02 FRAMING AND ACCESSORIES

(a) All steel framing for bulkheads, furred pipechases, etc. shall be 35mm x 0.914mm **(20ga)** G90/Z275 hot dipped galvanized ASTM A446 Grade A (33ksi) steel stud framing, with 33mm x 0.914mm **(20ga)** G90/Z275 hot dipped galvanized bottom and top runner track. Depth of all framing members shall not be less than 64mm for bulkheads and beam fill.

(b) 0.508mm (25ga) D-100 zinc coated steel corner bead with 32mm wide flanges.

(c) 0.508mm (25ga) D-4411 zinc coated steel metal channel trim for 15.9mm thick board.

(d) 0.508mm (25ga) D-200 zinc coated steel metal drywall trim (half bead) for 15.9mm thick board.

(e) Fasteners for gypsum board shall be 32mm long gypsum board screws, Type S, bugle head, for attachment to interior studs. Nails are not acceptable.

(f) Tie wire shall be 1.219mm galvanized steel wire.

(g) 0.914mm (20ga) D-1001 zinc coated steel gypsum board furring channels.

(h) All metal studs and accessories shall be as manufactured by Bailey Metal Products Limited, Toronto, or other approved manufacturer.

(i) Sound attenuation batt insulation in all interior partitions shall be 400mm x 1200mm x 89mm mineral wool batts as manufactured by Roxul Inc..

(j) Acoustic sealant shall be as manufactured by Tremco.

(j) Gypsum board control joints shall be DRM-50-25 2-PC extruded aluminum as manufactured by Fry Reglet Corporation, to provide a 6mm wide reveal.

## 2.03 FINISHING

(a) ‘CGC All Purpose Joint Compound’ for joints and fastener heads.

(b) ‘CGC Topping Joint Compound’ for feathering finish coat.

(c) Joint tape shall be fiber mesh tape for joints. Paper tape will not be permitted,

(d) All gypsum board finishing products shall be as manufactured by CGC, or other approved manufacturer.

## 2.04 ACCESS PANELS

(a) Ceiling and wall non-rated access doors with concealed hardware and 16mm gypsum board inlay for flush installation shall be Baucoplus-II 58 as manufactured by Bauco Access Panel Solutions Inc. (http://www.accesspanelsolutions.com)

## PART 3 - EXECUTION

### 3.01 ERECTION

(a) Gypsum board shall be installed by mechanics skilled in this trade, in strict accordance with manufacturer's directions. Application of gypsum board shall comply with ASTM C840-04a specification.

(b) Start securing in central portion of board and work towards the ends and edges. Hold board firmly against the framing members while installing. Perimeter screws shall not be less than 10mm nor more than 12mm from edges and ends and shall be opposite the screws on adjacent boards. Screws shall be driven with a power screw gun and set with countersunk head slightly below the surface of the board. Space screws 300mm o/c in field and 200mm o/c on edges. Nails to secure gypsum board will not be permitted.

(c) Casing beads are required where gypsum board butts against a surface having no trim concealing its juncture. Erect casing beads plumb and level, with minimum joints. Install casing beads where new drywall abuts existing drywall against an existing corner bead.

(d) Provide control joints in the gypsum board facing. Control joints shall be supported with studs or furring channels on both sides of the joint.

Control joints shall be provided:

at abutting structural elements, steel columns,
at expansion or control joints in the substrate,
at maximum 6 metre spacing on long partition and bulkhead runs,
at each door jamb,

(e) All joints and interior angles shall have tape embedded in joint compound and three separate coats of joint compound applied over all joints, angles, fastener heads, and accessories. A thin skim coat of joint or topping compound shall be applied to the entire surface. The surface shall be smooth and free of tool marks and ridges (GA-214-90 Level 5). After application of the first coat of paint, correct any defects in the finish of the wallboard.

(f) Submit sample of gypsum board finish to Architect for approval.

(g) All interior gypsum board partitions to be filled with sound attenuation batt insulation full height of wall.

(h) Install hollow metal door frames and hollow metal glazed screens in prepared openings according to frame manufacturer's directions.

(i) Erect gypsum board vertically to minimize end joints. Locate end joint over supporting members. Arrange end joints to occur on different studs on opposite sides of a partition. Keep end joints away from prominent locations and central portions of ceilings. Locate vertical joints at least 300mm from the jamb lines of openings.

3.02 **ACCESS PANELS**

(a) Provide access panels in gypsum board where required to service mechanical and electrical systems. Coordinate layout of mechanical and electrical work to minimize access panels.

(b) Comply with manufacturers latest instructions for panel installation.

3.03 **PROTECTION AND CLEANING**

Protect the work of this and all other trades from damage during the progress of this work by covering all sections of work liable to damage from plastering. On completion of boarding and each successive plaster coat, clean off the floors, sweeping them thoroughly after final coat. After completion of work by other trades or when directed by the Architect, make good all defects and thoroughly clean all plaster stains from masonry, window frames, glass or finished flooring to the approval of the Architect.

**CERAMIC FLOOR TILE**

**SECTION 09300-1**

## PART 1 - GENERAL

### 1.01 GENERAL

Conform to the requirements of Division 01.

### 1.02 SCOPE

Mention herein or indication on the drawings of articles, materials, operations or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment and services to complete the ceramic floor tile.

### 1.03 QUALIFICATIONS

(a) It is recommended that the work of this Section shall be carried out by a company who is a member in good standing with the **TTMAC**, and who employs supervisory personnel and craftspersons skilled in the installation of the tile, setting and grout products specified herein.

(b) If the work of this section is carried out by a company who is not a member in good standing with the **TTMAC**, the installer shall include in their tender price, the complete cost of inspection and reporting services provided by the **TTMAC**.

### 1.04 EXAMINATION

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction or levels to the Architect. The work of this section shall not commence until such defects have been corrected.

### 1.05 SAMPLES

Submit samples of all materials to the Architect for approval. The materials used in the building shall correspond to the approved samples for colour, texture and finish.

### 1.06 PROTECTION

(a) Protect the work of other from damage during the execution of this work.

(b) Make good all damaged and defective work to the approval of the Architect.

### 1.07 MAINTENANCE

Submit three copies of the TTMAC's latest edition of the maintenance guide. Give specific warning of any maintenance practice or materials which may damage or disfigure the finished work.

1.08 **RESERVE**

Leave 2% of all tiles with the Owner for replacement purposes.

## PART 2 - PRODUCTS

2.01 **MATERIALS**

(a) Ceramic floor tile shall be **Regal** 300mm x 300mm, colour ***Grey Matte***, as supplied by Olympia Tile International. Tiles shall be supplied with a smooth, matte finish. Provide ceramic base, 100mm high x 300mm long, cut from tile, colour ***Charcoal Black Matte***.

(b) Setting bed for all ceramic floor tile and base shall be **Laticrete 253 Gold**.

(c) Grout for all ceramic floor tile and base shall **Laticrete SpectraLOCK PRO** grout.

2.03 **ACCESSORIES**

(a) Supply and install metal termination strips at junction of ceramic tile flooring **and all other floor coverings**; i.e. carpeting, resilient flooring, ceramic tile and at all door openings against rebate of door frame. Metal termination strips shall be **Schluter-SCHIENE 80**, stainless steel to suit thickness of tile.

(b) Supply and install metal termination strip along the top edge of ceramic wall base. Metal termination strips shall be **Schluter-SCHIENE 80**, stainless steel to suit thickness of tile.

(c) Supply and install uncoupling membrane over wood subfloor below all ceramic floor tile. Membrane shall be **Schluter-DITRA**, 3mm thick.

## PART 3 - EXECUTION

3.01 **PREPARATION & INSTALLATION**

(a) Floor tiles shall be installed using the thin set method over uncoupling membrane on wood subfloor.

(b) Variations in surface of subfloor shall not exceed 5mm in 3000mm.

(c) All ceramic floor tile to be set in a stack bond pattern with maximum joint width of 3mm between tiles.

(d) Thin set to be spread over wood subfloor with proper notched trowel and uncoupling membrane to be installed in accordance with manufacturer's instructions. Thin set to be spread over uncoupling membrane and all floor tiles and base shall be fully back buttered before setting.

3.01 **PREPARATION & INSTALLATION** (Cont'd)

(e) Tiles shall be laid so that edges are flush with adjacent tiles. Levelness of the installation will be checked and any tiles found to be higher than adjacent tiles will be required to be removed and reinstalled.

(f) Grout tiles and base in strict accordance with grout manufacturers instructions. Grout shall be **finished flush with top edge of tiles**. Areas where grout settles and finishes below the top edge of the tile, shall be re-grouted.

(g) Floor tile base shall stop at all door frames.

(h) All outside corners of base shall be overlapped.

3.02 **CUTTING**

Carry out all cutting and trimming in tile work required around floor drains, cleanouts, plumbing fixtures, etc. Cutting shall be carried out with a power saw. Scoring, breaking or nibbling tiles will not be permitted.

3.03 **CLEANING**

Clean all new ceramic floor tile and wall base after installation with Aqua Mix Non-Cement Grout Haze Remover. Apply in accordance with the manufacturers written directions to completely remove all traces of grout from the tile surface.

**CEILING TILE**

**SECTION 09500-1**

## PART 1 - GENERAL

1.01 **GENERAL**

Conform to the requirements of Division 01.

1.02 **SCOPE**

Mention herein or indication on the drawings of articles, materials, operations or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment and services to complete the Ceiling Tile work.

1.03 **EXAMINATION**

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction or levels to the Architect. The work of this section shall not commence until such defects have been corrected.

1.04 **PROTECTION**

Protect the work of other divisions against damage or undue soiling. Repair or replace all work so damaged or soiled.

1.05 **RUBBISH**

Promptly as the work proceeds and on completion, clean up and remove from the building site all rubbish and surplus materials that remain from any part of the foregoing work.

1.06 **RESERVE CEILING TILE**

This contractor shall leave **two** full factory sealed boxes of each type of ceiling tile for the Owner on completion of the work.

## PART 2 - PRODUCTS

2.01 **CEILING TILE**

(a) Submit samples of each component of ceiling system for approval by Architect, including all accessories.

(b) Ceiling tile shall be 609.6mm x 1219.2mm x 19.0mm Square Cut lay-in **Ultima** mineral acoustic ceiling tile, Item No. 1990, as manufactured by Armstrong World Industries Canada Limited.

2.02 **SUSPENSION SYSTEM**

(a) Suspended t-bar grid including wall molding, shall be **Lance-Lock System 900** Exposed Tee System, as manufactured by Bailey Metal Products Limited or **Donn DX** Exposed Tee System, as manufactured by CGC Inc..

(b) One piece metal outside corner wall molding fittings for square corners. No mitered or butt joints will be permitted.

## PART 3 - EXECUTION

3.01 **INSTALLATION**

(a) Ceiling tile and metal suspension systems for same shall be applied in strict accordance with the manufacturer's instructions.

(b) Install main T's at maximum 1219.2mm centres supported from wood joists above with 2.68mm galvanized steel wires spaced at maximum 1219.2mm centres each way and maximum 150mm from walls.

(c) Cross T's shall be positioned to form the selected grid pattern. T's shall be spaced and additional support shall be provided to accommodate ceiling lighting fixtures and duct outlets and adjacent to main runner splices.

(d) Provide hangers at all four corners of T's at each recessed light and duct outlets and at both sides of main runner splices.

(e) Light fixtures, diffusers, etc., are to be supported independently from T-bar grid system.

(f) Terminate all edges of tiles with framing members.

**RUBBER BASE**

**SECTION 09670-1**

## PART 1 - GENERAL

1.01 **GENERAL**

Conform to the requirements of Division 01.

1.02 **SCOPE**

Mention herein or indication on the drawings of articles, materials, operations or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment and services to complete the rubber base.

1.03 **EXAMINATION**

Examine the work of other divisions on which the work of this section is dependent. Report any defects in construction of slabs or concrete floor finish to the Architect. The work of this section shall not commence until such defects have been corrected.

1.04 **SAMPLES**

(a) Samples shall be supplied to and approved by the Architect before commencement of work. Samples shall be clearly labeled stating colour, size, gauge and the manufacturer's name.

(b) Submit three (3) samples of each colour and material to be provided.

(c) The cost of all samples shall be paid for by the Contractor, including all carrying charges.

## PART 2 - PRODUCTS

2.01 **RUBBER COVE BASE**

(a) Rubber cove base shall be Johnsonite Tightlock Wallbase, **TDCR-69**, 111mm high cove, conforming to CAN/CSA-A126.5 specification, as manufactured by Johnsonite, Colour shall be as later selected by the Architect. Provide one piece factory made outside corners with 101mm returns. Provide base in 22.9m coiled lengths.

(b) Adhesive shall be waterproof type as recommended by the rubber base manufacturer.

## PART 3 - EXECUTION

### 3.01 WORKMANSHIP AND INSTALLATION

(a) Prepare surfaces and install rubber cove base in accordance with the material manufacturer's printed recommendation. Existing base adhesive must be completely removed from existing substrates where new base is being installed.

(b) Base shall be installed when the temperature is 20 °C or higher. The temperature shall be maintained for a period of not less than three days before starting work and after completion of work.

(c) Apply adhesive uniformly with approved notched tooth-spreader. Apply only sufficient adhesive that can be covered before initial set takes place. Finished work shall be tightly bonded to the wall, smooth, clean and free from imperfections.

### 3.02 RUBBER COVE BASE

(a) Rubber bases, primer, and adhesive shall be applied according to the manufacturer's printed instructions.

(b) Clean out all wall bases before applying materials.

(c) Ensure resilient tile, wood and carpet tile flooring materials are installed so that base completely covers the edge of the flooring. Gaps between toe of base and flooring will not be accepted.

(d) Set rubber base in waterproof adhesive tight against the wall surface with lip of base on top of the floor and tightly in contact with it.

(e) **Provide one piece factory made outside corners at all exterior corners.** Wrap around corners will not be accepted.

(f) Base shall be installed in one piece full length of walls with joints at interior and at one piece factory made exterior corners only. Ensure all joints fit tightly with no visible gap.

**PAINTING**

**SECTION 09900-1**

## PART 1 - GENERAL

### 1.01 GENERAL

Conform to the requirements of Division 01.

### 1.02 SCOPE

Mention herein or indication on the drawings of articles, materials, equipment, or methods requires that the contractor provide each item mentioned or indicated, perform each operation prescribed and provide all labour, materials, equipment and services to complete the painting.

Particular attention is drawn to the need to examine the specifications and drawings for the work of other divisions regarding the provisions for priming and painting under the respective divisions and it shall be understood that all materials installed throughout the building which are required to be painted and which are left unfinished or incomplete by the other divisions, shall be completed as specified herein.

### 1.03 STORAGE

Provision shall be made by the contractor or Architect for a secure space for the storage of all paint materials and equipment for the exclusive use of the contractor who in turn shall maintain and leave it free from fire hazards due to improperly stored rags or solvents.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

(a) Specification is based on using materials, quality and colours manufactured by **Dulux Paints** by PPG Architectural Coatings. Products of equal 'top of line' quality manufactured by Pratt and Lambert Inc. or Sherwin Williams may be used.

(b) Any exception or variation must be requested by the contractor in writing to the Architect stating the reason for requesting a change for the approval of the Architect.

(c) All paint shall be delivered to the site in manufacturer’s unbroken, sealed containers bearing its original label.

(d) All materials shall be applied in strict accordance with manufacturer’s directions as printed on the container and any thinning required shall be done in the manner prescribed; and exclusively with the type of reducer recommended by the manufacturer.

(e) Colours for all finish coats of paint shall be selected or approved by the Architect with duplicates supplied to the contractor.

2.01 **MATERIALS** (Cont'd)

(f) The Architect reserves the right to take representative samples of any material the painting contractor brings on the job site and have it tested by an approved laboratory to verify the materials conform to the specifications. Cost of tests, if required, shall be paid for by the Contractor.

(g) Provide two 300mm x 300mm samples of all paint colours in the finish specified for the approval of the Architect, prior to commencing the work.

## PART 3 - EXECUTION

3.01 **SURFACE PREPARATION**

(a) The painting contractor shall be held wholly responsible for the finished appearance and satisfactory completion of his work and therefore, shall not commence any painting until surfaces to be painted are in proper condition in every respect. All surfaces shall be clean and free of dirt, grease, and any foreign matter that would adversely affect the finished appearance or protection properties of the paint applied. If for any reason the surface cannot be properly prepared, the condition shall be promptly reported to the General Contractor or to the Architect, or assume the responsibility for and rectifying any unsatisfactory finish resulting.

(b) Drop cloths shall be provided to prevent paint material from falling on or marring any adjacent surface not to be painted. Any damage resulting from the neglect of this provision will be corrected at the expense of the contractor.

1. Ferrous Metal Surfaces - All rust and mill scale shall be removed using the prescribed surface preparation technique SSPC-SP-3, Power Tool Cleaning, as specified by the Society for Protective Coatings. All weld fluxes shall be Power Tool Cleaned SSPC-SP-3 as specified by the Society for Protective Coatings and washed thoroughly with water to remove all weld flux splatters and alkali contaminants.

Shop coated steel or iron - shall be first washed free of grease, dirt, oil, or dust with petroleum solvents. Prime where metal is exposed with a rust inhibitive primer such as specified first removing any rust which may have formed after hand or power tool cleaning.

2. Masonry Block Surface - Remove foreign matter and mortar splatters. Mortar joints must be raked clean.

3. Wood Surfaces - Sand smooth and apply primer as specified. Holes, splits and scratches shall be puttied or spackled smooth after applying the prime coat.

(c) Finishing hardware, electric plates and accessories shall be removed prior to finishing. Mask any that are not removable.

3.01 **SURFACE PREPARATION** (cont'd)

(d) Removable grilles and access panels for convectors, ventilation, walls, etc., shall be removed from location and painted. Replace when painting is completed and ensure proper operation of movable parts after finishing.

3.02 **WORKMANSHIP AND GENERAL REQUIREMENTS**

(a) All materials shall be applied and cut in neatly so as to dry uniformly to the colour and sheen specified, free from runs, sags, wrinkles, shiners, streaks, and brush marks.

(b) During the actual application and drying of the paint and until normal occupancy of the building occurs a minimum temperature of 15 degrees C shall be maintained. This temperature shall be held as constant as possible to prevent condensation. Adequate ventilation shall be provided at all times so that the humidity cannot rise, above the due point at the coldest wall. The contractor is solely responsible for maintaining required temperatures, ventilation, and room condition.

(c) Enamel and varnish undercoats shall be sanded smooth prior to re-coating.

(d) All doors of closets and cabinets shall have same finish and number of coats of both interior and exterior sides.

(e) Safe levels for painting shall be determined by use of an electronic moisture meter.

(f) The areas in which the contractor has been conducting his work shall be left in a clean and orderly condition, with all paint spots, rags, and discarded equipment removed.

(g) All coats of paint shall be thoroughly dry before applying succeeding coats. All primer and intermediate coats of paint shall be sanded lightly and dusted before succeeding coats of paint are applied. All finished surfaces blemished with dust particles shall be sanded smooth and refinished.

(h) Where damage to or patching of any kind occurs on any newly finished surface, the entire plane shall be refinished terminating only at a definite break or change in direction of the plane surface. Damaged doors and frames must be sanded and repainted. No spot touch-ups will be permitted.

(i) The primer coats shall be tinted to the approximate shade of the finish coat.

(j) Any work which does not meet the approval of the Architect shall be immediately corrected. If the work is not corrected, the Architect reserves the right to deduct from the amount due the contractor under his written contract.

(k) Paint shall be applied so that one inch strip of the proceeding coat is discernible at the base of walls.

3.02 **WORKMANSHIP AND GENERAL REQUIREMENTS** (Cont'd)

(l) Paint manufacturer's representative shall visit the site periodically to ensure conditions and paint applications are proper.

(m) No paint or finishing to be done in any area unless area is **broom clean**.

(n) All surfaces, with the exception of walls, shall be tipped with a brush if a roller has been used to apply the finish. Roller marks will not be accepted on doors, frames, millwork, etc..

(o) Paint all exposed pipes, ductwork, conduit and insulation covering in mechanical and electrical service areas.

(p) Metal surfaces in concealed duct and pipe spaces, crawl spaces and above suspended ceilings will not require painting with the exception of untrimmed ferrous metals occurring above suspended ceilings.

(q) Paint both sides and all edges of plywood backboards for electrical equipment, before installing backboards and mounting equipment.

(r) Paint inside of ductwork where visible with primer and one coat of matte black paint, with the exception of fire dampers.

(s) Epoxy coatings cannot be applied where exposed to the combustion by-products of improperly vented fossil fuel burning heaters.

3.03 **INTERIOR GYPSUM BOARD WALLS**

One coat Latex Ultra Primer 36600 to gypsum board.
Two coats Pitt-Tech Plus 90-1110 Series Acrylic Satin Enamel.

All walls shall be painted from floor to ceiling prior to the installation of whiteboards, tackboards, cupboards, etc.

3.04 **INTERIOR GYPSUM BOARD CEILINGS and BULKHEADS**

One coat Latex Ultra Primer 36600 to gypsum board.
Two coats Pitt-Tech Plus 90-1110 Series Acrylic Flat Enamel.

3.05 **INTERIOR METAL WORK**

Hollow metal door frames, hollow metal window frames, etc.

One coat Dulux X-Pert Gripper Primer/ Sealer 60000
Two coats Dulux Lifemaster 59211 Interior Acrylic Semi-Gloss (Zero VOC).

3.06 **EXTERIOR METAL WORK**

Exterior hollow metal frames, windows, etc.

One coat Devguard 4360 Universal Alkyd Metal Primer
Two coats of Devguard 4308H Alkyd Enamel.

3.07 **EXTERIOR WOOD DOORS**

Exterior wood doors

One coat Dulux X-pert Waterborne Alkyd Interior/ Exterior Primer Sealer # 23010, applied at a dry film thickness of not less than 2.2 mils.

Two coats Dulux Weatherguard 100% Exterior Acrylic Semi-Gloss # 1550 Series, applied at a dry film thickness of not less than 1.5 mils per coat.