

December 02, 2025

Tender Period Addendum 04

Town of South Bruce Peninsula – New Town Hall Offices

370 William Street, Wiarton, Ontario, N0H 2T0

Issued To: All Bidders

Re: Architectural and Mechanical Revisions and Responses to Questions Raised by Bidders

Part 1 ATTACHMENTS:

1.1 G. M. DIEMERT ARCHITECT INC. SPECIFICATION SECTIONS:

- .1 Section 00 01 10 - Cover Page and Table of Contents, marked for Addenda, 6-pages, 8.5"x11".
- .2 Section 01 21 00 - Allowances, Addendum 04, 5-pages, 8.5"x11".
- .3 Section 06 14 16 - Flush Wood Doors, Addendum 04, 6-pages, 8.5"x11".
- .4 Section 08 11 16 – Exterior Aluminum Doors and Frames, 9 – pages, 8.5"x11".
- .5 Section 08 11 17 – Interior Aluminum Doors and Frames 8 - pages, 8.5"x11".
- .6 Section 08 31 01 - Floor Access Door, 3-pages, 8.5"x11".
- .7 Section 09 65 70 - Non-Slip Viny Flooring and Flash Cove Wall Base, 11-pages, 8.5"x11".

1.2 G.M. DIEMERT ARCHITECT INC. DRAWINGS:

- .1 Electronic Document Identification: PDF file attached "20251202gmda-ARCH-TSBP-Add04-DWG", 11 pages ARCH "E" size (121.92 cm x 91.4 cm), issued; "05, Add-04, ADDENDUM 04, 2025.12.02", identified as follows:
 - .1 A-004, titled "Landscape Plan",
 - .2 A-111, titled "Ground Floor Enlarged Plan",
 - .3 A-112, titled "Ground Floor Enlarged Plan",
 - .4 A-130, titled "Roof Plan",
 - .5 A-200, titled "Exterior Elevations – Demolition",
 - .6 A-310, titled "Wall Sections",
 - .7 A-311, titled "Wall Sections",
 - .8 A-403, titled "Council Chambers – Enlarged Plans",
 - .9 A-404.1, titled "Washrooms – Enlarged Plans",
 - .10 A-405, titled "Corridor Elevations",
 - .11 A-701, titled "Ground Floor Finish Plan".

1.3 DEI CONSULTING ENGINEERS INC. MECHANICAL DRAWINGS:

- .1 Electronic Document Identification: PDF file attached "20251127DEI-MECH-TSBP-Add05.pdf", 1 page LETTER size (8.5" x 11"), for engineer job number 24099, dated "November 27, 2025", titled "Addendum 05", and 1-page ARCH "E" size (121.92 cm x 91.4 cm), issued; "4, ISSUED FOR ADDENDUM 05, 2025.11.27", identified as follows:
 - .1 M401, titled "Ground Floor Plans Plumbing & Drainage - Renovation".

Part 2 Summary of Amendments to Bid Documents:

2.1 SPECIFICATIONS AMENDMENTS:

- .1 **DELETE** all previously issued versions of Section 00 01 10 Cover Page and Table of Contents.
- .2 **ADD** attached Section 00 01 10 Cover Page and Table of Contents, which is marked according to issued addenda.
- .3 **DELETE** all previously issued versions of Section 01 21 00 Allowances.
- .4 **ADD** attached Section 01 21 00 Allowances attached with this Addendum which is marked with adjustments made within Addendum 03 using blue highlighting and adjustments made by Addendum 04 using magenta highlighting.
- .5 **ADD** as new Contract and Bid Documents the following specification sections, attached with this Addendum:
 - .1 Section 08 11 17 – Interior Aluminum Doors and Frames consisting of 8 - pages, 8.5"x11". This section specifies interior aluminum door and framing systems.
 - .2 Section 08 31 01 - Floor Access Door consisting of 3-pages, 8.5" x 11" size. The section specifies the access door required at the top of the wall-mounted ladder leading from Custodian 058 to the mezzanine floor above. This is part of the Separate Price.
 - .3 Section 09 65 70 - Non-Slip Vinyl Flooring and Flash Cove Wall Base consisting of 11-pages, 8.5" x 11" size. The Section specifies the non-slip sheet vinyl flooring and integral flash-coved wall base within Custodian 014 in the Base Bid and within Custodian 058 as part of the Separate Price.
- .6 Section 05 51 00 Metal Stairs and Ladders is amended as follows:
 - .1 Modify the title of the Section to *Section 05 51 00 Metal Stairs and Ladders* and note the following changes:
 - .1 The revised number of pages within the revised Section 05 51 00 is 3, 8.5" x 11" size.
 - .2 **ADD** to Design Requirements 05 51 00.1.3.3 "Metal Stair nosing warning strip, contrasting colour and non-slip finish: 3M 610 Safety Walk tape."
 - .3 **ADD** to Design Requirements 05 51 00.1.3.4 "Wall-mounted service access ladder to mechanical mezzanine – provide delegated design and shop drawings complete with specified anchors and spacing of anchors."
 - .4 **ADD** to Part 2, the following:
 - .1 "2.7 SERVICE SPACE ACCESS LADDER"
 - .1 Co-ordinate blocking and fastening details with Section 06 10 00 Rough Carpentry and Sections of Division 04 Masonry.
 - .2 Supply and install mechanical space access ladder extending from the floor of the Janitorial Closet to the level of the service mezzanine floor and to suit the access door, with centre-line of rung 115 mm from wall face with 300 mm vertically between rungs. Ladder width is 400 mm. Ladder location as shown on Architectural Drawings. Ladder and attachments shall sustain a minimum load of 135 kg.
 - .3 Fabricate steel frame as required for height and mounting conditions.
 - .4 Grind all welds smooth prior to priming steel.
 - .7 Access ladder shall meet or exceed all parts of the Ontario Building Code, Ontario Ministry of Labour, CAN/CSA B44 and the Ontario Building Code Supplemental Information."
 - .1 **ADD** to Part 2, the following:

- .1 "2.8 STAIR NOSING GRIT TAPE:
 - .1 3M 610 Safety-Walk tape supplied by U-Line, Canada."
- .2 **ADD** to Part 3, the following:
 - "05 51 00.3.2 APPLICATION OF STAIR NOSING GRIT TAPE:
 - .1 Following completion of all other Work, clean stair treads and nosing thoroughly using materials and methods recommended by tape manufacturer.
 - .2 Apply grit tape when all other construction is completed.
 - .1 05 51 00.3.2 INSTALLATION OF WALL-MOUNTED ACCESS LADDER:
 - .1 Pre-drill holes in concrete masonry.
 - .2 Utilize anchor and spacing of anchors specified on the engineering design indicated on shop drawings."
- .8 Section 06 14 16 Flush Wood Doors:
 - .1 **DELETE** all previously issued versions of Section 06 14 16 Flush Wood Doors.
 - .2 **ADD** attached Section 06 14 16 Flush Wood Doors attached with this Addendum which is marked with adjustments made within Addendum 04 using magenta highlighting.
- .9 Section 08 11 16 – Exterior Aluminum Doors and Frames:
 - .1 **DELETE** all previously issued versions of Section 08 11 16 – Aluminum Doors and Frames.
 - .2 **ADD** attached Section 08 11 16 – Exterior Aluminum Doors and Frames, 9 – pages, 8.5"x11".
- 2.2 SECTION 22 44 13 PLUMBING FIXTURE AMENDMENT:**
 - .1 **DELETE** all countertops and associated sinks within washrooms, substitute wall hung sink. Note sinks within the following rooms shall remain as specified: Lunch room 019d, Coffee 000 (x2), Council Office 035, and Executive Boardroom 037.
 - .2 **ADD** American Standard wall mounted complete with concealed carrier "Murro" selected to suit specified faucets within all washrooms. Murro sinks shall replace each of the deleted countertop lavatories. All Murro sinks shall have shroud 0059020EC.
- 2.3 RESPONSES TO QUESTIONS RECEIVED ON BIDS & TENDERS FROM PROSPECTIVE BIDDERS:**
 - .1 **Contractor Question:** "Please clarify if communication is part of GC's scope of work? kindly provide communications specifications if to be included in GC's scope."
 - .1 **Architect's Response:** Communications conductor raceways are specified and marked on Electrical drawings. Conduit shall be routed by the electrical sub-contractor to the ceiling space to the communications hangers marked on the electrical drawings. The hangers are specified within the Electrical Specifications Section 26 05 75.2.1.1. The hangers and all conduit routed to them from the communications device boxes shown on drawings are included within the Base Bid Price.
 - .2 **Contractor Question:** "Please clarify if communication is part of GC's scope of work? kindly provide communications specifications if to be included in GC's scope."
 - .1 **Architect's Response:** See response to question 1, above.
 - .3 **Contractor Question:** "We noticed that there are no Division 27 specifications in the package. Please confirm there is no scope of work for that Division."
 - .1 **Architect's Response:** Refer to the answer to question 1, above.
 - .4 **Contractor Question:** "Please confirm that communication cabling scope is part of this contact, please provide communications specifications."

- .1 **Architect's Response:** The cables and conductors associated with communications are not included in the Base Bid fixed price. These will be supplied and installed by the Owner through a Cash Allowance.
- .5 **Contractor Question:** "HVAC Controls, please clarify if Carrier controls is an acceptable?"
 - .1 **Architect's Response:** See DEI response provided.
- .6 **Contractor Question:** "Drawing M401 – Water Room Entrance Detail – Please clarify the pipe sizing in this detail. – The water enters at 50mm and the increases to 80mm at the double check backflow preventor and the reduces to 50mm again. There is also an 80mm hose connection and vacuum breaker shown, what is this for? There is also a RP backflow assembly shown next to a vacuum breaker and drain. What is it for?"
 - .1 **Architect's Response:** Please refer to DEI Consulting Engineers Addendum 05, attached with this Addendum for a response to this question. The Controls are the subject of a Cash Allowance.
- .7 **Contractor Question:** "Drawing M401 - Please confirm the cold-water sizing shown on Washroom 15a/b Part plan. The washrooms have a 20mm feed but the drop and header in the washroom is 25mm."
 - .1 **Architect's Response:** Please refer to DEI Consulting Engineers Addendum 05, attached with this Addendum for a response to this question. Revised Drawing M401 has provided this information.
- .8 **Contractor Question:** "Can DEI provide more information on E101 it looks like the Outside lighting has not got a designate panel. Also it looks like there is no outside lighting controls indicated on the drawings"
 - .1 **Architect's Response:** Please refer to Architect's Addendum 03 previously issued which also contains the DEI Consulting Engineers Addenda 03 and 04.
- .9 **Contractor Question:** "1) - Lighting Fixture Type- L3 / L6 / L7 / L8 / P2 / C / W / WA – electrical contractor request Acuity to be allowed as approved equal on these for these types Can Acuity. 2) - Lighting Fixture Type L9 / P1 / B- Missing specs, please provide specification for these ones. Also would like to request to allow Acuity to quote this."
 - .1 **Architect's Response:** Please refer to Architect's Addendum 03 previously issued which also contains the DEI Consulting Engineers Addenda 03 and 04.
- .10 **Contractor Question:** "Can a copy of the as-built drawings be supplied so the extent of the demolition of the HVAC ductwork and below grade sanitary, storm, domestic and condensate piping systems can be identified?"
 - .1 **Architect's Response:**
 - .1 No "As-Built" drawings that describe existing HVAC duct work or the drains and other plumbing below the existing floor slab are available. The extent of duct work above suspended ceilings and within the existing building can be found and viewed and measured on the job site. Removal of existing ceiling tiles is acceptable.
 - .2 The Architectural Site Plan and the WitzelDyce Engineering Inc. Civil Engineering Drawings do show extent of the building services on the Project site which were derived from information provided by the Owner. The final extent of servicing and the location of all buried services is subject to discovery during construction; however, pricing must include work required to the services illustrated together with the disconnection of all existing buried services from services that are to remain whether these are within or without of the building.
 - .3 The existing services buried below the existing concrete floor shall be abandoned in situ. Abandoned services must be disconnected from all active services but they need not be removed except to exclude their connection to new services installed (such as in a manhole

or catch basin or sump) or removed locally the piping found to interfere with the services routed as part of the new installation.

- .11 **Contractor Question:** "Please provide the clarification on the following; 1 – On the drawing A-111, in the MULTIPURPOSE Classroom, 033c is showing twice as 2 sets of double doors, but is not on the door schedule. 2 – 033a is on the door schedule twice for double doors, but indicates 2 different frames, 1-wood and 1-HM 3 – 133b is not on the schedule"
 - .1 **Architect's Response:** Please refer to Architectural Drawings A-111 and A-112, attached. The Door Schedules are revised.
- .12 **Contractor Question:** "The following doors do not have numbers: Director of Finance, Executive board room, Concrete Vestibule"
 - .1 **Architect's Response:** Please review to Architectural Drawings A-111 and A-112, attached. The Door Schedules are revised.
- .13 **Contractor Question:** "Frame elevation "D" – The height does not match or add up with the height sizes in the door schedule."
 - .1 **Architect's Response:** Please review to Architectural Drawings A-111 and A-112, attached. The Door Schedules are revised.
- .14 **Contractor Question:** "Drawing A-004 has round bench with chairs at patio area. please provide the specification, also provide the specification for the bench seating."
 - .1 **Architect's Response:** Please refer to Architectural Drawings attached with Addendum 03 which deleted the round bench, chairs and other furniture on the terrace.
- .15 **Contractor Question:** "Is opening 058 is part of this project? It appears on the drawings but is not called out on any of the door schedules."
 - .1 **Architect's Response:** This opening is properly identified within Addendum 03.
- .16 **Contractor Question:** "Are openings 033C (x2) and 033D to be included on this project. These openings do not appear on the door schedules but do appear on the drawings"
 - .1 **Architect's Response:** These openings are properly identified within Architectural Drawings attached with this Addendum.
- .17 **Contractor Question:** "First opening on the door schedule does not have a tag. I have assumed this is the exterior pair of doors on vestibule 001. Please confirm if this is correct and if this can be tagged as 001."
 - .1 **Architect's Response:** This door is described on A-320 as an aluminum door. It is part of the curtainwall system and this is identified within Addendum 03. Commdoor Aluminum doors and frames are the basis of design and these doors and frames are compatible with the specified Commdoor Curtain Wall System. The Curtain Wall and the Aluminum Doors and Frames integrated into it must be compatible and from the same manufacturer.
- .18 **Contractor Question:** "Opening 034B is shown as type H. Type H appears to be a double door configuration but this opening is a single. Please confirm how we are to proceed."
 - .1 **Architect's Response:** This door is type 'C' shown on drawings A-111 and A-112 attached with this Addendum.
- .19 **Contractor Question:** "Type H appears to be a pressed 4 panel door. Our hollow metal manufacturer makes a 2,6 and 8 panel door. Please confirm if I am ok to price this as a 6 panel."
 - .1 **Architect's Response:** Type 'H' doors shall be solid core, flush, wood doors (flat, panels without mouldings or embossment) as revised within a previous Addendum.
- .20 **Contractor Question:** "I am not seeing opening 050 on the drawings. I believe this may be an exterior opening of the existing space but do not see the opening tag. Can you please confirm where this opening is located."
 - .1 **Architect's Response:** Door 050 is an exterior door leading to the Future Group D space.

- .21 **Contractor Question:** "There are 2 openings on the roof. These are tagged on the drawing as 200 and 201. However; on the same sheet there is a door schedule calling two openings out as 054 and 055. This would be conflicting as these two opening tags are also used on the ground floor for an electrical room and exterior opening. Please confirm how I am to proceed with pricing these."
- .1 **Architect's Response:** revised Architectural Drawing A-130 is issued with this Addendum to identify openings at the roof level as 200 and 201.
- .22 **Contractor Question:** "Can the door frame for the Flush Wood Doors be clarified? (Wood Frame/Steel Frame)"
- .1 **Architect's Response:** Wood doors are to receive hollow metal frames with a field-applied paint finish, as referenced within the Architectural Drawings (on the Door Schedules) provided with this Addendum.
- .23 **Contractor Question:** "Please confirm the door type located on the vestibule near Grid Line C"
- .1 **Architect's Response:** This is an aluminum door and frame associated with the curtain wall system. Refer to the Architect's Response to Question 17.
- .24 **Contractor Question:** "drawing 2/A-406, what type of vanity? if this is a millwork unit? please provide section details."
- .1 **Architect's Response:** there is no vanity intended. The sinks are American standard 'Murro' wall hung lavatory with acrylic shroud and carrier system for pricing. No counter or vanity.
- .25 **Contractor Question:** "drawing 13/A-404, what type of vanity? if this is a millwork unit? please provide section details."
- .1 **Architect's Response:** The wall-mounted, ceramic sink intended is the American Standard 'Murro' wall hung lavatory complete with an acrylic shroud and a concealed, floor mounted carrier system. There is no countertop or vanity.
- .26 **Contractor Question:** "drawing 8/A-310, please clarify the sill specifications. provide enlarged drawings."
- .1 **Architect's Response:** All window sills shall be as marked on the legend "SS-02" which is an acrylic resin, solid surfacing product that is specified within Section 06 61 16 Solid Surfacing Fabrications. Section 06 61 16 had been issued with Addendum 03. Architectural Drawings A-310 and A-311 depicting wall sections cut through windows and curtain wall are attached with this Addendum to provide the profile intended for the sill which is 38 mm thick at the interior edge and overhanging the gypsum board interior finish. The sill may be made 20 mm (¾") thick as it reaches the window framing. The sill fabricator is to ensure appropriate support for the solid surfacing sill assembly by means of continuous blocking. The sill shall overhang beyond the face of the interior gypsum wall board shall be 25 mm (1").
- .27 **Contractor Question:** "Please advise if the exterior glazing needs to be tempered glass?"
- .1 **Architect's Response:** All curtain wall glass shall be tempered. All interior sidelights and glass within hollow steel or aluminum frames shall be laminated safety glass. All exterior vinyl window glass units shall be fabricated with laminated safety glass for each of the two panes within each of the sealed, insulating, double-glazed units. Each exterior window will be equipped with glass-break sensors.
- .28 **Contractor Question:** "Is window shade required?"
- .1 **Architect's Response:** Yes. Window shades shall be roller shades mounted by the supplier/installer to blocking set in all openings by Section 06 10 00 Rough Carpentry (the General Contractor). Such blocking shall be placed above each opening within exterior wall assemblies and the blocking shall be concealed by the interior gypsum board finish. Window shades shall be supplied and installed under a Cash Allowance.

- .29 **Contractor Question:** "Drawing 9/A-405, please provide section details to show the door/frame and wood surrounding. please confirm that the door has the patterns, not glass inserts."
- .1 **Architect's Response:**
- .1 Detail 8 on Architectural Drawing A-405 provides a plan detail of this opening. The opening is lined with plywood panelling which is marked as 20 mm (nominal) thickness and it shall be Maple species, hardwood veneer that is book matched and rift cut mounted on Baltic Birch plywood panelling with the exposed edges finished with Maple, hardwood solid, edging.
 - .2 Trims shown on the exterior of the opening shall be Maple hardwood solid lumber milled and finished with stain and clear finish specified.
 - .3 The doors within in this opening shall be set within a hollow metal frame that is painted on the site.
 - .4 Refer to attached Section 08 14 16 Flush Wood Doors. The doors shall have no mouldings, embossing or glass panels. The elevation of these doors is revised on the Architectural Drawings A-111 and A-112 attached with this Addendum.
- .30 **Contractor Question:** "Please advise the wood ceiling panel specs for the lobbies 002, 032."
- .1 **Architect's Response:** Material is 2 x 6 (38 mm x 140 mm) sawn Eastern White Cedar lumber, kiln dried and milled by Wilson Home Building Centre, Liverance Lumber at 3458 Highway 6, Lions Head, Ontario. The lumber is to be finished as "hardwood veneer lumber with stain and clear finish".
- .31 **Contractor Question:** "Rm # 034a (council of chamber/meeting room), reflected ceiling plan shows paint to the ceiling, please advise the ceiling type. As section 5/A-501 shows its a wood ceiling."
- .1 **Architect's Response:** Part of the ceiling in the Council Chambers is finished with suspended gypsum board, painted. Part of this ceiling is to be open to roof structure above, which will be painted in areas where it is visible as specified within Section 09 91 23 Interior Painting.
- .32 **Contractor Question:** "Drawing A-501. Please confirm council chamber ceiling. Drawing shows paint (open to above) and detail 5 shows it as wood."
- .1 **Architect's Response:** Part of the ceiling in the Council Chambers is finished with suspended gypsum board, painted. The open roof structure above the central portion of the Council Chambers is to be painted as specified within Section 09 91 23 Interior Paint and remain exposed in areas not described as gypsum board finish.
- .33 **Contractor Question:** "What is the ceiling finish at council chambers entrance?"
- .1 **Architect's Response:** Ceiling above the entrance into the Council chamber (above door 033a) is to have rough sawn cedar boards matching adjacent walls described on drawing A-405.
- .34 **Contractor Question:** "Drawing 15/A-400, reception plan, it shows a round circle in the middle of reception with section 4/A-400, it's hard to understand the design intent, if the designer can provide more section details? and rendering of reception?"
- .1 **Architect's Response:** The circle at each reception millwork is a countertop at accessible height as described in detail 4/A-400. It is to be made of the same solid surface material as the adjacent reception counter. The edge of this circle and exposed edges of the countertop shall be 38 mm thick where exposed to view.
- .35 **Contractor Question:** "Electrical supplier is asking if a one-week extension is possible"
- .1 **Architect's Response:** The time of the Tender Closing is changed to 3:00 PM (1500 Hours); the date of the Tender Closing is not changed. The Owner does not wish to extend the Tender Period.
- .36 **Contractor Question:** "Flooring contractor is asking for a one week extension if possible."

- .1 **Architect's Response:** The time of the Tender Closing is changed to 3:00 PM (1500 Hours); the date of the Tender Closing is not changed. The Owner does not wish to extend the Tender Period.
- .37 **Contractor Question:** "Given the complexity of the scope of work, we kindly request additional time after the site visit to prepare a competitive bid. Our subcontractors require sufficient time to review the details and seek clarification. Therefore, we respectfully ask that the question period and bid closing date be extended."
 - .1 **Architect's Response:** The time of the Tender Closing is changed to 3:00 PM (1500 Hours); the date of the Tender Closing is not changed. The Owner does not wish to extend the Tender Period.
- .38 **Contractor Question:** "We would like to request an extension of at least one week to the Bid Closing Date."
 - .1 **Architect's Response:** The time of the Tender Closing is changed to 3:00 PM (1500 Hours); the date of the Tender Closing is not changed. The Owner does not wish to extend the Tender Period.
- .39 **Contractor Question:** "Can the Appendix "B" be submitted after the Bid Closing Date, in a separate submission?"
 - .1 **Architect's Response:** No - The time of the Tender Closing is changed to 3:00 PM (1500 Hours); the date of the Tender Closing is not changed. The Owner does not wish to extend the Tender Period.
- .40 **Contractor Question:** "There is ceramic tile in the council chambers that will butt to marmoleum flooring. Please confirm if the height difference is acceptable."
 - .1 **Architect's Response:** Please refer to the modified Flooring Drawing provided with Addendum 03. The flooring within the room consists of two types of Luxury Vinyl Tile (LVT) to create the pattern. Both of these flooring products are the same thickness.
- .41 **Contractor Question:** "Is there nothing listed on the flooring schedule to list what is required on the stairs. Please advise required material"
 - .1 **Architect's Response:** Stairs will be painted steel stringers with sealed concrete treads. Apply 3M 610 Safety-Walk tape strips to create the contrasting colour and non-slip texture at the nosing. Tape is available at U-Line, Canada. Refer to Section 05 51 00 Steel Stairs and Ladders amendments, above.
- .42 **Contractor Question:** "Flooring question. As per flooring legend on drawing A-701, RSF 01 and RSF 02 are sheet goods with welds. This product is being used in the rooms 034a, 033a, 045 and 016a. There is no spec provided. Please clarify if this product is being used or is it suppose to be vinyl tile/plank?"
 - .1 **Architect's Response:** Refer to Addendum 03 for the revised, Floor Finish Plan and Room Finish Schedule. Products are changed to Luxury Vinyl Tile (LVT).
- .43 **Contractor Question:** "Drawing A-100/4 call for rigid insulation between existing foundation and new foundation. Kindly confirm. Structural drawing didn't call for rigid insulation"
 - .1 **Architect's Response:** The Architectural Drawings govern over the structural Drawings. Provide 50 mm of rigid extruded polystyrene rigid foam insulation between the existing foundation and the new cast-in-place concrete foundation.
- .44 **Contractor Question:** "The landscape plans indicate to refer to the specs for the bench seating and raised planters. I could not find anything in the spec's. Can you confirm if there are any details and/or specifications? Also please confirm the quantity for the raised planters."
 - .1 **Architect's Response:** No planters or benches are specified. The Landscape Plan is modified to remove benches and planters from site element legend.

- .45 **Contractor Question:** "Can you confirm the specifications for the unit paving? The landscape plan and site plan legends indicate two types of Unilock Pavers. The specifications (32 14 13) conflict with the specifications on the plans."
- .1 **Architect's Response:** The Specification Section shall govern. The concrete unit pavers shall be as manufactured by Permacon: five colour options shall be selected from the standard range of colours at time of construction.
- .46 **Contractor Question:** "Please provide information/specifications on benches and raised planters on site. Drawing A-002."
- .1 **Architect's Response:** Raised planters and benches have been removed from the Contract.
- .47 **Contractor Question:** "Please confirm the amount of trees that need to be trimmed by the arborist, as this affects the excavator's scope of work as well."
- .1 **Architect's Response:** the extent of tree and fence removal is described in previous Addenda and the individual, existing trees that must be removed are noted on Architectural Drawing A-005.
- .48 **Contractor Question:** "The specs mention that waterproofing the foundation wall is required, but there are no details reflecting this on the drawings. Please advise."
- .1 **Architect's Response:** Waterproofing at existing foundation wall has been added to Wall Sections: refer to attached Architectural Drawings A-310 and A-311.
- .49 **Contractor Question:** "A-130 stairwell roof pitch 10%, structural has it at 4:12. Please clarify."
- .1 **Architect's Response:** The roof slope design shall be as illustrated on the Structural Drawings for slope of stair roof; Architectural Drawings will be MODIFIED to match the Structural Drawings.
- .50 **Contractor Question:** "East patio area on Drawing A-100, there aren't any structural drawings detailing the footings and walls."
- .1 **Architect's Response:** Refer to Structural Drawings provided with Addendum 03.
- .51 **Contractor Question:** "The landscape plans indicate to refer to the specs for the bench seating and raised planters. We could not find anything in the spec's."
- .1 **Architect's Response:** Benches and raised planters are DELETED from site element legends, they are not specified.
- .52 **Contractor Question:** "Opening 037 appears to be a large screen elevation however this is called out on the door schedule as type E. Type E is shown as a 3 sided frame with transom panel. Please confirm I am to proceed with pricing this opening as type E and that W-04 beside it will be a separate item. Please note that W-04 does not appear in the window legend."
- .1 **Architect's Response:** Aluminum Door and Frame 037 is specified as a Commdoor Aluminum Series 1450 entrance framing and 350 Series Aluminum Door as the basis of design to ensure compatibility in colour and finish with the specified Aluminum Windows and the Commdoor Aluminum Curtain Wall.
- .53 **Contractor Question:** "Door 033a is only one to have "WOOD VENEER" in comments section. What face do we use? There are a few with "PAINT GRADE" noted. What about rest of wood doors with no mention of faces? Who carries the finish? Wood door supplier?"
- .1 **Architect's Response:** All solid core wood doors marked "SC Wood" shall receive hardwood veneer with stain and transparent finish described in the specifications. Doors noted as "Paint Grade" shall have a paint-grade, birch veneer on a solid-core wood door. The Paint Grade doors shall be painted by Section 09 91 23 Interior Painting.
- .54 **Contractor Question:** "Does the Cash Allowance provided for Door Hardware include both Supply and Installation costs?"
- .1 **Architect's Response:** The Cash Allowance associated with Swinging doors is for hardware supply, only. Labour to install this hardware is in the Base Bid Price.

- .55 **Contractor Question:** "Are there specifications for the Roller Shades for the windows mentioned in the earlier Addendum?"
- .1 **Architect's Response:** These are the subject of a Cash Allowance. Refer to attached Section 01 21 00 Allowances.
- .56 **Contractor Question:** "Do we need to submit agreement to bond for this project only or bid bond is required too? we failed to find the information for the bonding submittal in the tender documents. Please advise."
- .1 **Architect's Response:** Please submit the Agreement to Bond, only.
- .57 **Contractor Question:** "Is a bid bond required? If so, how much?"
- .1 **Architect's Response:** No Bid Bond is required.
- .58 **Contractor Question:** "Do you have recommended transitions between floor changes?"
- .1 **Architect's Response:** The flooring specifications have within them Tarkett/Johnsonite transitions as the basis of design for the floor type transitions. Floor levelling is required to match adjacent flooring products of differing thicknesses. These will not require transitions between them when in the same room.
- .59 **Contractor Question:** "Are you requiring underlayment under porcelain tiles?"
- .1 **Architect's Response:** Yes, ceramic tile will require uncoupling membrane.
- .60 **Contractor Question:** "1. We need to identify room 200 Attic and stair 201 2. What carpet and base we have to install in room 200 Attic? 3. The wood flooring it is not specified 4. What base we have to install at stair 201 ? VB-01 or VB-02? 5. What floor tile in the rooms : 0 55, 056, 057 and 058? Floor tile CT -01 or CT 02 ? 6. What wall tile in the shower rooms and in the washrooms included in the Separate Price, dwg A406 elevations 2,4, 11, 6 and 9 ?"
- .1 **Architect's Response:** No flooring is specified in attic; it will be finished with roofing membrane. There is no wood flooring in project, revised in previous addendum. Millwork base will be provided at stairs. Ceramic Floor and Wall tiles are specified within Section 09 30 13, however the public washroom which is part of the separate price has a sealed concrete floor and painted block walls, not tile.
- .61 **Contractor Question:** "1. Waterproofing for the foundation required or not? If yes, please provide the specification. 2. Weeping tile around the foundation required or not?"
- .1 **Architect's Response:** Section 07 13 26 specifies the waterproofing membrane.
- .62 **Contractor Question:** "1. Under the paving stones it appears like they want a geogrid or geotextile. It mentions it in the spec and shows it on A-003. Please specify what type of geogrid or geotextile is required."
- .1 **Architect's Response:** Geotextile is specified within Section 32 14 13 Pre-Cast Concrete Unit Paving.
- .63 **Contractor Question:** "Are we able to reuse the onsite topsoil or is that to be removed and new topsoil brought in?"
- .1 **Architect's Response:** Existing top soil is to be removed and disposed off-site. New topsoil must be imported and spread.
- .64 **Contractor Question:** "Can you clarify Section 31 00 00 3.19 number 8: All paved areas covered with concrete slabs-on-grade, gravel or concrete walks shall have engineered fill imported and placed to elevate existing top of bedrock elevation, to finished sub-grade elevations shown. The contractor is solely responsible providing all required fill from established cleared sub-grade to finished elevations."
- .1 **GMDA Response:** Yes; the contractor is responsible for supplying fill to raise grade where required.

- .65 **Contractor Question:** "What material are we to use for backfilling against the foundations and in servicing trenches? The spec mentions using native material but then it also mentions using Granular B. Please clarify."
- .1 **GMDA Response:** Existing, native material removed may be approved for placement in trenches or against foundation walls by the Field Engineer. However, Bidders should price the project with new, imported Granular 'B' for backfill in these areas.
- .66 **Contractor Question:** "Please confirm the bike rack colour. Right now no colour is stipulated, but the model listed is available in steep or stainless steel. There is a substantial difference between the two finishes. Is it possible to confirm the finish?"
- .1 **GMDA Response:** The bike rack is not painted. Stainless steel is the finish.
- .67 **Contractor Question:** "Can more detail be provided for the Metal fasteners for the Purlins?"
- .1 **GMDA Response:** Please refer to Structural Engineering Drawings for information on purlins.
- .68 **Contractor Question:** "Is there a requirement for backing for Storage Rooms 045, 016A?"
- .1 **GMDA Response:** Yes, specification section 06 10 00 indicates blocking be provided at areas with shelving units.
- .69 **Contractor Question:** "What is the finish for the operable partition?"
- .1 **GMDA Response:** Finish will be selected from standard range at time of shop drawing submission. Refer to Section 10 22 26 issued with Addendum 01.
- .70 **Contractor Question:** "Please advise if the foldable partition is to be single panels."
- .1 **GMDA Response:** Specification Section 10 22 26 requires "OP-01: Acousti-Seal Encore – Paired Panel: Manually operated paired panel operable partition."
- .71 **Contractor Question:** "There is mention of an elevator pit in the specifications, but this is not reflected on any of the drawings. Please advise."
- .1 **GMDA Response:** There is no elevator; please ignore references to elevator and pit.
- .72 **Contractor Question:** "What are the details for the canopies over man doors at front of building? Seen on Elevation 4/A-201. Not noted elsewhere in project documentation. please advise."
- .1 **GMDA Response:** These canopies are the subject of a Cash Allowance. Please refer to attached Section 01 21 00 Allowances.
- .73 **Contractor Question:** "Attic space, what is framing/design? Attic space shown on Section 1/A-311."
- .1 **GMDA Response:** Attic space will be unfinished area, stud infill at walls as noted on drawing A-311 and detail 10 on drawing A-320.
- .74 **Contractor Question:** "Referring to drawing A-320 please provide further detail for proposed roofing system of the entrance canopy. No roofing system shown on these details."
- .1 **GMDA Response:** Roof membrane with gravel stop to be provided for entrance canopy roof, attic space within treated as continuation of roof assembly for the balance of the building.

2.4 ARCHITECTURAL DRAWINGS ARE REVISED:

- .1 Drawing A-004 "Landscape Plan" is revised as follows:
- .1 "Maglin" is identified in site element legend as the preferred manufacturer of the bike rack to suit information provided in addendum 03.
- .2 Raised planters are **DELETED** from site element legend.
- .2 Drawings A-111 and A-112 are revised as follows:
- .1 Door tags are provided for "Executive Boardroom" 037 and "Director Finance" 044.
- .2 Doors 003, 011, 031, 033b, 034a, 034b, and 039 are **MODIFIED** to be aluminum doors and frames.
- .3 Drawing A-130 "Roof Plan" is revised to show doors 200 and 201 in the door schedule.

- .4 Detail "4" on drawing A-200 "Exterior Elevations – Demolition" is **MODIFIED** to indicate areas of block walls between gridlines "C" and "E" which are to be removed to install structural columns.
- .5 Drawings A-310 and A-311 "Wall Sections" are revised as follows:
 - .1 Vapour barrier described in specifications is noted on wall sections.
 - .2 Solid surface window sills are identified on wall sections and window sill details.
 - .3 North wall framing is **MODIFIED** to be 38x184mm dimensional lumber revised from previous 38x140mm LVL framing as described in structural addendum 01.
- .6 Drawing A-403 is revised as follows:
 - .1 Notes about acoustic treatment are added to detail 1.
 - .2 Council chambers millwork is revised to indicate acrylic solid surface counters and cladding.
 - .3 Detail 8 is revised to show 38x184mm framing.
- .7 Drawing A-404.1 "Washroom Enlarged Plans" is revised as follows:
 - .1 Countertops with drop-in sinks are **DELETED** and replaced with American Standard "Murro" with ceramic shroud. Details 5, 10 and 12 reflect this change.
 - .2 Detail 15 "Enlarged Plan – Custodian" and details 16-19 are **ADDED** to drawing to provide clarity on flooring and wall protection at custodian room.
 - .3 Drawing and Finish notes are **ADDED** to drawing.
- .8 Drawing A-405 "Corridor Elevations" is revised as follows:
 - .1 Panels are **DELETED** from detail 9 "Council Chambers Entrance Elevation" and note is **ADDED** to clarify intended ceiling finish at this location.
- .9 Drawing A-701 "Ground Floor Finish Plan" is revised as follows:
 - .1 Detail 5 "Section Through Mop Sink" is **ADDED** to drawing.
 - .2 Detail 7 "Typ. Resilient Floor Flash Cove Base" is **ADDED** to drawing.

End of Tender Addendum.

SPECIFICATIONS

Town of South Bruce Peninsula: Proposed New Town Hall

Town of South Bruce Peninsula

Architect's Project Number: 2404

Owner:

Town of South Bruce Peninsula

315 George Street, Wiarton, Ontario, N0H 2T0

Architect:

G. M. Diemert Architect Inc.

Suite 201 - 957 Fourth Avenue West, Owen Sound, Ontario, N4K 2N9

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October, 2025

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Civil Engineering Drawings are entitled **“Proposed Renovations to: Town of South Bruce Peninsula, Wiarton Town Hall, 369 William Street, Wiarton, ON”**. Civil Engineering Project number is 17453-900. Civil Engineering drawings are 91.44 cm x 60.96 cm in size, prepared by Witzel Dyce Engineering Inc. and they are listed below:

Drawing No.	Title	Issue No.....	Issue Note	Date
C1.0	Existing Conditions/Removals Plan	4	Revised Per Updated Site Plan	2025.10.23
C2.0	Grading and Servicing Plan	4	Revised Per Updated Site Plan	2025.10.28

Architectural Drawings are entitled **“Proposed Renovations to: Town of South Bruce Peninsula, New Townhall Offices, 369 William Street, Wiarton, ON”**. Architect's Project number is 2404. Architectural drawings are 36" x 48" in size, prepared by G. M. Diemert Architect Inc. and they are listed below:

Drawing No.	Title	Issue No.....	Issue Note	Date
A-002	Site Plan, OBC Matrices & Details	1	Issued for Tender	2025.10.28
A-003	Site Plan Enlarged	1	Issued for Tender	2025.10.28
A-004	Landscape Plan	1	Issued for Tender	2025.10.28
A-005	Site Plan – Demolition	1	Issued for Tender	2025.10.28
A-010	Foundation & Ground Floor Plans - Demolition	1	Issued for Tender	2025.10.28
A-011	2 nd Floor & Roof Plans - Demolition	1	Issued for Tender	2025.10.28
A-012	Roof Structure - Demolition	1	Issued for Tender	2025.10.28
A-100	Foundation Plan	1	Issued for Tender	2025.10.28
A-110	Ground Floor Plan	1	Issued for Tender	2025.10.28
A-111	Ground Floor Enlarged Plan	1	Issued for Tender	2025.10.28
A-120	2 nd Floor Plan	1	Issued for Tender	2025.10.28
A-130	Roof Plan	1	Issued for Tender	2025.10.28
A-200	Exterior Elevations - Demolition	1	Issued for Tender	2025.10.28
A-201	Exterior Elevations	1	Issued for Tender	2025.10.28
A-301	Existing Building Sections	1	Issued for Tender	2025.10.28
A-302	Existing Wall Sections	1	Issued for Tender	2025.10.28
A-303	Building Sections	1	Issued for Tender	2025.10.28
A-310	Wall Sections	1	Issued for Tender	2025.10.28
A-311	Wall Sections	1	Issued for Tender	2025.10.28
A-320	Entrance Canopy Details	1	Issued for Tender	2025.10.28
A-321	North Canopy Details	1	Issued for Tender	2025.10.28
A-400	Reception and Millwork Details	1	Issued for Tender	2025.10.28
A-401	Coffee Station and Millwork Details	1	Issued for Tender	2025.10.28
A-402	Main Entrance – Enlarged Plans	1	Issued for Tender	2025.10.28
A-403	Council Chambers – Enlarged Plans	1	Issued for Tender	2025.10.28
A-404	Washrooms – Enlarged Plans	1	Issued for Tender	2025.10.28
A-404.1	Washrooms – Enlarged Plans (1)	1	Issued for Tender	2025.10.28
A-405	Corridor Elevations	1	Issued for Tender	2025.10.28
A-406	Public Washroom Details	1	Issued for Tender	2025.10.28
A-406.1	Public Washroom Details	1	Issued for Tender	2025.10.28
A-501	Reflected Ceiling Plan – Ground Floor	1	Issued for Tender	2025.10.28
A-701	Ground Floor Finish Plan	1	Issued for Tender	2025.10.28

Structural Engineering Drawings are entitled **“Proposed Renovations to: Town of South Bruce Peninsula, South Bruce Peninsula New Town Hall Conversion, 370 William Street, Wiarton, ON”**. Structural Engineer's Project number is 2402330. Structural drawings are 91.44 cm x 60.96 cm in size, prepared by GEI Consultants Canada Ltd. and they are listed below:

Drawing No.	Title	Issue No.....	Issue Note	Date
S1.1	Structural Notes	4	Issued for Tender	2025.10.28
S1.2	Structural Notes & Schedules	4	Issued for Tender	2025.10.28
S2.1	Existing Foundation Plan	4	Issued for Tender	2025.10.28
S2.2	Existing Roof Framing Plan	4	Issued for Tender	2025.10.28
S2.3	Proposed Foundation Plan	4	Issued for Tender	2025.10.28
S2.4	Proposed Roof Framing Plan	4	Issued for Tender	2025.10.28
S3.1	Building Sections	4	Issued for Tender	2025.10.28

S4.1	Wall Sections	4	Issued for Tender	2025.10.28
S4.2	Wall Sections	4	Issued for Tender	2025.10.28
S4.3	Wall Sections	4	Issued for Tender	2025.10.28
S5.1	Section Details	4	Issued for Tender	2025.10.28
S5.2	Section Details	4	Issued for Tender	2025.10.28
S6.1	Rear Canopy Structure	4	Issued for Tender	2025.10.28
S6.2	Skylight Framing	4	Issued for Tender	2025.10.28
S6.3	Roof Stair Framing	4	Issued for Tender	2025.10.28
S6.4	Front Canopy Structure	4	Issued for Tender	2025.10.28

Mechanical Engineering Drawings are entitled **“Proposed Renovations to: Town of South Bruce Peninsula, New Townhall Offices, 370 William Street, Wiarton, ON”**. Mechanical Engineer's Project number is 2404. Mechanical drawings are 36" x 48" in size, prepared by D.E.I. Consulting Engineers Inc. and they are listed below:

Drawing No.	Title	Issue No.....	Issue Note	Date
M101	Legend & Schedules (1 of #)	3	Issued for Review	2025.10.15
M102	Schedules (2 of #)	3	Issued for Review	2025.10.15
M201	Plumbing & Drainage - Demolition	3	Issued for Review	2025.10.15
M202	Roof Plan - Demolition	3	Issued for Review	2025.10.15
M301	Fire Protection - Renovation	3	Issued for Review	2025.10.15
M401	Ground Floor Plans Plumbing & Drainage - Renovation	3	Issued for Review	2025.10.15
M501	Heating & Ventilation – Renovation	3	Issued for Review	2025.10.15
M601	Roof Plan – Renovation	3	Issued for Review	2025.10.15
M701	Details (1 of #)	3	Issued for Review	2025.10.15

Electrical Engineering Drawings are entitled **“Proposed Renovations to: Town of South Bruce Peninsula, New Townhall Offices, 370 William Street, Wiarton, ON”**. Electrical Engineer's Project number is 2404. Electrical drawings are 36" x 48" in size, prepared by D.E.I. Consulting Engineers Inc. and they are listed below:

Drawing No.	Title	Issue No.....	Issue Note	Date
E101	Site Plan and Legend	3	Issued for Review	2025.10.15
E201	Details and Schedules	3	Issued for Review	2025.10.15
E301	Ground Floor Plan Lighting - Renovation	3	Issued for Review	2025.10.15
E401	Ground Floor & Roof Plans Power & Systems - Reno	3	Issued for Review	2025.10.15
E501	Distribution Riser Diagram	3	Issued for Review	2025.10.15
E601	Fire Alarm Riser and Graphic	3	Issued for Review	2025.10.15

Reference Drawings:

Civil Reference Drawings are entitled **“Oxeden Waterworks Contract No. 1 Water Distribution System”**. File number is noted as 8-1821. Title block Issue Note referenced below is provided as the latest issued date for the Consultant's drawing and this date is not the date upon which the words “Record Drawings” had been added. The creation date for the As Built information is not known, but it will coincide with the completion of the Civil work during 1996 or 1997. These drawings are an undocumented size; numbered and entitled as listed below:

Drawing No.	Title	Issue No	Issue Note
4	Bay Street Plan & Profile	6	Nov. 29, 1996, Marked “Record Drawings”

As-Built Structural Reference Drawings are entitled **“Solway's Food Market Addition & Renovations”**. Project number is noted as C4080 and prepared by Gamsby and Mannerow Limited. These drawings are unidentified size; numbered and entitled as listed below:

Drawing No.	Title	Issue No	Issue Note
1	Site Plan	-	Feb. 12, 1999.
2	Foundation Plan & Details	-	Feb. 16, 1999.
3	Floor Plan	-	Feb. 22, 1999.
4	Floor Plans & Details	-	Mar. 05, 1999.
5	Elevations	-	Feb. 22, 1999.
6	Wall Sections	-	Mar. 05, 1999.
7	Wall Sections & Pyramid Framing	-	Mar. 02, 1999.

End of Project Manual Contents.

PART 1 GENERAL**1.1 SECTION INCLUDES**

- .1 Cash allowances.
- .2 Contingency allowance.

1.2 REFERENCES

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2 Stipulated Price Contract.
 - .2 Section 00 08 12 Supplementary Conditions.

1.3 GENERAL REQUIREMENTS:

- .1 The value of each cash allowance specified herein is assigned to pay the cost associated with specific requirements of the Work and the allocation of the allowance amounts to parts of the Work is described herein.

1.4 CONSTRUCTION SCHEDULE FOR WORK UNDERTAKEN THROUGH CASH ALLOWANCE:

- .1 A schedule shall be prepared jointly by the Consultant and the Contractor to demonstrate clearly the time required to select, review, consider and authorize the procurement of goods and services assigned for purchase within cash allowance.
- .2 The dates indicated on the schedule must be determined to facilitate all aspects of administration, procurement, authorization of expense, ordering, delivery and installation in efficacious sequence to avoid a delay in the orderly and planned progress of the Work.
- .3 The schedule must be authorized by Consultant. Authorization will be provided in the form of a Supplemental Instruction.

1.5 CASH ALLOWANCE VALUES ARE INCLUDED IN THE CONTRACT PRICE:

- .1 Include within the Bid Price and the Contract Price, the value of all cash allowances stated herein and account separately for all overhead expenses together with any amount of profit that may be allocated by the Contractor against the Work associated with each cash allowance and the value of each cash allowance.
- .2 The value of each cash allowance specified herein shall be incorporated into the Contract Price at the full value stipulated for each cash allowance without deductions or allowances associated with applicable taxes or any other consideration.
- .3 All references to Contract Price shall bear the same meaning as "Bid Price" during the Bidding Period and prior to the execution of the Contract.

1.6 HARMONIZED SALES TAX (HST) ASSOCIATED WITH THE VALUE OF CASH ALLOWANCES:

- .1 Cash allowance values stipulated herein do not incorporate HST. HST will be accounted separately and in addition to the stated value of each cash allowance.
- .2 HST associated with the value of all cash allowances will be calculated and incorporated into the Contract Price in accordance with the terms of the Contract.

1.7 OTHER WORK AND SERVICES ASSOCIATED WITH CASH ALLOWANCES:

- .1 The cost for the following work and services shall be calculated by the Contractor and incorporated into the Contract and the Contract Price by the Contractor and the cost shall not be considered to be incorporated within the value of cash allowances:
 - .1 Overhead and Profit:
 - .1 Refer to CCDC 2 GC.
 - .2 The Contract Price and not the stipulated value of any cash allowance specified herein shall include:

- .1 All of the Contractor's overhead expense associated with the stated value of the cash allowances together with the overhead expense that is associated with all work and services associated with the cash allowances, including, but not limited to, the provision of any supplementary material, labour and administrative services rendered by the Contractor in respect of the cash allowances specified.
- .2 The value of any profit calculated by the Contractor that the Contractor may allocate, or associate or attribute to the specified amount or value of any cash allowance.
- .3 The value or amount of profit that the Contractor may calculate and allocate or associate or attribute to the Contractors calculated value of the Work that is included within the Contract Price and associated the stipulated cash allowance values or that is otherwise incorporated into the Contract Price as is stipulated within this Section.
- .4 The cost of the Contractor's and the affected Sub-Contractors' site supervision, insurance, overhead charges, administrative charges and any allowance for profit.
- .5 The value of bid bonds, performance and labour and materials payment bonds and insurance.
- .2 Cash Allowance Contract Administration:
 - .1 The Contract Price includes all expense and all cost incurred by the Contractor that is associated with the procurement, management and administration of all aspects of the Work associated with each cash allowance including field supervision.
 - .2 The Contractor shall provide the services required to arrange the supply of labour, accommodate delivery at the job site and provide the services associated with items procured under cash allowances where such services are specified herein to be included within the Contract Price, including, where applicable, the cost of services devoted to the final installation of the items in the field.
 - .3 Contractor shall prepare or obtain itemized quotations for Work procured under cash allowances from multiple potential sub-contractors for each cash allowance unless a supplier is stipulated in the Contract.
 - .4 Contractor shall perform services utilizing its own forces or execute sub-contracts with selected Sub-Contractors who will perform the Work associated with each cash allowance. Each sub-contract is between the Contractor and the Sub-Contractor. Each such sub-contract shall contain terms and conditions commensurate with the Contract.
 - .5 Contractor shall provide schedules, shop drawings, product literature, lists and tracking documents associated the Work of each cash allowance item.
 - .6 As described herein, when the labour required to install items purchased under a cash allowance is to be included within the Contract Price, the Contractor shall calculate the value of the labour associated with items and services allocated to cash allowance amounts and incorporate same, together with any overhead and profit amount, within the Contract Price.
 - .7 The cost of the Contractor's and the affected Sub-Contractors' site supervision, insurance, overhead charges, administrative charges and any allowance for profit.
 - .8 The value of bid bonds, performance and labour and materials payment bonds and insurance.
- .3 For goods and services purchased using funds within a cash allowance, the Bid and Contract Prices must incorporate the following Work and this Work shall not subsequently become charged against the value of the cash allowance:
 - .1 All administrative Work including:
 - .1 the Work required to obtain multiple, competitive prices for all items purchased under a cash allowance when a single, preferred supplier is not otherwise identified, and
 - .2 all necessary bookkeeping and accounting Work associated with maintenance of appropriate financial records of the transactions and payment of invoices for goods and services purchased under cash allowances,

- .3 and all aspects of payment applications, progress draws and project accounting related to cash allowance amounts.
- .2 All cost associated with submittals including product data sheets, colour charts, shop drawing preparation and the process required to review same, together with all associated handling, correspondence, courier charges, technical coordination with sub-contractors and the Contractor's field personnel, field measurement and similar research, project supervision and communications associated with these tasks.
- .3 All cost associated with maneuvering goods on the job site, removal of packaging, handling, and storage and cleaning and the cost of any disposal or recycling services required.
- .4 All cost associated with construction and installation aids used in the construction process including cranes, lifts, scaffold, ladders and temporary support of pre-existing structures.
- .5 All cost associated with installation for all items purchased using a cash allowance accounting process where the cash allowance is associated with materials that are supplied, only. The services and materials incorporated into the Bid and Contract Prices shall include, but are not limited to, installation of the items accounted as part of a cash allowance, miscellaneous hardware and fasteners, preparation of subtrades and previously installed materials, cutting, coring, boring, patching, wood blocking, final cleaning, waste disposal and similar work and all cost associated with layout in the field, field measurement and coordination with other Work and Sub-Contractors.
- .6 The cost of the Contractor's and the affected Sub-Contractors' site supervision, insurance, overhead charges, administrative charges and any allowance for profit.
- .7 The value of bid bonds, performance and labour and materials payment bonds and insurance.

1.8 LABOUR ASSOCIATED WITH THE SCOPE OF CASH ALLOWANCE WORK:

- .1 When labour associated with goods and services purchased under a cash allowance is included within the Contract Price, the labour includes the Work of any associated or affected Sub-Contractor and the affected Sub-Contractors shall include within their portion of the Contract and Bid Prices for the Work all of the services required to:
 - .1 select products, and review product literature;
 - .2 to process shop drawings and other submissions;
 - .3 perform the Work required to conduct field measurement, layout of the Work in the field and to coordinate technical requirements with other parts of the Work;
 - .4 the work required to receive, unpack and, where specified, install, products including the cost of construction machinery and equipment, handling of materials on the job site, unloading, storage and other expenses incurred in performing Work in the field.
 - .5 Installation labour for cash allowance items includes the cost of services required to complete adjustments, balance, commission, clean and otherwise attend to the Work in progress as is consistent with the common requirements of the project.
 - .6 the cost of the Contractor's and the affected Sub-Contractors' site supervision, insurance, overhead charges, administrative charges and any allowance for profit.
 - .7 the value of bid bonds, performance and labour and materials payment bonds and insurance.

1.9 PROCEDURE FOR ALLOCATION OF COST TO ALLOWANCES:

- .1 The Contractor shall provide a detailed financial accounting of the expenditures allocated to the account of all cash allowances in accordance with the items assigned to the allowance and described below. This accounting shall include the submission of all relevant receipts, purchase orders, contracts and quotations associated with all items and services attributed for payment through application of a cash allowance. No overhead and profit shall be separately applied by the Contractor to the value of goods and services purchased through cash allowances, rather, all overhead and profit expense shall be embedded within the Contract Price.

- .2 The Contractor shall clearly identify expenditures allocated to the specified cash allowances that are not anticipated by this Section when the Contractor considers the expenditure to be eligible for inclusion within any specified cash allowance.
- .3 The Consultant and the Owner shall review all of the Contractor's detailed accounting of expenditures proposed for application against the value of any cash allowance and the Owner and the Consultant must approve the allocation and expense before the Contractor may allocate project funds to the account for any cash allowance.
- .4 The Consultant shall provide a Change Order to signify the Consultant's agreement with the Contractor's detailed accounting of expenditures made on account of allowances and the Owner may elect to execute the Change Order. The execution of the Change Order by the Owner signifies the Owner's authorization of the expenditure.
- .5 Following receipt by the Contractor of an executed Change order, the Contractor shall incorporate the accounting into the progress payment process and maintain this accounting continuously during the full course of the Work.
- .6 Any cash allowance that is not fully expended during the course of the Work may be assigned to pay the cost of Work that is found to have exceeded the value of any other cash allowance.
- .7 Contract Price will be adjusted by a written order to account for excess or deficit in the Contractor's expenditures related to the total aggregated value of all cash allowances taken together.
- .8 The accumulated value of unexpended cash allowances shall be removed from the Contract Price through written Changed Order. This accumulated value is therefore, a credit applied to the Contract Price in favour of the Owner.
- .9 When the Contractor incurs cost allocated to a cash allowance that exceeds the value of the cash allowance assigned within this Section, the Contractor will be compensated for the excess incurred and substantiated through allocation of the excess against the account of any or all other cash allowance values in the first instance or through issuance of a written order to increase the Contract Price if the value of all cash allowances has been expended under Contract.
- .10 Should the value of expenditures made against the accumulated total of all cash allowance values exceed the sum of value of all cash allowances, the contractor shall be eligible to receive overhead and profit calculated on the amount of the excess of expenditure compared to the aggregate balance of all cash allowances taken together, only. The value of the overhead and profit added to the amount shall be equal to the overhead and profit allocated under CCDC 2 - 2020 Changes in the Work.
- .11 Include within progress payment statements accounting for all Work authorized under cash allowances for all monthly applications for payment.
- .12 The Consultant shall provide a Change Order to document expenditures in accordance with the CCDC 2 - 2020, Part 4.

1.10 SCHEDULE OF CASH ALLOWANCES:

- .1 Amount of each allowance, for Work specified in respective specification Sections follows. All allowances shall be included within the Bid Price.
- .2 Contractor shall include a cash allowance value equal to the amounts listed below within the Bid and Contract Price. These allowances shall not include HST which will be accounted during the processing of claims made for payment of work associated with the Cash Allowances.
- .3 Field Engineering – Site Work:

.1 Materials Testing (building materials and concrete):	\$15,000.00
.2 Review of Bearing Capacity and sub-surface conditions:	\$20,000.00
.3 Testing of Excavated Soil and Excess Soil:	\$40,000.00
.4 Testing of existing paint for presence of lead:	\$20,000.00
.5 Removal of soil found to contain hazardous substances:	\$150,000.00
.6 Moisture emission from new concrete sub-floor:	\$10,000.00
- .4 Swinging Door Hardware:

.1 Finished door hardware for swinging door openings including hinges, electric strikes, magnetic locks, standard latch and lock sets, deadlocks, kick plates, push and pull handles, weather strips and sound seals, automatic door bottoms are included within the Cash Allowance. Provide a Cash Allowance for swinging and sliding door openings of **\$250,000.00**

.1 Hardware cash allowance effect on electrical divisions:

.1 This cash allowance amount shall not include the cost of the following services and items, all of which are to be included within the Contract Price:

- .1 Conduit and pull strings must be supplied and installed by electrical divisions to magnetic locks, card reader, Intercom, and electrified hardware or electric strikes.
- .2 120-volt conductors and associated connections to building electrical system, junction boxes, breakers and accessories required for magnetic locks, intercom, and electrified hardware or electric strikes shall be supplied and installed by electrical divisions.
- .3 Fire alarm conductors, conduit, low-voltage conductors, data conductors and all interconnection to hardware, duress and camera equipment as necessary.
- .4 Hardware associated with Division 6 cabinetry and carpentry shall be included within the Contract Price.

.5 Audio/Visual System: Dynamix.ca Cash Allowance of \$75,000.00

.6 Security Devices and Conductors: cash allowance of \$75,000.00

.7 Quarried Stone Masonry Veneer – Supply, only of quarried stone masonry veneer: \$180,000.00

.1 Masonry ties and reinforcement, cement, mortar, sand and labour to install the materials shall be included within the Contract Price.

.2 Masonry materials for concrete unit masonry and all lintels and reinforcing are included within the Contract Price.

.8 Council Chambers Acoustic Wall Treatments: \$150,000.00.

.9 High Density Shelving Supply and Assembly: \$200,000.00.

.10 Communications Conductors supply and installation: \$75,000.00.

.11 Steel structure supporting operable partition and security grilles: \$120,000.00.

.12 Window Coverings supply and installation: \$100,000.00.

.13 Exterior Steel Framed Entry Canopies Over New Doors 049, Door 050 and Door 055: \$240,000.00

1.11 CONTINGENCY ALLOWANCE

.1 Include in the Contract Price a Contingency Allowance of \$600,000.00

PART 2 PRODUCTS - NOT USED; EXECUTION - NOT USED

END OF SECTION

Part 1 General**1.1 RELATED REQUIREMENTS**

- .1 Section 06 10 00 Rough Carpentry
- .2 Section 07 21 19 Foamed-in-Place Polyurethane
- .3 Section 07 27 10 Air Barrier and Transition Membrane
- .4 Section 07 92 00 Joint Sealants
- .5 Section 08 42 29 Automatic Swinging Door Entrance Operators
- .6 Section 08 80 50 Glass and Glazing
- .7 Section 09 21 16 Gypsum Board Assemblies
- .8 Section 09 22 16 Non-Structural Metal Stud Framing

1.2 WORK INCLUDED

- .1 Supply and installation of wide-style doors, set withing frames made using nominal 50 mm wide froming members to form sidelights and transom units, together with associated glass units and door hardware.
- .2 For interior aluminum doors and frames, provide single-glazed glass units.
- .3 For exterior aluminum doors and frames, provide sealed insulating glass units for exterior and interior vestibule doors according to Section 08 80 50 Glass and Glazing. Provide sealed insulating glass units for all exterior doors unless otherwise noted on schedule. One exterior door at the roof level is a hollow steel door.
- .4 Provide weather stripping for interior doors of vestibules.
- .5 Furnish labour, materials and services for the complete fabrication, assembly and installation of aluminum framing system manufactured by door manufacturer. Include all necessary accessories, anchors and sealants required for a complete installation meeting performance requirements in this Section.
- .6 Provide double-glazed insulated, sealed fixed glass units for doors, sidelights and transoms shown; all glass tempered and assembled into IGU according to Section 08 80 50.
- .7 Provide all hardware associated with aluminum entrance doors except lock cylinder which is provided under Section 08 71 00 Door Hardware. All hardware shall accommodate automatic door operators specified within Section 08 42 29.

1.3 WORK EXCLUDED

- .1 Structural steel, wood or steel stud partition framing, interior trims, concrete masonry, related work specified elsewhere.

1.4 APPROVED PRODUCTS:

- .1 List of acceptable manufacturers is included with this section.
- .2 Alternative products are acceptable provided that they meet or exceed minimum standards indicated in this section and meet with the consultant's approval. All test data for alternate products must be submitted to the consultant a minimum of 5 working days prior to Bid Closing. Use of alternate manufacturer is permitted by written addendum issued by the Consultant only.

1.5 REFERENCES

- .1 Aluminum Association (AA)
 - .1 AA DAF 45-03(R2009), Designation System for Aluminum Finishes.
- .2 American Architectural Manufacturers Association (AAMA)
 - .1 AAMA 609/610-09, Cleaning and Maintenance Guide for Architecturally Finished Aluminum.
 - .2 AAMA 701/702-04, Voluntary Specifications for Pile Weather Stripping and Replaceable Fenestration Weatherseals.
- .3 American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA)
 - .1 ANSI/BHMA A156.1-2006, American National Standard for Butts and Hinges.
 - .2 ANSI/BHMA A156.3-2001, Exit Devices.

- .3 ANSI/BHMA A156.4-2008, Door Controls - Closers.
- .4 ANSI/BHMA A156.5-2001, Auxiliary Locks and Associated Products.
- .5 ANSI/BHMA A156.10-2005, Power Operated Pedestrian Doors.
- .6 ANSI/BHMA A156.19-2007, Power Assist and Low Energy Power Operated Doors.
- .4 ASTM International
 - .1 ASTM A167-99(R2009), Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.
 - .2 ASTM B209M-07, Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
 - .3 ASTM B221M-07, Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
 - .4 ASTM D2000-08, Classification System for Rubber Products in Automotive Applications.
 - .5 ASTM D2287-96(R2010), Standard Specification for Non Rigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds.
 - .6 ASTM E283-04, Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 - .7 ASTM E330-02, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- .5 Canadian General Standards Board (CGSB)
 - .1 CGSB 1.40-97, Anticorrosive Structural Steel Alkyd Primer.
 - .2 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.
 - .3 CAN/CGSB-12.20-M89, Structural Design of Glass for Buildings.
 - .4 CGSB 1.132M-90, Zinc Chromate Primer, Low Moisture Sensitivity.
 - .5 CAN/CGSB 1.181-99, Ready-Mixed, Organic Zinc-Rich Coatings.
- .6 Canadian Standards Association (CSA International)
 - .1 CSA G40.20/G40.21-04(R2009), General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CAN/CSA G164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA G164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
- .7 Environmental Choice Program (ECP)
 - .1 CCD-045-95(R2005), Sealants and Caulking Compounds.
 - .2 CCD-047-98(R2005), Architectural Surface Coatings.
 - .3 CCD-048-98(R2006), Surface Coatings - Recycled Water-borne.
- .8 Green Seal Environmental Standards (GS)
 - .1 GS-11-2008, 2nd Edition, Paints and Coatings.
- .9 National Research Council of Canada (NRC)
 - .1 MNECB-97, Model National Energy Code of Canada for Buildings.
- .10 Underwriters' Laboratories of Canada (ULC)
 - .1 ULC/ORD C305-72, Panic Hardware.
 - .2 CAN/ULC-S524-06, Standard for the Installation of Fire Alarm Systems.
 - .3 CAN/ULC-S533-08, Egress Door Securing and Releasing Devices.

1.6 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for door, frame and sidelights, glass, hardware, and accessories and include product characteristics, performance criteria, physical size, finish and limitations and electrical service diagrams for electric strike.
- .3 Shop Drawings:

- .1 Indicate layout, dimensions, elevations, detail sections of members and operator, interior finish conditions, materials, recesses, hardware including mounting heights, anchors and reinforcements, provisions for expansion and contraction, methods of joining sheet metal and joint locations, types of sealants, details of other pertinent components of the work, and illustrate actual adjacent construction and future construction intended by the Contract Documents to which work of this section is attached.
- .2 Identify installation tolerances required, assembly conditions, routing of service lines, locations of operating components, controls and boxes.
- .3 Indicate door signs.
- .4 Indicate the following:
 - .1 Interior and exterior junctions with adjacent construction.
 - .2 Junctions between combination units.
 - .3 Elevations of units.
 - .4 Core thicknesses of components.
 - .5 Type and location of exposed finishes, method of anchorage, number of anchors, supports, reinforcement, and accessories.
 - .6 Location of caulking.
 - .7 Each type of door system including location.
 - .8 Arrangement of reinforcing for hardware and joints.
 - .9 Arrangement of hardware and required clearances.

1.7 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Submit project record documents that accurately record locations of concealed and remote equipment, services, and conduit.
- .3 Submit warranty.
- .4 Operation and Maintenance Data: submit operation and maintenance data for door operator system including all reviewed shop drawings bearing review annotations for incorporation into manual.
- .5 Submit cleaning instructions.

1.8 QUALITY ASSURANCE

- .1 Certifications: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .2 Strength: CAN3-S157-M83 Strength Design in Aluminium.
- .3 Energy Performance: CAN/CSA-A440-M90, Windows.
- .4 Welder qualifications: Structural components to be welded by fabricators certified by Canadian Welding Bureau to CSA standard W47.2 for welding aluminium.
- .5 Installers qualifications: Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project and who is acceptable to product manufacturer.
- .6 Manufacturers qualifications: Manufacturer to have minimum (5) five years successful experience in the fabrication of automatic doors of the type required for this project. Manufacturer capable of providing field service representation during installation, approving acceptable installer and approving application method.
- .7 AAADM Compliance: Both installer and manufacturer to meet requirements necessary to get certification/license agreement.

1.9 WARRANTY:

- .1 Submit extended warranty for a period of five years following the date of substantial performance of the Contract covering all defects in manufacturing and installation of the entrance framing system and all parts of the window framing system. Defects include but are not limited to: leaking, loosening in whole or in part of all components in the system, breakage or deformation of the metal work, breakage of

glass or rupturing or other failing of sealed units attributable to in appropriate transfer of stress developed in the frame do to lack of expansion room, wind loading or deflections. Fading or other discolouration of the finish to the metal components of any type.

- .2 Submit a 10-year warranty covering defects and failure of the double-glazed, sealed thermal insulating window and door glass panels. Defects and failure of the sealed unit shall be considered to have occurred, but not limited to the appearance of the following effects: breakage due to thermal stress, hazing, fogging, condensing moisture, or other similar phenomena occurring between the panes of glass. Defects in the low E coating will also be considered a failure in the performance of the sealed unit.

1.10 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements together with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials in accordance with manufacturer's recommendations and store indoors within clean, dry, well-ventilated area.
 - .2 Store and protect entrance doors and frames and glass from blemishes, dust, dirt, debris and damage of any kind including splattering paint and concrete.
 - .3 Replace defective or damaged materials with new.
- .4 Cover exposed metal surfaces with pressure sensitive heavy protection paper or strippable plastic coating.
 - .1 Use materials of type which will not leave residue or become bonded when exposed to sun.
 - .2 Use padded blankets or approved protective wrapping for decorative metal work and similarly finished exposed elements.
- .5 Develop Construction Waste Management Plan related to Work of this Section.
- .6 Packaging Waste Management: remove for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 DESIGN CRITERIA AND BASIS FOR DESIGN

- .1 The specifications for the framing system within this Section is based upon Series 2500 manufactured by Commdoor Aluminum 2" x 6.0" (50.8 mm x 152 mm).
- .2 Specification for entrance swinging doors within this Section is based upon 4400 Series Wide Style Thermally broken doors manufactured by Commdoor Aluminum.
- .3 Design frames and doors in exterior walls to:
 - .1 Accommodate expansion and contraction within service temperature range of -35 to 35 degrees C.
 - .2 Limit deflection of mullions to maximum 1/175th of clear span when tested to ASTM E330 under wind load of 1.2 kPa and submit certificate of tests performed.
 - .3 Accommodate movement within system including movements induced by temperature changes.
 - .4 Accommodate movement between system and perimeter framing components or substrate.
 - .5 Accommodate action of automatic door operator including load imposed by weight of operator and load imposed by actuation of operator.
- .4 All door and framing fabrication to meet or exceed CAN/CGSB 1.108M-M89
- .5 Size glass thickness and glass unit dimensions to limits in accordance with Section 08 80 50, all panes tempered and two panes assembled into IGU for exterior doors.
- .6 Assemble windows and doors to ensure neat, weather tight construction and well fitted joints square and true with maximum tolerance of 2.0mm in diagonal dimensions.
- .7 Joints shall be made by welding or concealed mechanical fastenings. A weather tight joint shall be made at the juncture of sill and jamb, horizontal rails and jambs and at vertical couplings.

- .8 Sash joints shall be fixed such that they will retain their shape and remain square during replacement of glazing.
- .9 Cut and fit snugly expanded bead rigid insulation within all voids in frame backs.
- .10 Install manufacture's name plates in semi-concealed space bearing name and location of manufacturer and identification of entrance framing product.
- .11 Install weather stripping mechanically locked or otherwise secured in position but easily removed and replaceable without special tools. Surface applied and glued-on weather stripping is not acceptable.
- .12 Equalize pressure in the cavity surrounding the perimeter of the glass with the outside air and provide drainage from the sill cavity to the outside. The inside stop shall provide a positive seal against any moisture that may enter the cavity. The interior perimeter of the glass unit shall be sealed with a rope type backing on a continuous heel bead of caulking that is compactable with the sealed glass units used. Aluminium glazing stops complete with flexible vinyl gaskets are to be used on all interior sides of all windows.
- .13 Include continuous air barrier and vapour retarder through door system. Primarily in line with inside pane of glass and heel bead of glazing compound.

2.2 SYSTEM TOLERANCES:

- .1 Fabricate units to a tolerance of +/- 1.5 mm (1/16") for vertical, horizontal and diagonal dimensions less than 1828 mm (72") and +/- 3 mm (1/8") for dimensions greater than 1828 mm (72").
- .2 Entrance framing uniform load: To meet or exceed ASTM E330. At a static air design load of 1.2kPa (20 psf) applied in the positive and negative direction. No part of the system shall have a deflection exceeding 1/175 of the span.
- .3 Fabricate all mullions and doorframe components to ensure a maximum deflection of 1/175 of the span and at a structural test load of 1.5 times the specified design load, no glass breakage or permanent set in the framing in excess of 0.2% of their clear spans shall occur.
- .4 Entrance Framing Air Infiltration: to meet or exceed ASTM E283. Infiltration not to exceed 2.81 m³/s/m² (0.06 cfm/ft²) at a static air pressure differential of 3 kPa (6.24 psf).
- .5 Entrance Framing Water Resistance: To meet or exceed ASTM E331.

2.3 SYSTEM COMPONENTS:

- .1 This section is responsible for providing all required components in the entry system including glass and glazing, hardware indicated below and sealants with foam rope bond breaker at the exterior face of the system.
- .2 This section shall co-ordinate installation of automatic entrance door operators associated with aluminum entrance doors. This section shall ensure that arms and other components of the operator are compatible with the installation conditions on the site including power to door and frame, electric strike and installation of activation switches, etc.
- .3 Where entrance framing includes a transom, panel at location of automatic door operator shall be minimum 150 mm (6") wide to match width of operator housing.
- .4 The entrance system includes supply and installation of extruded aluminium sills and aluminium flat panels complete with spacers, stiffeners, fasteners and rigid insulation in spandrel panels and specified hardware.
- .5 This section includes the supply of all parts of the aluminum window system including extruded aluminum sills and all required hardware and the tempered glass units.
- .6 This section shall install sprayed-in-place polyurethane insulation between aluminum frames and wall components surrounding the entrance framing in such a way as to allow for deflections and thermal movements.
- .7 This section shall install foam rope as a bond breaker for the exterior sealant around aluminum frames. This section shall also install and tool the exterior sealant around all windows.
- .8 This section shall supply and install interior paintable sealants, interior patching and interior finishes to other interior materials and components including gypsum board indicated.

- .9 Set threshold in full bed of mastic.

2.4 MATERIALS

- .1 Aluminum extrusions: to Aluminum Association alloy AA6063-T6 anodizing quality.
- .2 Sheet aluminum: to Aluminum Association anodizing quality.
- .3 Steel reinforcement: to CSA G40.20/G40.21, grade 300 W.
- .4 Fasteners: aluminum, cadmium plated steel, stainless steel, finished to match adjacent material.
- .5 Weatherstrip: replaceable backed wool pile.
- .6 Door bumpers: black neoprene.
- .7 Door bottom seal: operable and automatic, adjustable, door seal of anodized extruded aluminum frame and vinyl weather seal, surface mounted with drip cap, closed ends, automatic retract mechanism when door is open.
- .8 Isolation coating: bituminous paint or epoxy resin solution.
- .9 Glass: tempered glass to CAN/CGSB-12.1, clear float.
- .10 Glazing materials: Section 08 80 50 Glazing, tempered.
- .11 Sealants: colour selected by Consultant and in accordance with Section 07 92 00 - Joint Sealants.

2.5 ALUMINUM DOORS

- .1 Doors shall be dimensioned as shown on drawing: 2135mm (7'-0") high and 57.2mm (2.25") thick complete with glazing; size noted on drawings.
- .2 All hardware shall be supplied by this Section except for lock cylinders. All aluminum doors provided by this Section shall have electronic strike and lock.
- .3 Provide door operator push buttons and card readers within mid-rail of sidelight framing system as noted on drawings.
- .4 Provide appropriate conductor raceways from electronic items wall-mounted or mounted within glazing framing to activate automatic door operators and the card readers and electric strikes.
- .5 Protect lock positions with plates fixed to door and framing system to suit circumstances.
- .6 **Door Finish: Clear anodized.**
- .7 Acceptable Products are Equal to:
 - .1 Commdoor Aluminum Series 4400, double-glazed, full lights.
 - .1 Weather stripping kit with automatic door bottom.
 - .2 Stiles: 127mm (5").
 - .3 Top Rail: 127mm (5").
 - .4 Bottom Rail: 127mm (5").
 - .5 Width and height of door marked on drawings.
- .8 Sealed glass units: double-glazed, sealed thermal glass units of overall 25.4mm (1") thickness, tempered glass for all doors.
- .9 Hardware as follows:
 - .1 Rim panic device Commdoor 2090 for all exit doors from stairwells.
 - .2 Doors Leading to roof: 9000-201 M.S Deadlock; cylinder 9000-302, keyed both sides; LCN 4040 self-closing device; weatherstrip and threshold specified below.
 - .3 Main Entrance door: push/pull hardware, electric strike; auto-door operator coordinated.
 - .4 Double entrance doors: all hardware below plus one set of flush bolts: 9000-390/391; 4590 exit paddle; lock guard.
 - .5 Electric strike 9000-348 or 9000-351, clear anodized 12V or 24V to suit hardware and access system, for each of two main entrance vestibule doors: one exterior door and one interior door and for each exterior door in other locations throughout the building.
 - .6 Cylinder: 7 pin cylinder lock compatible with Owner's keying system, supplied under hardware allowance.
 - .7 KN Crowder CT 74 threshold, frost-free; AODA compliant, 4" width, mill finish aluminum.
 - .8 Weather stripping and automatic door bottom,

- .9 Pull: Hager 18-Degree Pull, 990 P, stainless steel, through bolt.
- .10 Connect electric strike via relay to automatic door operator. Accommodate automatic door operator and defeat operation of operator if lock is not released electronically.
- .11 9000-144 continuous geared hinge.
- .12 Coordinate electronic strike to automatic operator.
- .13 Self-closing device LCN 4040 Commdoor product number 4111.
- .10 Schedule:
 - .1 Ground level main entrance door and frame with interior vestibule.
 - .2 Secondary entrances: leading out of the northern wall - refer to plans; with vestibule (exterior and interior doors).
 - .3 Secondary doors for future tenancies: refer to plans.
 - .4 Exterior Stair Door – one at ground floor service entrance and one at roof level.

2.6 ENTRANCE FRAMING:

- .1 General:
 - .1 This section shall review installation requirements including all site conditions and prepare required extruded aluminium frame, trims and insulated panels to complete the installation required.
- .2 Finish: Framing All materials exposed to view:
 - .1 PPG Duranar Extrusion Coating, High-Performance, Polyvinylidene Flouride:
 - .1 Spray-applied, extrusion coatings: thermosetting acrylic enamel to meet or exceed standards of AAMA 603.8, colour from PPG standard colour range.
 - .2 Colour: Duranar Millennium Blue UC136405 or alternative selected by Architect.
- .3 Acceptable Products are equal to:
 - .1 Commdoor Aluminium 2500 series thermally-broken framing system including all required accessories. Mullion products and entrance adapters as required by the installation and all other required accessories including aluminum threshold.
 - .2 Matching profile by other manufacturers with identical CSA-A440 ratings as approved by consultant prior to tender closing, including US Aluminum, Alumicor, Kawneer products.
 - .3 Provide appropriate raceways within framing system to energize automatic door operators, electric strikes and card readers shown on drawings.

2.7 GLASS AND GLAZING:

- .1 Doors, side lights and interior glazed framing systems including glass and glazing systems within doors, all cases: to CAN/CGSB-12.1, transparent and as follows:
 - .1 Type 2-tempered.
 - .2 Class B-float.
 - .3 Refer to Section 08 80 50.
- .2 Glass thickness: as required by unit size and site conditions to all applicable codes and standards, but not less than 6mm (1/4") thickness.
- .3 All glass panes for entrance doors - exterior entrances and interior doors for vestibules, frames, sidelights and transoms shall be assembled into sealed, double-glazed units as follows:
 - .1 Inter-cavity space thickness: as determined by glass thickness, nominal 25.4mm (1") overall sealed unit thickness comprised of 2 panes of glass, 6mm thick, tempered, assembled into sealed glazing unit with low conductivity spacers and performance and qualities specified within 08 80 50.
- .4 Setting blocks: Neoprene, EPDM, Silicone, 80-90 Shore A durometer hardness to ASTM D 2240, length of 25mm for each square meter of glazing, minimum 102mm x width of glazing rabbet space minus 1.5mm x height or to suit glazing method, glass light weight and area.
- .5 Spacer shims: Neoprene, 50-60 Shore A durometer hardness to ASTM D 2240, 75 mm long x one half height of glazing stop x thickness to suit application. Self adhesive on one face.
- .6 Glazing tape:

- .1 Preformed butyl compound, 10-15 Shore "A" durometer hardness to ASTM D 2240; coiled on release paper; black colour.
- .2 Closed cell polyvinyl chloride foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume 2%, designed for compression of 25 %, to effect an air and vapour seal.
- .7 Glazing splines: resilient polyvinyl chloride, extruded shape to suit glazing channel retaining slot.
- .8 Lock-strip gaskets: to ASTM C 542.

2.8 STEEL FINISHES

- .1 Finish steel clips and reinforcing steel with zinc coating to CAN/CSA-G164.

2.9 FABRICATION

- .1 Doors and framing to be by same manufacturer.
- .2 Fabricate doors and frames to profiles and maximum face sizes as indicated. Provide minimum 22mm bite for insulating glazed units.
- .3 Provide structural steel reinforcement as required.
- .4 Fit joints tightly and secure mechanically.
- .5 Conceal fastenings.
- .6 Mortise, reinforce, drill and tap doors, frames and reinforcements to receive hardware using templates provided under this Section and Section 08 71 00 - Door Hardware.
- .7 Isolate aluminum from direct contact with dissimilar metals, concrete and masonry.

Part 3 Execution

3.1 EXAMINATION

- .1 Ensure that concrete placement adjacent to the work, is completed prior to installation. If exterior concrete slabs on ground are not placed, ensure that Construction Manager has a plan to protect aluminum products after they are installed.
- .2 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for aluminum doors and frames installation in accordance with manufacturer's written instructions.
 - .1 Inform Consultant of unacceptable conditions immediately upon discovery.
 - .2 Proceed with installation only after unacceptable conditions have been remedied receipt of written approval to proceed from Consultant.

3.2 INSTALLATION

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.
- .2 The work shall be performed by qualified skilled personnel ensuring proper equipment provided in order to expedite the project in an efficient professional manner.
- .3 Inspect door and frame unit for defects attributable to manufacturer or shipping including damage to glass units and hardware preparation. Notify supplier and return defective products for replacement with new.
- .4 Set new doors and frame in opening and verify fit prior to removal of any stiffening or shipping restraint devices. Remove door and frame to complete preparation of opening and door and frame.
- .5 Install mastic below aluminium threshold such that mastic is in full contact with building components and threshold for a full mastic bed.
- .6 Verify attachment points and square position of doorframe prior to fixing in place including installation of shims at each jamb fastener point. Do not fasten jambs to building without supporting shim behind each fastener. Use opposing wedge shims for accurate fit. Frequently check plumb and horizontal alignment of door and frame.
- .7 Fix frame in place into building components in a pre-drilled pilot hole. Do not completely install screws until final fastening. Verify available fastener penetration prior to setting frame.

- .8 Check level and hardware (hinge and latch function in pre-hung units prior to installation of final fasteners.
- .9 Ensure that all locking and latching hardware is installed in accordance with manufacturer's templates and that it operates properly.
- .10 Install foam rope bond breaker snugly and exterior sealant at exterior side of jamb and building juncture prior to installing polyurethane foam insulation.
- .11 Ensure that sealant is sufficiently cured to resist deformation by foam insulation.
- .12 Mask adjacent interior or exterior surfaces as required including the installation of plastic sheets to protect interior finishes and the new door from contact with polyurethane foam.
- .13 Install polyurethane foam insulation to fill cavity leaving at least 20mm when cured without foam at exterior and interior face of joints if bond-breaker and sealant is not installed. Scrape excessive foam from joint if necessary to achieve this condition. Fill foam in multiple layers as recommended by manufacturer and around entire opening to entirely fill cavity from the outside to approximately $\frac{3}{4}$ of the void depth or as recommended by polyurethane manufacturer. After foam expansion is complete, touch-up foam application to ensure that the entire cavity is filled as described above. Remove over-sprayed foam in accordance with manufacturer's instructions. Do not use metal scrapers on aluminium finishes.

3.3 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Interim and final cleaning shall be performed in accordance with the general conditions listing methods outlined in AAMA 609.1 Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum and 610-02, latest edition.
 - .3 Remove all labels and other marks from frames and glass.
 - .4 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.
 - .5 Clean aluminum with damp rag and approved non-abrasive cleaner.
 - .6 Remove traces of primer, caulking, epoxy and filler materials; clean doors and frames.
 - .7 Clean all tracks and grooves of debris or dust.
 - .8 Clean glass and glazing materials with approved non-abrasive cleaner.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for recycling in accordance with Section 01 74 21 – Construction Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.4 PROTECTION

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

END OF SECTION

Part 1 General**1.1 RELATED REQUIREMENTS**

- .1 Section 06 10 00 Rough Carpentry
- .2 Section 07 21 19 Foamed-in-Place Polyurethane
- .3 Section 07 27 10 Air Barrier and Transition Membrane
- .4 Section 07 92 00 Joint Sealants
- .5 Section 08 11 16 Exterior Aluminum Doors and Frames
- .6 Section 08 42 29 Automatic Swinging Door Entrance Operators
- .7 Section 08 80 50 Glass and Glazing
- .8 Section 09 21 16 Gypsum Board Assemblies
- .9 Section 09 22 16 Non-Structural Metal Stud Framing

1.2 WORK INCLUDED

- .1 Furnish labour, materials and services for the complete fabrication, assembly and installation of Series 1450 Framing system manufactured by Commdoor Aluminum. Work to include all necessary accessories, anchors and sealants as required based on the purchase agreement.
- .2 Work Excluded
 - .1 Structural steel, wood blocking or framing, interior trims, concrete masonry, final cleaning, protection, related work specified elsewhere, convactor covers and trims and ceiling trims.
- .3 Quality Assurance
 - .1 The framing system supplied under this specification is based upon Series 1450 manufactured by Commdoor Aluminum.
- .4 Shop Drawings
 - .1 All work of this section shall be executed in strict accordance with approved shop drawings.
- .5 Glass and Glazing:
 - .1 Refer to Section 08 80 00 Glass and Glazing.
- .6 Swinging Door hardware:
 - .1 Provide all hardware associated with interior aluminum doors except lock cylinder which is provided under Section 08 71 00 Door Hardware. All hardware shall accommodate automatic door operators specified within Section 08 42 29.

1.3 APPROVED PRODUCTS:

- .1 Commdoor Aluminium is the manufacturer of the entrance door and window frame system 1450 specified.
- .2 Alternative products are acceptable provided that they meet or exceed minimum standards indicated in this section and meet with the consultant's approval. All test data for alternate products must be submitted to the consultant a minimum of 5 working days prior to Bid Closing. Use of alternate manufacturer is permitted by written addendum issued by the Consultant only.

1.4 REFERENCES

- .1 Aluminum Association (AA)
 - .1 AA DAF 45-03(R2009), Designation System for Aluminum Finishes.
- .2 American Architectural Manufacturers Association (AAMA)
 - .1 AAMA 609/610-09, Cleaning and Maintenance Guide for Architecturally Finished Aluminum.
 - .2 AAMA 701/702-04, Voluntary Specifications for Pile Weather Stripping and Replaceable Fenestration Weatherseals.
- .3 American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA)
 - .1 ANSI/BHMA A156.1-2006, American National Standard for Butts and Hinges.
 - .2 ANSI/BHMA A156.3-2001, Exit Devices.
 - .3 ANSI/BHMA A156.4-2008, Door Controls - Closers.
 - .4 ANSI/BHMA A156.5-2001, Auxiliary Locks and Associated Products.

- .5 ANSI/BHMA A156.10-2005, Power Operated Pedestrian Doors.
- .6 ANSI/BHMA A156.19-2007, Power Assist and Low Energy Power Operated Doors.
- .4 ASTM International
 - .1 ASTM A167-99(R2009), Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.
 - .2 ASTM B209M-07, Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
 - .3 ASTM B221M-07, Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
 - .4 ASTM D2000-08, Classification System for Rubber Products in Automotive Applications.
 - .5 ASTM D2287-96(R2010), Standard Specification for Non Rigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds.
 - .6 ASTM E283-04, Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 - .7 ASTM E330-02, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- .5 Canadian General Standards Board (CGSB)
 - .1 CGSB 1.40-97, Anticorrosive Structural Steel Alkyd Primer.
 - .2 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.
 - .3 CAN/CGSB-12.20-M89, Structural Design of Glass for Buildings.
 - .4 CGSB 1.132M-90, Zinc Chromate Primer, Low Moisture Sensitivity.
 - .5 CAN/CGSB 1.181-99, Ready-Mixed, Organic Zinc-Rich Coatings.
- .6 Canadian Standards Association (CSA International)
 - .1 CSA G40.20/G40.21-04(R2009), General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CAN/CSA G164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA G164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
- .7 Environmental Choice Program (ECP)
 - .1 CCD-045-95(R2005), Sealants and Caulking Compounds.
 - .2 CCD-047-98(R2005), Architectural Surface Coatings.
 - .3 CCD-048-98(R2006), Surface Coatings - Recycled Water-borne.
- .8 Green Seal Environmental Standards (GS)
 - .1 GS-11-2008, 2nd Edition, Paints and Coatings.
- .9 National Research Council of Canada (NRC)
 - .1 MNECB-97, Model National Energy Code of Canada for Buildings.
- .10 Underwriters' Laboratories of Canada (ULC)
 - .1 ULC/ORD C305-72, Panic Hardware.
 - .2 CAN/ULC-S524-06, Standard for the Installation of Fire Alarm Systems.
 - .3 CAN/ULC-S533-08, Egress Door Securing and Releasing Devices.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for door, frame and sidelights, glass, hardware, and accessories and include product characteristics, performance criteria, physical size, finish and limitations and electrical service diagrams for electric strike.
- .3 Shop Drawings:
 - .1 Indicate layout, dimensions, elevations, detail sections of members and operator, interior finish conditions, materials, recesses, hardware including mounting heights, anchors and reinforcements, provisions for expansion and contraction, methods of joining sheet metal and joint locations, types

- of sealants, details of other pertinent components of the work, and illustrate actual adjacent construction and future construction intended by the Contract Documents to which work of this section is attached.
- .2 Identify installation tolerances required, assembly conditions, routing of service lines, locations of operating components, controls and boxes.
 - .3 Indicate door signs.
 - .4 Indicate the following:
 - .1 Interior and exterior junctions with adjacent construction.
 - .2 Junctions between combination units.
 - .3 Elevations of units.
 - .4 Core thicknesses of components.
 - .5 Type and location of exposed finishes, method of anchorage, number of anchors, supports, reinforcement, and accessories.
 - .6 Location of caulking.
 - .7 Each type of door system including location.
 - .8 Arrangement of reinforcing for hardware and joints.
 - .9 Arrangement of hardware and required clearances.

1.6 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Submit project record documents that accurately record locations of concealed and remote equipment, services, and conduit.
- .3 Submit warranty.
- .4 Operation and Maintenance Data: submit operation and maintenance data for door operator system including all reviewed shop drawings bearing review annotations for incorporation into manual.
- .5 Submit cleaning instructions.

1.7 QUALITY ASSURANCE

- .1 Certifications: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .2 Strength: CAN3-S157-M83 Strength Design in Aluminium.
- .3 Energy Performance: CAN/CSA-A440-M90, Windows.
- .4 Welder qualifications: Structural components to be welded by fabricators certified by Canadian Welding Bureau to CSA standard W47.2 for welding aluminium.
- .5 Installers qualifications: Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project and who is acceptable to product manufacturer.
- .6 Manufacturers qualifications: Manufacturer to have minimum (5) five years successful experience in the fabrication of automatic doors of the type required for this project. Manufacturer capable of providing field service representation during installation, approving acceptable installer and approving application method.
- .7 AAADM Compliance: Both installer and manufacturer to meet requirements necessary to get certification/license agreement.

1.8 WARRANTY:

- .1 Submit extended warranty for a period of five years following the date of substantial performance of the Contract covering all defects in manufacturing and installation of the entrance framing system and all parts of the window framing system. Defects include but are not limited to: leaking, loosening in whole or in part of all components in the system, breakage or deformation of the metal work, breakage of glass or rupturing or other failing of sealed units attributable to inappropriate transfer of stress developed in the frame do to lack of expansion room, wind loading or deflections. Fading or other discolouration of the finish to the metal components of any type.

- .2 Submit a 10-year warranty covering defects and failure of the double-glazed, sealed thermal insulating window and door glass panels. Defects and failure of the sealed unit shall be considered to have occurred, but not limited to the appearance of the following effects: breakage due to thermal stress, hazing, fogging, condensing moisture, or other similar phenomena occurring between the panes of glass. Defects in the low E coating will also be considered a failure in the performance of the sealed unit.

1.9 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements together with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials in accordance with manufacturer's recommendations and store indoors within clean, dry, well-ventilated area.
 - .2 Store and protect entrance doors and frames and glass from blemishes, dust, dirt, debris and damage of any kind including splattering paint and concrete.
 - .3 Replace defective or damaged materials with new.
- .4 Cover exposed metal surfaces with pressure sensitive heavy protection paper or strippable plastic coating.
 - .1 Use materials of type which will not leave residue or become bonded when exposed to sun.
 - .2 Use padded blankets or approved protective wrapping for decorative metal work and similarly finished exposed elements.
- .5 Develop Construction Waste Management Plan related to Work of this Section.
- .6 Packaging Waste Management: remove for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 DESIGN CRITERIA, PRODUCTS AND BASIS FOR DESIGN

- .1 **Framing System:**
 - .1 The specifications for the framing system within this Section is based upon Series 1450 manufactured by Commdoor Aluminum 1.75" x 4.5" (44.5 mm x 114.3 mm).
- .2 **Aluminum Doors:**
 - .1 Specification for entrance swinging doors within this Section is based upon 350 Series Narrow Style Doors manufactured by Commdoor Aluminum.
 - .1 Commdoor regular duty doors: Series 350 (3-1/2" or 88.9 mm) medium stile
 - .2 Aluminum Door Rails: 3-7/8" (98.4 mm) top rail and 6" (152.4 mm) bottom rail. No centre rail.
 - .3 Door Glass Stop: Single glazed for 1/4" (6 mm) laminated safety glass.
 - .4 Quality Assurance: The door supplied under this specification is based upon Series 350 manufactured by Commdoor Aluminum.
- .3 **Aluminum Extrusions:**
 - .1 All extruded aluminum sections to be 6063-T6 alloy or equivalent.
- .4 **Glazing Material:**
 - .1 All Extruded thermoplastic elastomers gasket.
- .5 **Fasteners:**
 - .1 Fasteners shall be zinc plated.
- .6 **Hardware:**
 - .1 Hinges: 3 standard butt hinges with matching finish (2 hinges plus 1 intermediate hinge).
 - .2 Locking Devices:
 - .1 Electronic Strike and conductor routed to power with card access on a lever handle mounted on the exterior and a lever handle mounted on the interior.

- .1 Electric strike 9000-348 or 9000-351, clear anodized 12V or 24V to suit hardware and access system, all entrances to the Classroom/Multi-Purpose Room 033a (door 033b), Council Chambers Room 034a (door 034a and door 034b), Executive Board Room 037, Door 031, Door 039, Door 003.
- .2 Connect electric strike via relay to automatic door operator. Accommodate automatic door operator and defeat operation of operator if lock is not released electronically.
- .2 Cylinder: 7 pin cylinder lock compatible with Owner's keying system, supplied under hardware allowance.
- .3 Closer: Surface mounted. Self-closing device LCN 4040 - Commdoor product number 4111.
- .7 General Notes:**
 - .1 All door and framing fabrication to meet or exceed CAN/CGSB 1.108M-M89.
 - .2 Fabrication will be carried out according to the approved shop drawings. All joints will be welded using manufacturers provided assembly brackets to maintain the product design performance.
 - .3 Size glass thickness and glass unit dimensions shown on drawings. Glass as specified within Section 08 80 00 for Interior Window Glass and Glazing.
 - .4 Assemble windows and doors to ensure neat, construction and well fitted joints square and true with maximum tolerance of 2.0 mm in diagonal dimensions.
 - .5 Joints shall be made by welding or concealed mechanical fastenings. A weather tight joint shall be made at the juncture of sill and jamb, horizontal rails and jambs and at vertical couplings.
 - .6 Sash joints shall be fixed such that they will retain their shape and remain square during replacement of glazing.
 - .7 Install manufacture's name plates in semi-concealed space bearing name and location of manufacturer and identification of entrance framing product.

2.2 SYSTEM TOLERANCES:

- .1 Fabricate units to a tolerance of +/- 1.5 mm (1/16") for vertical, horizontal and diagonal dimensions less than 1828 mm (72") and +/- 3 mm (1/8") for dimensions greater than 1828 mm (72").
- .2 Entrance framing uniform load: To meet or exceed ASTM E330. At a static air design load of 1.2kPa (20 psf) applied in the positive and negative direction. No part of the system shall have a deflection exceeding 1/175 of the span.
- .3 Fabricate all mullions and doorframe components to ensure a maximum deflection of 1/175 of the span and at a structural test load of 1.5 times the specified design load, no glass breakage or permanent set in the framing in excess of 0.2% of their clear spans shall occur.

2.3 SYSTEM COMPONENTS:

- .1 This section is responsible for providing all required components in the window framing and door framing systems, including all glass and glazing, hardware and sealants.
- .2 This section shall co-ordinate installation of automatic entrance door operators associated with aluminum entrance doors. This section shall ensure that arms and other components of the operator are compatible with the installation conditions on the site including power to door and frame, electric strike and installation of activation switches, etc.
- .3 This section shall supply and install interior paintable sealants, interior patching and interior finishes to other interior materials and components including gypsum board indicated.

2.4 MISCELLANEOUS MATERIALS

- .1 Sheet aluminum: to Aluminum Association anodizing quality.
- .2 Steel reinforcement: to CSA G40.20/G40.21, grade 300 W.
- .3 Fasteners: aluminum, cadmium plated steel, stainless steel, finished to match adjacent material.
- .4 Door bumpers: black neoprene.
- .5 Isolation coating: bituminous paint or epoxy resin solution.
- .6 Sealants: colour selected by Consultant and in accordance with Section 07 92 00 - Joint Sealants.

2.5 ALUMINUM DOORS

- .1 Doors shall be dimensioned as shown on drawing: 2135 mm (7'-0") and 2440 mm (8') high as marked on schedules. Door thickness shall be 50.8 mm (2.0") thick complete with glazing; size noted on drawings.
- .2 All hardware shall be supplied by this Section except for lock cylinders. All aluminum doors provided by this Section shall have electronic strike and lock.
- .3 Provide door operator push buttons and card readers within mid-rail of sidelight framing system as noted on drawings.
- .4 Provide appropriate conductor raceways from electronic items wall-mounted or mounted within glazing framing to activate automatic door operators and the card readers and electric strikes.
- .5 Protect lock positions with plates fixed to door and framing system to suit circumstances.

2.6 ALUMINUM DOOR AND FRAMING SYSTEM FINISH:

- .1 **Fluoropolymer paint Coating:**
 - .1 Coatings shall meet or exceed FGIA/AAMA 2605 specification for performance in aluminum extrusion finishes and ASTM D6578/D6578M-13 (2024) standard practice for determination of graffiti resistance.
 - .2 Coating shall be formulated with a blend of 70% PVDF, acrylic resins, and advanced pigment technologies.
 - .3 Minimum coating shall consist of a corrosion-inhibitive primer and a durable fluoropolymer color coat and a clear top coat.
 - .4 Acceptable Coating Product:
 - .1 Meet or exceed standards of AAMA 2605, 3-coat, thermal setting enamel consisting of primer, colour coat and clear coat.
 - .2 PPG Duranar Extrusion Coating, High-Performance, Polyvinylidene Fluoride:
 - .1 Spray-applied, extrusion coatings: thermosetting acrylic enamel to meet or exceed standards of AAMA 603.8, colour from PPG standard colour range.
 - .3 **Colour: Duranar Millennium Blue UC136405 or alternative selected by Architect.**

2.7 ENTRANCE FRAMING:

- .1 General:
 - .1 This section shall review installation requirements including all site conditions and prepare required extruded aluminium frame, trims and insulated panels to complete the installation required.
- .2 Finish: Framing All materials exposed to view:
 - .1 PPG Duranar Extrusion Coating, High-Performance, Polyvinylidene Fluoride:
 - .1 Spray-applied, extrusion coatings: thermosetting acrylic enamel to meet or exceed standards of AAMA 603.8, colour from PPG standard colour range.
 - .2 Colour: Duranar Millennium Blue UC136405 or alternative selected by Architect.
- .3 Acceptable Products are equal to:
 - .1 Commdoor Aluminium 1450 series non-thermally-broken framing system including all required accessories. Mullion products and entrance adapters as required by the installation and all other required accessories and hardware.
 - .2 Provide appropriate raceways within framing system to energize automatic door operators, electric strikes and card readers shown on drawings.

2.8 GLASS AND GLAZING:

- .1 Doors, side lights and interior glazed framing systems including glass and glazing systems within doors, all cases: to CAN/CGSB-12.1, transparent and as follows:
 - .1 Type 2-tempered.
 - .2 Class B-float.
 - .3 Refer to Section 08 80 50.
- .2 Glass thickness: as required by unit size and site conditions to all applicable codes and standards, but not less than 6mm (1/4") thickness.

2.9 STEEL FINISHES

- .1 Finish steel clips and reinforcing steel with zinc coating to CAN/CSA-G164.

2.10 FABRICATION

- .1 Doors and framing to be by same manufacturer.
- .2 Fabricate doors and frames to profiles and maximum face sizes as indicated. Provide minimum 22mm bite for insulating glazed units.
- .3 Provide structural steel reinforcement as required.
- .4 Fit joints tightly and secure mechanically.
- .5 Conceal fastenings.
- .6 Mortise, reinforce, drill and tap doors, frames and reinforcements to receive hardware using templates provided under this Section and Section 08 71 00 - Door Hardware.
- .7 Isolate aluminum from direct contact with dissimilar metals, concrete and masonry.

Part 3 Execution**3.1 EXAMINATION**

- .1 Ensure that concrete placement adjacent to the work, is completed prior to installation. If exterior concrete slabs on ground are not placed, ensure that Construction Manager has a plan to protect aluminum products after they are installed.
- .2 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for aluminum doors and frames installation in accordance with manufacturer's written instructions.
 - .1 Inform Consultant of unacceptable conditions immediately upon discovery.
 - .2 Proceed with installation only after unacceptable conditions have been remedied receipt of written approval to proceed from Consultant.

3.2 INSTALLATION

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.
- .2 The work shall be performed by qualified skilled personnel ensuring proper equipment provided in order to expedite the project in an efficient professional manner.
- .3 Inspect door and frame unit for defects attributable to manufacturer or shipping including damage to glass units and hardware preparation. Notify supplier and return defective products for replacement with new.
- .4 Set new doors and frame in opening and verify fit prior to removal of any stiffening or shipping restraint devices. Remove door and frame to complete preparation of opening and door and frame.
- .5 Verify attachment points and square position of doorframe prior to fixing in place including installation of shims at each jamb fastener point. Do not fasten jambs to building without supporting shim behind each fastener. Use opposing wedge shims for accurate fit. Frequently check plumb and horizontal alignment of door and frame.
- .6 Fix frame in place into building components in a pre-drilled pilot hole. Do not completely install screws until final fastening. Verify available fastener penetration prior to setting frame.
- .7 Check level and hardware (hinge and latch function in pre-hung units prior to installation of final fasteners.
- .8 Ensure that all locking and latching hardware is installed in accordance with manufacturer's templates and that it operates properly.

3.3 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.

- .2 Interim and final cleaning shall be performed in accordance with the general conditions listing methods outlined in AAMA 609.1 Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum and 610-02, latest edition.
- .3 Remove all labels and other marks from frames and glass.
- .4 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.
- .5 Clean aluminum with damp rag and approved non-abrasive cleaner.
- .6 Remove traces of primer, caulking, epoxy and filler materials; clean doors and frames.
- .7 Clean all tracks and grooves of debris or dust.
- .8 Clean glass and glazing materials with approved non-abrasive cleaner.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for recycling in accordance with Section 01 74 21 – Construction Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.4 PROTECTION

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

END OF SECTION

Part 1 General**1.1 SUMMARY**

- 1 Commercial Solid Core Interior Wood swinging doors hung in steel frames supplied under Section 08 11 00 Steel Doors and Frames and as part of a closure with a fire resistance rating of 20-minutes.
- 2 Door Finishes as specified below: Formica Laminate selected from full range of Natural Grain (NG) Textured, Wood Grain patterned and colours including Formica 8905 Waed Maple and natural Maple Hardwood Veneer.
- 3 Basis of Design Manufacturer: Forte Opening Solutions, Baillargeon Series, 430, route 108 Ouest Saint-Éphrem, Québec, G0M 1R0, Canada.
- 4 Preparation for hardware supplied under Section 08 71 00 Finish Hardware.
- 5 Mechanical Division for undercutting.
- 6 All fire rated doors and frames shall be as specified in Section 08 11 00.

1.2 RELATED SECTIONS

- 1 Section 06 10 00 Rough Carpentry
- 2 Section 08 11 00 Steel Doors and Frames
- 3 Section 08 71 00 Door Hardware
- 4 Section 08 80 50 Glass and Glazing
- 5 Section 09 91 23 Interior Painting

1.3 REFERENCES

- 1 Architectural Woodwork Manufacturers Association of Canada (AWMAC).
 - 1 Architectural Woodwork Standard (AWS) also known herein as the Standard, first edition, 2009.
- 2 ANSI/WDMA I.S. 1A Industry Standard for Architectural Wood Flush Doors
- 3 American Society for Testing Materials:
 - 1 ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
 - 2 ASTM E413 - 10 Classification for Rating Sound Insulation.
- 4 Canadian General Standards Board:
 - 1 CAN/CGSB-71.19-M, Adhesive, Contact, Sprayable.
 - 2 CAN/CGSB-71.20-M, Adhesive, Contact, Brushable.
- 5 Canadian Standards Association (CSA Group):
 - 1 CSA O115-M, Hardwood and Decorative Plywood.
 - 2 CAN/CSA O132.2 Series-90, Wood Flush Doors.
 - 3 CAN/CSA-O132.5-M, Stile and Rail Wood Doors.
 - 4 CAN/CSA-Z808, A Sustainable Forest Management System: Guidance Document.
 - 5 CSA Certification Program for Windows and Doors 00.
 - 6 CAN-4S104M, Fire Tests of Door Assemblies.
 - 7 CAN4-S105M, Fire Door Frames Meeting the Performance Required by CAN4-S104.
- 6 National Fire Protection Association (NFPA):
 - 1 NFPA 80, Standard for Fire Doors and Fire Windows.
 - 2 NFPA 252, Standard Method of Fire Tests of Door Assemblies.

1.4 SUBMITTALS

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

- .2 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00, and indicate VOCs.

- .3 Indicate door core materials, thickness, construction, laminate product and texture and grain direction as appropriate for each opening.

- .4 Indicate rail finishes and materials.

.2 Shop Drawings:

- .1 Submit shop drawings in accordance with Section 01 33 00.
- .2 Submit shop drawings in conformance to the requirements of the AWS.
- .3 Illustrate door opening information such as location, size types, construction, swings, undercuts, special bevelling, hardware location and preparation requirements, blocking for hardware in mineral core doors, fire ratings, lite cut-outs, factory finish, glass, and other pertinent data.

1.5 QUALITY ASSURANCE

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Perform work to Premium Grade in accordance with the Grade requirements specified in the Architectural Woodwork Standards 1st Edition 2009, or as herein otherwise specified.
- .4 Manufacturer specializing in products herein specified with a minimum of five years documented experience.
- .5 Manufacturer must be a member in good standing of the Architectural Woodwork Manufacturer Association of Canada (AWMAC).
- .6 Door Performance shall meet or exceed the following standards:
 - .1 ANSI/WDMA 1.S.1A.
 - .2 ANSI A208-1 (particle board LD-1/LD2).
 - .3 ASTM-D1037 and D198-98 (LSL).
 - .4 ASTM-D5456-93 (LVL).
 - .5 AWS.
 - .6 Intertek WH-ETL.
 - .7 NFPA 80.
- .7 Tolerances for size and shape of door panels:
 - .1 Tolerance for Height and width: 1.5 mm (1/16");
 - .2 Limits for Squareness: 3 mm (1/8") measured between the two diagonal distances across the face of the door.
 - .3 Tolerance Hardware Location: 0.5 mm (1/32"). Factory drill pilot holes.
 - .4 Allow a fitting clearance of 3 mm (1/8").

1.6 DELIVERY, STORAGE, AND HANDLING

- .1 Storage and Protection:
 - .1 Protect doors from dampness. Arrange for delivery after work causing abnormal humidity has been completed. Do not store doors on site when gypsum board compound has not dried for a minimum 7 days, and until all sanding is completed.
 - .2 Do not store within 10 feet of heat source.
 - .3 Deliver, store, protect and handle products in compliance with the Architectural Woodwork Standards; Section 2 Care & Storage, and manufacturer's care and handling instructions.
 - .4 Deliver materials when required for installation and the general contractor has provided a clean storage area.
 - .5 Accept doors on site in manufacturer's standard packaging. Inspect for damage.

- .6 Protect doors from exposure to natural and artificial light after delivery.
- .7 Store doors in well ventilated room, off floor, in accordance with manufacturer's recommendations.
- .8 Arrange doors for even air flow between and around panels to facilitate even drying.
- .9 Protect doors from scratches, handling marks and other damage. Wrap doors.
- .10 Store doors away from direct sunlight.
- .11 Apply finish to edges of doors as soon as possible following delivery and prior to installation.

1.7 WARRANTY

- .1 Provide manufacturer's warranty of 10 years against delamination of any layer or part of the door, warping or distortion, bow, cup and telegraphing of core construction beyond warranty tolerances experienced or arising from normal use.

1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Dispose corrugated cardboard, box board, paper, polystyrene and plastic packaging material in appropriate on-site bin for recycling in accordance with site waste management program.
- .3 Unused or damaged glazing materials are not recyclable and must not be diverted to municipal recycling programs.
- .4 Divert unused adhesive material from landfill to official hazardous material collections site approved by Owner's Representative.
- .5 Do not dispose of unused paint materials into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.

Part 2 Products

2.1 MANUFACTURERS

- .1 Provide doors list below by single manufacturer with variances according to characteristics of the product applications listed herein.
- .2 Acceptable Manufacturers:
 - .1 Basis of Design Manufacturer: Forte Opening Solutions, Baillargeon Series, 430, route 108 Ouest Saint-Éphrem, Québec, G0M 1R0, Canada.

2.2 FABRICATION OF PRODUCTS AND CONSTRUCTION

- .1 Manufacture doors to ANSI/WDMA I.S. 1A-11 Heavy Duty performance level. Comply with *Architectural Woodwork Standards 1st Edition 2009 (AWS)*.
- .2 Characteristics and dimensions of each door are marked on drawings and schedules.
 - .1 Anti-Warping Interior Wood Door for Intensive Use:
 - .1 Product: Baillargeon HPDL, 8600-VE (5 ply - LVL Core) as manufactured by Baillargeon Wood Door Manufacturer. Lifetime Warranty. Complies with SCLC-5/SCLC-7 (AWI/AWMAC).
 - .2 Stiles: 1/8" (3 mm) thick veneer, longitudinally laminated by hot pressing with type 1 structural glue, (LVL), including a 7/8" (22 mm) piece of hardwood, matched with faces, for a total width of 4 3/16" (107 mm).
 - .3 Top and bottom rails: 1/8" (3 mm) thick veneer, longitudinally laminated by hot pressing with type 1 structural glue, (LVL), or laminated strand lumber (LSL) for a total width of 3 5/16" (85 mm).
 - .4 Core: solid particleboard. Density of 28-32 lbs per cubic foot. Laminated by hot pressing with type 1 structural glue, as per ASTM D 5456-93 (LVL). LVL (UFF).
 - .5 Lock Block: Integrated.
 - .6 Glue: Type 1 - PVA Cross link (UFF).
 - .7 Faces and edges: Formica High-Pressure Laminate with Natural Grain Texture (NG) in wood grain pattern. Plastic laminate glued to composite crossband.

- .8 Identify doors in pairs and sets on door schedule by door numbers, including doors separated by a mullion.
- .9 Laminating adhesives, on-site and shop-applied must not contain added urea-formaldehyde resins.
- .10 Door overall thickness: 44 mm (1.75").
- .11 Provide appropriate lumber blocking for hardware to avoid necessity for through-bolting.
- .12 Cut hinge mortise in factory. Factory drill pilot holes for hinges.
- .13 Bevel lock and hinge stile to Architectural Woodwork Standard 1st Edition 2009, 3-degree bevel.
- .2 Clear laminated safety glass, 6 mm thick, install when glass light is shown on Schedules.
- .3 Acceptable Products:**
 - .1 Baillargeon HPDL, Particle Core (Heavy Duty) 8500-VE, 5-ply, consisting of a wood veneer or composite cross band applied over the core before application of the face laminate. Type C edge, recovered with laminate edge plastic matching door face.

2.3 GLAZING

- .1 Glass: 6 mm, sizes on door schedules, clear, laminated safety. Refer to issued Addenda.

2.4 METAL LOUVERS

- .1 Material: Bronze anodized aluminum.
- .2 Type: inverted-vee slat (sight proof), size indicated.
- .3 Free area: 50% minimum.

2.5 FABRICATION

- .1 Vertical edge strips to match face finish: high-pressure laminate.
- .2 Prepare doors for louvres and glazing. Provide glazing stops to match face veneer of door. Hardwood maple species with mitred corners.
- .3 Bevel vertical edges of single acting doors 3 mm in 50 mm on lock side and 1.5 mm in 50 mm on hinge side.

2.6 QUALITY CONTROL

- .1 Tolerances for size and shape of door panels:
 - .1 Tolerance for Height and width: 1.5mm (1/16");
 - .2 Limits for Squareness: 3mm (1/8") measured between the two diagonal distances across the face of the door.
 - .3 Tolerance Hardware Location: 0.5mm (1/32"). Factory drill pilot holes.
 - .4 Allow a fitting clearance of 3mm (1/8").
- .2 Seal all four edges of doors upon receipt at the site using alkyd primer for painted doors and sanding sealer for clear finished doors. Do not permit sealer or paint to run or drip on faces of doors.
- .3 Apply finish paint (two coats) to all 6 sides of each door before hanging.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

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

3.2 EXAMINATION

- .1 Verify that opening sizes and tolerances are acceptable and ready to receive this work.
- .2 Do not install doors in frame openings that are not plumb or are out of tolerance for size or alignment.
- .3 Confirm hardware arrangement, hinge pockets and sliding door hardware is appropriate and fully present at the Place of the Work.

- .4 Do not begin installation until adjacent construction has been properly prepared.
- .5 If gypsum board compound is being applied or sanded or if floor leveling compound is in progress at the location of the door installation, or if these items are not installed and cured, notify Contractor and Consultant and do not proceed
- .6 If adjacent construction preparation is the responsibility of another installer, notify Consultant and Contractor of unsatisfactory preparation before proceeding.
- .7 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.
- .8 Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
- .9 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.
- .10 Proceed with installation only after unsatisfactory conditions have been corrected.
- .11 Commencement of installation constitutes acceptance of conditions.

3.3 PREPARATION

- .1 Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- .2 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.

3.4 INSTALLATION

- .1 Unwrap and protect doors in accordance with CAN/CSA-O132.2 Series, Appendix A.
- .2 Install doors and hardware in accordance with manufacturer's printed instructions and CAN/CSA-O132.2 Series, Appendix A.
- .3 Do not trim door height or width on site.
- .4 Adjust hardware for correct function.
- .5 Install glazing in accordance with Glass and Glazing Section.
- .6 Install louvres and stops.
- .7 Secure transom and side panels by means of stops.

3.5 ADJUSTMENT

- .1 Adjust doors and hardware within the three business days occurring prior to substantial completion of building. Ensure that doors and hardware function freely as intended.

3.6 TOLERANCES

- .1 Conduct measurements and testing to ensure conformance to the Architectural Woodwork Standards 1st Edition 2009 sections associated with standards and testing methods for warp, cup, bow, and telegraphing.

3.7 CLEANING

- .1 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.
- .2 Remove traces of primer, caulking; clean doors and frames.

- .3 Clean glass and glazing materials with approved non-abrasive cleaner.
- .4 On completion of installation, remove surplus materials, rubbish, tools and equipment barriers.
- .5 Touch-up, repair, or replace damaged products before Substantial Completion.
- .6 Remove and replace material that is wet, moisture damaged, and mold damaged. Indications that materials are wet or moisture damaged include discoloration, sagging, or irregular shape. Indications that materials are mold damaged include fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 05 51 00 Metal Stairs and Ladders
- .2 Section 06 10 00 Rough Carpentry

1.2 SUMMARY

- .1 Work Included: Provide a factory-fabricated floor access door, fire rated.

1.3 SUBMITTALS

- .1 Product Data: Submit manufacturer's product data.
- .2 Shop Drawings: Submit shop drawings including profiles, accessories, location, adjacent construction interface, and dimensions.
- .3 Warranty: Submit executed copy of manufacturer's standard warranty.

1.4 QUALITY ASSURANCE

- .1 Manufacturer: A minimum of 5-years experience manufacturing similar products.
- .2 Installer: A minimum of 2-years experience installing similar products.
- .3 Manufacturer's Quality System: Registered to ISO 9001 Quality Standards including in-house engineering for product design activities.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver products in manufacturer's original packaging.
- .2 Store materials in a dry, protected, well-vented area.
- .3 Inspect product upon receipt and report damaged material immediately to delivering carrier and note such damage on the carrier's freight bill of lading.

1.6 WARRANTY

- .1 Manufacturer's Warranty: Provide manufacturer's standard warranty.
- .2 Materials shall be free of defects in material and workmanship for a period of five years from the date of purchase.
- .3 Should any part or component or set of components fail to function in normal use within this period, manufacturer shall furnish a new part at no charge.

Part 2 PRODUCTS

2.1 MANUFACTURER

- .1 Basis-of-Design Manufacturer: Type FR Fire Rated Floor Door by The BILCO Company, P.O. Box 1203, New Haven, CT 06505, 1-800-366-6530, Fax: 1-203-535-1582, Web: www.BILCO.com.

2.2 ACCESS DOOR AND COMPONENTS

- .1 Furnish and install where indicated on plans vault access door Type FR, size having a width of 915 mm and a length of 915 mm. Length denotes hinge side. The access door shall be single leaf. The access door shall be pre-assembled from the manufacturer.
- .2 Performance characteristics:
 - .1 Cover: shall be reinforced to support a minimum live load of 150 psf (732 kg/m²) with a maximum deflection of 1/150th of the span.
 - .2 Operation of the cover shall be smooth and easy with controlled operation throughout the entire arc of opening and closing. Operation of the cover shall not be affected by temperature.

- .3 Door and frame assembly shall be tested in accordance with ASTM E119, NFPA 288, IBC section 712.1.13.1, IBC section 712.1.13.2, and UL Listed as having a at least a 1-hour fire rating when exposed to fire from the underside. In the closed position, the temperature on the unexposed surface of the door shall not exceed 325°F (162°C) above ambient for the duration of the 1-hour period. Manufacturer shall submit a test report certifying this performance.
- .4 Door shall be equipped with a fusible link activated closing system that will automatically close and latch the door leaf in the event of fire when heat parts the UL Listed 165° (74°C) fusible link.
- .3 Access Door Cover:
 - .1 1" (25 mm) fillable pan to receive concrete. This Section shall supply and place the concrete fill material.
- .4 Frame:
 - .1 Shall be extruded aluminum with full anchor flange around the perimeter.
- .5 Lifting mechanisms:
 - .1 Manufacturer shall provide the required number and size of compression spring operators enclosed in telescopic tubes to provide, smooth, easy, and controlled cover operation throughout the entire arc of opening and to act as a check in retarding downward motion of the cover when closing.
 - .2 The upper tube shall be the outer tube to prevent accumulation of moisture, grit, and debris inside the lower tube assembly.
 - .3 The lower tube shall interlock with a flanged support shoe fastened to a formed 1/4" (6 mm) gusset support plate.
- .6 A removable exterior turn/lift handle with a spring-loaded ball detent shall be provided to open the and the latch release shall be protected by a flush, gasketed, removable screw plug.
- .7 Automatic closing system:
 - .1 Shall be a self-contained, pneumatic, fusible link activated, closing system that will automatically close and latch the door in the event of fire when heat parts the UL Listed 165° (74°C) fusible link.
- .8 Hold-open system:
 - .1 Door shall be equipped with a pneumatic hold-open system to automatically hold the door in the open position (85°). A release button for the hold-open system shall be provided and shall reset itself when the cover is closed. (Note: When door is specified without automatic closing system, a mechanical aluminum hold-open arm is provided).
- .9 Hardware:
 - .1 Hinges: Shall be a continuous heavy-duty Type 316 stainless steel hinge that is accessible only when the cover is in the open position.
 - .2 Cover shall be fitted with the required number and size of compression spring operators.
 - .3 A Type 316 stainless steel snap lock with fixed handle shall be mounted on the underside of the cover and a cable release handle shall be provided to open the cover from the underside.
 - .4 Hardware: All other hardware shall be zinc plated and chromate sealed with type 316 stainless steel fasteners.
- .10 Finishes:
 - .1 Factory finish shall be mill finish aluminum with bituminous coating applied to the exterior of the frame.

Part 3 EXECUTION

3.1 EXAMINATION

- .1 Examine substrates and openings for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- .1 Install products in strict accordance with manufacturer's instructions and approved submittals. Locate door level, plumb, and in proper alignment with adjacent work.
 - .1 Test units for proper function and adjust until proper operation is achieved.
 - .2 Repair finishes damaged during installation.
 - .3 Restore finishes so no evidence remains of corrective work.

3.3 ADJUSTING AND CLEANING

- .1 Clean exposed surfaces using methods acceptable to the manufacturer which will not damage finish.

END OF SECTION

Part 1 General

1.1 SUMMARY OF WORK

- .1 This section includes labour, materials and other services necessary to complete welded seam, resilient, homogeneous vinyl sheet flooring system and accessories work within Custodian Room 014 and Custodian Room 058. Note that Room 058 is part of the Separate Price.
- .2 Vinyl sheet flooring shall be installed with an integral wall base and flooring finish system wherein the wall base is welded to the field of the sheet flooring (the system is commonly referred to as "Flash Cove" or "Integral Coved Base") and the flooring product is therefore, extended, without open seams, vertically onto walls and other permanent installations.
- .3 One colour of the selected product will be selected for use in the building.
- .4 Refer to drawings and schedules for location of flooring and flash coved wall base locations.
- .5 Conform with requirements of all Sections of Division 01, General Requirements, as it applies to the work of this Section.
- .6 Provide transition trims between different finishes. **Feather flooring products using levelling compound to facilitate alignment with abutting products.**
- .7 This Section shall supply and install edge treatments and feathered leveling compound and other work required to align topside of flooring products with adjacent finishes of differing heights wherever they occur.
- .1 Conform with requirements of all Sections of Division 01, General Requirements, as it applies to the work of this Section.
- .2 Provide transition trims between different finishes.

1.2 RELATED SECTIONS

- .1 Section 09 25 00 – Gypsum Board.
- .2 Section 09 91 23 – Interior Painting.
- .3 Mechanical Divisions and Electrical Divisions.

1.3 REFERENCES

- .1 Standards listed, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
- .2 American Society for Testing & Materials (ASTM):
 - .1 ASTM D 2047, Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.
 - .2 ASTM E 648/NFPA 253, Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
 - .3 ASTM E 662, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
 - .4 ASTM F 710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
 - .5 ASTM F 970, Standard Test Method for Static Load Limit.
 - .6 ASTM F 1482, Standard Guide to Wood Underlayment Products Available for Use Under Resilient Flooring.
 - .7 ASTM F 1861 Standard Specification for Resilient Wall Base.
 - .8 ASTM F 1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

- .9 ASTM F 1303, Standard Specification for Sheet Vinyl Floor Covering with Backing.
- .10 ASTM F 2170, Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
- .11 ASTM F-1913 manufacturing process.
- .3 Canadian Standards Association (CSA):
 - .1 CSA A126.1-M, Vinyl Composition Floor Tile.
 - .2 CSA O153-M, Poplar Plywood.
 - .3 CSA B111, Wire Nails, Spikes and Staples.
- .4 National Fire Protection Association (NFPA):
 - .1 NFPA 253 Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
 - .2 NFPA 258 Standard Test Method for Measuring the Smoke Generated by Solid Materials.
- .5 Resilient Floor Covering Institute (RFCI):
 - .1 RFCI Standard Slab Moisture Test Method (Calcium Chloride Method).
- .6 Underwriters Laboratories of Canada (ULC):
 - .1 CAN/ULC-S102.2, Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies.

1.4 SYSTEM DESCRIPTION

- .1 Remove existing flooring from concrete substrate.
- .2 Apply moisture control system over prepared new and existing concrete substrate where sheet vinyl flooring will be installed followed by application of flooring adhesive which has high tolerance to moisture emitted from concrete.
- .3 Performance Requirements: Provide sheet vinyl flooring materials and adhesives which have been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.
- .4 System shall include coloured vinyl rods matched to flooring and approved by Owner and Consultant to create seamless, welded joints which are impervious to water when completed. Joints shall be smooth and set flush to adjacent surfaces. Joints shall be carefully formed to admit the welding rod material; however, the function of the welding rod is primarily to join abutting sheets of vinyl flooring and it is not intended to act as flooring.
- .5 Include integral, flash-coved flooring and wall base assembly, installed continuously around perimeter each room or floor area and surrounding permanent features such as structural columns, pilasters and permanent installations. Top-most edge of flash coved wall base shall be covered with 50 mm of resilient vinyl wall protection adhered to wall surface continuously along its length.
 - .1 Integral coved base shall be formed around and extended onto surfaces of all gypsum board partitions and columns behind built-in elements such as millwork.
 - .2 Apply finished flooring below all millwork prior to installation of millwork.

1.5 SUBMITTALS

- .1 Product Data: Submit manufacturer's current printed product literature, specifications, installation instructions, and field reports in accordance with Section 01 33 00 - Submittal Procedures. Submit data sheets for all products in the system: Sheet vinyl, adhesive, weld rods, cover former and cove cap.
- .2 Shop Drawings: Submit shop drawings to indicate materials, details, and accessories in accordance with Section 01 33 00 - Submittal Procedures including but limited to the following:

- .1 Submit a cut diagram indicating seam locations and roll direction.
- .2 Use mitered seam layouts for corners when changing directions 180 degrees (e.g. when running material down corridors which bisect at a right angle), unless approved otherwise.
- .3 Verification Samples: Submit duplicate 300 mm x 300 mm (12" x 12") sample pieces of sheet material and cove former in accordance with Section 01 33 00 - Submittal Procedures.
- .3 Manufacturer's Instructions: Current published manufacturer's installation and maintenance instructions.
- .4 Installer's training certificate.
- .5 Closeout Submittals: Submit the following:
 - .1 Operation and Maintenance Data: Submit manufacturer's operation and maintenance data for incorporation into manual specified in accordance with Section 01 78 00 - Closeout Submittals. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.
 - .2 Warranty: Warranty documents specified herein.
- .6 Maintenance and Repair Materials
 - .1 Provide extra maintenance and repair material consisting of resilient sheet flooring, vinyl seam rods and adhesives in accordance with Section 01 78 00 - Closeout Submittals and as follows:
 - .1 Provide 2 m² (85 sq. ft.) of sheet vinyl colour used in a single piece, rolled, and from same production run as installed materials. Provide 3 m (10') of coloured seam welding vinyl rod.
 - .2 Clearly identify with this project name and number, each roll of sheet flooring and each container of adhesive.
 - .3 Deliver to site, upon completion of the work of this section and store where directed.

1.6 QUALITY ASSURANCE

- .1 Installer Qualifications: Experienced in performing work of this section and specialized in the installation of work similar to that required for this project.
- .2 Training: Installer who has attended a sheet vinyl flooring installation training clinic conducted by the manufacturer of the specified products.
- .3 Mock-ups: Install at project site a job mock-up using acceptable products and manufacturer approved installation methods, including concrete substrate testing. Obtain Owner's and Consultant's acceptance of finish color, texture and pattern, and workmanship standards.
 - .1 Mock-up Size: 3.0 m x 3.0 m or 10' x 10' square area with complete coved base assembly and vinyl cap.
 - .2 Ensure all adhesives and floor preparation products are available on site for review and together with the original containers.
 - .3 Incorporation: Mock-up may be incorporated into final construction provided that Consultant consents to the retention of the mock-up installation in the Work.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- .2 Deliver, store and handle resilient flooring materials and adhesives in accordance with Section 01 61 00 - Common Product Requirements.
- .3 Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact and store with flooring rolls standing (oriented vertically) not laid or stacked horizontally.

- .4 Store materials protected from exposure to harmful weather conditions, at temperature and humidity conditions recommended by manufacturer: above 18 C (65 degrees F) and below 26 C (90 degrees F) for 48-hours, minimum preceding installation. Store adhesive in same temperature conditions.
- .5 Store rolls in dry locations. Stand rolls on end. Protect and secure rolls to prevent falling. Do not permit rolls to lay horizontally.
- .6 Prior to installation, unroll materials and permit the vinyl to relax.

1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Deposit all packaging materials in appropriate container on site for recycling or reuse. Avoid using landfill waste disposal procedures when recycling facilities are available.
- .2 Keep all discarded packaging away from children.

1.9 ENVIRONMENTAL REQUIREMENTS

- .1 Acclimatization: If storage temperature is below 18 degrees C (65 degrees F), the sheet flooring product must be moved to a warmer place and allowed to reach 18 degrees C temperature before unrolling or installation. Acclimatization must occur inside the building.
- .2 The room temperature where installation is to occur must be 18 degrees C (65 degrees F) or higher (not exceeding 26 degrees C) and the floor temperature must be 10 degrees C (50 degrees F), minimum. For further information, refer to the manufacturer's current Installation Guide.
- .3 Maintain air temperature and structural base temperature at the flooring installation area between 18 degrees C (65 degrees F) and 26 degrees C (80 degrees F) for 48-hours before, during and 24 hours after installation.
- .4 Store and acclimatize all adhesives for the same temperature range and the same duration as the flooring.

1.10 WARRANTY

- .1 Project Warranty: Refer to CCDC 2 for project warranty provisions.
- .2 Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official in accordance with Section 01 78 00 - Closeout Submittals. Manufacturer's warranty is in addition to and not a limitation of other rights that the Owner may have under the Contract Conditions.
- .3 Warranty Period for Sheet Flooring products shall be 5 years commencing on date of Substantial Completion.

Part 2 PRODUCTS

2.1 MOISTURE BARRIER MEMBRANE FORMING COATING – CONCRETE SUBSTRATE:

- .1 ARDEX MCTM RAPID Moisture Control System is a one-coat, 100% solids epoxy moisture management system formulated to suppress excessive moisture vapor emissions in new or existing concrete.
 - .1 10 mil thick application of ARDEX MC RAPID with no sand broadcast used for underlayment layers of 1/4" (6 mm) thick or less.
 - .2 Applications of underlayment intended for any topping applications and when the underlayment is used as a part of ARDEX ACMS, apply a coat at 14 mils thickness with sand broadcast to refusal.

2.2 PRE-SMOOTHING APPLICATION, AS NECESSARY – CONCRETE SUBSTRATE:

- .1 ARDEX K 301 Self-Leveling Exterior Concrete Topping, ARDEX MRP Moisture Resistant Patch or ARDEX K 60 ARDITEX in certain situations. Verify product suitability with manufacturer.

2.3 FLOOR LEVELLING AND PATCHING COMPOUND (Sub-floor filler) – CONCRETE SUBSTRATE:

- .1 Use only grey latex/Portland cement-based underlayment, and patching compounds. Use for filling cracks, holes or leveling. Verify that selected patching compound is compatible with Moisture Barrier Membrane Forming Coating prior to placing material orders.
- .2 White gypsum materials are not acceptable.
- .3 Acceptable Products – In Association with Ardex Moisture Barrier System:
 - .1 ARDEX K 301 Self-Leveling Exterior Concrete Topping,
 - .2 ARDEX MRP Moisture Resistant Patch or
 - .3 ARDEX K 60 ARDITEX – confirm use and applicability for this product.

2.4 FULLY FLEXIBLE CRACK AND JOINT SEALING COMPOUND – CONCRETE SUBSTRATE:

- .1 Ardex Ardiseal Rapid Plus.
- .2 Dormant joints and dormant cracks greater than a hairline (1/32" / 0.8 mm) that will not be honored through the moisture barrier system must be pre-filled with ARDEX ARDIFIX with strict conformance to the installation instructions provided by manufacturer.

2.5 ACCEPTABLE SHEET FLOORING MANUFACTURERS AND PRODUCTS:

- .1 SRF-01- Polyflor: Polysafe, Apex, for Custodian 014 and Custodian 058.
- .2 SRF-01- Altro: Classic 25, for Custodian 014 and Custodian 058.

2.6 SOURCE QUALITY:

- .1 Obtain safety flooring products from a single manufacturer.

2.7 VINYL SHEETING FLOORING CHARACTERISTICS:

- .1 Homogeneous slip retardant sheet floor coverings with aluminum granules or carborundum granules, designed for durability and commercial interiors.
- .2 Gauge (thickness): 2.5 mm.
- .3 Rolled product, width of roll 6'-6" (2.0 m).
- .4 Complies with requirements for ASTM F 1913 Standard Specification for Vinyl Sheet Floor Covering Without Backing.
- .5 Comply with ASTM F 1303 Type II, Grade 1, Class B Backing or greater, safety flooring.
- .6 Slip Resistance: AS 4586 Appendix D, R11 and ASTM D2047 SCOF greater than or equal to 0.80.
- .7 Slip Resistance: DIN 51130, minimum R11.
- .8 Bacterial Resistance: ISO 846 Part C, does not favour growth.
- .9 Meet or exceed requirements of CAN/ULC S102.2: FSR 100 / SDC 245.
- .10 No wax, no finish for life of product.

2.8 SHEET VINYL ADHESIVE – CONCRETE SUBSTRATE:

- .1 Select adhesives recommended for the substrates on the job site by the manufacturers of the specified products.
- .2 Basis of Design Adhesives:
- .3 Basis of Design Adhesives:
 - .1 Altro, Classic 25:
 - .1 AltroFix 30.
 - .2 Polyflor, Polysafe Apex:

- .1 Mapei Ultrabond ECO G21/G19 & extreme conditions Ultrabond ECO 373; vertical bond Ultra bond ECO 373/Mapecontact MRT.

2.9 SEAM TREATMENT:

- .1 All seams shall be heat welded using heated thermal vinyl weld rod and the recessed scribing method.
- .2 Heat Welding Rods: Solid Colour Heat Welding Rods applied in accordance with Altro Installation Guides and Altro Kitchen Advantage Installation Guide.

2.10 INTEGRATED WALL BASE AND FLOORING USING WELDED SEAMS, ALSO KNOWN AS "FLASH COVE" WALL BASE:

- .1 Basis of Design Cove filler:
 - .1 Acceptable material: Altro 20 mm cove former.

2.11 TRANSITIONAL MOULDINGS:

- .1 Sheet Vinyl to LVT Joint Cover Strip: Acceptable material, vinyl, sized to suit application:
 - .1 Johnsonite CTA-XX-HT carpet to vinyl sheet flooring. "XX" represents colour selected by Consultant from standard range.
 - .2 Apply joint cover where dissimilar flooring materials meet, centre in door or archway openings.
- .2 Sheet Vinyl to Concrete Joint Cover Strip: Acceptable material, vinyl, sized to suit application:
 - .1 Apply joint cover where dissimilar flooring materials meet, centre in door or archway openings.

2.12 FLOOR LEVELLING AND PATCHING COMPOUND (Sub-floor filler) – Wood Sub-Floor:

- .1 Concrete and Plywood Sub-Floors: Use only grey latex/Portland cement-based underlayment, and patching compounds. Use for filling cracks, holes or levelling.
- .2 White gypsum materials are not acceptable.
- .3 Acceptable Products:
 - .1 Mapei Planipatch, cement-based polymer-modified patching compound for concrete sub-floors.

2.13 PIPE AND ELECTRICAL CONDUCTOR SERVICE PENETRATION SEALANT

- .1 Mastic sealant for use at service penetrations and drains as recommended by flooring manufacturer.

Part 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS:

- .1 Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalogue, installation instructions and product packaging instructions for all aspects of installation.

3.2 EXAMINATION, COORDINATION ENVIRONMENTAL CONTROLS

- .1 Receive from Contractor the moisture emission test results for concrete substrate and do not commence installation until results of tests exhibit appropriate moisture emission.
- .2 Verify that substrate conditions, which have been previously installed or modified through the work of other sections, are acceptable for product installation specified within manufacturer's instructions. This includes removal of adhesive residues, oils and other chemicals detrimental to the flooring installation.
- .3 Ensure that work of all other sections had progressed to a suitable stage and that removal of existing flooring and associated adhesive, if not performed by this Section, had also been undertaken to meet requirements of the final installation specified under this section.
- .4 Report any condition would adversely affect work this section to Contractor and Consultant.
- .5 Ensure that work of this section is coordinated carefully with Contractor to ensure that installation of flooring shall not impair contractor's ability to maintain the project schedule.

- .6 Prior to commencement of installation of the work of this section, ensure that no condition exists that could result in a detrimental effect on work previously installed or the work of this section. Undesirable conditions that could give rise to an unsatisfactory installation which may be rejected by the Owner include, but are not limited to:
 - .1 Impeded access to the work area rather than full, unimpeded access to the work by this Section;
 - .2 the presence of dust, or other fine particulates whether air borne or settled on surfaces in the work area.
 - .3 Continuance or commencement of activity by other Section that create dust, or other fine particulates, whether air borne or settled.
 - .4 Continuance or commencement of processes that require use of chemicals that emit fumes harmful to workers.
 - .5 Wet, oily or damaged substrate for flooring products.
 - .6 Contractor's use of dust control materials (sweeping compounds) that contain oils.
- .7 Maintain air temperature and structural base temperature at flooring installation area between 18 degrees C (65 degrees F) and 26 degrees C (80 degrees F) for 48-hours before, during and 24-hours after installation.
- .8 Verify that concrete substrate is dry in accordance with the RFCI Industry Standards Slab Moisture Test Method (Calcium Chloride Method), in strict accordance with instructions if there is any doubt about the dryness of the existing sub-floor. Cost of such tests shall be paid by the Owner as extra to Contract provided that advanced notice is given for the testing necessity and the cost of the test is approved by the Owner prior to the test occurrence. If testing occurs before Owner had approved cost, no extra cost will be paid for such testing.
- .9 Perform alkali tests to ensure pH levels of concrete subfloor surface do not exceed pH 9.9. Concrete must be neutralized if above pH 9.9.
- .10 Do not proceed with work until results of moisture condition and/or pH tests are acceptable.

3.3 GENERAL PREPARATION

- .1 Inspect all Subfloors as follows:
 - .1 Sheet flooring shall be installed over subfloors conforming to ASTM F710 for concrete.
- .2 Provide adequate ventilation and HEPA filtered exhaust for chemical processes. Do not use chemical processes without appropriate ventilation. Do not remove existing adhesive residues without appropriate HEPA filtered exhaust equipment.
- .3 Do not permit chemical fumes or dust to enter interior rooms and spaces outside of the work area. Ensure that negative air pressure is maintained within the work area relative to all areas outside of the work area at all times.
- .4 Remove, using mechanical methods, ink deposited by permanent and non-permanent markers, pens or ink deposited by ballpoint pens, wax crayon marks, paint and all residues of materials containing oil or grease.
- .5 Test substrates for moisture content and alkalinity and do not install flooring if findings exceed material tolerances published by the manufacturer of the flooring.

3.4 CONCRETE PREPARATION

- .1 Meet ASTM F710 Standard for Concrete or other monolithic floors.
- .2 Work of this Section includes preparation of concrete substrate associated with new work within the existing building.

- .3 Inspect concrete within each room and floor area for presence of arises, protrusions, rough areas, formwork defects such as arises occurring between formwork panels, differences in level between existing concrete and patched concrete and residue left following adhesive or epoxy flooring removal. Cause all such protrusions and arises to be leveled with surrounding concrete through local grinding.
- .4 Wet scrape existing adhesive residue as required to achieve flat surface and smooth application free of evidence of telegraphing trowel marks, swirls, patterns, bumps and arises created by adhesive residue left after removal of existing flooring.
- .5 Remove ridges and bumps that are free of adhesive residue and grind concrete arises if not covered with adhesive residue.
- .6 Prepare and seal porous and powdery concrete surfaces in accordance with flooring manufacturer's written instructions.
- .7 Ensure that concrete slopes toward drains and other floor sinks.
- .8 Remove dust, old adhesive, paint, dirt, wax, sealer and foreign matter from existing surfaces using vacuum cleaners equipped with HEPA filters. Do not sweep adhesive residues, chipped materials or concrete dust.
- .9 Ensure that contractor had conducted moisture emission tests on the concrete sub-floor.
- .10 The surface of the concrete must be dry at the time the ARDEX MC RAPID is installed. For RH levels above 98%, verify concrete surface dryness by mat testing in conformance with ASTM D4263.
 - .1 The test must be conducted for at least 4 hours, which is the time required for ARDEX MC RAPID to be set sufficiently.
 - .2 To ensure that condensation does not form, it is extremely important to check the surface temperature of the concrete just prior to installation to verify that this temperature is at least 5° F (3° C) higher than the dew point for the given temperature and humidity in the space and rising. For example, if the dew point temperature in the space is 60° F (16° C), the slab temperature must be 65° F (19° C) or higher and rising.

3.5 PREPARATION FOR MOISTURE BARRIER – CONCRETE SUB-FLOORS:

- .1 Prepare and seal porous and powdery concrete surfaces in accordance with flooring manufacturer's written instructions.
- .2 Ensure that concrete slopes toward drains and other floor sinks.
- .3 If the concrete substrate is too uneven to provide a uniform film thickness of the ARDEX MC RAPID (typically CSP #6 or higher), the substrate can be pre-smoothed using ARDEX K 301TM Self-Leveling Exterior Concrete Topping, ARDEX MRPTM Moisture Resistant Patch or ARDEX K 60TM ARDITEX in certain situations.
- .4 For substrate preparation and installation instructions regarding these applications, please contact the ARDEX Technical Service Department.
- .5 Joints and Cracks
 - .1 Inspect concrete substrate during preparation and make note of all cracks that appear to be moving, expansion and isolation joints, and all saw cuts and existing cracks that may develop, widen or become narrower after the system has been installed.
 - .2 When Installing an Underlayment all moving joints and moving cracks must be honored up through the ARDEX MC RAPID, the ARDEX underlayment and floor covering by installing a fully flexible sealing compound designed specifically for this use, such as ARDEX ARDISEAL RAPID PLUS.
 - .3 Dormant cracks less than a hairline (1/32" / 0.8 mm) can be covered with ARDEX MC RAPID. Dormant joints and

- .4 Dormant cracks greater than a hairline (1/32" / 0.8 mm) that will not be honored through the system must be pre-filled with ARDEX ARDIFIX in strict accordance with the installation instructions provided by the ARDEX Technical Service Department.
- .5 Once the dormant cracks and dormant joints have been properly filled, broadcast sand to refusal, and allow these areas to cure thoroughly. Remove all excess sand prior to proceeding with the ARDEX MC RAPID installation.
- .6 Remove dust, old adhesive, paint, dirt, wax, sealer and foreign matter from existing surfaces using vacuum cleaners equipped with HEPA filters. Do not sweep adhesive residues, chipped materials or concrete dust.

3.6 FLOOR LEVELLING – CONCRETE SUB-FLOORS:

- .1 Undertake application of floor leveling products when work of other trades would not require traffic across flooring during installation.
- .2 Inform Contractor of schedule associated with curing periods for flooring adhesive and leveling compounds. This Section shall prevent access to rooms with curing materials installed or applied until they are fully cured or otherwise cleared for access.
- .3 Prior to commencing floor leveling, alert contractor and consultant of leveling requirements that may exceed limitations for specified leveling compounds.
- .4 Inspect concrete within each room and floor area for presence of pits, voids, holes, fastener depressions, knock-outs or cracking. Fill all such recessed areas flush with surrounding, sound and flat concrete using floor leveling compound.
- .5 Underlayment and Patching Compounds: Use only grey colored Portland cement-based underlayment leveling compounds. White gypsum materials are not acceptable.
- .6 Apply leveling compound (subfloor filler) to low spots, indentations and cracks or pits to achieve floor level to a tolerance of 1:1000 and allow curing. Never install sheet flooring over gypsum-based toppings, leveling or patching compounds. Never install sheet flooring over substrate that is not made flat.
- .7 Test Moisture and Alkalinity:
 - .1 Request results and reports associated with moisture emission testing and ensure that slabs are not emitting moisture in excess of 3 lbs per 1,000 square feet over 24-hour period if there is any doubt about the dryness of the concrete.

3.7 PREPARATION FOR INTEGRAL WALL BASE AND FLOORING FLASH COVE:

- .1 Clean all gypsum wall board (existing or new) and remove wall coverings that would be covered by flash cove base assembly.
- .2 Do not adhere flash cove base to wall covering, surfaces contaminated by dust, grease, oil or any material that would resist adhesion.
- .3 Fill gypsum wall boards and sand smooth followed by vacuum cleaning of dust for all wall base applications. Wipe dust from gypsum board with damp cloths and allow to dry fully before applying vinyl cove toe base or integrated, seamless cove base adhesives.
- .4 Fill all gaps between base of gypsum board and concrete sub-floor with approved non-shrinking filler or floor leveling compound and allow curing. All gaps between gypsum board and concrete sub-floor must be bridged by cove former for final installation.

3.8 INSTALLATION

- .1 Flooring and adhesives must be site-conditioned at room temperature for a minimum of 48-hours prior to and during installation and as follows:

- .1 The interior air temperature must be maintained by operational HVAC between 65°F (18.3°C) and 85°F (29.4°C) with a relative humidity between 40% and 60%. Substrate should be a minimum of 5°F higher than the dew point temperature.
- .2 Surfaces and substrates shall be smooth, flat, permanently dry, clean and free of all foreign material such as dust, paint, grease, oils, and solvents, curing and hardening compounds, sealers, asphalt, and old adhesive residue.
- .3 Moisture testing – within Each Phase – A Second Moisture Emission Test:
 - .1 ASTM F1869 – not to exceed 8lbs
 - .2 ASTM F2170 – not to exceed 90%.
 - .3 The pH of concrete must be between 7 & 9.
- .2 Sheet Flooring Installation: Install sheet vinyl flooring in accordance with the current published flooring manufacturer's Installation Guide and note in particular, Altro Kitchen Advantage Installation Guide.
- .3 Seams shall be heat welded with vinyl weld rod, only.
- .4 Failure to install sheet vinyl flooring in accordance with recommended procedures will result in requirement to remove the defective installation, replace and reinstall the flooring.
- .5 Dry fit all aspects of installation.
- .6 Kinks, creases or folds resulting from installation shall be considered defects requiring complete removal of section of flooring affected.
- .7 Fully adhere all sheet flooring products on sub-floor or wall as case requires, using appropriate trowel and achieving 100%, uniform coverage of sub-floor. Permit open time, without causing drying or formation of skin on adhesive, for all adhesive application in strict conformance with manufacturer's instructions.
- .8 Do not trap air when rolling flooring onto adhesive. Roll all horizontal surfaces with 100lb roller, minimum, in both directions.
- .9 After rolling, allow flooring to cure for approximately 1 hour and roll surfaces a second time.
- .10 Seams: Recess scribe using a recessed scribing tool, all seams and weld using vinyl weld rods after scribing recess and permitting curing time of at least 24 hours.
- .11 Utilize straight edges to guide all cuts; utilize "reverse sheets" method specified by flooring manufacturer.
- .12 Trim edges to form true, straight edge for all sheets to remove effect of storage on edges of rolled goods and to remove damage. Remove consistent amount of material for each sheet so edged whenever possible.
- .13 Flash Coved Installations - integrated wall base and floor finish using welded seams: Flash cove sheet vinyl flooring up wall 203 mm (8") or as shown on drawings with continuous cap including all wall surfaces and other abutments intersecting floor. Installation shall be in accordance with flooring Installation Guide using the following accessories:
 - .1 Apply flash cove base to perimeter of room behind all millwork cabinets and shelving.
 - .2 Apply flash coved base around all independent columns, engaged columns, pilasters and permanent features and partitions.
 - .3 Create 22 mm (7/8") radius cove at juncture of vertical and horizontal surfaces using cove former.
- .14 Reducer strip: Provide reducer strip transition where sheet vinyl flooring will thicker floor finishes.
- .15 Provide similar reducer strip to transition sheet vinyl to concrete surface when abutting area has no floor finish.

3.9 CLEANING

- .1 Cleaning: Remove temporary coverings and protection of adjacent work areas.
- .2 Repair or replace damaged installed products.
- .3 Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance.
- .4 Remove construction debris from project site and legally dispose of debris.

3.10 PROTECTION

- .1 Cover and protect finished installation from damage from other trades using a non-staining, temporary floor protection system, such as a reusable textured plastic sheeting.
- .2 Protection:
 - .1 Protect the newly installed flooring from foot traffic for 24 hours and heavy rolling traffic for 72 hours.
 - .2 Protect installed product and finish surfaces from damage during construction in accordance with section 01760 - Protecting Installed Construction.

END OF SECTION