PART 1 – SCOPE OF WORK

1.1 Fan Coil Units: Scope of Work – Retrofit

1.1.1 Provide all labour, materials, tools and equipment to remove existing fan coil components, clean and repair interior cabinet, and install slide-in retrofit vertical fan coil in accordance with manufacturers written instructions. Removal of all components removed from existing fan coil and general clean-up of work area.

1.1.2 Moving of the furniture: It should be noted that the Owner/Manager will be responsible for moving of furniture and items blocking access to the fan coil.

1.1.3 Isolate the work area with suitable barrier to avoid damaging existing walls and floor. Protect carpet and flooring inside the suites with proper covering sheets to avoid dirt and damage.

1.1.4 Contractor is responsible to clean, repair and or replace any items that are damaged during the work at no extra cost to the Owner.

1.1.5 All work shall be completed without damages to the surrounding walls, unit enclosures and/or bulkheads. If damages do occur as a result of the work, the contractor is responsible for repairing all damages to the previous state, including patch ups, and make good with no extra cost to the homeowner.

1.1.6 Existing fan coil cabinet shall remain. All internal components shall be removed and disposed of by Contractor, including insulation.

1.1.7 Remove the insulation inside the fan coil cabinet, clean cabinet and replace with new insulation as specified as per scope of work.

1.1.8 Clean all accessible distribution duct work.

1.1.9 Provide and install new 1-inch acoustic insulation (fiberglass or closed cell) – coated on the air side.

1.1.10 Remove all mechanical components serving the fan coil unit, including coil and coil support, drain pan, blower, motor, all electrical equipment and dispose.

1.1.11 Install bracket and install retrofit vertical fan coil chassis by hanging to special bracket provided by manufacturer. Secure retrofit chassis to the existing cabinet. Install motor and blower and new electrical wiring to control box provided by manufacturer, wire to existing supply power for fan coil unit.

1.1.12 Connect flex hoses provided by manufacturer to existing water supply. Ensure all hoses are properly insulated.

1.1.13 Connect drain pan to existing condensate drain using hose provided by manufacturer.

1.1.14 If applicable, install replacement thermostat and connect appropriate wiring to control box.

1.1.15 Test all functions of fan coil unit – all fan speeds, heat/cool functions, adjust temperature to ensure unit shuts down when set temperature is achieved, test drain-pan overflow float to ensure the fan coil shuts down when float is engaged, and check for water leaks. Provide thermostat operation instructions. Install unit cover provided by manufacturer.

1.1.16 Replace access panel frame and access panel. If applicable, replace ventilation grilles.

PART 2 – PRODUCTS

2.1 Vertical Stack RETRO Fan Coil Replacement Modules

2.1.1 Vertical Stack Fan Coil Retrofit Replacement Modules shall be manufactured by Unilux CRFC Inc.

2.1.1.1 Each unit shall be CSA/ETL approved and bear the CSA/ETL label. All capacities shall be AHRI Certified.

2.1.1.2 The complete replacement module including hose kits, electrical disconnects, and all accessories as specified shall be UL Listed under Underwriters Laboratories Standard for Safety UL559 for fan coils. Capacities shall be certified under AR1 ISO Standard 13256-1.

2.1.2 The module cabinet shall be fabricated from minimum 20-gauge steel, lined with 1/4" closed-cell insulation. The space between the module and the existing vertical stack fan coil cabinet shall be insulated with 1-inch acoustic insulation (fiberglass or closed cell) coated on the air side.

2.1.3 The coils shall have corrugated aluminum fins mechanically bonded to 1/2" copper tube. The coils shall be factory pressure tested at not less than 350 p.s.i.g. and shall be AHRI certified.

2.1.4 The drain pan shall be stainless steel fully TIG welded and positively sloped towards the ½-inch drain outlet. The drain pan shall be insulated on the under surface with closed-cell insulation. The drain hose from the outlet to the condensate riser shall form a running trap.

2.1.5 A drain-pan overflow sensor shall be installed to turn the unit off when the condensate level enters an overflow state.

2.1.6 An optional flood sensor may be installed in the bottom of the cabinet. A secondary control valve shall be installed on the return side of the coil. When moisture is detected at the bottom of the unit, both control valves (supply and return side of the coil) shall close preventing any further water from entering the unit should there be a leak in the water coil. An audible alarm shall sound so the end user is aware that there is an issue.

2.1.7 The piping package shall be provided by the unit manufacturer and include:

2.1.7.1 Ball type shut off valves at the coil supply and return.

2.1.7.2 A 2-way or 3-way Belimo control valve to match existing fan coil configuration. The valve actuator shall be an electronic failsafe type with a close off pressure rating of not less than 125 p.s.i.g.

2.1.7.3 Piping branches are constructed with ½-inch type L copper and stainless-steel braided flex hoses.

2.1.8 The supply air fan shall be a multi-speed ECM EON motor with internal thermal overload protection and sealed bearings.

2.1.9 Unfused service disconnect switches shall be included, mounted inside the unit. The switch shall be rated in accordance with the electrical load.

2.1.10 The optional return air/access panel shall have a punched blade return air grille and a hinged filter access door in the middle of the panel. The panel shall be attached to the collar on the fan coil unit using sheet metal screws. The return air/access panel shall be fabricated from steel, finished in a standard white baked enamel.

2.1.11 One basic construction filter shall be provided with the access panels.

2.1.12 Optional new unit mounted supply air grilles shall be provided to match existing supply air grille size. The grilles shall be aluminum, have double deflection airfoil blades and shall be finished in a standard white baked enamel and shall be installed after the walls have been painted.

2.1.13 Power Supply

2.1.13.1 Unit shall be provided with control box including a disconnect switch and single point filed power connection is made to unit junction box through either 7/8" knockouts located on the side or on the top of the cabinet.

2.1.14 Controls

A 7-day programmable thermostat shall be provided complete with a clear backlit digital display and the functionality to adjust fan speeds, heat/cool modes and temperature settings.

2.1.14.1.1 Thermostats shall be by Unilux VFC or approved equal.

2.1.14.2 SEQUENCE OF OPERATION:

2.1.14.2.1 Fan Coil: The Fan coil shall run on call from the thermostat. The system shall be in heating or cooling as dictated by the thermostat and the two-position heating or cooling valve shall open on a call for heat or cooling. The fan

2.1.14.2.2 speed shall modulate in sequence based the ability to maintain the room set-point. Provide a detailed sequence as part of the shop drawing submittal.

2.1.15 Disconnect Switch

2.1.15.1 Each unit shall include an unfused disconnect switch, factory supplied and wired.