1.1 **GENERAL**

1.2 **Coordination Requirements**

.1 Coordinate with SFU Facilities.

1.3 **Description**

.1 Additional SFU design requirements for Air Handling.

2.1 **MATERIALS AND DESIGN REQUIREMENTS**

2.2 **Air Handling**

.1 Design sufficient access to all components of the air handling unit.

.2 Ensure adequate clearance for coil replacement without necessity to dismantle adjacent equipment or building components.

.3 Design field fabricated and factory assembled units for maximum efficiency.

.4 Specify units with local manufacturer representative within an established business of over 5 years, and be available to attend the site within 4 hours in emergency scenarios.

.5 Select units based on life cycle costing and ease of maintenance.

.6 In selection of air handling units avoid large zones or too many zones. Multiple air handling units are preferred over single large unit especially with variety of building uses.

.7 All air handling units shall be designed to minimize air stratification. Specify anti-stratification equipment. Judicial placing of mixing dampers is not adequate.

.8 All air handling units shall have heating or preheat coils.

.9 Return and supply fan tracking shall be achieved by measuring air flow volume with duct static pressure as default.

.10 Return and supply fans requiring volumetric tracking shall have same type devices for volume control, for example, inlet dampers must be only used with inlet dampers, VFD’s with VFD’s etc.

.11 Proposed fan volume control schemes based on building static pressure must have prior approval from SFU Facilities.

.12 Design all air handling units with minimum 15% spare volumetric and static pressure capacity.

.13 Air handling units used for 100% outside air under normal or emergency conditions shall have glycol heating/cooling coils.

2.3 **Centrifugal Fans**

.1 Do not specify in line centrifugal fans for fume hood exhaust without prior consent of SFU Facilities.
.2 Coatings of steel fans include epoxy, heresite and Eisenheiss for varying degrees of corrosion. Exact coating will be project specific.

.3 All fan installations shall be designed with adequate room for service without the use of portable ladders.

.4 Roof top fan systems to be designed and investigated to reduce sound levels. Silencers, sound attenuation devices, and variable speed drive controls must be considered to reduce noise levels. Absolute maximum acceptable sound level shall be 65dbA at 15m from any building face for nonresidential areas and 55dbA for residential areas. SFU abides with the 2012 BC Building Code, Division B Appendix A Volume 2 which describes acoustic assemblies for floors, ceilings and roofs. Additional acoustic information/guidelines can be found in LEED Version 4.

2.4 Axial Fans

.1 Variable pitch and motion control of axial fan capacity shall not be specified for SFU projects.

2.5 OPERATIONAL REQUIREMENTS

2.6 Strobic Exhaust Fans

.1 If work is to be completed on a Strobic exhaust system that may be contaminated with radiation at SFU, refer to SFU SRS latest “Procedure for Work Conducted Inside & Outside Exhaust Systems with Potential Radioactive Contaminants.”

***END OF SECTION***