1.1 **GENERAL**

.1 Vapour barriers are required in all SFU buildings and they shall be located on the warm side of insulation.

.2 All heated occupied buildings on campus shall have a competent air barrier system, which requires integration into the plane of air tightness early in the design development process.

.3 Involvement from a Building Envelope Professional (BEP) as required by BECx Standards (NIBS guideline 3).

1.2 **Exterior Metal Fabrications**

.1 Canopies, railings, safety anchors, signage and art work to be designed to resist damage from exterior exposure by being made of corrosion resistant materials, adequately coated, or sheltered from wetting.

.2 Glass used as guards or canopies to be tempered and laminated.

.3 All structural penetrations to support exterior metal fabrications to be designed to integrate with air and vapour barrier systems, cladding systems, and be protected from corrosion where exposed in the wall cavity.

.4 All roof furniture to be mounted on curbs at least 100mm above scupper level.

.5 All steel exposed outdoors is to be hot dip galvanized. Paint, if applied should consist of a marine/industrial grade coating system (a typical system would consist of an epoxy barrier coat and aliphatic urethane topcoat).

.6 All inserts set into masonry or concrete, used to affix exterior metal fabrication, to be stainless steel.

1.3 **Roof Parapets and Canopies**

.1 1,067 mm (3'6") high **insulated or thermally broken** minimum parapets **designed as guards** are recommended for new buildings and considered on a project basis. This creates safer and more efficient working conditions and reduces the need for **roof anchors**.

.2 It is preferred to provide canopies (overhead protection) over every exterior door to reduce the risk of water ingress into the building and provide protection of the public against the elements. The viability of such design will be considered on a project basis.

The overhead ratio is defined as the length of the overhang (distance from jamb outwards and to the side) to the height of the overhang above threshold of the door. The extent of the overhang recommended depends on the door type:

.1 If the doors meet the required water ingress rating (using the Canadian Supplement to NAFS or based on the recommendations of the enclosure consultant for the project), the overhead ratio = 1:4

.2 If the door does not meet the required water ingress rating but exceeds 100Pa and is an outswing door, then the overhead ratio = 1:2

.3 If the doors cannot pass a water ingress test at 100 PA or is an inswing door, then the overhead ratio = 1:1
1.4 Roof leak detection Systems

.1 Roof Leak Detection Systems may be required in some locations see Section 07
50 00 Membrane Roofing.

1.5 Roof Usage Policy - OVERVIEW

.3 All roofs that are maintained by SFU Facilities are also controlled by SFU. This is not only to protect the assets and to limit the exposure of liability to SFU, but also to protect the public from hazards. This roof usage policy governs all roofs maintained by SFU Facilities.

.4 Roof tops which are accessible by the general public, (non-maintenance personnel), require protection for roof-mounted assets and for people to safely access the roof.

.1 Roof-mounted assets requiring design considerations by the architects and engineers of record, may include any of the following:

.1 Exposed roof membrane
.2 Air handling units
.3 Condensers
.4 Fans
.5 Vents and air intakes
.6 Fire fighting hose reel cabinets
.7 Additional dead loads on the structure, such as the possibly of water tanks for green roof irrigation

.2 Hazards for staff and public may include any of the following:

.1 Climbability of perimeter guards, especially where containers may facilitate climbing
.2 Fumes from laboratories
.3 Slippery surfaces
.4 Roof-top equipment vital to the function of the building or vital to research
.5 Allergens for building occupants; (location of building air-intake louvres))
.6 Roof anchors and cables as tripping hazards
.7 Increased fire risk from dry grasses, compost etc.
.8 Strong winds; either natural or from exhaust air louvres

1.6 Roof Usage Policy - POLICY

.1 Requirements:

.1 Where public access is anticipated on any roof maintained by SFU Facilities, this policy may require that architects and engineers minimize SFU’s exposure to liability by including any or all of the following in their roof design:
.1 Flexible and safe methods of restricting and controlling public access at the perimeter.

.2 Un-climbable guard rails around the perimeter to prevent falls from the roof, and which conform to the latest BC Building Code.

.3 Robust protection of all roof membranes and flashings, drainage planes, roof barrier membranes and roof drains.

.4 The provision for extending one nearby passenger elevator to roof level to provide full accessibility for handicapped visitors and staff.

.5 The provision of a dedicated freight elevator solely servicing all the uses taking place on the roof.

.6 Adequate lighting and signage for life-safety and exiting in case of a fire.

.7 A calculation of the number of staff and visitors, affecting dedicated exit widths and routes off the roof and into the building’s exit routes.

.8 The provision of at least one dedicated nearby exit stair shaft for the safe exiting of able-bodied people from off the roof.

.9 Additional structural strength to support additional dead loads such as assembly occupancy.

.10 A leak detection system of flat-wire grids.

.2 Early discussion, at the Planning stage, is required with SFU Facilities.

***END OF SECTION***