

1.0 **GENERAL**

1.1 **Related Work and UBC Guidelines**

- .1 Section 07 00 10 Building Envelope – General Requirements (for roof safety requirements)
- .2 Section 07 50 00 Membrane Roofing
- .3 Section 07 62 00 Sheet Metal Flashing and Trim

1.2 **Related External Documents**

- 1. RCABC Roofing Practices Manual.
- 2. WorkSafe BC OHS Regulations.

1.3 **Description**

- 1. Roof hatches and service ladders.

1.4 **Coordination**

- 1. The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.
- 2. In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect or UBCO Facilities Management.
- 3. These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
- 4. The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.

1.5 **Submittals**

- .1 Submit required documents to consultants in accordance with Section 013300 Submittal Procedures
- .2 O&M Submittals
 - .1 Product specifications, type and anchoring methods.
 - .2 Shop drawings (*including all interface details*) sealed and signed by a Professional Engineer registered in the Province of British Columbia.
 - .3 Manufacturer performance test data to confirm performance criteria.
 - .4 Manufacturers Safety Data sheet (MSD) for all toxic or potentially toxic materials.
 - .5 Maintenance Data
 - .1 As-installed hardware.
 - .2 Source for replacement parts.
 - .3 Maintenance instructions

2.0 **DESIGN AND PERFORMANCE REQUIREMENTS**

2.1 **Design Requirements**

- .1 Roof Hatches
 - .1 Roof hatches are acceptable only in the following circumstances:
 - .1 Roofs with **no rooftop equipment** requiring maintenance may be accessed using an internal *ship's* ladder and roof hatch, size 3'-0" x 2'-6", insulated integral curb and flashing, c/w externally mounted safety grab handle and non-removable pin (NRP) hinges.
 - .2 Roofs having **rooftop equipment requiring occasional maintenance** may be accessed using an internal ship's ladder) and roof hatch, size 2'-6" x 4'-6" or a *service stair* and roof hatch size 2'-6" x 8'-0". Hatch to have insulated integral curb,

and flashing, externally mounted safety grab handle *and* non-removable pin (NRP) hinges.

- .3 **UBCO only** – Roof hatches are to be supplied with guards around roof hatches. These are to be a permanent (side-mounted and bolted) OSHA and Worksafe compliant roof hatch guardrail system with a self-closing safety gate.
- .2 Roof Ladders
 - .1 Roofs having rooftop equipment requiring regular maintenance or to a penthouse at roof level are to be accessed via a stairway extending to the roof or through provision of a ladder. Roof ladder design to be as follows:
 - .1 Only ship ladders are acceptable. A variance will need to be granted for the use of vertical ladders.
 - .2 Ladder dimensions to be as per WorkSafe BC standards. *Treads are not to overlap over one another. The beginning of each tread should align with the end of the tread below.*
 - .3 *Ships ladder slope should not exceed 60 degrees.*

2.2 Performance Requirements

- .1 Roof hatches and ladders to conform to WorkSafe BC OHS requirements and standards.

3.0 MATERIALS

3.1 Product Selection – NOT USED

3.2 Finishes

- .1 Roof hatch guardrail to be of anodized aluminum or galvanized steel.
- .2 Standard exposed ladder finish: Galvanized *steel*.

4.0 LESSONS LEARNED AND COMMON MISSES ON UBC PROJECTS

Items in this section are lessons learned or misses from past projects. These may also include code or industry best practices. If not applicable to a project, a variance is not required.

- .1 *Recent ships ladders installed on new builds have been unusable from a safety perspective. Based on design modifications done after installation to increase tread overlap, design requirements have been updated as noted above.*

*****END OF SECTION*****