Part 1  General

1.1  Summary

.1 Unless otherwise indicated, follow the standards below when planning roofing work. These standards are not intended to restrict or replace professional judgement.

.2 These guidelines should be read with the specific technical sections of McGill’s Building Design and Technical Standards.

1.2  Design Requirements for Roofs

.1 Devices used to control animal population (pigeons, squirrels, bats, etc.) must be approved by McGill Buildings, Grounds and Special Events unit.

.2 Roofing systems shall be chosen to reduce solar heat gain and heat island effect. Use roofing materials that have a three-year aged solar reflectance index (SRI) value equal to or greater than 64. If three-year aged value information is not available, use materials that have an initial SRI value equal to or greater than 82. A green roof is a preferred solution if structural and budgetary constraints are met.

.3 Inspection of Occupied Spaces beneath Roofs

.1 Before undertaking a new re-roofing project in an existing building, consultants shall inspect the occupied spaces beneath the roof and discuss the implications of the roofing work with the occupants of the building.

.2 It shall be obligatory to have the roofing contractor who is awarded the contract also inspect and take note of the condition of the existing occupied spaces beneath the roof upon which his contract will be performed, in order to assess and appreciate the risk that roof leaks would pose to the occupied space.

.4 Roof Insulation Retrofit to Old Buildings

.1 Any contemplated installation of new insulation to retrofit old buildings envelopes must be approached with great care, especially if the building has never been insulated. In principle, nothing should be done to change the existing thermal gradient characteristics of the old roof-ceiling assembly or the pattern of air circulation or vapor migration across the roof-ceiling assembly, unless it can be demonstrated that by undertaking such changes, nothing is done that would create new problems such as new cold spots, new condensation possibilities in the roof-ceiling assembly.

.5 Slopes to drain should be unobstructed by above-roof building elements, equipment curbs, or similar objects. Where such obstructions are unavoidable, provide cants, saddles, or other means to restore positive pitch to drain.

.6 Minimize parapet heights and run single-ply roofing materials up and over the top of parapets (beneath coping caps) whenever possible.

.7 Noise and Vibration – Attachment of underlayment, insulation, and other roofing materials may cause noise and vibration problems. This is especially true for applications over concrete roof structures where the structure may transmit noise throughout the building. Consult with the Project Manager to determine whether special requirements for evening or weekend work are necessary.
Dust Protection – Specify the provision of dust protection over occupant's equipment and furnishings where appropriate. For example, specify protection for top floor areas that are occupied (not penthouses) and that do not have suspended ceilings. Where occupant's activities may be particularly sensitive to dust, specify protection regardless of presence of suspended ceiling. Note that dust protection should be applied and removed in coordination with occupant's operations. Consult with the Project Manager for more guidance.

Snow guard – On sloped roofs, specify snow guards on all eaves. Specifications will be revised by the Architectural Advisory Committee (AAC).

1.3 Roofing Cutting and Patching

1 Warranty Requirements

1.1 Warranty patching work must be performed in a manner which will not void the manufacturer’s warranty. Installers shall provide a proof of membership in the "Association des Maîtres Couvreurs du Québec" (AMCQ).

2 Submittal Requirements

2.1 Qualification data for firm engaged to perform cutting and patching of roofing system.

3 Quality Assurance Requirements

3.1 Include the following Standards in the Quality Assurance article in cutting and patching specification:

3.1.1 Perform cutting and patching work in compliance with the AMCQ Manual.

3.1.2 Installer Qualification: Arrange for cutting and patching of roofing systems by firm experienced in similar work, and licensed by manufacturer of roofing system to perform required repair work.

4 Other Provisions

4.1 Use materials for patching identical or compatible with existing materials. Use materials for patching that result in equal-or-better performance characteristics.

4.2 Before cutting and patching roofing materials, obtain the McGill Project Manager's approval to proceed.

1.4 Heat Island Effect Report

1 The architect shall fill in the following table to report on heat island effect changes following a roofing project. This table is to be submitted to the Project manager at substantial completion period. This table is available in Excel format with the McGill Design and Technical Standards on the web site.

2 Instructions: The orange portions of the table shall be completed by the architect, including general information about the project, the list of roofing types and the estimated quantities of the existing and projected surfaces. The green portions of the table shall be filled in by the general contractor.
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<th>Quantité surface existante (m²)</th>
<th>Réflectance-Albedo (ex.: min. 0,3 et max. 0,8 env.)</th>
<th>Quantité surface existante (m²)</th>
<th>Réflectance-Albedo (ex.: min. 0,3 et max. 0,8 env.)</th>
<th>(Surface) x (Albedo)</th>
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Réflectance moyenne des surfaces existante: #DIV/0!  
Réflectance moyenne des nouvelles surfaces: #DIV/0!  
Augmentation de la Réflectance moyenne suite au projet: #DIV/0!
Part 2  Related Technical Sections

The technical sections of the McGill Building Design and Technical Standards should be consulted with the current document, most notably (but not limited to) the following:

<table>
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<tbody>
<tr>
<td>01 47 00</td>
<td>Guide en efficacité énergétique</td>
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END OF SECTION