Part 1  General

1.1  Summary

.1 Unless otherwise indicated, follow the standards below when planning exterior spaces. These standards are not intended to restrict or replace professional judgment.

.2 This document follows the principles of “McGill’s Physical Masterplan 2008”.

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

1.2  Related Technical Sections

<table>
<thead>
<tr>
<th>Section Number</th>
<th>Title of Section</th>
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</thead>
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<tr>
<td>32 14 10</td>
<td>Unit Paving on Sand Bed</td>
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<td>32 15 40</td>
<td>Crushed Stone Surfacing</td>
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<td>32 16 15</td>
<td>Concrete Walks, Curbs and Gutters</td>
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<td>32 31 13</td>
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<td>32 37 00</td>
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<td>32911913</td>
<td>Topsoil Placement and Grading</td>
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<td>32 92 23</td>
<td>Sodding</td>
</tr>
<tr>
<td>32 93 10</td>
<td>Trees, Shrubs and Ground Cover Planting</td>
</tr>
</tbody>
</table>

1.3  Vision

.1 The landscape for the McGill Campus will enrich and elevate the experience of the historic, environmental and symbolic pre-eminence of the site, highlighting its value and place at the foot of Mount Royal, and affirming its interactions with the city of Montreal.

.2 The landscape shall be done with high quality, durable and sustainable materials reflecting the heritage components of the campus. Any new major additions to the campus shall be addressed as adding a new contemporary layer to the site in order to distinguish historic and new elements and to therefore better highlight the heritage value of the campus.

.3 The scope of the vision extends to all landscape components on campus. It includes site furniture, circulation pavement, entries and site limits, landscaping and art work.

.4 Any intervention on landscape elements shall be safe, sustainable, durable and financially feasible.
1.4 Site Maps

.1 Campus Site Limits:
.2 Street Classification:
.3 Major Green Spaces:

[Map showing major green spaces]

MAJOR GREEN SPACES
.4 Site Design Opportunities – Activity Zones:
1.5 Guiding Principles

.1 Unique Identity

.1 Spirit of Place: Prestigious university campus where excellence, community and education are at the core of campus life.

.2 Threshold to the Mountain: Connectivity with Mount Royal by highlighting its views, encouraging safe pedestrian links and focusing on a landscape which provides a harmonious and smooth contact.

.3 Threshold to the Downtown Area: Ensure the connectivity to downtown area by encouraging the use of urban materials, adding a larger pool of urban furniture at the threshold and promoting views of the city Centre.

.2 Education

.1 Outdoor Laboratory: Extend teaching and learning outside building walls by providing comfortable and adapted spaces to study outside. With Wi-Fi access and exterior charging stations, McGill will promote outside teaching as part of a stimulating teaching practice.

.2 Create partnership to create a living lab: McGill is a student-centered institution and encourages students to become engaged citizens. Initiatives that endorse partnerships between the university, private sectors and citizens are supported as a means to creating a positive impact on campus life.

.3 A model for sustainable design: In its Sustainability Policy (2010), McGill aspires to achieve the highest possible standard of sustainability on its campus. Whenever possible, concepts and strategies for sustainability shall be integrated in the campus landscape.

.3 Respect

.1 Preservation: Protect and maintain existing key components that are part of the historic value of the site.

.2 Restoration: Whenever possible, heritage landscape is to be restored. Repair rather than replace and use modern landscape, art and architecture to restore heritage landscape.

.3 Rehabilitation: Where appropriate, add a layer of subtle and long lasting contemporary designed items to historical places. Never override the character-defining elements of the heritage site.

.4 Blending the new: Conserve the heritage value and character-defining elements when creating new additions. Preserve the integrity of the historic place by ensuring that if the contemporary elements are removed, the essential form and value is not impaired.

.5 Balance between the old and the new: When adding new contemporary elements to the landscape, ensure that their presence enhances the heritage value of the site and does not overshadow historic elements.

.4 Adaptability

.1 Landscape Functions and Flexibility: The landscape shall maximize the number and types of activities that can take place on campus as well as be sufficiently flexible to allow changes during the evolution of the space.

.2 Pedestrian Connections: Encourage pedestrian circulation design that takes into account the possibility of being enlarged and that is integrated in a long term vision.
plan. If new buildings are built, guarantee their connectivity to the rest of the campus path network.

.3 Vehicular Access, Circulation and Parking: The lower campus is now a pedestrian-zone (with restricted vehicle access and reduced parking), resulting in a safer, more physically-active environment. Occasional vehicular circulation and access shall be made mostly through shared spaces.

.4 Cyclist Access, Circulation and Parking: Without bicycle lanes, it is recommended that all cyclists disembark their bikes when entering the campus. The use of mitigation measures such as bollards and gates at entrances of campus will ensure pedestrian safety.

.5 Programming

.1 Public and Private Realms: McGill Campus is by definition part of the private realm, however it also acts as a major collective space for passersby, tourists and residents. The landscape shall therefore encourage a smooth cohabitation between public and private realms.

.2 Four Seasons: Consider the four seasons to increase the campus experience and appropriation. Ensure that a certain level of comfort be obtained at all times, even in extreme climate conditions such as the high temperature of summer and cold of winter. As McGill Campus is mainly used during fall and winter, it is important to grant a great deal of importance to the comfort of users during these seasons. Prioritize landscape elements that require low maintenance in regards to season changes (removal of benches for winter, de-icing salt, etc.).

.3 Events, temporary exhibits and installations: Identify strategic spaces where events as well as temporary installations and exhibitions should take place. Allow for flexibility since activities, interventions, scope and scale of events will vary. Events on campus are dedicated to students, faculty members and teachers and should be in close relation with McGill properties. For activities on campus, furniture such as benches, tables and garbage bins shall be located nearby. Lighting and temporary signage shall be considered when planning these events.

It is important to mention that McTavish Street is on the public realm and will be part of the Promenade urbaine project which will be inaugurated in 2017.

.6 Creativity & Innovation

.1 Landscape: The landscape of McGill Campus shall showcase the University’s excellence with high quality materials, workmanship, space design and good practices in landscape architecture.

.2 Landscape Experience: The landscape experience has a great role to play in campus appreciation, appropriation and retention. The landscape shall therefore put emphasis on the wellbeing of students, faculty, staff and visitors by creating a stimulating environment.

.3 Public Arts and Sculpture: Permanent public art and sculptures need to be integrated respectfully to their context. Statues, commemorative plaques and other heritage elements shall be located near historic buildings and places. Contemporary public art shall however be located near new buildings and contemporary places. Public art must not be installed in areas dedicated for free play.

.7 Stewardship
.1 Environmental Protection: All projects must meet or exceed the Environmental Policy for McGill University and balance environmentally suitable objectives. The campus should be considered as an extension of Mount Royal, therefore actions and new additions to the campus must be made in respect of the Plan de protection et de mise en valeur de Mont-Royal and encourage connection with the mountain.

.2 Social Sustainability: Meet the definition of sustainable development from the Brundtland Commission in its 1987 report “Our Common Future”: development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development incorporates issues associated with human development such as education, public health, and living standards.

.3 Cost Efficiency: When adding new or replacing old elements on campus, a cost-effectiveness analysis should be integrated in the decision-making process. The lifecycle cost of materials, site-furniture and landscaping elements should be studied with regard to not only actual cost, but also long term fees such as maintenance, lifetime of product, durability and replacement.

.4 Urban Agriculture: Urban agriculture is encouraged on campus, to bring together several communities while addressing its insertion with the natural settings. Define permanent zones for urban agriculture and identify strategic spaces to install temporary growing pots. Roofs could also be used.

.5 Biodiversity: The landscape environment has a crucial role to play in supporting and enhancing biodiversity on campus, especially in the urban context in which the site is located. The landscape elements shall aim to increase biodiversity throughout campus.

.8 Sustainability

Follow the McGill Green building standard for any landscape project. This standard derives from the following considerations based on the LEED rating system, as it relates to sustainable aspects of landscape projects:

.1 Storm water design: The intent is to limit disruption of natural hydrology by reducing impervious cover, increasing on-site infiltration, reducing or eliminating pollution from storm water runoff and eliminating contaminants.

.2 Heat island effect: The intent is to reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human and wildlife habitat.

.3 Water efficient landscaping: The intent is to limit or eliminate the use of potable water or other natural surface or subsurface water resources available on or near the project site for landscape irrigation.

.4 Material selection: The intent is to address the environmental concerns related to material selection, waste disposal, and waste reduction.

.9 Safety and Security

.1 Emergency Call Devices: All emergency call devices on Campus shall be well integrated in their context but, above all, be easily recognizable and accessible.

.2 Security Cameras: All security cameras on Campus shall be totally integrated in the building architecture and landscape elements to avoid visual pollution so the users’ experience is not affected.
.3 **Dead Zones:** Identify ‘dead zones’ on campus, such as hidden, remote or less accessible areas that could present a threat to security. Bring pathways closer to those areas or install lighting elements to ensure the security of users.

.4 **Visually Impaired and Universal Accessibility:** Adopt a universal design approach in regards to landscape design in order to provide an environment that is easy to navigate, can be clearly understood and efficiently used by people with a wide range of disabilities walking in a wide range of situations.

.10 **Universal Accessibility**

.1 The university is committed to creating a fully accessible and welcoming environment for all visitors to campus, in both open spaces and buildings.

.2 The principle of universal design should be applied to the design of all landscape, including finding buildings, entering them and connecting from one building to another.

.3 Consider accessibility issues when designing future connections between buildings.

.4 Arrangement of spaces should be simple and logical to facilitate wayfinding by people of all abilities.

.5 Paving materials should be selected to accommodate people who use mobility devices.

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### Part 2  Design Standards

#### 2.1 Entries and Site Limits

All gates, portals and fences on campus located at the entries and site limits of the campus.

.1 **Style and Materiality**

The decision making process regarding the replacement or repairs of these elements shall be based on the following factors:

.1 If its value is *heritage*, restauration shall be prioritized, even if the cost is higher. If it can't be restored, it shall be rebuilt with identical design and construction.

.2 If its value is *non heritage*, either repaired, rebuilt identically or with a brand new design.

.3 If a *new* gate, portal or fence needs to be installed, its style and materiality shall be in relation to its context: either with a contemporary style or a more heritage approach.

#### 2.2 Vehicular Circulation & Infrastructure

.1 Guidelines for parking – *in progress*

#### 2.3 Pedestrian Network – *in progress*

#### 2.4 Green Spaces

Social Green spaces located primarily near buildings, athletic facilities or student services. They are central and open. These areas provide space for formal group events, informal socializing, day-to-day gathering and must support McGill’s educational mission. These are
comfortable public spaces that encourage student use and are designed for four seasons usage. These spaces are near campus areas with high pedestrian traffic and offer comfortable and varied furniture, lighting and vegetation. These spaces will help establish a unique identity to the Campus and will reinforce a sense of community. They must provide ease of maintenance and universal access. Required elements are: paving for furniture installation, furniture, planting, seating options (shade and sun), lighting, trash bins and bicycle racks.

2.5 Cyclist Circulation & Infrastructure
Cycling infrastructure consisting of marked lanes, tracks, shoulders and paths designated for cyclists and from which motorized and pedestrian traffic is excluded.

.1 Bike lanes shall be segregated from pedestrian paths.

.2 Bike lanes shall be made with stabilized stone dust surface and be 3 meters wide. See Crushed Stone Surfacing (32 15 40).

2.6 Bicycle Parking Stations
Areas and structures designated for use as a bicycle parking facility.

.1 Bicycle parking stations shall be located near entrances of buildings. They shall allow for smaller amount of parking structures but be implanted in a larger number so as to avoid the negative visual impact of mass bicycle parking.

.2 Parking stations shall be of a minimalist style in order to lower their visual impact and be of similar materials to other structures on campus (signage, garbage bins, pavement…).

.3 Bicycle parking stations shall also include repair stations.

2.7 Site Lighting

.1 Lighting Fixture Types

.1 Street Lamp Posts
Lamp posts which line vehicular roadways with or without sidewalks.

1. For the location of vehicular roadways, refer to section 1.3.2. Spacing between street lamp posts is to be determined by the measured output of the light fixtures. See lighting roadways (section 2.7.2.1)

2. The scale of street lamp posts present on campus should be proportional to the setting as well as adjacent lamp posts by the City of Montreal. The height range of McGill street lamp posts should be between 5 and 6 m.

3. Street lamp posts should be finished in gloss black or dark grey powder coat so as to blend into the night sky.

4. The decision making process regarding the replacement or restoration of street lamp posts should be based on the following factors:

   a. If its value is heritage, restoration should be prioritized, even if the cost is higher. If it can’t be restored, it should be rebuilt with identical design and construction.

   b. If its value is non heritage, either repaired, rebuilt identically or with a brand new design.
c. If it is a new street lamp post, its style and materiality should be in relation to its context: either with a contemporary style or a more heritage approach.

5. Depending on the context, the fixture style can be either heritage or contemporary.

a. Heritage style fixtures should consist of the following attributes:
   - tripartite construction (base, shaft & capital)
   - base: sand-cast articulated base (to accentuate the play of light and reference the detailing of adjacent buildings)
   - capital: lantern with rectilinear facetted geometry
   - diffuse glow to refer the historic gaslight
   - using similar light intensity, color et distribution as the historic source it references
   - single or multiple lanterns with horizontal bracket arms below the lantern

b. Contemporary style fixtures should consist of the following attributes:
   - monolithic construction
   - platonic geometry
   - directional shielded light
   - single lamp head on shaft

6. All fixtures should distinguish themselves as being unique to McGill University. This can be achieved through subtle and elegant custom detailing to reinforce the prestige of the University.

a. An example of heritage style detailing:
   A McGill crest on the access panel on the base.

b. An example of contemporary style detailing:
   A McGill red fillet in the shaft at handrail height introducing the pedestrian scale and creating a guiding ribbon throughout the campus. This separation also subtly mirrors the tripartite classical composition.

.2 Pedestrian Lamp Posts
Lamp posts which line pedestrian pathways.

.1 For the location of vehicular roadways, spacing between street lamp posts is to be determined by the measured output of the light fixtures. See lighting pedestrian pathways (section 2.7.2.3).

.2 The scale of pedestrian lamp posts present on campus should be proportional to the setting. The height range of pedestrian lamp posts should be between 3 and 4 m.

.3 Pedestrian lamp posts should be finished in gloss black or dark grey powder coat so as to blend into the night sky.

.4 The decision making process regarding the replacement or restorations of the pedestrian lamp posts should be based on the following factors:
a. If its value is **heritage**, restoration should be prioritized, even if the cost is higher. If it can’t be restored, it should be rebuilt with identical design and construction.

b. If its value is **non heritage**, either repaired, rebuilt identically or with a brand new design.

c. If it is a **new** pedestrian lamp post, its style and materiality should be in relation to its context: either with a contemporary style or a more heritage approach.

.5 Depending on the context, the fixture style can be either **heritage** or **contemporary**. See list of attributes in section 2.7.2.4.

.6 All fixtures should distinguish themselves as being unique to McGill University. This can be achieved through subtle and elegant custom detailing to reinforce the prestige of the University. See examples provided in section 2.7.2.5.

.3 **Surface Mounted Light Fixtures**

Light fixtures mounted on campus building or structures.

.1 Surface mounted light fixtures are typically found at the entrances or egress points of buildings as well as on the facades of buildings to light adjacent pathways.

.2 The scale of surface mounted light fixtures should be proportional to the building or structure on which they are mounted.

.3 Surface mounted light fixtures should be finished in a complementary manner to the surface upon which they are mounted and match existing architectural hardware finishes. Where surface conduit is used, it should also be painted to blend in with the surface upon which it is mounted.

.4 The decision making process regarding the replacement or restorations of surface mounted light fixtures should be based on the following factors:

a. If its value is **heritage**, restoration should be prioritized, even if the cost is higher. If it can’t be restored, it should be rebuilt with identical design and construction.

b. If its value is **non heritage**, either repaired, rebuilt identically or with a brand new design.

c. If it is a **new** light fixture, its style and materiality should be in relation to its context: either with a contemporary style or a more heritage approach.

.5 Depending on the context, the fixture style can be either **heritage** or **contemporary**.

- Heritage style fixtures should consist of the following attributes:
  - lantern with rectilinear faceted geometry
  - diffuse glow to refer the historic gaslight
  - using similar light intensity, color and distribution as the historic source it references
- single or multiple lanterns with horizontal bracket arms below the lantern
- material must match the existing hardware

b. Contemporary style fixtures should consist of the following attributes:
   - monolithic construction
   - platonic geometry
   - directional shielded light
   - single lamp head on shaft

.4 Integrated Light Fixtures
This includes, but is not limited to, accent lighting, facade lighting, tree lighting, step lighting, handrail lighting, etc.

1. By definition, heritage fixtures are designed to be expressed. They are distinct, radiant, decorative elements within the campus landscape. By contrast, contemporary fixtures should be integrated whenever possible.

2. The scale of integrated fixtures should be responsive and proportional to the space or object which is being lit.

3. Light fixtures which are integrated within urban furniture, paving materials, building facades, etc. should be concealed from sight lines. Where surface conduit is used, it should also be painted to blend in with the surface upon which it is mounted.

.2 Circulation Lighting

.1 Lighting Roadways
All streets or roads dedicated to vehicular circulation.

1. Roadways are to be lit with the use of street lamp posts. See section 2.7.1.1.

2. For recommended average maintained illumination levels for roadways, see section 2.7.5.

3. For technical references, see section 2.7.6.

.2 Lighting Sidewalks
All pedestrian paths along the side of a street or a road. It is a space separated from vehicular circulation.

1. Sidewalks are to be lit with the use of street lamp posts. See section 2.7.1.1.

2. For recommended average maintained illumination levels for sidewalks, see section 2.7.5.

3. For technical references, see section 2.7.6.

.3 Lighting Pedestrian Pathways
All paths that pass through lawn areas.

.1 Pedestrian pathways are to be lit with the use of pedestrian lamp posts. See section 2.7.1.2. Where free-standing fixtures cannot be installed, surface mounted fixtures (section 2.7.1.4) may be used where the context permits.

.2 For recommended average maintained illumination levels for pedestrian pathways, see section 2.7.5.

.3 For technical references, see section 2.7.6.

.4 Shared Pathways
All pedestrian pathways that are shared with occasional vehicles such as emergency or service vehicles. Shared spaces on campus are the main roads connecting streets to the Campus buildings entrances, loading areas, and egress points.

.1 Shared pathways are to be lit with the use of street lamp posts (section 2.7.1.1), pedestrian lamp posts (section 2.7.1.2) or bollards (section 2.7.1.3), depending on the context. Where free-standing fixtures cannot be installed, surface mounted fixtures (section 2.7.1.3) may be used where the context permits.

.2 For recommended average maintained illumination levels for shared pathways, see section 2.7.5.

.3 For technical references, see section 2.7.6.

.5 Bicycle Circulation
This category includes all cycling infrastructure consisting of marked lanes, tracks, shoulders and paths designated for use by cyclists and from which motorized and pedestrian traffic is generally excluded.

.1 Dedicated bicycle circulation lanes are to be lit with the use of street lamp posts (section 2.7.1.1), pedestrian lamp posts (section 2.7.1.2) or bollards (section 2.7.1.3), depending on the context. Where free-standing fixtures cannot be installed, surface mounted fixtures (section 2.7.1.3) may be used where the context permits.

.2 For recommended average maintained illumination levels for bicycle circulation lanes, see section 2.7.5.

.3 For technical references, see section 2.7.6.

.6 Parking
This category includes all designated outdoor parking areas on campus for faculty, staff, students and/or service vehicles.

.1 Parking zones are to be lit with the use of street lamp posts (section 2.7.1.1) or surface mounted light fixtures (section 2.7.1.3), depending on the context.

.2 For recommended average maintained illumination levels for parking zones, see section 2.7.5.
.3 For technical references, see section 2.7.6.

.3 Lighting Places

.1 Entrances of Buildings
The space in front of the entrance of a building that acts as the threshold of the building. This category includes all the buildings of the campus, both heritage and contemporary.

.1 Entrances of buildings are to be lit with the use of surface mounted light fixtures (section 2.7.1.3) or integrated light fixtures (section 2.7.1.4), depending on the context.

.2 For recommended average maintained illumination levels for entrances of buildings, see section 2.7.5.

.3 For technical references, see section 2.7.6.

.2 Building Facades
All the buildings of the campus, both heritage and contemporary.

.1 Building facades are to be lit with the use of surface mounted light fixtures (section 2.7.1.3) or integrated light fixtures (section 2.7.1.4), depending on the context.

.2 Optical accessories such as louvers and cut-off visors should be considered to control light spill and focus the majority of the light on the intended target.

.3 For recommended illumination levels for building facades, see section 2.7.5.2.

.4 Lamp colour temperature should be harmonized with the building material, see section 2.7.5.3.

.5 Relative intensity vs. context: Buildings should be lit not more than 3 times more intensely that its neighbor unless approved by AAC as an important focal building.

.6 For technical references, see section 2.7.6.

.3 Shared Open Places
All quads, squares, gardens, terraces and lawns of the campus.

.1 Building facades are to be lit with the use of integrated light fixtures (section 2.7.1.4).

.2 For recommended average maintained illumination levels for shared open places, see section 2.7.5.

.3 For technical references, see section 2.7.6.

.4 Gates
All lighting mounted on gates, portals and fences on campus. The gates, portals and fences are located at the entries and site limits of the campus.
.1 Gates are to be lit with the use of surface mounted light fixtures (section 2.7.1.3) or integrated light fixtures (section 2.7.1.4), depending on the context. For details on gates, see section 2.1.

.2 For recommended illumination levels for campus gates, see section 2.7.5.

.3 For technical references, see section 2.7.6.

.5 Building service areas
All service areas surrounding buildings, including but not limited to secondary entrances, emergency exits and loading bays.

.1 Building service areas are to be lit with the use of surface mounted light fixtures (section 2.7.1.3) or integrated light fixtures (section 2.7.1.4), depending on the context.

.2 For recommended illumination levels for building service area, see section 2.7.5.

.3 For technical references, see section 2.7.6.

.4 Accent Lighting

.1 Permanent Art Work
Commemorative elements such as monuments, historical plaques and statues as well as contemporary art work that are meant to be permanently installed on campus.

.1 Permanent artwork is to be lit with the use of surface mounted light fixtures (section 2.7.1.3) or integrated light fixtures (section 2.7.1.4), depending on the context.

.2 For recommended illumination levels for permanent artwork, see section 2.7.5.

.3 For technical references, see section 2.7.6.

.2 Temporary Art Work
All types of temporary art work such as ephemeral installations and temporary exhibits which require particular lighting.

.1 Temporary artwork to be lit with the use of surface mounted light fixtures (section 2.7.1.3). Lighting strategies for these works will be evaluated by the designer, representatives more McGill Operations and Maintenance as well as the approval body which authorized the installation of the work.

.2 For recommended illumination levels for campus temporary artwork, see section 2.7.5.

.3 For technical references, see section 2.7.6.

.3 Signage and Wayfinding - in progress
This category includes all campus signage and wayfinding elements which are meant to be distinguished at night.

.1 Signage to be lit with the use of . - in progress

.2 For recommended illumination levels for campus signage, see section 2.7.5.

.3 For technical references, see section 2.7.6.
### .5 Illumination Levels

#### .1 Average Maintained Illumination Levels (Horizontal)

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>SPACE TYPE</th>
<th>RECOMMENDED ILLUMINATION LEVELS *</th>
<th>MAXIMUM UNIFORMITY (AVG./MIN.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2.7.2.1 Roadways (primary)</td>
<td>12 lux</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.7.2.1 Roadways (secondary)</td>
<td>9 lux</td>
</tr>
<tr>
<td>2.7.2 Circulation</td>
<td>2.7.2.2 Sidewalks (primary)</td>
<td>8 lux</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.7.2.2 Sidewalks (secondary)</td>
<td>5 lux</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.7.2.3 Pathways (primary)</td>
<td>8 lux</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.7.2.3 Pathways (secondary)</td>
<td>5 lux</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.7.2.4 Shared pathways</td>
<td>10 lux (vert.) 20 lux (horiz.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.7.2.5 Bicycle circulation</td>
<td>10 lux (vert.) 20 lux (horiz.)</td>
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<tr>
<td></td>
<td></td>
<td>2.7.2.6 Parking</td>
<td>5 lux</td>
</tr>
<tr>
<td>2.7.3 Places</td>
<td>2.7.3.1 Entrances of buildings</td>
<td>30 lux (horiz.) 50 lux (vert.)</td>
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<tr>
<td></td>
<td></td>
<td>2.7.3.2 Building façades</td>
<td>See table 2.7.5.2</td>
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<td></td>
<td>2.7.3.3 Shared open spaces</td>
<td>Variable by space use</td>
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<td></td>
<td></td>
<td>2.7.3.4 Gates</td>
<td>30 lux (horiz.) 50 lux (vert.)</td>
</tr>
<tr>
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<td>2.7.3.5 Service areas</td>
<td>Variable by space use</td>
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<td>2.7.4 Accents</td>
<td>2.7.4.1 Artwork (permanent)</td>
<td>relative to area</td>
<td>4:1</td>
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<td>2.7.4.2 Artwork (temporary)</td>
<td>relative to area</td>
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<td>2.7.4.3 Signage</td>
<td>50 lux</td>
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</tbody>
</table>

* Average maintained illumination levels (E<sub>avg</sub>). Light loss factor is calculated at 0.70 and assumes a reasonable level of fixture maintenance and lamp replacement.

These criteria are based on IESNA 90.1 2010 and reference the following Recommended Practice Documents:

- IESNA RP-33-99: Lighting for Exterior Environments, 1999
- IESNA DG-5-1994: Recommended Lighting for Walkways and Class 1 Bikeways
- IESNA G-1-03: Guidelines for Security Lighting for People, Property and Public Safety
- IESNA RP-8-00: Roadway Lighting, 2005

Uniformity is a more critical criterion to achieve than average maintained illumination. Variation in illumination levels can cause glare irrespective of actual illumination levels attained.
.2 Average Maintained Illumination Levels (Vertical)

<table>
<thead>
<tr>
<th>PARAMETERS</th>
<th>CONDITIONS</th>
<th>URBAN AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illuminance $E_v$ on the façade</td>
<td>Daytime to late evening 07.00 - 23.00</td>
<td>15 lux</td>
</tr>
<tr>
<td></td>
<td>Night 23.00 - 07.00</td>
<td>5 lux</td>
</tr>
<tr>
<td>Luminous intensity (cd) of each luminaire</td>
<td>Daytime to late evening 07.00 - 23.00</td>
<td>15 000 cd</td>
</tr>
<tr>
<td></td>
<td>Night 23.00 - 07.00</td>
<td>1 500 cd</td>
</tr>
<tr>
<td>Average luminance, façade or object ($L_{avg}$)</td>
<td></td>
<td>15 cd/m²</td>
</tr>
</tbody>
</table>

.3 Average Maintained Illumination Levels (Vertical)

<table>
<thead>
<tr>
<th>MATERIAL OF ILLUMINATED SURFACE</th>
<th>SURFACE REFLECTANCE</th>
<th>MAXIMUM RECOMMENDED AVERAGE ILLUMINANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White stone</td>
<td>0.9</td>
<td>35 lux</td>
</tr>
<tr>
<td>White marble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pale pastel colours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lightly coloured stone</td>
<td>0.6</td>
<td>52 lux</td>
</tr>
<tr>
<td>Lightly coloured marble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pastel colours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coloured stone</td>
<td>0.3</td>
<td>104 lux</td>
</tr>
<tr>
<td>Concrete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coloured marble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dark stone</td>
<td>0.1</td>
<td>314 lux</td>
</tr>
<tr>
<td>Grey granite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dark marble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum Polishes surfaces</td>
<td>Be aware of possible reflection interference</td>
<td>350 lux</td>
</tr>
</tbody>
</table>

.6 Technical references

.1 For source recommendations, see McGill Standard Construction specification, division 26.
.2 For the required ingress protect rating for exterior fixtures, see McGill Standard Construction specification, division 26.
.3 For a list of required certifications, see McGill Standard Construction specification, division 26.
.4 For colour temperature recommendations, see McGill Standard Construction specification, division 26. When lighting building facades, lighting colour temperature should be harmonized with building materials.
.5 For fixture cut-off recommendations see night sky compliance for LZ-2 lighting zones by IDA-IES.

2.8 Paving

.1 Street surfaces with heavy traffic, such as main roads, shall be in pre-fab concrete pavers.
.2 Pedestrian walkways, sidewalks or pathways shall be in pre-fab concrete pavers, in limestone or in granite. See Unit Paving on Sand Bed (32 14 10)
### 2.9 Site Furniture

#### .1 Benches:
- All types of stand-alone benches with or without backrest and built-in benches.
- Benches on campus shall always be located on hard surfaces: plazas, pathways, main roads.
- Benches shall integrate branding elements such as the McGill crest.
- All benches shall be made of wood.
- All benches anchoring shall not be visible and therefore be concealed under the pavers. See Exterior Site Furnishings (32 37 00) for anchoring specification.

#### .2 Tables:
- All types of tables on campus such as picnic tables, studying tables, etc.
- Tables on campus shall always be located on hard surfaces and segregated in small groups.
- Tables shall integrate branding elements such as the McGill crest.
- All tables shall be made of wood.
- All tables anchoring shall not be visible and therefore be concealed under the pavers. See Exterior Site Furnishings (32 37 00) for anchoring specification.

#### .3 Garbage and Recycle Bins:
- Waste and recycle containers.
- Garbage and recycle bins are located throughout campus, near entrances of buildings, in plazas and at crossroads. They shall always be located on hard surfaces.
- Garbage and recycle bins shall integrate branding elements such as the McGill crest.
- Garbage and recycle bins shall be of a minimalist style in order to lower their visual impact and be of similar materials to other structures on campus (signage, bike parking stations...).
- All garbage and recycling bins anchoring shall not be visible and therefore be concealed under the pavers. See Exterior Site Furnishings (32 37 00) for anchoring specification.

#### .4 Bollards:
- Short vertical posts that are intended to obstruct the passage of motor vehicles.
- Bollards can be located in places needed to separate pedestrian and vehicular circulations or along pedestrian plazas as lighting elements.
- Bollard lines shall be designed and integrate branding elements such as the McGill crest.
- Bollards shall be of a minimalist style in order to lower their visual impact and be of similar materials to other structures on campus (signage, bike parking stations, lampposts...).
- All bollard anchoring shall not be visible and therefore be concealed under the pavers. See Exterior Site Furnishings (32 37 00) for anchoring specification.
- Hydraulic bollards. See Exterior Site Furnishings (32 37 00) for anchoring specification.
- Bollards which contain a light source.
  - Spacing between bollards is to be determined by the measured output of the light fixtures as well as circulation needs.
  - Scale should be consistent with bollards which do not contain light sources. All campus bollards should maintain a consistent height throughout the campus. See section 2.9.4.
.3 Bollards should be finished as the black lamp standard or dark grey so as to blend into the night sky.

.4 The fixture style should be similar to the family of fixtures found in the same context. The fixture style should be consistent with bollards which do not contain light sources.

.5 Detailing should be consistent with bollards which do not contain light sources.

2.10 Vegetation:

.1 All types of vegetation such as trees, shrubs, ground coverings and planting beds. See, section 32 93 10.

.2 All vegetation on campus shall respect the ecological heritage of the mountain. According to the Plan de protection et de mise en valeur du Mont-Royal, some species are prohibited on all sites located within the heritage site of the mountain. Therefore, the following species are prohibited on McGill Campus:

- Alliaria petiolata
- Anthriscus sylvestris
- Cynanchum rossicum
- Cynanchum louiseae
- Aegopodium podagraria
- Acer platanoides
- Frangula alnus
- Rhamnus cathartica
- Ulmus pumila
- Vinca minor
- Populus alba
- Polygonum cuspidatum
- Lythrum salicaria
- Furthermore, due to the emerald ash borer, no ash tree shall be planted on campus.

.3 When replanting trees, a maximum of diversity of trees shall be considered in order to maintain biodiversity on campus. The following ratio shall be respected:

- Trees of the same family: 30%
- Trees of the same specie: 20%
- Trees of the same variety: 10%

2.11 Signage

Refer to the McGill Exterior Signage Standards, at the following web link, for all information on exterior signage: http://www.mcgill.ca/buildings/signage-standards

2.12 Steps, Railings and Site Walls

.1 Steps:

.1 The use of ramps instead of steps is preferred, where ever possible, for best universal access design;

.2 Steps should be built into the slopes and have a foundation below frost level. Risers shall have a back slope and treads shall have a 1/4” wash.
A general design formula for establishing size of risers and treads shall be twice the riser plus the tread = 26". Preferred riser dimensions are 5" minimum and 6" maximum.

Foundation wall at top and bottom of steps shall have a projecting ledge to support pavements.

Where feasible, there shall be no fewer than 3 steps and no more than 10 steps per set.

Maintain 3" minimum clearance from edge of steps to outside of drilled hole for handrail installation where required.

Handrails, tread, and riser design shall meet required Codes.

Treads shall have a non-slip finish.

Nosing bars shall not be used in step construction.

Tactile indicators shall be integrated on every landing, follow “Stairs and ramps” of Special building areas of the Building Design standards.

2.13 Art and Culture

Permanent Art Work: All commemorative installations such as monuments, historical plaques and statues.

All permanent works of art, monuments, historical plaques, and statues must respect the heritage of the campus and be professionally sited and installed.

Art work tending more towards a historical style, carrying a strong commemoration component (monuments, historical plaques and statues) may be installed near the heritage buildings however will need to ensure to respect of the heritage value of the area.

Contemporary art work shall be located near contemporary buildings and plazas in order to respect the genius loci of the site.

Ultimately, the location of any new elements shall be determined with input from the Architectural Advisory Committee, the Gardens and Grounds Committee, and the Visual Arts Collection staff.

Art work signage shall be well integrated in its context and adapted to the installation.

Where public art is planned, canopy / public art coordination between architect and artist is required.

Temporary Art work: All types of temporary art work such as ephemeral installations and temporary exhibits.

All temporary art work shall also respect the heritage value of the landscape and views toward and from heritage buildings. The location of any temporary installations shall also be determined with input from the Architectural Advisory Committee, the Gardens and Grounds Committee, and the Visual Arts Collection staff.
2.14 Special Events and Temporary Installations — *In progress*

1. Provide supplementary lighting for safety and security — *In progress*

2. Temporary / movable landscape displays / planters / furniture / water / electricity — *In progress*

2.15 Smart City —

1. Support the live, work, play concept by encouraging a diversity of uses for balanced communities — *In progress*

2. Promote the development of communities with a high degree of internal connectivity — *In progress*

END OF SECTION