PART B

Design for Tall Buildings
**Make it Kitchener**

Kitchener is growing up. As the largest city in Waterloo Region and a key part of the Toronto-Waterloo innovation corridor, Kitchener is becoming a dense, lively, safe and sustainable urban environment for people to live, work, play and shop.

**What is a Tall Building?**

A high-rise building is defined in the Official Plan as any building that is nine (9) storeys or more.

**Working With The Guidelines**

Tall building design is a complex and multidisciplinary process involving an array of interdependent considerations. Each site is unique. Each context provides specific issues to be addressed and opportunities to be explored. End users and the public have different needs and expectations for different typologies, neighbourhoods, and markets.

Achieving good tall building design therefore must be approached as a ‘best-fit’ solution to many (sometimes competing) needs and interests. The elements of tall building design are too diverse and multidimensional to prescribe a ‘one-size-fits-all’ set of standards.

Still, targets must be set to provide the City’s expectations for good tall building design. This involves both identifying design elements as well as providing values or formulas that represent good design practices for the City of Kitchener.

It is the City’s intention to use these guidelines to generate constructive discussion and provide a framework against which to consider and test individual site restrictions, broader contexts, and design aspirations. We want to encourage creative solutions to problems and deliver innovation and design excellence.

Therefore the expectation is not for every project to meet every guideline in all cases. A project may fall short (within reason) of a guideline if it compensates by exceeding targets for other (related) guidelines, or if the project demonstrates justifiable design solutions to achieve a guideline’s intention through other means. The City also recognizes that in some cases, site-specific considerations may create conditions that cannot be anticipated within design guidelines; with proper justification, projects will be examined based on how well they are designed for these conditions, and not solely on which specific guidelines they are not able to meet.

The Tall Building Design Guidelines should not be read in isolation of other in effect polices, regulations or design guidelines.
PART B DESIGN FOR TALL BUILDINGS

BUILT FORM

Built Form

For the purpose of these guidelines, tall building built form design is broken down into three subcategories; **Ground Floor & Base Design**, **Tower Design**, and **Top Design**. These are generalized terms intended to help focus discussion; the City does not necessarily intend for these three elements to be discrete from one another or to prescribe a specific “preferred” shape for tall buildings in the City of Kitchener.

Ground Floor & Base Design

**Base Design**

A tall building’s base includes the ground floor and any additional floors with a direct relationship to the streetscape and public realm. This can include traditional multi-storey podiums, portions of a tower which extend to the ground floor and structured parking areas.

Design the base to prioritize pedestrian utility, comfort and safety.

- Bases should feature a high percentage of transparency. Bases should maximize connectivity and permeability at ground level, creating and reinforcing pedestrian & cycling connections.
- Bases should not exceed 70 metres in overall building length. Buildings longer than 70m should demonstrate enhanced streetscaping, materials and building articulation.
- Fully integrate bases into the public realm. Avoid conditions such as ‘tower in the park’ or ‘fortress’ design.

*Base Design*

A good tall building base can take many forms, but it is key that they contribute positively to a walkable, safe, human scaled public realm (right).

‘Tower in the Park’

These tall buildings do not have a base that addresses the street (left, an area with several “towers in the park”).

‘Fortress’ Design

These tall buildings have bases with blank walls, insufficient active uses at grade, low quality materials and poor articulation (right, an area with several “fortress” tall buildings).
PART B DESIGN FOR TALL BUILDINGS

Base Design (con’t)

Provide visual variety through well-articulated massing and high quality materials.

Provide protection from harsh weather.

Provide balconies for residential units along street-facing elevations. Consider outdoor amenity spaces for other uses along street facing elevations.

Integrate above ground structured parking into the base design and place it behind active uses along street edges.

Where visible, screen/clad above-grade structured parking using high quality materials consistent with and complementary to the overall building design. Avoid blank walls or ‘disguising’ structured parking behind facades that give a faux-residential or office appearance, particularly those employing tinted, reflective or opaque glass.

Where it is not feasible to integrate ‘back of house’ activities underground or within the building mass, design these spaces using high-quality architectural elements and landscape design to screen these activities from public view and to limit unwanted activity.

Ground Floor

The lower 5m of a base forms the most immediate relationship of a building to the public realm and should be designed in all cases with high quality materials, highly articulated, engaging and visually expressive architectural features and human scaled massing.

For tall buildings with retail or other active uses at grade, provide a ground floor height of 4.5m (minimum) to permit a variety of retail types and activities.

Where a shorter ground floor height is proposed, the lower 5m (minimum) of the building is still to be considered critical to the public realm even if it includes part or all of the second storey.

Design the ground floor to be comprehensively integrated with the surrounding streetscape and landscape to achieve a high quality pedestrian environment.

Active Bases

Active uses, materials and design interventions at grade help to animate the 5m ‘zone’ of a building’s facade critical to the streetscape.

Balconies and amenity spaces activate the street edge, promote safety and help establish a sense of community.
## Tower Design

### Tower

A **Tower** is the ‘middle’ component of a tall building, connecting the base to the top and housing the building’s primary function.

Towers are highly visible elements of the urban environment and must meet Kitchener’s highest standards for design excellence.

Guidelines for tower design are divided into two subsections; **Size & Proportion** and **Separation & Placement**.

### Size & Proportion

A tower’s size concerns **Tower Floor Area** and overall building **Height**.

- **Height** is measured (in metres) from average finished grade to the top of a building’s mechanical penthouse or highest occupied storey, whichever is greater.

- **Tower Length** is the horizontal measurement of a tower’s longest facade.

- **Tower Floor Area** is a measurement of a typical tower storey’s gross floor area. Included are all spaces interior to the building envelope. Balcony areas do not need to be included. Tall building towers are categorized according to **Area** as Compact (<850 sq. metres) or Large (>850 sq. metres).

- **Tower Proportion** is a measurement of tower **Length** divided by tower **Width** of a typical tower storey. Tall building towers are categorized according to their horizontal proportions as **Point towers** (<1.6) or **Slabs** (>1.6).

Therefore a tall building’s tower **Size** falls into one of four categories; “Compact Point Tower”, “Compact Slab”, “Large Point Tower”, and “Large Slab”.

### Measuring Towers

A tower measuring 23m in **Width**, 37m in **Length**, and 54m in **Height** would result in an 850sq.m. **Tower Floor Area**, a **Tower Proportion** of 1.6, and a **Separation** of 10m.

### What to Measure

<table>
<thead>
<tr>
<th>Metric</th>
<th>Units</th>
<th>Formula</th>
<th>Rationale</th>
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<tbody>
<tr>
<td>Height</td>
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<td>( H \times L )</td>
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<td>Length</td>
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<td>Slab</td>
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**Rationale**

Rather than place strict limits on tower **Size**, these four categories allow for design flexibility while also providing established ranges for the application of guidelines sensitive to changes in tower **Size & Proportion**. More **Compact, Point towers** offer greater room for creative architectural design solutions and present less risk for unwanted cumulative impacts across multiple tall building developments.
Size & Proportion (con’t)

Compact Point towers are preferred for intensification areas and smaller sites, particularly within multi-tower proposals.

The appropriateness of larger or slab-like forms will partially be a function of site size, shape and orientation, and whether a large tower can achieve good separation and compatibility while mitigating unwanted impacts.

Height is also an important factor when determining an appropriate tower Size.

Mitigate the actual and perceived massing impacts of towers by breaking up their mass both horizontally and vertically, through the creative incorporation of changes in materials, balcony and floorplate design, architectural features and unit/amenity locations.

Example

Other factors being relatively equal, the lowest tall buildings are also the most likely to work as Large Slabs. Slightly taller buildings may work as Large Point towers, with Compact Slabs being appropriate for towers somewhat taller than that. Compact Point towers are preferred for Kitchener’s tallest towers.

Large Point Towers and Large Slabs must demonstrate significant design measures to reduce the visual impact of their mass.

Where there is a net improvement to a building’s overall impact, floor area lost when moving toward a smaller tower Size can be made up within a larger building Base or additional ‘Upper Base’ levels.

There are many factors shaping tower design. These guidelines can help determine at the schematic design stage what tower form is most appropriate on a given site. A similar GFA can result in different tower sizes depending on site size, location, costs, parking requirements etc. In order to provide the greatest variety of unit types, sizes and tenures, the City of Kitchener has not put a limit on floorplate size, given the other guidelines can be met.

Tower Size

Taller towers with smaller Tower Sizes can have similar impacts to lower towers with larger Tower Sizes.

Larger tower sizes require more effort in their materiality, layout and design to break down tower massing.

GFA lost to slimming down a tower can sometimes be returned through well designed ‘Upper Base’ storeys.
Relative Height
In multi-tower developments, achieving good relative height is often about redistribution of height, not a reduction.

Relative Height, or a tower’s height when compared to neighbouring towers or existing or planned surrounding context, is an important factor in tall building design.

For towers that are part of a multi-tower development:

If the towers are Compact Point Towers or Compact Slabs, the Height of the shorter tower should be no more than 90% of the Height of the taller tower. If the towers are Large Point Towers or Large Slabs, the Height of the shorter tower should be no more than 85% of the Height of the taller tower.

For neighbouring towers that are separate developments:

Towers should have Heights that are visibly distinct when viewed from ground level. Generally, a tower should be shorter than an adjacent tower if its site is part of a transition to low or mid-rise surrounding neighbourhoods, and a tower should be taller than an adjacent tower if its site is closer to higher order transit stops or significant landmark destinations.

For towers adjacent to lower-rise surrounding areas:

Towers must demonstrate compatibility with their surroundings and transition in height and scale through appropriate design of the project’s built form. If a site does not allow for sensitive transition between a tower and lower-rise neighbourhoods it may not be suitable for a tall building.
**Separation**

Each tower has one calculation for Physical Separation and that number applies to all affected sides regardless of tower shape.

**Separation** refers to the physical and perceived space between a tower and its surroundings. Achieving adequate separation requires a unified design approach covering the following interdependent considerations; **Physical Separation** and **Tower Overlook**.

**Physical Separation** is the measured setback in metres from a tall building tower’s faces to its side and rear property lines, or to the centre line of an abutting lane, trail or easement.

**Physical Separation** is calculated by multiplying the building’s Height by the tower Length and dividing by 200.

When adjacent towers are on the same site, the total **Separation** between towers is to be calculated as the sum of each individual **Physical Separation**.

**Rationale**

Rather than prescribe a fixed number for physical separation, the City recognizes that tall buildings come in all shapes and sizes, and that a dynamic, scalable approach to Separation is key to providing towers that are responsive to their specific contexts. Further, applying physical separation to *each tower independently* ensures that responsibility for achieving separation is balanced and equitable, never placing a disproportionate burden on a single tower.

**Separation**

Physical Separation can help shape a tall building during the schematic design phase to find the form best suited to a given site.
**Overlook**

Larger towers A & B (those with a greater separation calculation) create more unwanted impacts than smaller towers C & D (those with a lesser separation calculation) at the same percentage of Overlook, as shown diagrammatically below (plan view).

**Ideal Overlook**, where site size allows, is 0%. Target ranges for acceptable maximum Overlook are determined based on their Physical Separation calculation as follows:

<table>
<thead>
<tr>
<th>Physical Separation</th>
<th>Max Overlook</th>
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<tbody>
<tr>
<td>&lt; 10m</td>
<td>50%</td>
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<tr>
<td>10m - 14m</td>
<td>40%</td>
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<tr>
<td>&gt; 14m</td>
<td>30%</td>
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</tbody>
</table>

Overlook helps achieve many different objectives: it helps to provide privacy and views for building occupants, prevents unwanted cumulative wind and shadow effects, creates a more dynamic skyline, preserves skyview in the pedestrian realm and encourages more design diversity.

Tall buildings that are part of multi-tower developments should do everything possible to meet their Overlook target on-site.

While these targets still represent good practice for off-site towers and should be achieved where possible, it is not the intention of this guideline to unnecessarily frustrate development due to existing surrounding built form. Therefore;

Where a tower does not meet its target Overlook, mitigating design techniques should be employed such as; exceeding its target for Physical Separation, maximizing perceived space between towers through creative tower Shape, Placement and Orientation, creative balcony and unit layouts to maximize privacy and/or an increased difference in Relative Height.

**Overlook**

This diagram demonstrates tower forms representing each of the three tiers of Overlook in the table above.
**Placement**

Because it is measured as a perpendicular projection, changes in tower orientation can dramatically decrease Overlook on highly constrained sites (below).

**Placement** refers to a tower’s Position and Orientation on its site relative to other towers, its base, its surrounding context and open spaces. **Placement** should also factor in **Tower Size, Separation, Relative Height** and **Overlook** as part of a comprehensive tall building design.

Good **Placement** helps to minimize undesirable impacts on amenity spaces and the public realm. Diverse **Placement** amongst neighbouring and nearby towers prevents the creation of unwanted canyon effects and helps to avoid the creation of an homogeneous or visually lifeless skyline.

Good **Placement** is highly dependent on each site’s specific context and should be evaluated as achieving a ‘best fit’ on a site-by-site basis.

Proper placement also maximizes compatibility within a tower’s greater urban context, including surrounding neighbourhoods and the Kitchener skyline.

A tower should step back from its base a minimum of 3m along any street-facing elevation, except where zoning may require otherwise.

Similar or identical neighbouring towers should be oriented distinctly from each other. This is often achieved by rotating one tower 90 degrees relative to the other, but ideal orientation will depend on tower shape, form and location relative to streetscapes, microclimatic impacts, the public realm, and other open spaces.

**Placement**

Proper tower placement is site and context sensitive and represents a best response to all design constraints and opportunities.

Good tower placement is also the cumulative result of designing for separation, overlook, relative height and orientation.
PART B DESIGN FOR TALL BUILDINGS

Top Design
A well designed top integrates mechanical and occupied/programmed penthouses, amenity spaces, building signage and telecommunications equipment as part of a coherent architectural expression that formally resolves the tower design and completes the visual, architectural and urban form of the project as a whole.

A tower top includes any rooftop elements above the highest occupied floor, but can also incorporate an appropriate number of upper-level tower floors to provide quality material and massing transitions, additional stepbacks, further articulation to the floor plate and other design elements which add to the expression of the building and its perception from the public realm.

Compact Point Towers with an architecturally significant top feature that makes a positive contribution to the skyline may not be required to include that feature’s additional height when calculating building Height for the purposes of calculating Tower Separation, Overlook and Relative Height.

Top Design
Great top design contributes to a skyline that is visually dynamic. It helps create formal relationships between neighbouring towers, aids wayfinding and can become an iconic part of a city’s image.

City Hall & City Centre Condominiums, 200 & 120 King Street West, Kitchener
STREETS & OPEN SPACES

Safety
Design tall buildings to provide **Natural Surveillance** by employing high percentages of glazing, active uses at ground level, and windows and balconies with views onto the public realm, particularly along **Base** storeys.

Create a connected pedestrian environment by avoiding physical/visual barriers and potential entrapment areas (dead-ends, hidden and/or fenced in areas).

Back of house areas should be well-lit.

Use lighting and landscaping to maximize safety and comfort.

Public & Private Open Spaces
Tall buildings create ample opportunities to provide a variety of open spaces at many scales, for many users.

**Public and Private Open Spaces** are communal areas which contribute to the quality and character of the environment in and around a tall building. They facilitate physical, recreational and social activity, incorporate green and landscaped areas into urban life and provide valuable uses for building occupants and the public.

Tall building development requires a mixture of both private and public open spaces.

The location, type, size and intended use of open spaces on a tall building site can vary depending on community need, building uses and site characteristics.

Publicly accessible open spaces can be large or small, and should be flexible in their design to adapt to various programming opportunities and seasonal conditions.

Open spaces should prioritize pedestrian comfort and safety, universal accessibility, and high standards for design.

Provide open spaces with weather protection while preserving access to sunlight and air movement.

Connect new open spaces to existing parks, pedestrian connections and natural areas.

Create different types and sizes of parks and open spaces to support district, neighbourhood and local activities that contribute to placemaking and a connected public realm.

Create mid-block connections where appropriate to facilitate pedestrian movement.

Include amenity spaces for occupants. These should be communal spaces for outdoor activity such as rooftop terraces, courtyards, or urban green spaces.

Where non-commercial ground floor units are present, define the threshold between private residential uses at grade and the public realm through measures such as streetscaping, landscaping and elevation changes.
Public & Private Open Spaces (con’t)

A well designed tall building provides an on-site hierarchy of complementary public and private amenity spaces functioning in tandem and can include:

- **Natural Areas** which preserve and manage existing natural features;
- **Parks** at the city, district or neighbourhood scales;
- **Landscaped Courtyards** and **Mid-Block Connections** through single or consolidated blocks, or internal to a tall building base or rooftop condition with no direct street frontage;
- **Landscaped Setbacks** between the public right of way and the building facade featuring hard or soft landscape treatments, seating areas, decorative elements, etc;
- Animated gathering spaces in the form of hardscaped **Plazas**, easily visible and accessible from the public right-of-way;
- More intimately scaled **Urban Greens** designed to provide rest and refuge;
- **Greenways & Trails** linking parks, trails, open space areas and other public realm elements within the urban environment;
- Private & shared **Balconies, Gardens and Patios, Green Roofs, Commercial Patios, Terraces**, and meeting places/wayfinding points/areas for reflection around features such as **Fountains, Public Art** and historically significant spaces.

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Streets & Open Spaces

PART B DESIGN FOR TALL BUILDINGS
The **Public Realm** connects a tall building to its greater urban environment and includes pedestrian connections and open spaces. Good public realm design integrates the building successfully into the local urban fabric.

**Design the public realm to be Human-Scaled, Varied, Visually Appealing and Landscaped.**

<table>
<thead>
<tr>
<th>Streetscape &amp; Landscape Design</th>
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<tbody>
<tr>
<td>Protecting existing natural features and providing sufficient soil depth, volume and growing medium for new trees;</td>
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<tr>
<td>Providing unobstructed, accessible and high quality pedestrian pathways and seating areas;</td>
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<tr>
<td>Providing energy efficient, pedestrian-scaled lighting.</td>
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<tr>
<td>Providing pedestrian-oriented street furnishings, public art, and interactive features.</td>
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<tr>
<th>Pedestrian Weather Protection</th>
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<tr>
<td>Ensure weather protection elements, such as overhangs and canopies, are well-integrated into the building design, detailed and scaled to support the streetscape, and positioned to maximize function and pedestrian comfort.</td>
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</tbody>
</table>
**Mid-Block Connections**

On larger sites, use existing or create new publicly accessible mid-block pedestrian connections.

Mid-Block Connections should be direct, logical and continuous to limit the need for added wayfinding measures.

Mid-Block Connections should link to off-site public and private land uses, natural areas, parks, and other active transportation routes.

Provide active secondary building entrances along public mid-block pedestrian connections for convenience, to provide animation for the routes and to promote safety.

Mid-Block Connections should be designed for pedestrian movement, with surface materials, furnishings, landscaping and pedestrian-scale lighting that are high-quality, functional, universally accessible and environmentally sustainable.

**Views & Skyline**

Tall buildings should protect, enhance and create view corridors and vistas.

When a tall building frames an important view from the public realm, ensure that the view is maintained, and where possible, enhanced.

Locate and design buildings with prominent architectural features at the end of terminating views and street intersections. It is important to consider views to a tall building from any area of the city where the tower may have a visual impact. Tall buildings are a prominent part of the city’s image and skyline.

Consider the view quality of building occupants, and create the best views possible for the largest number of people while balancing the need for privacy.

**Views**

Due to Kitchener’s unusual street network, tall buildings have impacts on views from often unexpected places over much great distances than the building’s immediate surroundings. Tall buildings should be well designed and visually interesting from all possible vantage points.

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**Trio on Belmont, 460 Belmont Avenue West, Kitchener**
## COMPATIBILITY

### Scale & Transition
This development steps down in stages to create visually appealing massing.

Proper compatibility creates harmonious relationships between a tall building and its surroundings.

Complement adjacent built form through compatible height, scale, massing, and materials.

Sensitively transition to surrounding urban contexts, accounting for both the existing context and the planned vision for an area.

Implement design cues (materials, architectural features, colours, rhythms) from good surrounding built form.

Implement **Setbacks** (from property lines) and **Stepbacks** (from the edge of the base to upper-level base storeys, the tower, and top features).

Tall buildings should not interrupt or impose upon an existing or planned neighbourhood character or the public realm.

Tall buildings should be contemporary and not replicate existing or historical architectural styles.

All tall buildings should have a human-scaled relationship to the public realm.

In areas with existing or planned tall and/or mid-rise buildings, **Relative Height, Separation, Overlook**, creative tower **Orientation**, compact floor plate size and point-tower form should all be considered as factors contributing to good compatible design.

It is important to respond to a new tall building’s place within the greater context of the city as a whole. Tall buildings create substantial viewsheds, are visually prominent, occupy key locations, are often visible and perceivable from significant distances and contribute to a city’s skyline.

Where the nature, size, shape or context of a parcel makes achieving good separation and compatibility impractical or impossible, that site may not be suitable for a tall building.

Designing for transition is a key part of creating a compatible tall building fabric.

### Viewshed Analysis
The City can create a viewshed analysis from LIDAR data to determine which areas of the city have views of a proposed tall building.

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**PART B DESIGN FOR TALL BUILDINGS**

### Heritage

Locate and design tall buildings to respect and complement the scale, character, form and siting of on-site and surrounding cultural heritage resources.

Conserve and integrate built heritage resources into tall building developments in a manner that conforms with heritage conservation policies, principles, standards and guidelines.

Conserve the integrity of the cultural heritage values, attributes, character, and three-dimensional form of an on-site built heritage resource. Facade retention alone is not an acceptable method of heritage conservation.

**When a tall building is adjacent to a built heritage resource:**

Design the **Base** to respect the scale, setbacks, stepbacks, proportions, visual relationship, topography, and materials specific to built heritage resources;

Integrate the existing heritage character into the **Base** through high-quality, contemporary design cues;

Provide additional tall building setbacks, stepbacks and other appropriate Placement or design measures to respect the heritage setting and to protect or enhance view corridors;

Conform with HCD Plans policies and guidelines.

Tall building proposals containing heritage properties on or adjacent to the development site may be required to provide a **Heritage Impact Assessment and Conservation Plan** as part of the application review process, to evaluate the impact the proposed development or site alteration will have on the heritage property and to recommend an overall approach to conservation of these resources and mitigate negative impact upon them.
## ENVIRONMENT

### Sustainability

Adaptability & Resilience

Tall buildings help shape their environment for decades to come. Design for flexibility in anticipation of future change through unit type variety, size and adaptability to new uses. Employ high quality design, materials and construction practices that can withstand changing climate conditions and which encourage building longevity.

A green roof can help minimize surface runoff, reduce urban heat island effect, provide noise insulation, improve local air quality, and contribute to the aesthetic of rooftop amenity space.

Provide low impact stormwater management techniques where possible, including porous paving materials, landscaped areas, and vegetative swales.

Provide water efficient and drought resistant landscaping by using native planting materials and low impact development practices. Explore opportunities for water collection and reuse.

Use natural and passive techniques for lighting, ventilation, summer cooling and winter heating.

Utilize building envelope design and materials that limit thermal bridging and heat loss.

On-site energy generation, such as district heating and cooling systems, combined heat and power, and geothermal can be feasible and cost-effective for tall buildings, especially those in high-density, mixed use developments.

Provide light-coloured and/or green roofs to reduce solar heat absorption and energy demand.

Minimize light pollution through the use of dark sky/nighttime friendly compliant practices. Incorporate high efficiency lighting (LED).

Waste Management

Provide on-site facilities for handling, storing and separating recyclable and solid waste. Consider facilities for the separation and collection of organic waste.
PART B DESIGN FOR TALL BUILDINGS

Bird Friendly Design
Daytime bird strikes generally occur from ground level to tree top level, while migratory birds are attracted at night to tall structures that are excessively lit.

Design tall buildings to minimize bird collisions with glass. Avoid untreated reflective glass or clear glass that reflects trees and sky. Glass should have visual markers and any reflection should be muted within the first 12 metres of building height. Locate and manage lighting to reduce reflections that may cause confusion for migratory birds.

Microclimate
Shadow impacts are dynamic and take different forms throughout the day and year. Thoughtful analysis helps preserve access to sunlight and identifies opportunities to preserve and create a variety of desirable conditions.

Microclimate refers to the environmental impacts created by a tall building. Kitchener features hot, humid summers and cold, dry winters. The city has prevailing westerly winds, and the angle of the sun’s path and its intensity varies significantly throughout the year. The Kitchener street network and parcel fabric is an organic grid, creating many different orientations for buildings. It is important to design with these varied conditions in mind and to understand the microclimatic effects created by tall buildings. This includes sunlight/shadowing, heat island effects, wind conditions and snow disposition as well as cumulative effects created by multiple adjacent structures.

Provide both a sun/shadow analysis and a wind study to demonstrate how a proposed development is designed to mitigate unwanted microclimatic impacts.

Design a built form that provides sunlight access to the public realm during the winter months, shaded areas for the summer months, and comfortable, safe wind conditions year round.

When designing a tall building, explore alternative tower sizes, placements, orientations and massing concepts that maximize desirable microclimatic conditions year round.

Maintain daily access to at least 5 hours of cumulative direct sunlight to nearby sidewalks and open spaces under equinox conditions, beginning with sidewalks located on the opposite site of adjacent ROWs.

Skyview
Skyview is the amount of sky that can be seen from public open spaces, above and between buildings. Utilize the design tools presented in this document to preserve access to skyview.

Design for Wind
As a result of wind testing, this canopy was added to help preserve comfortable wind levels in the public realm.

UW Pharmacy Campus, 10 Victoria Street South, Kitchener