

Urban Design Guidelines for Low-rise Infill Housing

May 2012

Urban Design Guidelines for Low-rise Infill Housing	1
1.0 Introduction	2
1.1 Purpose and Objectives	2
1.2 The Official Plan	3
1.3 Infill and Intensification	5
1.4 When are Design Guidelines applied?	6
2.0 Streetscapes	7
Design Guidelines	7
3.0 Landscape	10
Design guidelines	10
4.0 Building Design (Built Form)	12
Design Guidelines	12
5.0 Parking and Garages	20
Design guidelines:	20
6.0 Heritage Building Alterations/Additions	24
Design guidelines:	24
7.0 Service Elements	26
8.0 Infill on Narrow Lots	27
9.0 Glossary	28
10.0 Appendix: How Design Guidelines fit with the current Development Approval process	31

1.0 Introduction

This is a series of design guidelines for infill housing to help fulfill some of the design strategies for Ottawa as outlined in the Official Plan. It is intended as a basic framework for the physical layout, massing, functioning and relationships of infill buildings to their neighbours.

Infill housing is about the development of vacant lots or portions of vacant lots in established urban areas. A vacant lot may have been vacant historically, created by a severance, or result from demolition, fire and/or some other means. Infill optimizes the efficient use of serviced lands adjacent to existing infrastructure and transportation modes. Design guidelines are a working tool to help developers, designers, property owners, utility providers, community groups, builders, Council and City staff implement policies of the Official Plan and facilitate the approvals process by highlighting the desired type of development. Applicants are encouraged to use the guidelines to come up with ideas to further improve urban infill. Note that not all of the individual design guidelines listed in this document apply or are appropriate in every infill situation and thus, the guidelines are not to be used as a checklist in evaluating proposals.

Well-designed residential infill projects can integrate harmoniously into a local landscape, improving and enriching a neighbourhood, and increasing the value of the infill development itself. Good design is critical to growing cities and essential for increasing densities appropriately. The keys to good infill are recognizing the scale and visual lot pattern of the desirable neighbourhoods that exist, and those planned for the future, and not permitting the car to dominate the public realm. Designing for the needs of pedestrians and cyclists, and integrating the car appropriately into a planned urban environment, improves the quality of the city streetscape and helps create liveable cities.

Liveable communities consist of a balanced environment where pedestrians, cyclists and automobiles exist supportively together to create a sense of place and local identity.

These guidelines target those attributes that can guide various stakeholders into achieving quality design for infill development with regard to:

- Public streetscapes
- Landscape
- Building design
- Parking and garages
- Heritage building alterations/additions
- Service elements

1.1 Purpose and Objectives

In general, the aim of the guidelines is to help create infill development that will:

- Enhance streetscapes
- Support and extend established landscaping
- Be a more compact urban form to consume less land and natural resources
- Achieve a good fit into an existing neighbourhood, respecting its character, and its architectural and landscape heritage

- Provide new housing designs that offer variety, quality and a sense of identity
- Emphasize front doors and windows rather than garages
- Include more soft landscaping and less asphalt in front yards
- Create at grade living spaces that promote interaction with the street
- Incorporate environmental innovation and sustainability

In so doing, these design guidelines highlight the important elements of building in a civic-minded spirit.

Pursuing a comprehensive design strategy, entitled 'Ottawa by Design', these guidelines serve to fulfill the Official Plan's objectives in the area of community design.

The Plan directs growth to established areas, to maximize the use of land that is already serviced, accessible and close to existing amenities. Intensifying empty lots with infill development will become a more common occurrence, and good design will be the essential ingredient for achieving quality development at higher densities.

The guidelines are intended to address the small-scale changes in a neighbourhood, but are also meant to deal with more substantive changes to achieve a good 'fit' within an established context.

Design direction is offered to assist people who are proposing change and also help those evaluating proposals through the development review process, to assess, promote, and achieve appropriate infill. In addition, neighbourhood residents and interested stakeholders can see what the expectations are for infill development, and thereby obtain a better understanding of how development proposals will be evaluated.

To facilitate the approvals process, builders can get practical ideas and guidance on important design ingredients for building in established communities prior to starting the design of their project.

1.2 The Official Plan

"The Design Objectives of this Plan are qualitative statements of how the City wants to influence the built environment as the city matures and evolves. These Design Objectives are broadly stated, and are to be applied within all land use designations, either at city-wide level or on a site-specific basis." (Excerpt from the Official Plan)

Design Objectives (Section 2.5.1 of the Official Plan)

- To enhance the sense of community by creating and maintaining places with their own distinct identity
- To define quality public and private spaces through development
- To create places that are safe, accessible and are easy to get to, and move through
- To ensure that new development respects the character of existing areas
- **To consider adaptability and diversity by creating places that can adapt and evolve easily over time and that are characterized by variety and choice.**
- To understand and respect natural processes and features in development design

- **To maximize energy-efficiency and promote sustainable design to reduce the resource consumption, energy use, and carbon footprint of the built environment.**



Figure 1: New development in an existing area combines both new and traditional materials in innovative ways

Urban Design and Compatibility (Section 2.5.1 of the Official Plan)

“Community design generally deals with patterns and locations of land use, relative densities, street networks, and the allocation of community services and facilities. Urban design is more concerned with the details relating to how buildings, landscapes and adjacent public spaces look and function together. As the City grows and changes over time, design of these elements should work together to complement or enhance the unique aspects of a community’s history, landscape and its culture. Encouraging good urban design and quality and innovative architecture can also stimulate the creation of lively community places with distinctive character that will attract people and investment to the City. The components of our communities where urban design plays a key role include:

- **Built form**, including buildings, structures, bridges, signs, fences, fountains, statues and anything else that has been constructed, added or created on a piece of land;
- **Open spaces**, including streets, parks, plazas, courtyards, front yards, woodlots, natural areas and any other natural or green open areas that relate to the structure of the city;
- **Infrastructure**, including, sidewalks, bike paths, transit corridors, hydro lines, streetlights, parking lots or any other above- or below-grade infrastructure that impacts upon the design of the public realm.

“Introducing new development in existing areas that have developed over a long period of time requires a sensitive approach and a respect for a communities established characteristics.”

“In general terms, compatible development means development that, although it is not necessarily the same as or similar to existing buildings in the vicinity, nonetheless enhances an established community and coexists with existing development without causing undue adverse impact on surrounding properties. It ‘fits well’ within its physical context and ‘works well’ among those functions that surround it. Generally speaking, the more a new development can incorporate the common characteristics of its setting in its design, the more compatible it will be. Nevertheless, a development can be designed to fit and work well in a certain existing context without being ‘the same as’ the existing development”.

Urban Design and Compatibility (Section 4.11 of the Official Plan)

“At the scale of neighbourhoods or individual properties, issues such as noise, spillover of light, accommodation of parking and access, shadowing, and micro-climatic conditions are prominent considerations when assessing the relationships between new and existing development. Often, to arrive at compatibility of scale and use will demand a careful design response, one that appropriately addresses the impact generated by infill or intensification.

Objective criteria that can be used to evaluate compatibility include: height, bulk or mass, scale relationship, and building/lot relationships, such as the distance or setback from the street, and the distance between buildings. An assessment of the compatibility of new development will involve not only consideration of built form, but also of operational characteristics, such as traffic, access, and parking”.

1.3 Infill and Intensification

Infill is development that occurs on a single lot, or a consolidated number of small lots, on sites that are vacant, undeveloped or where demolition occurs. Infill may also refer to the creation of the lot or lots.

Infill development at higher densities, in relation to existing neighbours, requires good design to mitigate the potential impact of intensified building forms.

Residential intensification means intensification of a property, building or area that results in a net increase in residential units or accommodation and includes:

- Redevelopment (the creation of new units, uses or lots on previously developed land in existing communities), including the redevelopment of Brownfield sites;
- The development of vacant or underutilised lots within previously developed areas;
- Infill development;
- The conversion or expansion of existing industrial, commercial, and institutional buildings for residential use; and
- The conversion or expansion of existing residential buildings to create new residential units or accommodation, including secondary dwelling units and rooming houses.

The benefits of intensification (from CMHC'S 'Healthy Housing 2005') are:

- More efficient use of existing infrastructure and community facilities
- Reduced expense on entirely new infrastructure and transit systems
- Lower energy requirements for transportation due to reduced automobile travel and more opportunities for public transport, walking and cycling
- Reduced commuting time and stress on the environment
- More compact development patterns protect greenspaces
- Reduced rate of encroachment on undeveloped areas
- Reduced water collection costs in clustered and more dense development
- Lower water treatment costs with larger treatment plants serving more homes

- Mixed dwelling types encourage people to stay in the same community as their housing needs change

1.4 When are Design Guidelines applied?

Design guidelines are a tool to help achieve the Official Plan's goals in the areas of design and compatibility; they help implement Official Plan policies with respect to the review of development applications for infill development.

This design guideline document will be applied to all infill development affected by the Official Plan's 'General Urban' designation including the following residential types: single detached, semi-detached, duplex, triples, townhouses and low-rise apartments.

Please also refer to Section 8.0 of this document, which explains the legislative context under which the guidelines can be applied.

The design guidelines that follow illustrate some of the important principles for design in the public realm.

The photographs and sketches are intended to illustrate only a few of the multitude of solutions for successful infill development. Note that not all components of every photograph illustrate successful solutions. As new projects are constructed, some photographs may be replaced from time to time with photographs which better illustrate the guidelines in this document.

The City's Design Guidelines are available at:

http://www.ottawa.ca/en/city_hall/planningprojectsreports/planning/design_plan_guidelines/completed/index.html

2.0 Streetscapes

The public realm is made up of the public streets, sidewalks, boulevards, back lanes, street furniture, public utilities parks and open spaces. Civic life takes place in these outdoor spaces that make up the public realm. In addition, private front yards form the edge of the public realm. Both landowner and pedestrian benefit when the front yards of buildings serve as landscaped edges to the public sidewalk.

New development should contribute to the character and legibility of public spaces, and new streets should form natural, logical extensions of the existing city street network. Cities are for people, and when the environment is designed with a respect for pedestrians and cyclists, the quality of the public realm improves.

For healthy cities development must make public streetscapes attractive to pedestrians, with trees and planting a priority. Sustainable cities have beautiful large-canopied trees lining their sidewalks, providing natural cooling and shade in the summer.

Where neighbourhoods have diverse building forms and a less-than-successful urban environment, infill buildings can fulfill the role of creating newer and more desirable standards which can enhance the streetscape.

Design Guidelines

- 2.1 Contribute to an inviting, safe, and accessible streetscape by emphasizing the ground floor and street façade of infill buildings. Locate principal entries, windows, porches and key internal uses at street level.



Figure 2: Buildings, with active facades close to the sidewalk, frame the street to establish a human scale and connection to the public realm

- 2.2 Reflect the desirable aspects of the established streetscape character. If the streetscape character and pattern is less desirable, with asphalt parking lots and few trees lining the street, build infill which contributes to a more desirable pedestrian character and landscape pattern.



Figure 3: The infill building on the left reflects the style, mass and character of the existing building on the right. A soft landscape edge has been retained and new trees, which will contribute to the streetscape, have been planted.



Figure 4: A sidewalk lined with trees is a pleasant pedestrian environment



Figure 5: A row of street trees creates an attractive street edge.

- 2.3 Expand the network of public sidewalks, pathways and crosswalks, to enhance pedestrian safety.
- 2.4 Provide pedestrian-scale lighting that points downward in order to minimize light pollution and prevent spillage onto neighbouring properties. (Refer to the City's Standard Site Plan Agreement, Schedule 'C' - City Standards and Specifications, under Condition 19 - Exterior Lighting)

- 2.5 Preserve and enhance any existing decorative paving on streets and sidewalks.
- 2.6 Design accessible walkways, from private entrances to public sidewalks
- 2.7 Ensure that new streets, if private, look, feel, function and provide similar amenities as do public streets, including sidewalks and street trees.

3.0 Landscape

Design guidelines

- 3.1 Landscape the front yard and right-of-way to blend with the landscape pattern and materials of the surrounding homes. Where surrounding yards are predominantly soft surface, reflect this character.



Figure 6: The newly planted front yard of this infill home reflects the green front yards of the surrounding homes.

- 3.2 Where the soft surface boulevard in the right-of-way is limited, increase front yard setbacks to allow more room for tree planting.
- 3.3 Design buildings and parking solutions to retain established trees located in the right-of-way, on adjacent properties, and on the infill site. To ensure survival, trenching for services and foundations must take into account the extent of the tree's critical root zone. Replace trees with new ones if removal is justifiable.



Figures 7 and 8: These images show how trees can be retained when driveways and building footprints are sited carefully.



- 3.4 Provide street trees in continuous planting pits or in clusters to support healthy growth. Where the available soil volume and planting area is limited (less than 9m^2 per tree), use materials and planting techniques (e.g. permeable paving, Silva Cells or similar planting systems) that improve tree growth conditions and limit the impacts of soil compaction and road salt.

Plant trees, shrubs, and ground cover adjacent to the public street and sidewalk for an attractive sidewalk edge. Select hardy, salt-tolerant native plant material that can thrive in challenging urban conditions. (General information on native species can be found on the Ottawa Forest and Greenspace Advisory Committee's web pages <http://www.ofnc.ca/ofgac/>)



Figure 9: Planted edges, on public or private land, enhance the public sidewalk and streetscape.

- 3.5 For energy conservation, plant deciduous trees to shade south and south-west windows from the summer sun.
- 3.6 Support sustainability and improve environmental performance by creating landscaped green roofs that are functional and have aesthetic value.
- 3.7 In order to enhance a sense of separation when infill is close to the street, use planting and/or low fencing to define the boundary between the public space of the street and the semi-public space of the front yard.

4.0 Building Design (Built Form)

Infill development by its nature is contemporary construction within an historic context, a stylistic blending of new with existing. The existing context, character and pattern of an established neighbourhood can be recognized, while at the same time, allow for the evolution of architectural style and innovation in built form. Infill development should be a desirable addition to an existing neighbourhood. This does not mean imitating historical styles and fashions of another era, or conversely creating a total contrast in fabric or materials, but rather recognizing the established scale and pattern of the context and the grain of the neighbourhood.

The goal of good infill development can be met within any architectural style.

Residential infill should meet current building requirements and incorporate new technologies. Various architectural styles can be very compatible with existing structures and spaces. Through the use of quality materials and innovative design, contemporary architectural styles can revitalize a street. Built form rich in detail enhances public streets and spaces.

Design Guidelines

4.1 Siting

- 4.1.1 Ensure new infill faces and animates the public streets. Ground floors with principal entries, windows, porches and key internal uses at street level and facing onto the street, contribute to the animation, safety and security of the street.
- 4.1.2 Locate and build infill in a manner that reflects the existing or desirable planned neighbourhood pattern of development in terms of building height, elevation and the location of primary entrances, the elevation of the first floor, yard encroachments such as porches and stair projections, as well as front, rear, and side yard setbacks.



Figure 10: This urban infill matches the setbacks of surrounding homes and preserves an established tree. The front door faces the street, the ground floor elevation matches that of the neighbours and the large first floor window contributes to an animated and safe street.



Figure 11: This suburban infill respects the scale, setback and materials of surrounding homes. The home takes advantage of a corner lot by locating the garage and driveway on the side façade.

- 4.1.3 In determining infill lot sizes, recognize the provisions of the Zoning By-law, the Official Plan's intensification policies, and local lot sizes including lot width, the existing relationship between lot size, yard setbacks and the scale of homes
- 4.1.4 Orient buildings so that their amenity spaces do not require sound attenuation walls and that noise impacts are minimized. Design amenity areas such as second floor balconies and roof top decks to respect the privacy of the surrounding homes.
- 4.1.5 In cases where there is a uniform setback along a street, match this setback in order to fit into the neighbourhood pattern and create a continuous, legible edge to the public street. In cases where there is no uniform setback, locate the infill building at roughly the same distance from the property line as the buildings along the abutting lots.
- 4.1.6 Contribute to the amenity, safety and enjoyment of open spaces by offering living spaces that face them.



Figure 12: Living spaces facing onto public pathways support the quality of an open space.

- 4.1.7 Avoid the arrangement of units where the front of one dwelling faces the back of another, unless the units in the back row have façades rich in detail, recessed garages and extensive landscaping.



Figures 13 and 14: These two rows of infill townhomes, built around an internal parking court, use extensive landscaping to enhance the development. Generous balconies predominate over recessed garages.



Figure 15: The back row units, in the same development shown in Figures 13 and 14, offer attractive landscaping, enhanced front entrances, large balconies and recessed garages.

- 4.1.8 Determine appropriate side and rear separation distances between existing homes and new infill homes/ infill housing blocks to ensure appropriate light, view, and privacy. Consider how building height, site orientation and the location of windows affect views, sunlight and privacy.



Figure 16: An adequate separation distance between infill blocks, on this rear private lane, ensures sufficient light, view and privacy for residents. Richly detailed rear balconies and arbours define outdoor amenity areas, while complementary screening and planting increase privacy.

- 4.1.9 Maintain rear yard amenity space that is generally consistent with the pattern of the neighbouring homes. Do not break an existing neighbourhood pattern of green rear yards by reducing required rear yard setbacks.
- 4.1.10 Permit varied front yard setbacks if this preserves and integrates existing natural features, such as mature trees or rock outcroppings, or if this is consistent with the cultural landscape of the neighbourhood. Note: some neighbourhoods enjoy consistent setbacks, others are characterized by irregular setbacks.
- 4.1.11 Respect the grades and characteristic first floor heights of the neighbourhood by not artificially raising or lowering grades.
- 4.1.12 Position infill to take advantage of solar heat and reflected light. Create a layout where internal and external spaces benefit from solar orientation.
- 4.2 Mass/Height
 - 4.2.1 Design infill in a manner that contributes to the quality of the streetscape, and that considers the impacts of scale and mass on the adjacent surrounding homes.



Figure 17: The height, width, materials and landscape treatment of this infill echo the existing units on either side.

- 4.2.2 In cases where new buildings back on to lower-scale residential properties or public open space, set the building(s) so that it does not project into a 45 degree angular plane from the rear property line, in order to reduce the impact of the potential loss of sunlight or privacy on neighbouring properties. (A 45 degree angular plane is measured from a rear lot line and projects at a 45 degree angle toward the development.) For larger infill development, design within an appropriate angular plane, and provide a suitable buffer zone in order to protect a neighbour's access to adequate light, view and privacy.

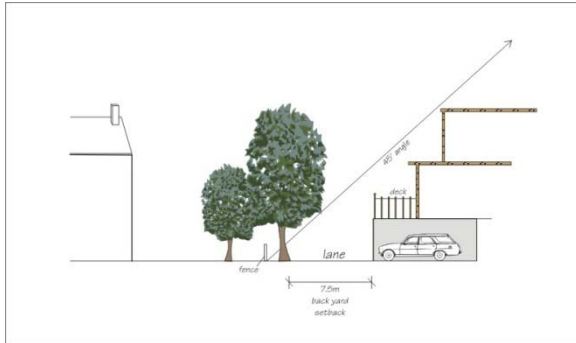


Figure 18: Building within angular planes protects existing neighbour's privacy and access to sunlight.

- 4.2.3 Where the new development is higher than the existing buildings, create a transition in building heights through the harmonization and manipulation of mass. Add architectural features such as porches and bays, and use materials, colours and textures, to visually reduce the height and mass of the new building.
- 4.2.4 Locate roof projections, which provide access to decks and patios, so that height impacts are reduced.
- 4.2.5 To reduce the perceived height of the building, as contributed to by the parapet around a roof top use, consider materials such as frosted plexiglass which reduce height impacts and at the same time maintain a level of privacy.
- 4.2.6 If the new development is significantly larger than the existing adjacent buildings, create a transition in building widths by visually dividing the building into smaller sections that approximate the width of the neighbours, and by scaling down the height as it approaches the neighbours.
- 4.3 Architectural Style and Facades
- 4.3.1 Design all sides of a building that face public streets and open spaces to a similar level of quality and detail. Avoid large blank walls that are visible from the street, other public spaces, or adjacent properties.



Figure 19: The curved façade, echoed by the curved arbour, creates a unique corner treatment that adds interest to the public realm. The significant glazing contributes to community surveillance.

4.3.2 Design infill to be rich in detail and to enhance public streets and spaces, while also responding to the established patterns of the street and neighbourhood. To appropriately transition into an established neighbourhood, consider elements from the neighbourhood such as:

- Materials, patterns and colours used in wall treatments
- Cornice lines, form of the roofline and chimney details
- Size, shape, placement and number of doors and windows
- The pattern and location of projections, recesses, front porches, stoops, and balconies



Figure 20: These townhouses pick up on the materials and colours of the existing residences while at the same time incorporating more modern design elements.

4.3.3 Provide primary building entrances that are inviting and visible from the street by:

- Using quality and eye-catching materials and features at the entry
- Adding architectural elements such as porches which promote street-oriented interaction
- Keeping front doors prominent and close to the ground to match the pattern of the doors on the street, and to minimize exterior stairs for accessibility, as well as to ease year-round maintenance
- Where the front door does not face the street, use architectural detailing, lighting and landscape design to clearly indicate the location and route to the front door.



Figure 21: A covered porch articulates the front façade and highlights the entrance to this home.

- 4.3.4 Ensure that when one or more units are constructed on adjacent properties, they are compatible with each other and with the existing fabric on street. At the same time, design the infill units with distinguishing characteristics (e.g. different materials, colours, rooflines, windows and door treatments) so that they have distinct identities.



Figures 22: This semi-detached home is designed so that the two units are compatible but not identical to each other.

- 4.3.5 Locate front doors at an elevation that reflects the dominant and desirable pattern of door heights in the neighbourhood. A first floor elevation that is the average of that of the surrounding homes, allows for better compatibility with the neighbourhood pattern of doors, entries, porches and landscape.
- 4.3.6 Where they are in keeping with the character of the neighbourhood, add front yard projections, such as porches, bay windows and balconies, to enhance the façade of the infill and contribute to the sociability of the street.



Figures 23 and 24: Front doors and windows close to grade offer an attractive edge to the public sidewalk. Lowering the elevation of the first floor reduces the need for stair projections thereby allowing for maximum soft surface front yard area.



4.3.7 Use the past to inform approaches to design; reinterpret local vernacular in a contemporary way.



Figure 25: This semi-detached infill unites two different architectural styles. The renovated unit on the left is attached to the contemporary middle unit but reflects the form and character of the existing single-detached red brick home. The contemporary unit adopts the colours of the renovated unit to blend into the streetscape.

4.3.8 Harmonize with the traditional materials of the neighbourhood when in the context of a heritage streetscape.

5.0 Parking and Garages

Create infill that supports the quality of the public streetscape and enriches the pedestrian experience. To preserve liveable city streets, a high quality built environment is as important a consideration as the need for parking and servicing. Buildings define the edges and richness of a public space.

If a house presents only a garage door as its primary face on the public street, the result is a loss of a quality environment for the neighbourhood. A pedestrian's enjoyment of these city spaces diminishes if the pattern of blank garage faces repeats itself down the length of a city street.

A garage must not dominate any façade facing a street, public space or other residential dwelling. Soft landscaping should prevail for its aesthetic and environmental value. The goal is to design safe and environmentally friendly communities with an appropriate interface between pedestrians, cyclists and vehicles.

Design guidelines:

- 5.1 Limit the area occupied by driveways and parking spaces to allow for greater amounts of soft landscape in the front and rear yard. Reduce the width and length of driveways and parking spots, and use permeable pavers to minimize the visual and environmental impacts of hard surface areas.
- 5.2 Where driveways and walkways abut, use contrasting materials to distinguish and highlight the walkway to front door.

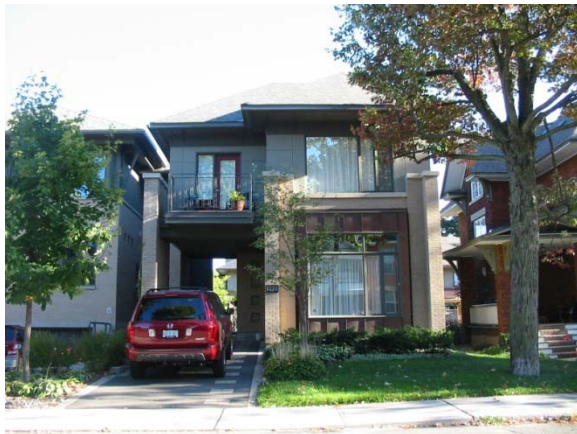


Figure 26: The use of different paving materials distinguishes the parking surface from the walkway to the principal entry.

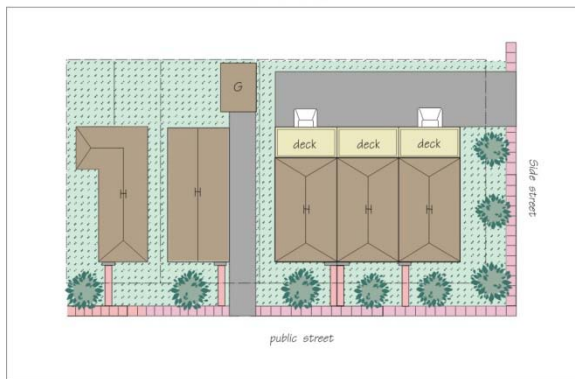
- 5.3 In order to minimize paved surface area and pedestrian/vehicular conflicts at the sidewalk, and to maximize room for soft landscaping and on-street parking, build shared underground parking that is contained within the site when multiple units are proposed. (Photo to be added)
- 5.4 In order to maximize the area of green front yard and to emphasize the dwelling façade, provide driveways to detached rear garages or parking areas, when these parking solutions are in keeping with the neighbourhood character.



Figure 27: This detached rear garage fits with the neighbourhood parking pattern and permits more front yard landscaping.

- 5.5 In neighbourhoods with open rear public lanes and on corner lots, provide parking in the rear with access from the lane or flanking street.

*3 townhouse infill with parking at the back
on corner lot*



Figures 28 and 29: A single shared access driveway for multiple units matches the neighbourhood pattern of parking at the back. A single vehicular access reduces vehicle/pedestrian conflict, allows for more soft landscaping in the front yard, and permits more on-street parking.

*3 townhouse infill with parking at the back
in existing neighbourhood*

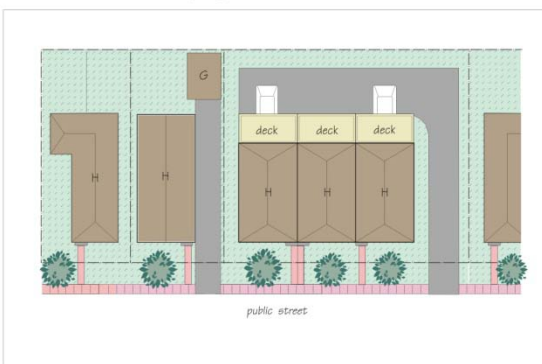




Figure 30: The design of this infill minimizes the impact of car storage by locating shared parking behind the development, internal to the site and accessed through a low entryway.

- 5.6 Where access to a garage is at the front, design infill so that the proportional relationship between the width of the garage and the width of the lot is similar to the pattern of the neighbourhood. For example, if front garages occupy 25% of the lot frontage of existing homes, reflect this characteristic in the proposed infill home.
- 5.8 Limit the number and width of access depressions (curb cuts), and share driveways in order to maintain as much on-street parking as possible.
- 5.9 Avoid sloped driveways to the basement garages of detached and semi-detached houses, to avoid creating a pit in the front yard and/or at the street edge.
- 5.10 Where front garages are permitted, recess garages behind the front façade and make windows, projecting balconies, living space and landscaping the dominant elements facing the public streetscape.



Figure 31: The architectural detailing on this semi-detached residence highlights the structure and not the garage and covered parking spot. Each half is also architecturally distinctly different from the other.

- 5.10 Limit the width of front yard parking in order to retain the maximum amount of soft landscape area in the front yard.
- 5.11 In order to increase the amount of surface water infiltration, in particular on narrow lots where paved areas occupy a large percentage of the yard, use permeable paving for hard surface areas (e.g. parking spots, walkways, driveways). Turfblock, cobblestone, honeycomb block, and wheel strips, that are hard, stable and dust resistant, can all be used as alternatives to conventional paving.



Figure 32: Wheel strips provide a stable base for vehicles; an unpaved gravel driveway allows for increased infiltration.

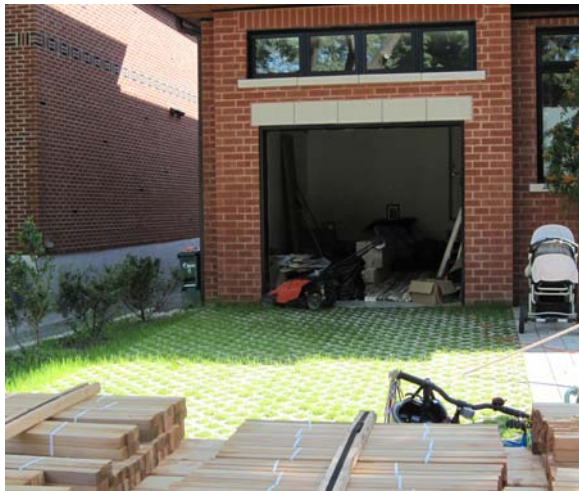


Figure 33: Turf block provides a stable base for parking while increasing on-site infiltration of surface water.

6.0 Heritage Building Alterations/Additions

Revitalizing and adding on to existing buildings is a fundamental principle of city building. Older structures, with updated interiors, rejuvenated exteriors, new uses and added facilities, are good neighbours. As familiar landmarks in the community, they represent prudent development and conserve the environment through reduced landfill. Heritage buildings require special attention and are covered under their own legislation under the *Ontario Heritage Act*.

Design guidelines:

- 6.1 Respect the municipal and provincial policies specifically related to additions and infill associated with heritage buildings and areas: City of Ottawa OP Sections: 4.6.1.2, 4.6.1.7 and 4.6.1.8 and the Provincial Policy Statement, 2.6 Cultural Heritage. (OP policy 4.6.1.2 specifically ties into design guidelines that form part of heritage conservation district studies. Since many older residential parts of former Ottawa are part of designated heritage conservation districts, the district studies and the guidelines contained therein are relevant.)
- 6.2 Complement the character and style of the existing building as well as the attributes of the surrounding area.
- 6.3 Respect and conserve the heritage value when introducing a new addition to an historic building and/or place.
- 6.4 Use materials and finishes that are predominant in a neighbourhood with heritage character. Traditional materials and finishes, rather than simply the traditional building form, can be used as an effective mechanism to balance new with old. Select colours and materials that enhance, or harmonize with, the existing character of development in the area.
- 6.5 Make new development physically and visually compatible with, and distinguishable from, the historic place. Look for opportunities to be innovative and creative when blending new development with the existing context.
- 6.6 Enhance and maintain the amenity and continuity of a heritage streetscape.
- 6.7 Recognize the surrounding older architectural vocabulary and reference this in the scale, proportion and materials of the new infill.
- 6.8 Safeguard and protect views to adjacent or nearby valued older and/or landmark buildings and structures.
- 6.9 Protect and incorporate existing site features such as large trees, fencing, stone walls, stone paving, etc.
- 6.9.1 Design additions either secondary to, and framing the heritage showpiece; or design additions as visually separate and distinct from the heritage structure.



Figure 34: The red brick infill addition, which is set back and to the right of this neighbourhood building, blends into the existing context through its compatible composition, materials and colours. Its placement on the site showcases the heritage building.

7.0 Service Elements

Reduce the negative aesthetic impact on streets and open spaces of service elements such as utility boxes, garbage storage, loading docks, vehicle access and egress (such as ramps to parking), air conditioner compressors, utility meters and transformers.

Services can be incorporated into the design of new development and screened from view so that they do not diminish the quality or safety of the public streetscape. (Photo to be added)

Design guidelines:

- 7.1 Integrate and screen service elements (such as loading areas, garbage and recycling storage, utility meters, transformers, heating, ventilation and air conditioning equipment) into the design of the building so that they are not visible from the street and/or adjacent public spaces. Conceal these elements using a variety of methods such as containment, hard and soft landscaping, and decorative screening, without unduly limiting access, safe operations and maintenance.



Figure 35: Service elements are integrated into the design of this home by making them visually less prominent.

- 7.2 Where there is no garage, store garbage, green bins and recycling bins in a rear shed, or in a small storage space that is within the dwelling unit but with outdoor access at the side or rear of the unit, or outdoors at the side of the house. Do not replace the storage function of a garage with a storage unit that is visible on the front façade of the home.
- 7.3 Ensure screening does not interfere with the safe movement of pedestrians and vehicles.
- 7.4 Locate ventilation out-takes so odours do not spill into public areas or private residential spaces.
- 7.5 Respect safety clearances and setbacks from overhead and underground services and utilities.
- 7.6 Group utility boxes to minimize their visual impact. Consider innovative methods of containing utility services on or within streetscape features such as gateways, lamp posts, transit shelters etc., when determining appropriate locations for large utility equipment and utility cluster sites.

8.0 Infill on Narrow Lots

In some neighbourhoods, the lot widths permitted by the Zoning By-law are much narrower than existing lots and, as a result, it can be more difficult to achieve a compatible fit. This is particularly true for development on the narrowest lots (less than 6m in width) where many functions must be squeezed into a narrow area. Particular attention to design and context is required to ensure a compatible fit for infill on narrow lots.

All the previous sections of this document apply to small lots; guidelines are given in this Section 8.0 to place particular emphasis on the issues surrounding narrow lots, and to re-emphasize certain guidelines.

- 8.1 Design houses where the principal living space is at grade and where ground floor doors and windows face the street and create possibilities for interaction with the neighbourhood.
- 8.2 Do not create a dwelling on stilts as a means to provide parking under the dwelling or access to rear parking.
- 8.3 Limit the width of driveways, parking spaces and walkways in the front yard in order to maximize the amount of soft surface area remaining in the front yard.
- 8.4 Locate hard surface areas so that the largest area of contiguous greenspace can be maintained.
- 8.5 Ensure that there is sufficient space to park a single vehicle without overhanging the sidewalk or curb.
- 8.6 Construct hard surface areas out of porous materials to increase on site surface water infiltration.
- 8.7 Where there are healthy existing trees, site driveways and parking spaces on the property in such a way that the trees can be retained.
- 8.8 When planting new trees in an area with limited soil volume and planting area (less than 9m² per tree), use materials and planting techniques (e.g. Silva Cells or similar planting systems) that improve tree growth conditions and limit the impacts of soil compaction and road salt.
- 8.9 Incorporate architectural features, such as porches, that reflect neighbourhood character.
- 8.10 Store garbage, recycling and green bins in a rear shed, or in a small storage space that is within the dwelling but with outdoor access at the side or rear, or outdoors at the side of the house. Do not create a storage unit that occupies the front façade of the home.

9.0 Glossary

Accessibility: the ease with which a building or place can be reached

Amenity: elements that contribute to an area's needs, whether social, environmental or cultural and promotes the comfortable use of the space

Angular plane: an upward angle drawn from the edge of a residential lot line to define the confines in which to build to protect a neighbour's access to light and sun

Architectural elements: prominent or significant parts of the physical building or structure that contribute to the overall design

Articulation: architectural detail that gives a building interest and added richness

Buffer zone: an area to be used for planting/screening, to mitigate the impact of an adjacent use

Building mass: the combined effect of the shape and bulk of a building or group of buildings, including height, width and depth

Built form: buildings and structures, their density, scale (height and massing) and appearance

Block: an area surrounded by a set of streets

Character: a place with its own identity

CHMC: Canada Mortgage and Housing Corporation

Compatibility: when the density, form, bulk, height, setbacks, and/or materials are able to co-exist in their surroundings. 'Compatible' does not mean 'the same as' and is not intended to preclude innovation and creativity.

Context: the setting of a site, and its adjacent uses; it can include the houses on a street, the trees, the neighbourhood, the pedestrian environment

Cultural Landscape: represents the combined works of nature and man

Driveway: a private way used for vehicular access from a parking space to a public street

'Eyes on the Street': coined by Jane Jacobs, "The sidewalk must have users on it fairly continuously, both to add to the number of effective eyes on the street and to induce a sufficient number of people in buildings along the street to watch the sidewalks." (From her book, "Death and Life of Great American Cities")

Fabric: the pattern of the arrangement of street blocks, lots and buildings

Façade: the principal face of a building (also referred to as the front wall)

Front wall: the main exterior wall of a residential building located closest to the front lot line

Front yard: the space between the property line and the structure facing the public street

Glazing: a transparent part of a wall, usually made of glass or plastic

Grade: Ground level

Grain: see Fabric

Green building: buildings designed to reduce the overall impact of the built environment on human health and the natural environment throughout the building's lifecycle. Some design and material considerations which contribute to a green building include (1) the use of environmentally friendly products (e.g. sustainably harvested materials, materials made with a high percentage of recycled content etc.), (2) design that reduces material and energy consumption and promotes renewable energy generation (e.g. building orientation and location, passive solar heating and cooling, grey water or rain water recycling, solar thermal or PV installations), (3) design which considers occupant health (e.g. low VOC paints and glues), (4) design that reduces waste and pollution (e.g. limiting construction waste, recycling of demolition materials etc.), and (5) design which reduces contribution to the urban heat island effect through cool or green roofs, light coloured materials, and reduction in paved surfaces. A green building may incorporate some or all of these ideas. While green buildings are encouraged, they must still meet the provisions of the building code.

Green roof: provides recreational amenity, reduces storm water run-off, helps insulate buildings, reduces heat infiltration, filters rainwater and requires less energy to cool

Infrastructure: physical structures that form the foundation for development. Infrastructure includes wastewater and water works, electric power, communications, transit and transportation facilities, and oil and gas pipelines and associated facilities.

Landscaped buffer: a landscaped area along the perimeter of a lot that screens certain uses from one another or from the public street

Legibility: the ease by which an area can be understood and navigated by both its residents and the world at large

Light pollution: light created from excessive illumination, by unshielded or misaligned light fixtures, and by inefficient lamp sources, with health implications to humans and wildlife

Lot width: the horizontal distances between the side lot lines

Official Plan: the Official Plan of the City of Ottawa (2003) as amended from time to time

Pedestrian scale: a size (of building, space) that a pedestrian perceives as not dominating or overpowering

Permeability: the variety of routes and views through something that feels pleasant and safe

Private way: private driveways within a planned unit development that leads to a public street

Property line: the legal boundary of a property

Public Lane: a narrow street at the back of buildings, generally used for service and parking

Public realm: the streets, lanes, parks and open spaces (whether public or privately owned) that are free and available to anyone to use.

Public Streetscape: the overall character and appearance of a street formed by buildings and landscape features that frame the public street. Includes plants, lighting, street furniture, paving, public utilities; etc.

Planned Unit Development: two or more residential use buildings on the same lot

Scale: the size of a building in relation to its surroundings and to the size of a person (see Pedestrian Scale)

Setback: the required distance from a road, property line, or another structure, within which no building can be located. Soft landscape: the area used for planting

Soft Landscaping: includes trees, shrubs, hedges, ornamental plantings, grass and ground cover

Street: a public street

Streetscape character: a streetscape with characteristics based on street age; building siting, landscape patterns and natural features

Streetwall: a line of buildings that frames the street

Style: architectural vocabulary and appearance; can reflect historic or modern

Urban Design: the art of making places; includes buildings, groups of buildings and the spaces between them

Walkway: a walking area that connects the street or public sidewalk to the front door of a residence.

10.0 Appendix: How Design Guidelines fit with the current Development Approval process

Many of the urban design guidelines can be implemented through the mechanisms available in the *Planning Act*. These mechanisms are applied, in part, through the City's Zoning By-law, through the review of Site Plan Control applications, and through the variance and consent processes of the Committee of Adjustment.

In the area covered by the '**Downtown Ottawa Urban Design Strategy**', these guidelines will be implemented through the **Urban Design Review Panel** which requires design review by a professional peer review group as part of the approvals process for all new developments within the Review Panel's area of authority.

The Zoning By-law outlines what a parcel of land may be used for and regulates lot size, parking requirements and building height. Design guidelines will support the requirements under Zoning.

Site Plan Control is the process that is used to control or regulate the various features on the site of an actual development including building location, landscaping, drainage, parking, and access by pedestrians and vehicles.

Site Plan Control Approval is exempted for detached, semi-detached and duplex and triplex buildings under the Site Plan Control By-law. For more information on Site Plan Control please refer to: [http : // ottawa.ca/residents/planning/dev_review_process/dev_application/17_3_5_en.html](http://ottawa.ca/residents/planning/dev_review_process/dev_application/17_3_5_en.html)

The Committee of Adjustment is a quasi-judicial tribunal appointed by City Council and is independent and autonomous from the City Administration. It derives its jurisdiction from the *Planning Act* of Ontario. The Committee's mandate is to:

- Hear Applications for "Minor Variances" - where a requirement of a Zoning By-law cannot be met (under Section 45 of the *Planning Act*)
- Hear Applications for Consent to "Sever" a property or for any agreement, mortgage or lease that extends for more than 21 years (under Section 53 of the *Planning Act*)
- Consider Applications for Permission, which deal with the enlargement or extension of a building or structure that is legally non-conforming, or for a change in non-conforming use

The design guidelines are a tool to guide development. Applicants will have regard for the guidelines as they prepare their submissions; the Committee of Adjustment will equally have regard to the guidelines as they evaluate development applications.

For more information on the Committee of Adjustment, please consult the City's web site.

For a '**Consent (to sever) Application**' where an infill lot is being created, even if the lot conforms to the requirements of the Zoning By-law, the Planning and Growth Management Department may request specific conditions for the design of the building to be constructed on the lot. For example, the Committee of Adjustment can approve a severance with conditions imposed on that approval, such as the requirement for rights-of-way that will help achieve the design principles for the street as outlined in the guidelines.

The **Building Permit stage** is sometimes the only time an infill project, albeit only the building structure itself, will be reviewed. For example, it may be reviewed only at Building Permit stage if it is exempt from Site Plan Control By-law 2002-4 as amended; the Building Code and all other Zoning By-law provisions have been met; it is not a Designated Heritage Building or within a Heritage Conservation District under the Ontario Heritage Act, and there is no requirement for a severance. The Building Code review process

is technical only; designed to ensure that once the building or addition etc is completed, the minimum building standards for health, safety, structural sufficiency, accessibility and energy conservation will have been incorporated and that applicable law has been met. Applicable law in the case of infill residential in the area of study would include: the Zoning By-law, Demolition Control By-law and the Heritage Act.

Cash in Lieu of Parking and Cash in Lieu of Parkland requires providing cash in lieu of providing parking spaces, and cash in lieu of providing lands for recreational uses, whichever may apply.