Urban Design Handbook

May 2015

Low-Rise Multiple Dwellings

MISSISSAUGA

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Introduction

Introduction

As the City of Mississauga moves toward building a more sustainable future in the 21st century, the pattern of development will become more compact, using land and resources more efficiently. Low-rise multiple tenant dwellings, such as townhouses, apartments and condominiums found throughout the City, represent a "smart growth" alternative to traditional single and semi-detached residential development. Given this unique disposition, low-rise multiple dwellings provide the option of increasing density and intensifying lower-density neighbourhoods, while maintaining a low building scale. In addition, they serve as a suitable built form when transitioning to higher density residential and commercial areas.

Purpose

The following design guidelines provide a framework for the organization, function and quality of low-rise multiple dwellings on development lands in Mississauga. The intent of these guidelines is two-fold: ensure that new development is sensitive to established communities through design continuity and the relationship with neighbouring properties; and increase the standard of design in the city by encouraging new low-rise development in existing and new neighbourhoods and communities, or areas in transition to set new precedents.

In addition to providing guidelines for site development and building design on private lands, the handbook also includes direction on how to best interface with adjacent lands, including the public realm. The urban design components that constitute the public realm (but does not preclude those found in the private realm) such as streets, laneways, streetscape, pathways, open space and natural features also need to be considered to ensure the seamless integration of new low-rise development with its surrounding context. By successfully achieving the fundamental principles of connectivity and compatibility, while employing quality physical characteristics common in the community, new low-rise development can be a welcome addition to a neighbourhood by adding aesthetic beauty and monetary value.

These guidelines should be read in conjunction with other City Council endorsed design documents, e.g., the Mississauga Accessibility Design Handbook 2005, and the Mississauga CPTED Principles to ensure the highest level of development possible. Further, all new and different standards not in compliance with current municipal engineering standards, e.g., lighting and paving, need to be reviewed by the Transportation and Works Department, with particular regard for maintenance and replacement costs.

Urban Design Principles

The following principles provide the framework for the design guidelines:

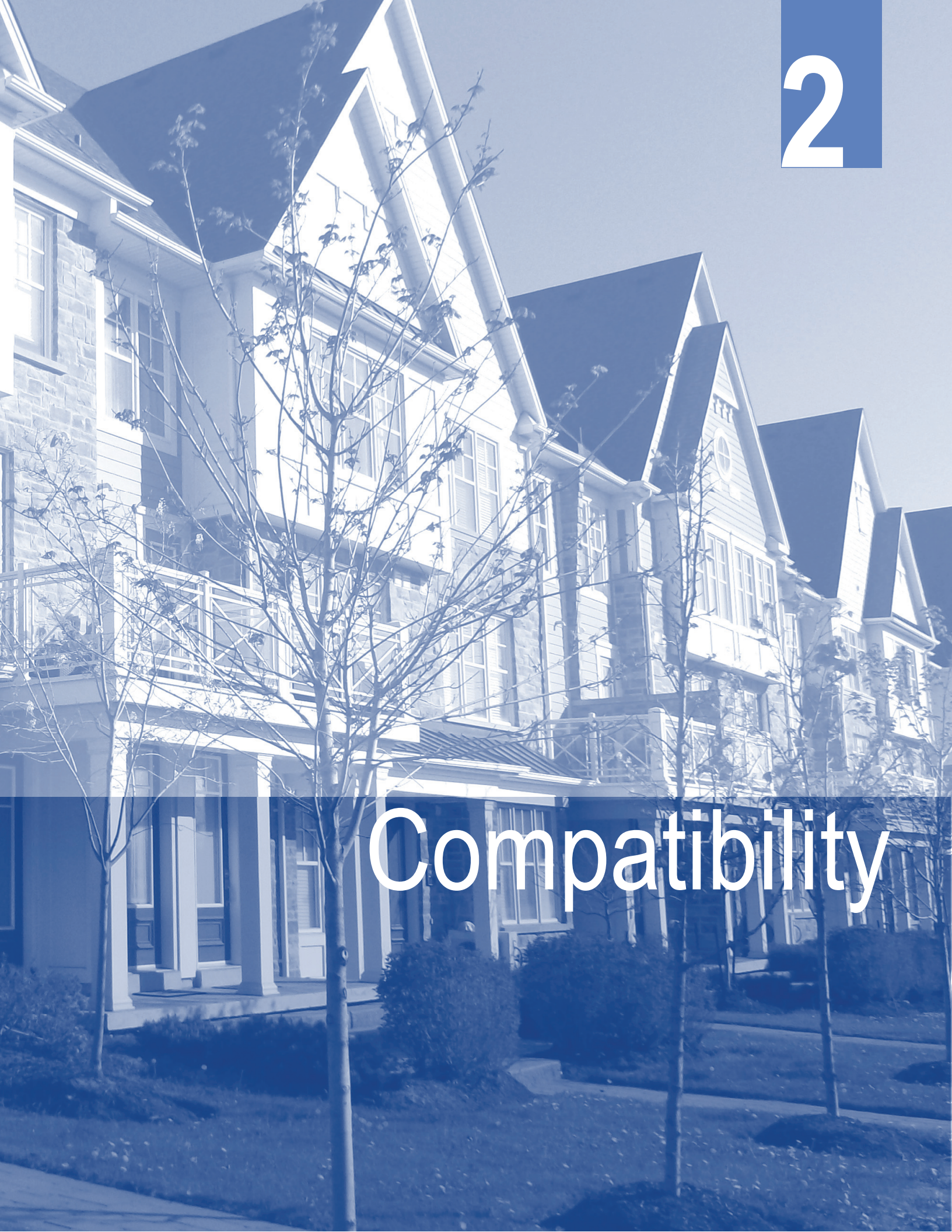
- Ensure compatibility with neighbours
- Build pedestrian focused development
- Create animated and attractive streetscapes
- Ensure the highest quality of light, view and privacy on all development
- Develop communities with character and identity
- Promote environmental sustainability
- Offer alternatives to automobile reliant development
- Balance parking requirements with pedestrian areas
- Ensure community safety

Application of Guidelines

The guidelines are intended to complement the Zoning By-law and will apply in the Development Approval process where low-rise, multiple dwellings are considered to be appropriate built form.

Low-rise multiple dwellings are defined as residential buildings with more than two dwelling units, but does not exceed a height of four-storeys. Generally, for most areas of Mississauga, this definition refers to buildings permitted within the following zones:

- RM4 Townhouse Dwellings
- RM5 Street Townhouse Dwellings
- RM6 Townhouse Dwellings on a CEC Private Road
- RM8 Horizontal Multiple Dwellings with 4 to 6 Dwelling Units
- RM9 Horizontal Multiple Dwellings with more than 6 Dwelling Units
- RA1 Apartment Dwellings



2

Compatibility

Compatibility

Compatibility refers to how well a new building 'fits in' with neighbouring buildings. Often low-rise, multiple dwellings are located on transition sites, and between low-density and higher-density areas. Developing such sites requires careful consideration regarding site planning and building massing, including the height and setbacks from the street and adjacent developments. These compatibility guidelines are focused on ensuring that new buildings respect the established patterns of development in a neighbourhood, while minimizing shadowing and overlook onto adjacent properties.

The significance of achieving compatibility may vary in each area of the city. In existing neighbourhoods with a consistent and desirable character, new development should simply reinforce the existing condition, i.e., setbacks, heights and the scale of new buildings should reflect the pattern of neighbouring buildings and lots.

Conversely, the existing context in some areas of the city may be less desirable. Streets dominated by garages, surface parking lots, reverse frontage development, or other conditions which detract from establishing quality pedestrian environments, may require new development to set a higher and more desirable design standard.

2.1 Building Mass and Height

The massing and height of new development should be considered in order to ensure compatibility with the existing or planned pattern of development in a community. A building may be very similar to its neighbours in this manner, while another may vary significantly, requiring skilful design to ensure appropriate integration with the urban (city) fabric.

Low-rise multiple dwellings are often sandwiched between low-density and higher density areas. With the careful organization of building mass and height, low-rise multiple developments can serve as a screening device to transition between varying neighbourhood scales.

Fig. 1: Low-rise, multiple dwellings are used as transitional built forms.

Design Approach

- Setback upper storeys from the build-to-line to reduce the street level impact of additional height.
- Step the building down (or up) in height near adjoining properties to relate to the scale of neighbouring buildings.
- Create horizontal emphasises that relate to the cornice lines, podium heights and/or the window pattern of adjacent buildings.

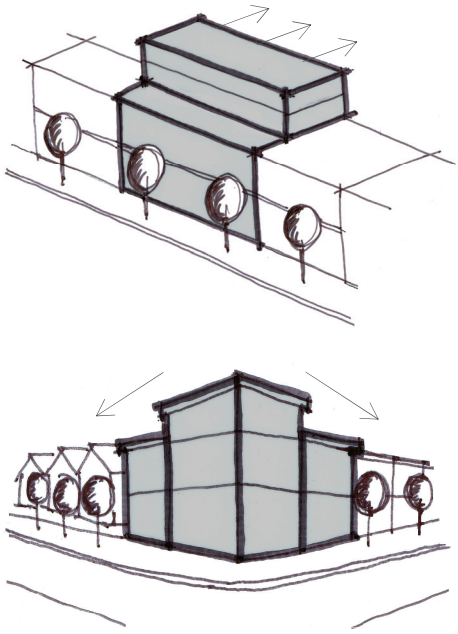


Fig. 2: Design Approach– Transition of Building Forms

2.1.1 Design Guidelines

- Respect the height, scale and massing of neighbouring buildings.
- Where the proposed building is taller or larger than adjacent buildings, create a transition in building height and form.
- Where the existing or planned pattern of development is characterized by taller buildings, consider additional height while maintaining adequate light, views and privacy *(See 2.3: Light, Views and Privacy)*.
- Create a well-defined street edge and sense of enclosure.

Design Approach

- Incorporate sloped / terraced rooflines and half-storeys on upper levels to lessen shadowing and overlook on neighbouring open space and amenity areas.
- Provide a transition in building type, e.g., single or semi-detached dwellings, near adjacent properties which are smaller in scale.
- Divide building mass into smaller vertical sections that reflect the scale of neighbouring buildings.
- Add or subtract storeys, if necessary, to reflect the height of adjacent neighbouring buildings.
- Provide a greater floor-to-floor height.
- Incorporate a parapet or steeper roof slope.
- Arrange building mass with a vertical emphasis.
- Create a continuous streetwall with building mass abutting a minimum of 75% of street frontage on both vertical and horizontal planes.

Fig.3: Continuous eaves and sloping roofs give the appearance of additional height.

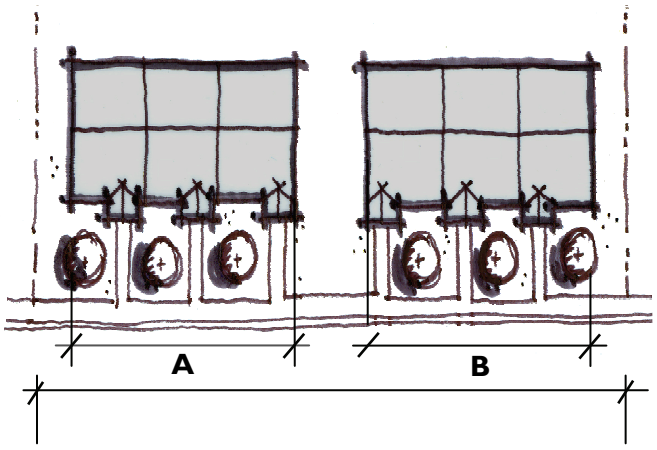


Fig.4: Lot Frontage A + B = minimum 75% of frontage

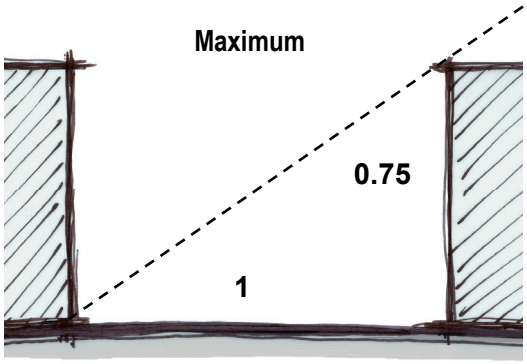


Fig.5: Street width to building height ratios

Fig. 6: Corner Defined by Massing

- Provide a street width-to-building height ratio between 1: 0.3 to 1: 0.75, to be consistent with the existing street character (*Consult the Zoning By-law for maximum permitted heights)*.

- For corner sites, organize the building mass to define and wrap around the corner.
- Place additional building mass or special architectural features at corners and building flanks for corner emphasis.

2.2 Siting

In areas with an established and desirable streetscape and character, the placing of new buildings should respect and enhance that condition. Matching setbacks and grades can help new buildings to blend in and potentially reduce any negative impact on neighbouring properties.

For areas with less desirable streetscape and character, such as reverse frontages and large surface parking lots, encourage new development to improve the character and establish new design standards. Site buildings to define the street edge with front doors facing the street, to create an animated and pedestrian–friendly streetscape.

Example of Pedestrian-Friendly Streetscape

Example of less desirable Streetscape

2.2.1 Design Guidelines

1) Site buildings with the front façade facing the public street. Avoid rear yards fronting the public street.

2) Employ consistent facing relationships between building elements throughout a site; i.e.: fronts facing fronts, backs facing backs. Avoid back-to-front facing relationships.

3) When consistent and desirable front yard setbacks exist on adjacent properties, site new development to reflect that condition.

4) When adjacent front yard setbacks vary, align new buildings to mediate between these conditions; i.e.: averaging between adjacent setbacks *(See figure 7).*

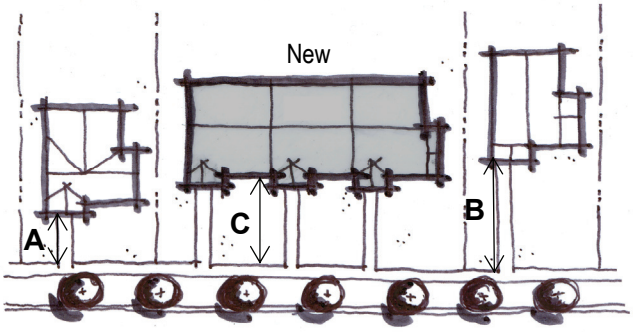


Fig. 7:" Align to average setback: C = A + B / 2

5) In cases where adjacent front setback is less desirable, e.g., setback area used for parking, separating buildings from public walkways, and encouraging the siting of new buildings closer to the street edge *(Consult the Zoning By-law for minimum front yard setbacks).*

6) When siting buildings close to the street, ensure that space uninhibited by utility easements is provided for street trees on public and private properties, soft landscaping and entry features, such as front porches *(Consult the Zoning By-law for maximum front yard encroachments).*

7) Match side yard setbacks with adjacent properties *(Consult the Zoning By-law for minimum side yard setbacks).*

8) Reflect natural topography and existing grades.
   - Site buildings to minimize alterations to existing grades and natural topography.
   - Match existing grades at property lines to assist in tree preservation, natural drainage and general compatibility with the surrounding context.
   - Minimize the use of retaining walls, particularly along street frontages.

9) Where retaining walls are required:
   - Limit the height to a maximum of 0.6 metres (2 feet).
   - Incorporate landscape and terrace elements, when appropriate, to create a positive site feature.
   - Provide a minimum 1.2 metre (4 feet) wide landscape area between terraced retaining walls *(See figure 10).*

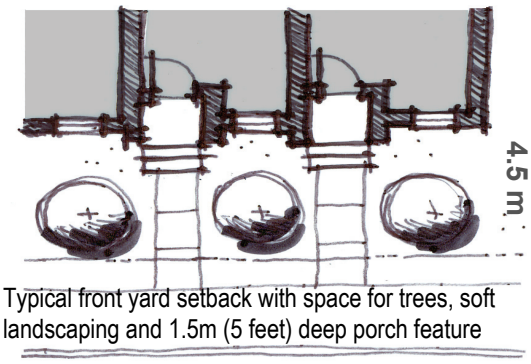


Fig. 8: Typical Front Setback—to allow for landscaping.

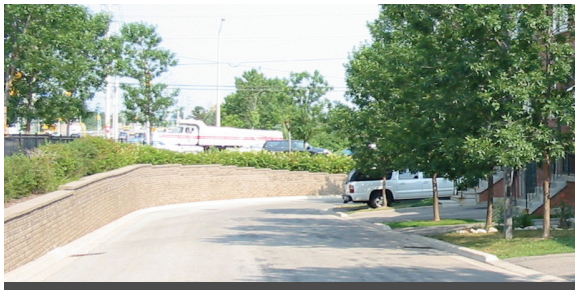


Fig. 9: Avoid grade alterations and large retaining walls.

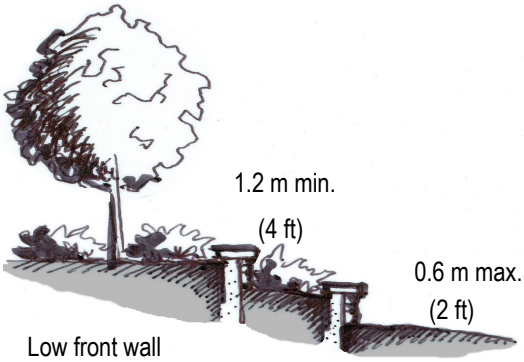


Fig. 10: Grade Transition from sidewalk to front door —Thru terracing to minimize retaining walls.

2.3 Light, Views and Privacy

The preservation of light, views and privacy on adjacent properties from public spaces contributes significantly to the compatibility of a new development. It is imperative that all new development offers views while minimizing shadowing and overlook onto neighbouring lands. It is also important to consider the quality of light, views and light for residents within a new development.

Design Guidelines

1) Maintain light, views and privacy with adequate separation distances between buildings and adjacent properties:

- Consult the Zoning By-law for minimum building setbacks.
- Buildings should be contained within a 45 degree angular plane, measured from the rear property line when abutting lower-scale residential buildings. For more intensively developed areas, determine an appropriate setback or angular plane to protect the privacy, light and views of neighbours.
- Provide a minimum 4.5 metre (15 feet) wide landscape area, unencumbered by building or structure, to provide for trees and to buffer the rear yards of neighbouring properties or open space.

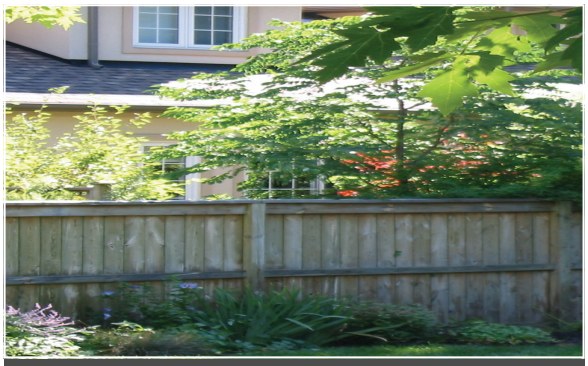


Fig.11: Rear setback landscaped for amenity and privacy.

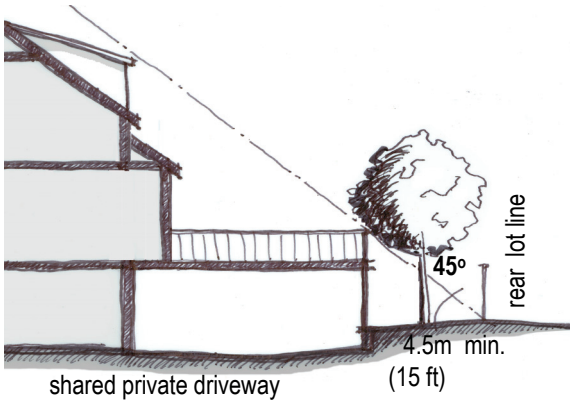


Fig. 12: Rear yard setback respecting angular plane

Fig. 13: Maintaining light and privacy

2) Preserve views into streets and open spaces, and sunlight onto adjacent properties *(See 2.1: Building Mass and Height- Design Approach).*

3) Create a transition space / landscape element between the public street and private dwelling.

4) Minimize or stagger side yard windows to avoid direct alignment with adjacent building windows.

5) Position decks and balconies to minimize overlook onto neighbouring properties and private amenity spaces. Where overlook occurs, screen views with landscaping, decorative walls or fencing.

6) Preserve and enhance significant public views, particularly those to the waterfront, natural features and other public open spaces and elements.

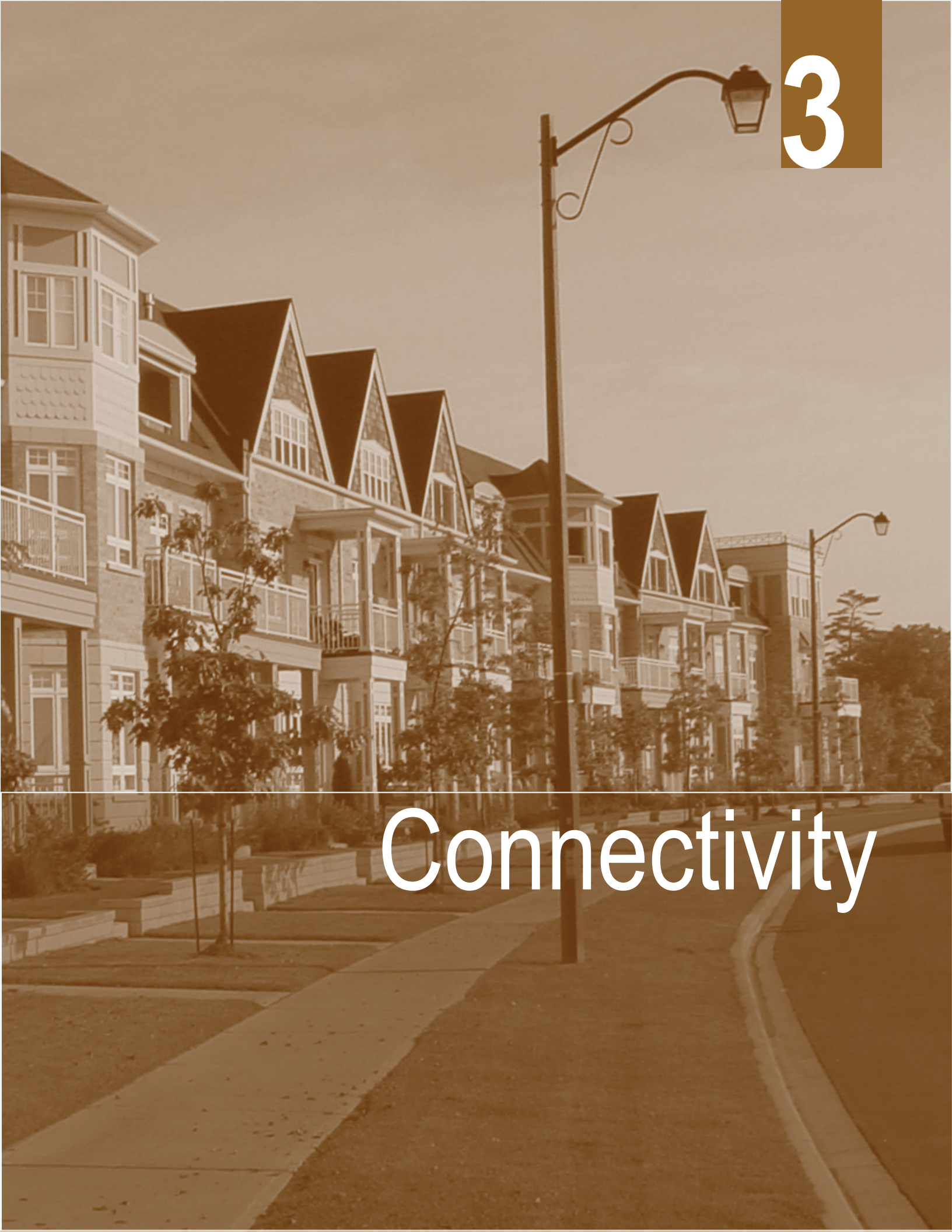
Design Approach

- Use landscaping, a subtle grade change, a porch feature and/or a change in surface material to distinguish the building entry from the public realm.
- Raise the front entrance not more than 3 steps above the grade of an adjacent sidewalk or public pathway
- Commercial uses on the first floor should have at-grade entrances.

Fig. 14: Small, raised side yard windows maintain privacy

Fig. 15: Public view corridor preserved and enhanced.

Fig. 16: Landscaping, a porch feature and a short run of steps define a transition to private space.



3 Connectivity

Connectivity

Connectivity is meant by how features, such as buildings, pathways, open spaces and natural areas found in a new development, integrate with each other and existing networks in the broader community. As such, guidelines for connectivity deal with developing a positive relationship between new development and the existing context, and focus on improving the linkages within and between built areas.

In general, existing networks include streets, pedestrian pathways, open spaces and natural features. Improved pedestrian connectivity can make walking more pleasant and convenient, as well as encourage alternative transit modes to vehicular. From a city-wide perspective, linking open spaces and natural features through a site can provide a system of green corridors for recreational and environmental benefit.

3.1 Streets and Laneways

Streets and laneways provide pedestrian, vehicular and servicing connections, in addition to contributing to the shape and identity of a neighbourhood. Laneways provide a primary function of vehicular access and parking at the rear of a site, thereby freeing-up building frontages along streets to develop attractive landscaping and safe pedestrian movement.

The relationship between streets and buildings is reciprocal. New development should line all streets with front doors, windows and porches to encourage attractive design on principle elevations, street activity and "eyes on the street". The function of streets should be actively linked with building frontages by means of sidewalks, slower traffic and on-street parking. (Please Note: Laneway design should be consistent with the standards established by the Transportation and Works Department.)

Fig. 17: Complete Street—with building frontage, garages in rear, trees, generous sidewalks, cycling and on-street parking create a safe and comfortable pedestrian environment.

Fig.18: Laneway Design—for rear parking and servicing.

Fig.19: Lay-by Parking—can activate building fronts.

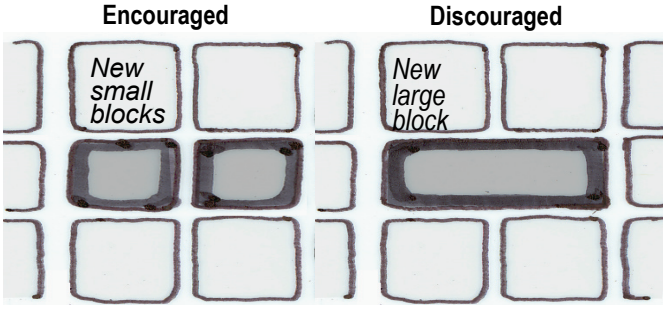


Fig. 20: Streets & Block Design—Short, permeable block patterns are encouraged.

Design Guidelines

1) Consider the following when designing new streets:
   - Extend existing streets into the site and develop strong physical and circulation connections.
   - Maximize vehicular and pedestrian connections with a grid circulation pattern.
   - Create short block widths between 60 to 80 metres (200 to 270 feet), to promote walking and transit use.
   - Incorporate rear yard parking accessed by laneway or shared driveway.
   - Minimize road pavement widths to reduce impervious surfaces and storm-water runoff.
   - Avoid front service roads, dead ends, cul-de-sacs and closed or gated street systems.
2) Keep laneways straight and short in length, 120 metres (400 feet) maximum, to provide permeability and natural surveillance from the public streets.
3) Streets should be sufficiently sized and designed to include the following:
   - Allow vehicles to safely pass.
   - Accommodate trees on both sides of the street.
   - Permit emergency and service access.
   - Include sidewalks a minimum of 1.5 metres (5 feet) in width.
   - Encourage bicycle use, including lanes (as recommended in the City's Cycling Master Plan) and storage areas, where appropriate.
   - Encourage on-street parking, where appropriate.
4) Design private streets to function and appear like public streets with landscaping buildings frontages and addresses, sidewalks and on-street parking.
5) Include on-street and lay-by parking to calm traffic and activate streets. Discourage the use of landscaped bump-outs.

Fig. 21: Streetscape on Private Streets—should be designed with sidewalks and trees on both sides.

Fig. 22: Landscaped 'Bump-out'

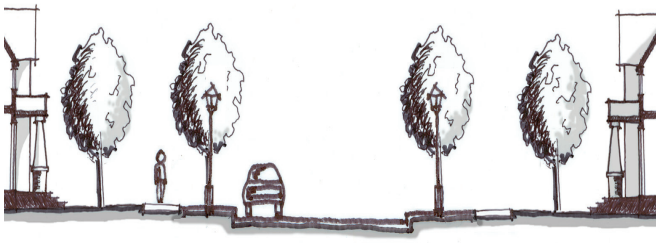


Fig. 23: Typical Residential Street Section—illustrates a street lined with continuous building frontage, street trees, generous sidewalks, decorative lighting (if possible) and on-street parking.

3.2 Streetscape

Buildings, pathways, lighting, street trees, landscaping and other street elements define the street edge and help create distinctive character in the community. Buildings, front yards, sidewalks and boulevards are the elements which form the streetscape. These public and private features should be comprehensively designed to create animated and attractive streets, with particular emphasis placed on improving the pedestrian environment. A safe and comfortable streetscape can enhance the appearance of a neighbourhood, while encouraging walking and cycling.

Fig. 24: A pleasant streetscape is formed through the design and coordination of public and private space.

3.2.1 Design Guidelines

Consider the following when developing a streetscape:

1) Enhance and reflect the existing streetscape character through consistent setbacks, landscaping, parking patterns and scale of buildings while preserving existing street trees *(See 2.2: Siting).*

2) Look for opportunities to improve the quality of the street environment by implementing the following:

   - Provide sidewalks, street trees, landscaping (with year-round visual interest), pedestrian-scaled lighting, street furniture and decorative paving.
   - Ensure that sidewalks are continuous and generous in width. Provide a minimum 1.5 metres (5 feet) in paved width for general residential use and a minimum 2.5 metres (8 feet) in paved width for areas with a mix of uses.

Fig. 25: Landscaping and a well-defined building edge enhance the streetscape.

- Site buildings to create continuous streetwalls and sense of enclosure *(See 2.1: Building Mass and Height).*
- Provide windows, doors with glazing, porches and other features for visual interest and natural surveillance of the street. Avoid blank walls along street edges *(See 4.1: Building Façade; and 4.2: Entrances).*

3) Where streetscapes are inconsistent or less desirable, e.g., large areas of asphalt and surface parking, lack of street trees, reverse frontages, dominant garages, etc., encourage more pedestrian-oriented design by employing the following:

- Place buildings with entrances and front façades facing the street.
- Locate primary parking to the rear of the site or underground.
- Plant a continuous row of street trees adjacent the public sidewalk to create a continuous canopy.

4) Preserve existing street trees and plant new ones to comply with the following specifications:

- Space street trees evenly at approximately 8 metres (25 feet) intervals, depending on the length and width of the boulevard.
- Provide a minimum area of 15 square metres (161.5 square feet), with a 1 metre (3 feet) depth of suitable soil, to ensure healthy tree growth.

Fig. 26: Residential Streetscape—Continuous sidewalks, street trees, year-round landscaping, and porches enhance the appearance and safety of the street.

Fig. 27: Pedestrian-friendly Streetscapes—Street trees, primary parking at the rear and front entrances facing the street provide a more pedestrian-friendly streetscape.

- Locate street trees in the public boulevard, offset a minimum 1 metre (3 feet) from the curb (and/or splash drip), to minimize damage from snow, salt and large vehicles. Place trees in a manner that does not obstruct regulatory traffic signs and lights.
- Plant high branching deciduous trees to provide a canopy of shade in summer months, and allow sunlight to drench the sidewalk during colder months.
- Coordinate tree locations with lighting, utility boxes, sight triangles and underground services (preferably under the sidewalk).

5) Minimize streetscape clutter by placing utility lines underground and locating mechanical equipment, utility meters and other site service elements screened and out of public view *(See 4.7: Lighting, Utilities and Servicing).*

3.3 Pedestrian Pathway Connections

A network of pedestrian paths is an important complement to the formal system of public streets and sidewalks. Pathways should provide linkages between blocks to increase convenience and encourage walking. Buildings should frame and overlook pedestrian pathways to provide enclosure and opportunities for natural surveillance.

Fig. 28: Pedestrian Connections—A pathway extended between building blocks promotes walking by increasing convenience and permeability.

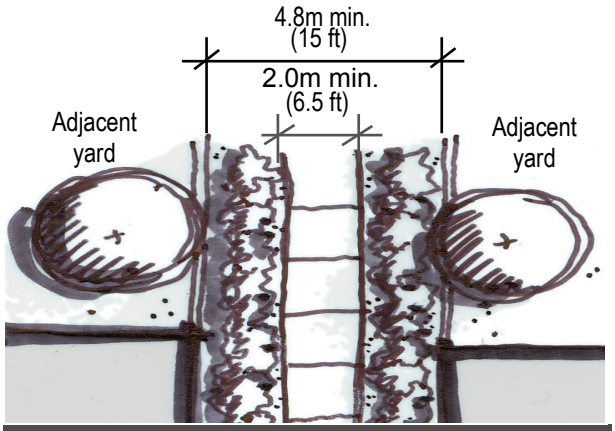


Fig. 29: Mid-block Connections—Mid-block pedestrian pathway treated with smooth paved surface, continuous landscaping, privacy fence and shade trees in adjacent rear yards.

Fig. 30: Pedestrian Network—A network of paths encourage pedestrian travel.

3.3.1 Design Guidelines

1) Develop comfortable, convenient and universally accessible pedestrian pathways by employing the following:

- Plan for public sidewalks on both sides of every street, if possible.
- Provide through-block pedestrian connections (street sidewalks or mid-block pathways) every 60- 80 metres (200-270 feet).
- Ensure that mid-block connections are coordinated with crosswalks and intersections to minimize unsafe pedestrian movement across streets.
- Designate a minimum 4.8 metre (16 feet) wide corridor for mid-block pedestrian connections.
- Provide a minimum paved width of 1.5 metres (5 feet) on all pedestrian pathways.
- Complement pathways with attractive paving, architectural features. landscaping and pedestrian-scale lighting.
- Plant trees in adjacent yards for shade.

2) Extend pathway systems between blocks and buildings. Consider promoting walking along all pedestrian routes, thereby eliminating potential damage caused by “short cuts” through soft landscaped areas.

3) Connect pathway systems to adjacent developments and public destinations, such as parks, open space, local retail, schools, community facilities and the waterfront, where applicable.

4) Site buildings to enclose pedestrian pathways, and position windows and openings to provide activity and eyes onto the walkways for natural surveillance.

5) Include privacy fencing and landscape screening as appropriate buffer elements between public pathways and adjacent private amenity spaces. Avoid noise walls if possible.

6) Provide convenient and direct pedestrian access between building entrances and public transit. A maximum walking distance of 400 metres (1,300 feet) is recommended to encourage transit use.

Fig. 31: Buildings frame and overlook these mid-block pedestrian connections.

3.4 Open Spaces/ Amenity Areas

Open spaces found in and around a new development should be focal points in communities. The quality of open space is influenced significantly by the layout of streets and pedestrian pathways, including the placement of surrounding buildings. New streets and pathways should be designed to preserve and enhance access to public parks, waterfronts and other outdoor public spaces. Buildings fronting onto public parks create a sense of enclosure, and provide active edges for natural surveillance, social interaction and safety.

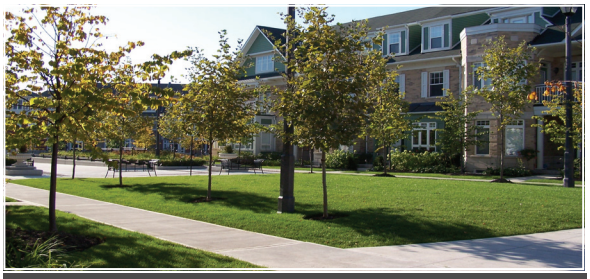


Fig. 32: Street Enclosure—building street enclosure and direct pedestrian access along streets.

2.4.1 Design Guidelines

1) Extend existing public parks and open space networks through blocks, and provide linkages to adjacent open spaces, trails, pedestrian pathways and other public features, where possible.

2) Site buildings to create usable, safe and attractive open spaces and amenity areas as follows:

- Front buildings onto public open spaces/amenity areas to create enclosure and the feeling of an outdoor room.
- Position windows and other building openings to encourage pedestrian animation and “eyes onto the open space” for natural surveillance.
- Ensure that the siting of buildings allow public parks and open spaces to have maximum advantage of sunlight and views.
- Minimize the creation of small, narrow and unassigned open spaces between and around buildings, which lack ownership and function.

Fig. 33: Public Realm Animation—windows and entrances provide activity and overlook.

Fig. 34: A mid-block park and pedestrian connection.

3) Consider the following to ensure that public parks/open spaces or publicly accessible private open spaces are universally accessible and prominent features in the site design:

- Provide direct visual and physical access from adjacent streets, sidewalks and pedestrian pathways. Include multiple at-grade points of entry adjacent to pedestrian routes.
- Parks and public open spaces should be separated from private front yards by public streets, where possible.
- Where a public street is not possible, provide a pedestrian pathway between building fronts and the public open space.

4) Provide a variety of common publicly accessible open spaces of different sizes and functions, to accommodate the intended activities and residents, e.g., children's play areas, courtyards, community gardens, arcades and squares.

5) Locate children's play areas, tot-lots and other common open spaces in highly accessible and visible areas, to promote active use and natural surveillance.

6) Group common publicly accessible outdoor areas, such as tot-lots, mailboxes and visitor parking, together to provide community focal points.

7) Incorporate natural features, topography and significant views into the design of open spaces *(See 2.3: Light, Views and Privacy).*

Fig. 35: Parkside Pathway—activates frontages.

Fig. 36: Grouped Common Areas—form a community focal point.

Fig. 37: Parkside Street—creates unrestricted public access.

3.5 Natural Features and the Environment

An important City objective is to achieve a balance between urban development and environmental preservation. Site plans should respect and enhance natural heritage areas and features, such as individual trees, woodlands, valleys and wetlands, and maintain an appropriate setback from natural hazards, inclusive of steep slopes, floodplains and shorelines.

New development should also participate in the City-wide goal to become more environmentally sustainable. Site-specific actions, such as the management of storm-water run-off, the inclusion of green roofs and the use of sustainable, energy efficient building materials and practices are encouraged.

Fig. 38: Large Trees—Large specimen trees are retained for environmental benefit and appearance of a mature **landscape.**

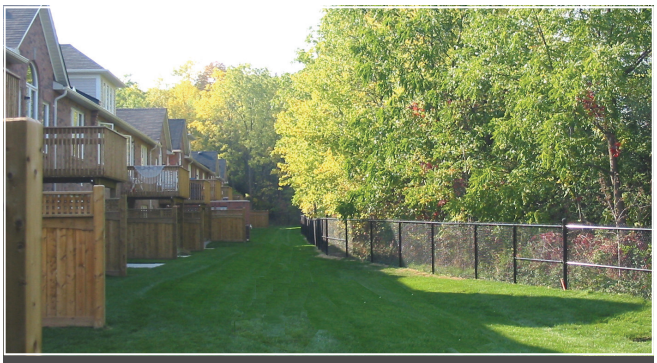


Fig. 39: Setback Buffers—Generous setback from adjacent valley feature.

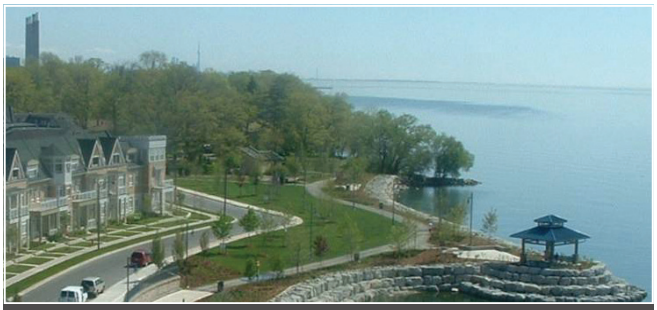


Fig. 40: Parks As Buffer—Linear public park separates development from the Lake Ontario shoreline.

3.5.1 Design Guidelines

1) Preserve, enhance and restore natural heritage features and areas.

2) Provide appropriate setbacks from buildings and paved surfaces to avoid the adverse effect of developing on existing vegetation, natural heritage areas and natural hazards *(Consult Mississauga Plan and the appropriate Conservation Authority).*

3) Carefully design public access and passive recreational amenities in or adjacent to natural heritage areas, when appropriate.

4) Retain existing trees and vegetation for environmental and aesthetic benefit.

5) Employ sustainable and energy-efficient designs, building materials and construction practices.

6) Create opportunities for on-site storm-water management, and the reduction of hard-surface runoff.

Design Approach

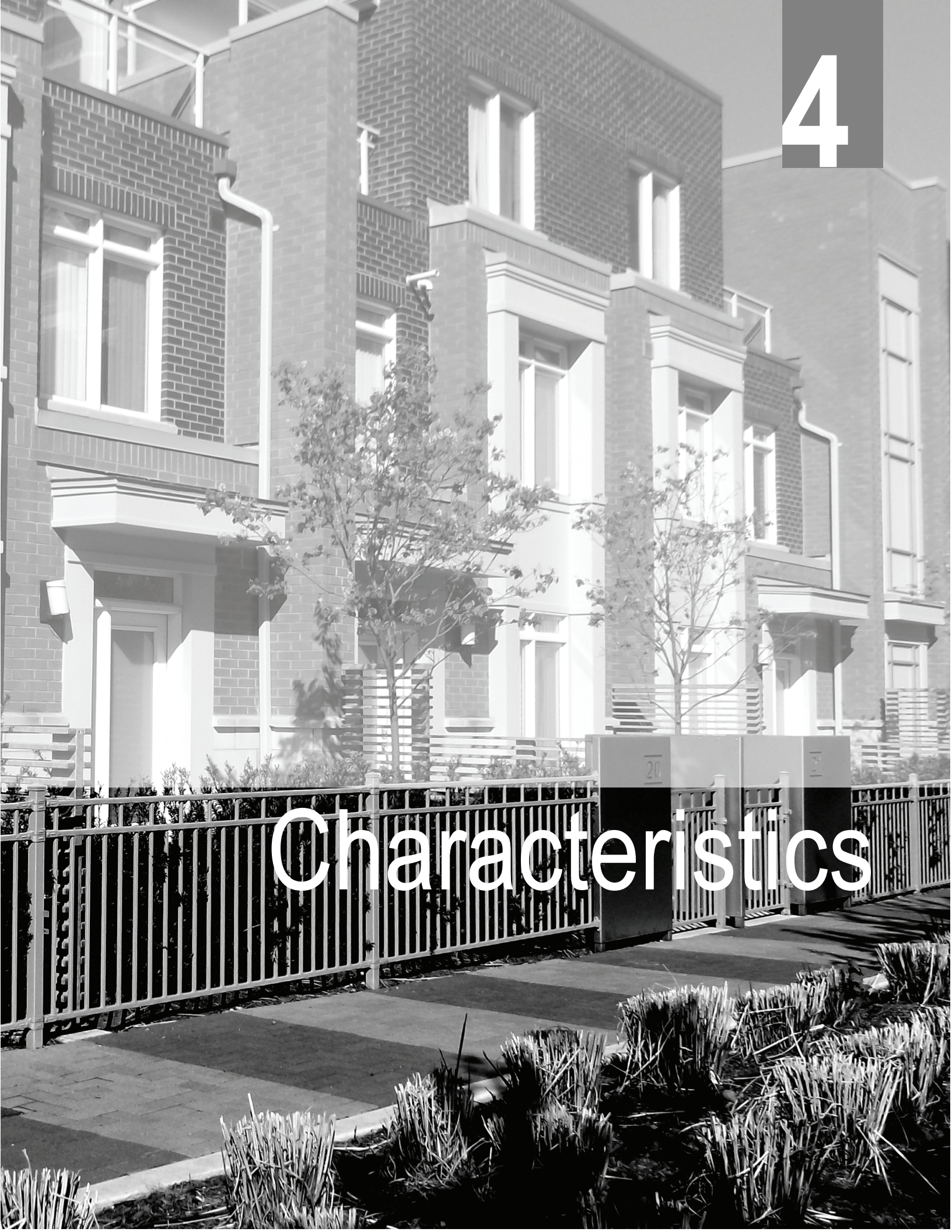
- Minimize the extent of hard, impervious surfaces. Provide shared driveways, minimize surface parking lots, use permeable pavers or other semi-permeable surface materials as alternatives to solid concrete and asphalt.

- Preserve natural drainage flows, and incorporate vegetated swales where appropriate.
- Employ native, non-invasive vegetation and drought-tolerant species.
- Encourage green roofs on buildings or structured parking.
- Distribute soft landscaping throughout the site, including tree cover, with sufficient soil depth and quality, over parking areas, sidewalks, laneways, driveways and other hard surfaces.

Fig. 41: Alternatives to asphalt and concrete promote on-site stormwater management.

Fig. 42: Green Roofs—Green roof above parking structure provides environmental benefit and amenity.

Fig. 43: Mediate Heat-island Effect—Landscaped rear lane shades hard surfaces



4

Characteristics

Characteristics

The characteristics of a new development are defined through its design details. Design guidelines in this section focus on the treatment of the building and site, including architectural features. Furthermore, these guidelines illustrate how to accommodate the functional requirements of a development such as parking, servicing and utilities.

A well-designed building can contribute to the special identity of the community. Not every building is prominent or unique in character, but the design of its details should always aspire to contribute to the overall neighbourhood character, and improve the quality of the streetscape and pedestrian environment.

Nonetheless, building materials, colour, window patterns and architectural styles are not prescribed in this handbook. In many cases, such design elements are monitored by planning policies and regulations regarding distinct heritage and character preservation objectives in communities. Yet, to ensure encourage creativity and flexibility in project design, architectural guidelines are not rigorously detailed in this handbook. All projects should have regard for the established context, including any heritage or architecturally significant buildings, structures or features in the community, and reinforce the sense of place.

4.1 Building Façade

The design and architectural detail of the building façade plays a significant role in defining street edges, pedestrian walkways and open spaces. The quality of the streetscape and pedestrian environment will be enhanced through detailed articulation of the building walls exposed to public views. Front building façades that display a richness of texture, colour and architectural detail, contribute to a finer-grained streetwall, and make for a more humanly scaled and appealing experience. Though the principle façades of new development should respect the character of established areas, individual expression and innovation is encouraged within and between the building blocks.

Fig. 44: Elevation Design—Variation in materials, architectural detail, façade depth and roofline adds interest to the streetscape.

Fig. 45: Continuing the lines and rhythm of neighbouring façades gives coherence to the streetwall.

4.1.1 Design Guidelines

1) Use a variety of architectural features and façade details to create visual interest, provide continuity with neighbours and uphold overall human scale:
   - Articulate building mass with projections, recesses, varied rooflines, chimneys, windows, entrances, balconies and/or porches.
   - Employ building materials, colours, textures and wall treatments consistent with the surrounding area.
   - Design new façades to relate to the rhythm and proportion of neighbouring façades.
   - Continue architectural features, such as window and cornice lines, to relate to adjacent buildings.
   - Position entrances and living spaces close to grade with windows facing the streets and shared open spaces.

2) Provide windows, doors, porches and balconies to help animate street frontages and promote natural surveillance.

3) Include windows, doors, where appropriate, and other façade details on the flanking wall at the end of a building block comparable in composition and quality with the main building façade.

4) Avoid long, unbroken building façades in the following manner:
   - Arrange buildings into blocks no wider than 6 attached units.
   - Create a differentiation in building units within and between blocks through horizontal and vertical articulation of the façade, a change of material, colour, roofline or other architectural details.

5) Design new buildings located on corner lots with two street frontages in the following manner:
   - Employ architectural façade treatments and details on the flanking street that display a similar and comparable level of quality and composition to the main façade.
   - Place the primary entrance on the street with the greatest frontage/façade length. Address the secondary façade with an entry feature, if possible. Avoid 'false doors' which do not contribute to active frontages *(See 4.2: Entrances).*
   - Use special architectural elements, such as towers, corner bays, wrap-around porches and gable roofs to emphasize the corner.

Fig. 46: Corner Elevations—A corner unit with a wrap-around porch is comparable in architectural detail on both frontages and entry on the flanking street side

Fig. 47: Windows and porches provide "eyes on the street"

4.2 Entrances

Building entrances are important generators of activity and life on our city streets. Entrances can and should be more than simple access points for residents and visitors. For example, doors with windows and sidelights give permeability to the building wall and promote natural surveillance with “eyes on the street.” Entry features, such as porches and stoops, provide opportunities for social interaction, as well as establish a unique character and rhythm for the streetscape.

4.2.1 Design Guidelines

1) Locate primary building entrances to be visible and directly accessible from streets.

2) When parking is located in front, pair or group entrances to provide wider landscape areas and opportunities for on-street parking.

3) Design prominent entrances that are clearly defined with differentiated rooflines, façade treatment, porch features, awnings, columns or other architectural elements, including decorative paving and landscaping.

4) On corner sites, consider locating the building entrance at the corner.

5) Include front doors with windows and sidelights to give permeability to the building wall and encourage “eyes on the street”.

6) Encourage neighbourly interaction and natural surveillance by including porches, balconies or other entrance features that promote activity in front of buildings.

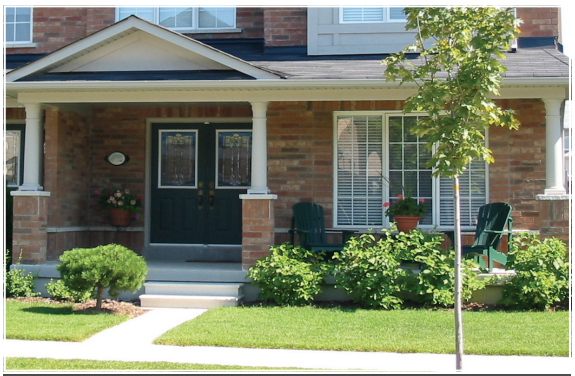


Fig. 48: Entrance Visibility—highly visible entrance with direct pedestrian access.

Fig. 49: Shared Entrances—Group entrances when parking is in the front.

Fig. 50: Porch Design—A porch feature is more functional when generous in width and depth.

7) Design generous sized and usable front porches and stoops for sitting, relaxing, etc., to be a minimum 1.5 metres (5 feet) in width and depth.

8) Keep entrances close to grade while maintaining a clear privacy zone as follows:
   - Generally locate the finished floor of main front entrances a maximum of 1 metre (3 feet) above the grade of the front property line, particularly when garages are in front.
   - Where front yard setbacks are less than 6 metres (20 feet), building entrances should be no greater than 1 metre (3 feet) above grade
   - Buildings with ground level retail should have entrances at-grade with flush walkways to address barrier-free design and accessibility.

9) When required, design exterior stairway features will be attractive and fully integrated into the site or building design:

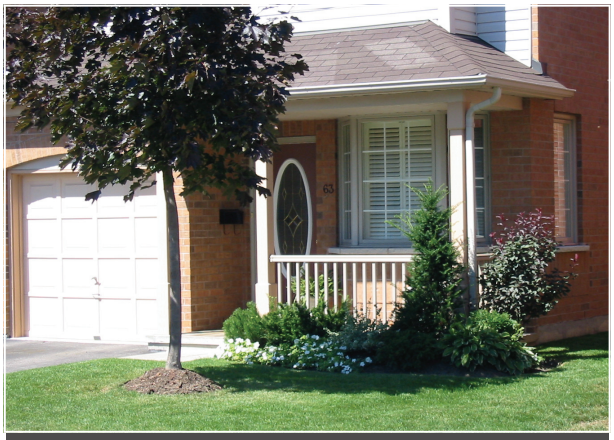


Fig. 51: Garage-Porch Design—Limit height of front entry when parking is at the front.

Design Approach

- Break-up the rise within the front setback *(See Figure 52 (picture 1)*.
- Turn the stairs to reduce encroachment into the street allowance and the front landscape area *(See Figure 52: picture 2).*
- Widen the stairs and make railing features more substantial (*See Figure 52: picture 3).*

Fig. 52: Design Approach—Front Yard Stairways

4.3 Roofscape

The roofscape of a development encompasses not only the shape and form of the roof, but also rooftop amenities, mechanical equipment and environmental initiatives. Since a more compact development may impose space constraints on a site, the top of buildings provide interesting options for outdoor amenities, the placement of mechanical and servicing equipment, and for the mitigation of hard-surface run-off from the roof generally representing the bulk of site coverage.

Fig. 53: Rooflines—characteristic of surrounding development provide continuity and reinforce neighbourhood identity.

Fig. 54: Excellent Roof Design—a complex, varied and well composed roof form adds interest.

Fig. 55: Green Roofs—for amenity and environmental benefit.

4.3.1 Design Guidelines

1) Use rooflines similar to surrounding neighbours to complement the architectural character of the street.

2) Employ a variety of roof forms and heights to provide visual interest and a residential scale:
   - For buildings with pitched roofs, use a combination of hipped and/or gabled roofs.
   - Incorporate dormers for additional interest and potential habitable space.

3) Where developments have flat roofs, consider incorporating landscaping (green roofs) for open space amenities, environmental benefit and aesthetic appeal.

4) Minimize rooftop clutter and views to rooftop amenities and mechanical equipment from streets and open spaces as follows:

- Where possible, setback rooftop structures, mechanical equipment and other features that do not enhance the roofscape a minimum of 3 metres (10 feet) from building edges (particularly along street frontages).
- Consolidate and screen mechanical equipment with building elements, such as continuous parapets.
- Apply colours and materials that blend with the roof surface.
- Avoid clustering rooftop vents.

Fig. 56: AVOID unscreened views to rooftop clutter

Fig. 57: Screen rooftop views with a continuous parapet

4.4 Parking and Driveway

The location of parking can influence the appearance of a new development and the quality of the pedestrian environment significantly. Streetscapes dominated by garages and hard ground surfaces force living spaces and landscaping to the rear. This creates streetscapes that look and function like a parking lot rather than contributing to community needs such as comfortable places to walk, cycle and gather. Narrow units with front garages require multiple curb cuts which disrupt the sidewalk, and increase the potential for pedestrian-vehicle conflict.

Accommodating parking in shared underground garages or at the rear of a building results in "pedestrian-friendly" streetscapes, whereby front entrances, windows and landscaping become the prominent features of the street.

4.4.1 Design Guidelines

1) Locate primary parking to the rear of a building or underground.

2) Create shared driveways or laneways to access rear or underground parking.

3) Avoid individual front garages for dwelling units less than 6 metres (20 feet) wide.

4) When parking for new development is proposed in the rear or underground, consider the following:
   - Utilize the top of parking structures for private amenities, e.g., deck, balcony or garden.
   - Incorporate soft landscaping for both environmental and aesthetic value.

Fig. 58: Landscaped Rear Laneway

Fig. 59: Landscaped Street Frontage— and rear lane parking.

Fig. 60: Underground Parking—with shared access.

5) When parking is in front of new development, limit driveway widths and frequency of curb cuts, to increase opportunities for street trees and on-street parking, while minimizing pedestrian/vehicle conflicts:
   - Pair driveways and entrances, or construct wider units to provide at least 7.5 metres (20 feet) between driveways.
   - Encourage minimum front garage driveway widths of 3 metres (10 feet), subject to review by Transportation and Works, Parking Control.

6) Minimize the appearance of front garages as follows:
   - Garage widths (inside dimension) should not extend more than 50% of building façades less than 12 metres (40 feet) in width.
   - Encourage single-car garages and tandem parking.
   - Recess garage doors and emphasize other façade elements such as building entrances and bay windows.
   - Incorporate substantial front yard landscaping *(See 4.6: Landscaping)*.

Fig. 61: Rear Parking—with amenity decks and landscaping.

Fig. 62: Wide Lot—with wider unit and narrow driveway.

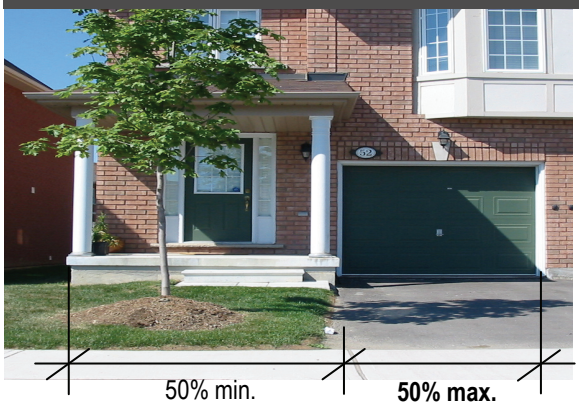


Fig. 63: Typical townhouse w/ Front Garage—limited to 50% or less of total unit width.

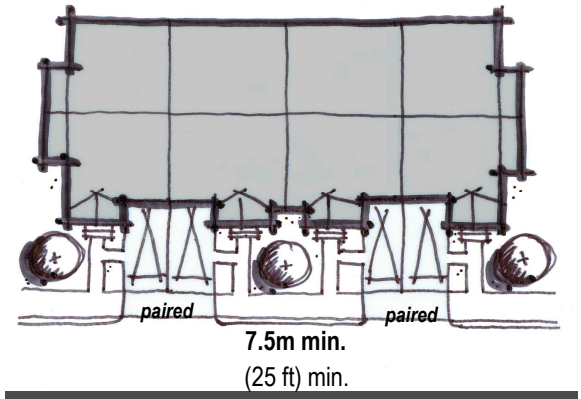


Fig. 64: Paired Driveways—reduce the frequency of curb cuts, and allow for street trees and on-street parking.

7) Avoid sloped front driveways accessing basement garages, which require large retaining walls, create a large hole next to the sidewalk, and cause extensive stairways to front entrances.

8) Conceal views of parking areas from the street and adjacent properties by means of building placement, landscaping (effective year-round), fencing and other site features (A combination of screening methods may be appropriate).

9) Locate parking and parking access points away from street corners.

10) Incorporate landscaping and pedestrian pathways between building edges and shared parking areas. Parking directly against a building is discouraged.

11) Provide a minimum 3 metre (10 feet) wide landscape area and decorative fencing to buffer adjacent properties and amenity space from shared driveways or lanes.

12) Prevent parked vehicles from encroaching on abutting landscaped areas and pedestrian pathways, e.g., extend curbs or increase pathway widths to accommodate car overhang, while maintaining minimum parking size requirements (2.6 metres by 5.2 metres/9 feet by 18 feet).

13) Divide surface parking areas, such as visitor parking, into smaller lots and plant canopy trees to provide shade.

14) Design parking areas to allow for clear sightlines through the site for safety and security.

15) Incorporate water-permeable surfaces, such as open jointed interlocking pavers, on driveways as an alternative to concrete and asphalt (Consider combining permeable materials with hard surfaces to reduce cost, but achieve the environmental benefit of on-site infiltration).

Fig. 65: AVOID basement garages with sloped driveways to the street.

Fig. 66: Landscaping—to screen views of parking.

Fig. 67: Landscape Zones—3 metre wide (10 ft) area w/ decorative fence separates parking area from adjacent yard.

4.5 Private Amenity Space

Compact development generally implies that a greater portion of the site is built upon. The need for a high quality, private outdoor amenity area for each dwelling unit is of imperative importance. Private amenity areas may take a variety of forms, including a balcony or raised deck, a rear yard or a rooftop garden. Regardless of size or type, private amenity spaces should be positioned to take advantage of light and views, while respecting the privacy of neighbours.

4.5.1 Design Guidelines

1) Incorporate private amenity space for every dwelling into the building or site design (Private amenity space - wimpy, take the form of a private yard, deck, balcony and / or rooftop space).
2) Provide direct access from individual dwellings to a private amenity area.
3) Orient private open spaces to take advantage of sunlight and views.
4) Position balconies and upper level decks to minimize overlook onto other private open spaces, including amenity areas both within and adjacent to new development.
5) Buffer private amenity spaces from public areas and other private spaces with landscaping, decorative fencing, low walls or other screening techniques compatible with the overall design of the building.
6) Consider using the top of parking structures for private amenity, e.g., decks, balconies or gardens.
7) Locate servicing elements, mechanical equipment and other noise sources away from private open space *(See 4.7: Lighting, Utilities and Servicing).*

Fig. 68: Amenity Decks—with individual direct access.

Fig. 69: Terraced Balconies—incorporate private amenity space into the building design.

Fig. 70: Decorative Fences and Landscape—screen private yards from an adjacent street and sidewalk.

Fig. 71: Above Parking Decks—integrates private outdoor space with parking.

4.6 Landscaping

Landscaping contributes considerably to the quality and appearance of streets, buildings, lots and open spaces. A variety of plants and trees add colour and texture to the streetscape, and offer great environmental benefit. Tree canopies, vegetation and permeable surfaces assist in habitat formation, the management of storm-water run-off and a reduction in the urban heat island effect. Landscaping can also be used strategically to increase privacy, improve air quality, reduce noise, screen less desirable views and, most importantly, create aesthetically pleasing environments.

Fig. 72: Front Yard Landscape—A variety of trees and plants enhance the streetscape and improve the quality of the pedestrian realm.

4.6.1 Design Guidelines

1) Reflect and improve the landscaping quality of existing streetscapes and adjacent properties *(See 3.2: Streetscape)*.

2) Embellish buildings, streets, open spaces and pedestrian pathways with a variety of trees, plants and other landscaping elements that are active and attractive year-round, to improve the aesthetic and environmental benefits.

3) Preserve and incorporate existing trees, vegetation and natural landscape features within new development *(See 3.5: Natural Features and Environment).*

4) Provide a minimum of 80% soft landscaping in front yards when parking is located in the rear, and a minimum of 50% when parking is in front.

5) Provide continuous vertical and horizontal landscape elements, particularly at the base of buildings to create a soft transition between the ground plane and the building wall.

Fig. 73: Fencing—Decorative fencing and plants offer year-round visual interest.

6) Utilize landscape screening to create privacy and security, but ensure visual permeability through front yards, open spaces, children's play areas, and other common areas adjacent streets and sidewalks.

7) Soften the appearance of fencing, retaining walls, noise walls or other solid divisions or completely replace with trees, shrubs, vines and other landscape plant materials.

8) Plant deciduous trees and shrubs to shade buildings during summer and permit passive solar gain in winter. Non-evasive native species should be considered.

9) Seek opportunities to incorporate water permeable surfaces as alternatives to concrete, asphalt or other hard paving surfaces *(See 3.5: Natural Features and Environment).*

Fig. 74: Low Planting—Low-scale plantings maintain clear sightlines for safety around a community mailbox.

Fig. 75: Front Yard Landscape—Substantial soft landscaping helps offset front yard parking.

Fig. 76: Mature Trees—should be protected.

4.7 Lighting, Utility& Servicing

Similar to parking, it is important that convenience, durability and the function of lighting, utilities and servicing elements are balanced with good design. If poorly located and integrated at an early stage, utility meters, transformers, mechanical equipment, garbage storage, and other servicing features will likely contribute to visual chaos, be a detriment to a neighbourhood's attractiveness and value, and detract from the overall quality of the streetscape.

4.7.1 Design Guidelines

1. Provide adequate lighting for safe evening use of sidewalks, pedestrian pathways and parking areas.
2. Position exterior lighting to minimize intrusion and nuisance on adjacent properties, shield fixtures and direct light downward to minimize light pollution.
3. Incorporate lower-scale lighting, such as bollard lighting, wall mounted fixtures or low pole-pedestrian fixtures along pathways.
4. Employ decorative light standards as an alternative to standard wood or concrete poles to create neighbourhood identity, subject to approval by the Transportation and Works Department.

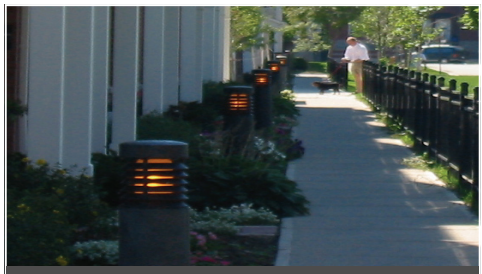


Fig. 77:
Bollard Lighting—to illuminate a pedestrian path *(right column).*

Fig. 78: Free-standing Lighting—Fixtures focus light across a broad landscaped path which also helps create a quaint and pedestrian character.

Fig. 79: Decorative Light Standard

5. Consolidate other utilities, such as cable or telephone, in the base of a light standard, where appropriate.
6. Locate utility meters and mechanical equipment, such as heating, ventilation and air conditioning equipment (HVAC), internal to the site and screened of views from public streets and open spaces.
7. Integrate utility meters and mechanical equipment into the building design.
8. Consolidate utility meters within a service wall or other appropriate and attractive site features where appropriate *(See Appendix I: Utility Meter Walls).*
9. Group utilities for ease of maintenance, inspection and repair.
10. Screen loading areas, garbage storage, transformers and other service elements from public view through landscaping, fencing, the building or building features *(See 4.3: Roofscape).*
11. Locate community mailboxes in central, highly visible areas, and incorporate design features which reflect the character and quality of adjacent buildings.
12. To the greatest extent possible, locate mechanical equipment and other noise sources away from dwellings and amenity areas.

Fig. 80: Decorative Wall—conceal hydro meters from views.

Fig. 81: Screening Hydro Meters—Encouraged

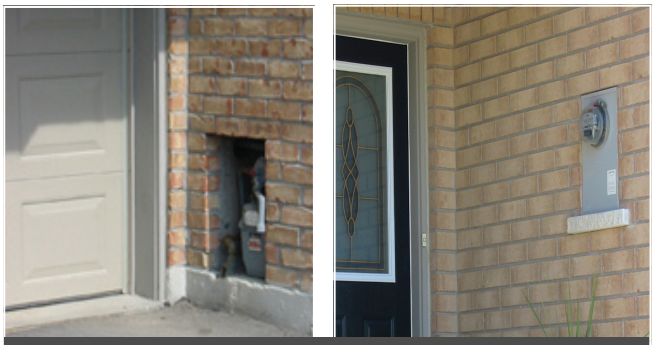
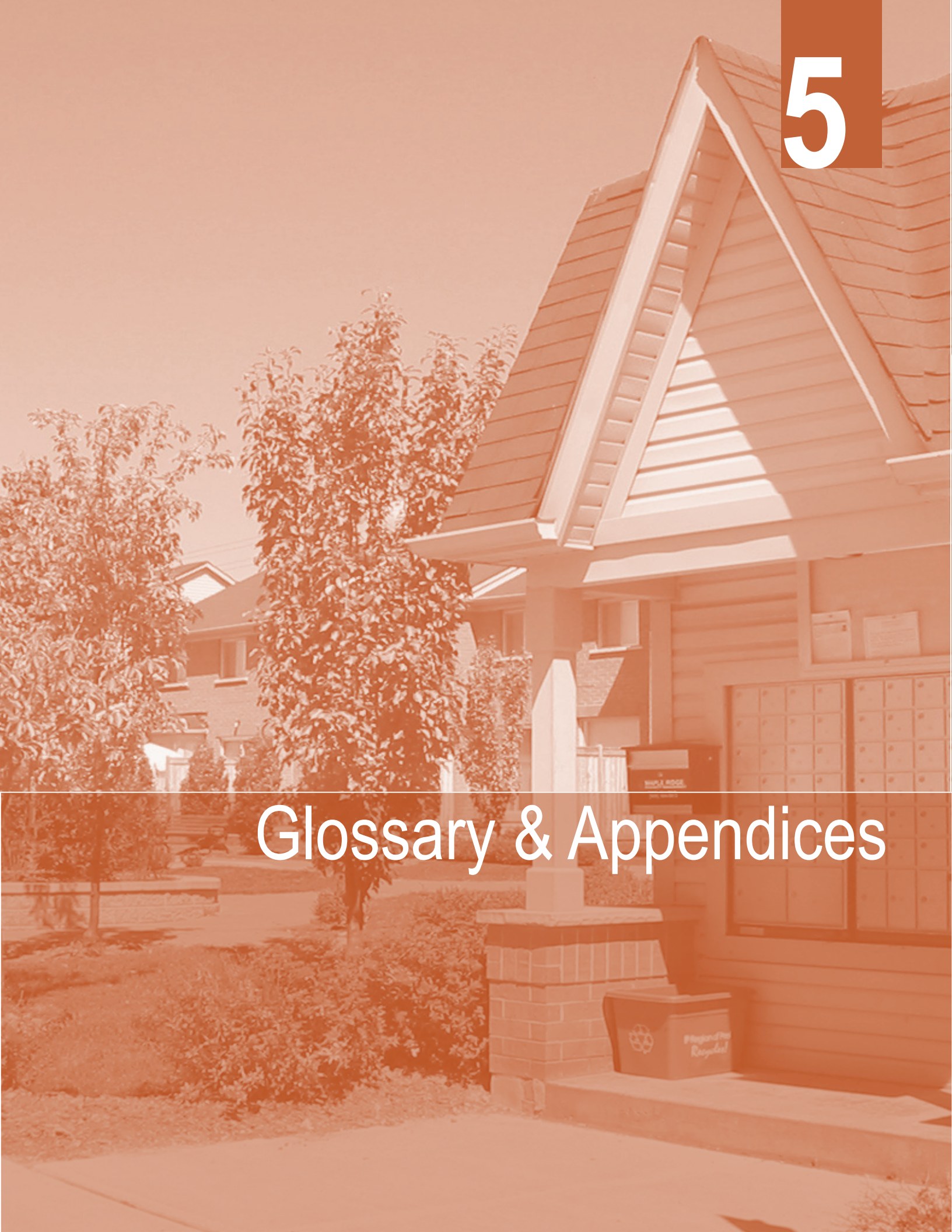


Fig. 82: Utility Elements—Avoid placing meters, mechanical equipment and venting in prominent, front yard locations.

Fig. 83: Community Mailboxes—in central locations.



5

Glossary & Appendices

Glossary

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

At-grade: refers to the uses located at the ground storey, and generally the manner in which they are expressed or articulated to positively support the public realm.

Build-to-line: a designated line along the length of a street measured from the right-of way that designates the placement and orientation of buildings.

Built form: buildings and structures.

Compatible / Compatibility: when the density, form, bulk, height, setbacks and/or materials of buildings are able to co-exist in harmony with their surroundings.

Curb cut: a break in the curb for vehicular access from the street onto a property.

Cornice: a projecting horizontal band that crowns an exterior wall

CPTED: Crime Prevention Through Environmental Design organization committed to teaching public safety principles when designing

Façade: the principal face(s) of a building also referred to as the front wall(s). A façade may address more than one side when buildings open onto multiple public spaces.

Glazing: clear or transparent glass windows.

Low-rise Multiple Dwelling: residential building with a minimum of three dwelling units and a height not exceeding four-storeys

Massing: the size and shape of a building

Natural (Informal) Surveillance: a Crime Prevention Through Environmental Design (CPTED) term referring to the observation of the street or other shared space resulting from the normal and routine use of the surrounding buildings or environment

Parapet: a low wall or railing extending along the front edge of a flat roof

Pedestrian Scale: a size of building, space that a pedestrian perceives as not dominating or overpowering.

Permeability: with reference to block patterns and buildings, means the provision of multiple routes, points of access or views. With reference to surface treatments, means loose or porous to permit water infiltration.

Primary (Building) Entrance: The primary means of access which serves pedestrians, patrons and/or users of a building through a common entrance, internal lobby or vestibule that provides access to uses other than at-grade retail or commercial uses located at grade.

Public Realm: the streets, parks and open spaces that are available for any member of the public to access, use and enjoy.

Roofscape: includes the shape and form of the roof, as well as any rooftop features, structures, mechanical equipment or amenities

Scale: the size of a building, architectural feature or landscape elements in relation to its surroundings and to the size of a person.

Setback: the required distance from a road, property line, or another structure, within which no building can be located.

Sidewalk / Walkway: unobstructed pedestrian travel route generally situated with in the public right-of-way.

Soft Landscaping: includes trees, shrubs, grass, ground cover and other natural vegetation or plantings

Streetscape: the overall character and appearance of a street formed by elements and features that frame the public street, such as building façades, street trees and plants, lighting, furniture, or paving.

Street Frontage: the front and / or side of a property that faces a street.

Streetwall: The façade of the building that defines the enclosure of the public space or street. The streetwall will typically vary between 2-4 storeys .
through the use of a required step back at the upper storeys that articulates the building massing and establishes a consistent architectural line along the street frontage.

Step back: A required articulation of the building massing that helps establish the streetwall, reduce the appearance and bulk of the podium, reduce shadow and wind impacts, and mitigate the perception of height from the street.

Street-Width-to-Building-Height Ratio: the height of a building relative to the width of the street to create the appropriate sense of street closure

Tandem Parking: an arrangement where vehicles are parked one behind the other

Transparent: the physical attribute of glass or other material which allows light to pass through completely. In reference to At-grade uses, it enables views towards the inside of a building space from the exterior at the sidewalk level.

Urban Heat Island Effect: a rise in local temperature caused by the absorption and reflection of solar heat from hard surfaces and buildings

Utility Meter Walls

Hydro meter walls should be located internal to a site and should not front onto a public road.

An appropriate building material for hydro meter walls is brick. The colour of brick should match that of the adjacent housing units.

To create architectural interest, brick soldier courses and precast concrete caps should be utilized.

Conduit should be enclosed within the brick wall to minimize the negative visual effect of numerous externally mounted pipes.

To allow for drainage, a surface sloping away from the base of the meter will be required.

A screen capable of holding vegetation, located outside of the 1.5m (4.9 ft.) obstruction free area, will be encouraged. Plant material selected for the screen should, however, be of a small to medium growth habit, so as to not completely obscure the wall and create an unsafe condition, *(CPTED - Natural Surveillance Principle)*

In front of wall	**1.5m** (4.9 ft.)
To the sides	**0.6m** (2 ft.)
Meter wall dimensions:	
Maximum wall height	**2.0m** (6.5ft.)
Midpoint of meter from grade	**1.7m** (5.6 ft.)
Top of footing from grade	**0.15m** (0.5 ft.)
External wing wall length	**4.5m** (14.7 ft.)
Internal wing wall length	**3.0m** (9.8 ft.)

Quantitative Guidelines

Minimum obstruction free areas:

Obstruction free areas shall be clear of all objects including shrubs and plants, to allow for maintenance/ repairs and meter readings.

External wing walls are located at ends of townhouse blocks. Internal wing walls are located between rear privacy areas within a townhouse block.

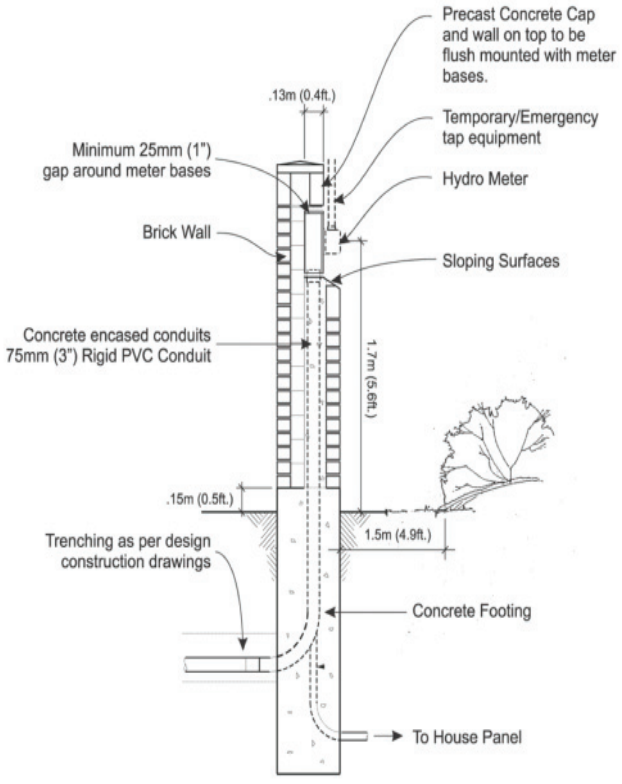


Fig. 84: Utility Meter Wall Section

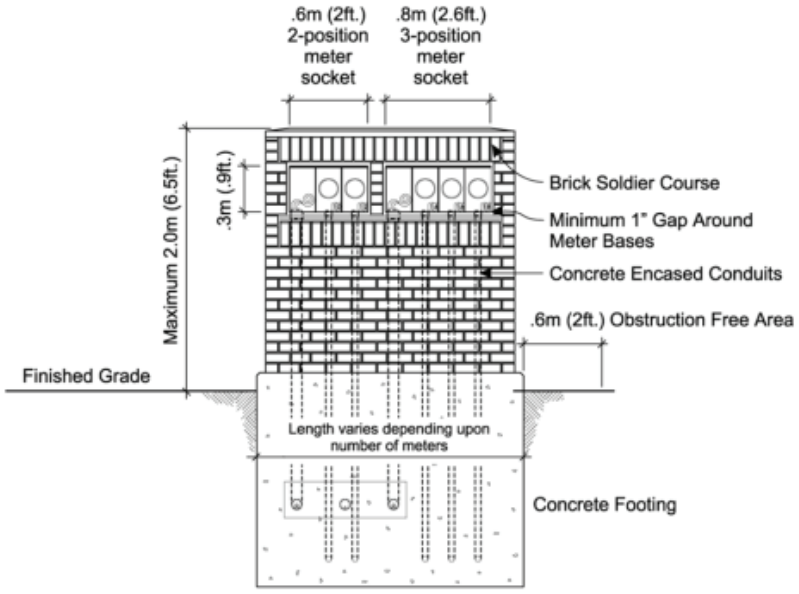


Fig. 85: Free-standing Utility Meter Wall Elevation

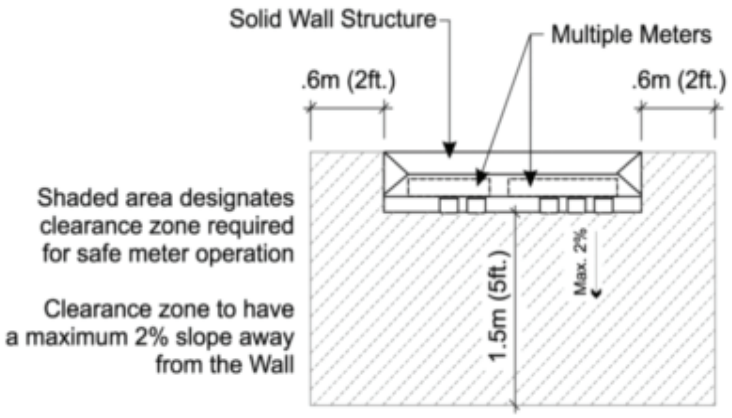


Fig. 86: Utility Meter Wall Plan

2 Condominium Townhouse design Standards

The construction of garages which project horizontally beyond the front elevation of townhouse units is discouraged. Where projecting garages are planned, a minimum of one third of the townhouse units in a proposed development should have garages which do not project beyond the front elevation. A maximum of one third of the townhouse units may have garages which project up to 6.4 m beyond the front elevation. The remaining townhouse units in the proposed development may have garages which project up to 2.5 m beyond the front elevation.

Design Reference Note: Condominium Townhouse Design Standards

This design reference note, which outlines a series of minimum dimensional guidelines for the planning of medium density condominium townhouse developments, has been reviewed and incorporated into the said "Urban Design Handbook for Low-rise Multiple Dwellings". These standards have evolved over a number of years and are based upon the ongoing review of development proposals in this municipality. They are intended to serve as guidelines for successful development and are in all cases subject to specific conditions, such as grading, unit design and size of complex. These do not necessarily reflect zoning requirements. For zoning requirements and interpretation of the zoning by-laws, please contact the Zoning Plans Examination Section of the Building Division at (905) 615-3200.

Currently, Condominium Townhouse Dwellings must also comply with the standards set out in Section RM6 Zone of the City of Mississauga Zoning By-law: 0225-2007.

* Note: These standards, which have been established by many Divisions and Departments within the Municipality, are not subject to negotiation by the Development and Design Division.

Dimensional Guidelines

#	Requirement	Dimension
A)	Minimum rear yard depth	**7.5 m** (24.6 ft)
B)	Minimum private amenity area (including patio, deck or combination, but not including stairs)	**11.0 sq m** (118.4 sq ft)
C)	Minimum front yard depth (from curb or walkway edge)	**4.5 m** (14.8 ft)
D)	Minimum driveway length (between garage & curb or walkway edge)	**6.0 m** (19.7 ft)
E)	Minimum width walkways, i) walkways to be provided along at least one side of internal streets) Ii) Walkways between townhouse blocks	 **2.0 m** (6.5 ft) **1.5 m** (4.9 ft.)
F)	Minimum separation distance where the end of one townhouse block abuts the rear amenity space of another block	**10.0 m** (32.8 ft)
G)	Minimum separation distance between ends of townhouse blocks	**3.0 m** (9.8 ft)
H)	Minimum separation distance between ends of townhouse blocks with walk-ways	**4.8 m** (15.7 ft)
I)	Minimum separation distance where visitor parking abuts the end walls of townhouse blocks:	
	i) Which have windows into habitable rooms	**6.0 m** (19.7 ft)
	Ii) Which do not contain any opening into a habitable room	**1.5 m** (4.9 ft)
J)	Minimum condominium roadway width	**7.0 m** (23 ft)

Condominium Townhouse Design Standards

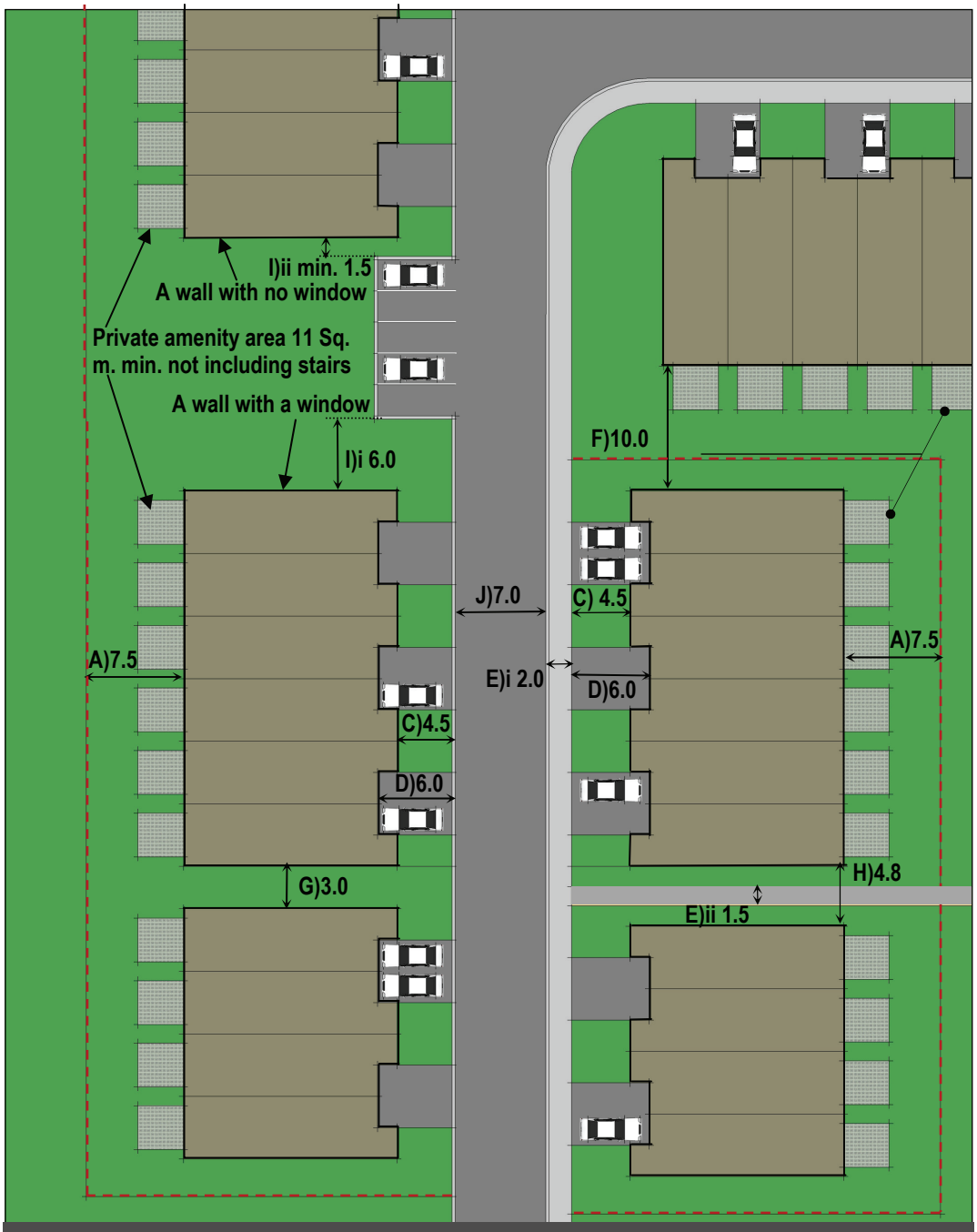


Fig. 87: MINIMUM DIMENSIONS IN METRES
Minimum Dimension for Walls
(Which Do Not Contain Any Opening into a Habitable Room)
6.0M Required For Walls With Windows—
For Additional Standards, Contact the above noted Zoning Plans-Examination Section.

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