



# Urban Design and Landscape Guidelines

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BrookMcIlroy/



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**THIS DOCUMENT  
PROVIDES URBAN  
DESIGN & LANDSCAPING  
GUIDELINES TO  
PROMOTE HIGH-QUALITY  
DEVELOPMENT ACROSS  
THE CITY.**



## Section 1.0

# Introduction

## 1.1 Role of the Guidelines

The City of Thunder Bay Official Plan recommends City-wide Urban Design and Landscaping Guidelines to provide detailed direction for the implementation of the policies and objectives of the Official Plan, and as a complement to zoning regulations.

Urban design guidelines are an essential tool to ensure high-quality development as Thunder Bay evolves from a primarily resource and industrial-based economy to an active, diverse and healthy city. The guidelines articulate the aspirations of the Official Plan and the community, and will assist Council, City Staff, land owners, developers and the public with clear directions to guide development throughout the City.

The guidelines build on the Clean, Green and Beautiful Committee's vision for the City, and provide a unique vision for the North and South Cores. To achieve these visions, a set of City-wide guiding principles have been established and will be supported by the detailed Performance Standards contained within this document. To reflect the variation in land-uses throughout the City, the Performance Standards are organized to distinguish between Main Streets, streets within the North and South Cores, and development outside of these areas (i.e. residential, commercial, institutional, and employment areas).

The Performance Standards should be applied during the design, review and approvals process for new development across the City, including private development, as well as public works undertaken by City departments.

The Performance Standards have been informed through consultation with the City, the Clean, Green and Beautiful Committee, stakeholders, and the public. They outline best urban design practices in city building through innovation in sustainable development and design excellence.

The guidelines should be used as a key reference in the pre-design phase of project implementation and as criteria in evaluating project proposals through the development application process. In some instances, the principles of these guidelines should be implemented through future revisions to the City of Thunder Bay Official Plan, and where appropriate, key recommendations should be reflected through amendments to the existing Zoning By-law.

Guidelines cannot, in themselves, result in high-quality city building. The City must lead by example and embody best practices in future capital projects as a way of setting a high standard for the private sector. A civic culture that embraces and values high quality urban form must be nurtured over time through public education and awareness activities. Partnerships between government, educational institutions, the professions, the business and development community and the public are key to a successful implementation process. It is therefore recommended that the City review other parallel mechanisms to assist in implementation including an urban design awards program; Peer Reviews; a Design Review Panel to assist in project review, and other outreach programs.

## 1.2 Document Structure

The City of Thunder Bay Urban Design Guidelines are comprised of six sections:

### Section 1.0 - Introduction

Section 1.0 introduces the guidelines, providing an overview of the study and process and describing the application of the guidelines. A brief summary of the existing planning framework is provided.

### Section 2.0 - Urban Design Vision and Guiding Principles

Section 2.0 outlines the City's Urban Design Vision, based on the objectives of the Clean, Green and Beautiful Committee. To achieve this vision, and inform the preparation of the guidelines, a set of 10 Guiding Principles is provided.

### Section 3.0 - Performance Standards: Public Realm

Section 3.0 focuses on the development of the City at the broadest level, providing directions to ensure that future development is in support of a sustainable urban framework. Performance Standards focus on the elements that define the City, including the natural foundation; the North and South Cores; the City's Main Streets including the three 'Image Routes' designated to date; and the supporting street networks.

### Section 4.0 - Performance Standards: Building and Site Design

Section 4.0 augments the guidelines provided in the previous section, providing detailed Performance Standards for built form and site design by land-use. The section begins by providing Performance Standards that are applicable to all buildings within the City, before providing specific standards related to residential, mixed-use, commercial, office, and industrial buildings.

### Section 5.0 - Performance Standards: Land Use Specific

Section 5.0 augments the guidelines provided in the previous sections, detailing Performance Standards related to building types for specific land uses including Residential, Employment, Commercial and Institutional Uses.

### Section 6.0 - Implementation Recommendations

Section 6.0 provides an overview of the implementation measures and tools at the City's disposal to ensure the successful use and application of these Performance Standards. The Implementation Section also provides a performance standard checklist to be used by designers to evaluate and articulate their application of the standards.



## 1.3 Existing Planning Framework

### 1.3.1 Provincial Policy Statement

The Provincial Policy Statement (PPS) provides direction on matters of provincial interest related to land use planning and development. As a key part of Ontario's policy-led planning system, the Provincial Policy Statement sets the policy foundation for regulating the efficient development and use of land. It also supports the provincial goal to enhance the quality of life for the citizens of Ontario.

The Provincial Policy Statement encourages intensification by directing growth within settlement areas and away from significant or sensitive natural resources. It recognizes that the wise management of development involves directing, promoting or sustaining growth. Land use must be carefully managed to accommodate appropriate development to meet the full range of current and future needs, while achieving efficient development patterns.

Efficient development patterns optimize the use of land, resources and public investment in infrastructure and public service facilities. These land use patterns promote a mix of housing, employment, parks and open spaces, and transportation choices that facilitate pedestrian mobility, transit and other modes of travel. They also support the financial well-being of the Province and municipalities over the long term, and minimize the undesirable effects of development, including impacts on air, water and other resources.

The PPS is a progressive policy tool that is having a positive influence on Ontario's goal to build more sustainable communities that support a high quality of life. For instance, by promoting mixed land use patterns and higher densities within existing urban boundaries, a more efficient pattern of city building is leading to greater viability for public transit and active transportation. It is providing improved conditions to assist in the revitalization of downtown areas that have suffered from patterns of low-density suburban sprawl. In turn, as cities evolve toward a more compact, mixed-use form, municipal services and investments in infrastructure are becoming more efficient and cost-effective.

*Looking south along Kingsway.*



### 1.3.2 Growth Plan for Northern Ontario

Released in March 2011, the Growth Plan for Northern Ontario guides Provincial decision-making and investment for the next 25 years. The Growth Plan aims to strengthen the economy of the North by diversifying the region's traditional resource-based industries, stimulating new investment and entrepreneurship, and nurturing new and emerging sectors with high growth potential. Key recommendations include:

- Attract employment uses, including office and retail;
- Accommodate higher densities within existing urban boundaries;
- Achieve a vibrant, welcoming and inclusive community identity that builds on unique local features; and,
- Provide a range of amenities to residents and visitors, including shopping, entertainment, transportation and lodging, and educational, health, social and cultural services.

The Growth Plan also encourages the development of a revitalization strategy that will set minimum target areas for intensification and that will prioritize sites for redevelopment. The Growth Plan states explicitly that the preferred location for major capital investments, such as post-secondary education and training, research and innovation centres, and major cultural institutions, will be in municipalities with a sustainable revitalization strategy in place and in synchrony with their Official Plan.

### 1.3.3 City of Thunder Bay Strategic Plan

The 2011-2014 City of Thunder Bay Strategic Plan guides the decisions and actions of City Council and Administration. While the Plan coincides with the term of Council and is a corporate document intended to guide the work of internal Departments and Divisions, its goals are longer term and reflect the input of more than 900 individuals and community organizations. For the purposes of this process, a 10-year planning horizon was adopted around four pillars: a prosperous and more diversified economy; a high quality of life; a clean, green and beautiful Thunder Bay; and a best-run city. The Principles were updated from previous Strategic Plans to reflect heightened awareness of the importance of infrastructure renewal and the need to balance the triple bottom line of economic, environmental and social responsibility. The development of the Urban Design Guidelines and Image Route Implementation Plan is an action of goal 8 - to improve the appearance and cleanliness of our City. Considered more broadly, however, there is an alignment with many of the other goals including a connection to efforts to transform the City's economy (goal 2), a safe city (goal 3), active and engaged people of all ages (goal 4), a caring, welcoming and inclusive city (goal 5), effective public transportation (goal 6), and a strong and celebrated arts, heritage and culture sector (goal 7).

*Looking east towards the waterfront.*



### 1.3.4 City of Thunder Bay Official Plan

The City of Thunder Bay Official Plan guides development and redevelopment to preserve and enhance the City's natural environment and cultural heritage, and to maximize new employment opportunities. The Official Plan states that, with sound goals, objectives, and policies, municipal planning can be an effective, efficient and consistent decision making process that will promote smart development. Broadly, the objectives of the Official Plan are to:

- Preserve and enhance natural, social and cultural environments;
- Support a mix of land uses to ensure a healthy and safe City that accommodates the needs of all residents, and provides diverse options to live, work and play;
- Ensure efficient and cost-effective development, while minimizing incompatibility between adjacent land uses;
- Strengthen existing businesses and promote the growth of new business and employment opportunities;
- Enhance the working relationships between the City and the surrounding communities; and,
- Establish the basis and framework for the City's Zoning By-law and more detailed planning initiatives.

The Official Plan forms the basis for decisions regarding the City's Zoning By-law, other land use controls, and future planning initiatives.

#### *Urban Forestry*

The Official Plan acknowledges the significance of street trees and forested areas. In order to improve the aesthetic quality of the urban environment, the Official Plan advocates increasing the stock of trees through planting programmes, adhering to high standards regarding maintenance and replacement, and encouraging developers to retain existing trees wherever practical. In addition, the City places a high priority on the protection and wise management of natural heritage features.

#### *Site Plan Control*

The Planning Act enables the City's Planning Division to designate lands for Site Plan Control on a case-by-case basis. Due to their value as a resident and tourism draw in the City, Regional Commercial, Community Commercial, Service Commercial, and Mixed-Use Waterfront Commercial areas are prioritized for Site Plan Control. Generally located along the Image Routes, these land use designations deserve special attention as they usually involve complex site

planning issues and concerns. In order to minimize negative externalities, the Official Plan elaborates the need to exert greater control over site design, including the location of proposed buildings, massing, landscaping treatment, exterior lighting, signage, and the design and layout of parking. Through this process, the City aims to ensure development that is safe, accessible, and sustainable while being compatible with adjacent areas.

### 1.3.5 New Comprehensive Zoning By-law

The New Comprehensive Zoning By-law 100-2010 is a regulatory tool that establishes performance standards associated with development, and regulates land uses throughout the City. This document is consistent with the Official Plan, and provides details regarding building height, setbacks, parking and landscaping standards. In order to maintain high-quality environments along the Image Routes, notably Memorial Avenue and Red River Road, the Zoning By-law establishes important landscaping and public transit standards that will shape the future of commercial arteries.

### 1.3.6 Community Improvement Plans

City Council has adopted a number of Community Improvement Plans (CIPs) across the City, including:

- The Downtown Core Areas & Simpson Street BIA Community Improvement Plan;
- The Thunder Bay International Airport Community Improvement Plan;
- The North Waterfront District Community Improvement Plan; and,
- The Thunder Bay Port Authority Community Improvement Plan.

These CIPs assist property owners and tenants with financial incentives to rehabilitate or preserve buildings within the CIP areas. In addition to promoting revitalization and regeneration of the building stock, CIPs have the ability to attract tourism and business development, and to increase economic opportunities. Focused primarily on urban regeneration, CIPs offer façade improvement loans, a planning and building fee grant programme, including signage, and a tax increment based grant, all contributing to offset the costs associated with renovations.

### 1.3.7 Active Transportation Plan

Active transportation refers to any form of human-powered transportation – walking, cycling, using a wheelchair, in-line skating or skateboarding. There are many ways to engage in active transportation, whether it is walking to the bus stop, or cycling to school/work (*Public Health Agency of Canada*).

The Active Transportation Plan is built on the following vision: “Through leadership, planning and community partnerships, Thunder Bay is a healthy, accessible, environmentally sustainable community, where active transportation is a key component of a safe, innovative, integrated transportation system that links where we all live, work, and play.” This vision sets principles and goals for the development of a well-connected active transportation system in Thunder Bay.

#### Principles:

- Safety;
- Promotion and Education;
- Inclusive/Diversity;
- Connectivity/Access;
- Aesthetics;
- Supportive Amenities/Facilities; and,
- Sustainability.

#### Goals:

- Improved safety for Active Transportation;
- Increase the number of people using Active Transportation;
- Develop Infrastructure that supports Active Transportation;
- Develop policies that support Active Transportation; and,
- Develop community partnerships committed to implementing a dynamic and sustainable Active Transportation Plan.

### 1.3.8 Community Environmental Action Plan

The Community Environmental Action Plan’s fundamental aim is to create sustainable communities in Thunder Bay, recognizing that environment, economy, society, and culture are instrumental in citizens’ well-being. The Plan reflects the City’s four strategic priorities:

1. A stronger and more diversified economy;
2. A cleaner, greener, more beautiful and proud Thunder Bay;
3. A high quality of life; and,
4. To be one of the best run cities.

Key objectives include:

- Improved safety for people who are engaged in active transportation activities
- Develop infrastructure that supports active transportation
- Develop community partnerships committed to implementing a dynamic and sustainable Active Transportation plan/strategy
- Increase green space within the community
- Champion Smart Growth on best design practices and guidelines for sustainable design

### 1.3.9 Urban Forestry Management Plan

Thunder Bay’s urban forest provides significant benefits to the community, at a benefit-cost ratio of 2:1, including stormwater runoff reductions, energy consumption savings, air quality improvement, carbon dioxide reduction, and aesthetic value increases for properties. The Urban Forestry Management Plan is a comprehensive, efficient, and effective urban forestry program prepared by City forestry staff and community members to protect and enhance the City’s tree canopy. The goals and objectives of the plan include:

- Establish a vision for Thunder Bay’s urban forest, developed with community input and support;
- Provide recommendations and costs for strategies to deal with urban forest management issues;
- Undertake a comprehensive review of the current urban forest program including resources, priorities, successes, service gaps, and capital programs;
- Establish short, medium and long-term strategies to manage the urban forest; and,
- Implement the Municipal Forest Action Plan - a seven-year urban forest management work program.

A key objective of the City’s “Clean, Green and Beautiful” strategy is the continued improvement of Thunder Bay’s urban tree canopy, particularly in urban areas, and along Image Routes, in order to improve liveability and promote tourism.

### 1.3.10 Inspire Thunder Bay Culture Plan

The Inspire Thunder Bay Culture Plan, initiated in January 2010, identifies municipal and community priorities for strengthening the arts, culture and heritage sector and elevating its role in sustainable city-building.

The Vision of the plan promotes, “a welcoming, diverse and lively city that provides a hub for cultural experiences and wealth generating opportunities that extend throughout the region and beyond...” This will be accomplished through a Cultural Plan that is:

- Inclusive and Responsive;
- Participatory and Accessible;
- Collaborative;
- Innovative; and,
- Sustainable.

Key to the Culture Plan is the development of six Strategic Directions, supported by recommended actions and partnerships, and including:

1. Foster Capacity in the Cultural Sector;
2. Develop Tourism Potential in the Creative Community;
3. Activate Culture in Urban Places and Spaces;
4. Enable Cultural Participation in Neighbourhoods;
5. Nurture Cultural Interaction and Exchange in Public Space; and,
6. Foster the Potential for Creative Entrepreneurship in Youth

These directions promote culture within the community; identify existing and needed resources to foster cultural development; and integrate cultural considerations into various aspects of the City’s municipal processes.

### 1.3.11 Engineering and Development Standards

The City of Thunder Bay Engineering and Development Standards outline the requirements of the Engineering Department for the processing of applications for the development of land, including:

- Sanitary sewers;
- Stormwater management;
- Roadways;
- Curbs;
- Gutters;
- Sidewalks;
- Parking Lots; and,
- Water systems.

These requirements are outlined through a series of supporting plan and section diagrams, and aim to ensure that the development community has a clear understanding of the requirements for redeveloping their land, to ensure that the interests of the residents of both the new Development and the City as a whole are fully protected. Unless otherwise stated, the Performance Standards in this document are meant to augment the directions of the Engineering and Development Standards, and should be adhered to throughout the development process.

## 1.4 Structure of the City

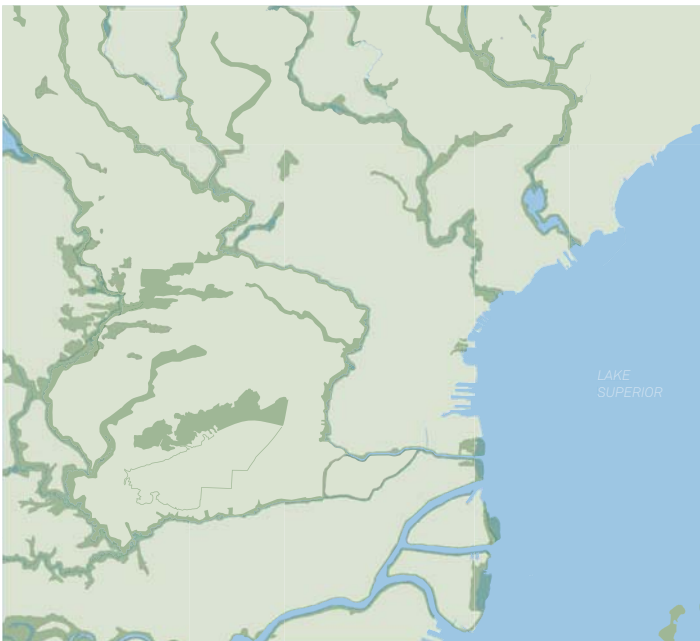


Clean, Green, and Beautiful is a City initiative to enhance the experience of those who live, work and play in the City of Thunder Bay. While these experiences are often defined by the scale, material quality, and detail of buildings, the evolution of the most successful cities is informed by a rich foundation that includes natural heritage features, established core areas, active main streets, and a strong supporting circulation network. To ensure the growth of a vibrant and healthy city, these elements must be carefully balanced and integrated to encourage maximum connectivity for all modes of transportation, and built form that frames streets, open spaces, and natural heritage features.

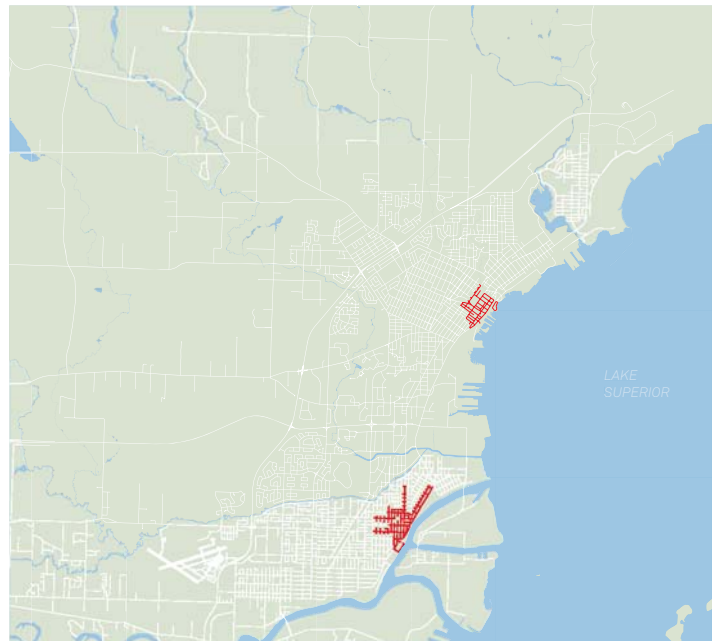
*The following illustrations demonstrate the key elements that structure the City of Thunder Bay.*



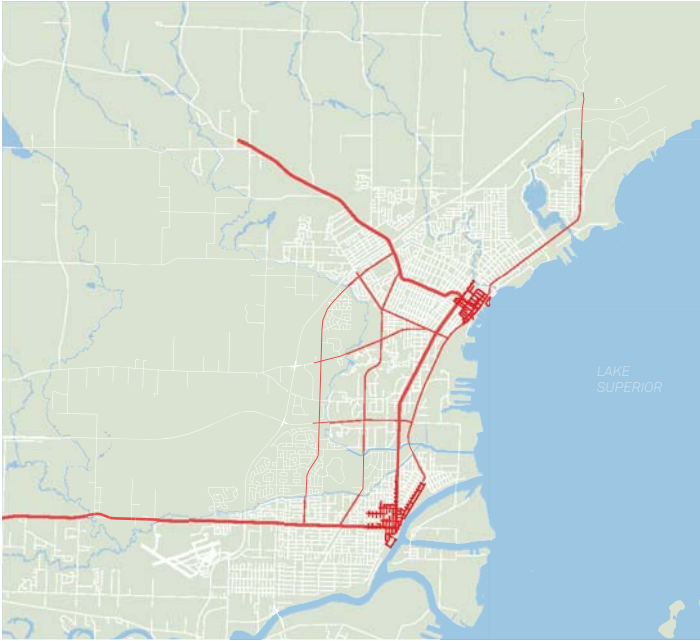
*1. Lake Superior and Rivers*



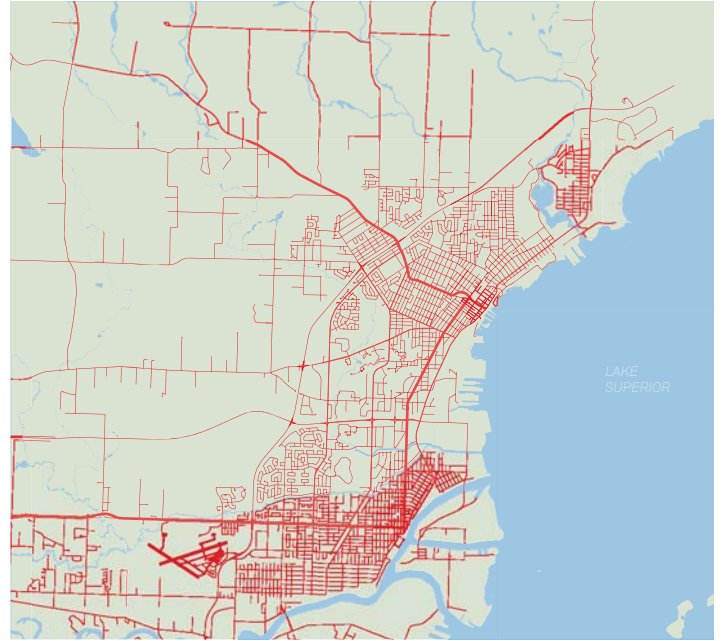
*2. Natural Heritage Features*



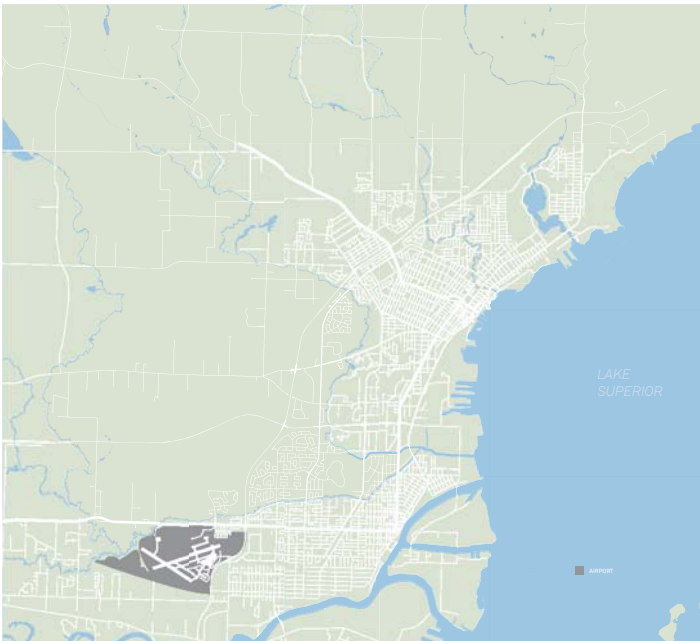
*3. The North and South Cores*



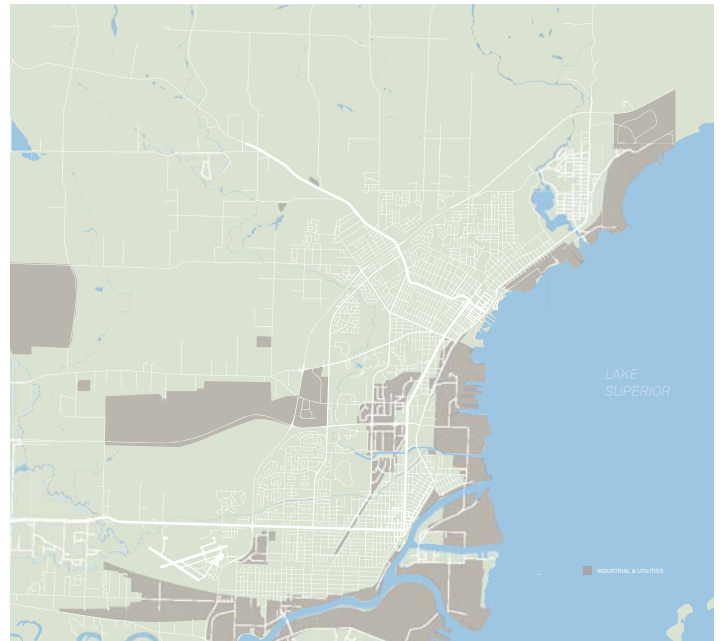
4. Image Routes and Main Streets



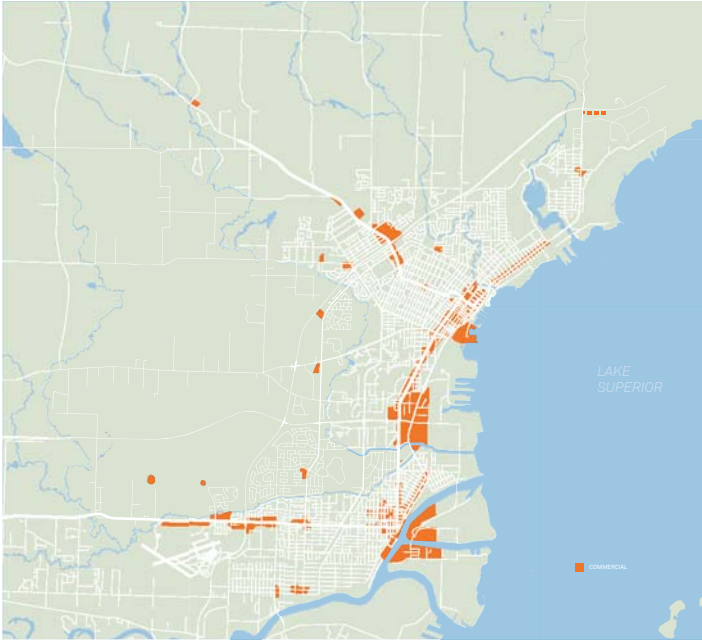
5. The Supporting Street Network



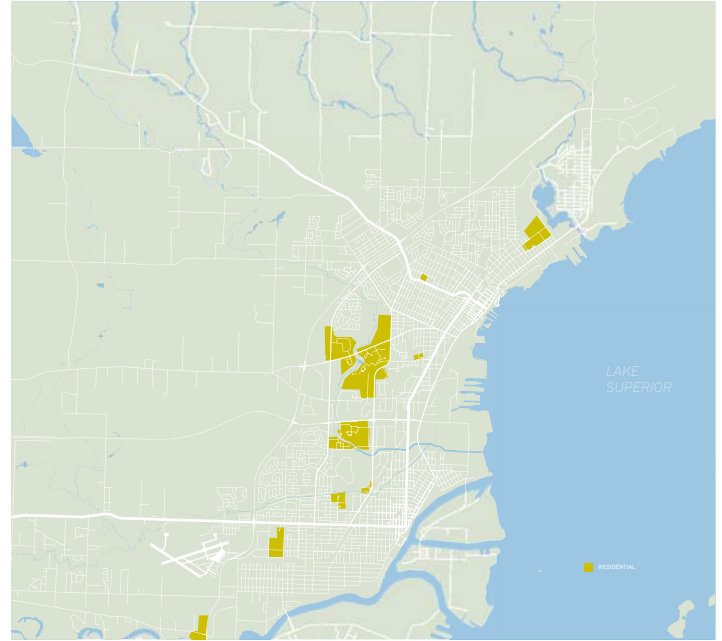
6. The Thunder Bay International Airport



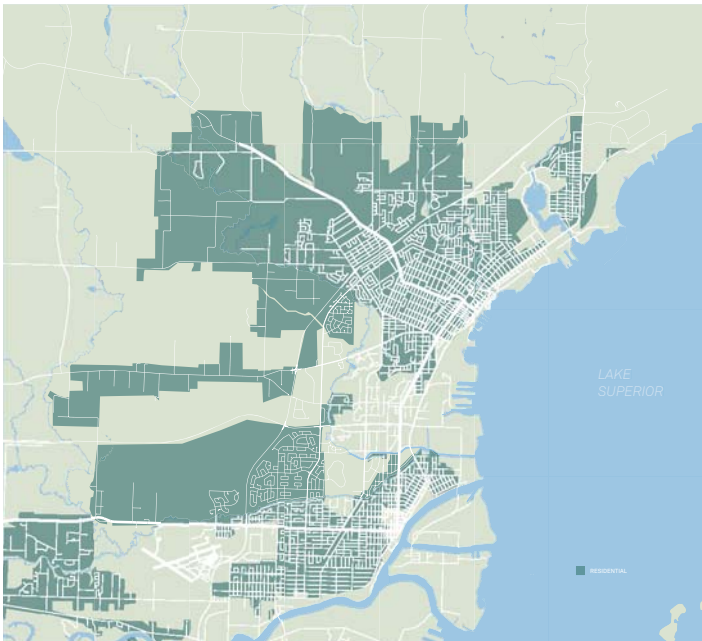
7. Industrial Areas



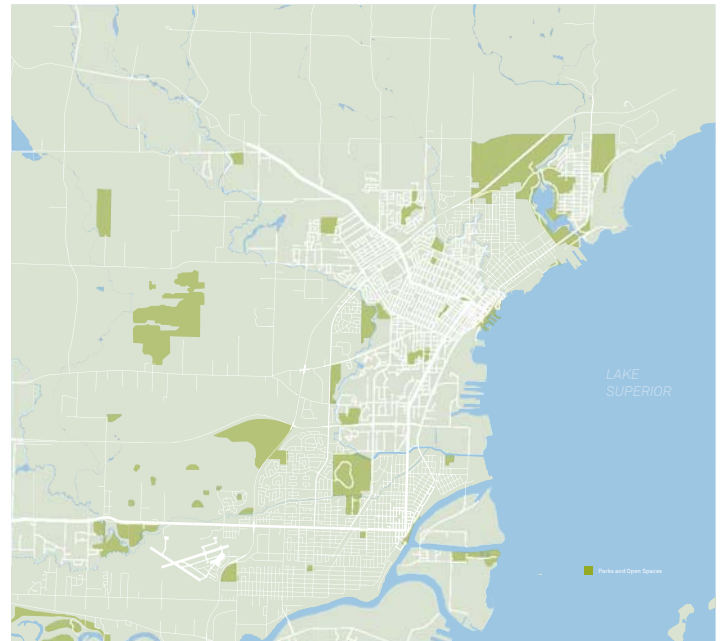
8. Commercial Areas



9. Institutional Areas



10. Residential Areas



11. Parks and Open Spaces

**FOR THE CITY TO PROVIDE  
A HIGH QUALITY OF LIFE  
FOR ITS CITIZENS AND  
SUSTAINABLE ECONOMIC  
DEVELOPMENT, A  
HIGH STANDARD  
OF EXCELLENCE IS  
REQUIRED IN THE DESIGN  
OF THE CITY'S BUILDINGS,  
STREETSCAPES AND  
OPEN SPACES.**



## Section 2.0

# Urban Design Vision and Guiding Principles

## 2.1 Urban Design Vision

### 2.1.1 City-Wide Vision

It is the City's vision to foster and promote a high quality of life, which is directly linked to establishing and nurturing a healthy community that embodies excellence in urban development and design and is environmentally sustainable. The vision for improving the quality of life is centred on the creation of a city that:

- Protects and enhances its natural systems;
- Provides a clean and healthy urban environment for its citizens; and,
- Supports economic growth and a strong cultural identity through high-quality urban form.

These objectives are captured in the City's Clean, Green and Beautiful initiative.

**A Clean City** minimizes its impact on the environment by reducing, reusing and recycling its waste products and by maintaining a healthy built and natural environment for present and future generations.

**A Green City** preserves important natural features (woodlands, watercourses, wetlands, etc.) and restores and enhances ecological functions with the intention of creating a continuous natural system of sufficient size to remain healthy and vital for future generations.

**A Beautiful City** is one that celebrates its cultural diversity and history through the design of its built form (streets, bridges, buildings and neighbourhoods) as well as through the arts (visual, performance, and civic spaces).

A clean, green and beautiful City is a place where people want to live and work and where people want to visit. It is marketable in terms of economic growth and vitality, it provides a high quality of life for its citizens, and it is a source of pride for all who live there.

*(Clean, Green & Beautiful Policy No. 02-05-01)*

### 2.1.2 Downtown and Image Route Vision

To protect the surrounding wilderness from further outward expansion, the majority of intensification in Thunder Bay will occur along the City's Image Routes, and within the North and South Cores. Higher density built form that continues to support the integrity of stable neighbourhoods is encouraged. New development will be of the highest quality, and will promote a mix of uses to support active, pedestrian-supportive streets characterized by wide boulevards, public art, and active at-grade uses. Abundant landscaping and large, mature street trees will be provided in all new developments to enhance the urban forest, and bring nature back into the City.

## 2.2 Guiding Principles



The following 10 principles embody the key high-level city planning and urban design objectives that have influenced the specific recommendations contained in the guidelines.



1. Protect the City's natural surroundings from unnecessary expansion through **intensification and compact built form**.
2. Expand the City's **tree canopy and natural systems** on public streets, parks and municipal lands, as well as private lands.
3. Revitalize the two Downtowns, and the City's main streets through intensification, infill and **a mix of uses**.
4. Prioritize **design excellence and sustainability** in the design and construction of buildings, streetscapes and open spaces.
5. Support **long-term economic development** through investment in high-quality urban environments.
6. Encourage **population growth and resident retention** through a high quality of urban life.
7. Protect and enhance Thunder Bay's **cultural, built and natural heritage**.
8. Enhance the place-specific **character of the City** through architectural, streetscape and landscape design that reflects unique regional attributes.
9. Improve public health through urban development that **supports active transportation** including walking, cycling and transit.
10. **Lead by example** through excellence and innovation in City-led infrastructure and capital projects that inspire private developers to meet or exceed these standards.

**NEW DEVELOPMENT  
SHOULD RESULT IN AN  
ENHANCED PUBLIC  
REALM, CHARACTERIZED  
BY TREE-LINED STREETS,  
WHERE PEOPLE CAN  
REST AND SOCIALIZE.**



## Section 3.0

# Performance Standards: Public Realm

### 3.1 Celebrating the Natural Foundation

The City of Thunder Bay is known internationally for its breathtaking natural heritage landmarks, including the Sleeping Giant, Mount McKay, Lake Superior, and the Neebing, McIntyre and Kaministiquia Rivers. These features are complemented by a system of large (i.e. Centennial Park, Trowbridge Falls Park, Boulevard Lake Park, Chippewa Park, and Prince Arthur's Landing) and medium (i.e. Vickers Park, Paterson Park, Kaministiquia River Heritage Park, Waverley Park, George Burke Park and Hillcrest Park) open spaces, as well as smaller neighbourhood parkettes.

All of the above features reinforce Thunder Bay's great Canadian wilderness context, and accommodate passive/active recreation. Their preservation and enhancement should be of the highest priority. The protection of the tree canopy and reforestation of the City should influence the layout of all new development, and be linked by a well-connected network of parks, open spaces and trails to encourage alternative modes of transportation (i.e. walking and cycling).

## Performance Standard # 1:

# Natural Heritage Features

**The preservation and enhancement of natural heritage features should be a symbol of Thunder Bay's commitment to sustainable development and the 'reforestation' of the City.**

- a) Natural heritage features should be preserved and enhanced.
- b) A City-wide system of natural heritage features, parks, and open spaces should coincide with a linked network of trails to support active transportation.
- c) Development adjacent to natural heritage areas should provide a positive interface overlooking these amenity areas.
- d) Development adjacent to significant natural areas and open spaces should promote low-impact development that focuses on the use of on-site natural features that may be enhanced to protect water quality.
- e) Site development should provide for significant visual and pedestrian connections from adjacent public streets to natural areas.
- f) Development should not interfere with natural drainage patterns and should provide adequate buffers to sensitive natural features.
- g) Opportunities for outdoor education should be integrated into new site development (i.e. signage, interactive features, etc.).

New neighbourhoods, and redevelopment within existing neighbourhoods, should preserve and enhance existing natural heritage features to protect vegetation, ecological functions and the cultural landscape, and to reinforce the City's wilderness surroundings. Natural drainage networks should be maintained to retain functional surface drainage and watercourses, and to support storm water management infrastructure such as storm water management ponds. This can be accomplished by creating links between existing natural heritage features, and by providing an additional landscaped buffer adjacent to sensitive natural features.

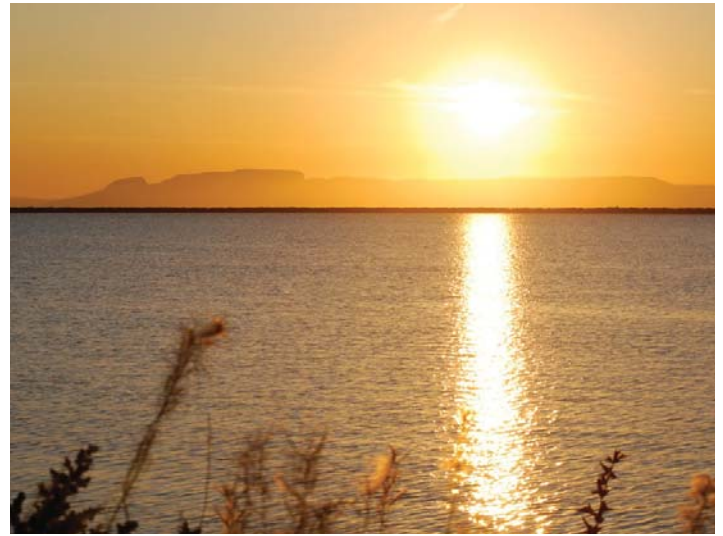
Preservation of natural heritage features should also be encouraged through active use, education, and awareness. Natural heritage features should be integrated as part of a larger system of connected parks, open spaces and natural heritage features through cycling infrastructure and multi-use trails. Opportunities for outdoor education (i.e. signage, interactive features) are encouraged.

Development adjacent to natural heritage features should capitalize on this unique relationship by providing strong visual and physical links to natural heritage features both from buildings and adjacent public streets. Where appropriate buildings adjacent to natural heritage features should maximize views and awareness of the feature.

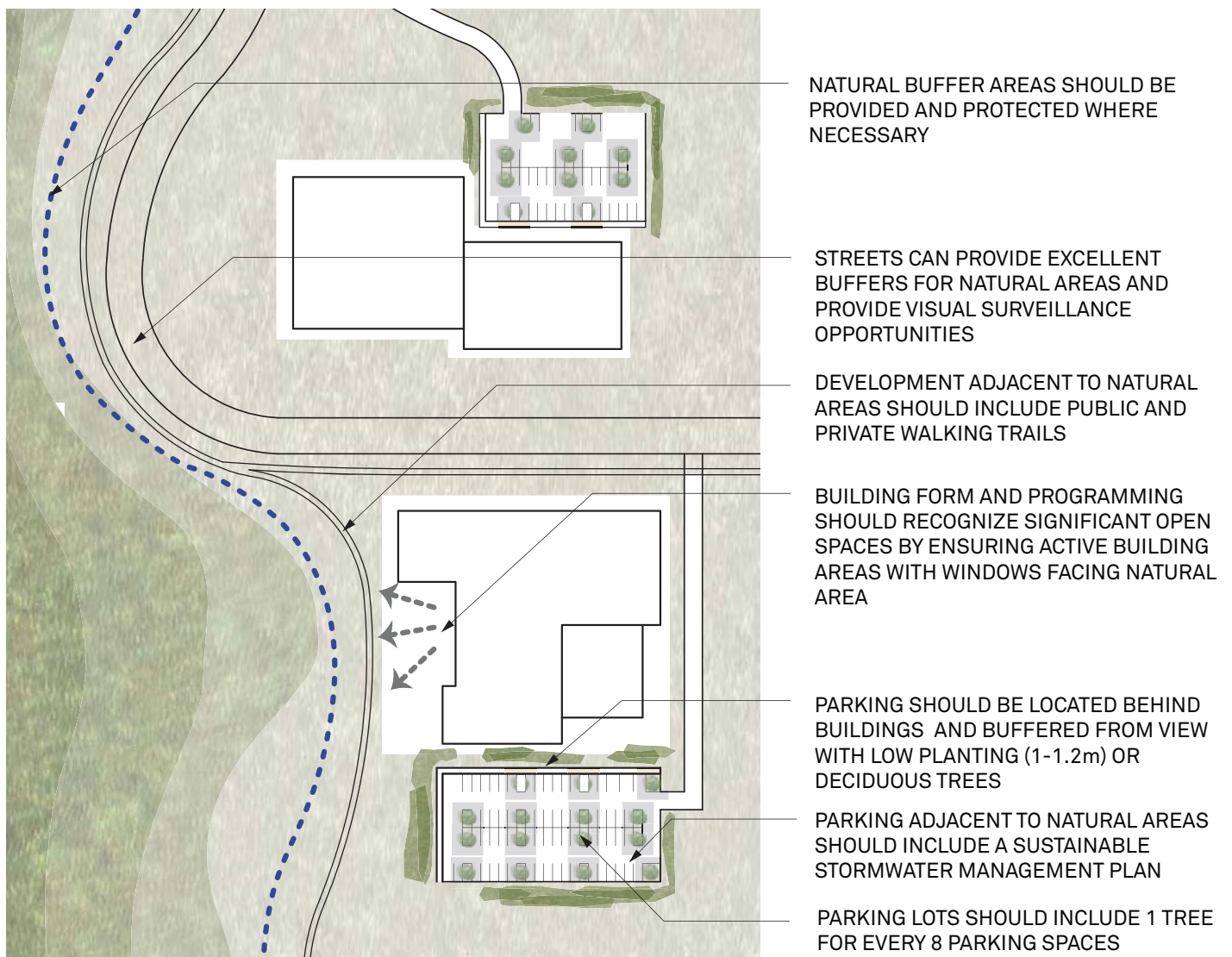
Where natural heritage features are part of a site or adjacent to it, a significant amount of the perimeter should be bounded by streets and/or public open space to enhance safe use through casual surveillance. 'Back-lotting' of natural areas should be discouraged.

In addition, please refer to the following Performance Standards (where applicable):

- 2: Parks and Open Spaces
- 3: Stormwater Management Facilities
- 4: Multi Use Trails
- 31: Sustainability: Site Design



Significant natural features in Thunder Bay include the Kaministiquia River, Mount McKay, and Lake Superior.



The illustration above demonstrates how development can occur adjacent to natural heritage features.

## Performance Standard # 2:

# Parks and Open Spaces

**Parks & open spaces are focal points within the City and neighbourhoods. New development should be located, or new open spaces should be created within the development, to ensure open space is provided within walking distance of residential and employment uses.**

### *2A - Location and Interface*

- a) The majority of residents within urban areas should be located within 800 metres (10-minute walking distance) of a large park, and if possible, 400 metres of a medium park or neighbourhood parkette.
- b) Open spaces should be located along, and at the terminus of, the Image Routes and other key corridors (i.e. Waterloo Street/Balmoral Street, Junot Avenue/Golf Links Road, and Water Street/Cumberland Street/Hodder Avenue).
- c) Where viable, neighbourhood retail uses and cafes should face directly onto parks and open spaces.
- d) The perimeter of parks should be lined with buildings that face onto the park. Backlotted housing, or housing with the rear property line against parks or primary streets, should be avoided.

- e) Where housing does back onto a park or open space, high-quality rear fencing must be provided. Access gates for residents should be placed at each property and mid-block connections should be included to allow access to the park from the adjacent residential areas.

### *2B - Design*

- a) At least 50% of park areas not used for sports fields should be treed to provide shade and expand the urban forest.
- b) Signage should be coordinated near entrances to reduce clutter.
- c) Recycled materials should be used where possible.
- d) New or revitalized parks and open spaces should be the subject of both community design workshops and design competitions and should be designed by registered landscape architects with a reputation for excellence and innovation.

### *2C - Uses and Amenities*

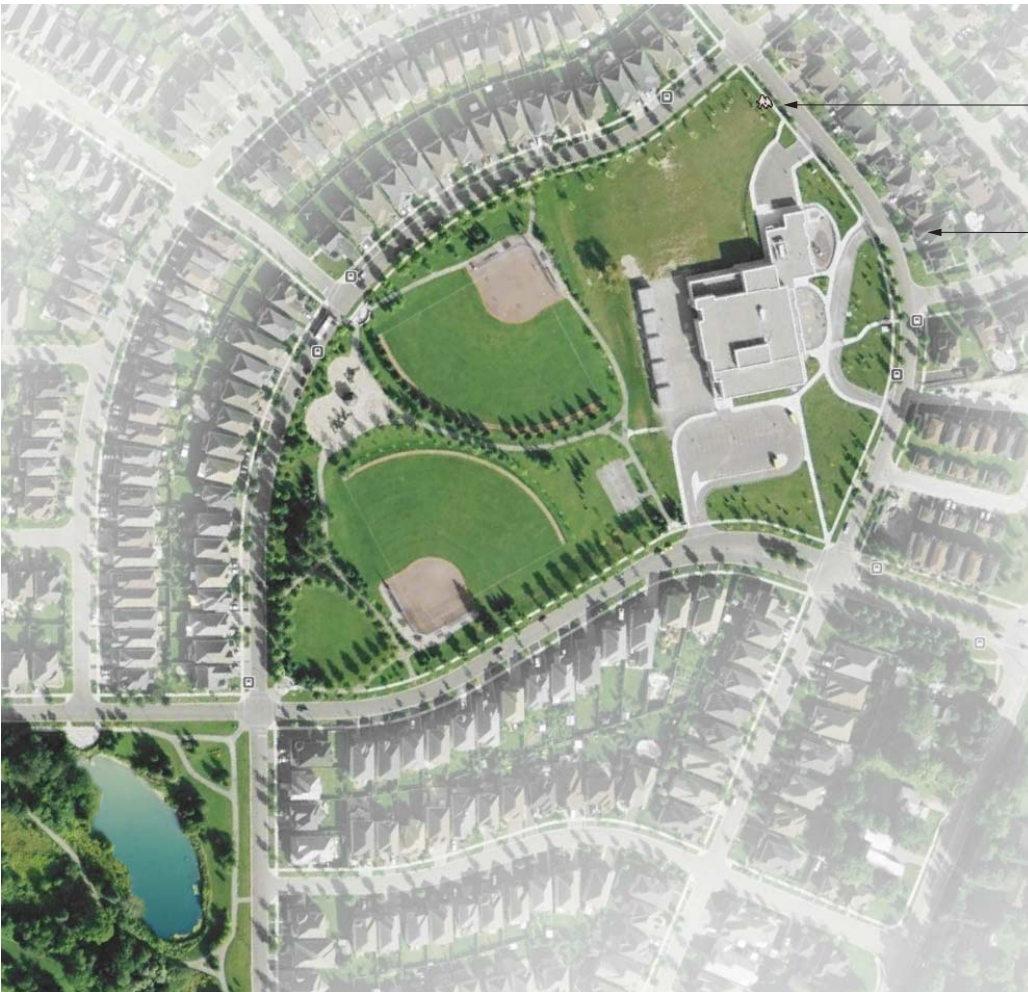
- a) Large and medium parks should accommodate both active and passive recreation.
- b) Playground equipment should be imaginative, easily maintained and should be located in areas shaded by trees.



*Buildings should be designed and oriented to frame adjacent open spaces.*



*Adult exercise equipment should be incorporated where appropriate.*



PARKS AND OPEN SPACES ARE A NEIGHBOURHOOD FOCUS WITH STREETS DEFINING THEIR EDGES

THEY ARE LINED WITH HOMES WHICH FACE ONTO/AND OVERLOOK THESE PUBLIC AMENITIES MAKING THEM SAFE AND SOCIAL SPACES

*The illustration above demonstrates how development should face onto adjacent parks and open spaces.*

- c) While universally accessible design standards should be optimized, it is recognized that all playground equipment may not be accessible.
- d) Structures supporting adult exercise (i.e. weights, cardio equipment) should be incorporated into parks.
- e) Areas should be designated within parks to support community gardening and urban agriculture.
- f) Designated and fenced leash-free dog areas should be provided in some parks and open spaces as appropriate.
- g) Public washrooms, drinking fountains, emergency call stations and public telephones should be provided in large parks.

## 2D - Access and Connectivity

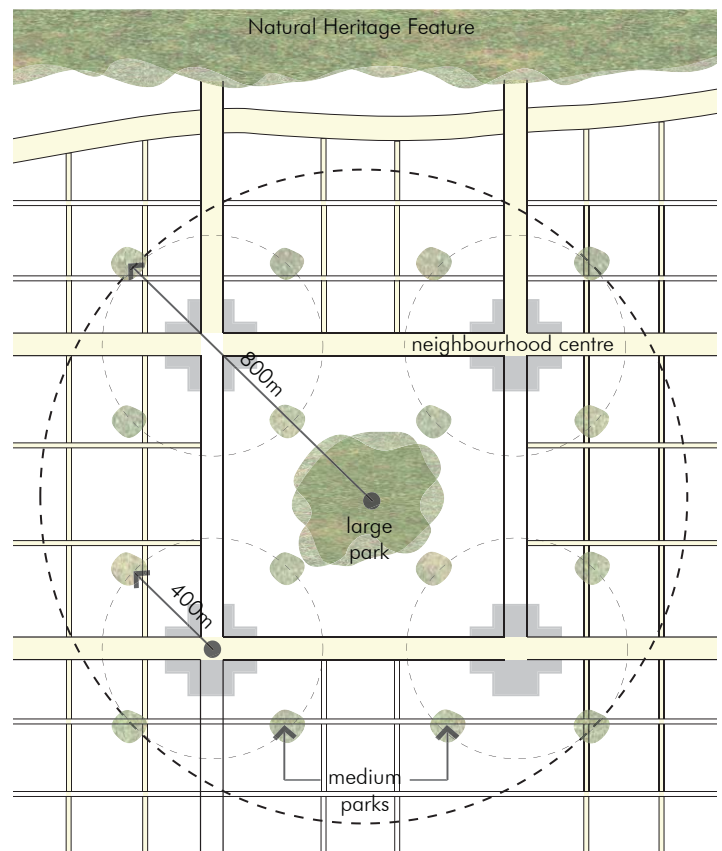
- a) A majority of the perimeter of open spaces should be clearly visible and accessible from surrounding public streets. Where possible, existing parks (i.e. Kaministiquia River Heritage Park, George Burke Park) should be enhanced to meet this guideline.
- b) Parking should be provided on-street (not directly adjacent to the park) and in small parking lots at the perimeter of parks and open spaces.
- c) Parking lots should incorporate tree-planting at one tree per eight spaces.
- d) Parks, open spaces and natural heritage features should be linked by a network of multi-use trails.
- e) Where the continuity of open spaces is disrupted, they should be linked through urban areas with special tree-lined, off-road multi-use trails, either within street right-of-ways or designated corridors.

## f) Vehicle connections through open spaces should be limited to emergency and maintenance vehicles.

Parks and open spaces in the City of Thunder Bay include:

- Large Parks (i.e. Centennial Park, Trowbridge Falls Park, Boulevard Lake Park, Chippewa Park, and Prince Arthur's Landing);
- Medium Parks (i.e. Vickers Park, Paterson Park, Kaministiquia River Heritage Park, and Waverley Park); and,
- Small Neighbourhood Parkettes.

These parks are focal points within the City, and should be accessible within an 800 metre (10-minute) walking distance of all residents. Where this is not achieved, the location of new parks and open spaces should be determined prior to all other design considerations. Open spaces should reflect their role and should serve the diverse needs of the City, including facilities for passive (i.e. walking trails, gardens, seating areas, park pavilions, interpretive displays) and active (i.e. sports fields, skating rinks) recreation.



*The illustration above demonstrates the typical organization of a neighbourhood, with most development being located within 800 metres of an open space.*

To ensure active use, open spaces should be integrated as part of a larger system of natural heritage features and open spaces connected through walkways and multi-use trails. They should be framed by public streets and buildings which face directly onto them, to enhance safety through casual surveillance. Where sports fields are adjacent to residential uses, they should have appropriate buffer planting and setback treatments to mitigate the impact of lighting, noise, traffic and parking areas.

In addition, please refer to the following Performance Standards (where applicable):

- 1: Natural Heritage Features
- 3: Stormwater Management Facilities
- 4: Multi Use Trails
- 8: Neighbourhood Landmarks
- 10: Accessibility: Public Realm
- 32: Surface Parking
- 43: Buffer Planting
- 52: School Facilities
- 53: Community Centres



HOUSES FACE ONTO/AND  
OVERLOOK THE PARK  
MAKING IT A SAFE AND  
SOCIAL SPACE

PARKS WITH PLAY EQUIPMENT  
INTEGRATES EXISTING TREE  
STAND

*Wherever possible, parks and open spaces should preserve existing tree stands and natural heritage areas.*

## Performance Standard # 3:

# Stormwater Management Facilities

**Stormwater management facilities are essential to minimize the amount of run-off that enters the natural drainage system. The following guidelines apply to both new systems and retrofits of existing systems.**

- a) Storm water facilities should be designed to be attractive amenities and to double as passive open space areas.
- b) The edges of stormwater management facilities should be naturalized and should provide a barrier to make them safe and to reduce goose habitats. Regular access points should be provided for maintenance purposes.
- c) Landscaping should not interfere with the function of the facility.
- d) A majority of the perimeter of stormwater management areas should be bounded by streets, parks or buildings which overlook them.
- e) Where there are public open space areas in close proximity to stormwater management facilities, public access should be provided where appropriate.
- f) Signage should be provided to promote education and safety awareness at stormwater management facilities.
- g) Impervious surfaces should be minimized adjacent to stormwater management facilities.



*Stormwater management facilities should be positive visual features and should incorporate an arrangement of planting that does not interfere with their function.*

Impervious surfaces are the greatest contributor to storm water pollution, and stormwater management facilities are essential to minimize the amount of run-off that enters the natural drainage system. Breaks in impervious surfaces, by means of landscaping or other permeable surfaces, should be provided to allow absorption into the soil and avoidance or minimization of discharge into the storm drain system.

Depending on location and surrounding land uses, stormwater management facilities should be publicly accessible, and should form a significant component of the natural heritage and open space system. Public education displays are encouraged to increase awareness and appreciation of the natural environment.

Where encouraged, public access should be considered on a site-by-site basis through a combination of facility edge treatments. Shallow slopes should be provided for direct access areas and overlooks with railings or densely planted areas should be applied to discourage direct access.

Facilities should be framed by public streets, open spaces and buildings, and fencing and screening measures should be minimized, to enhance safety through casual surveillance.

In addition, please refer to the following Performance Standards (where applicable):

- 1: Natural Heritage Features
- 2: Parks and Open Spaces
- 4: Multi Use Trails
- 31: Sustainability: Site Design



*The illustration above demonstrates how a stormwater management facility can be integrated as a key feature within a neighbourhood.*

## Performance Standard # 4:

# Multi-Use Trails

**Thunder Bay's multi-use trails run through a rich and beautiful natural heritage and open space system, providing links to key destinations within the City.**

- a) New multi-use trails should connect existing trails, streets, parks and open spaces.
- b) Where the continuity of open spaces is disrupted, they should be linked through urban areas with special tree-lined, off-road multi-use trails either within street right-of-ways or designated corridors.
- c) Multi-use trails should be provided through large surface parking lots where they interrupt the continuity of the trail network.
- d) Trails should minimize impacts on adjacent natural heritage areas.
- e) Two way trails should be 3.0 to 4.5 metres wide.
- f) Frequent access points should be provided along multi-use trails.
- g) Multi-use trails should be barrier-free to accommodate people of all ages and abilities.
- h) Trails should include adequate amenities (i.e. seating, lighting, waste receptacles, signage and interpretive information).

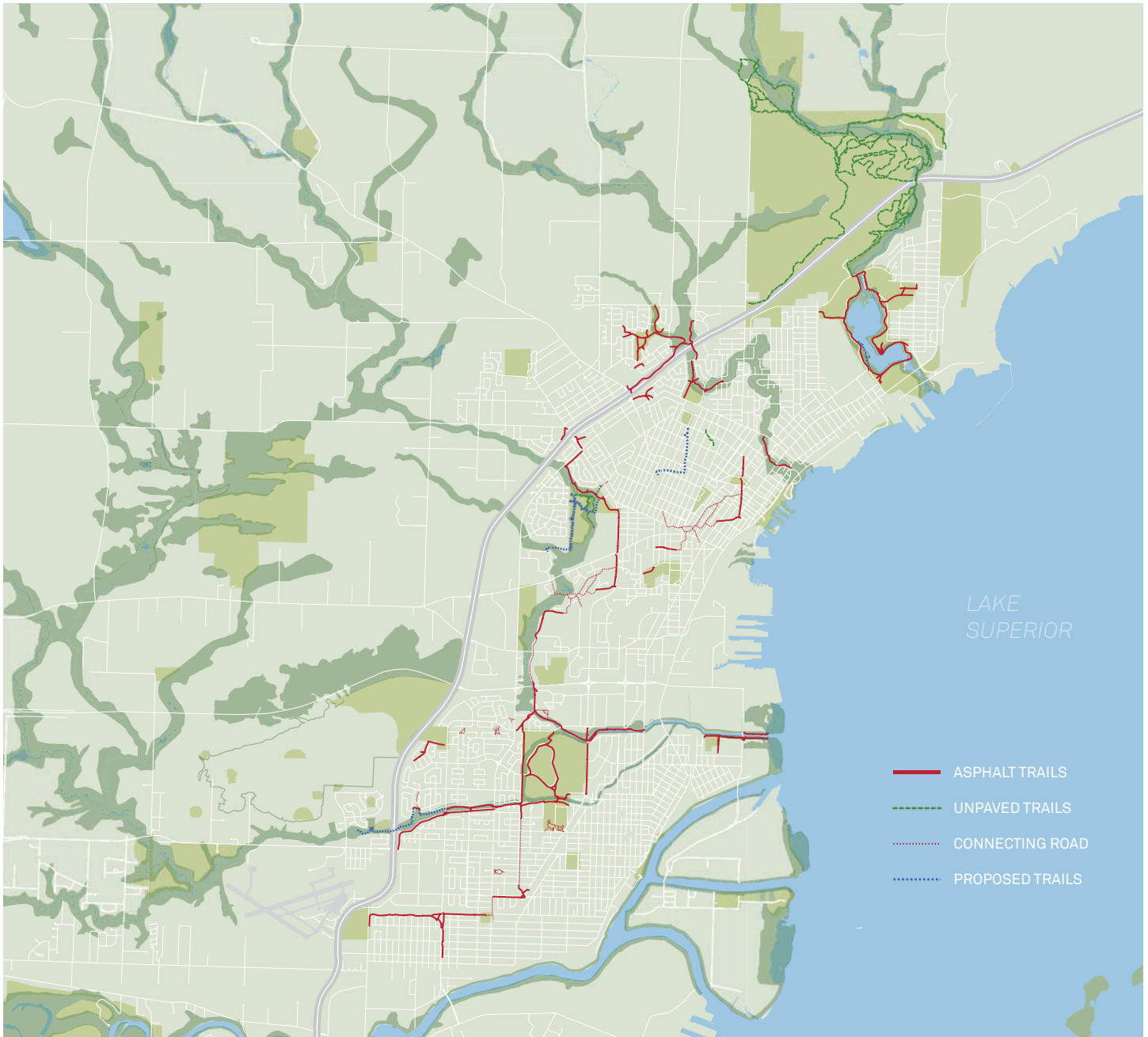
Thunder Bay's network of multi-use trails runs through a rich and beautiful natural heritage and open space system. New multi-use trails should fill in gaps in the existing network, by providing links to key destinations, including the North and South Cores, the Image Routes, Confederation College, Lakehead University, and the waterfront.

The design of multi-use trails should reflect the function and nature of the spaces they occupy. For example, trails located within sensitive natural environments should be constructed of low impact materials that are porous and stable, such as crushed rock, wood chip paths, or board walks.

Currently, the City of Thunder Bay's standard for two-way trails is 3.0 metres. It is recommended that trails up to 4.5 meters be considered to optimize accessibility (i.e. allow two wheel chairs to pass unobstructed and accommodate cyclists).

In addition, please refer to the following Performance Standards (where applicable):

- 1: Natural Heritage Features
- 2: Parks and Open Spaces
- 3: Stormwater Management Facilities
- 5: Transit-Supportive Design
- 7: Urban Area Gateways
- 10: Accessibility: Public Realm
- 12: Dedicated Cycling Lanes
- 19: Bicycle Parking
- 26: Arterial Roads
- 27: Collector Roads
- 28: Local Roads
- 52: School Facilities
- 53: Community Centres



*The existing trail system in the City of Thunder Bay.*

## 3.2 Transforming the Downtowns and City Main Streets



Thunder Bay's North and South Cores and the Main Streets are ideal areas for infill and intensification with mixed-use buildings, allowing the City to grow within its present boundaries in areas already served by transit and other city services. This section focuses on recommendations to ensure appropriate and high quality redevelopment in those areas.

Thunder Bay's Main Streets include the Image Routes (Arthur Street, May Street/Memorial Avenue/Algoma Street, Red River Road), and other key streets (Waterloo Street/Balmoral Street, Junot Avenue/Golf Links Road, Simpson Street, Fort William Road, Water Street/Cumberland Street/Hodder Avenue). These streets are gateways to the City and Downtowns, a spine between the North and South Cores, and key organizational elements in the City. They should evolve as whole streets that reflect their role as mobility corridors, neighborhood centers, commercial hubs and social spaces.

A key recommendation of the City's Urban Forest Management Plan is for City-wide tree canopy coverage of 50 percent. Much of this will be accommodated within boulevards, on medians, and within private property on the City's Main Streets. These improvements to the City's Urban Forest are perhaps the single most important initiative in the evolution of the City into a clean, green, and beautiful community.

In addition, please refer to the Performance Standards outlined in this section (where applicable):

- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 33: Above Grade Parking Structures
- 34: Below-Grade Parking Structures
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 38: Main Street Buildings
- 39: Accessibility - Private Realm
- 40: All Season Design - Private Realm
- 41: Heritage Design
- 44: Apartment Buildings
- 47: Mixed Use Buildings
- 52: School Facilities
- 53: Community Centres
- 54: Places of Worship
- 55: Office Buildings

## Performance Standard # 5:

# Transit-Supportive Design

**Development should support and promote transit-supportive design in order to increase public transit ridership and service.**

- a) A mix of land uses and higher densities are encouraged along major transit routes at key transit nodes.
- b) Compact, higher-density development should be located adjacent to main streets providing a high level of transit service.
- c) Within urban areas, access to transit facilities (i.e. bus stops/ shelters) should be provided within 400 metres of all residents.
- d) Transit facilities should be located at community facilities (i.e. libraries, schools, community centres).
- e) Transit facilities should be located in areas of high pedestrian activity.
- f) Multi-use trails and bicycle routes should connect to transit facilities.
- g) Bicycle parking and storage should be provided close to major transit facilities.
- h) Transit shelters should be provided at a majority of transit stops and should be attractive, safe and accessible and provide weather protection.
- i) Areas adjacent to transit shelters should be well-lit, and should incorporate seating and tree planting for shade.

A strong transit system is a key component of a healthy and vibrant city. Transit should provide a high level of service that is convenient, safe, comfortable and affordable to all areas of the City as an alternative to private automobile use. Urban development patterns have a dramatic influence on the viability of transit service. Transit supportive design provides a mix of land uses and higher densities along main streets and downtown areas.

In addition, please refer to the following Performance Standards (where applicable):

- 4: Multi Use Trails
- 12: Dedicated Cycling Lanes
- 16: Transit Shelters
- 19: Bicycle Parking
- 25: Street Network and Block Layout
- 26: Arterial Roads
- 27: Collector Roads
- 28: Local Roads
- 47: Mixed Use Buildings



*As shown on Cumberland Street, compact, higher-density development should be located adjacent to main streets providing a high level of transit service.*

## Performance Standard # 6:

# City Gateways

- a) City-wide wayfinding signage should be located at City Gateways and should provide directions to key City destinations (i.e. Downtown Cores, waterfront, Image Routes).
- b) Wayfinding signage should be designed as significant public art.
- c) Gateway features should be located on municipal property.

City gateways identify key arrival points to the City, and include:

- Arthur Street at Thunder Bay Expressway;
- Harbour Expressway at Thunder Bay Expressway;
- Red River Road at Thunder Bay Expressway; and,
- Hodder Avenue at Thunder Bay Expressway.

These key intersections are primary gateways into the City from the Thunder Bay International Airport (Arthur Street) and highway network. These gateways should reinforce a sense of entrance and arrival to the City through enhanced signage, public art and landscaping.

Gateways located along the Thunder Bay Expressway will need to be coordinated with the provincial regulations bodies. This should be a first step in planning city-wide gateways.

In addition, please refer to the following Performance Standards (where applicable):

- 20: Public Art
- 22: Signage
- 26: Arterial Roads



Gateway features welcoming visitors entering the City from Highway 11/17, Highway 61 and through the Thunder Bay International Airport.

## Performance Standard # 7:

# Urban Area Gateways

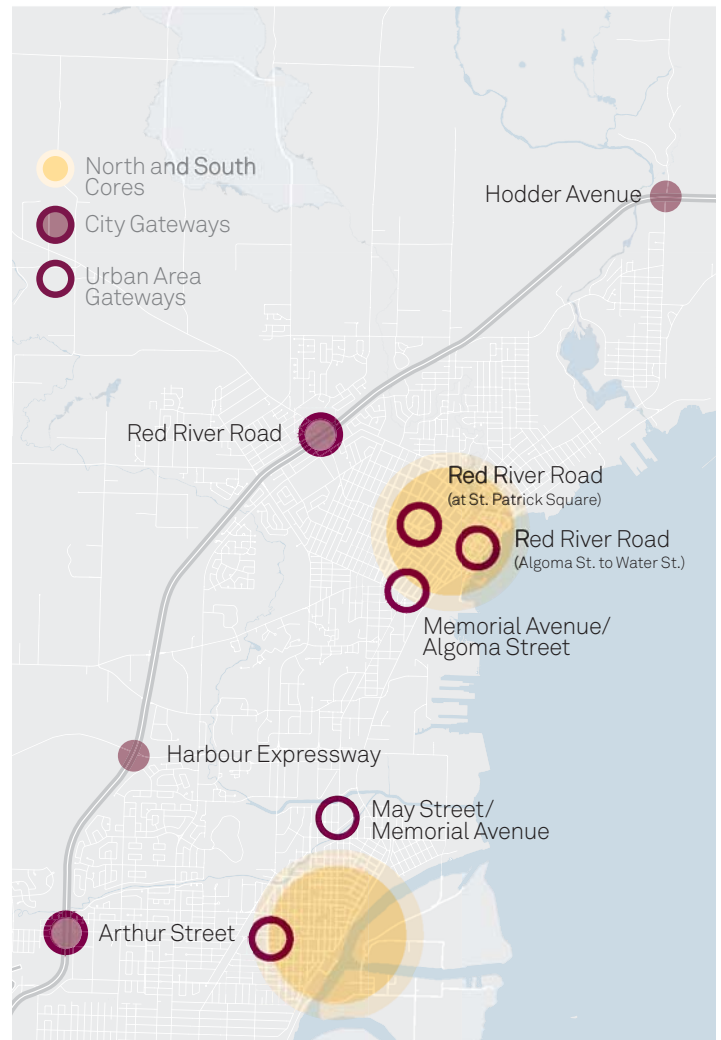
- a) Gateways should be identified through enhanced streetscape design elements, including trees, feature planting and paving, seating, public art and lighting.
- b) Gateway areas require a higher order of streetscaping including double rows of trees on either side of the roadway, decorative planting in medians and wide sidewalks complemented with pedestrian scale lighting.
- c) Gateway features should be located on municipal property.
- d) Where possible, gateway areas should be centres for information and wayfinding but should not be overwhelmed by signage.
- e) High quality designed buildings and appropriate land uses should support gateway areas.

Urban area gateways identify key arrival points to the North and South Cores, the Intercity area, and the waterfront. These include:

- Arthur Street, between Waterloo Street and May Street: This segment of Arthur Street leads to the civic core of the City at its southern end and has an opportunity to celebrate the legacy of community-builders who have shaped the city.
- May Street at the Neebing/McIntyre Floodway: This segment of May Street is a gateway into the Intercity area.
- Algoma Street, between John Street and Red River Road: This segment of Algoma Street is the gateway into the North Core, and a cultural hub that should be celebrated.
- Red River Road, between Algoma Street and Water Street: This segment of Red River Road is the gateway to the Waterfront. It should provide a grand entrance to Prince Arthur's Landing.

- Red River Road at St. Patrick Square is the gateway to the North Core.

Urban area gateways should inspire, and be catalysts for improvements throughout the North and South Cores and along the Image Routes and key corridors. Where possible, new development and enhancements to existing development (i.e. façade improvements, intensification) should be focused within urban area gateways.



Significant gateways within the City of Thunder Bay.

Urban area gateways should incorporate buildings that prominently address adjacent streets, signifying the entrances to, and exits from, the downtowns through enhanced building and site design treatments, such as taller corner elements, double height entrance areas, and large expanses of glazing. They should have significant public art displays and urban plazas, and, where appropriate, wide, pedestrian-supportive boulevards with active at-grade uses.

Urban area gateways should be centres of information, promoting key locations throughout the City, including the Downtowns, the Image Routes, the waterfront, and key parks and open spaces.

Where possible, urban area gateways should be connected to key destinations in the City to encourage active transportation. This can be accomplished through existing and new trails, open spaces, and natural heritage features.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 13: Green Streets
- 14: Green Medians
- 20: Public Art
- 22: Signage
- 38: Main Street Buildings
- 47: Mixed Use Buildings



*Gateway areas require a higher order of streetscaping including trees on either side of the roadway, decorative planting in medians and wide sidewalks complemented with pedestrian scale lighting. The example above demonstrates a potential gateway at Red River Road.*

## Performance Standard # 8:

# Neighbourhood Landmarks

Thunder Bay has a number of individual neighbourhoods that each have unique distinguishing characteristics. In these neighbourhoods, gateway features should not identify individual neighbourhoods (i.e. ornamental walls, name signs). Instead, residential neighbourhoods should be defined by their architectural and landscape character, including landmark features (i.e. parks) that reflect the identity of the neighbourhood.

In addition, please refer to the following Performance Standards (where applicable):

- 2: Parks and Open Spaces
- 20: Public Art
- 38: Main Street Buildings
- 42: Private Trees
- 52: School Facilities
- 53: Community Centres
- 54: Places of Worship



*Landmark features (i.e. parks) should be used to delineate neighbourhoods.*

## Performance Standard # 9:

# Boulevard Design

**A City's streets are its most important public space. The design of the boulevard (i.e. building face to curb face) must recognize both automotive use and a range of other needs including pedestrian and cycling, transit infrastructure, seating, bike parking, signage, lighting, trees, landscaping, newspaper stands, and adequate sidewalk space for commercial and social activity. Well-designed, tree-lined and adequately sized boulevards are required to accommodate active transportation and intensification along main streets.**

- a) Boulevard widths should be optimized to support their multi-purpose function and provide adequate space to promote healthy tree growth.
- b) Boulevards should be a minimum of 4.8 metres in width wherever possible.
- c) Where insufficient space exists within the right-of-way to achieve the minimum boulevard width, a combination of measures should be explored including right-of-way widening and reduced lane widths.
- d) All boulevards should be designed to accommodate snow storage.
- e) Sidewalks should be barrier-free.
- f) Feature paving should be used to delineate pedestrian priority.
- g) Boulevards should be planted with street trees. Linear tree trenches, soil cell technology, or structural soils are recommended to ensure mature growth.
- h) Pedestrian-scaled boulevard lighting should be provided in areas of high use, particularly where the future tree canopy may impact light levels.

The boulevard is the area between the front property line or building face, and the edge of the curb. It should be continuous along the streetscape (i.e. through minimal curb-cuts), designed to reflect adjacent land uses (i.e. wide sidewalks in mixed-use or commercial areas, multi-use trails in sub-urban areas) and should have a minimum width of 4.8 metres to accommodate the following components:

**Street Furniture and Landscape Zone:** The Street Furniture and Landscape Zone should be located between the sidewalk and vehicle traffic. The zone contains landscaped areas with site furnishings, and infrastructure facilities such as benches, bicycle locks, transit shelters, and utilities. Along the Image Routes and key corridors, these areas should be planted with consistent street trees to provide shade, reduce the urban heat island effect, create a buffer between pedestrian and vehicle traffic, and minimize stormwater run-off. Where relevant, the guidelines that follow should be used in conjunction with the City's Urban Forest Management Plan.

**Sidewalk:** The sidewalk should be located adjacent to buildings or the property line. The sidewalk is dedicated to the movement of pedestrians and should remain clear of obstructions, horizontally and vertically, at all times. Sidewalks should be constructed of brushed concrete to facilitate accessible pedestrian movement, with some use of feature paving bands (i.e. pavers, impressed concrete or concrete) to indicate pedestrian priority.

**Transition Zone:** Located in urban areas, between the sidewalk and the building or property line, on public and/or private property, the transition zone should be between 0.75-1 metres to provide a dedicated area for window shopping, spill-out retail, building entrance, street furniture and signage.

In addition, please refer to the following Performance Standards (where applicable):

- 10: Accessibility: Public Realm
- 11: All Season Design: Public Realm
- 13: Green Streets
- 14: Green Medians
- 15: Street Furniture
- 16: Transit Shelters
- 20: Public Art
- 21: Street Lighting
- 22: Signage
- 23: Waste Receptacles
- 24: Utilities
- 38: Main Street Buildings



Transition Zone

Sidewalk

Street Furniture and Landscape Zone

## Performance Standard # 10:

# Accessibility: Public Realm

**All sidewalks and public pedestrian routes should be safe and easy to use by people of all ages and abilities. These routes should be easily identifiable, separated from vehicular travel, and free of obstacles throughout all seasons.**

- a) Wherever possible, sidewalks should be a maximum gradient of 1:20 (5%).
- b) Unit paving materials used in sidewalks, paths and walkways should be firm and level, with joints no wider than .006 metres.
- c) A Street Furniture and Landscape Zone should be provided between the sidewalk and the curb face to accommodate utility posts, seating, planters, etc. without interfering with pedestrian circulation.
- d) All pedestrian routes are required to accommodate persons using mobility aids, walkers or guide dogs. These routes should be a minimum of 1.5 metres (in urban areas with high pedestrian traffic levels the preferred width is 1.85 metres), and should be clear of obstructions at all times.
- e) To minimize risk to persons with visual limitations, all routes should be free of protruding obstacles, overhanging signs, branches etc., within the first 2.1 metres of the building height. Where potential obstructions are mounted on the sides of

buildings or structures, they should not penetrate into the sidewalk area by more than .01 metres.

- f) Where traffic islands are required, they should be built of materials and finishes that are easily distinguishable from the surrounding paving, as an aid to persons who are blind or who have visual limitations.
- g) Crosswalks that cross a traffic island should be level with the main crossing or have curb ramps for persons using mobility aids.
- h) Traffic islands should be at least 1.5 metres wide to provide persons using mobility aids and seniors with a safe resting zone.

Outlined in this section are several key public realm accessibility objectives for the City of Thunder Bay. Additional objectives are provided in the Accessibility for Ontarians with Disabilities Act (AODA) and the Ontario Building Code (OBC). These standards should be reviewed and considered with all design and construction projects. The primary goal of these recommendations is to ensure that the design of areas within the public realm consider users of all abilities.

In addition, please refer to the following Performance Standards (where applicable):

- 2: Parks and Open Spaces
- 4: Multi Use Trails
- 9: Boulevard Design
- 11: All Season Design: Public Realm
- 15: Street Furniture
- 17: Crosswalks
- 20: Public Art
- 32: Surface Parking
- 39: Accessibility: Private Realm

## Performance Standard # 11:

# All Season Design: Public Realm

**Thunder Bay is a cold climate city, and the design of its public spaces (i.e. streets and open spaces) needs to consider all season requirements including sun shading, wind and snow protection, snow storage and all weather accessibility.**

- a) A minimum 1.5 metre sidewalk should remain clear of snow and debris year-round on all pedestrian travel routes.
- b) Where snow storage cannot be accommodated in the travel lanes (due to a boulevard widening or limited right-of-way), a designated winter snow storage area should be identified within the boulevard that does not undermine the sidewalk. Tree planting and street furniture will need to be selected and located based on the snow storage areas.
- c) Key cycling routes should be identified and cleared in the winter months to support year round cycling.
- d) All public parks should consider the incorporation of both summer and winter activities to support year round park use. Where winter park uses are incorporated, cleared pedestrian access paths to those amenities should be provided.

- e) Paving surfaces should be selected for their winter durability and slip resistance.
- f) The location of public walkways and parking lots should be coordinated with winter sun angles to ensure walking and driving surfaces remain dry and free of ice.
- g) All roof designs and awnings should consider mitigating falling ice and snow.

Year round use of city infrastructure including streets and parks is critical in cold weather climate. The City of Thunder Bay should look to alleviate the discomfort of cold weather through wind and snow protection for short outdoor trips and through providing outdoor amenities that highlight the City's winter climate and provides residents with engaging and interesting outdoor events and activities. These can include hosting winter festivals, ensuring clear pedestrian clearways and bus waiting areas, and providing for snow storage areas within the design of streets and open spaces.

In addition, please refer to the following Performance Standards (where applicable):

- 2: Parks and Open Spaces
- 4: Multi Use Trails
- 9: Boulevard Design
- 12: Dedicated Cycling Lanes
- 13: Green Streets
- 40: All Season Design: Private Realm
- 42: Private Trees
- 43: Buffer Planting

## Performance Standard # 12:

# Dedicated Cycling Lanes

**Dedicated cycling lanes minimize conflicts between cyclists and vehicles, and instill confidence in less experienced riders.**

- a) Dedicated cycling lanes should be integrated into the greater active transportation network.
- b) Primary links in the City's cycling network should be maintained year-round. This will require snow storage within the boulevard.
- c) On-street dedicated cycling lanes should be 1.2-1.8 metres, and should be provided on new streets and retrofitted streets, and on existing streets (where the right-of-way allows).
- d) On-street dedicated cycling lanes should be provided on both sides of the street where possible.
- e) New off-road dedicated cycling lanes should be provided wherever possible, either as one-way lanes on either side of the street (1.2 metres minimum width) or as two-way trails on one side of the street (3.0 metres minimum width).
- f) New off-road dedicated cycling lanes should be placed in a wide boulevard and, where possible, separated from vehicular traffic by a 2.0 metre landscaped strip with street

trees. Similarly, where possible, there should be a 1.8 metre planting strip between the cycling lanes and the adjacent sidewalk.

- g) All existing and future cycling routes should have frequent information signs.
- h) Symbols and pavement marking are encouraged to distinguish all cycling routes.

The City of Thunder Bay Active Transportation Advisory Committee has recognized the need for a variety of cycling facilities within the City in order to accommodate both advanced and basic cyclists. This will be accomplished through the provision of wide curb lanes, off-street trails, and dedicated cycling lanes where appropriate.

Dedicated cycling lanes are recommended as part of the overall cycling strategy as they explicitly distinguish between vehicle and cyclist traffic, through the provision of a 1.2-1.8 metre painted and signed lane. This separation minimizes conflicts between cyclists and vehicles, and limits the need for either to swerve into adjacent lanes. They also instill confidence in less experienced riders, allowing them to commute on higher traffic streets and to access key destinations in the most efficient way, and with minimal delays.

Where dedicated cycling lanes are provided, they should be clearly distinguished through painted lines, and frequent signage. Signage and symbols should be selected from the Transportation Association of Canada's manual, as they are recognized throughout North America.

*For additional information related to dedicated cycling lanes, please refer to the City's active transportation website at:*

*[http://www.thunderbay.ca/Living/Getting\\_Around/Active\\_Transportation.htm](http://www.thunderbay.ca/Living/Getting_Around/Active_Transportation.htm).*

In addition, please refer to the following Performance Standards (where applicable):

- 4: Multi Use Trails
- 5: Transit-Supportive Design
- 11: All Season Design: Public Realm
- 19: Bicycle Parking
- 26: Arterial Roads
- 27: Collector Roads
- 28: Local Roads
- 32: Surface Parking
- 52: School Facilities
- 53: Community Centres



*Where dedicated cycling lanes are provided, they should be clearly distinguished from vehicular traffic through painted lines, and physical separation.*

## Performance Standard # 13:

# Green Streets

**Street trees are perhaps the most important singular contribution to city beautification. Mature street trees provide shade for pedestrians, reduce the urban heat island effect, enhance the visual and environmental qualities of the street, minimize run-off, and provide a buffer between traffic and the pedestrian. They also act as a passive form of traffic calming.**

- a) A City-wide campaign of expanding the street tree canopy should be a priority in all road works projects.
- b) As the City's tree canopy is expanded, an increased maintenance program is required for leaf collection and pro-active pruning.
- c) Wherever possible, existing healthy street trees should be preserved.
- d) 15 cubic meters of good quality soil should be provided per tree (can be shared).
- e) To support sustainable tree growth, street trees should be planted in the boulevard – between the sidewalk and inside vehicular lane, and where possible use a continuous linear trench.
- f) Utilize continuous tree pits to maximize soil volume. A soil cell system is the preferred option when trees are planted in hard surface paving. A suspended slab system or structural soil infill are alternate options.
- g) When planting trees within hard surfaces in boulevards, tree grates, tree guards, and underground utility boxes are recommended. Tree grates and other related infrastructure should not impede future tree growth.
- h) Street trees should be planted at a minimum width of 2.5 metres.
- i) Where sufficient boulevard width is available, a double row of trees should be planted on either side of the Sidewalk Zone.
- j) For optimal tree health, street trees in the boulevard should be set back 1.5-2 metres (minimum) from the curb.
- k) Large deciduous trees should be planted at 8-10 metre intervals (on centre) or clustered in groups of 2-4 trees on bump-outs.
- l) Medium and small trees should be planted at 8-10 metre intervals (on centre).
- m) Where applicable use drought tolerant seed mixes for grass within a boulevard to minimize irrigation and maintenance requirements, large mulch beds can also be considered instead of grass.
- n) If irrigation is not in place, two-year maintenance watering is necessary for all plant material to ensure longevity.
- o) Bio-swales or infiltration swales should be used within boulevards to allow natural watering of plant material and reduce stormwater run-off.

- p) Where feasible, permeable paving is encouraged to minimize the amount of surface run-off into the stormwater system.
- q) Street trees should not interfere with vehicle sight lines.
- r) Utilities design and location should be coordinated so that it does not interfere with sustainable tree growth.

The existing residential communities within the City of Thunder Bay, such as Hyde Park and Mariday Park, have a significant number of well established street trees and the City's main streets and Image Routes should strive for a similar canopy.

Mature street trees provide shade for pedestrians, reduce the urban heat island effect, minimize run-off into the stormwater system, enhance the visual and environmental qualities of the street, and provide a buffer between the pavement, sidewalk and buildings. In winter, mature street trees lining a street

provide character and enhance the sense of place. Therefore, existing street trees should be preserved wherever possible and supplemental street trees should be considered in an existing community where the existing tree canopy is reaching the end of its life-cycle.

Where relevant, these guidelines should be used in conjunction with the City's Urban Forest Management Plan.

In addition, please refer to the following Performance Standards (where applicable):

- 2: Parks and Open Spaces
- 4: Multi Use Trails
- 9: Boulevard Design
- 11: All Season Design: Public Realm
- 14: Green Medians
- 42: Private Trees
- 43: Buffer Planting



*Street trees should be planted wherever possible throughout the City.*



### Recommended Street Tree Species

#### LARGE DECIDUOUS TREES (height 15m and more)

Botanical Name	Common Name
<i>Acer negundo</i> 'Baron'	Manitoba Maple
<i>Acer saccharinum</i>	Silver Maple
<i>Celtis occidentalis</i> 'Delta'	Delta Hackberry
<i>Populus x jaackii</i> 'Northwest'	Northwest Poplar
<i>Quercus macrocarpa</i>	Bur Oak
<i>Quercus rubra</i>	Red Oak
<i>Tilia americana</i>	American Linden
<i>Tilia flavescens</i> 'Dropmore'	Dropmore Linden
<i>Tilia cordata</i> 'Ronald'	Norlin Linden

#### MEDIUM STATURE DECIDUOUS TREES (height 7.5-15m)

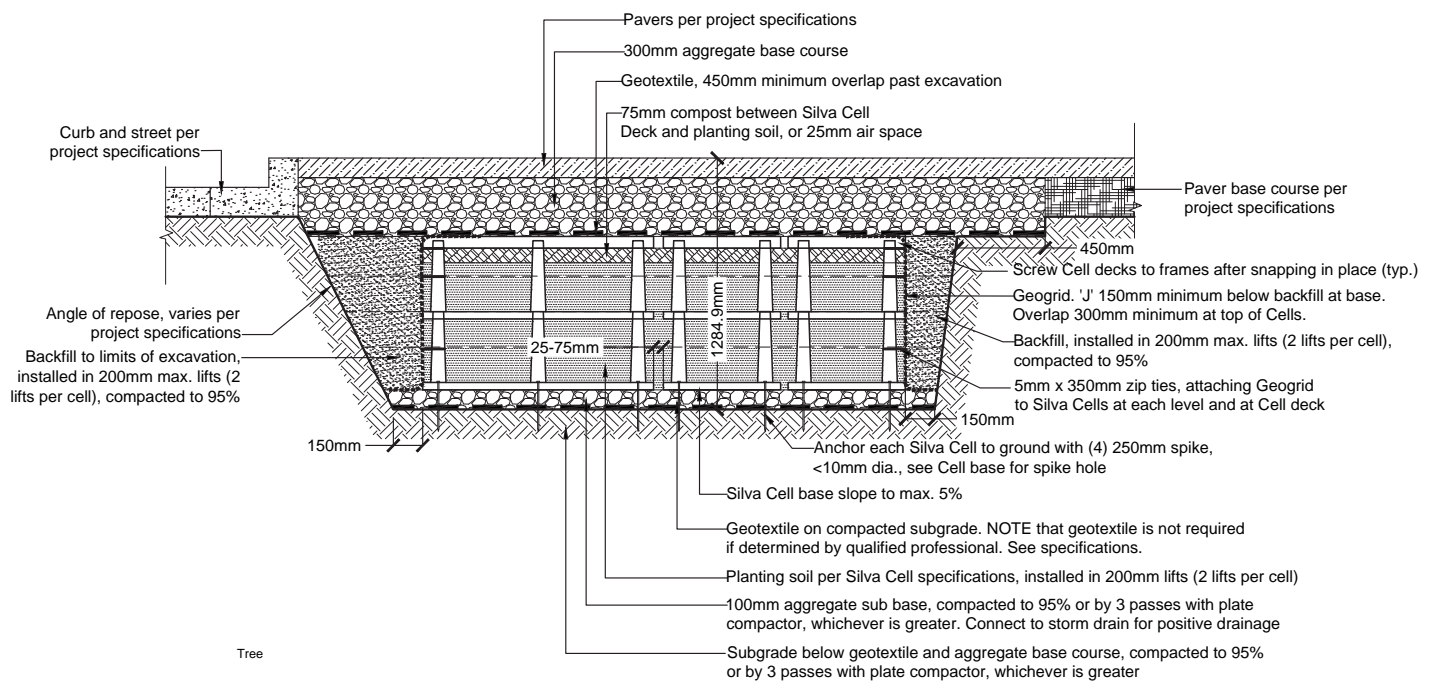
<i>Acer rubrum</i> 'Northwood'	Northwood Red Maple
<i>Acer saccharum</i> 'Jefcan'	Unity Sugar Maple
<i>Ulmus davidiana</i> 'Discovery'	Discovery Elm

#### SMALL STATURE - ORNAMENTAL TREES

(height less than 7.5 m)

<i>Acer ginnala</i>	Amur Maple
<i>Prunus maackii</i> 'Jefree'	Goldrush Amur Choke Cherry
<i>Malus x 'Spring Snow'</i>	Spring Snow Crabapple
<i>Malus x adstringens</i> 'Pink Spires'	Pink Spires Crabapple
<i>Syringa reticulata</i>	Japanese Tree Lilac
<i>Sorbus aucuparia</i> 'Rossica'	Russian Mountain Ash

Source: Parks Division Guidelines and Specifications, 2012 Edition, Infrastructure and Operations Department.



A sample detail of a soil cell system using Silva Cell product by Deep Root.

## Performance Standard # 14:

# Green Medians

**A green median is an enhanced median with trees, shrubs, landscaping and installations.**

- a) Medians planted with street trees should have a minimum width of 3.0 metres.
- b) Where medians approach intersections or mid-block connections, accessible areas should be provided to allow refuge for pedestrians crossing the street.
- c) Preferred species for trees and shrubs in medians are non-invasive species suitable for Zone 3 climatic conditions.
- d) Use drought tolerant seed mixes for grass within a median to minimize irrigation and maintenance requirements.
- e) Bio-swales or infiltration swales should be used within medians to allow natural watering of plant material and reduce stormwater run-off.

To ensure the proper installation of new trees, and maintenance of existing trees, these guidelines should read in conjunction with other relevant City documents, including the Parks Division Guidelines and Specifications, 2012 Edition, Infrastructure and Operations Department.

### Recommended Street Tree Species

For a list of recommended tree species within the median, please refer to the 'Street Trees' list on the previous page, including:

- Large Deciduous Trees
- Small Stature - Ornamental Trees



*Green medians*

## Performance Standard # 15:

# Street Furniture

**Street furniture contributes to the creation of unique streets, and is an essential component of a pedestrian-supportive streetscape.**

- a) Street furniture should be concentrated in areas with high pedestrian activity.
- b) Street furniture should not obstruct pedestrian or vehicle circulation.
- c) Street furniture should not hinder sidewalk maintenance and snow removal.
- d) Raised planters should be designed to double as seating areas.

Street furniture contributes to the creation of a unique streetscape, and should be concentrated in areas with the highest pedestrian traffic, such as the Image Routes, the North and South Cores, along the Waterfront, and on other significant corridors. In addition, street furniture is an essential component of a pedestrian-supportive streetscape offering opportunities for rest, social interaction, and casual surveillance.

City-wide street furnishings should be developed within an overall concept and should provide a consistent and unified streetscape appearance that is appropriate for the area context. Within the core areas, BIA's should continue to manage street furniture programs using selections that are consistent with the City-wide approach.

Street furnishings should be placed in a coordinated manner that does not obstruct pedestrian or vehicular circulation or impact sidewalk maintenance, particularly snow removal.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 10: Accessibility: Public Realm
- 11: All Season Design: Public Realm
- 16: Transit Shelters
- 20: Public Art
- 21: Street Lighting
- 22: Signage
- 23: Waste Receptacles
- 24: Utilities



*Street furniture, including benches and raised planters, should be focused in areas with high pedestrian activity and should be located to not interfere with pedestrian circulation.*

## Performance Standard # 16:

# Transit Shelters

### Transit shelters should be safe, attractive and comfortable.

- a) Transit shelters should be located close to building entrances, and be barrier-free.
- b) Transit shelters should provide weather protection, and basic amenities (i.e. seating and lighting). Where adjacent to street lighting, lighting on shelters is not required.
- c) Tree planting should be provided adjacent to the shelter to provide shade, a wind break, and an attractive environment.
- d) Run-off from shelter roofs should be directed to adjacent tree pits or landscapes.
- e) Sidewalks should connect directly to transit shelters. A concrete loading/unloading area should be provided (width varies by context).
- f) Transit shelters should be located 0.3 metres from the sidewalk, and should not interfere with pedestrian circulation.
- g) Transit shelters should be highly transparent to promote safety.
- h) Transit shelters should include community information panels and area specific public art installations.

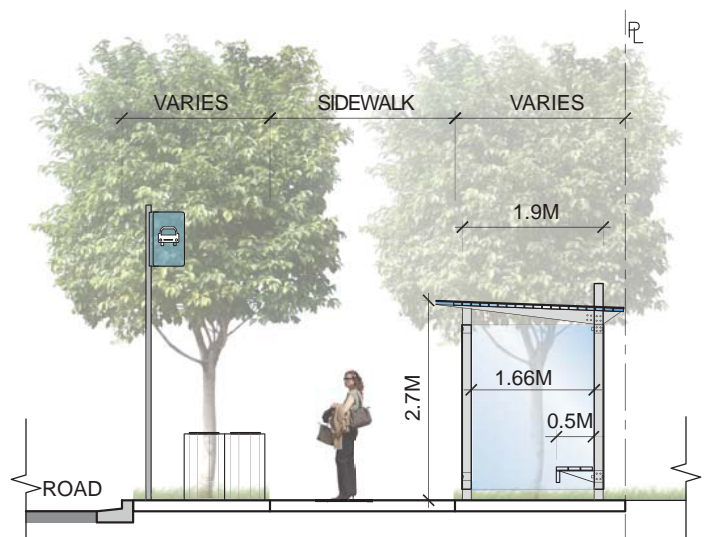
In areas with high pedestrian traffic, such as the North and South Cores, the Image Routes, and along key corridors, transit stops should reflect the identity and character of the area. They should include a shelter for weather protection and basic amenities, including seating, waste receptacles, lighting, and route information. Where appropriate (i.e. along the Image Routes, at the waterfront), transit shelters should accommodate interpretive installations that commemorate specific events, places, and personalities of significance.

To promote active use, transit shelters should be located close to building entrances, and should connect directly to adjacent sidewalks to ensure safety and convenience. They should have barrier-free access and be located in a way that does not interfere with pedestrian movement.

Transit shelters located on the sidewalk or boulevard should be located 0.3 metres clear of the sidewalk in order to allow sufficient space for snow clearing.

In addition, please refer to the following Performance Standards (where applicable):

- 5: Transit-Supportive Design
- 9: Boulevard Design
- 10: Accessibility: Public Realm
- 11: All Season Design: Public Realm
- 15: Street Furniture
- 20: Public Art
- 52: School Facilities
- 53: Community Centres



Transit shelters should include basic amenities, including seating, waste receptacles, lighting, and route information.

## Performance Standard # 17:

# Crosswalks

### **Crosswalks should be designed to ensure the safety of pedestrians.**

- a) Crosswalks should be continuous and connected to adjacent sidewalks.
- b) Crosswalks should conform to the Ontarians with Disabilities Act.
- c) Crosswalks should be clearly designated with lighting and pavement surface striping.
- d) In high-traffic pedestrian areas (i.e. Downtown Cores, Image Routes, etc.), public art should be integrated into crosswalk design.
- e) In Downtown areas, mid-block crosswalks should be provided on blocks greater than 250 metres.

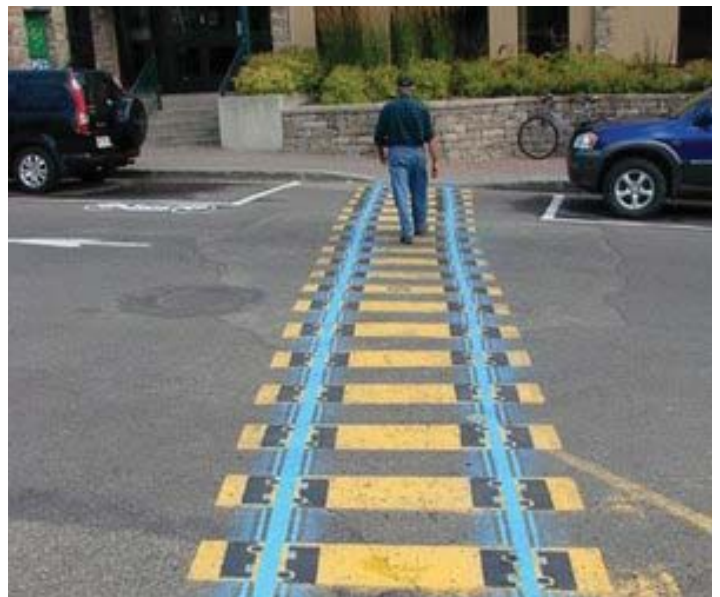
There is a significant amount of pedestrian and vehicular traffic in the City of Thunder Bay, particularly along the main streets and within the North and South Cores. As the City evolves, streets that are currently primarily vehicle-oriented will begin to see an increase in pedestrian and cycling traffic. In order to improve the safety of all users, it is essential that the City of Thunder Bay design a continuous system of crosswalks to ensure the safe coexistence of vehicular and pedestrian traffic.

The location of crosswalks and design of curb cuts should conform to the policies of the Ontarians with Disabilities Act. Crosswalks should be clearly designated, with appropriate surface markings or variation in surface treatment, and signage. They should be continuous and connected to adjacent sidewalks. Traffic signals should be timed such that pedestrians have adequate time to clear the crossing. Audible signals and pedestrian countdown devices should be considered on a case-by-case basis. Where blocks are greater than 250 metres in length, additional mid-block pedestrian

signals and courtesy crossings with specialized markings and signage should be considered.

In addition, please refer to the following Performance Standards (where applicable):

- 10: Accessibility: Public Realm
- 14: Green Medians



*In significant pedestrian areas, the City is encouraged to use local artists to integrate public art within crosswalks (artist: Peter Gibson).*

## Performance Standard # 18:

# On-Street Parking

**On-street parking should be permitted, wherever possible, to animate the street, reduce vehicle speeds and serve as a buffer between pedestrians and vehicles particularly on streets with at-grade retail.**

- a) On-street parking should be provided wherever possible on the City's main streets and in the downtown areas.
- b) Parallel on-street parking is preferred and angled parking should be avoided.
- c) On-street parking may be situated between bump-outs where appropriate.
- d) Bump-outs should be well landscaped and designed to accommodate snow removal.
- e) Unit or concrete pavement should be used wherever possible to distinguish dedicated on-street parking from through travel lanes.
- f) Parking meters should be located behind the sidewalk or the street furniture and landscape zone (if applicable) to accommodate snow removal and storage.

On-street parking on the Image Routes and throughout the City should be permitted, wherever possible, to animate the street, reduce vehicle speeds and serve as a buffer between pedestrians and vehicles, particularly on streets with at-grade retail. To encourage on-street parking, appropriate design standards for roadways, including bump-outs, should be developed.

Parallel on-street parking is preferred over perpendicular or angled parking to minimize the overall width of the roadway and to optimize sightlines.

On-street parking may be situated within bump-outs where appropriate. Bump-outs should be landscaped with street trees or low-level ground cover planting, and should be designed to accommodate snow loading.

Where appropriate, permeable paving should be considered to promote drainage, provide passive irrigation to street trees, and to enhance the street edge.

In addition, please refer to the following Performance Standards (where applicable):

- 12: Dedicated Cycling Lanes
- 26: Arterial Roads
- 27: Collector Roads
- 28: Local Roads
- 38: Main Street Buildings



*On-street parking should be provided wherever possible on the City's main streets.*

## Performance Standard # 19:

# Bicycle Parking

**The accommodation of convenient bicycle parking is essential to support active transportation and ensure that it remains a long-term transportation option.**

- a) Bicycle parking should be provided along City streets and close to building entrances - especially in commercial areas.
- b) Bicycle parking should be sheltered whenever possible.
- c) Bicycle parking should not impede pedestrian circulation.
- d) Post-and-ring, or inverted 'u', bicycle parking is preferred.
- e) Bicycle storage facilities should be provided in areas of high pedestrian activity and encouraged in both the public and private realm.
- f) Secure, long-term bicycle parking facilities should be provided at transit terminals and large employment, business, or office buildings.

Creating a network of parks, open spaces, streets and trails that connect Main Streets and key destinations will establish cycling as a major mode of transportation. Convenient bicycle parking is essential to ensure that cycling remains a long-term transportation option. These guidelines should be used in conjunction with the City's Guidelines for Bicycle Parking Facilities:

[http://www.ecosuperior.org/upload/documents/active\\_bike-parking-guidelines.pdf](http://www.ecosuperior.org/upload/documents/active_bike-parking-guidelines.pdf)

Bicycle parking should be provided at regular intervals on the Image Routes and other areas of high pedestrian activity, and should be located close to building entrances. Post-and-ring and inverted 'u' parking, constructed of painted or galvanized steel, is preferred as larger units can impede pedestrian movement and snow clearing.

Bicycle parking and storage facilities should encourage active transportation, including parking at public parks and open spaces, and short-term visitor bicycle storage at transit facilities and employment areas.

In addition, please refer to the following Performance Standards (where applicable):

- 2: Parks and Open Spaces
- 5: Transit-Supportive Design
- 9: Boulevard Design
- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 52: School Facilities
- 53: Community Centres
- 55: Office Buildings



*Public art integrated within a bicycle parking stand (artwork by Carol Kajorinne)*

## Performance Standard # 20:

# Public Art

### Public art will enhance the unique culture and history of the City.

- a) Public art should be incorporated through new capital projects.
- b) Significant public art pieces should be the subject of design competitions to support local artists (where desired) and to promote excellence and innovation.
- c) Public art should be place-specific.
- d) Public art should be located at key destinations within the City.
- e) Public art is encouraged within private developments that have significant public spaces (i.e. courtyards).
- f) Public art should be visibly and physically accessible.
- g) Public art should be durable and low-maintenance.
- h) Public art should be complemented by adjacent landscaping where appropriate.

The inclusion of public art will contribute to the culture and history of the City, and will enhance the unique character of key destinations along the Image Routes, within the North and South Cores, at key gateway areas, and within parks and open spaces. The guidelines should be used in conjunction with the City's Public Art Policy:

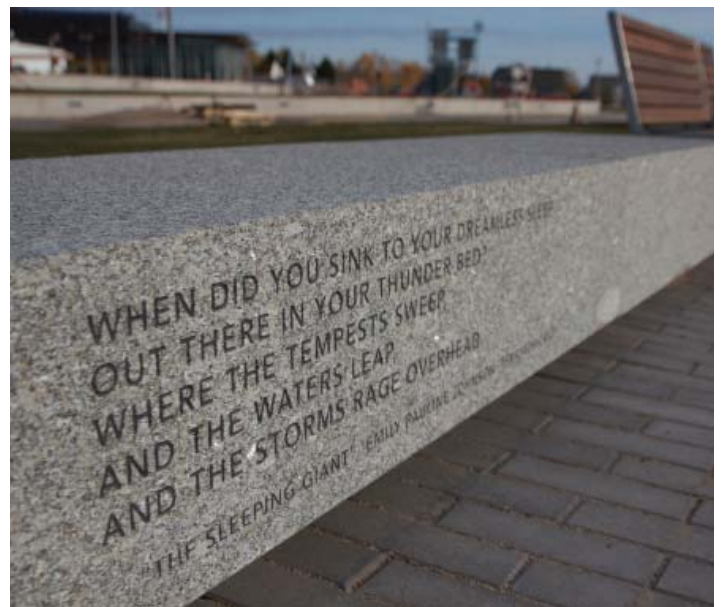
<http://www.thunderbay.ca/publicartpolicy>

Public art should be place-specific and explore opportunities to celebrate historic and cultural events of local, national and international significance (i.e. The Dawson Trail along Red River Road, a memorial theme along Memorial Avenue). Sites may be reserved for groupings of complementary pieces, including temporary installations.

Public art should be both physically and visually accessible and barrier free.

In addition, please refer to the following Performance Standards (where applicable):

- 6: City Gateways
- 7: Urban Area Gateways
- 8: Neighbourhood Landmarks
- 9: Boulevard Design
- 16: Transit Shelters
- 52: School Facilities
- 53: Community Centres



Public art should be place-specific and explore opportunities to celebrate historic and cultural events of local, national and international significance.

## Performance Standard # 21:

# Street Lighting

- a) The design and location of lighting should consider sustainability and the impacts of light pollution.
- b) Downcast pedestrian-scale lighting should be provided in high traffic pedestrian areas.
- c) All lighting should be located within the Street Furniture and Landscape Zones, or within medians as required.
- d) All pedestrian and street lighting should be “dark sky” friendly to minimize light pollution. Where current standards do not adhere to these guidelines, it should be taken into consideration when they are next upgraded.
- e) Private property lighting should ensure safe and well lit pedestrian areas, including parking areas and building entrances.
- f) Street lighting fixtures should be selected in accordance with existing city engineering standards and consider all maintenance ramifications.

In key areas, lighting can be used to accent special features, such as buildings, heritage properties, landscaping, and signage. Downcast, pedestrian-scaled lighting enhances safety and visibility on streets. The design and location of lighting should consider sustainability and the impacts of light pollution including: energy efficiency, directional lighting that reduces wasted energy, induction lighting, solar power and street reflectors and sensors (to help regulate brightness and when lights turn on and off).

Consideration should be given to providing additional pedestrian-scale lighting in areas with a high volume of pedestrian activity, such as key intersections, transit stops, trail crossings, and mid-block connections.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 14: Green Medians
- 16: Transit Shelters
- 24: Utilities
- 31: Sustainability: Site Design



*Downcast pedestrian-scale lighting should be provided in high traffic pedestrian areas.*

# Performance Standard # 22:

## Signage

**A hierarchy of signage should be implemented uniformly throughout the City, and should encompass street signs, directional signage, wayfinding, pedestrian and cyclist-scaled, and commercial signage.**

- a) A comprehensive way finding strategy for the City should be developed.
- b) Commercial signage should not overwhelm the appearance of the streetscape nor restrict the placement of street trees.
- c) In areas with high pedestrian traffic (i.e. the North and South Cores, the Image Routes, etc.), commercial signage should be pedestrian scaled.
- d) Mobile signs should be prohibited.
- e) Signage and kiosks should not impede pedestrian circulation.
- f) Signs should not impede vehicle sight lines.
- g) Information signage should be located in high traffic areas.
- h) Street furniture should not include advertising.

A hierarchy of signage should be implemented uniformly throughout the City, and should encompass street signs, directional signage and commercial signage. This will reduce the overall amount of street clutter, while ensuring that wayfinding signage is highly visible and easy to understand.

A comprehensive wayfinding strategy for the City should be developed, including mapping at key locations, such as the Arthur Street/May Street intersection area, Bay/Algoma Street Area, along Memorial Avenue, at the Waterfront, and along Red River Road.

Signs and information kiosks should be located in areas of high pedestrian activity, such as the North and South Cores, along the Image Routes and key corridors, and along the waterfront. They should be limited in size to minimize visual impacts on the streetscape, and should be carefully located to ensure they do not impede pedestrian circulation or vehicle sight lines.

Advertising should not be included within street furniture with the exception of small, unobtrusive plaques to indicate the source of funding for the furniture.

It is recommended that the existing sign by-law be amended to prohibit mobile signs on the Image Routes, and other key corridors, including Waterloo Street/Balmoral Street, Junot Avenue/Golf Links Road, and Water Street/Cumberland Street/Hodder Avenue.

In addition, please refer to the following Performance Standards (where applicable):

- 2: Parks and Open Spaces
- 3: Stormwater Management Facilities
- 4: Multi Use Trails
- 6: City Gateways
- 39: Accessibility: Private Realm
- 41: Heritage Design
- 48: Large Format Retail

## Performance Standard # 23:

# Waste Receptacles

- a) Waste receptacles should be located at high activity street corners, and should be placed within the Street Furniture and Landscape Zone to minimize disruptions to pedestrian circulation.
- b) Outdoor ashtrays should be located outside of buildings, and publicly accessible.
- c) Receptacles should be located in close proximity to seating areas.
- d) Waste receptacles should be provided on private sites that are frequently accessed by the public (i.e. schools, convenience stores, etc.).
- e) Waste receptacles should include slots for recycling and litter.
- f) Waste receptacles should be designed to be universally accessible.
- g) Side opening designs are recommended to facilitate easy maintenance.
- h) Receptacles should be wildlife proof.
- i) Advertising on waste receptacles is discouraged.
- j) A City-wide design for waste receptacles should be developed to assist with maintenance. An opportunity for community individuality should be considered in the universal design.

Waste receptacles should be located at street corners in highly active pedestrian areas, including seating areas, pedestrian entrances, parking areas, washrooms, key destinations and at regular intervals along circulation routes. They should be coordinated as part of an overall street furniture palette. The waste receptacles chosen for the area should include slots for recycling as well as litter. Waste receptacles should generally be located at areas of high pedestrian activity such as major street intersections, parks, plaza entries and transit stops.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 10: Accessibility: Public Realm
- 20: Public Art



Receptacles should be located in conjunction with seating areas, pedestrian entrances, parking areas, washrooms, key destinations and at regular intervals along circulation routes.

## Performance Standard # 24:

# Utilities

**Utilities must be considered as an integral component of the streetscape and the design of the public and private realm.**

- a) Where feasible, utilities should be buried below grade.
- b) Where this is not feasible, they should be grouped in single locations.
- c) Utilities should be placed within the street Right-of-Way (or in a front yard easement) in a joint utility trench that can be accessed for repairs without disturbing street trees.
- d) To minimize clutter near bus shelters, opportunities to coordinate street lighting and bus signage within the utility pole should be explored.

The coordinated design and integration of service infrastructure and utilities will contribute to the visual quality of Thunder Bay's streetscapes. Utilities must be considered as an integrated component in the design of the public realm.

Where feasible, utilities should be buried below grade, typically in the boulevard section of the right-of-way. The use of a joint utility trench is encouraged for access and maintenance benefits.

Where utilities cannot be located below-grade, opportunities should be identified for grouping above grade utilities in single locations (i.e. the flanking yard of the public right-of-way). Such locations should be guided by the location and hierarchy of streets, storm water management facilities, parks and other components of the open space system, as well as utility access considerations.

Utilities, including utility cabinets, transformer vaults, hydro meters and gas meters, should be incorporated into building design, where feasible. Where this is not feasible, utilities should be placed in discrete locations and/or screened from public view, where they will not interfere with pedestrian movement or transit stops.

New and innovative solutions for integrated utility services should be explored to minimize street clutter. Products that incorporate street lighting and telecommunication facilities within the same pole are encouraged.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 10: Accessibility: Public Realm
- 21: Street Lighting

### 3.3 Developing the Community Structure (City-wide)



Complementing the natural heritage features and Image Routes, the City of Thunder Bay's structural network is comprised of Arterial Roads, Collector Roads, Local Roads and lanes. These streets serve an important functional role in the movement of goods throughout the City, and they are equally important as a place for members of the community to meet and socialize. This is particularly true along streets such as Waterloo Street/Balmoral Street, Junot Avenue/Golf Links Road, Simpson, Fort William, Water Street/Cumberland Street/Hodder Avenue. These routes should be enhanced to ensure maximum connectivity for all forms of transportation, including walking, cycling, transit and vehicles.

## Performance Standard # 25:

# Street Network and Block Layout

### **Streets should reinforce a well-connected grid, modified to reflect natural features and open spaces.**

- a) Streets should be based on a modified grid pattern.
- b) Where cul-de-sacs occur, pedestrian through-connections should be provided.
- c) Opportunities to connect ending streets between developments are encouraged to maximize connectivity.
- d) Provide a variation in block sizes and street layouts.
- e) Block lengths should average 200 metres.
- f) Mid-block connections should be provided on blocks greater than 250 metres.
- g) Mid-block connections should be a minimum of 3.5 metres wide.
- h) Rear lanes should be provided wherever possible for blocks fronting onto Main Streets, or where front yard parking and front yard garages are undesirable.
- i) Reduce or eliminate chain link fences between developments and create continuous and connected community developments.
- j) Where chain link fences are required for visibility (i.e. school playgrounds), a significant landscape buffer should be provided to minimize their visual impact.
- k) Where rear lanes exist, they should be preserved as a means of diverting parking and loading functions away from main streets.
- l) Where a T-intersection is required, the adjacent site (at the terminus of the 'T') should be considered a feature property whose design appropriately terminates the street.

The street network in Thunder Bay is anchored by a number of key corridors, including the Main Streets, the Thunder Bay Expressway, and other prominent streets. Where redevelopment opportunities result in new streets, they should reinforce a well-connected grid of Collector Roads, Local Roads and lanes (modified to reflect natural features and open spaces), and be characterized by shorter block lengths, similar to that which has helped make Thunder Bay's denser and older neighbourhoods so successful. This allows traffic to dissipate to local destinations, reduces congestion, promotes walkability and improves public transit and emergency vehicle access.

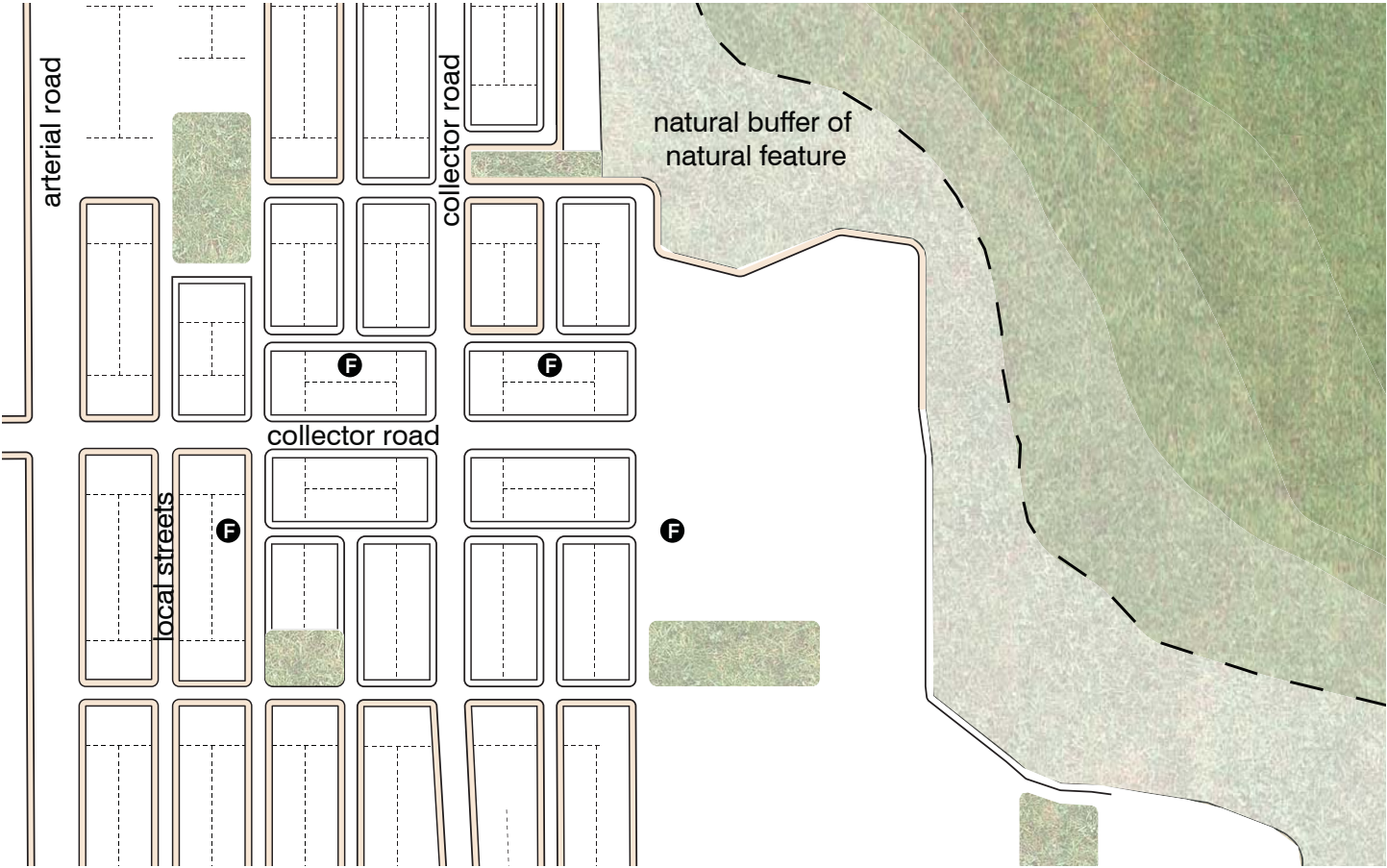
In existing communities, opportunities should be pursued to connect ending streets to adjacent or new development to maximize permeability. Where this is not possible, and where streets end in cul-de-sacs, pedestrian connections should be provided to enhance the level of connectivity through the community.

New communities in Thunder Bay should provide a variation in block sizes and street layouts to encourage the development of a mix of housing forms and densities. Block lengths should average 200 metres. In special circumstances, where a block is longer than 250 metres, a 3.5 metre (minimum) through-block pedestrian walkway or a mid-block parkette should be provided, including downcast pedestrian-scaled lighting.

Rear lanes should be considered to eliminate the need for driveways and street facing garages. Appropriate locations for rear lanes could include properties along Main Streets, Collector Roads or facing open spaces.

In addition, please refer to the following Performance Standards (where applicable):

- 5: Transit-Supportive Design
- 12: Dedicated Cycling Lanes
- 26: Arterial Roads
- 27: Collector Roads
- 28: Local Roads
- 29: Rear Lanes



To maximize connectivity, streets should be based on a grid pattern that responds to natural features, built heritage or existing street conditions. ● Indicates terminus site where building design should reflect a design style and quality suitable for a view terminus.

## Performance Standard # 26:

# Arterial Roads

### **Arterial Roads serve a variety of functions, and should have an urban character.**

- a) Arterial road boulevards should aim to be a minimum 4.8 metres in width and should accommodate street trees offset 1.5-2.0 metres from the curb.
- b) Within commercial areas, on-street parking should be provided on both sides of Arterial Roads. Where snow storage is required, parking lanes should be 2.5-2.8 metres. Otherwise, narrower parking requirements (2.0-2.4m) can be considered.
- c) On new or retrofitted streets, and existing streets (where the right-of-way width allows), 1.2-1.8 metre separated bicycle lanes should be provided on both sides of Arterial Roads or a two-way bike lane (3.0 metres min.) on one side where possible.
- d) Where a bicycle lane is located adjacent to on-street parking, the lane width should increase to a minimum of 1.8 metres to allow room to avoid opening vehicle doors.
- e) Joint access driveways are encouraged to minimize curb cuts which undermine cycling and pedestrian travel.

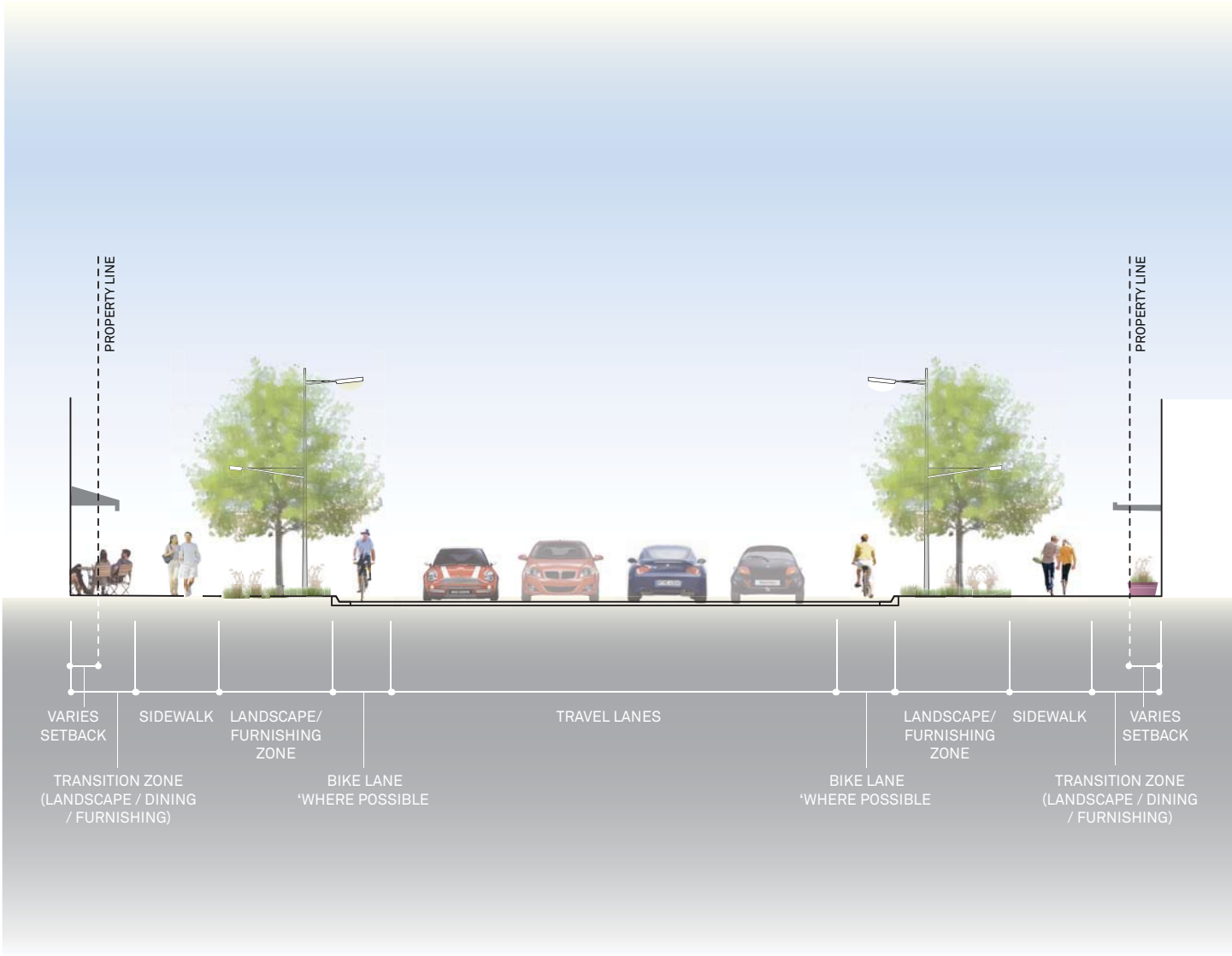
Arterial Roads are designed and constructed to serve a variety of functions, including carrying large volumes of pedestrian, vehicle and transit traffic, connecting urban areas and nodes within municipalities and distributing traffic to Collector Roads. Arterial Roads should have an urban character and should include a high level of design in the pedestrian realm. This includes buildings with densities that support alternative transportation, and the provision of well landscaped, pedestrian-supportive boulevards that include sidewalks, street trees, consistent paving, lighting and public art.

On-street parking should be permitted on both sides of Arterial Roads where adjacent to mixed-use areas, and bicycle lanes should be provided on both sides of the road where possible.

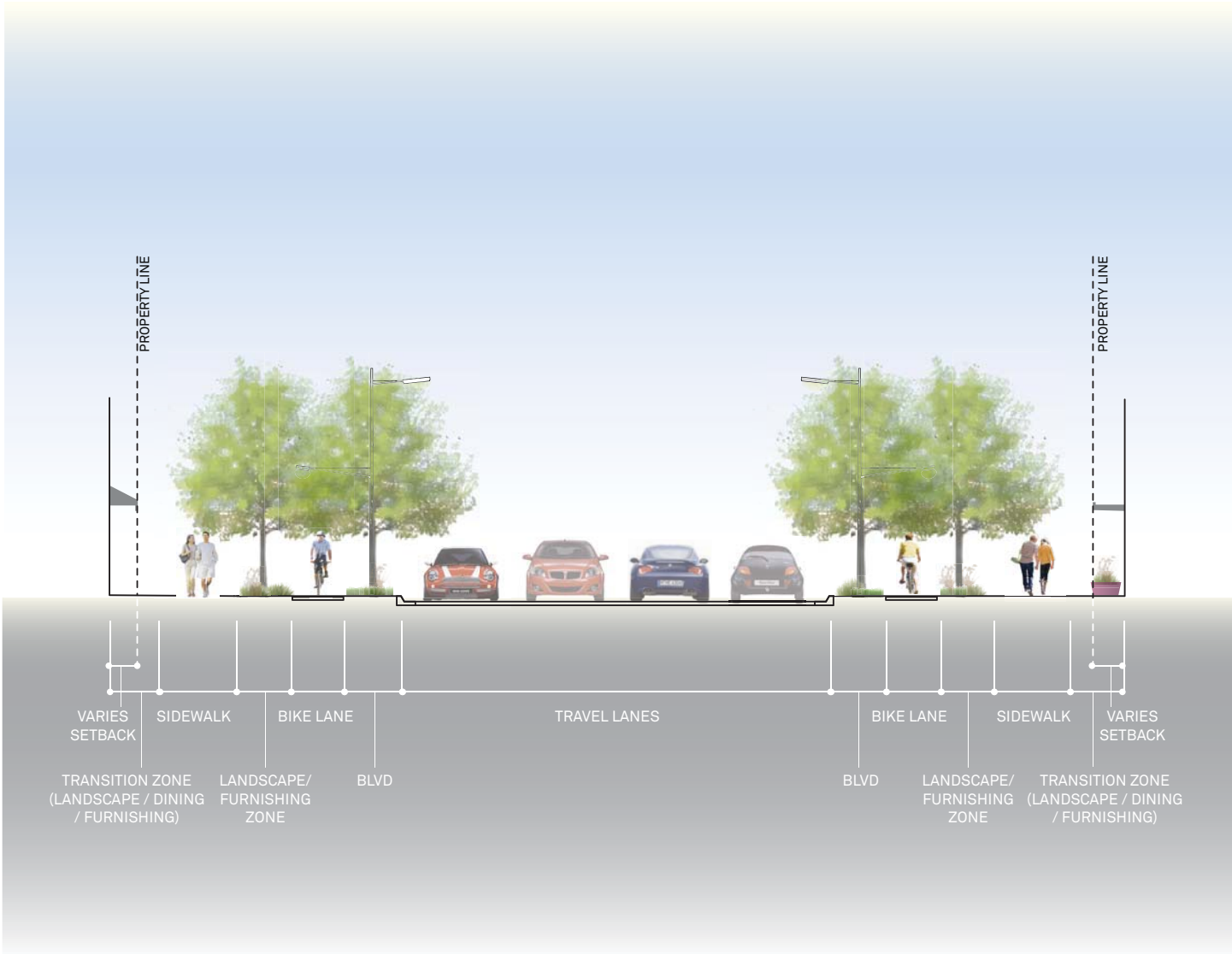
Examples of Arterial Roads include Arthur Street, Balmoral Street and Memorial Avenue. Arterial Roads should reflect their role as regional transportation corridors and community connectors.

In addition, please refer to the following Performance Standards (where applicable):

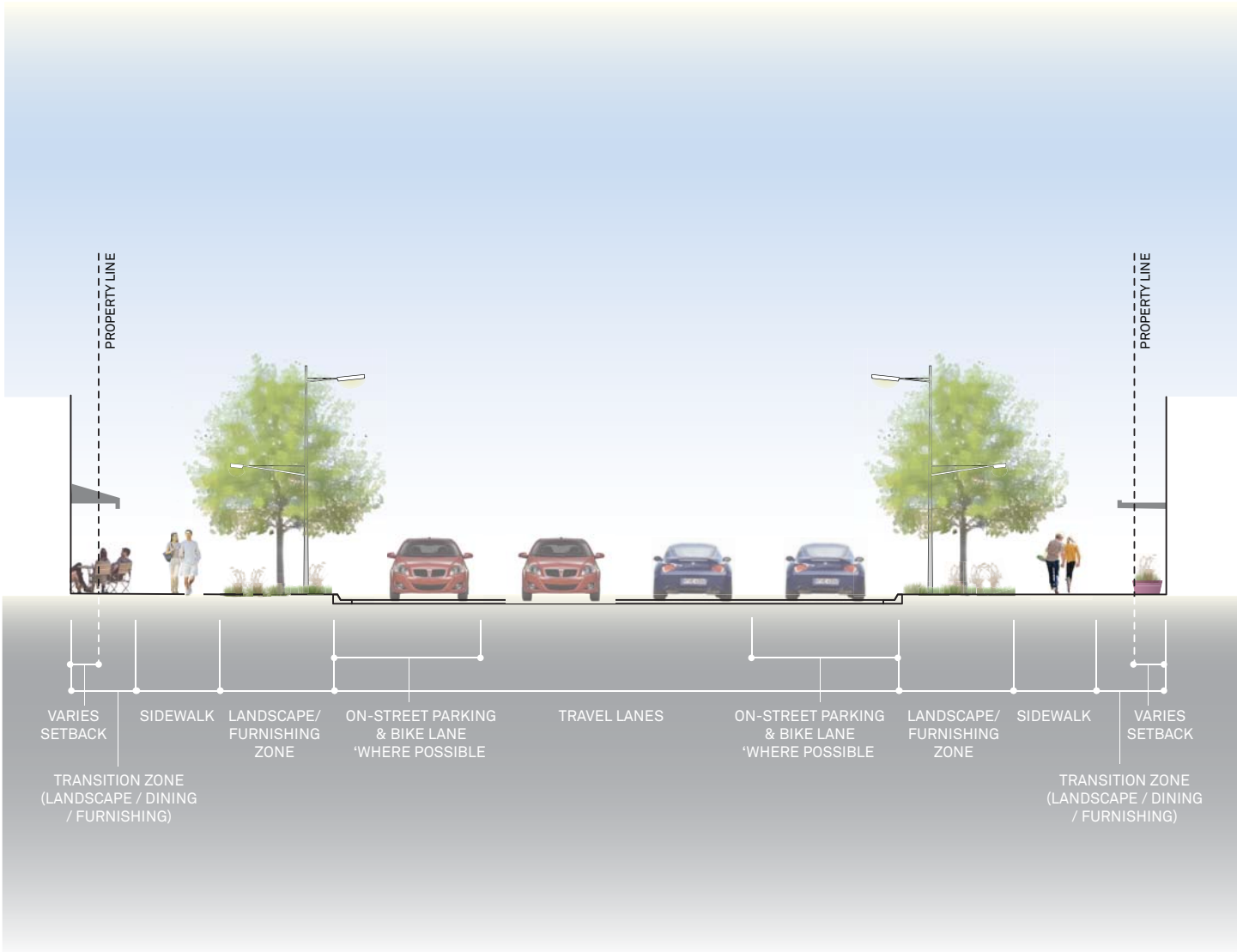
- 9: Boulevard Design
- 12: Dedicated Cycling Lanes
- 13: Green Streets
- 18: On-Street Parking



Arterial Road Sample (without on-street parking)



Arterial Road Sample (with or without on-street parking, and with boulevard cycling lanes)



Arterial Road Sample (with on-street parking)

## Performance Standard # 27:

# Collector Roads

**Collector Roads play a pivotal role in the City, and their design should be more substantial than Local Roads.**

- a) Collector road boulevards should aim to be a minimum 4.8 metres in width and accommodate street trees offset 1.5 metres from the curb.
- b) 2.5-2.8 metre on-street parking should be provided on both sides of Collector Roads where snow storage is required. Otherwise, narrower parking requirements (2.0-2.4m) can be considered. 1.2-1.8 metre bicycle lanes should be provided on both sides of Collector Roads or a two-way bike lane (3.0 metres) on one side where possible.
- c) Joint access driveways are encouraged to minimize curb cuts which undermine cycling and pedestrian travel.

Collector Roads play a pivotal role in the City, connecting Local Roads to one another, to intersecting Collector Roads, and to Arterial Roads. As a result, the design requirements for Collector Roads should be more substantial than Local Roads.

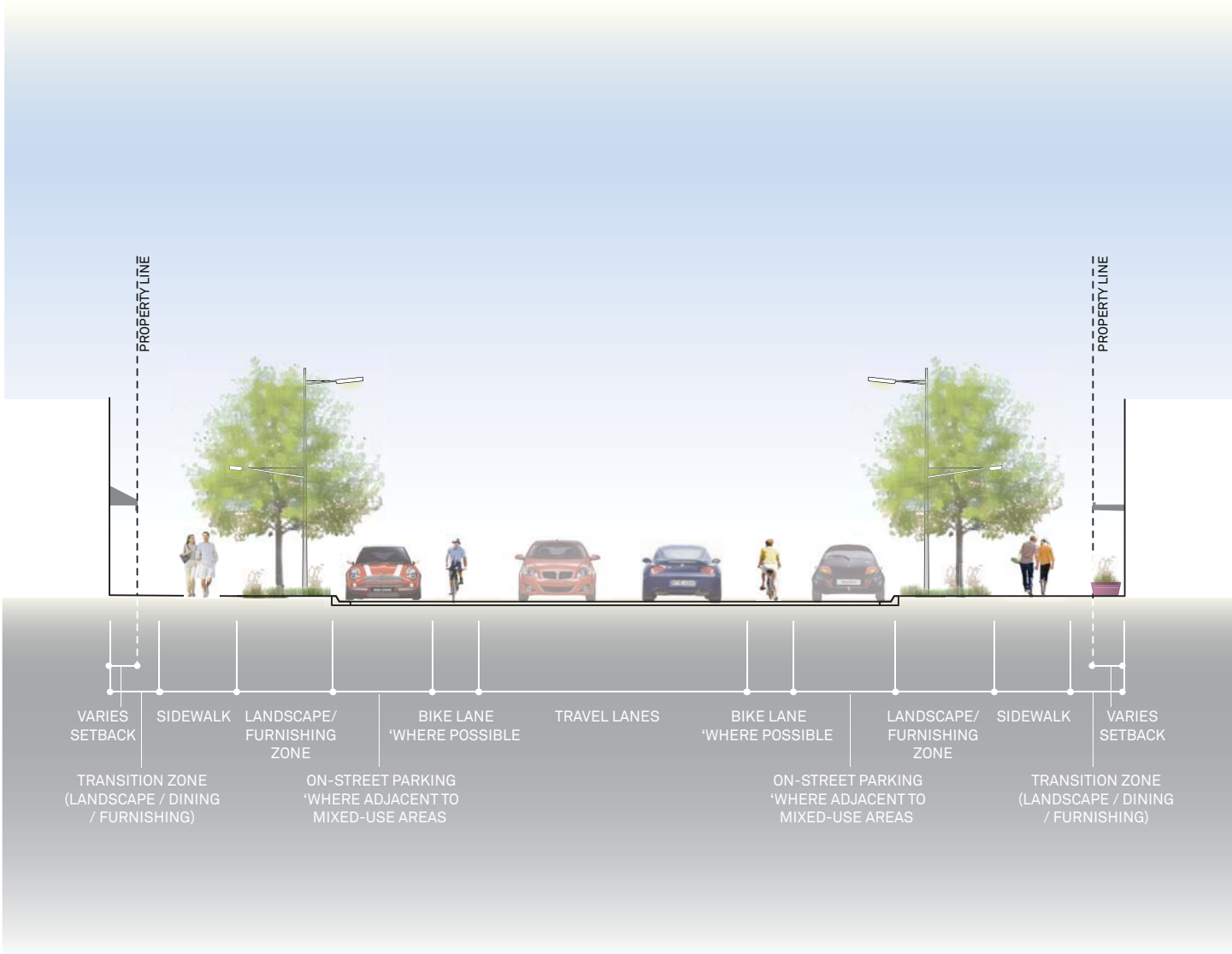
Collector Roads should be designed to serve a variety of functions, including transit, connections between communities, and connections to Local Roads. On-street parking should be permitted on both sides of Collector Roads where adjacent to mixed-use areas.

Bicycle lanes should be provided on both sides of the street. The placement of bicycle lanes should adhere to the standards set by the City of Thunder Bay. Generally, it is recommended that bicycle lanes be placed between the travel lane and the on-street parking lane.

Examples of Collector Roads include Walsh Street, Franklin Street, Vickers Street, Montreal Street, Churchill Drive, Valley Street, and Clarkson Street.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 12: Dedicated Cycling Lanes
- 13: Green Streets
- 18: On-Street Parking



Collector Road Sample

## Performance Standard # 28:

# Local Roads

**Local Roads should be ‘intimate’ pedestrian-scaled streetscapes that promote walking, cycling and residential activities, but discourage high speeds and through traffic.**

- a) Travel lane width should be narrow enough to reduce traffic speeds, while allowing the roadway to be shared by cars and bicycles.
- b) Curb to curb widths should accommodate two travel lanes and one on-street parking lane.
- c) Wherever possible, sidewalks should be provided on both sides of the street.
- d) Barrier curbs are encouraged on new and retrofitted Local Roads within urban areas. In less urban areas, rolled/mountable curbs or a rural cross-section would also be appropriate.
- e) Street trees should be planted in the boulevards on both sides of Local Roads.

Local Roads play a dual role, both as community socialization spaces and as transportation corridors. The design requirements, while less substantial than Collector Roads, should create ‘intimate’ pedestrian-scaled streetscapes that promote walking, cycling, and residential activities, but discourage speeding and through traffic.

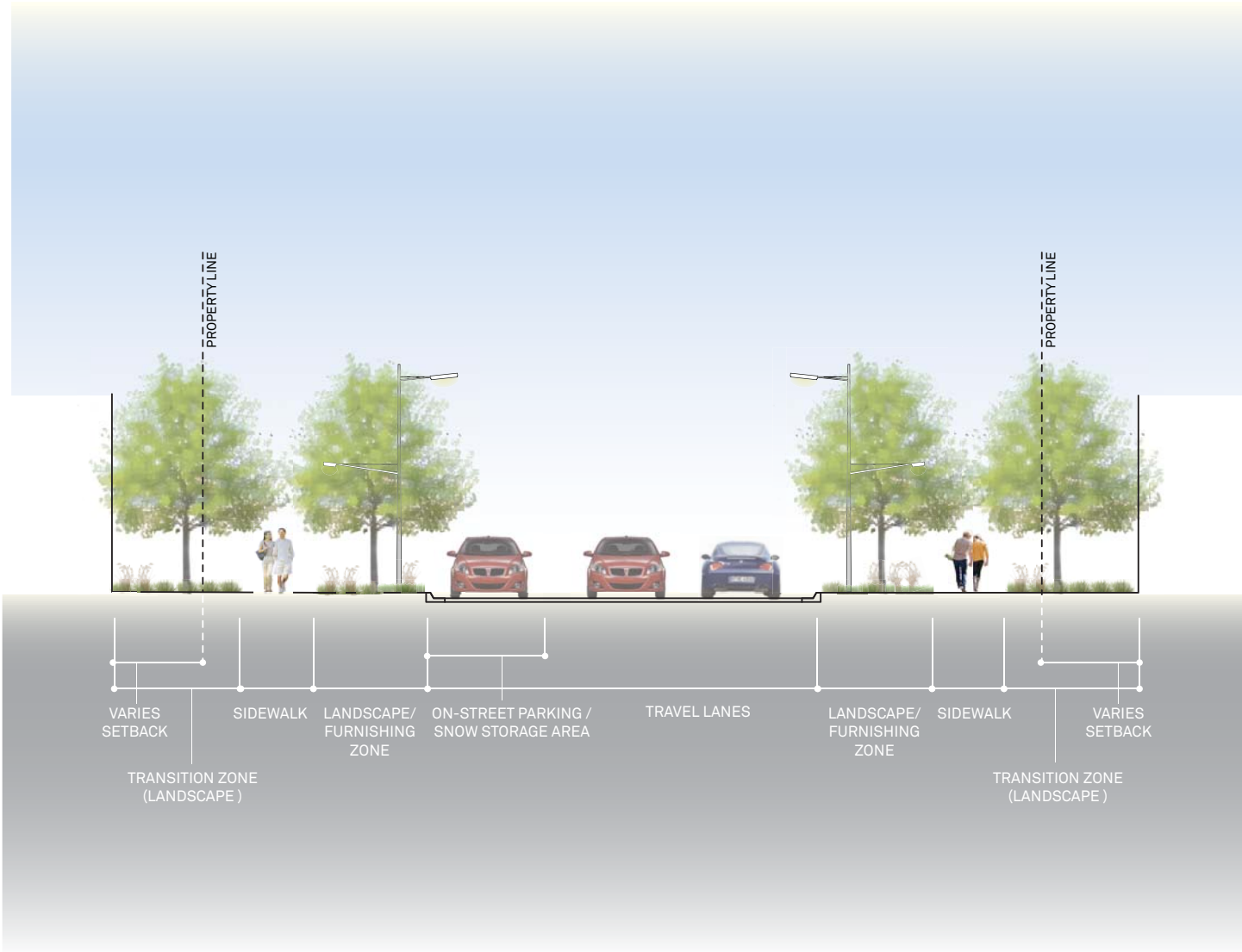
Local Roads should be designed with a narrow pavement width to reduce traffic speeds. The width of the asphalt should be wide enough for two traffic lanes, and one on-street parking lane. This lane can act as a snow storage area in the winter.

Sidewalks should be placed on both sides of the street. In cases where this is not feasible, the on-street parking lane should be provided on the side of the street that contains a sidewalk.

Bicycle movement is considered to be a normal part of Local Road traffic movement and signage should be provided to indicate shared use with vehicular traffic.

In addition, please refer to the following Performance Standards (where applicable):

- 13: Green Streets
- 18: On-Street Parking



Local Road Sample

## Performance Standard # 29:

# Rear Lanes

**Rear lanes are rear access roads that are either privately or publicly owned and are typically maintained by adjacent property owners. Rear lanes provide access to parking and loading functions away from the primary public street.**

- a) Rear Lanes can be used in mixed-use areas to service commercial uses, and in residential areas where front-yard garages/parking is undesirable.
- b) Rear Lanes should be a minimum of 6 metres in width.
- c) Primary building façades should not face Rear Lanes.
- d) Areas at the end, or beside, Rear lanes should be reserved for snow storage.
- e) Permeable materials are encouraged.
- f) Rear Lane access should be provided at a central location where blocks exceed 250 metres.
- g) A minimum setback of 0.6 metres is required between garages and Rear Lanes in residential areas.
- h) An additional setback (2.8 metres) can be used to accommodate parking along the Rear Lane.

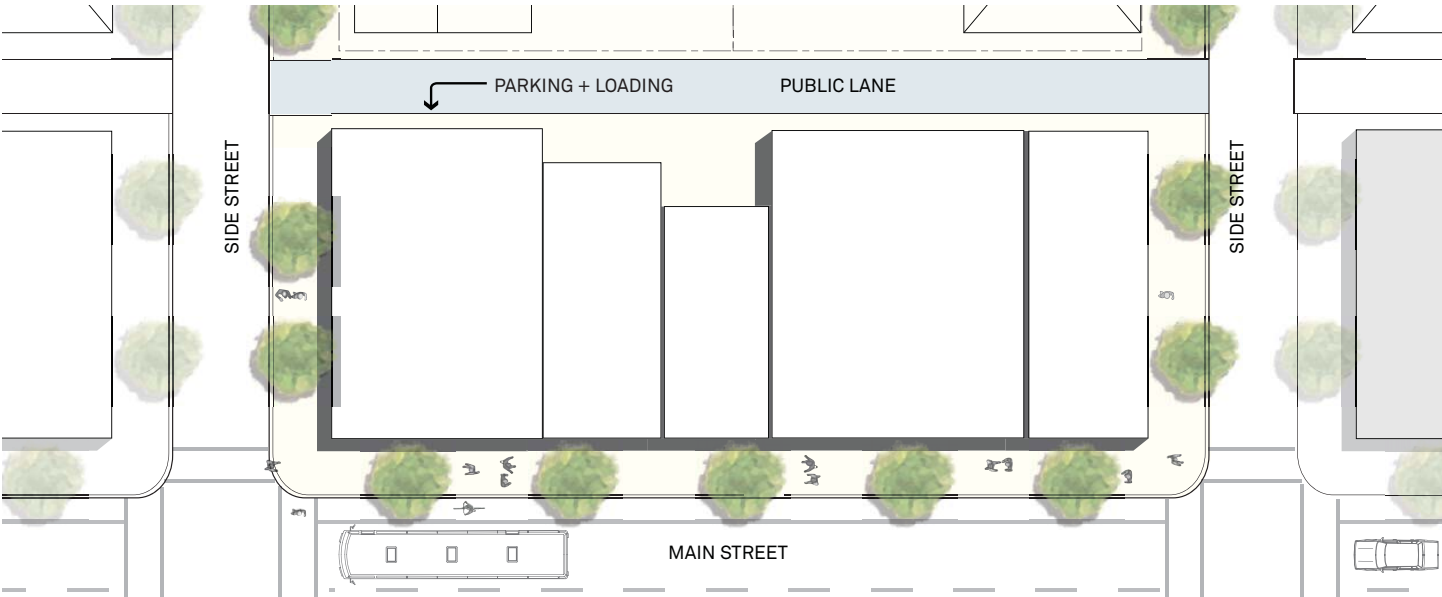
Rear Lanes are rear access roads that are either privately or publicly owned and maintained. They should have a minimum right-of-way width of 6 metres. In cases where block lengths are in excess of 250 meters, an additional access point should be provided for lanes at the centre of the block.

The use of Rear Lanes is encouraged in mixed-use areas to service commercial buildings, where residential uses (i.e. townhouses) front onto Arterial and Collector Roads, and to provide access to parking, garbage pick-up and loading areas.

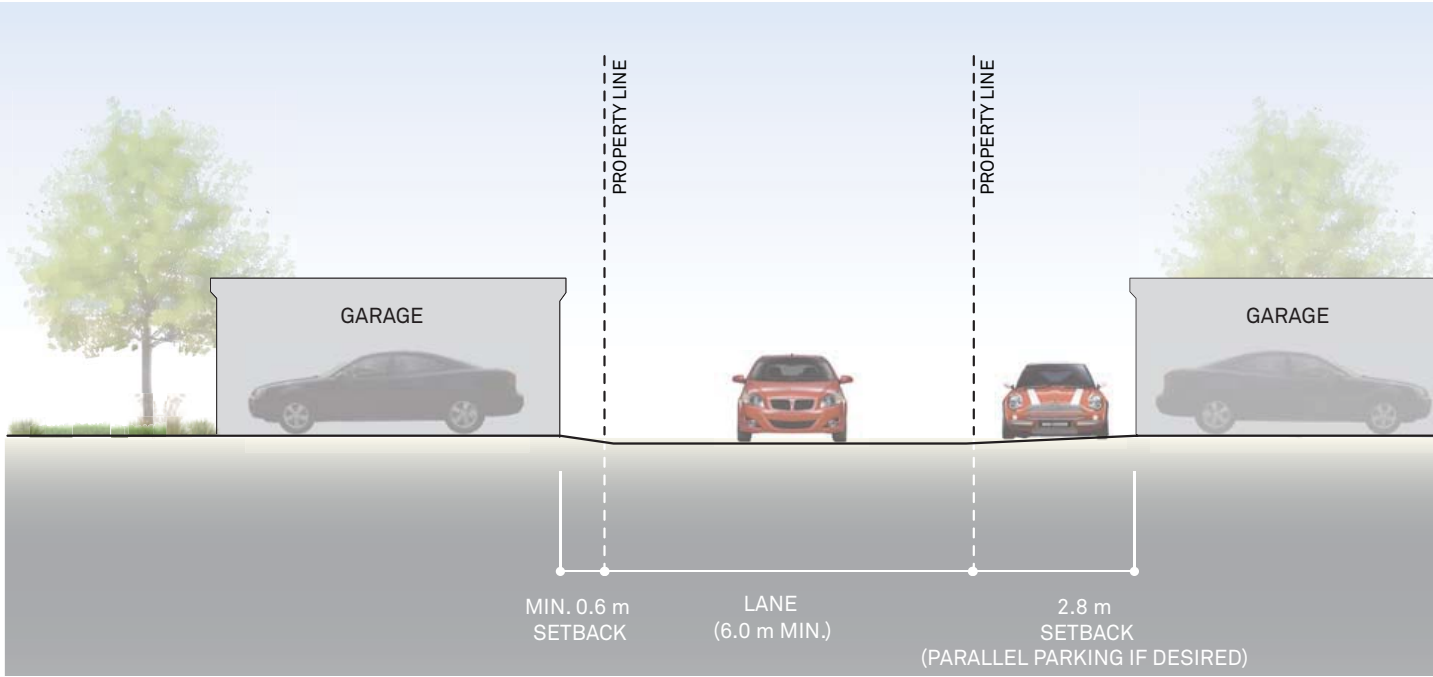
Where Rear Lanes provide access to residential parking facilities, the primary façade of the building should not face the lane, nor should primary at-grade access to the building be provided from the lane. To maintain adequate distance between the vehicular traffic on the Rear Lane and the rear of the garage, a minimum setback of 0.6 metres should be applied between the garage and the edge of the Rear Lane. Where parallel parking for property owners is desirable on the Rear Lane, a setback of 2.8 metres should be provided between the right-of-way and the garage.

The use of permeable materials is encouraged where sufficient drainage exists, as low traffic levels permit the use of less durable surfaces.

Areas at the end of Rear Lanes should be set aside for snow storage.



Sample Commercial Lane



Sample Residential Lane

**NEW BUILDINGS,  
INCLUDING RESIDENTIAL,  
COMMERCIAL,  
INSTITUTIONAL, MIXED-  
USE AND INDUSTRIAL,  
SHOULD BE DESIGNED TO  
CREATE AN ATTRACTIVE  
PUBLIC REALM.**

## Section 4.0

# Performance Standards: General Building and Site Design

### 4.1 Sustainability

To minimize adverse impacts on the environment, sustainable design strategies should be at the forefront of all development, to promote energy efficiency, reduce the urban heat island effect, encourage the re-use and re-adaptation of materials, and minimize the amount of run-off into the stormwater system.

## Performance Standard # 30:

# Sustainability: Buildings

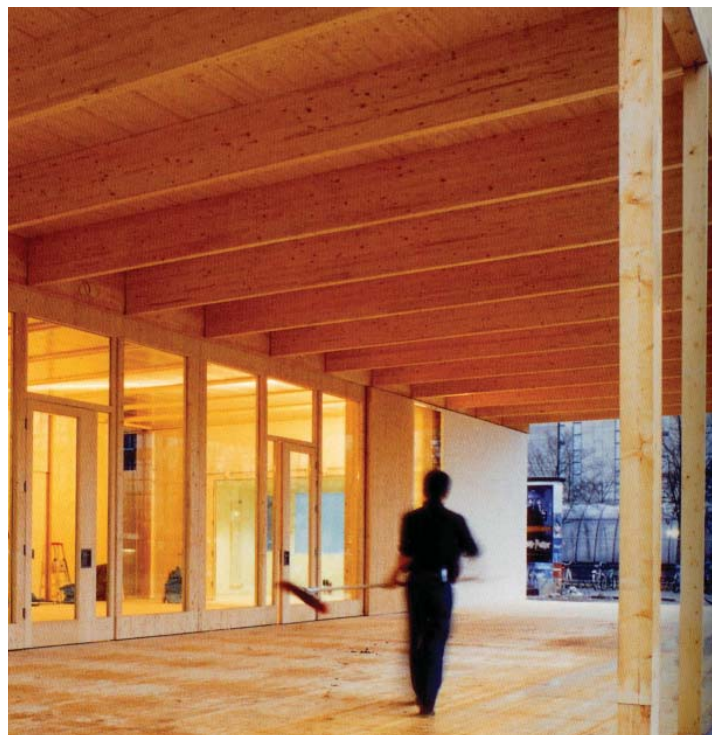
### **Sustainable principles should be integral to building design, orientation, and material selection.**

- a) New building construction and renovation should adhere to a LEED certification or similar standard.
- b) Alternative energy sources should be optimized to reduce each building's carbon footprint.
- c) Energy consumption should be reduced through innovative mechanical and construction technology.
- d) Buildings that are designed with flexible floor plans are encouraged to accommodate multiple uses.
- e) "Green" roof technologies are encouraged where the life-cycle cost benefits outweigh the up-front costs.
- f) Water use reduction technologies are encouraged.
- g) Waste water technologies are encouraged to collect and filter rain water.
- h) Waste management facilities should be conveniently located.
- i) Construction materials should be recycled.
- j) New materials should be locally sourced wherever possible.
- k) Construction materials should consider life-cycle costing.

- l) Operable windows should be installed in all building areas to allow natural ventilation.
- m) Glazing systems should be designed to provide high levels of natural light into building areas.

Buildings should seek Leadership in Energy and Environmental Design (LEED) certification, or an equivalent standard. Sustainable features should be integral to all building designs, allowing a seamless integration between passive and active systems. Environmental conditions should be factored into the buildings' orientation, material selection and design.

Buildings are encouraged to reduce the energy consumption of building and site systems (HVAC, hot water, lighting) through the use of appropriate mechanical and construction technology (i.e. natural cooling, light recovery, passive solar design and on demand water heating).



*New materials should be locally sourced wherever possible.*

Water use reduction technologies are encouraged, including water-efficient appliances, such as aerators, low-flow shower heads, dual-flush toilets, front-loading washers, waterless urinals and high-efficiency dishwashers. Waste water technologies, such as rain barrels or cisterns, are encouraged to collect and filter rain water to be recycled for non-potable domestic uses.

All buildings should have conveniently located waste management facilities to support the separation of waste into different streams according to reuse and recycling regulation (i.e. compost, paper, plastics).

Mixed-use, commercial and apartment buildings should provide flexibility in the building floor plate, envelope and façade to accommodate multiple uses over their lifespans. Vegetated or “green” roofs are recommended to minimize water runoff, reduce solar gain, and provide additional outdoor amenity areas.

Construction materials should be durable and consider life cycle costing to avoid premature replacement. Where possible,

materials should be recycled to reduce the environmental impacts of extracting and manufacturing new materials. If there are no salvageable materials available, efforts should be made to purchase materials from demolition sales, salvage contractors and used materials dealers. Where the life-cycle cost benefit outweighs the up-front costs, new construction materials (i.e. wood, granite, etc.) should be locally sourced to reduce the impacts of transportation. Canadian products are generally designed to withstand our climate.

“Green” roofs should be considered in new developments as they provide an important storm water management mitigation asset. “Green” roofs also reduce the Heat Island Effect.

In addition, please refer to the following Performance Standards (where applicable):

- 36: Outside Storage
- 52: School Facilities
- 53: Community Centres
- 55: Office Buildings
- 56: Business Parks
- 57: Light Industrial



*Green roofs should be provided where possible.*

## Performance Standard # 31:

# Sustainability: Site Design

**Careful consideration should be taken when siting a building to accommodate the natural characteristics of the landscape, while also recognizing the larger context of the street.**

- a) Impervious surfaces should be minimized, while landscaped areas maximized.
- b) Bio-swales should be used to capture stormwater run-off.
- c) Native or adaptive plant species are recommended. Plants that require a lot of water should be minimized.
- d) Tree planting should be optimized for any site and within parking areas.
- e) Where irrigation is required (i.e. non-native and/or non-drought resistant decorative landscaping), high efficiency systems should be used.
- f) Grey water should be captured and used as a source for irrigation.
- g) All planting beds should be mulched.
- h) Snow storage areas should be well-drained on site.

Landscaped areas should be maximized to ensure adequate growing conditions for trees (15 cubic meters of good quality soil). Impervious surfaces (i.e. parking areas and driveways) should be as small as possible within allowable standards. Permeable paving (i.e. unit pavers, porous concrete or asphalt) should be used for areas that must be paved to minimize

stormwater runoff and increase groundwater recharge. Bio-swales or infiltration trenches should be utilized to capture, filter and infiltrate stormwater runoff from impervious surfaces.

Native or adaptive plant species should be planted to reduce or eliminate the need for landscape irrigation. Turf grasses and other landscaping materials that require large amounts of water are discouraged. Consider using adaptive seed mixes that have reduced watering requirements, such as “Eco-Lawn,” or the OSC: Low Maintenance Mixture currently recommended in the City’s Parks Division Guidelines and Specifications, 2012 Edition, Infrastructure and Operations Department. All planting beds should be mulched. Mulch retains moisture in the soil and prevents evaporation.

If an irrigation system is necessary, use a high-efficiency drip/bubbler system. Weather based controllers should be installed to dynamically control the irrigation system, along with a properly timed irrigation schedule to minimize evaporation and demand on municipal systems. Water sub-meters should be installed on landscape irrigation systems to monitor consumption and to quickly identify leaks. A maintenance program should be developed that establishes procedures for cutting, caring for and conducting routine maintenance of lawn and landscaping.

A non-potable water source should be used for landscape irrigation (captured rainwater from roofs, graywater or municipally claimed wastewater), while well-drained snow storage areas should be provided on site in locations that enable melting snow to recharge groundwater rather than entering the municipal stormwater system.

In addition, please refer to the following Performance Standards (where applicable):

- 3: Stormwater Management Facilities
- 32: Surface Parking
- 43: Buffer Planting
- 51: Drive Through Facilities



From top: On-site swales used to capture stormwater run-off; Natural landscaping used on site.

## 4.2 On-Site Parking\*



As new communities develop and established communities redevelop, a variety of parking solutions will be appropriate to support increased densities, including surface parking, above-grade and below-grade structured parking and on-street parking. As a general rule, parking areas should be designed to minimize their visual impact and to allow for redevelopment as future building sites. Therefore, the layout of buildings should consider site access, landscape and site servicing that will permit the redevelopment of these sites. In mixed use or commercial areas, structured parking is the most efficient use of land.

*\*These guidelines pertain to multi-storey commercial, residential, institutional and mixed-use buildings. Parking guidelines for low-rise residential development including single-family homes, townhomes and other low-density housing are addressed in Performance Standards # 44-46.*

### **Large areas of uninterrupted surface parking should be avoided.**

- a) Surface parking areas should be located at the rear, or side-yard of a building and should not be placed between the front face of a building and the sidewalk.
- b) Bump-outs should be provided at the end of linear parking lots to accommodate exiting vehicles.
- c) Driveways to parking should be from rear lanes and side streets wherever possible.

## Performance Standard # 32:

# Surface Parking

- d) Shared parking and shared driveways between adjacent properties are encouraged. Where multiple access points currently exist, they should be consolidated where possible.
- e) Where existing development has parking located adjacent to the sidewalk it should be screened by a 3.0 metre landscaped buffer (please refer to Performance Standard # 43 for a list of recommended species).
- f) Surface parking lots should be divided into smaller “parking courts.”
- g) 1 tree for every 8 parking spaces is recommended. These can be clustered to facilitate snow clearing.
- h) Urban trees require a minimum of 15 cubic meters of good quality soil per tree (can be shared).
- i) Permeable paving or low impact development should be utilized to minimize stormwater run-off.
- j) Landscaping should not obstruct the primary building façade.
- k) Clear, 1.5 metre (minimum) dedicated pedestrian routes should provide direct connections from parking areas to building entrances.
- l) Pedestrian-scaled lighting should be provided along pathways.
- m) Preferential parking (i.e. accessible parking stalls, bicycles, car-share, energy efficient vehicles) located close to building entrances is encouraged.
- n) Where preferential parking is provided within bump-outs directly in front of the building, curb-cuts to the sidewalk should be consolidated (no more than one curb-cut for every two cars). No more than four spaces should be provided consecutively, to minimize the total number of curb cuts.
- o) Drop-off areas should not interfere with pedestrian traffic.
- p) Well-drained snow storage areas should be provided or removed off-site.



*A surface parking lot divided into smaller “parking courts” by trees and landscaping. Pedestrian circulation routes are clearly demarcated through special paving.*

To support retail uses along the main streets, within the Intercity area, and along other key commercial corridors, there is an abundance of surface parking lots. Ultimately, these surface lots will become prime opportunities for intensification and redevelopment. However, in the interim, they should be carefully designed to minimize their impacts on the public realm.

Large areas of uninterrupted parking should be avoided. The total amount of parking should be minimized through shared parking between adjacent properties, particularly in the evenings, weekends and other off-peak periods. Where surface parking is required for new development it should be located at the rear or side-yard of buildings. Where parking areas exist in the front yard adjacent to the sidewalk, a 3.0 metre (minimum) landscaped buffer should be located between parked vehicles and the sidewalk. This buffer should be located within the private realm to not reduce the total sidewalk width.

Planting strips, landscaped traffic islands and/or paving articulation should be used to define pedestrian and vehicle routes and define smaller parking 'courts' that provide pedestrian walkways, improve edge conditions and minimize the aesthetic impact of surface parking. The amount of landscaping should be proportionate to the overall parking lot size, but generally, 1 tree for every 8 parking spaces is recommended. Each tree planted in parking lot islands should have access to a minimum of 15 cubic metres of good quality soil (soil volume can be shared between trees).

Permeable paving (unit pavers, porous concrete or asphalt, etc.) should be utilized for areas that must be paved to minimize

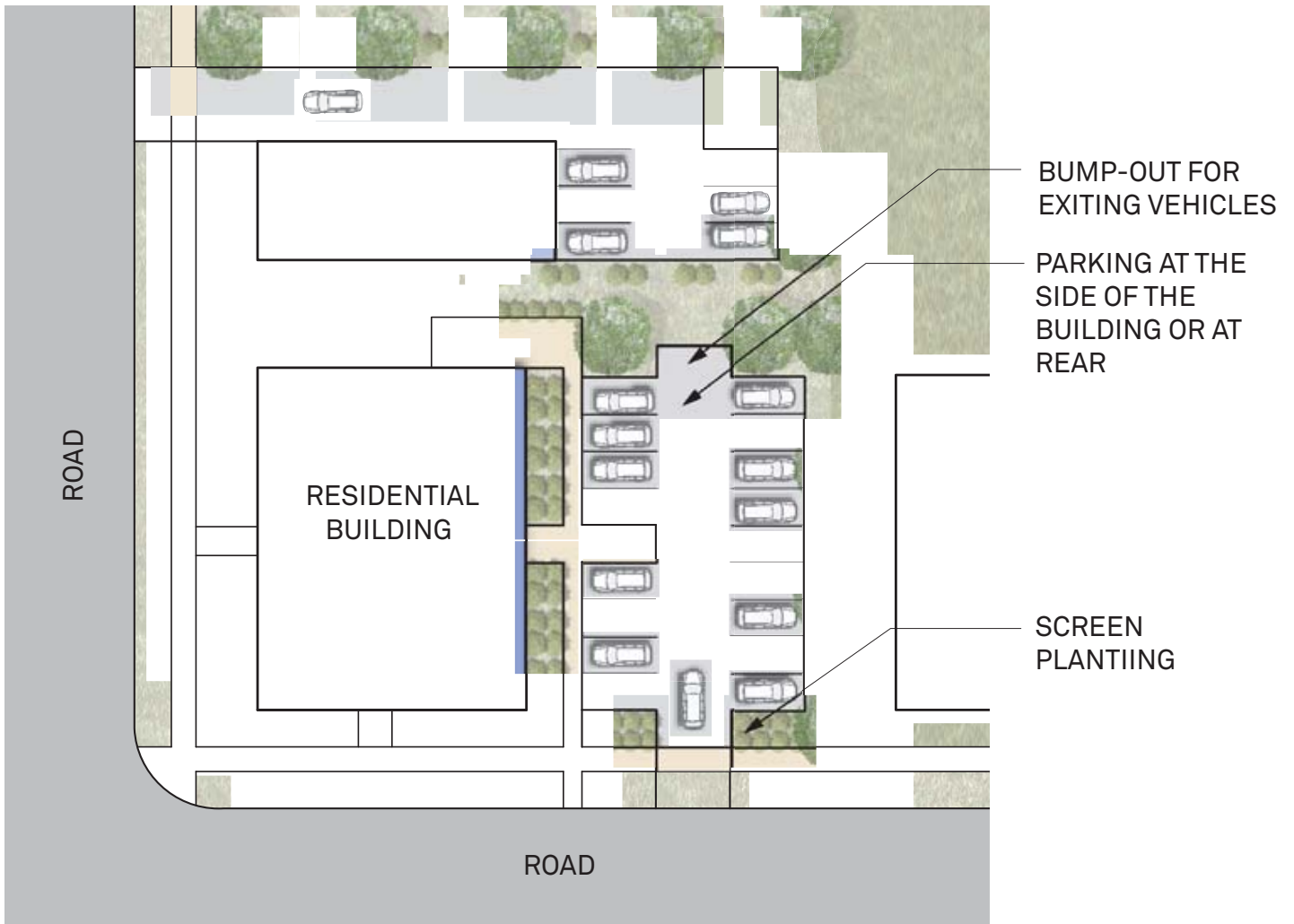
stormwater runoff and increase groundwater recharge. Bio-swales or infiltration trenches should be utilized to capture, filter and infiltrate stormwater runoff from impervious surfaces.

Preferential parking is encouraged for alternative modes of transportation. Please refer to the City's Guidelines for Bicycle Parking Facilities for specific recommendations for bicycle parking ([http://www.ecosuperior.org/upload/documents/active\\_bike-parking-guidelines.pdf](http://www.ecosuperior.org/upload/documents/active_bike-parking-guidelines.pdf)). Service and drop-off area circulation should not interfere with pedestrian circulation.

Well-drained snow storage areas should be provided on site in locations that enable melting snow to recharge groundwater rather than entering the municipal stormwater system.

In addition, please refer to the following Performance Standards (where applicable):

- 31: Sustainability: Site Design
- 32: Surface Parking
- 38: Main Street Buildings
- 39: Accessibility: Private Realm
- 42: Private Trees
- 43: Buffer Planting
- 48: Large Format Retail
- 49: Small format Retail
- 50: Gas Stations & Car Wash Facilities
- 51: Drive Through Facilities
- 56: Business Parks
- 57: Light Industrial



*The illustrations above demonstrate how surface parking areas could be designed for a residential building. For additional diagrams (i.e. small-format commercial, large-format commercial, and industrial) please refer to Performance Standards 48, 49, and 51.*

## Performance Standard # 33:

# Above-Grade Parking Structures

**Parking garages that face onto public sidewalks should be designed to integrate into the surrounding streetscape with commercial uses at grade.**

- a) Parking structures should have active, at-grade uses facing public sidewalks.
- b) Vehicular access to parking structures should be provided from the rear or side wherever possible.
- c) Pedestrian entrances should be provided from the main frontage.

Where above ground structured parking garages are built next to public streets they should be designed to contribute to the quality of the street. Parking structures fronting onto streets should be developed with active at-grade building uses lining the edge of the ground floor to provide attractive, animated façades which contribute to the streetscape and enhance pedestrian safety. The ground floor height should be a minimum of 4.5 metres floor to floor.

Vehicular access to parking structures should be located at the rear and/or side of buildings away from main building frontages and major streets. Pedestrian entrances for parking structures should be located adjacent to main building entrances, public streets or other highly visible locations.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 31: Sustainability; Site Design
- 37: General Building Design
- 38: Main Street Buildings



*Parking structures should have active, at-grade uses facing the principle public sidewalk.*

## Performance Standard # 34:

# Below-Grade Parking Structures

**Below grade garages should be built below new buildings, to the greatest extent possible, as a means of maximizing areas for building footprint and landscaping.**

- a) Where possible parking structures should be provided below buildings.
- b) Vehicular access to parking structures should be provided from rear lanes or side lanes where possible.
- c) Pedestrian entrances should be highly visible from the main face of the building fronting the public sidewalk.

Vehicular access to parking structures should be located at the rear and/or side of buildings away from main building frontages and major streets where possible. Pedestrian entrances for parking structures should be located adjacent to main building entrances, public streets or other highly visible locations.

In addition, please refer to the following Performance Standards (where applicable):

- 19: Bicycle Parking
- 29: Rear Lanes
- 31: Sustainability: Site Design
- 35: Servicing and Loading
- 38: Main Street Buildings

## 4.3 Storage, Servicing and Loading



Storage, servicing and loading areas should not define the character of a building or the adjacent streets, open spaces, or properties. They should be located behind the building, or screened from public view, and should be paved with an impervious surface of asphalt or concrete to minimize the potential for infiltration of harmful materials. Storage, servicing, or loading areas must not encroach into the exterior side or front yard setback (please refer to Section 5.14.12 of Zoning By-Law 100-2010).

## Performance Standard # 35:

# Servicing and Loading

**Where servicing and loading areas apply, their visual impact should be minimized through location and screening.**

- a) Loading docks and service areas should be integrated within the building where possible.
- b) Where this is not possible, they should be located at the side or rear of buildings and screened from public view.
- c) Access to servicing and loading areas should always be provided from secondary streets.
- d) Shared access is encouraged to minimize curb cuts.
- e) Where possible, service and loading areas should be coordinated with outside storage areas.
- f) Servicing enclosures should be constructed of materials that complement the main building.
- g) Service and loading areas must not encroach into the exterior side or front yard setback.
- h) Loading and service areas may occupy the full rear yard if a landscaped edge and/or buffer treatment is provided.



*Servicing and loading areas should be integrated within the building, and accessed from secondary streets at the side or rear.*



*Outside storage areas should be designed using materials that complement the main building.*

## Performance Standard # 36:

# Outside Storage

- a) Outside storage areas should be located at the side or rear of buildings and should be screened from public view. Where doors are provided on screening units, the City should implement a by-law to ensure doors are closed when not in use.
- b) Screening walls should have a minimum height that is equal to the storage facility.
- c) Storage areas should be large enough to accommodate the needs of all users.
- d) Access to outside storage areas should always be provided from secondary streets.
- e) Shared access is encouraged to minimize curb cuts.
- f) Where possible, outside storage areas should be coordinated with servicing and loading areas.
- g) Outside storage areas must not encroach into the exterior side or front yard setback.
- h) Refuse areas should be paved with an impervious surface.
- i) Loading and service areas may occupy the full rear yard if a landscaped edge and/or buffer treatment is provided.
- j) Storage areas should be constructed of materials that complement the main building. Chain link fencing is highly discouraged.

In addition, please refer to the following Performance Standards (where applicable):

- 29: Rear Lanes
- 30: Sustainability: Buildings
- 365: Servicing and Loading
- 37: General Building Design
- 38: Main Street Buildings
- 43: Buffer Planting
- 55: Office Buildings
- 56: Business Parks
- 57: Light Industrial



## 4.4 Built Form Guidelines



New buildings should reflect design excellence while embodying regional influences that respond to climatic conditions and local materials. Over time a regional architectural character should develop which can give the City a unique identity.

Similarly, with a shift towards sustainability and a focus on new technologies, local building traditions and an inspired material palette the City's urban landscape can transform into a demonstration of green city-building.

As Thunder Bay evolves, a variety of new development is encouraged, including residential buildings (i.e. single and semi-detached dwellings, townhouses, and apartments) and mixed-use buildings (i.e. retail at grade with residential/office above).

A number of the recommendations in this document are consistent across all building types, and therefore, this section presents Performance Standards that are applicable to all buildings, buildings on main streets, and buildings within heritage areas. They should be used in conjunction with the guidelines provided in Section 5.0.

## Performance Standard # 37:

# General Building Design

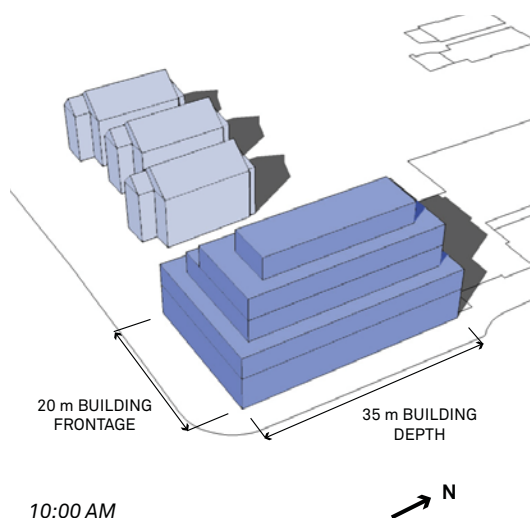
### 37A - Building Orientation and Massing

**Buildings should generally be positioned to frame adjacent streets, internal drive aisles, boulevards, parking areas and amenity areas.**

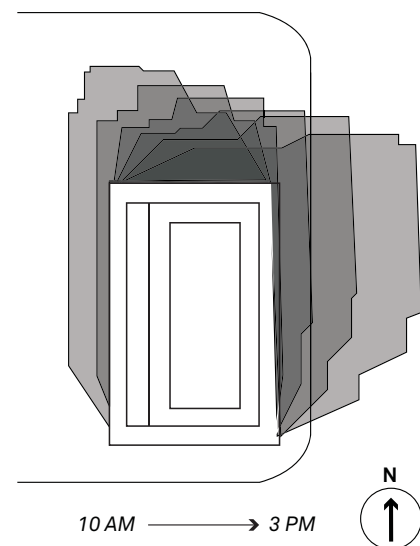
- a) Buildings should frame adjacent streets with direct access from public sidewalks.
- b) On corner sites, buildings should frame both streets.
- c) The massing of taller buildings should ensure five hours of sunlight per day on adjacent buildings, streets and open spaces.

- d) Taller building elements should be located at the south side of the building to reduce shadows cast on adjacent properties.

The building base, including architectural elements such as entrances, canopies, and large areas of glazing, reinforces the symbolic 'front door' of the building. Above the building base, vertical and horizontal design elements should be used to define the middle and top of the building, creating an aesthetically pleasing skyline through the use of stepbacks, balconies, terracing and/or architectural elements, including projecting roof lines, trellises or vertical elements.



*The illustrations above demonstrates how careful building articulation can be used to minimize shadows cast on the public realm.*



### 37B - Building Setback and Stepbacks

- a) Surface parking lots should not be located within front-yard setbacks.
- b) A range of setbacks are encouraged to create variety in the streetscape and accommodate public amenity space.
- c) Large front-yard setbacks should be well-landscaped.
- d) Where stepbacks occur, useable outdoor terraces should be provided.
- e) Shadow analysis is recommended for any proposed building that is more than 3-storeys taller than an adjacent building.

A setback refers to the grade level building location in relation to the front property line. With the exception of buildings on main streets, buildings in the City of Thunder Bay should include a variety of setbacks in order to create variation in the streetscape, and to accommodate public amenities, such as open space, mid-block pedestrian walkways and/or main entrances. Surface parking should not be located within front-yard parking areas.

A stepback refers to the portion of the building that is “stepped back” above the building base at the building front, side or rear. Stepbacks reduce the perceived mass of the building as it rises, allow for increased sun penetration at street level, enhance privacy, accommodate upper level terraces, and create transitions to surrounding low-rise residential areas, natural heritage features, and open spaces. Taller buildings (i.e. apartment, office and mixed-use buildings) should have

stepbacks, where required, to ensure five hours of sunlight on adjacent properties per day. This also creates useable outdoor amenity space (i.e. terraces, green roofs). Shadow analysis is recommended on a building-by-building basis to identify impacts.



*A variety of setbacks and stepbacks are recommended throughout the City to enhance privacy and create appropriate transitions to adjacent properties.*

### 37C - Building Access and Entrances

- a) Main entrances should address public streets.
- b) Individual at-grade unit entrances should be provided in larger buildings.
- c) Main entrances should provide weather-protection.
- d) Building entrances should adhere to Crime Prevention Through Environmental Design (CPTED) principles.

Main building entrances should face public streets and have direct access from a public sidewalk. These entrances should reflect the use of the building (i.e. large entry awnings, canopies or double-height glazing for public buildings), and should provide weather protection through awnings, recessed entries, front porches, porticos and/or verandas. In larger buildings, individual entrances should be provided for ground floor units to help animate the street, and to break up large façades into individual units. Secondary entrances should not be dominant, but should be easily accessible and convenient to service, loading and parking areas.

The design and location of building entrances should adhere to the principles of Crime Prevention Through Environmental Design (CPTED). For example, building entrances should provide visibility between indoor and outdoor areas to enhance opportunities for natural surveillance. Likewise, in apartment dwellings, pedestrian access to parking and service areas within the principal building should be situated near exposed communal areas (i.e. exercise areas or meeting rooms).



*Building entrances should face public streets and be directly accessible from the sidewalk.*



*Buildings should provide direct, weather protected entrances from adjacent public areas.*

### 37D - Façade Design

**The use of various architectural styles is encouraged, but design should reinforce the continuity of the street and create a strong community character.**

- a) On corner lots, buildings should address both streets.
- b) Various architectural styles are encouraged, but should promote complementary details, elements, materials, and quality.
- c) Large façades should be visually divided into smaller units.
- d) Large, blank façades should be avoided.
- e) Buildings should provide weather-protection at grade.
- f) Where building frontages exceed 12 meters in width, they should be divided into functionally and visually smaller units through the use of façade articulation, internal courtyards, and networks of connected walkways and landscaping.

The use of various architectural styles is encouraged, but building façades should maintain a consistent standard of design and materials equal to that of the front façade. They should have consistent rhythms of similar details and architectural elements to reinforce continuity within neighbourhoods, and create a strong community character. Buildings facing streets and public spaces should address the street through vestibules, entrances, covered walkways or canopies and awnings to provide weather protection. On corner lots, dual façades should address both streets using wrap-around porches and balconies, large windows, and side

entrances. Blank façades are discouraged. Flanking façades should maintain a consistent standard of design and materials equal to that of the front façade.

Functional building elements, such as vents or rainwater leaders within the wall plane, should be integrated into the architectural design.



*Top: Public buildings should feature significant clear-glazing and be designed with habitable rooms facing adjacent open spaces. Bottom: Large façades should be divided through the use of articulation.*

## 37E - Window Treatments

- a) In non-residential buildings (i.e. commercial, office, industrial), a significant amount of the building frontage on the ground floor and at building base levels should be glazed to allow views of the indoor uses and create visual interest for pedestrians.
- b) Clear glass is preferred to promote the highest level of visibility and mirror glass should be avoided at the street level.
- c) In residential buildings (i.e. apartments), habitable rooms (i.e. living room, kitchen) should face the public street, and have 30-40% window surface area. Flanking walls should have 20% surface window area.
- d) Windows should provide natural ventilation and light.
- e) Skylights and clerestory windows are encouraged.

Buildings should encourage strong visual connections between the interior use and public areas to generate interest from the public realm, and enhance safety through opportunities for casual surveillance. Commercial and office buildings facing or flanking a street, lane or open space should provide a significant amount of clear glazing on the ground floor. Residential buildings should be designed with habitable rooms (i.e. living room, dining room, kitchen) facing the street, and should be comprised of a substantial percentage (30-40%) of surface window area. Flanking walls should include at least 20% surface window area. The window design should be primarily an expression of the interior dwelling use (i.e. larger windows in public rooms, such as living rooms and kitchens).

Windows should be arranged to enhance views, and provide natural ventilation and light, without sacrificing privacy to the primary or adjacent dwellings. Skylights and clerestory windows (a row of narrow windows at the top of a high wall, usually above adjacent roofs) are encouraged to enhance natural light. Skylights should be coordinated with other roof and building elements and located behind the roof ridge away from public view. Clerestory windows should be detailed to provide a structural and coordinated connection between the building wall and roof.



*Buildings should provide a generous amount of window openings.*

### 37F - Building Projections

- a) Building projections (i.e. balconies, porches, canopies, stairs) are encouraged as transitional elements that provide access, amenity space and weather protection.
- b) Balconies should be provided above the ground floor of residential buildings.
- c) Balconies should be designed as integral parts of the building.
- d) Slight design variations are encouraged to create distinction, but continuity of scale and proportion is recommended between buildings.

### 37G - Roofs

- a) Flat roofs and roof terraces are encouraged to be used as private and communal outdoor patios, decks and gardens.
- b) “Green” roof technologies are encouraged where the life-cycle cost benefits outweigh the up-front costs.
- c) Roof materials/colours should complement the building materials and the overall building design.
- d) Rooftop mechanical equipment should be integrated with the building design or screened using materials complementary to the building.
- e) Parapets or other architectural screening devices should be used to screen rooftop mechanical units.



*Building projections are encouraged as transitional elements that provide access, amenity space and weather protection.*



*Flat roofs should be used for rooftop gardens, and/or outdoor amenity spaces.*

### 37H - Building Materials

#### **Building materials should enhance buildings, create an appropriate relationship with the existing urban fabric, and respond to Thunder Bay's climatic and local conditions.**

- a) Materials should be high quality and durable.
- b) Design and material quality should be consistent and building materials and finishes should be complementary.
- c) Where building facades front onto Image Routes, or other key corridors, the finish materials should extend to all sides of the building.
- d) Preferred cladding materials include brick, stone, metal, glass, in-situ concrete and pre-cast concrete. Imitation materials are discouraged.
- e) Building materials should not be used to replicate other materials (i.e. shingles that resemble bricks, etc.).
- f) Clear, high-efficiency glazing should be encouraged wherever possible.
- g) Mechanical penthouse materials should complement the architectural character.

Building materials should be chosen for their functional and aesthetic quality as well as their energy and maintenance efficiency. Despite the use of various architectural styles within the City, the design and material quality should be consistent and building materials and finishes should be complementary.

Building materials should be selected that enhance the design of each new building, while creating an appropriate relationship with the existing urban fabric. They should respond to Thunder Bay's climatic and local conditions, while contributing to a renewed aesthetic. Local materials allow new buildings to bring an enriched life to the street, while still being embedded in the characteristics of the region and offering a visible reference to the City's past.

Preferred cladding materials include brick, stone, metal, glass, in-situ concrete and pre-cast concrete. Facades that are primarily stucco, vinyl siding, plastic, plywood, concrete block, tinted and mirrored glass, or metal siding are discouraged, particularly on primary façades.

Mechanical penthouses should be considered integral to the architectural massing, composition and design of the building. They should be clad in materials that are attractive and complement the architecture of the building.

The use of clear, high-efficiency glazing should be encouraged wherever possible. Minimal tinting should be used in glazing to promote visual connection between buildings and outdoor areas and to provide a sense of the interior life and activity within the buildings.



*A variety of materials are encouraged throughout the City, including wood, brick, and stone.*

## Performance Standard # 38:

# Main Street Buildings

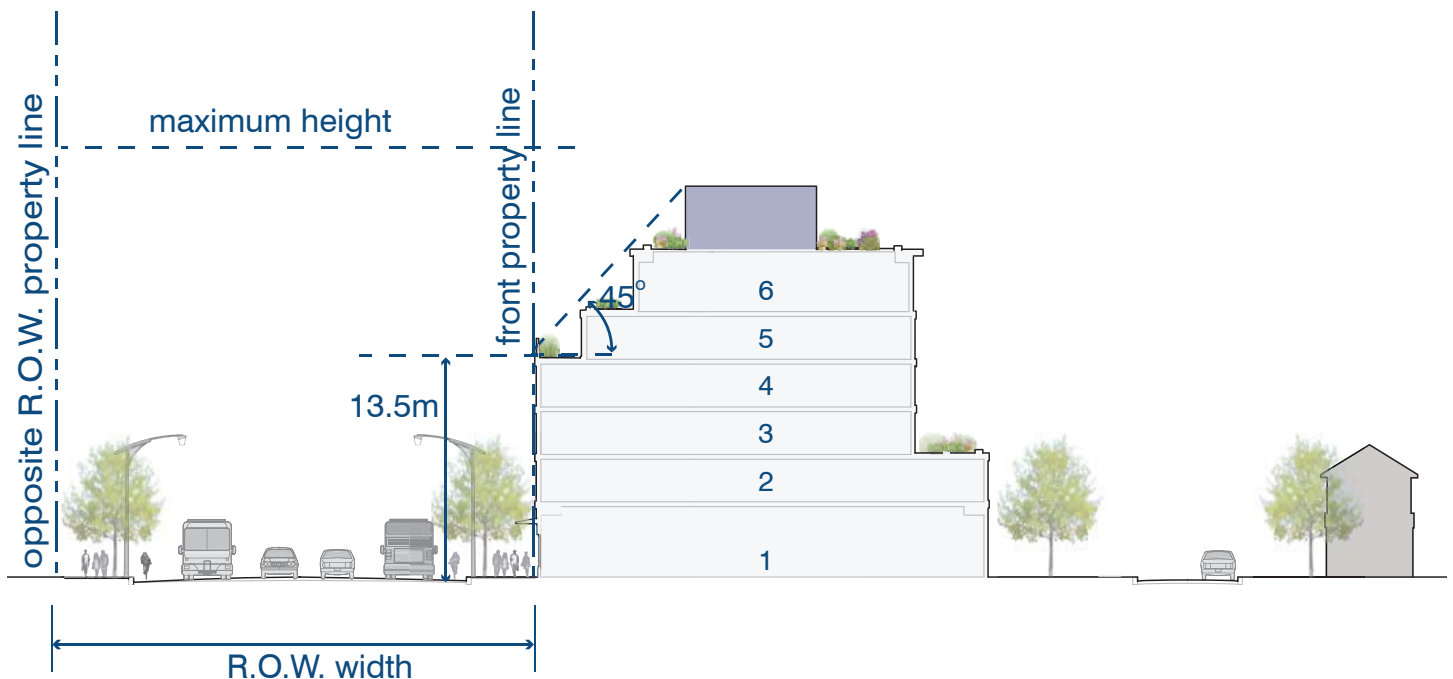
**The design of main street buildings should promote an active public realm along the Image Routes and key corridors.**

- a) Buildings should generally be located at the front property line to create a continuous streetwall.
- b) On corner sites, buildings should align with their respective frontages.
- c) Where setbacks vary on both sides, the average should be used.
- d) Minor variations in setbacks are encouraged to facilitate wider boulevards, accommodate public amenity space, and to create a more interesting streetscape.
- e) Taller buildings should have a 3 to 4-storey building base. Articulation above the base is encouraged.
- f) Taller buildings should step back 3.0 metres above the building base.
- g) Stepbacks should be determined by a 45-degree angular plane applied at a height equivalent to the adjacent development or 13.5m.
- h) Main building entrances should be directly accessible from the public sidewalk.
- i) The ground floor of all buildings should be 4.5 metres (floor-to-floor height) to accommodate internal servicing and loading, and future conversion to retail (where appropriate).
- j) Maximum building height should be determined by a 1:1 ratio with the right-of-way width.
- k) Maximum heights may only be achieved if all other Performance Standards are satisfied.
- l) A minimum building height of 7.5 metres (2-storeys) is desirable.
- m) Main entrances should be directly accessible from public sidewalks.
- n) Above-grade units should be accessed from a single entrance.
- o) A significant amount of the building frontage on the ground floor and at building base levels should be glazed to allow views of indoor uses and to create visual interest for pedestrians.
- p) Clear glass is preferred over tinted glass to promote the highest level of visibility, and mirrored glass should be avoided at the street level.
- q) Balconies should be provided above the 2nd or 3rd floor of taller, mixed-use buildings.
- r) Balconies should be designed as integral parts of the building.

New development along the Image Routes and within key corridors will strengthen communities, and accommodate many new residents and jobs. To ensure successful new buildings, it is imperative that they fit into the existing context, and contribute positively to the character of the streetscape. Buildings should be positioned to frame abutting streets, internal drive aisles, boulevards, parking areas and amenity areas, and should be directly accessible from the public sidewalk. A significant amount of the building base façade should be glass to allow views of the indoor uses and create visual interest for pedestrians. Where buildings are prohibited from using windows (i.e. where future adjacent development is anticipated), the side façades should still incorporate a minimum level of articulation including detailed brick work,



*Buildings on main streets should be located at the front property line.*



planting walls, or murals. Where residential or office uses are included above retail uses, separate entrances should be provided with access from a single, main entrance that defines the buildings symbolic entrance and civic address.

Buildings should generally have consistent setbacks to create a continuous streetwall. On corner sites, building setbacks should generally align with their respective street frontages and make necessary transitions to both edges. Where variations in setbacks occur on both sides of a proposed building, the average of the two setbacks should be used. Additionally, variations in setbacks may be used to incorporate public amenities, such as open space, mid-block pedestrian walkways and/or main entrances.

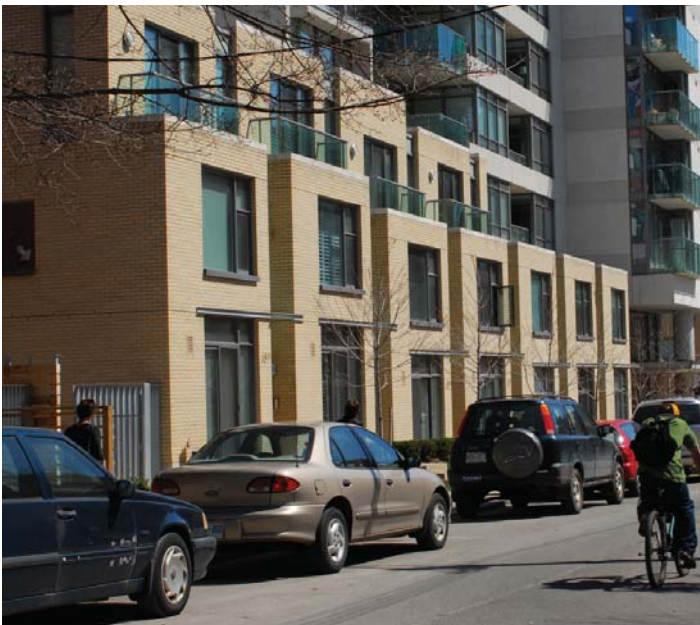
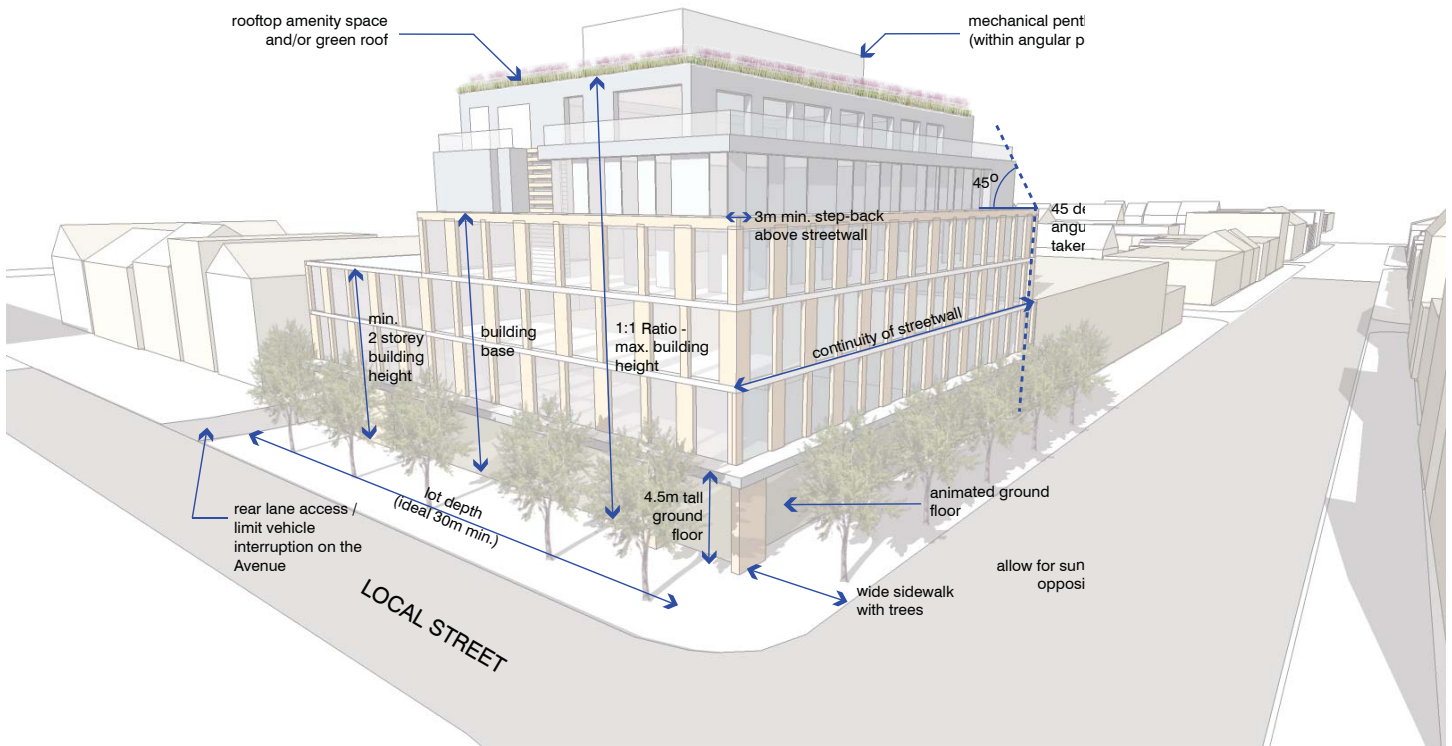
To promote intensification, ensure the most efficient use of existing infrastructure, and create a vibrant streetscape, the City should consider requiring that all new buildings achieve a minimum height of 7.5m (2-storeys). Generally, the maximum heights of buildings along the Image Routes and key corridors should be limited to a 1:1 ratio with the right-of-way width, provided the built form demonstrates compliance with all other Performance Standards (e.g. setbacks, angular planes, etc.). Taller buildings can be considered, on a case-by-case basis, in key areas, including:

- Within the gateways identified in Performance Standard 6 and 7;
- At key intersections within the North and South Core; and,
- On large lots, on a case-by-case basis, where lot size, setbacks, stepbacks and building transitions can accommodate appropriate transitions to neighbouring properties.

The design of buildings should clearly distinguish between the building base, middle and top. A 3 to 4-storey building base, highlighted by architectural elements such as entrances, canopies, large areas of glazing and retail opportunities, will define the streetscape and create a human scale at grade. Above the base, architectural articulation defines the middle and top of the building, creating an aesthetically pleasing skyline through the use of balconies, terracing and/or architectural elements, including projecting roof lines, trellises or vertical elements.

Taller buildings along the Image Routes and key corridors, should be carefully designed, with building setbacks and stepbacks, to create transitions to surrounding low-rise residential areas, natural heritage features, and open spaces. They should have a minimum 3.0 metre stepback above the building base, with an additional 'pedestrian perception stepback' determined by a 45-degree angular plane, to reduce the overall building mass and provide a transition to adjacent residential communities. This also creates useable outdoor amenity space (i.e. terraces, green roofs). Shadow analysis is recommended on a building-by-building basis to identify impacts.

Where appropriate (i.e. at gateways, within the North and South Cores), taller buildings should be designed to reinforce their potential role as landmarks within the City through unique massing, as well as building projections, recesses at grade, lower storey design and open space treatments.



Residential uses on main streets should provide individual entrances to at-grade units.

## Performance Standard # 39:

# Accessibility: Private Realm

**Incorporation of accessibility features in the design of private open spaces, parking lots, circulation areas and buildings is essential to create private development that is welcoming and accessible to all members of the community.**

- a) Private building that will be publicly accessed, such as retail shops, office buildings, theatres, etc., should minimize all changes in grade at the main entrances of the building.
- b) Wherever possible, the principles of universal design should be incorporated into new and existing buildings.
- c) Sidewalks and pedestrian paths on private property should be a minimum of 1.5 metres, with periodic widening, to accommodate persons using mobility aids.
- d) Detectable warning surfaces should provide navigational cues for persons with visible impairments, especially in areas where there is an approach change in surface level such as at the tops of stairs or ramps.

- e) Where possible, signage should incorporate a pronounced high contrast and glare-free colour contrast. A minimum contrast of 70% light reflectance is recommended.
- f) Accessible parking spaces must be provided in proximity to building entrances as required by the Ontario Building Code.
- g) Unobstructed and safe travel paths through private open spaces, parking areas and to building entrances should be clearly marked and provided.
- h) All travel paths should be well lit and clear of obstacles.
- i) Unit paving materials used in sidewalks, paths and walkways should be firm and level, with joints no greater than .06 metres wide.

Outlined in this section are several key private realm accessibility objectives for the City of Thunder Bay. Additional objectives are provided in the Accessibility for Ontarians with Disabilities Act (AODA) and the Ontario Building Code (OBC); these standards should be reviewed and considered with all design and construction projects. The primary goals of these recommendations are to ensure that the design of areas within the public realm consider users of all activity level and abilities.

## Performance Standard # 40:

# All Season Design: Private Realm

**Thunder Bay is a cold climate city, the design of its buildings, parking lots and outdoor storage areas should consider all season requirements, including sun shading, wind and snow protection, snow storage and all weather accessibility.**

- a) A minimum 1.5m sidewalk should remain clear of snow and debris year-round on all pedestrian travel routes.
- b) Where snow storage is to be accommodated in parking lots, a snow storage plan should be established to ensure that snow accumulation does not conflict with pedestrian travel and accessibility.
- c) Weather protection should be incorporated in the site design of buildings to ensure pedestrians are sheltered from the predominate winds.
- d) Where possible overhangs or awning should be provided along main street areas to shelter pedestrians and the sidewalk from rain and snow.
- e) Front entrances to buildings should be located closest to key pedestrian travel areas to minimize outdoor travel in winter months.
- f) Outdoor patios should be designed to be seasonal (to not infringe on the winter snow storage areas), yet where possible, should incorporate features that extend their usability, including shading devices and heaters.
- g) Within parking lots, covered or sheltered walkways (with landscaping buffering users from the predominant wind direction) should be considered.
- h) Where landscaping is used to visually shield storage or loading areas, a mix of coniferous and deciduous planting should be considered to ensure a strong year round visual character.
- i) The location of walkways and parking lots should be coordinated with winter sun angles to ensure walking and driving surfaces remain dry and free of ice.

As a City with four seasons, the year-round comfort of visitors and employees should always be considered in the design of a building or site. There should always be a focus on sheltering pedestrians in the coldest months and providing extended access to sunlight and open areas in the warmer seasons. This includes designing wind barriers, sunny seating areas, covered walkways and where possible, minimizing overly exposed pedestrian areas such as between parking lots and adjacent streets to building entrances.

# Performance Standard # 41:

# Heritage Design

The City of Thunder Bay has a strong foundation of designated and non-designated heritage buildings, including those within the North and South Cores, the Thunder Bay Waverly Park Heritage Conservation District, the Vickers Park area, and a number of residential properties.

## ***41A - Renovations to Heritage Buildings***

**Heritage buildings within the City should be retained, and restored, to respect the original stylistic intent of the building.**

- a) Heritage buildings should be regularly maintained, both structurally and aesthetically.
- b) A heritage professional should be involved in all building restoration.
- c) Wherever possible, existing building components should be restored rather than replaced.
- d) Additions and restorations should match the original stylistic intent of the building.
- e) Old images, period research, and the existing stock of buildings should be used as inspiration to determine appropriate built form.
- f) Renovated buildings should match the setback established by existing buildings.
- g) Additions or renovations to a heritage property should use materials that match or enhance the original structure (e.g. color,

**texture, scale, etc.). Accessibility upgrades should be undertaken in a manner that does not undermines the heritage character of the building.**

Heritage properties within the City should be retained and restored, including regular structural and façade maintenance. Retaining the façade is not an acceptable substitute to the retention of the whole structure.

A heritage professional should be involved in all renovations and alterations to existing heritage properties to ensure the most appropriate renovation techniques and materials are employed. Wherever possible, building components (i.e. windows, doors, signs, etc.) should be restored and brought up to today's standards (i.e. energy efficiency).

Additions or renovations should respect the initial stylistic intent of the building, and should reintegrate key aspects of heritage design that have been lost through degradation or previous renovation. The original façade materials on heritage properties should not be changed or covered. Façade renovation should be in keeping with the original building articulation, using those elements that are intact and replacing those that are missing or damaged (i.e. columns, cornices, openings, windows, doors, etc.).



*Adaptive re-use of existing buildings is encouraged where feasible*

The replacement of any of these features should be seen as a last resort, and where necessary, they should be replaced with models that are as visually similar as possible. Where significant restoration is required, old images, period research, and the existing stock of heritage properties should be used as inspiration to determine the appropriate mass, scale, rhythm, and materials.

Renovated heritage properties should generally be limited to their existing height, not including the cornice or parapet, to encourage the retention of these key features. Buildings should match the pre-established setback of adjacent buildings to ensure a continuous street wall. This is especially beneficial on sites where buildings are currently set back from the street or are missing altogether.

### **41B - Heritage Context Infill**

**New development in a heritage area should be sympathetic to existing buildings, while encouraging modern, creative architecture.**

- a) New infill buildings should not mimic existing buildings.
- b) They should have sympathetic scale, massing, height, and building components.
- c) New buildings should have a height-to-width ratio that is similar to existing buildings.
- d) In retail areas, storefront design should maintain a consistent rhythm of façades.
- e) Adaptive re-use is encouraged where feasible.

Where new development is proposed within the Heritage Conservation District, or adjacent to existing heritage properties, careful consideration is required to ensure built form is compatible with the character of the area. New heritage infill buildings should complement, yet be distinguishable from, existing heritage buildings, striking a balance between heritage authenticity and creative, context-sensitive architecture. They should not mimic adjacent heritage properties, but should have sympathetic scale, massing, height, and building components (i.e. window alignment, roof-lines, entrance location, ground floor treatment and materials).

On blocks with significant heritage frontages, new buildings should have a height-to-width ratio that is similar to existing buildings. In heritage retail areas, storefront design should maintain a consistent rhythm and character through recessed entries and large bay windows.

Where appropriate, heritage structures should be retained and incorporated into new developments, through adaptive re-use.



*Heritage context infill buildings should not mimic existing buildings, but should have sympathetic scale and massing*

## 4.5 Landscape Design



Private landscaping, including trees on private property as well as buffer planting, can augment landscaping features within the public realm and significantly enhance the aesthetic appeal of a streetscape. Landscaping is recommended to provide shade on the sidewalk, protect from wind, and create a buffer between pedestrian and vehicle traffic. In addition, landscaping should be used to screen undesirable uses (i.e. parking, industrial building, etc.) from view of the public realm.

## Performance Standard # 42:

# Private Trees

### **Private trees are trees planted on private property.**

- a) Preferred species should be selected by property owner using species suitable for zone 3 climatic conditions.
- b) Utility right of ways should be adhered to for all tree planting on private sites.
- c) Wherever possible, plant trees on private property in a continuous row, parallel with public street trees.
- d) Incorporate a diverse array of drought-tolerant, adaptive or native plant material.
- e) City of Thunder Bay should distribute maintenance pamphlets for all new private trees.

To ensure the proper installation of new trees, and maintenance of existing trees, these guidelines should read in conjunction with other relevant City documents, including the Parks Division Guidelines and Specifications, 2012 Edition, Infrastructure and Operations Department.



*A diverse assortment of drought-tolerant or adaptive species are recommended for trees on private property.*



**Recommended Tree Species for Private Lands****LARGE DECIDUOUS TREES** (height 15m and more)

Botanical Name	Common Name
Acer negundo 'Baron'	Manitoba Maple
Acer negundo 'Baron'	Silver Maple
Celtis occidentalis 'Delta'	Delta Hackberry
Populus x jaackii 'Northwest'	Northwest Poplar
Quercus macrocarpa	Bur Oak
Quercus rubra	Red Oak
Tilia americana	American Linden
Tilia flavescens 'Dropmore'	Dropmore Linden
Tilia cordata 'Ronald'	Norlin Linden
Salix pentandra	Laurel Leaf Willow

**LARGE CONIFEROUS TREES** (height 7.5 -15m)

Larix laricina	Larch/Tamarack
Picea glauca	White Spruce
Picea pungens	Blue Spruce
Pinus resinosa	Red Pine
Thuja occidentalis	American White Cedar

**MEDIUM STATURE TREES** (height 7.5 -15m)

Acer rubrum 'Northwood'	Northwood Red Maple
Acer saccharum 'Jefcan'	Unity Sugar Maple

Ulmus davidiana 'Discover'	Discovery Elm
Aesculus glabra	Ohio Buckeye
Gleditsia triacanthos 'Harve'	Northern Acclaim Honeylocust
Juglans cinerea	Butternut
Populus x canescens 'Tower'	Tower Poplar
Pinus banksiana	Jack Pine
<b>SMALL STATURE - ORNAMENTAL TREES</b> (height less than 7.5 m)	
Acer ginnala	Amur Maple
'Prunus maackii 'Jefree'	Goldrush Amur Chokecherry
Malus x adstringens 'Pink Spires	Pink Spires Crabapple
Malus x 'Spring Snow'	Spring Snow Crabapple
Sorbus aucuparia	Russian Mountain Ash
Syringa reticulata	Japanese Tree Lilac

# Performance Standard # 43:

# Buffer Planting

Buffer planting uses landscaping features (i.e. berms, trees, shrubs, and grasses) to provide a transition between varying uses and the public realm.

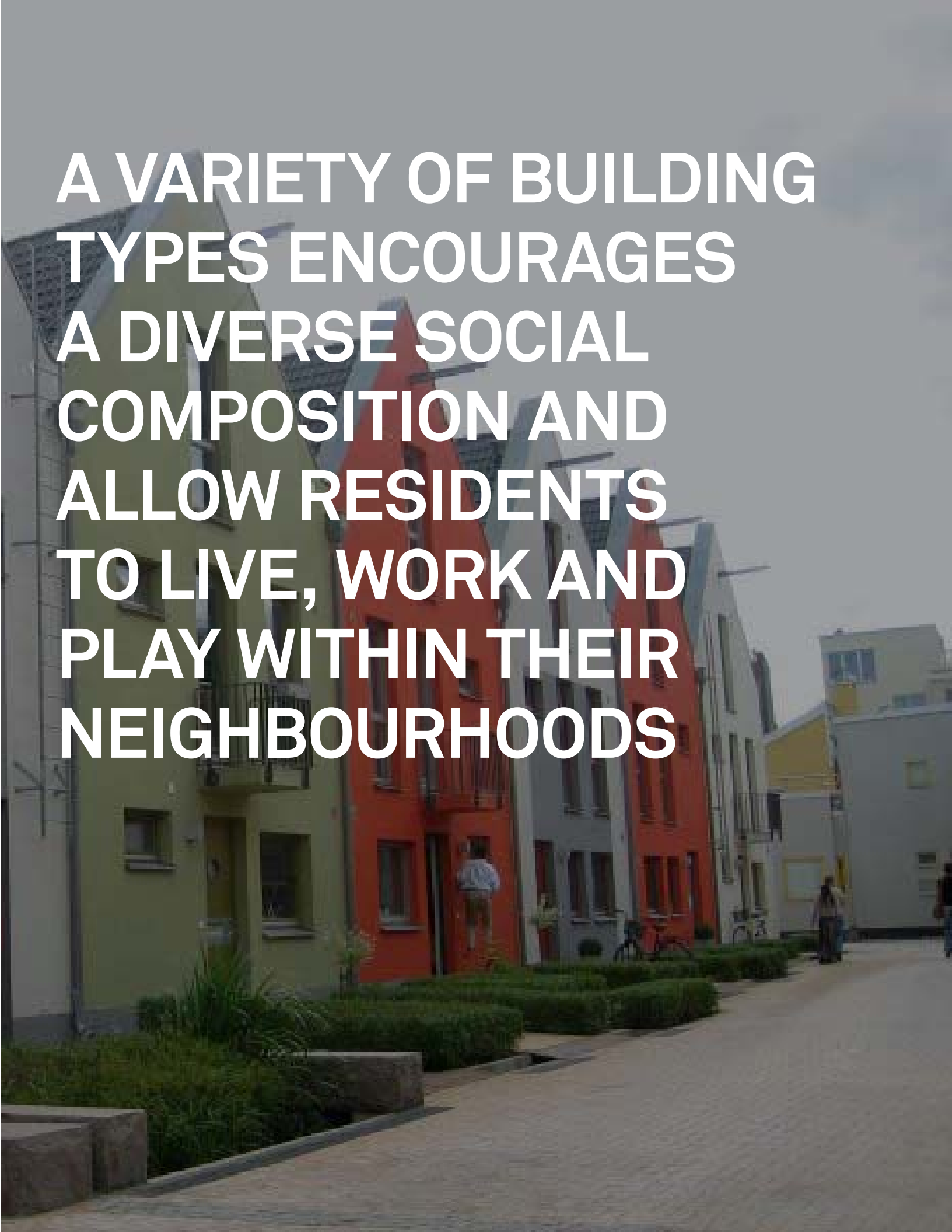
- a) A landscape setback of a minimum of 3.0m is required for all parking lot areas. This should be landscaped with screen planting. Refer to native, adaptive, and non-invasive plant materials list for acceptable species.
- b) Coniferous trees would be acceptable in these situations to block views.
- c) Plant material to be used to create hedging, frame views, create unique or special places, add color, and to enhance the overall quality of the street and parking area. The landscape design should not create safety or visibility issues for pedestrians, cyclists or drivers.
- d) The enhanced landscaping requirement on City owned land will require a commitment by the City of Thunder Bay to support a landscape maintenance program which exceeds standards set by the typical municipality.

Deciduous & Evergreen Shrubs Suitable for Buffer Planting	
Botanical Name	Common Name
<i>Deciduous Shrubs</i>	
Cornus sericea	Red Osier Dogwood
Euonymus alatus 'Compactus'	Dwarf Burning Bush
Physocarpus opulifolius	Common Ninebark
Ribes alpinum	Alpine Currant
Rosa rugosa	Japanese Rose
Symphoricarpos albus	White Snowberry
Viburnum dentatum	Arrow Wood
<i>Evergreen Shrubs</i>	
Juniperus sabina 'Tamariscofilia'	Tamarise Juniper
Thuja occidentalis 'Holmstrup'	Cedar



Plant material should be used to create hedging, frame views, create unique or special places, add color, and to enhance the overall quality of the street and parking area.

**A VARIETY OF BUILDING  
TYPES ENCOURAGES  
A DIVERSE SOCIAL  
COMPOSITION AND  
ALLOW RESIDENTS  
TO LIVE, WORK AND  
PLAY WITHIN THEIR  
NEIGHBOURHOODS**



## Section 5.0

# Performance Standards: Land Use Specific

## 5.1 Residential

A variety of residential buildings types are encouraged in the City of Thunder Bay, including singles and semi-detached, townhouses, and walk-up apartment buildings. This will encourage a diverse social composition and accommodate individuals of different ages, incomes and sociocultural backgrounds. A full range of housing types allow residents to age-in-place. The following outlines the general principles for residential design and is followed by detailed Performance Standards for specific dwelling types.

- **Create a Strong Public Face:** The houses that line the street substantially influence the image and pedestrian experience of the streetscape. House designs that accentuate an attractive and animated building frontage using elements including large windows, front porches and steps combined with architectural variety will contribute positively to the streetscape and aid in casual surveillance opportunities. Garages should not be the dominate feature of the house or preclude opportunities to have useable rooms that look out on to the street.
- **Automobile Storage should be Subordinate:** To reduce the impact of automobile storage, the house façade should have greater expression than the garage through a well articulated façade.
- **Create Dual Frontages on Corner Lots:** On corner lots, give positive expression to the two street frontages through the

use of wrap-around front porches or sunrooms, bay windows and side entrances, where possible. Privacy fencing should be limited to screening the backyard only.

- **Provide a High Quality Design:** Housing design is intended to encourage creativity and diverse interpretation of architecture. The Performance Standards promote a variety of housing styles while still creating cohesive, integrated and high quality neighbourhoods.
- **Activity & Safety:** An animated residential streetscape is a key design consideration. Housing should incorporate designs with habitable, street facing rooms (i.e. living, dining rooms and kitchens) to promote neighbourhood safety through “eyes on the street”.
- **Context Sensitive:** The mass, scale, and architectural elements of residential buildings should be sensitive to adjoining areas.
- **Housing Variety & Choice:** A full range of housing types (i.e., detached, semi-detached, townhouse, apartments) should be provided to accommodate a wide demographic (i.e. couples, families with children, single parents, seniors, people with special needs, and others). A range of housing types will provide flexibility over time.
- **Environmentally Sustainable:** Residential development should be environmentally sustainable, and address opportunities for environmentally sensitive design.

## Performance Standard # 44:

# Apartment Buildings

**Apartment buildings are encouraged in Thunder Bay, and can provide an appropriate transition between taller buildings on main streets and within residential neighbourhoods.**

- a) Taller apartment buildings should be designed to minimize shadows on adjacent properties.
- b) A minimum 3.0 metre setback is recommended from the front property line where residential units face main streets. This setback provides a transition from public to private space and should be well landscaped.
- c) A 6.0 metre setback is recommended from the property line where residential units face secondary streets at the intersection with main streets.
- d) A 3.0 metre landscape buffer is required to enhance privacy between front entrances and the public sidewalk.
- e) Individual unit entrances should be provided for at-grade units. The above setback requirements will reinforce privacy and security through a landscaped transition area.
- f) A variety of design elements should be used to break-up larger façades and express individual units.
- g) Balconies should be provided above the ground floor where possible, and incorporated into the building design.
- h) Balconies should be large enough to function as amenity spaces.
- i) Parking and servicing areas should be located to provide clear views from residential units and communal building spaces.
- j) Semi-public mid-block walkways (minimum width of 3.0 metres) are encouraged within apartment development blocks.

Apartment buildings are encouraged in the City of Thunder Bay, particularly in locations that can accommodate higher densities, such as along the Image Routes and key corridors, within the North and South Cores, at gateway locations and adjacent to large open spaces and major community facilities.

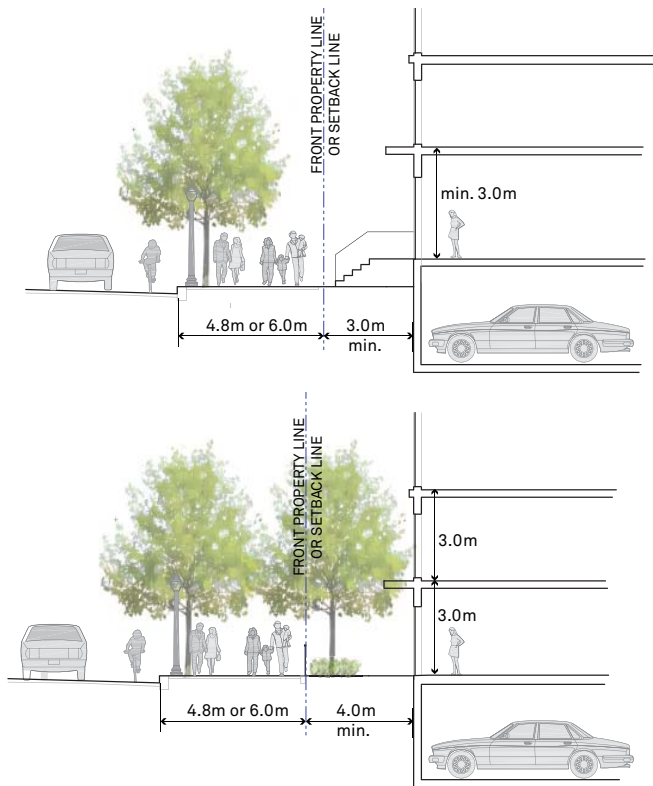
Taller apartment buildings should be oriented to minimize shadows cast on adjacent open spaces, buildings and streets as much as possible. The design of apartment buildings should have appropriate setbacks to ensure a suitable transition between the public sidewalk and private residential dwellings. Landscaping and other design features are encouraged to augment this transition zone.

To encourage activity on the street, enhance safety through casual surveillance, and break-up larger façades, individual unit entrances should be expressed for at-grade residential units. A variety of design treatments are encouraged, including bay windows, overhangs, front terraces, setbacks and materials change. Upper floor units should be emphasized through articulations of the exterior wall plane and roof, and the use of pronounced building elements including bay windows, balconies and dormers. Balconies should be provided for apartments buildings, wherever possible, and

should be designed as an integral part of the building. The dimensions of balconies should ensure they can function as useable recreation space.

Pedestrian entrances to parking and service areas within the principal building should be combined with exposed communal areas such as exercise areas or meeting rooms to provide casual surveillance opportunities. Similarly, end units should place windows and entrances facing the public street and along pedestrian walkways to encourage these areas to be visible, active and safe.

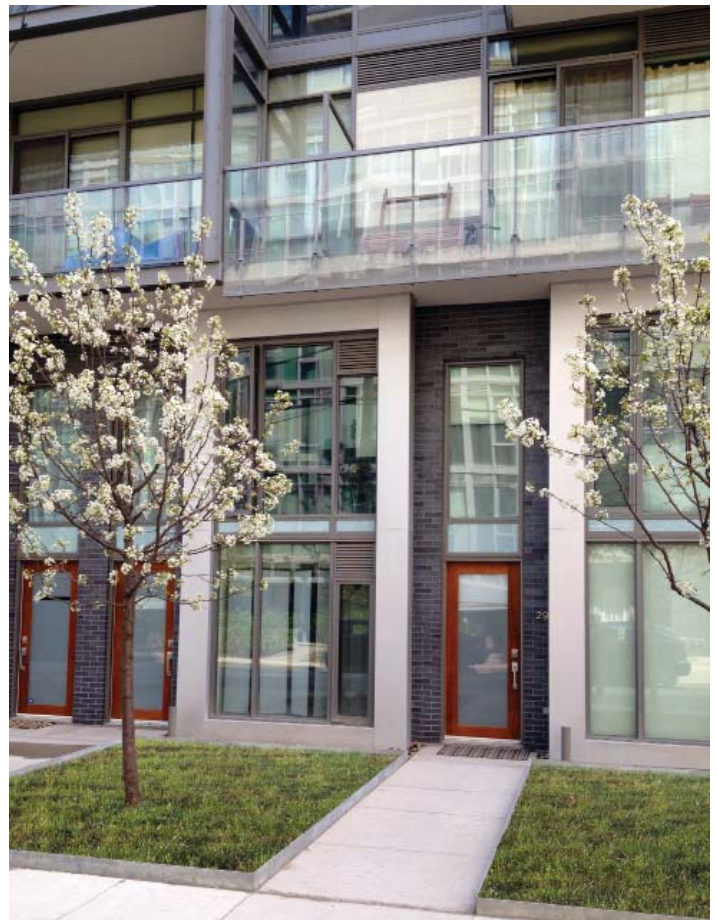
Where apartment buildings are part of a larger apartment block, mid-block pedestrian connections are encouraged to promote permeability through the site.



*The illustrations above demonstrate how at-grade access should be provided. Where steps do not exist, an additional setback creates a transition between public and private space.*

In addition, please refer to the following Performance Standards (where applicable):

- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 38: Main Street Buildings
- 41: Heritage Design



*Apartment buildings should provide individual access to at-grade units.*

## Performance Standard # 45:

# Townhouses

- a) Townhouse should articulate individual dwellings.
- b) A minimum front yard setback between 3-6 metres is recommended in urban areas. In residential neighbourhoods, 6.0 metres is appropriate.
- c) 1.5 metres from the front property line should be a “no encroachment” zone.
- d) The remaining setback may contain non-habitable building elements (i.e. porches, steps, roof elements).
- e) Side-yard setbacks at end units should be 1.5 metres (minimum).
- f) Parking from townhouses should be provided from a rear lane or below-grade parking garage. Garages facing the street are discouraged.
- g) No more than 6 double car garages or the equivalent in single car garage length should occur in a row to allow for mid-block pedestrian connections.
- h) It is recommended that a 45 square metre landscaped amenity space be maintained for townhouses in the rear yards. 50 percent of front yard should be landscaped.

In addition, please refer to the following Performance Standards (where applicable):

- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 37: General Building Design
- 38: Main Street Buildings
- 41: Heritage Design



*Townhouses provide an appropriate transition to more intense forms of housing (i.e. taller apartment buildings, mixed-use buildings).*

Townhouses will provide compact, higher-density housing choices than single or semi-detached dwellings and, in some instances, may share amenity space. Townhouses may provide the transition between low-density/low-rise housing and more intense multi-residential forms.

Performance Standard # 46:

# Detached and Semi-Detached Residential

## 46A - Building Orientation

**Residential buildings should provide a strong public face to public streets.**

- a) Residential buildings should be oriented to address the public street with front doors and porches clearly visible from the public sidewalk.
- b) Dwellings on corner lots should provide positive frontages on both streets with no blank walls.
- c) Alternate solutions to back-lotting of public streets, or housing with the rear property line against primary streets, should be investigated such as frontage streets or rear lanes. That allow the front of new development to frame the street.



*Residential buildings should be oriented and designed to address public streets.*

Residential buildings should maintain a continuous streetscape and a strong public face through buildings that address streets and/or open spaces to provide a sense of enclosure and enhanced safety through “eyes on the street.”

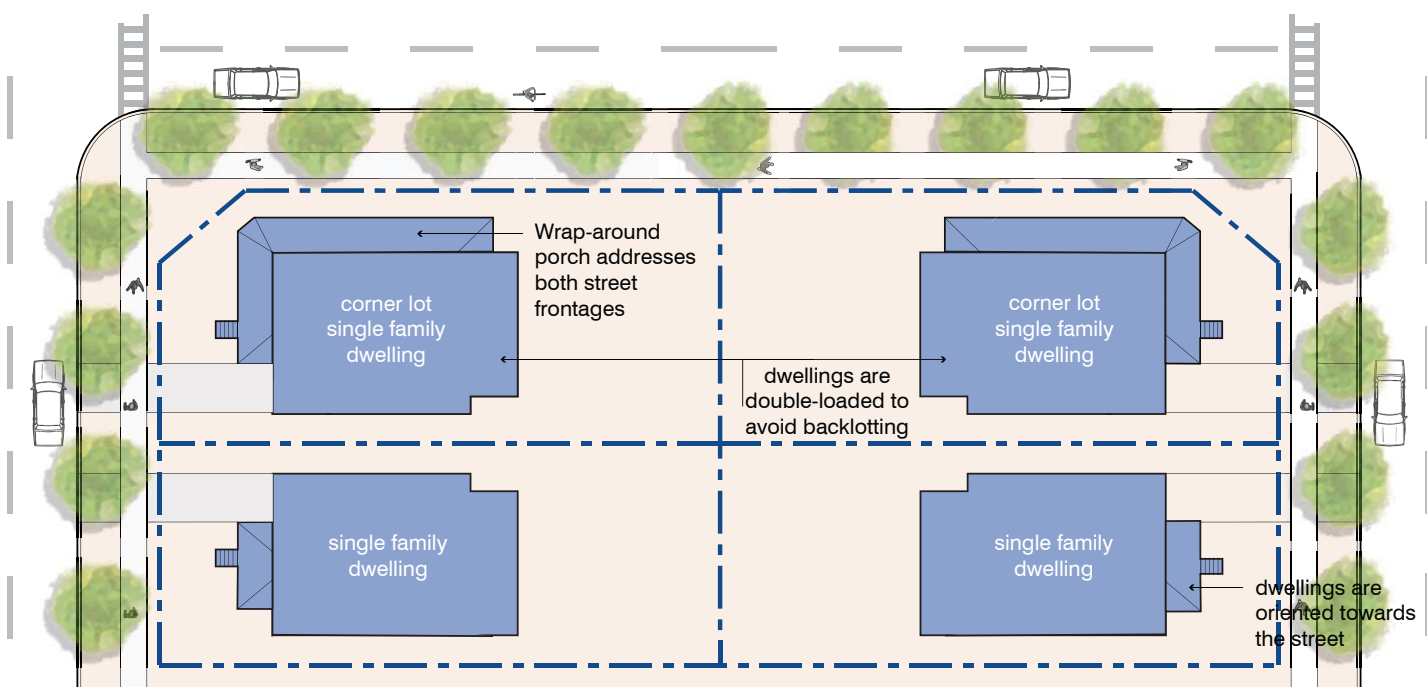
Building design should emphasize visibility and the potential role of corner buildings as landmark or orientation structures within the neighbourhood. Dual façades are encouraged on corner lots to address both streets through the use of wrap-around porches, sun rooms, bay windows and side entrances.

Taller buildings (i.e. mid-rise apartment buildings) should be oriented to minimize shadows cast on adjacent open spaces, buildings and streets as much as possible.

Where front entrances are located in a side yard, the primary façade may be perpendicular to the street providing the façade that addresses the street has attractive architectural design.

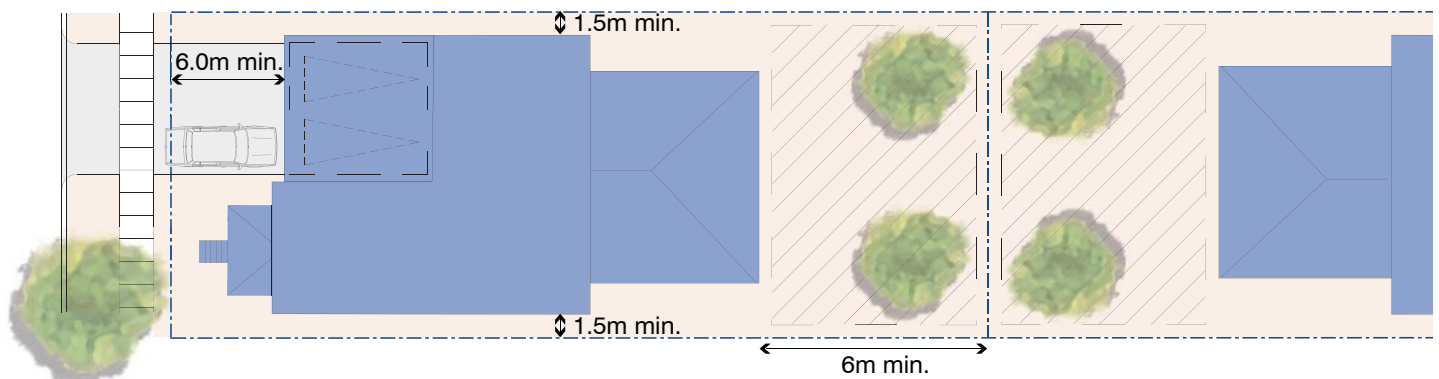
Where building fronts face north, attempts should be made to provide windows on the southern and western façades to promote solar gain and day lighting.

Back-lotting should be avoided where possible unless demonstrated to be a positive feature (i.e. buffer from industrial uses). Historically back-lotting on the arterial roads has been used to maintain traffic circulation and limit access points. More and more communities are moving to other solutions that do not undermine the character of the street. Another method of achieving the same traffic result includes having units facing the street with rear lanes. This minimizes traffic issues and blank rear fencing along roads.



## 46B - Setbacks

- a) A minimum front yard setback of 6.0 metres is required.
- b) 1.5 metres from the front property line should be a “no encroachment” zone.
- c) The remaining setback may contain non-habitable building elements (i.e. porches, steps, roof elements).
- d) Side-yard setbacks should be 1.5 metres (minimum) or 3.0 metres where a garage is accessed by a side-yard driveway.
- e) Rear-yard decks/porches and accessory buildings can encroach into the rear yard.
- f) A minimum 0.6 metre setback from the rear property line is required for garages, and accessory buildings, in the rear yard.
- g) It is recommended that a 50 square metre landscaped rear-yard amenity space (excluding driveways) be maintained for single detached and semi-detached dwellings.



## 46C - Attached Front Garages

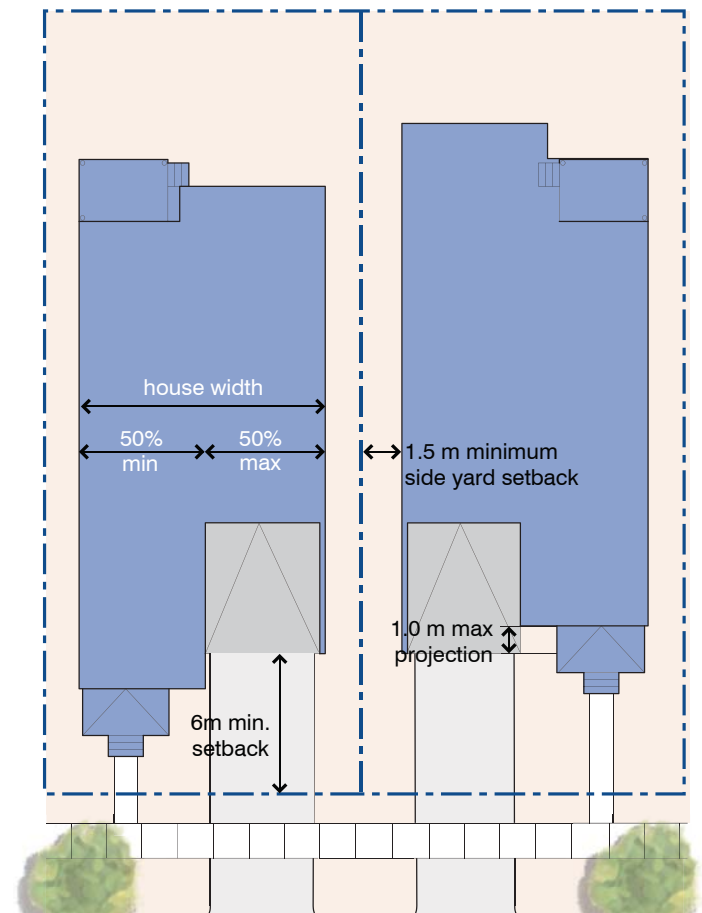
- a) Attached garages should be no wider than 50% of the width of the house.
- b) The garage should not extend more than 1 meter beyond the front façade of the house.
- c) A 6.0 metre minimum setback from the front property line to the face of the garage should be provided to accommodate driveway parking, however driveway parking in the front yard should be no more than two cars deep (12 metres maximum).
- d) Building materials of garages should be of a high quality that is consistent with the primary building façade.
- e) Lots less than 12 metres wide are limited to a single-car garage at the front of the building or lot.
- f) Lots above 12 metres in width are limited to two-car garages at the front of the building.

The primary issue regarding residential parking throughout Thunder Bay's recently constructed communities is the overly dominant proportion of the garage in relation to the main house façade. This limits the opportunity for front porches and windows, front facing rooms, and casual surveillance of the public streetscape. To ensure garages do not become dominant features of the streetscape, and to achieve a balance between the house façade and garage, attached garages located at the front of the house should be no wider than one half the width of the house.

Garage design should be complementary in character and quality of detail to the principal dwelling, and include high-quality construction materials, adequate windows and appropriate architectural details.

There should be no projection of the garage in front of the front façade of the house (measured from the primary building façade, not the porch).

Where dwellings have a front yard garage, a 6.0 metre setback is recommended between the front of the garage and the front property line to accommodate one vehicle without disrupting the sidewalk.



To ensure garages do not become dominant features of the streetscape, they should be no wider than one half the width of the house.

## 46D - Residential Driveways

**Asphalt/Concrete driveway widths should be limited in size to ensure that vehicles are not a dominant feature of residential buildings.**

- a) The width of asphalt or concrete driveways should be no wider than the width of the garage door. The hardscaped area can be extended by 1 meter on either side in accent material or paver.
- b) Where no garage is present, driveway depth should be sufficient to accommodate vehicle parking without overhanging the sidewalk.
- c) Permeable surfaces are encouraged for driveway paving to minimize run-off.
- d) Curb cuts for driveways should be paired to preserve the maximum number of on-street parking spaces and provide space for trees in the boulevard.
- e) Driveway access on corner lots should be provided from the minor street (i.e. access from Collector Street at the intersection between an Arterial and Collector Street).
- f) 50% of the front yard should be landscaped.



*To minimize the presence of the driveway, they should be no larger than the width of the garage.*

## 5.2 Commercial



There is significant potential for commercial redevelopment in the City of Thunder Bay, including new mixed-use buildings and the enhancement of existing large-format retail uses along the Image Routes and key corridors, as well as convenience retail (i.e. corner store, dry-cleaners, cafes) within neighbourhoods

Where commercial buildings apply, the highest quality of architecture and site planning is recommended. All buildings should be sited and designed in an urban context, including shallow setbacks, on-street parking and/or placing parking at the rear of the building, to contribute to a strong relationship between the street and commercial buildings. General Principles for Commercial Buildings include:

- **Strong Street Edge:** All commercial retail development, including Large-format (or 'Big Box') uses, should provide continuous physical definition to streets and public spaces. Physical definition is achieved by locating buildings close to the street edge, direct access from the sidewalk with off street parking located behind buildings or in parking decks and structures.
- **Recognize the Urban Context:** Commercial retail development contributes to an urban, pedestrian focused public realm. The provision of flexible building forms that will allow retail to be integrated into buildings at-grade, as market conditions permit, will ensure the City's evolution towards a truly urban community.
- **A Mix of Uses and Sizes:** Although large-format commercial uses dominate along some of the Image Routes, a mix of land uses and unit sizes should be provided where possible to increase diversity and flexibility.
- **A Variety of Public Amenities:** Commercial development should provide a variety of public amenities including urban squares, landmark features and art installations to promote a positive site appearance, pedestrian activity and social interaction.

## Performance Standard # 47:

# Mixed-Use Buildings

- a) A 4.5 metre minimum floor-to-floor height is recommended at street level to create a strong street presence and support retail uses.
- b) A significant amount of the building frontage on the ground floor and at building base levels should be glazed to allow views of indoor uses and to create visual interest for pedestrians.
- c) Clear glass is preferred over tinted glass to promote a high level of visibility and mirrored glass should be avoided at the street level.
- d) Building entrances should support retail uses and can be expressed and detailed in a variety of ways, including large entry awnings, canopies or double-height glazing.
- e) Residential uses above the ground floor should have a floor-to-ceiling height of 2.75 metres.
- f) Below grade parking is the preferred means of parking supply.



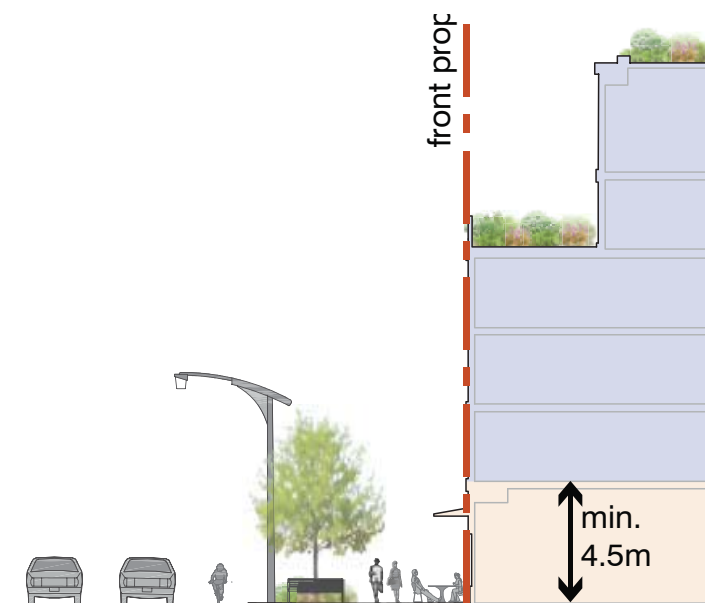
*Building entrances can be expressed and detailed in a variety of ways, including large entry awnings, canopies or double-height glazing.*

- g) Where surface parking is provided it should be at the rear of the building and not visible from the principle public street.
- h) Secure, long-term bicycle parking facilities should be provided at large employment, business, or office buildings.

Along the City's Main Streets and within the North and South Cores, where higher densities can be accommodated, mixed-use buildings are encouraged to create a vibrant urban streetscape. Mixed-use buildings should have active retail uses at grade with "spill-out" opportunities (i.e. café patios, retail displays). Residential and/or office uses are recommended above to provide "eyes on the street" and enhance safety at all hours of the day.

In addition, please refer to the following Performance Standards (where applicable):

- 7 Urban Area Gateways
- 9: Boulevard Design
- 18: On-Street Parking
- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 38: Main Street Buildings
- 41: Heritage Design



A 4.5 metre ground floor height is recommended to create a strong street presence and support retail uses.



A significant amount of the ground floor of mixed-use buildings should be clear-glazed to allow views to the inside.

## Performance Standard # 48:

# Large-Format Retail

**Large-format retail stores pose significant urban design challenges in terms of building scale, design and parking requirements.**

- a) Large retail stores should be integrated into a consistent pattern of streets or private drives and blocks.
- b) On main streets, opportunities to provide compact building forms should be considered including multi-storey stores.
- c) Building setbacks should be minimized, particularly along main streets. Where larger setback are required, pedestrian amenities, such as seating areas, water features, public art installations and internal pedestrian walkways should be provided.



*Illustration demonstrating a potential layout for a large-format retail development, with the building at the property line and parking located internally to the site (or screen where adjacent to the sidewalk).*

- d) Surface parking should be located at the rear, or side of the building.
- e) Long façades should incorporate architectural relief and detailing, entrance features, recesses and projections along the length of the façade.
- f) Smaller retail units should line part of the principal building and have display windows and separate entrances.
- g) False upper floors are not acceptable. All floors visible from the street should be functional.
- h) Continuous boulevards of 4.8 metres should be provided on the principle sides of the building, incorporating street trees (spaced 8-10 meters on centre), landscaping, benches and pedestrian-scaled lighting.
- i) Infill development along the street line should be promoted to reduce the visual impact of large-format parking areas.

Large-format retail stores, such as those found along Memorial Avenue, pose significant urban design challenges in terms of building scale, design and parking requirements. The City of Thunder Bay should work with developers to assure large-format retail buildings are carefully designed from the outset to achieve a form that is attractive and environmentally responsive.

Where multi-storey developments are proposed, all floors visible from the street should be functional to provide greater interest from the streetscape and to discourage false upper floors.

Where larger setbacks are required, tree-planting, landscaping, pedestrian amenities and walkways should be incorporated. Open spaces between buildings, at the street edge, and through parking areas should be well landscaped, and should include pedestrian amenities (e.g. seating, lighting, etc.).

In addition, please refer to the following Performance Standards (where applicable):

- 9 Boulevard Design
- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 41: Main Street Buildings



*Large-format retail buildings and commercial retail units should have principle entrances visible from the surrounding public streets.*

## Performance Standard # 49:

# Small-format Retail

**Smaller commercial retail units (CRUs) are encouraged within large-format retail developments to enhance the connections to adjacent streetscapes.**

- a) The location of smaller-format Commercial Retail Units (CRUs) should be used to define street edges, courtyards, terraces and other public open spaces.
- b) CRUs may be located and designed to create a main street shopping environment through their continuous alignment and multi-storey façades.
- c) Building entrances should be located on the street side of the building. If this is not possible, a clear and direct pedestrian route from the public sidewalk to the entrance should be provided.
- d) The co-location or close proximity of retail commercial units and the coordinated alignment of entrance doors is encouraged to facilitate sequential shopping.
- e) Areas not required for servicing between buildings should be well landscaped and programmed (i.e. outdoor seating and dining areas).
- f) CRUs should have continuous pedestrian sidewalks on all sides of the building where public entrances and parking areas are located.

Smaller retail buildings (CRU's) should be clustered with large-format retail to better address public streets and to create a more urban pedestrian oriented environment. They should be located to define street edges, courtyards, terraces and other public open spaces, and should be located near each other, to create continuity in the retail edge. CRU's should have continuous pedestrian sidewalks on all sides of the building where public entrances and parking areas are located.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 38: Main Street Buildings

## Performance Standard # 50:

# Gas Stations & Car Wash Facilities

**Gas station design should enhance the quality of the community and adjacent commercial and neighbourhood areas through high-quality site planning and architectural design. Pedestrian and vehicular access should be balanced.**

- a) The frontages of a site should be occupied by a street oriented building (i.e. convenience store) and/or a substantial landscaped area, including low walls and/or fencing.
- b) Stacking lanes should be separated from parking areas through the use of landscaped islands.
- c) Stacking lanes should be located such that vehicle line-ups do not block traffic along public streets or impede the movement of vehicles on site.
- d) Clear sightlines and views should be provided between site areas (i.e. pumps, convenience store and car wash) and the public street to promote public safety.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 38: Main Street Buildings



*Landscaping should be used to screen gas stations from the view of the adjacent sidewalk.*

- e) Canopies should be provided over fuelling areas. Any lighting provided should be downcast to minimize light pollution on adjacent residential areas.
- f) Car washes should be away from the property line, while providing sufficient space for vehicle stacking and landscaping.
- g) Where a car wash is proposed near the street edge, clear windows are encouraged to animate the street by providing views into the car wash.
- h) Complementary building materials should be used for the primary building and car wash facilities.
- i) Parking should be located at the side and/or rear of the building, and should ensure pedestrians do not have to cross stacking lanes to enter the building.
- j) A landscape buffer should be located along the side and rear yard of the property to provide screening from adjacent uses. Where the site is adjacent to residential or institutional properties, a noise attenuation fence should be used.
- k) Noise-generating areas (such as auto service bays, car wash openings, vacuum stations, outdoor loading areas, garbage storage and stacking lanes) should be located away from sensitive uses such as residential areas and schools.
- l) Lighting should be designed to ensure that there is no light spillage or glare cast over adjacent uses.
- m) White light sources should be used to reduce energy costs and to create a natural colour balance for safety and security.



*Landscaping is encouraged to provide a buffer to adjacent uses and streets.*

## Performance Standard # 51:

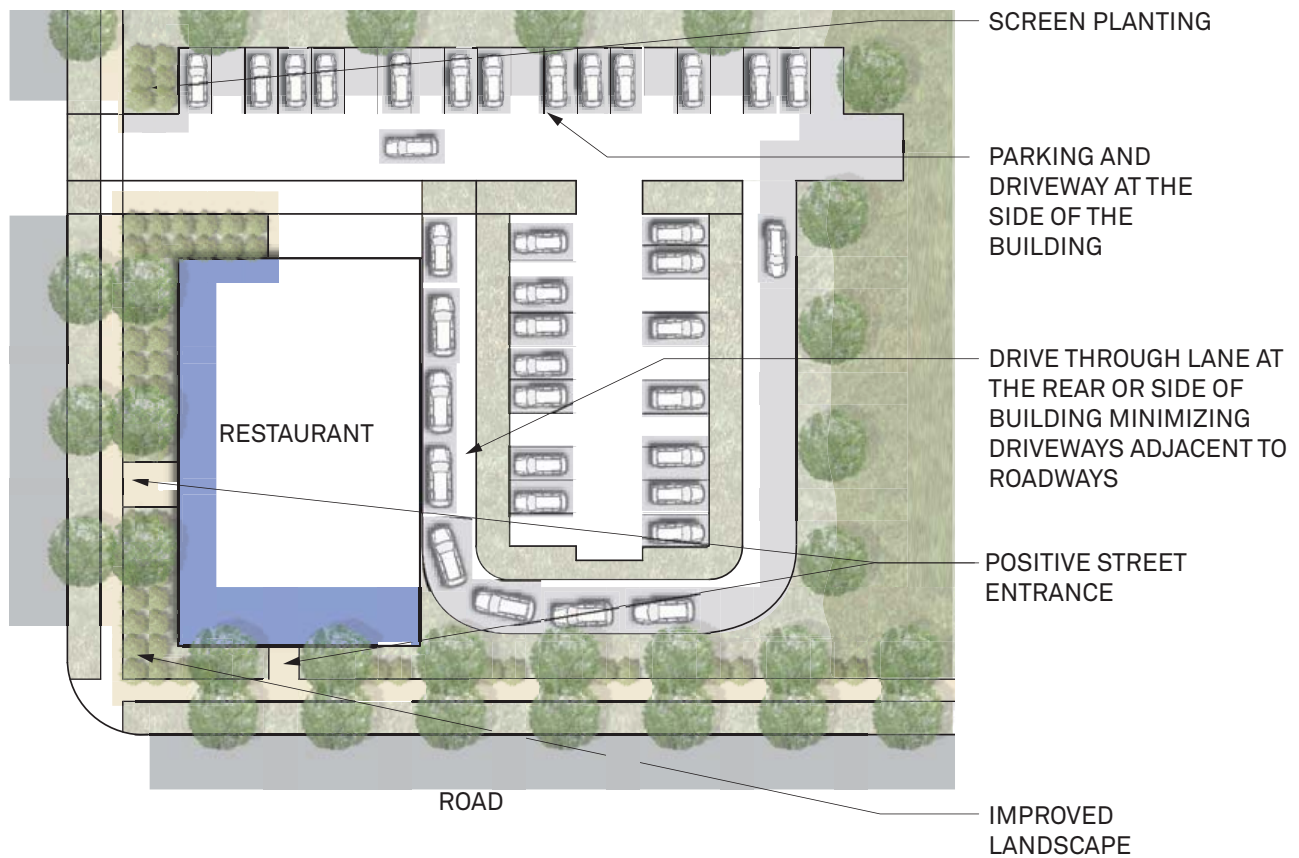
# Drive-Through Facilities

**Drive-through facilities should be designed to functionally meet the requirements of vehicular traffic while not detracting from the urban design and pedestrian access of the site.**

- a) Vehicular traffic should be directed behind buildings, to decrease visibility of cars and drive-through amenities and limit congestion at the property entrance.
- b) Drive-through lanes should not impede pedestrian access to buildings. Stacking lanes or driveways should not be located between the building and street.
- c) Multiple service windows in a single stacking lane should be implemented to reduce idling and congestion.
- d) When pedestrian traffic crosses vehicle lanes provide safe circulation routes that clearly demarcate the pedestrian path of travel (i.e. raised pedestrian crossings, bollards, landscaping).
- e) Where possible stacking lanes should be separated from parking areas through the use of landscaped islands.
- f) Stacking lanes should be located such that vehicle line-ups do not block traffic along public streets or impede the movement of vehicles on site.
- g) Where site area is constrained, double stacking lanes may be provided to reduce the length of the queue. This should be evaluated on a site-by-site basis to ensure that all other guidelines in this section are achievable.
- h) Where two drive-through businesses operate from the same building, separate stacking lanes should be provided to minimize vehicle conflicts. The alignment of these lanes should be evaluated on a site-by-site basis to ensure that all other guidelines in this section are achievable.
- i) Parking should be located at the side and/or rear of the building, and should ensure pedestrians do not have to cross stacking lanes to enter the building.
- j) A landscape buffer should be located between the stacking lane and building.
- k) A landscape buffer should be located along the side and rear yard of the property to provide screening from adjacent uses. Where the site is adjacent to residential or institutional properties, a noise attenuation fence should be used.
- l) Lighting should be designed to ensure that there is no light spillage or glare cast over adjacent uses.
- m) White light sources should be used to reduce energy costs and to create a natural colour balance for safety and security.

In addition, please refer to the following Performance Standards (where applicable):

- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 38: Main Street Buildings



*Illustration demonstrating a potential layout for a drive-through facility.*

## 5.3 Institutional



Institutional uses, such as schools, community centres, and places of worship, are focal points in the City. They should be located at highly visible locations, including key nodes along main streets and in association with public parks.

Institutional buildings have the capacity to embody the culture of the community and should be a source of pride. It is therefore critical that they embody high standards in design quality and innovation.

To promote efficient use of land and building resources, community facilities should incorporate the high standards of sustainability in building and site design, and should be sited in close proximity or in the same facility. A variety of shared use options should be explored, including:

- Multi-purpose cafeteria and gymnasium;
- Art, Science, and computer classrooms for junior and adult education;
- Library combining functions of both a municipal branch and school facility;
- Hardscaped and grassed playing field;
- Parking facilities for automobiles and bicycles; and/or,
- Community gardens.

## Performance Standard # 52:

# School Facilities

- a) School buildings should be designed to reflect their civic role through prominent, high quality architecture.
- b) Schools should be designed to integrate into their adjacent neighbourhoods. The use of school facilities (i.e. fields, auditoriums, etc.) in evening hours is recommended.
- c) Building design should promote safety and ease of access through well defined entrances and windows facing the public street and primary walkways.
- d) Multi-storey school buildings are strongly recommended to maximize the site and services as well as contribute to an urban street condition through building façade proportion that contributes to a sense of enclosure at the street.
- e) The main school entrance should be highly visible and distinguished through the building's architecture and detailing (i.e. door size, entry and windows). A recessed entry or projecting canopy can also provide weather protection and promote the prominence of the entry.
- f) School façades should maximize the use of operable windows to naturally illuminate and ventilate classrooms, offices, recreational and social spaces.
- g) Covered walkways or building edge colonnades are recommended for linking separate school buildings or providing weather protected building edges fronting school open spaces including forecourts, courtyards, gardens or playing fields.
- h) School buildings should strive for LEED Certification, promoting green building technologies and sustainable site design/organization.
- i) Where possible, the site should be organized to extend the street network via internal pedestrian walkways and driveways.



*Covered walkways are encouraged to provide weather protection and link separate school buildings.*

- j) Site organization should be designed to maintain view corridors and sight lines in order to further enhance crime prevention opportunities. Where chain link fence is used to maintain sight lines, a significant landscape buffer should be provided to minimize the visual impacts.
- k) In addition to school buses, local transit stops should be located in close proximity to school facilities.
- l) Bus stops should be incorporated as a layby within the public right-of-way or on-site where safe and efficient access can be provided.
- m) Where bus stops are provided on site, they should be integrated as part of the overall design of the school property to minimize conflicts.
- n) School sites should incorporate bike racks in convenient locations to building entrances.

In addition, please refer to the following Performance Standards (where applicable):

- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design



*School facilities should promote high quality design that reflects their civic role in the City (Image: Diamond & Schmitt).*

## Performance Standard # 53:

# Community Centres

**Community centres are focal points of healthy neighbourhoods and should be well integrated throughout the City.**

- a) Community centres should be located in the most accessible areas of the City (i.e. the North and South Core, key nodes along Main Streets, and within neighbourhoods.
- b) Community centres should be located in close proximity to existing and planned trails to ensure easy access for pedestrians, cyclists, and transit users.
- c) Complementary uses such as schools, libraries and day care facilities should be located in close proximity to or within community centres to facilitate shared use.
- d) Active outdoor amenity spaces should be designed as an integral component of community centres to outdoor programming.
- e) The design of community centres should target LEED Gold certification.



*Community facilities should be landmarks within the City, promoting sustainable design and integrating comfortable public spaces.*

- f) New or revitalized community centres should be the subject of both community design workshops and design competitions and should be designed by registered architects with a reputation for excellence and innovation.
- g) Setbacks are encouraged to accommodate forecourts and gardens.

These guidelines should be read in conjunction with the City's Recreation and Parks Master Plan:

<http://www.thunderbay.ca/recreationmasterplan>

In addition, please refer to the following Performance Standards (where applicable):

- 6: City Gateways
- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design



## Performance Standard # 54:

# Places of Worship

- a) Places of Worship should be easily accessible by pedestrians, cyclists and transit.
- b) Places of Worship are encouraged to be located at an intersection and should address both street frontages.
- c) When not sited at an intersection, Places of Worship should directly front onto their adjacent street.
- d) Places of Worship should be located on the edges of residential areas or within the North and South Cores.
- e) Places of Worship should minimize floor area by creating multi-level buildings to accommodate accessory and, if applicable, complementary uses.

Places of Worship may be developed as small-scale neighbourhood focal points or large-scale buildings with attendees who commute from beyond immediate neighbourhood boundaries. The Performance Standards apply to all forms of Places of Worship but in order to address the variety in scales, sizes and uses, specific applications should be considered on a site-by-site basis.

In addition, please refer to the following Performance Standards (where applicable):

- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 38: Main Street Buildings
- 41: Heritage Design

## 5.4 Employment



Existing and future employment uses will be located along major streets and within the North and South Cores. A significant portion of the City is designated for Industrial Uses, particularly along the edges of Lake Superior (Heavy Industrial) and along the Image Routes (Light Industrial). Sites that accommodate employment uses, including business parks (i.e. Innova Business Park), office buildings, and light industrial areas should have a high level of design to attract new business to the City and to promote these areas as significant employment nodes within the City of Thunder Bay. Generally, buildings should be developed as one of the following:

- **Street-Oriented Development** - Street-oriented employment uses are encouraged on the Image Routes, and along key corridors. Buildings should be developed with a continuous frontage at the property line to promote a more urban character and create streets that support pedestrian activity. Minimum and maximum building setbacks are encouraged, and surface parking should be located at the rear or sides of buildings.
- **Campus Style Development** - Campus-style development consists of a balanced building and site plan approach that integrates landscape, topography and special features with site access requirements, including roads, driveways, parking, servicing and loading areas. Features of the sites, such as significant tree stands, topographical features and watercourses should be integrated into the building location and site design.
- **Gateway & Prestige Sites** - Gateway sites should be defined by high profile buildings that are of a high-quality architectural design. These sites should also introduce enhanced landscaping or streetscaping treatments. Gateway employment buildings should be designed as landmarks to capitalize on their high visibility and access to surrounding areas. Taller, articulated building elements in the form of towers, bays or other details should be used to emphasize the focal nature of these buildings, particularly at the intersections.

## Performance Standard # 55:

# Office Buildings

**Office buildings in the City of Thunder Bay will generally take two forms, including stand-alone buildings on main streets, or low-rise buildings within business parks.**

- a) Buildings should address the principle public street but may incorporate setbacks that provide attractive landscaping and tree-planting.
- b) The principle façades should incorporate large glazed areas and entrances, providing visibility between the building and the street.
- c) Main entrances should be directly accessible from public sidewalks.
- d) Surface parking areas should be located in the rear or side-yard, and should be well-landscaped and hidden from view.
- e) Taller buildings should have a 3 to 4-storey building base. Stepbacks above the base are encouraged to create useable outdoor amenity areas for employees.
- f) On large, flat roofs, opportunities for green roofs should be explored to create useable outdoor amenity areas for employees.

In addition, please refer to the following Performance Standards (where applicable):

- 6: City Gateways
- 9: Boulevard Design
- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 38: Main Street Buildings
- 41: Heritage Design
- 56: Business Parks



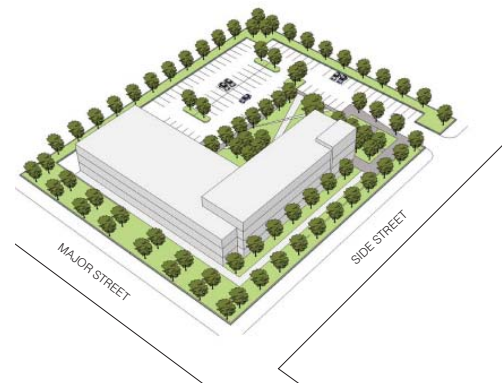
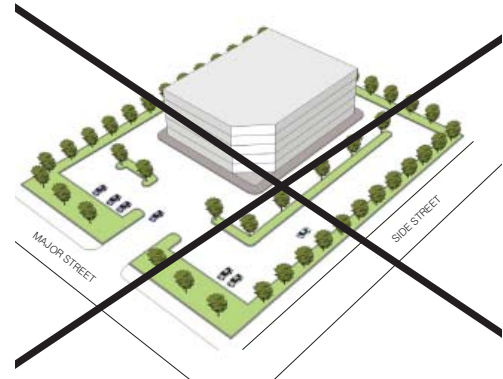
*Office buildings, including taller buildings on main streets and stand-alone buildings within business parks, should address their primary streets.*

## Performance Standard # 56:

# Business Parks

**Where new business parks are proposed, they should contain the highest site and design standards, and should promote a distinct image of the City of Thunder Bay and its employment uses.**

- a) Buildings should be located to address the principle public street, but may incorporate setbacks that provide attractive landscaping and tree-planting.
- b) The principle façades should incorporate large glazed areas and entrances, providing visibility between the building and the street.
- c) Parking should not be located between the principle façade and the adjacent street/ sidewalk.
- d) Where possible, shared driveways should be provided.
- e) Open storage should be minimized. Where permitted, it should be screened from public view.
- f) Where required to monitor access to a site or individual building, guardhouses and security gates must be located in an unobtrusive manner and should utilize materials that are complementary to the main building.



*Sites within Employment and Industrial areas should be developed as street-oriented, or campus style development.*

- g) Checkpoints must be located so that they do not conflict with travel routes or restrict the queuing of vehicles or through traffic movement.
- h) Site design must define a well organized system of entrances, driveways and parking areas that minimizes conflicts between pedestrians, bicycles, and vehicles.

In addition, please refer to the following Performance Standards (where applicable):

- 9: Boulevard Design
- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design
- 38: Main Street Buildings



Credit: Robbie Young + Wright / IBI Group Architects



*Clockwise from top-left: Employment buildings on key streets should be located as close to the front property line as possible; Parking should be located at the rear of the building; Principle facades should incorporate a significant amount of glazing.*

## Performance Standard # 57:

# Light Industrial

**Where light industrial uses are proposed, they may include a range of industrial and manufacturing uses and should be located in the interior of blocks and away from main streets.**

- a) Buildings should address the street in order to define a more urban street edge.
- b) The highest quality of building design should be applied to the building façades facing the public street or open space.
- c) Corner buildings should address both street frontages.
- d) Minimum amounts of parking should be located in the front yard.

- e) Where large parking fields are necessary, landscape elements should be introduced to break up large asphalt areas and identify pedestrian access to buildings.
- f) Outdoor storage should generally not be visible from the public street or open space. Where outdoor storage is required, it should be screened with fencing and/or landscaping.

In addition, please refer to the following Performance Standards (where applicable):

- 30: Sustainability: Buildings
- 31: Sustainability: Site Design
- 32: Surface Parking
- 35: Servicing and Loading
- 36: Outside Storage
- 37: General Building Design

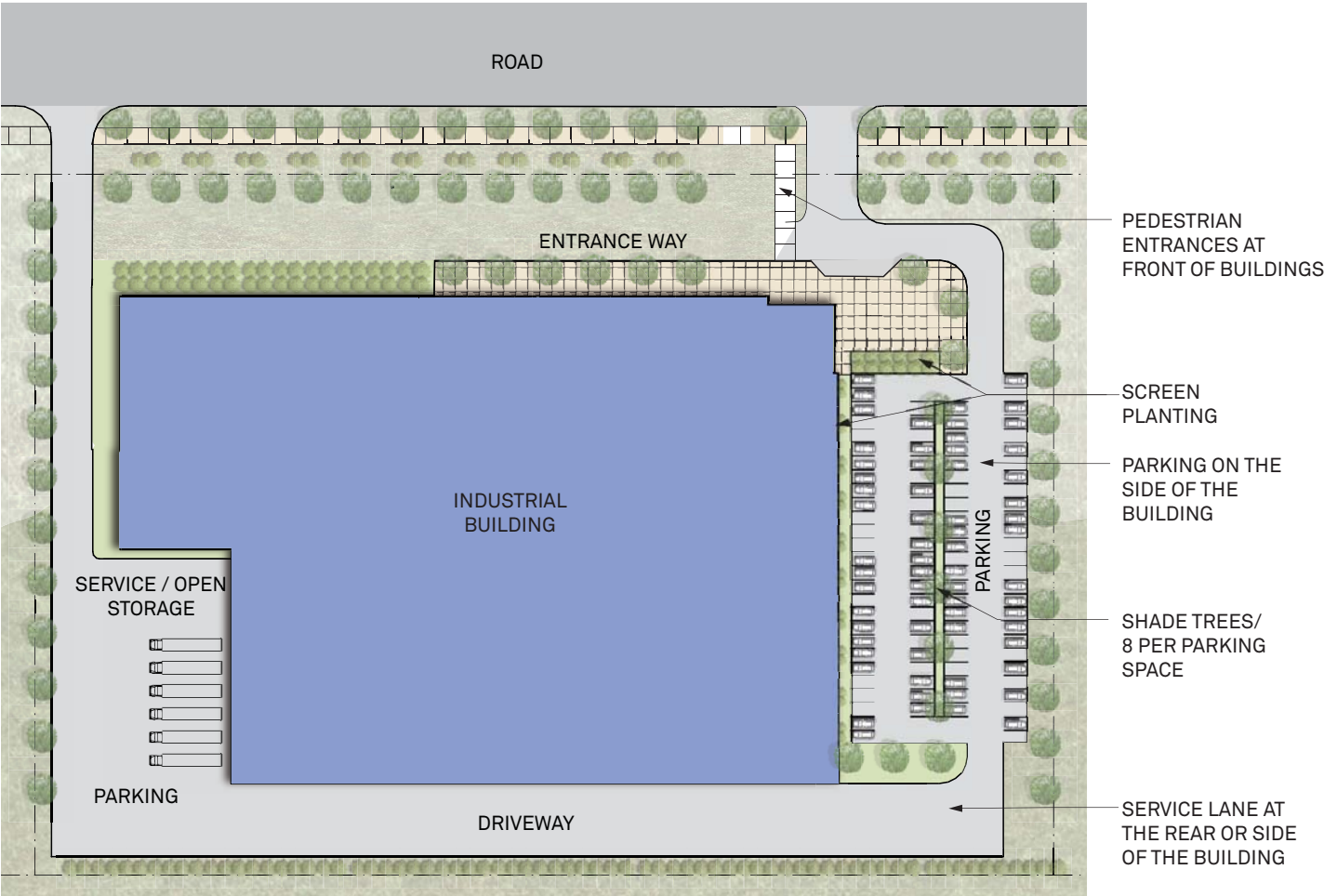


Illustration demonstrating a potential layout for a light industrial building.

**THE SUCCESS OF  
THE URBAN DESIGN  
GUIDELINES IN  
POSITIVELY SHAPING  
NEW DEVELOPMENT IS  
DIRECTLY RELATED TO  
THE IMPLEMENTATION  
PROCESS.**



## Section 6.0

# Implementation Recommendations

## 6.1 Introduction

The successful implementation of these guidelines is based on four key implementation recommendations:

- **Policy and Process Amendments** - The Provincial Policy Statement provides municipalities with tools to shape and direct urban growth and its character. Policy and process amendments take the key recommendations of this document and incorporate them into the existing Zoning By-law and into a site plan control by-law that would allow City Staff to comment on the design and character of new development.
- **Action Items & Future Studies** - Based on the recommendations of these guidelines, amendments to some existing City standards may be warranted. Action items will need to be addressed as necessary, and City Staff in all applicable departments should be circulated a copy of the final document and included in coordinating any follow-up review in resolving the action items.

- **Education Programs** - Education programs work with the City's development industries, builders and home owners to make the recommendations of this document common practice and to determine what works best for the City and its residents.
- **Implementation, Monitoring and Updating Processes** - Monitoring and updating the use and application of the guidelines is necessary to be able to address site specific issues as they arise, including exceptions to the guidelines, required updates to the document and potential review and commenting processes.

These tools and techniques are outlined further in the sections that follow. The success of the guidelines in positively shaping new development will be directly related to the implementation process.

## 6.2 Policy and Process Amendments

### 6.2.1 Directing Growth

The City of Thunder Bay Official Plan generally directs new development and intensification within the 'Urban Area Limit.' To ensure that appropriately scaled and designed growth occurs in these areas, a detailed Intensification Study is recommended to evaluate how intensification should occur within the 'Urban Area Limit,' and should:

- Analyze existing areas to determine key opportunity sites;
- Determine opportunities and constraints;
- Evaluate future densities and population projections;
- Review the transportation and infrastructure constraints; and,
- Identify the urban character and community amenities that would be required to support the projected populations.

### 6.2.2 Planning Act Tools

The Planning Act provides several tools for municipalities to shape the character and design of urban form. Outlined below are those that best address the needs of the City of Thunder Bay.

#### *Minimum/Maximum Standards in Zoning (Section 34)*

This would include determining minimum and maximum building heights, as well as minimum lot sizes required to accommodate an infill project. This is essential to guide intensification and prohibit the construction of single storey buildings in areas that should be accommodating additional density, such as the North and South Cores, as well as key corridors. Site or area-specific studies will be required to determine specific recommendations, and should focus on the North and South Cores, the Image Routes, and other key corridors. Once determined, the minimum and maximum standards should be incorporated into the City's Zoning By-law. This tool is recommended for the City of Thunder Bay.

#### *Community Improvement Plan (Section 28)*

Thunder Bay already has Community Improvement Plans for the Downtown Core Areas and Simpson Street, the Thunder Bay International Airport, and the North Waterfront District. A Community Improvement Plan affords a municipality the power to acquire, hold, clear, lease and sell land in designated areas and to provide grant or loan incentives for landowners and developers to undertake sustainable activities.

Funding for necessary infrastructure improvements to support intensification within the Community Improvement Plan areas should be investigated using Tax Increment Equivalent Financing Programs.

#### *Height and Density Bonusing (Section 37)*

Height and Density Bonusing affords additional development rights in exchange for the construction or installation of public realm improvements (e.g. transit shelter, public art, etc) and/or new community facilities (e.g. parks, day-cares, community centres, etc). Height and Density Bonusing is a demand driven tool where the demand for development is sufficient to support an environment where the added community amenity is covered by the added value of having additional development rights.

Providing additional height and density must be done in a cohesive and carefully considered manner. This tool does have community benefits but does not always justify the impacts of development. Adding additional height and density needs to be considered on a site-by-site basis as it would have to exceed the existing prescribed zoning. Should the City of Thunder Bay wish to consider Height and Density Bonusing, it is recommended that appropriate policies be provided within the City's Official Plan. This tool is for moderate use only.

### *Site Plan Control – Implemented with Exterior Design Control (Section 41)*

Exterior Design Control is an essential tool in shaping the character, materiality and design of new buildings and development. It allows the City to implement the guidelines through a mandatory review and commenting process. Using the guidelines, City Staff will be able to review the appropriateness of a building's design and determine what amendments, if any, are needed.

In the City's Official Plan, it is recommended that all lands within the City be designated as Site Plan Control Areas, with priority for highly visible or significant locations, heavily traveled arterial routes, designated tourist routes, major points of entry into the City such as Highways 11/17, 61, and 102, and parts of the waterfront.

It is recommended that the existing zoning by-law be amended to make use of the Official Plan and Section 41 of the Planning Act, and that the priority areas be expanded to explicitly recognize the North and South Cores, the Image Routes, and other key corridors.

### 6.2.3 Zoning Additions/Amendments

Where applicable, it is recommended that the directions of these guidelines be incorporated into the City's Zoning By-law through amendments. This is particularly important within the North and South Cores, and along the Image Routes and other Main Streets. Therefore, the following recommendations and amendments should be given priority:

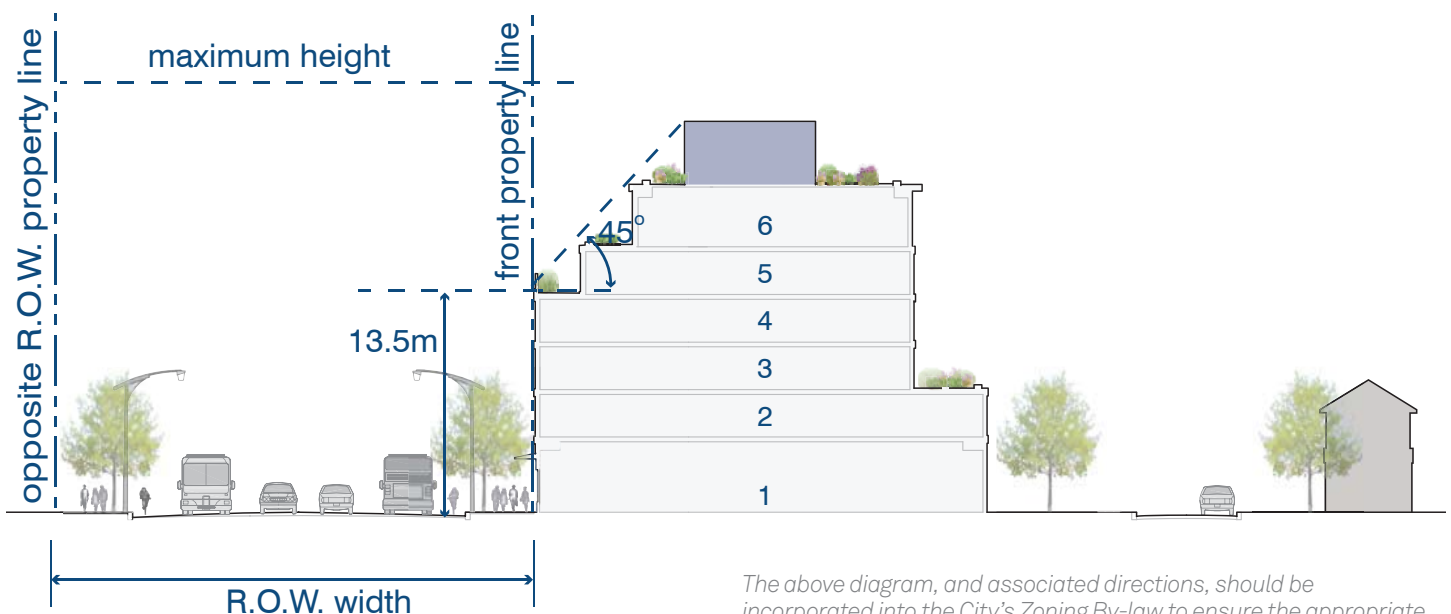
- The built form recommendations in Performance Standard 33 should be added to the City's Zoning By-law to ensure appropriate built form within the North and South Cores, and along the Image Routes and other Main Streets. Additions should include:
  - Taller buildings should have a 3 to 4-storey building base
  - Taller buildings should step back 3.0 metres above the building base.
  - An additional setback should be determined by a 45-degree angular plane applied at a height equivalent to 80% of the width of the right-of-way.
  - The ground floor of all buildings should be 4.5 metres to accommodate internal servicing and loading, and future conversion to retail (where appropriate).
  - Maximum building height should be determined by a 1:1 ratio with the right-of-way width.
  - A minimum building height of 7.5 metres (2-storeys) is required.

In addition, this document encourages active, spill-out retail uses (i.e. store displays, restaurant patios, etc.) in the North and South Cores, and along the Image Routes and key corridors, to animate streets. Currently, the City's Zoning By-law does not have regulations to support this. For small-scale spill-out retail opportunities (i.e. store displays, small seating areas, etc.), the City should reinforce the importance of the Transition Zone as outlined in Performance Standard # 7 during the approvals process. Where the boulevard is wide enough to accommodate larger spill-out opportunities (i.e. restaurant patios), it is recommended that an amendment be made to the Zoning By-law to add regulations that would allow the City to enter into a lease agreement with the business owner. Such an agreement would outline the size of the patio allowed, fence requirements (i.e. materials, height, etc.), as well as maintenance of the space.

### 6.2.4 Engineering and Development Standard Amendments

Based on the directions of these guidelines, the following amendments to the City's Engineering and Development Standards can be considered:

- The Active Transportation Master Plan should be reviewed to support a balance of walking, cycling and driving on Arterial and Collector Roads where possible
- The Park Standards should be revised and reviewed for conformity with these guidelines
- Engineering Standards should be reviewed and updated as required to be consistent with a complete street design approach as described in this document



*The above diagram, and associated directions, should be incorporated into the City's Zoning By-law to ensure the appropriate design of buildings on Main Streets.*

## 6.3 Action Items and Future Studies

### 6.3.1 Action Items

It is recognized that the immediate implementation of all guidelines is not possible due to required changes in current standards and levels of service, and budget implications. Outlined in this section are the action items that require further study and consideration.

#### *Dedicated Cycling Lanes*

**Goal** - The guidelines recommend the inclusion of dedicated cycling lanes, wherever possible, throughout the City.

**Challenge** - Limitations related to the width of the right-of-way may hinder the inclusion of dedicated cycling lanes in some areas.

**Future Action** - Using the recommendations of this document, and the City's Active Transportation Plan as a guide, detailed engineering studies should be undertaken to determine the feasibility of providing dedicated cycling lanes within the recommended routes, as well as the most appropriate typology (i.e. on-street vs. off-road).

#### *Year-round Dedicated Cycling Lanes*

**Goal** - Accommodate year-round cycling on the City's primary cycling routes.

**Challenge** - The City currently only maintains their cycling lanes between May-October.

**Future Action** - As the recommendations in these guidelines are implemented, and active transportation becomes a more viable and popular transportation option in the City, it is recommended that cycling routes that are integral to a well-connected system are maintained year-round. In order to accomplish this, the City will have to initiate a snow removal strategy along these routes, which should consider the feasibility of storing snow within the boulevard on these corridors.

#### *Street Furniture*

**Goal** - Street furniture is an essential component of a pedestrian-supportive streetscape, and should be maintained to the highest degree.

**Challenge** - The City does not currently maintain street furniture on a year-round basis.

**Future Action** - It is recommended that the City's street furniture maintenance program be reconsidered to include year-round maintenance of street furniture in key areas. This is particularly important in the North and South Cores, along the Image Routes, and on key corridors where the guidelines recommend the inclusion of public art within street furniture (i.e. benches, bus shelter's, etc.).

#### *Narrowed Parking/Snow Storage Lanes*

**Goal** - Parking lanes should be as narrow as possible to accommodate additional width within the boulevard.

**Challenge** - The City of Thunder Bay requires larger wider lanes in areas where snow storage is an issue.

**Future Action** - It is recommended that the parking lane width is generally between 2.0-2.4 metres. This is particularly important in commercial areas where a wider boulevard is essential for an active, pedestrian-supportive street. In other areas, where snow storage is required, the standard 2.5-2.8 metre lane is acceptable.

#### *Reduced Back-Lotting*

**Goal** - A primary goal of these performance standards is to create vibrant, lively and active streetscapes. To achieve this it is important that building address streets and create a strong street interaction between public and private uses.. The back-lotting of development against streets generally undermines this goal.

**Challenge** – Current practices are to back lot some land-uses against streets. This reduces the traffic impacts of development by consolidating access points and minimizing conflicts with the roadway. Unfortunately this also creates an environment that is not friendly for cyclists or pedestrians.

**Future Action** – It is recommended that the City look at a range of options to maintain existing traffic operations while minimizing future back-lotting. This could include reserving the land adjacent to busier street for more robust development types (i.e. apartment or office buildings) which would allow them to act as a buffer to lower density residential / employment areas.

### *Rear Lanes*

**Goal** – Rear lanes can provide an additional access option for all development types. If implemented as recommended in this document they will reduce the number of curb cuts along a street which will improve the overall pedestrian, drivers and cyclist environment.

**Challenge** – The City's approach to rear lanes needs to be considered on a case by case basis to determine an appropriate course of action relative to their construction, liability and maintenance.

**Future Action** – It is recommended that an internal City discussion group be established to discuss and review the merits and challenges with rear lane systems. Current or upcoming development applications that include a rear lane will need to be reviewed and assessed on a case by case basis.

## 6.4 Education Programs

### 6.4.1 Developers Information Package

The recommendations of this document are intended to assist with creation and enhancement of vital, complete communities that are pedestrian-supportive, easy to navigate and diverse in housing choice. Accordingly, the directions may result in significant changes to the way that development occurs within the City.

Given this new direction, it is recommended that the City work with local developers and home builders to facilitate the transition. A Developers Information Package should be prepared to clearly demonstrate how to use the guidelines, and how the role that they will have in the development approvals process.

### 6.4.2 Regular Information Sessions

On-going communication with residents and the development community about the guidelines should be undertaken. A yearly update/discussion forum encourages public participation and education on the design of the city and is an opportunity to highlight examples of well executed developments that meet the City's vision.

### 6.4.3 Design Awards

To acknowledge developments that achieve the principles of the guidelines, and help to further excellent urban design within the City, Thunder Bay should host regular (every 1-3 years, as appropriate) Design Awards that acknowledge best practices and help to bring awareness to good urban design and its role in the community. These awards should be coordinated with regular information sessions. Recognizing successful design projects at any scale should be a priority as it creates awareness of the importance of good urban design.

## 6.5 Implementation, Monitoring and Updating Processes

### 6.5.1 Implementation

#### *Peer Review*

City Staff will implement the guidelines as part of their review of development applications and in consultation with the public and members of the development community. It is recommended that the City make use of peer reviews wherever a second opinion or expertise in a specific field is required.

Peer Review is a review process between the municipality and a third party peer reviewer that takes place following the initial

review of a proposal. A Peer Review is beneficial as it allows development applications to be reviewed for their compliance with the guidelines, but also independently based on the merit of the proposal.

The recommendations that result from a Peer Review focus on requirements that result in a high quality and integrated development, are achievable and financially feasible.

### *Design Review Panel*

If the City is finding they require peer reviews more frequently, they could transition to a more formalized Design Review Panel to guide, evaluate and advise on the design of larger developments. Based on an application process, the Panel should be comprised of volunteers that are qualified professionals in the field of architecture, urban design, planning and landscape architecture and can review design applications at various stages of design, including concept, schematic design and design development.

A Panel allows for greater flexibility in the application of the guidelines to achieve design excellence. The draft responsibilities and considerations for a Design Review Panel are outlined below:

- Review of development proposals in accordance with the urban design guidelines outlined in this document.
- Review of projects proposed in the public realm (parks, streetscape treatments, municipally controlled parking, etc.).
- Provide design advice as needed.

Should the City decide to implement this process, the following are suggested considerations for the Design Review Panel:

- Pecuniary interest;
- Tenure; and
- Composition of the Panel.

### *Urban Designer*

Finally, and based on the frequency of the requirements for Peer Review/Design Review Panel, the City of Thunder Bay may wish to create a full-time staff position for an urban designer. This could help to decrease the number of peer reviews required, and could potentially take the place of having a Design Review Panel.

## 6.5.2 Design Guideline Updates & Monitoring

Following the regular information sessions (outlined in section 6.4.2) a meeting of City Staff from all applicable departments should be held to discuss the outcomes and feedback received at that meeting. All recurring issues or challenges with implementing the guidelines should also be discussed. A general file can be kept on the Guideline Update and should contain a summary of guideline issues as they arise. Amendments to the guidelines should be identified as a part of that general meeting.

The guidelines will need to evolve as the City develops. For example, as infill becomes more prevalent additional guidelines might be required to address any emergent issues that are not evident at this time.

## 6.5.3 Exceptions to the Guidelines

When implementing design guidelines it is important to recognize that exceptions can sometime be warranted and that at times a project that strives for excellence in design can demonstrate that a specific guideline is not appropriate in that instance. It is the responsibility of the designer/developer/builder to demonstrate to the City where this exception exists and it is at the discretion of the City to support or not support that justification. In cases where the City requires further review of applications, a Peer Review Process should be undertaken.

## 6.5.4 Design Checklist

A Design Checklist has been prepared to allow for the review of development and design proposals/ applications in reference to the recommendations in this document. The purpose of the checklist is to facilitate the quick evaluation of designs to determine if a project conforms to the recommendations of these guidelines. It is recommended that designers evaluate their projects in advance of a submission to the City and identify any non-compliance on the checklist to be submitted with the application. This will assist City Staff with their evaluation and add transparency to the review process. A digital copy of the checklist should be made available on the City's website.





# Appendices

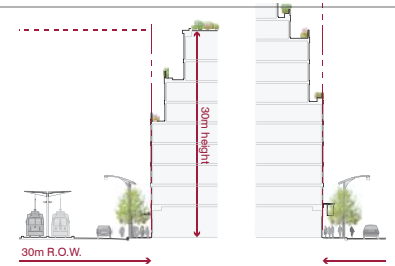
# Appendix I

## Urban Design Glossary

The glossary definitions provided here are to be referenced for the purposes of this document only.

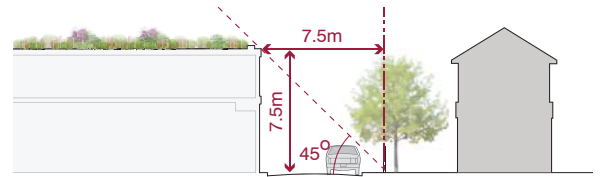
### 1:1 Ratio

The 1:1 ratio is used to determine the building height, where the width of the street right-of-way equates to the maximum height of the building.



### Angular Plane

Angular planes provide build-to envelopes to maintain and define the character of the street; ensure adequate access to sun and sky views; and to govern transitions to adjacent built forms.



### Articulation

Articulation refers to the layout or pattern of building elements, including walls, doors, roofs, windows and decorative elements, such as cornices and belt-courses.



### Backlotted

Backlotting refers to buildings that are oriented towards internal streets, with the back of the building facing onto a public street.



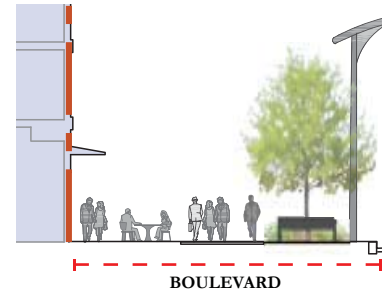
## Barrier-Free

Modifying buildings or facilities so that they can be used by people of all ages and abilities. An example of barrier-free design would be installing a ramp for wheelchairs alongside or in place of steps.



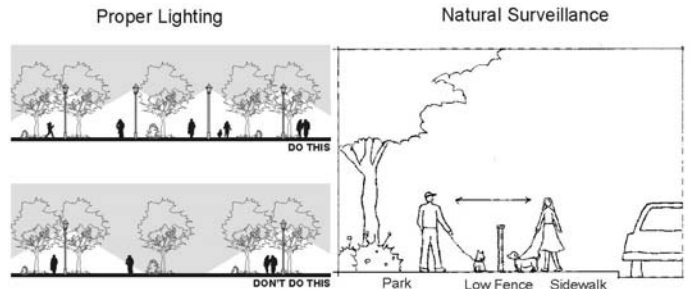
## Boulevard

The boulevard is the area between the front property line or building face, and the edge of the curb.



## Crime Prevention through Environmental Design (CPTED)

CPTED is a pro-active crime prevention that surmises that the proper design and effective use of the built environment can lead to a reduction in the incidence and fear of crime and improve the quality of life.



## Façade

The exterior wall of a building.



## Human Scale

The quality of the physical environment which reflects a sympathetic proportional relationship to human dimensions and which contributes to the citizen's perception and comprehension of buildings or other features of the built environment.



## Low-Rise Building

Refers to buildings that are less than three or four storeys in height.



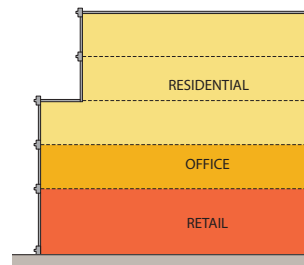
## Mid-Rise Building

Generally refers to buildings that are five to eleven storeys or up to a height that is no taller than the right-of-way width of the street on which it is located.



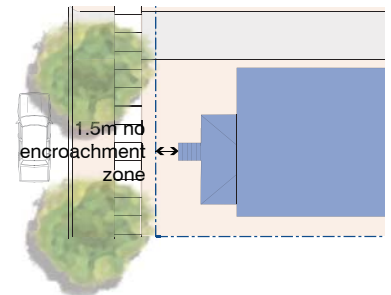
## Mixed-use Building

Refers to multiple types of uses within a building or set of buildings. This may include a combination of residential, employment, retail, institutional, or other land uses.



## No Encroachment Zone

A No Encroachment Zone is an area within a prescribed setback where no elements of a building, including non-habitable elements (patios, balconies), can penetrate.



## Pedestrian Perception Stepback

The upper floors of the front façade of a building that are pushed back from the building base to mitigate the perception of excessive building height.



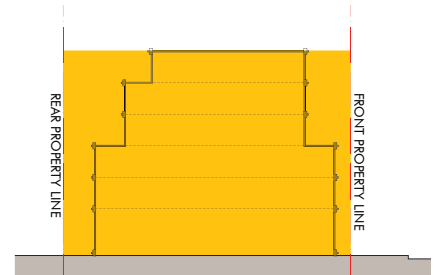
## Pedestrian-oriented

An environment designed to make pedestrian movement safe, attractive and comfortable for all ages and abilities; considerations include separation of pedestrian and auto circulation, street furniture, clear directional and informational signage, safety, visibility, shade, lighting, surface materials, trees, sidewalk width, intersection treatment, curb cuts, ramps and landscaping.



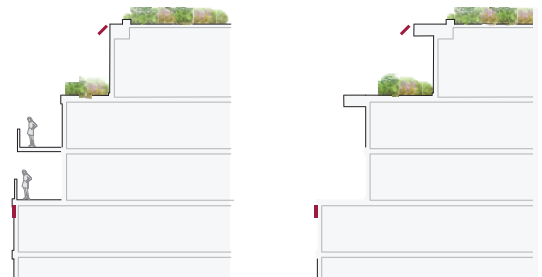
## Private Realm

Refers to any space that is perceived as being private. Sometimes public and private realms blend to create a transition zone.



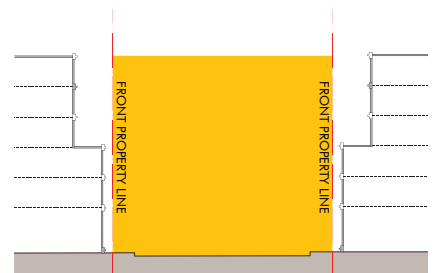
## Projections

Refers to a component of external building design and articulation, where horizontal and/or vertical building elements extrude from the main structure of the building, creating an element of depth and visual complexity. Examples of projections include roof overhangs, awnings, and balconies.



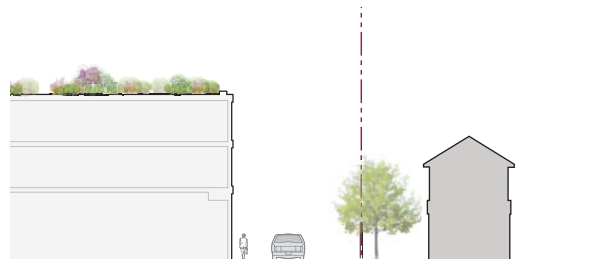
## Public Realm

Refers to spaces that are perceived as being publicly accessible, for example, sidewalks, parkettes, bike paths and building forecourts.



## Rear Lane

A vehicular road located at the rear of lots, providing access to service areas and parking.



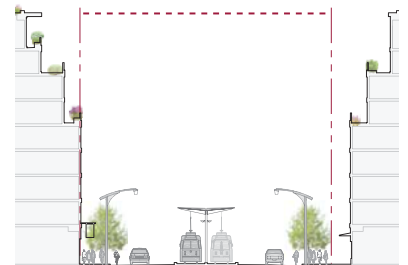
## Rhythm

Refers to the pattern of building frontages along a streetscape, paying particular attention to lot widths, building entrance and glazing locations and proportions, etc.



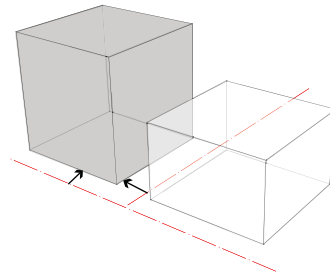
## Right-of-Way

The part of the street space that is publicly owned and lies between the property lines.



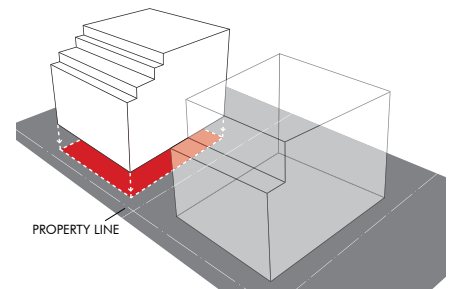
## Setbacks

Refers to the distance between a property line and the front, side or rear of a building.



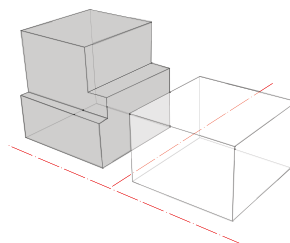
## Siting/Building Orientation

The location, positioning and orientation of a building on its site, generally taking into account its relationship to adjoining properties, building and street boundaries.



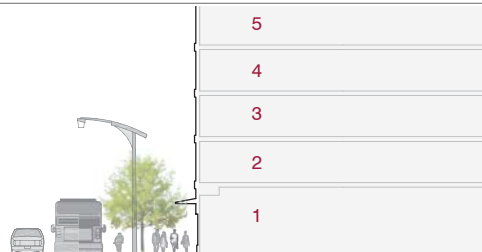
## Stepbacks

Refers to the setting back of the upper storeys of a building. Front and side stepbacks help to create a transition between built form of varying heights and provide appropriate separation between adjacent buildings and/or open spaces.



## Storey

A habitable level within a building, excluding raised basements.



## Streetscape

The distinguishing elements and character of a particular street as created by its width, degree of curvature, paving materials, design of street furniture, pedestrian amenities and the setback and form of surrounding buildings.



## Street wall

The condition of enclosure along a street created by the fronts of buildings, and enhanced by the continuity and height of the enclosing buildings. In this study, the “streetwall” portion of a building’s front façade is defined as a minimum of 10.5 metres (3 storeys) and up to 80% of the height of the building.



## Transition

Refers to the physical design elements of a building which contribute to a sense of transition between mid-rise buildings on the Avenues and adjacent buildings which are often low-rise residential buildings on flanking local streets. Transitions may be achieved through use of building setbacks, stepbacks, heights and massing.



## Urban Fabric

This condition is generally found along main streets in established urban neighbourhoods. Buildings having narrow façades and organized in a compact manner, addressing the street are referred to as having a “fine grain fabric”.



## Appendix 2

# Performance Standard Checklist

	Complies	Partially Complies	Does Not Comply	Not Applicable	
Performance Standard					Additional Notes

### SECTION 3.0: PERFORMANCE STANDARDS: PUBLIC REALM

#### 3.1 CELEBRATING THE NATURAL FOUNDATION

##### PERFORMANCE STANDARD # 1: NATURAL HERITAGE FEATURES

a) Natural heritage features should be preserved and enhanced.					
b) A City-wide system of natural heritage features, parks, and open spaces should coincide with a linked network of trails to support active transportation.					
c) Development adjacent to natural heritage areas should provide a positive interface overlooking these amenity areas.					
d) Development adjacent to significant natural areas and open spaces should promote low-impact development that focuses on the use of on-site natural features that may be enhanced to protect water quality.					
e) Site development should provide for significant visual and pedestrian connections from adjacent public streets to natural areas.					
f) Development should not interfere with natural drainage patterns and should provide adequate buffers to sensitive natural features.					
g) Opportunities for outdoor education should be integrated into new site development (i.e. signage, interactive features, etc.).					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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## PERFORMANCE STANDARD # 2: PARKS AND OPEN SPACE

### 2A LOCATION AND INTERFACE

a) The majority of residents within urban areas should be located within 800 metres (10-minute walking distance) of a large park, and if possible, 400 metres of a medium park or neighbourhood parkette.					
b) Open spaces should be located along, and at the terminus of, the Image Routes and other key corridors (i.e. Waterloo Street/ Balmoral Street, Junot Avenue/Golf Links Road, and Water Street/Cumberland Street/Hodder Avenue).					
c) Where viable, neighbourhood retail uses and cafes should face directly onto parks and open spaces.					
d) The perimeter of parks should be lined with buildings that face onto the park. Backlotted housing, or housing with the rear property line against parks or primary streets, should be avoided.					
e) Where housing does back onto a park or open space, high-quality rear fencing must be provided. Access gates for residents should be placed at each property and mid-block connections should be included to allow access to the park from the adjacent residential areas.					

### 2B DESIGN

a) At least 50% of park areas not used for sports fields should be treed to provide shade and expand the urban forest.					
b) Signage should be coordinated near entrances to reduce clutter.					
c) Recycled materials should be used where possible.					
d) New or revitalized parks and open spaces should be the subject of both community design workshops and design competitions and should be designed by registered landscape architects with a reputation for excellence and innovation.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
<b>2C USES AND AMENITIES</b>					
a) Large and medium parks should accommodate both active and passive recreation.					
b) Playground equipment should be imaginative, easily maintained and should be located in areas shaded by trees.					
c) While universally accessible design standards should be optimized, it is recognized that all playground equipment may not be accessible.					
d) Structures supporting adult exercise (i.e. weights, cardio equipment) should be incorporated into parks.					
e) Areas should be designated within parks to support community gardening and urban agriculture.					
f) Designated and fenced leash-free dog areas should be provided in some parks and open spaces as appropriate.					
g) Public washrooms, drinking fountains, emergency call stations and public telephones should be provided in large parks.					
<b>2D ACCESS AND CONNECTIVITY</b>					
a) A majority of the perimeter of open spaces should be clearly visible and accessible from surrounding public streets. Where possible, existing parks (i.e. Kaministiquia River Heritage Park, George Burke Park) should be enhanced to meet this guideline.					
b) Parking should be provided on-street (not directly adjacent to the park) and in small parking lots at the perimeter of parks and open spaces.					
c) Parking lots should incorporate tree-planting at one tree per eight spaces.					
d) Parks, open spaces and natural heritage features should be linked by a network of multi-use trails.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
e) Where the continuity of open spaces is disrupted, they should be linked through urban areas with special tree-lined, off-road multi-use trails, either within street right-of-ways or designated corridors.					
f) Vehicle connections through open spaces should be limited to emergency and maintenance vehicles.					

#### PERFORMANCE STANDARD # 3: STORMWATER MANAGEMENT FACILITIES

a) Storm water facilities should be designed to be attractive amenities and to double as passive open space areas.					
b) The edges of stormwater management facilities should be naturalized and should provide a barrier to make them safe and to reduce goose habitats. Regular access points should be provided for maintenance purposes.					
c) Landscaping should not interfere with the function of the facility.					
d) A majority of the perimeter of stormwater management areas should be bounded by streets, parks or buildings which overlook them.					
e) Where there are public open space areas in close proximity to stormwater management facilities, public access should be provided where appropriate.					
f) Signage should be provided to promote education and safety awareness at stormwater management facilities.					
g) Impervious surfaces should be minimized adjacent to stormwater management facilities.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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#### PERFORMANCE STANDARD # 4: MULTI-USE TRAILS

a) New multi-use trails should connect existing trails, streets, parks and open spaces.					
b) Where the continuity of open spaces is disrupted, they should be linked through urban areas with special tree-lined, off-road multi-use trails either within street right-of-ways or designated corridors.					
c) Multi-use trails should be provided through large surface parking lots where they interrupt the continuity of the trail network.					
d) Trails should minimize impacts on adjacent natural heritage areas.					
e) Two way trails should be 3.0 to 4.5 metres wide.					
f) Frequent access points should be provided along multi-use trails.					
g) Multi-use trails should be barrier-free to accommodate people of all ages and abilities.					
h) Trails should include adequate amenities (i.e. seating, lighting, waste receptacles, signage and interpretive information).					

### 3.2 TRANSFORMING THE DOWNTOWNS AND CITY MAIN STREETS

#### PERFORMANCE STANDARD # 5: TRANSIT-SUPPORTIVE DESIGN

a) A mix of land uses and higher densities are encouraged along major transit routes at key transit nodes.					
b) Compact, higher-density development should be located adjacent to main streets providing a high level of transit service.					
c) Within urban areas, access to transit facilities (i.e. bus stops/ shelters) should be provided within 400 metres of all residents.					
d) Transit facilities should be located at community facilities (i.e. libraries, schools, community centres).					
e) Transit facilities should be located in areas of high pedestrian activity.					
f) Multi-use trails and bicycle routes should connect to transit facilities.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
g) Bicycle parking and storage should be provided close to major transit facilities.					
h) Transit shelters should be provided at a majority of transit stops and should be attractive, safe and accessible and provide weather protection.					
i) Areas adjacent to transit shelters should be well-lit, and should incorporate seating and tree planting for shade.					

#### PERFORMANCE STANDARD #6: CITY GATEWAYS

a) City-wide wayfinding signage should be located at City Gateways and should provide directions to key City destinations (i.e. Downtown Cores, waterfront, Image Routes).					
b) Wayfinding signage should be designed as significant public art.					
c) Gateway features should be located on municipal property.					

#### PERFORMANCE STANDARD # 7: URBAN AREA GATEWAYS

a) Gateways should be identified through enhanced streetscape design elements, including trees, feature planting and paving, seating, public art and lighting.					
b) Gateway areas require a higher order of streetscaping including double rows of trees on either side of the roadway, decorative planting in medians and wide sidewalks complemented with pedestrian scale lighting.					
c) Gateway features should be located on municipal property.					
d) Where possible, gateway areas should be centres for information and wayfinding but should not be overwhelmed by signage.					
e) High quality designed buildings and appropriate land uses should support gateway areas.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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#### PERFORMANCE STANDARD # 8: NEIGHBOURHOOD LANDMARKS

Please refer to Page 34.

#### PERFORMANCE STANDARD # 9: BOULEVARD DESIGN

a) Boulevard widths should be optimized to support their multi-purpose function and provide adequate space to promote healthy tree growth.					
b) Boulevards should be a minimum of 4.8 metres in width wherever possible.					
c) Where insufficient space exists within the right-of-way to achieve the minimum boulevard width, a combination of measures should be explored including right-of-way widening and reduced lane widths.					
d) All boulevards should be designed to accommodate snow storage.					
e) Sidewalks should be barrier-free.					
f) Feature paving should be used to delineate pedestrian priority.					
g) Boulevards should be planted with street trees. Linear tree trenches, soil cell technology, or structural soils are recommended to ensure mature growth.					

#### PERFORMANCE STANDARD # 10: ACCESSIBILITY: PUBLIC REALM

a) Wherever possible, sidewalks should be a maximum gradient of 1:20 (5%).					
b) Unit paving materials used in sidewalks, paths and walkways should be firm and level, with joints no wider than .006 metres.					
c) A Street Furniture and Landscape Zone should be provided between the sidewalk and the curb face to accommodate utility posts, seating, planters, etc. without interfering with pedestrian circulation.					
d) All pedestrian routes are required to accommodate persons using mobility aids, walkers or guide dogs. These routes should be a minimum of 1.5 metres (in urban areas with high pedestrian traffic levels the preferred width is 1.85 metres), and should be clear of obstructions at all times.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
e) To minimize risk to persons with visual limitations, all routes should be free of protruding obstacles, overhanging signs, branches etc., within the first 2.1 metres of the building height. Where potential obstructions are mounted on the sides of buildings or structures, they should not penetrate into the sidewalk area by more than .01 metres.					
f) Where traffic islands are required, they should be built of materials and finishes that are easily distinguishable from the surrounding paving, as an aid to persons who are blind or who have visual limitations.					
g) Crosswalks that cross a traffic island should be level with the main crossing or have curb ramps for persons using mobility aids.					
h) Traffic islands should be at least 1.5 metres wide to provide persons using mobility aids and seniors with a safe resting zone.					

#### PERFORMANCE STANDARD # 11: ALL SEASON DESIGN: PUBLIC REALM

a) A minimum 1.5 metre sidewalk should remain clear of snow and debris year-round on all pedestrian travel routes.					
b) Where snow storage cannot be accommodated in the travel lanes (due to a boulevard widening or limited right-of-way), a designated winter snow storage area should be identified within the boulevard that does not undermine the sidewalk. Tree planting and street furniture will need to be selected and located based on the snow storage areas.					
c) Key cycling routes should be identified and cleared in the winter months to support year round cycling.					
d) All public parks should consider the incorporation of both summer and winter activities to support year round park use. Where winter park uses are incorporated, cleared pedestrian access paths to those amenities should be provided.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
e) Paving surfaces should be selected for their winter durability and slip resistance.					
f) The location of public walkways and parking lots should be coordinated with winter sun angles to ensure walking and driving surfaces remain dry and free of ice.					
g) All roof designs and awnings should consider mitigating falling ice and snow.					

#### PERFORMANCE STANDARD # 12: DEDICATED CYCLING LANES

a) Dedicated cycling lanes should be integrated into the greater active transportation network.					
b) Primary links in the City's cycling network should be maintained year-round. This will require snow storage within the boulevard.					
c) On-street dedicated cycling lanes should be 1.2-1.8 metres, and should be provided on new streets and retrofitted streets, and on existing streets (where the right-of-way allows).					
d) On-street dedicated cycling lanes should be provided on both sides of the street where possible.					
e) New off-road dedicated cycling lanes should be provided wherever possible, either as one-way lanes on either side of the street (1.2 metres minimum width) or as two-way trails on one side of the street (3.0 metres minimum width).					
f) New off-road dedicated cycling lanes should be placed in a wide boulevard and, where possible, separated from vehicular traffic by a 2.0 metre landscaped strip with street trees. Similarly, where possible, there should be a 1.8 metre planting strip between the cycling lanes and the adjacent sidewalk.					
g) All existing and future cycling routes should have frequent information signs.					
h) Symbols and pavement marking are encouraged to distinguish all cycling routes.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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**PERFORMANCE STANDARD # 13: GREEN STREETS**

a) A City-wide campaign of expanding the street tree canopy should be a priority in all road works projects.					
b) As the City's tree canopy is expanded, an increased maintenance program is required for leaf collection and pro-active pruning.					
c) Wherever possible, existing healthy street trees should be preserved.					
d) 15 cubic meters of good quality soil should be provided per tree (can be shared).					
e) To support sustainable tree growth, street trees should be planted in the boulevard – between the sidewalk and inside vehicular lane, and where possible use a continuous linear trench.					
f) Utilize continuous tree pits to maximize soil volume. A soil cell system is the preferred option when trees are planted in hard surface paving. A suspended slab system or structural soil infill are alternate options.					
g) When planting trees within hard surfaces in boulevards, tree grates, tree guards, and underground utility boxes are recommended. Tree grates and other related infrastructure should not impede future tree growth.					
h) Street trees should be planted at a minimum width of 2.5 metres.					
i) Where sufficient boulevard width is available, a double row of trees should be planted on either side of the Sidewalk Zone.					
j) For optimal tree health, street trees in the boulevard should be set back 1.5-2 metres (minimum) from the curb.					
k) Large deciduous trees should be planted at 8-10 metre intervals (on centre) or clustered in groups of 2-4 trees on bump-outs.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
l) Medium and small trees should be planted at 8-10 metre intervals (on centre).					
m) Where applicable use drought tolerant seed mixes for grass within a boulevard to minimize irrigation and maintenance requirements, large mulch beds can also be considered instead of grass.					
n) If irrigation is not in place, two-year maintenance watering is necessary for all plant material to ensure longevity.					
o) Bio-swales or infiltration swales should be used within boulevards to allow natural watering of plant material and reduce stormwater run-off.					
p) Where feasible, permeable paving is encouraged to minimize the amount of surface run-off into the stormwater system.					
q) Street trees should not interfere with vehicle sight lines.					
r) Utilities design and location should be coordinated so that it does not interfere with sustainable tree growth.					

#### PERFORMANCE STANDARD # 14: GREEN MEDIANS

a) Medians planted with street trees should have a minimum width of 3.0 metres.					
b) Where medians approach intersections or mid-block connections, accessible areas should be provided to allow refuge for pedestrians crossing the street.					
c) Preferred species for trees and shrubs in medians are non-invasive species suitable for Zone 3 climatic conditions.					
d) Use drought tolerant seed mixes for grass within a median to minimize irrigation and maintenance requirements.					
e) Bio-swales or infiltration swales should be used within medians to allow natural watering of plant material and reduce stormwater run-off.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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#### PERFORMANCE STANDARD # 15: STREET FURNITURE

a) Street furniture should be concentrated in areas with high pedestrian activity.					
b) Street furniture should not obstruct pedestrian or vehicle circulation.					
c) Street furniture should not hinder sidewalk maintenance and snow removal.					
d) Raised planters should be designed to double as seating areas.					

#### PERFORMANCE STANDARD # 16: TRANSIT SHELTERS

a) Transit shelters should be located close to building entrances, and be barrier-free.					
b) Transit shelters should provide weather protection, and basic amenities (i.e. seating and lighting). Where adjacent to street lighting, lighting on shelters is not required.					
c) Tree planting should be provided adjacent to the shelter to provide shade, a wind break, and an attractive environment.					
d) Run-off from shelter roofs should be directed to adjacent tree pits or landscapes.					
e) Sidewalks should connect directly to transit shelters. A concrete loading/unloading area should be provided (width varies by context).					
f) Transit shelters should be located 0.3 metres from the sidewalk, and should not interfere with pedestrian circulation.					
g) Transit shelters should be highly transparent to promote safety.					
h) Transit shelters should include community information panels and area specific public art installations.					

#### PERFORMANCE STANDARD # 17: CROSSWALKS

a) Crosswalks should be continuous and connected to adjacent sidewalks.					
b) Crosswalks should conform to the Ontarians with Disabilities Act.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
c) Crosswalks should be clearly designated with lighting and pavement surface striping.					
d) In high-traffic pedestrian areas (i.e. Downtown Cores, Image Routes, etc.), public art should be integrated into crosswalk design.					
e) In Downtown areas, mid-block crosswalks should be provided on blocks greater than 250 metres.					

#### PERFORMANCE STANDARD # 18: ON-STREET PARKING

a) On-street parking should be provided wherever possible on the City's main streets and in the downtown areas.					
b) Parallel on-street parking is preferred and angled parking should be avoided.					
c) On-street parking may be situated between bump-outs where appropriate.					
d) Bump-outs should be well landscaped and designed to accommodate snow removal.					
e) Bump-outs should be well landscaped and designed to accommodate snow removal.					
f) Parking meters should be located behind the sidewalk or the street furniture and landscape zone (if applicable) to accommodate snow removal and storage.					

#### PERFORMANCE STANDARD # 19: BICYCLE PARKING

a) Bicycle parking should be provided along City streets and close to building entrances - especially in commercial areas.					
b) Bicycle parking should be sheltered whenever possible.					
c) Bicycle parking should not impede pedestrian circulation.					
d) Post-and-ring, or inverted 'u', bicycle parking is preferred.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
e) Bicycle storage facilities should be provided in areas of high pedestrian activity and encouraged in both the public and private realm.					
f) Secure, long-term bicycle parking facilities should be provided at transit terminals and large employment, business, or office buildings.					

#### PERFORMANCE STANDARD # 20: PUBLIC ART

a) Public art should be incorporated through new capital projects.					
b) Significant public art pieces should be the subject of design competitions to support local artists (where desired) and to promote excellence and innovation.					
c) Public art should be place-specific.					
d) Public art should be located at key destinations within the City.					
e) Public art is encouraged within private developments that have significant public spaces (i.e. courtyards).					
f) Public art should be visibly and physically accessible.					
g) Public art should be durable and low-maintenance.					
h) Public art should be complemented by adjacent landscaping where appropriate.					

#### PERFORMANCE STANDARD # 21: STREET LIGHTING

a) The design and location of lighting should consider sustainability and the impacts of light pollution.					
b) Downcast pedestrian-scale lighting should be provided in high traffic pedestrian areas.					
c) All lighting should be located within the Street Furniture and Landscape Zones, or within medians as required.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
d) All pedestrian and street lighting should be “dark sky” friendly to minimize light pollution. Where current standards do not adhere to these guidelines, it should be taken into consideration when they are next upgraded.					
e) Private property lighting should ensure safe and well lit pedestrian areas, including parking areas and building entrances.					
f) Street lighting fixtures should be selected in accordance with existing city engineering standards and consider all maintenance ramifications.					

#### PERFORMANCE STANDARD # 22: SIGNAGE

a) A comprehensive way finding strategy for the City should be developed.					
b) Commercial signage should not overwhelm the appearance of the streetscape nor restrict the placement of street trees.					
c) In areas with high pedestrian traffic (i.e. the North and South Cores, the Image Routes, etc.), commercial signage should be pedestrian scaled.					
d) Mobile signs should be prohibited.					
e) Signage and kiosks should not impede pedestrian circulation.					
f) Signs should not impede vehicle sight lines.					
g) Information signage should be located in high traffic areas.					
h) Street furniture should not include advertising.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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#### PERFORMANCE STANDARD # 23: WASTE RECEPTACLES

a) Waste receptacles should be located at high activity street corners, and should be placed within the Street Furniture and Landscape Zone to minimize disruptions to pedestrian circulation.					
b) Ashtrays are outdoors and publicly accessible.					
c) Receptacles should be located in close proximity to seating areas.					
d) Waste receptacles should be provided on private sites that are frequently accessed by the public (i.e. schools, convenience stores, etc.).					
e) Waste receptacles should include slots for recycling and litter.					
f) Waste receptacles should be designed to be universally accessible.					
g) Side opening designs are recommended to facilitate easy maintenance.					
h) Receptacles should be wildlife proof.					
i) Advertising on waste receptacles is discouraged.					
j) A City-wide design for waste receptacles should be developed to assist with maintenance. An opportunity for community individuality should be considered in the universal design.					

#### PERFORMANCE STANDARD # 24: UTILITIES

a) Where feasible, utilities should be buried below grade.					
b) Where this is not feasible, they should be grouped in single locations.					
c) Utilities should be placed within the street Right-of-Way (or in a front yard easement) in a joint utility trench that can be accessed for repairs without disturbing street trees.					
d) To minimize clutter near bus shelters, opportunities to coordinate street lighting and bus signage within the utility pole should be explored.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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### 3.3 DEVELOPING THE COMMUNITY STRUCTURE (CITY-WIDE)

#### PERFORMANCE STANDARD # 25: STREET NETWORK AND BLOCK LAYOUT

a) Streets should be based on a modified grid pattern.					
b) Where cul-de-sacs occur, pedestrian through-connections should be provided.					
c) Opportunities to connect ending streets between developments are encouraged to maximize connectivity.					
d) Provide a variation in block sizes and street layouts.					
e) Block lengths should average 200 metres.					
f) Mid-block connections should be provided on blocks greater than 250 metres.					
g) Mid-block connections should be a minimum of 3.5 metres wide.					
h) Rear lanes should be provided wherever possible for blocks fronting onto Main Streets, or where front yard parking and front yard garages are undesirable.					
i) Reduce or eliminate chain link fences between developments and create continuous and connected community developments.					
j) Where chain link fences are required for visibility (i.e. school playgrounds), a significant landscape buffer should be provided to minimize their visual impact.					
k) Where rear lanes exist, they should be preserved as a means of diverting parking and loading functions away from main streets.					
l) Where a T-intersection is required, the adjacent site (at the terminus of the 'T') should be considered a feature property whose design appropriately terminates the street.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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#### PERFORMANCE STANDARD # 26: ARTERIAL ROADS

a) Arterial road boulevards should aim to be a minimum 4.8 metres in width and should accommodate street trees offset 1.5-2.0 metres from the curb.					
b) Within commercial areas, on-street parking should be provided on both sides of Arterial Roads. Where snow storage is required, parking lanes should be 2.5-2.8 metres. Otherwise, narrower parking requirements (2.0-2.4m) can be considered.					
c) On new or retrofitted streets, and existing streets (where the right-of-way width allows), 1.2-1.8 metre separated bicycle lanes should be provided on both sides of Arterial Roads or a two-way bike lane (3.0 metres min.) on one side where possible.					
d) Where a bicycle lane is located adjacent to on-street parking, the lane width should increase to a minimum of 1.8 metres to allow room to avoid opening vehicle doors.					
e) Joint access driveways are encouraged to minimize curb cuts which undermine cycling and pedestrian travel.					

#### PERFORMANCE STANDARD # 27: COLLECTOR ROADS

a) Collector road boulevards should aim to be a minimum 4.8 metres in width and accommodate street trees offset 1.5 metres from the curb.					
b) 2.5-2.8 metre on-street parking should be provided on both sides of Collector Roads where snow storage is required. Otherwise, narrower parking requirements (2.0-2.4m) can be considered. 1.2-1.8 metre bicycle lanes should be provided on both sides of Collector Roads or a two-way bike lane (3.0 metres) on one side where possible.					
c) Joint access driveways are encouraged to minimize curb cuts which undermine cycling and pedestrian travel.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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#### PERFORMANCE STANDARD # 28: LOCAL ROADS

a) Travel lane width should be narrow enough to reduce traffic speeds, while allowing the roadway to be shared by cars and bicycles.					
b) Curb to curb widths should accommodate two travel lanes and one on-street parking lane.					
c) Wherever possible, sidewalks should be provided on both sides of the street.					
d) Barrier curbs are encouraged on new and retrofitted Local Roads within urban areas. In less urban areas, rolled/mountable curbs or a rural cross-section would also be appropriate.					
e) Street trees should be planted in the boulevards on both sides of Local Roads.					

#### PERFORMANCE STANDARD # 29: REAR LANES

f) Rear Lanes can be used in mixed-use areas to service commercial uses, and in residential areas where front-yard garages/ parking is undesirable.					
g) Rear Lanes should be a minimum of 6 metres in width.					
h) Primary building façades should not face Rear Lanes.					
i) Areas at the end, or beside, Rear lanes should be reserved for snow storage.					
j) Permeable materials are encouraged.					
k) Rear Lane access should be provided at a central location where blocks exceed 250 metres.					
l) A minimum setback of 0.6 metres is required between garages and Rear Lanes in residential areas.					
m) An additional setback (2.8 metres) can be used to accommodate parking along the Rear Lane.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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## SECTION 4.0: PERFORMANCE STANDARDS: GENERAL BUILDING AND SITE DESIGN

### 4.1 SUSTAINABILITY

#### PERFORMANCE STANDARD # 30: SUSTAINABILITY: BUILDINGS

a) New building construction and renovation should adhere to a LEED certification or similar standard.					
b) Alternative energy sources should be optimized to reduce each building's carbon footprint.					
c) Energy consumption should be reduced through innovative mechanical and construction technology.					
d) Buildings that are designed with flexible floor plans are encouraged to accommodate multiple uses.					
e) "Green" roof technologies are encouraged where the life-cycle cost benefits outweigh the up-front costs.					
f) Water use reduction technologies are encouraged.					
g) Waste water technologies are encouraged to collect and filter rain water.					
h) Waste management facilities should be conveniently located.					
i) Construction materials should be recycled.					
j) New materials should be locally sourced wherever possible.					
k) Construction materials should consider life-cycle costing.					
l) Operable windows should be installed in all building areas to allow natural ventilation.					
m) Glazing systems should be designed to provide high levels of natural light into building areas.					

#### PERFORMANCE STANDARD # 31: SUSTAINABILITY: SITE DESIGN

a) Impervious surfaces should be minimized, while landscaped areas maximized.					
b) Bio-swales should be used to capture stormwater run-off.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
c) Native or adaptive plant species are recommended. Plants that require a lot of water should be minimized.					
d) Tree planting should be optimized for any site and within parking areas.					
e) Where irrigation is required (i.e. non-native and/or non-drought resistant decorative landscaping), high efficiency systems should be used.					
f) Grey water should be captured and used as a source for irrigation.					
g) All planting beds should be mulched.					
h) Snow storage areas should be well-drained on site.					

## 4.2 ON-SITE PARKING

### PERFORMANCE STANDARD # 32: SURFACE PARKING

a) Surface parking areas should be located at the rear, or side-yard of a building and should not be placed between the front face of a building and the sidewalk.					
b) Bump-outs should be provided at the end of linear parking lots to accommodate existing vehicles.					
c) Driveways to parking should be from rear lanes and side streets wherever possible.					
d) Shared parking and shared driveways between adjacent properties are encouraged. Where multiple access points currently exist, they should be consolidated where possible.					
e) Where existing development has parking located adjacent to the sidewalk it should be screened by a 3.0 metre landscaped buffer.					
f) Surface parking lots should be divided into smaller "parking courts."					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
g) 1 tree for every 8 parking spaces is recommended. These can be clustered to facilitate snow clearing.					
h) Urban trees require a minimum of 15 cubic meters of good quality soil per tree (can be shared).					
i) Permeable paving or low impact development should be utilized to minimize stormwater run-off.					
j) Landscaping should not obstruct the primary building façade.					
k) Clear, 1.5 metre (minimum) dedicated pedestrian routes should provide direct connections from parking areas to building entrances.					
l) Pedestrian-scaled lighting should be provided along pathways.					
m) Preferential parking (i.e. accessible parking stalls, bicycles, car-share, energy efficient vehicles) located close to building entrances is encouraged.					
n) Where preferential parking is provided within bump-outs directly in front of the building, curb-cuts to the sidewalk should be consolidated (no more than one curb-cut for every two cars). No more than four spaces should be provided consecutively, to minimize the total number of curb cuts.					
o) Drop-off areas should not interfere with pedestrian traffic.					
p) Well-drained snow storage areas should be provided or removed off-site.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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#### PERFORMANCE STANDARD # 33: ABOVE-GRADE PARKING STRUCTURES

a) Parking structures should have active, at-grade uses facing public sidewalks.					
b) Vehicular access to parking structures should be provided from the rear or side wherever possible.					
c) Pedestrian entrances should be provided from the main frontage.					

#### PERFORMANCE STANDARD # 34: BELOW-GRADE PARKING STRUCTURES

a) Where possible parking structures should be provided below buildings.					
b) Vehicular access to parking structures should be provided from rear lanes or side lanes where possible.					
c) Pedestrian entrances should be highly visible from the main face of the building fronting the public sidewalk.					

### 4.3 STORAGE, SERVICING AND LOADING

#### PERFORMANCE STANDARD # 35: SERVICING AND LOADING

a) Loading docks and service areas should be integrated within the building where possible.					
b) Where this is not possible, they should be located at the side or rear of buildings and screened from public view.					
c) Access to servicing and loading areas should always be provided from secondary streets.					
d) Shared access is encouraged to minimize curb cuts.					
e) Where possible, service and loading areas should be coordinated with outside storage areas.					
f) Servicing enclosures should be constructed of materials that complement the main building.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
g) Service and loading areas must not encroach into the exterior side or front yard setback.					
h) Loading and service areas may occupy the full rear yard if a landscaped edge and/or buffer treatment is provided.					

#### PERFORMANCE STANDARD # 36: OUTSIDE STORAGE

a) Outside storage areas should be located at the side or rear of buildings and should be screened from public view. Where doors are provided on screening units, the City should implement a by-law to ensure doors are closed when not in use.					
b) Screening walls should have a minimum height that is equal to the storage facility.					
c) Storage areas should be large enough to accommodate the needs of all users.					
d) Access to outside storage areas should always be provided from secondary streets.					
e) Shared access is encouraged to minimize curb cuts.					
f) Where possible, outside storage areas should be coordinated with servicing and loading areas.					
g) Outside storage areas must not encroach into the exterior side or front yard setback.					
h) Refuse areas should be paved with an impervious surface.					
i) Loading and service areas may occupy the full rear yard if a landscaped edge and/or buffer treatment is provided.					
j) Storage areas should be constructed of materials that complement the main building. Chain link fencing is highly discouraged.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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#### 4.4 BUILT FORM GUIDELINES

##### PERFORMANCE STANDARD # 37: GENERAL BUILDING DESIGN

##### 37A BUILDING ORIENTATION AND MASSING

- |   |  |  |  |  |  |
|---|--|--|--|--|--|
| a) Buildings should frame adjacent streets with direct access from public sidewalks.  |  |  |  |  |  |
| b) On corner sites, buildings should frame both streets.  |  |  |  |  |  |
| c) The massing of taller buildings should ensure five hours of sunlight per day on adjacent buildings, streets and open spaces. |  |  |  |  |  |
| d) Taller building elements should be located at the south side of the building to reduce shadows cast on adjacent properties.  |  |  |  |  |  |

##### 37B BUILDING SETBACK AND STEPBACKS

- |   |  |  |  |  |  |
|---|--|--|--|--|--|
| a) Surface parking lots should not be located within front-yard setbacks.   |  |  |  |  |  |
| b) A range of setbacks are encouraged to create variety in the streetscape and accommodate public amenity space.          |  |  |  |  |  |
| c) Large front-yard setbacks should be well-landscaped.   |  |  |  |  |  |
| d) Where stepbacks occur, useable outdoor terraces should be provided.  |  |  |  |  |  |
| e) Shadow analysis is recommended for any proposed building that is more than 3-storeys taller than an adjacent building. |  |  |  |  |  |

##### 37C BUILDING ACCESS AND ENTRANCES

- |  |  |  |  |  |  |
|--|--|--|--|--|--|
| a) Main entrances should address public streets.   |  |  |  |  |  |
| b) Individual at-grade unit entrances should be provided in larger buildings.                            |  |  |  |  |  |
| c) Main entrances should provide weather-protection.   |  |  |  |  |  |
| d) Building entrances should adhere to Crime Prevention Through Environmental Design (CPTED) principles. |  |  |  |  |  |

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
<b>37D FACADE DESIGN</b>					
a) On corner lots, buildings should address both streets.					
b) Various architectural styles are encouraged, but should promote complementary details, elements, materials, and quality.					
c) Large façades should be visually divided into smaller units.					
d) Large, blank façades should be avoided.					
e) Buildings should provide weather-protection at grade.					
f) Where building frontages exceed 12 meters in width, they should be divided into functionally and visually smaller units through the use of façade articulation, internal courtyards, and networks of connected walkways and landscaping.					
<b>37E WINDOW TREATMENT</b>					
a) In non-residential buildings (i.e. commercial, office, industrial), a significant amount of the building frontage on the ground floor and at building base levels should be glazed to allow views of the indoor uses and create visual interest for pedestrians.					
b) Clear glass is preferred to promote the highest level of visibility and mirror glass should be avoided at the street level.					
c) In residential buildings (i.e. apartments), habitable rooms (i.e. living room, kitchen) should face the public street, and have 30-40% window surface area. Flanking walls should have 20% surface window area.					
d) Windows should provide natural ventilation and light.					
e) Skylights and clerestory windows are encouraged.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
<b>37F BUILDING PROJECTIONS</b>					
a) Building projections (i.e. balconies, porches, canopies, stairs) are encouraged as transitional elements that provide access, amenity space and weather protection.					
b) Balconies should be provided above the ground floor of residential buildings.					
c) Balconies should be designed as integral parts of the building.					
d) Slight design variations are encouraged to create distinction, but continuity of scale and proportion is recommended between buildings.					
<b>37G ROOFS</b>					
a) Flat roofs and roof terraces are encouraged to be used as private and communal outdoor patios, decks and gardens.					
b) “Green” roof technologies are encouraged where the life-cycle cost benefits outweigh the up-front costs.					
c) Roof materials/colours should complement the building materials and the overall building design.					
d) Rooftop mechanical equipment should be integrated with the building design or screened using materials complementary to the building.					
e) Parapets or other architectural screening devices should be used to screen rooftop mechanical units.					
<b>37H BUILDING MATERIALS</b>					
a) Materials should be high quality and durable.					
b) Design and material quality should be consistent and building materials and finishes should be complementary.					
c) Where building facades front onto Image Routes, or other key corridors, the finish materials should extend to all sides of the building.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
d) Preferred cladding materials include brick, stone, metal, glass, in-situ concrete and pre-cast concrete. Imitation materials are discouraged.					
e) Building materials should not be used to replicate other materials (i.e. shingles that resemble bricks, etc.).					
f) Clear, high-efficiency glazing should be encouraged wherever possible.					
g) Mechanical penthouse materials should complement the architectural character.					

#### PERFORMANCE STANDARD # 38: MAIN STREET BUILDINGS

a) Buildings should generally be located at the front property line to create a continuous streetwall.					
b) On corner sites, buildings should align with their respective frontages.					
c) Where setbacks vary on both sides, the average should be used.					
d) Minor variations in setbacks are encouraged to facilitate wider boulevards, accommodate public amenity space, and to create a more interesting streetscape.					
e) Taller buildings should have a 3 to 4-storey building base. Articulation above the base is encouraged.					
f) Taller buildings should step back 3.0 metres above the building base.					
g) Stepbacks should be determined by a 45-degree angular plane applied at a height equivalent to the adjacent development or 13.5m.					
h) Main building entrances should be directly accessible from the public sidewalk.					
i) The ground floor of all buildings should be 4.5 metres (floor-to-floor height) to accommodate internal servicing and loading, and future conversion to retail (where appropriate).					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
j) Maximum building height should be determined by a 1:1 ratio with the right-of-way width.					
k) Maximum heights may only be achieved if all other Performance Standards are satisfied.					
l) A minimum building height of 7.5 metres (2-storeys) is desirable.					
m) Main entrances should be directly accessible from public sidewalks.					
n) Above-grade units should be accessed from a single entrance.					
o) A significant amount of the building frontage on the ground floor and at building base levels should be glazed to allow views of indoor uses and to create visual interest for pedestrians.					
p) Clear glass is preferred over tinted glass to promote the highest level of visibility, and mirrored glass should be avoided at the street level.					
q) Balconies should be provided above the 2nd or 3rd floor of taller, mixed-use buildings.					
r) Balconies should be designed as integral parts of the building.					

#### PERFORMANCE STANDARD # 39: ACCESSIBILITY: PRIVATE REALM

a) Private building that will be publicly accessed, such as retail shops, office buildings, theatres, etc., should minimize all changes in grade at the main entrances of the building.					
b) Wherever possible, the principles of universal design should be incorporated into new and existing buildings.					
c) Sidewalks and pedestrian paths on private property should be a minimum of 1.5 metres, with periodic widening, to accommodate persons using mobility aids.					
d) Detectable warning surfaces should provide navigational cues for persons with visible impairments, especially in areas where there is an approach change in surface level such as at the tops of stairs or ramps.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
e) Where possible, signage should incorporate a pronounced high contrast and glare-free colour contrast. A minimum contrast of 70% light reflectance is recommended.					
f) Accessible parking spaces must be provided in proximity to building entrances as required by the Ontario Building Code.					
• Unobstructed and safe travel paths through private open spaces, parking areas and to building entrances should be clearly marked and provided.					
• All travel paths should be well lit and clear of obstacles.					
• Unit paving materials used in sidewalks, paths and walkways should be firm and level, with joints no greater than .06 metres wide.					

#### PERFORMANCE STANDARD # 40: ALL SEASON DESIGN: PRIVATE REALM

a) A minimum 1.5m sidewalk should remain clear of snow and debris year-round on all pedestrian travel routes.					
b) Where snow storage is to be accommodated in parking lots, a snow storage plan should be established to ensure that snow accumulation does not conflict with pedestrian travel and accessibility.					
c) Weather protection should be incorporated in the site design of buildings to ensure pedestrians are sheltered from the predominate winds.					
d) Where possible overhangs or awning should be provided along main street areas to shelter pedestrians and the sidewalk from rain and snow.					
e) Front entrances to buildings should be located closest to key pedestrian travel areas to minimize outdoor travel in winter months.					
f) Outdoor patios should be designed to be seasonal (to not infringe on the winter snow storage areas), yet where possible, should incorporate features that extend their usability, including shading devices and heaters.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
g) Within parking lots, covered or sheltered walkways (with landscaping buffering users from the predominant wind direction) should be considered.					
h) Where landscaping is used to visually shield storage or loading areas, a mix of coniferous and deciduous planting should be considered to ensure a strong year round visual character.					
i) The location of walkways and parking lots should be coordinated with winter sun angles to ensure walking and driving surfaces remain dry and free of ice.					

#### PERFORMANCE STANDARD # 41: HERITAGE DESIGN

##### 41A RENOVATIONS TO HERITAGE BUILDINGS

a) Heritage buildings should be regularly maintained, both structurally and aesthetically.					
b) A heritage professional should be involved in all building restoration.					
c) Wherever possible, existing building components should be restored rather than replaced.					
d) Additions and restorations should match the original stylistic intent of the building.					
e) Old images, period research, and the existing stock of buildings should be used as inspiration to determine appropriate built form.					
f) Renovated buildings should match the setback established by existing buildings.					
g) Additions or renovations to a heritage property should use materials that match or enhance the original structure (e.g. color, texture, scale, etc.). Accessibility upgrades should be undertaken in a manner that does not undermines the heritage character of the building.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
<b>41B HERITAGE CONTEXT INFILL</b>					
a) New infill buildings should not mimic existing buildings.					
b) They should have sympathetic scale, massing, height, and building components.					
c) New buildings should have a height-to-width ratio that is similar to existing buildings.					
d) In retail areas, storefront design should maintain a consistent rhythm of façades.					
e) Adaptive re-use is encouraged where feasible.					

#### 4.5 LANDSCAPE DESIGN

##### PERFORMANCE STANDARD # 42: PRIVATE TREES

a) Preferred species should be selected by the property owner using non invasive species that are suitable for Zone 3 climatic conditions (please refer to the list on the following page).					
b) Utility right-of-ways should be adhered to for all tree planting on private sites.					
c) Wherever possible, plant trees on private property in a continuous row, parallel with public street trees.					
d) Incorporate a diverse array of drought-tolerant, adaptive or native plant materials.					
e) The City of Thunder Bay should distribute maintenance pamphlets for all new private trees.					

##### PERFORMANCE STANDARD # 43: BUFFER PLANTING

a) Where surface parking lots are located adjacent to the street, landscaping should be used to screen the lot from public view.					
b) Coniferous trees would be acceptable in these situations to block views.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
c) In residential areas, buffer planting can be used to create hedging, frame views, create unique or special places, add color, and to enhance the overall quality of the street.					
d) Incorporate a diverse array of drought-tolerant, adaptive or native plant material in landscape buffers.					

## SECTION 5.0: PERFORMANCE STANDARDS: LAND USE SPECIFIC

### 5.1 RESIDENTIAL

#### PERFORMANCE STANDARD # 44: APARTMENT BUILDINGS

a) Taller apartment buildings should be designed to minimize shadows on adjacent properties.					
b) A minimum 3.0 metre setback is recommended from the front property line where residential units face main streets. This setback provides a transition from public to private space and should be well landscaped.					
c) A 6.0 metre setback is recommended from the property line where residential units face secondary streets at the intersection with main streets.					
d) A 3.0 metre landscape buffer is required to enhance privacy between front entrances and the public sidewalk.					
e) Individual unit entrances should be provided for at-grade units. The above setback requirements will reinforce privacy and security through a landscaped transition area.					
f) A variety of design elements should be used to break-up larger façades and express individual units.					
g) Balconies should be provided above the ground floor where possible, and incorporated into the building design.					
h) Balconies should be large enough to function as amenity spaces.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
i) Parking and servicing areas should be located to provide clear views from residential units and communal building spaces.					
j) Semi-public mid-block walkways (minimum width of 3.0 metres) are encouraged within apartment development blocks.					

#### PERFORMANCE STANDARD # 45: TOWNHOUSES

a) Townhouse should articulate individual dwellings.					
b) A minimum front yard setback between 3-6 metres is recommended in urban areas. In residential neighbourhoods, 6.0 metres is appropriate.					
c) 1.5 metres from the front property line should be a “no encroachment” zone.					
d) The remaining setback may contain non-habitable building elements (i.e. porches, steps, roof elements).					
e) Side-yard setbacks at end units should be 1.5 metres (minimum).					
f) Parking from townhouses should be provided from a rear lane or below-grade parking garage. Garages facing the street are discouraged.					
g) No more than 6 double car garages or the equivalent in single car garage length should occur in a row to allow for mid-block pedestrian connections.					
h) It is recommended that a 45 square metre landscaped amenity space be maintained for townhouses in the rear yards. 50 percent of front yard should be landscaped.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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PERFORMANCE STANDARD # 46: DETACHED & SEMI-DETACHED RESIDENTIAL

<b>46A BUILDING ORIENTATION</b>					
a) Residential buildings should be oriented to address the public street with front doors and porches clearly visible from the public sidewalk.					
b) Dwellings on corner lots should provide positive frontages on both streets with no blank walls.					
c) Alternate solutions to back-lotting of public streets, or housing with the rear property line against primary streets, should be investigated such as frontage streets or rear lanes. That allow the front of new development to frame the street.					
<b>46B SETBACKS</b>					
a) A minimum front yard setback of 6.0 metres is required.					
b) 1.5 metres from the front property line should be a “no encroachment” zone.					
c) The remaining setback may contain non-habitable building elements (i.e. porches, steps, roof elements).					
d) Side-yard setbacks should be 1.5 metres (minimum) or 3.0 metres where a garage is accessed by a side-yard driveway.					
e) Rear-yard decks/porches and accessory buildings can encroach into the rear yard.					
f) A minimum 0.6 metre setback from the rear property line is required for garages, and accessory buildings, in the rear yard.					
g) It is recommended that a 50 square metre landscaped rear-yard amenity space (excluding driveways) be maintained for single detached and semi-detached dwellings.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
<b>46C ATTACHED FRONT GARAGES</b>					
a) Attached garages should be no wider than 50% of the width of the house.					
b) The garage should not extend more than 1 meter beyond the front façade of the house.					
c) A 6.0 metre minimum setback from the front property line to the face of the garage should be provided to accommodate driveway parking, however driveway parking in the front yard should be no more than two cars deep (12 metres maximum).					
d) Building materials of garages should be of a high quality that is consistent with the primary building façade.					
e) Lots less than 12 metres wide are limited to a single-car garage at the front of the building or lot.					
f) Lots above 12 metres in width are limited to two-car garages at the front of the building.					
<b>46D RESIDENTIAL DRIVEWAYS</b>					
a) The width of asphalt or concrete driveways should be no wider than the width of the garage door. The hardscaped area can be extended by 1 meter on either side in accent material or paver.					
b) Where no garage is present, driveway depth should be sufficient to accommodate vehicle parking without overhanging the sidewalk.					
c) Permeable surfaces are encouraged for driveway paving to minimize run-off.					
d) Curb cuts for driveways should be paired to preserve the maximum number of on-street parking spaces and provide space for trees in the boulevard.					
e) Driveway access on corner lots should be provided from the minor street (i.e. access from Collector Street at the intersection between an Arterial and Collector Street).					
f) 50% of the front yard should be landscaped.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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## 5.2 COMMERCIAL

### PERFORMANCE STANDARD # 47: MIXED-USE BUILDINGS

a) A 4.5 metre minimum floor-to-floor height is recommended at street level to create a strong street presence and support retail uses.					
b) A significant amount of the building frontage on the ground floor and at building base levels should be glazed to allow views of indoor uses and to create visual interest for pedestrians.					
c) Clear glass is preferred over tinted glass to promote a high level of visibility and mirrored glass should be avoided at the street level.					
d) Building entrances should support retail uses and can be expressed and detailed in a variety of ways, including large entry awnings, canopies or double-height glazing.					
e) Residential uses above the ground floor should have a floor-to-ceiling height of 2.75 metres.					
f) Below grade parking is the preferred means of parking supply.					
g) Where surface parking is provided it should be at the rear of the building and not visible from the principle public street.					
h) Secure, long-term bicycle parking facilities should be provided at large employment, business, or office buildings.					

### PERFORMANCE STANDARD # 48: LARGE-FORMAT RETAIL

a) Large retail stores should be integrated into a consistent pattern of streets or private drives and blocks.					
b) On main streets, opportunities to provide compact building forms should be considered including multi-storey stores.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
c) Building setbacks should be minimized, particularly along main streets. Where larger setback are required, pedestrian amenities, such as seating areas, water features, public art installations and internal pedestrian walkways should be provided.					
d) Surface parking should be located at the rear, or side of the building.					
e) Long façades should incorporate architectural relief and detailing, entrance features, recesses and projections along the length of the façade.					
f) Smaller retail units should line part of the principal building and have display windows and separate entrances.					
g) False upper floors are not acceptable. All floors visible from the street should be functional.					
h) Continuous boulevards of 4.8 metres should be provided on the principle sides of the building, incorporating street trees (spaced 8-10 meters on centre), landscaping, benches and pedestrian-scaled lighting.					
i) Infill development along the street line should be promoted to reduce the visual impact of large-format parking areas.					

#### PERFORMANCE STANDARD # 49: SMALL FORMAT RETAIL

a) The location of smaller-format Commercial Retail Units (CRUs) should be used to define street edges, courtyards, terraces and other public open spaces.					
b) CRUs may be located and designed to create a main street shopping environment through their continuous alignment and multi-storey façades.					
c) Building entrances should be located on the street side of the building. If this is not possible, a clear and direct pedestrian route from the public sidewalk to the entrance should be provided.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
d) The co-location or close proximity of retail commercial units and the coordinated alignment of entrance doors is encouraged to facilitate sequential shopping.					
e) Areas not required for servicing between buildings should be well landscaped and programmed (i.e. outdoor seating and dining areas).					
f) CRUs should have continuous pedestrian sidewalks on all sides of the building where public entrances and parking areas are located.					

#### PERFORMANCE STANDARD # 50: GAS STATIONS & CAR WASH FACILITIES

a) The frontages of a site should be occupied by a street oriented building (i.e. convenience store) and/or a substantial landscaped area, including low walls and/or fencing.					
b) Stacking lanes should be separated from parking areas through the use of landscaped islands.					
c) Stacking lanes should be located such that vehicle line-ups do not block traffic along public streets or impede the movement of vehicles on site.					
d) Clear sightlines and views should be provided between site areas (i.e. pumps, convenience store and car wash) and the public street to promote public safety.					
e) Canopies should be provided over fuelling areas. Any lighting provided should be downcast to minimize light pollution on adjacent residential areas.					
f) Car washes should be away from the property line, while providing sufficient space for vehicle stacking and landscaping.					
g) Where a car wash is proposed near the street edge, clear windows are encouraged to animate the street by providing views into the car wash.					
h) Complementary building materials should be used for the primary building and car wash facilities.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
i) Parking should be located at the side and/or rear of the building, and should ensure pedestrians do not have to cross stacking lanes to enter the building.					
j) A landscape buffer should be located along the side and rear yard of the property to provide screening from adjacent uses. Where the site is adjacent to residential or institutional properties, a noise attenuation fence should be used.					
k) Noise-generating areas (such as auto service bays, car wash openings, vacuum stations, outdoor loading areas, garbage storage and stacking lanes) should be located away from sensitive uses such as residential areas and schools.					
l) Lighting should be designed to ensure that there is no light spillage or glare cast over adjacent uses.					
m) White light sources should be used to reduce energy costs and to create a natural colour balance for safety and security.					

#### PERFORMANCE STANDARD # 51: DRIVE THROUGH FACILITIES

a) Vehicular traffic should be directed behind buildings, to decrease visibility of cars and drive-through amenities and limit congestion at the property entrance.					
b) Drive-through lanes should not impede pedestrian access to buildings. Stacking lanes or driveways should not be located between the building and street.					
c) Multiple service windows in a single stacking lane should be implemented to reduce idling and congestion.					
d) When pedestrian traffic crosses vehicle lanes provide safe circulation routes that clearly demarcate the pedestrian path of travel (i.e. raised pedestrian crossings, bollards, landscaping).					
e) Where possible stacking lanes should be separated from parking areas through the use of landscaped islands.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
f) Stacking lanes should be located such that vehicle line-ups do not block traffic along public streets or impede the movement of vehicles on site.					
g) Parking should be located at the side and/or rear of the building, and should ensure pedestrians do not have to cross stacking lanes to enter the building.					
h) A landscape buffer should be located between the stacking lane and building.					
i) A landscape buffer should be located along the side and rear yard of the property to provide screening from adjacent uses. Where the site is adjacent to residential or institutional properties, a noise attenuation fence should be used.					
j) Lighting should be designed to ensure that there is no light spillage or glare cast over adjacent uses.					
k) White light sources should be used to reduce energy costs and to create a natural colour balance for safety and security.					

### 5.3 INSTITUTIONAL

#### PERFORMANCE STANDARD # 52: SCHOOL FACILITIES

a) School buildings should be designed to reflect their civic role through prominent, high quality architecture.					
b) Schools should be designed to integrate into their adjacent neighbourhoods. The use of school facilities (i.e. fields, auditoriums, etc.) in evening hours is recommended.					
c) Building design should promote safety and ease of access through well defined entrances and windows facing the public street and primary walkways.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
d) Multi-storey school buildings are strongly recommended to maximize the site and services as well as contribute to an urban street condition through building façade proportion that contributes to a sense of enclosure at the street.					
e) The main school entrance should be highly visible and distinguished through the building's architecture and detailing (i.e. door size, entry and windows). A recessed entry or projecting canopy can also provide weather protection and promote the prominence of the entry.					
f) School façades should maximize the use of operable windows to naturally illuminate and ventilate classrooms, offices, recreational and social spaces.					
g) Covered walkways or building edge colonnades are recommended for linking separate school buildings or providing weather protected building edges fronting school open spaces including forecourts, courtyards, gardens or playing fields.					
h) School buildings should strive for LEED Certification, promoting green building technologies and sustainable site design/ organization.					
i) Where possible, the site should be organized to extend the street network via internal pedestrian walkways and driveways.					
j) Site organization should be designed to maintain view corridors and sight lines in order to further enhance crime prevention opportunities. Where chain link fence is used to maintain sight lines, a significant landscape buffer should be provided to minimize the visual impacts.					
k) In addition to school buses, local transit stops should be located in close proximity to school facilities.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
l) Bus stops should be incorporated as a layby within the public right-of-way or on-site where safe and efficient access can be provided.					
m) Where bus stops are provided on site, they should be integrated as part of the overall design of the school property to minimize conflicts.					
n) School sites should incorporate bike racks in convenient locations to building entrances.					

#### PERFORMANCE STANDARD # 53: COMMUNITY CENTRES

a) Community centres should be located in the most accessible areas of the City (i.e. the North and South Core, key nodes along Main Streets, and within neighbourhoods.					
b) Community centres should be located in close proximity to existing and planned trails to ensure easy access for pedestrians, cyclists, and transit users.					
c) Complementary uses such as schools, libraries and day care facilities should be located in close proximity to or within community centres to facilitate shared use.					
d) Active outdoor amenity spaces should be designed as an integral component of community centres to outdoor programming.					
e) The design of community centres should target LEED Gold certification.					
f) New or revitalized community centres should be the subject of both community design workshops and design competitions and should be designed by registered architects with a reputation for excellence and innovation.					
g) Setbacks are encouraged to accommodate forecourts and gardens.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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#### PERFORMANCE STANDARD # 54: PLACES OF WORSHIP

a) Places of Worship should be easily accessible by pedestrians, cyclists and transit.					
b) Places of Worship are encouraged to be located at an intersection and should address both street frontages.					
c) When not sited at an intersection, Places of Worship should directly front onto their adjacent street.					
d) Places of Worship should be located on the edges of residential areas or within the North and South Cores.					
e) Places of Worship should minimize floor area by creating multi-level buildings to accommodate accessory and, if applicable, complementary uses.					

## 5.4 EMPLOYMENT

#### PERFORMANCE STANDARD # 55: OFFICE BUILDINGS

a) Buildings should address the principle public street but may incorporate setbacks that provide attractive landscaping and tree-planting.					
b) The principle façades should incorporate large glazed areas and entrances, providing visibility between the building and the street.					
c) Main entrances should be directly accessible from public sidewalks.					
d) Surface parking areas should be located in the rear or side-yard, and should be well-landscaped and hidden from view.					
e) Taller buildings should have a 3 to 4-storey building base. Stepbacks above the base are encouraged to create useable outdoor amenity areas for employees.					
f) On large, flat roofs, opportunities for green roofs should be explored to create useable outdoor amenity areas for employees.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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PERFORMANCE STANDARD # 56: BUSINESS PARKS

a) Buildings should be located to address the principle public street, but may incorporate setbacks that provide attractive landscaping and tree-planting.					
b) The principle façades should incorporate large glazed areas and entrances, providing visibility between the building and the street.					
c) Parking should not be located between the principle façade and the adjacent street/ sidewalk.					
d) Where possible, shared driveways should be provided.					
e) Open storage should be minimized. Where permitted, it should be screened from public view.					
f) Where required to monitor access to a site or individual building, guardhouses and security gates must be located in an unobtrusive manner and should utilize materials that are complementary to the main building.					
g) Checkpoints must be located so that they do not conflict with travel routes or restrict the queuing of vehicles or through traffic movement.					
h) Site design must define a well organized system of entrances, driveways and parking areas that minimizes conflicts between pedestrians, bicycles, and vehicles.					

Performance Standard	Complies	Partially Complies	Does Not Comply	Not Applicable	Additional Notes
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PERFORMANCE STANDARD # 57: LIGHT INDUSTRIAL

a) Buildings should address the street in order to define a more urban street edge.					
b) The highest quality of building design should be applied to the building façades facing the public street or open space.					
c) Corner buildings should address both street frontages.					
d) Minimum amounts of parking should be located in the front yard.					
e) Where large parking fields are necessary, landscape elements should be introduced to break up large asphalt areas and identify pedestrian access to buildings.					
f) Outdoor storage should generally not be visible from the public street or open space. Where outdoor storage is required, it should be screened with fencing and/or landscaping.					