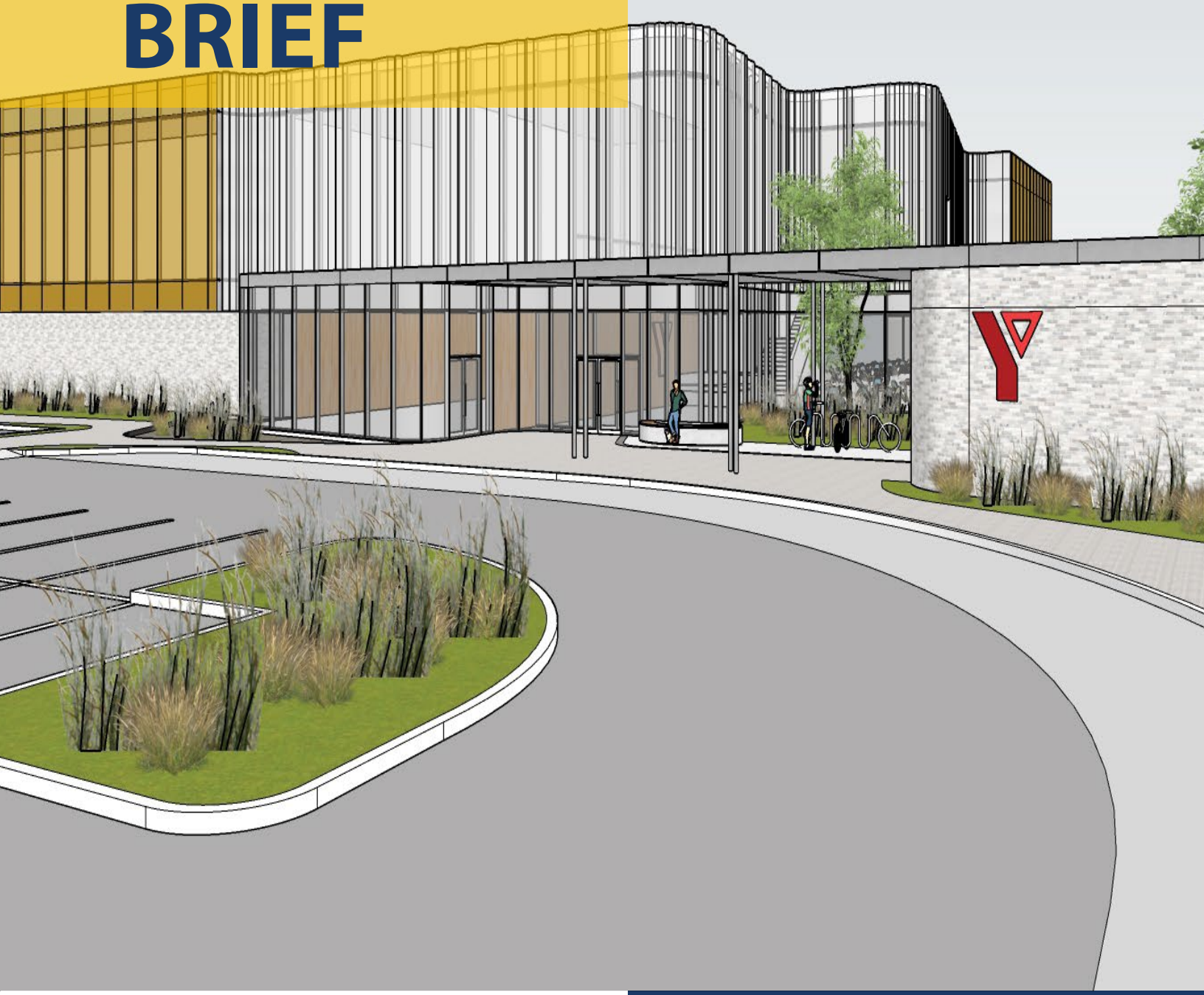
JANUARY 2024

URBAN DESIGN BRIEF



CELEBRATING 50 YEARS est. 1973

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

535 Bayview Drive, Barrie
YMCA of Simcoe/Muskoka

Date:
January, 2024

Prepared for:
YMCA of Simcoe/Muskoka

Prepared by:
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1.0
INTRODUCTION

MacNaughton Hermsen Britton Clarkson Planning Limited ("MHBC") has been retained by YMCA of Simcoe/ Muskoka (hereinafter the "Owner") to prepare an Urban Design Brief in support of the proposed Site Plan Approval Application ("SPA", hereinafter the "Application") on the lands municipally known as 535 Bayview Drive in the City of Barrie (hereafter referred to as the "Subject Lands"). The application involves the demolition of the existing paved parking lot on the northeast lot (hereafter referred to as the "Site") and the redevelopment of a YMCA building and designated surface parking spaces (the "Proposal").

The property is located on the north side of Mapleview Drive East, and the east side of Bayview Drive. The proposed development consists of a 2-storey YMCA building and facilities for multiple programs and activities, such as an attached youth heaven in 3 levels containing 12 YMCA transitional residential units and a childcare with a total gross floor area ("GFA") of approximately 6,634.9 square metres.

The purpose of the Urban Design Brief is to illustrate how the proposal will implement design objectives and directions provided by the City of Barrie Official Plan 2051 and the City of Barrie Urban Design Manual.

Should you have any questions or wish to discuss the brief in further detail, please do not hesitate to contact us.

Sincerely;

MHBC

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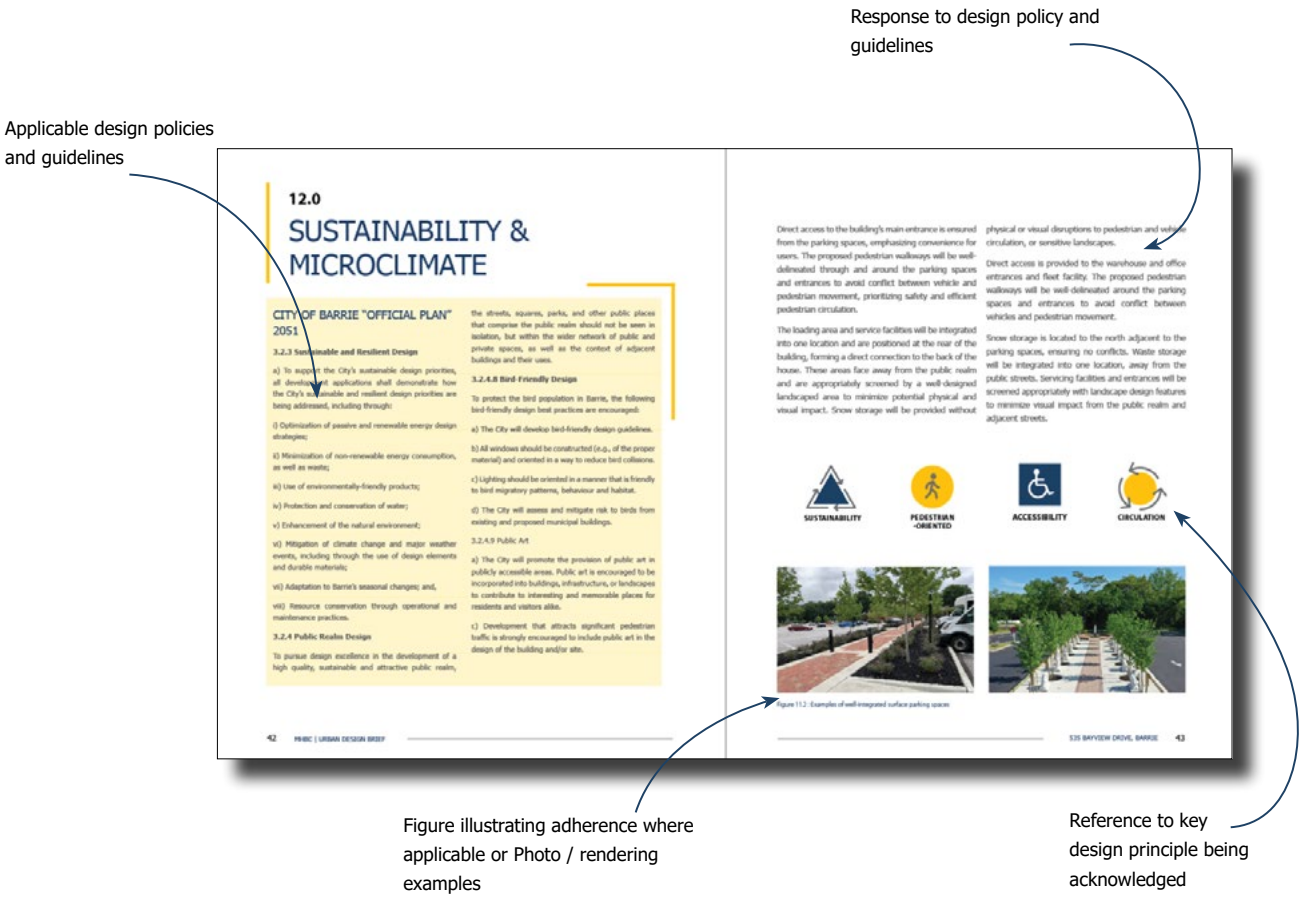
2.0
HOW TO READ THIS BRIEF

This Urban Design Brief organizes key urban design principles into categories. Within each category, a written response demonstrating adherence with those principles is provided. In some cases where strict compliance is not feasible, design rationale is provided to outline how the design intent continues to be respected.

Well-designed developments can help to connect people with places, balance the protection of the environment with emerging built form, and achieve development that promotes a sense of place and local identity within a community. Key urban design terms have been used in this brief to further articulate how the proposal achieves good design principles and enhances the relationship with the surrounding community.



3.0
SITE & CONTEXT ANALYSIS

3.1 THE SUBJECT LANDS

The Subject Lands are located on the north side of Mapleview Drive East, and the east side of Bayview Drive, adjacent to the Barrie off-leash dog park.

The property has an area of approximately 2.86 acres and a depth of approximately 230 meters. The Site is located at the northeast corner of the Subject Lands. Currently, the Site and the balance of the parking area function as surface parking for Sadlon Arena and the adjacent dog park.

Figure 3.1 : Location Map

Figure 3.2 : Northwest View from Mapleview Drive East

Figure 3.3 : Southeast View from Bayview Avenue

3.2 SURROUNDING CONTEXT

The surrounding land uses within the immediate context of the Subject Lands are as follows:

WEST

Across the street from Bayview Drive is the Park Place shopping center, featuring multiple low-rise commercial buildings containing retail stores while serving as a mobility hub.

SOUTH

To the south east is the 'Barrie Dog Off Leash Recreation Area'. To the south of Mapleview Drive East is a large vacant lot as well as a Gas Station and Tim Hortons, south of which are further industrial lots.

EAST

To the east are stormwater retention ponds serving the wider area. Further, along Welham Road, are a variety of industrial uses.

NORTH

To the north is an industrial site. Further, to the north of Churchill Drive are a variety of industrial and commercial retail uses.

Figure 3.4 : Subject Lands and the SIte

3.3 CONTEXT WITHIN WALKING DISTANCE

As seen in Figure 3.5 on page 9, amenities and facilities are available within a 400m radius, including food service, fitness, gas station, industrial and employment buildings, green spaces, and parks.

Within a 10-minute walking distance, more amenities are provided, such as groceries, an amusement centre, a tourist centre, retail shops, food services, parks, and natural areas.

The Subject Lands are serviced by adjacent public streets and higher-order transit facilities within the context, including Bayview Drive, Mapleview Drive East, Highway 400 and the railway. The Subject Lands and Site have direct access to the public transit options including Bus Route 1A/B, 2A/B, 3A/B, 7A/B, 8AN/BS and 8AS/BN. The emerging bike lane and in-boulevard pathway will be incorporated along Mapleview Drive East and Bayview Drive, respectively. The Subject Lands is connected with the off-road trail and fuether to the natural heritage system through the adjacent dog park.

These services provide ease of area access, offer local connections, establish links to regional destinations, and support multi-model transit circulation, ultimately contributing to the success of this community facility use and the attractiveness of the overall Strategic Growth Area.

Figure 3.5 : Context Map showing Facilities and Community Services within 800 metres- 10 minute walking distance

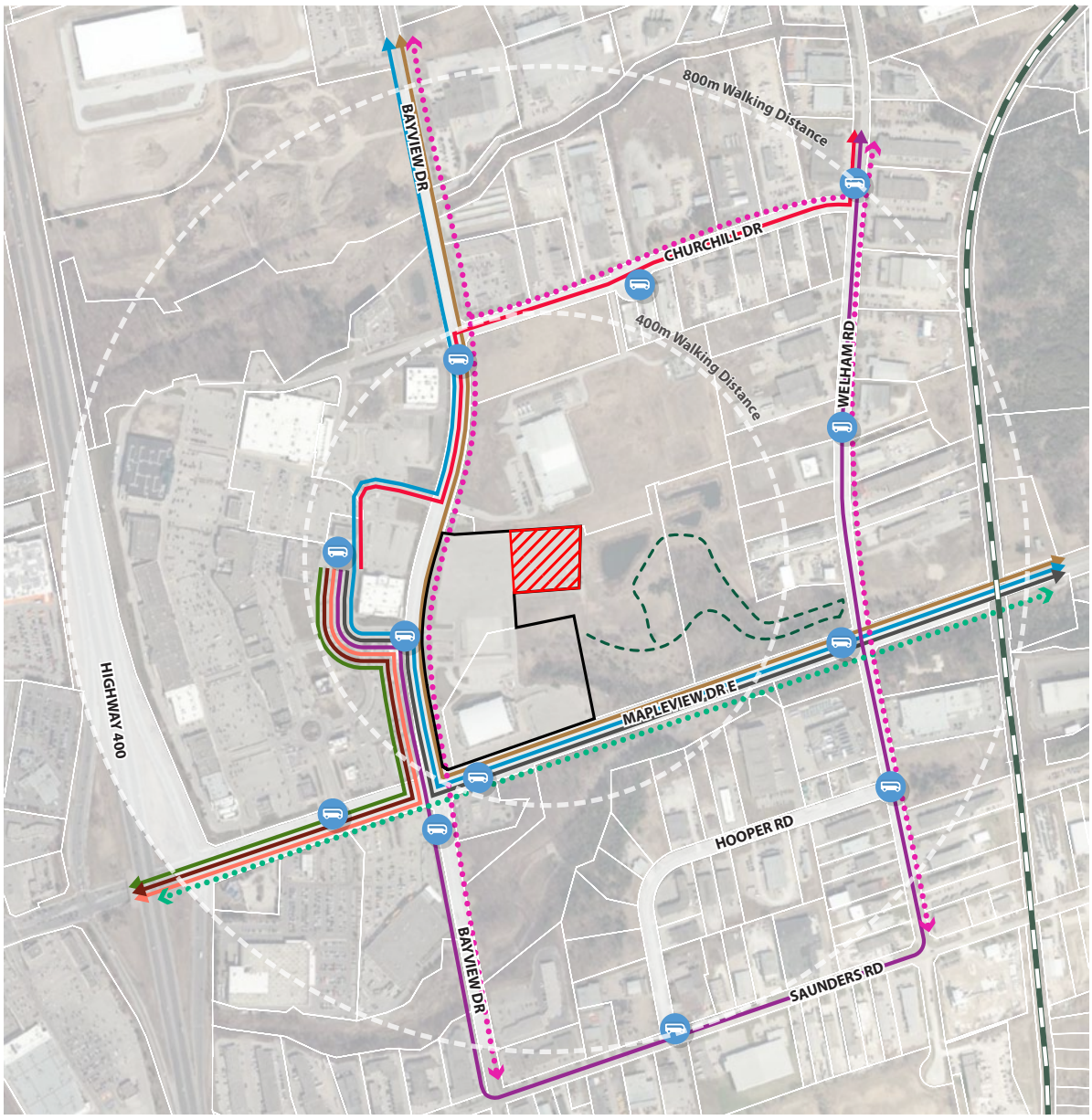


Figure 3.6 : Transit Map within 800 metres- 10 minute walking distance

4.0
POLICY CONTEXT, DESIGN PRINCIPLES & OBJECTIVES

4.1 City of Barrie Official Plan 2051 ("OP")

The new City of Barrie Official Plan 2051 was adopted by the Council in February 2022, and approved by the Ontario Ministry of Municipal Affairs and Housing on April 11, 2023, followed by a subsequent review in December 2023.

The New OP provides clarity of the urban structure needed for better planning of a complete community and introduces a level of policy direction that ensures residents, users, and the City share an aligned vision for Barrie's future. It helps to guide Barrie's growth according to the collective desires and common viewpoints that enhance the great quality of life. Furthermore, the OP responds to the community's land use, development, and conservation goals.

For the purposes of this review, it forms the majority of the policy review with respect to the local land use policy framework as well as the scope of the applications to permit the YMCA development on the Subject Lands.

The Subject Lands are identified as 'Strategic Growth Area' in the OP Map 1- Community Structure, and as 'Community Hub' in the OP Map 2- Land Use Designations. Bayview Drive and Mapleview Drive East adjacent to the Subject Lands are identified as 'Arterial Road' in the OP Map 4b- Mobility Network.

These designations provide locations intended as focal points and long-term centres of residential growth, commerce, jobs, and social interaction. Development that exhibits to meet the needs of the community through an anchor community-oriented use with complementary or ancillary uses that offer diverse activities/amenities is encouraged while retaining compatibility with nearby land uses.

4.2 City of Barrie Urban Design Manual

The Urban Design Manual provides a framework for establishing Barrie's future urban form, and to ensure that new development is consistent with the City's vision. It helps establish comprehensive design directions and construction requirements for new developments that aim to shape prominent urban spaces.

4.3 Guiding Principles And Objectives

- **Connectivity and Mobility** - to create a built environment that gives priority to walkable design and facilitates an active transportation system including walking, biking and public transit
- **Green and Resilient** - to establish a high-quality design that embraces sustainability, reduces greenhouse gas emissions, and adapts climate action.
- **Economic Prosperity and Growth** - to expand a range of employment and jobs in mixed-use centres, protect an economic ecosystem, establish an economy that aligns with environmental goals.
- **Vibrant and Diverse Culture** - to enhance civic pride through public art, cultural heritage preservation, and the programming, design and enjoyment of public spaces.

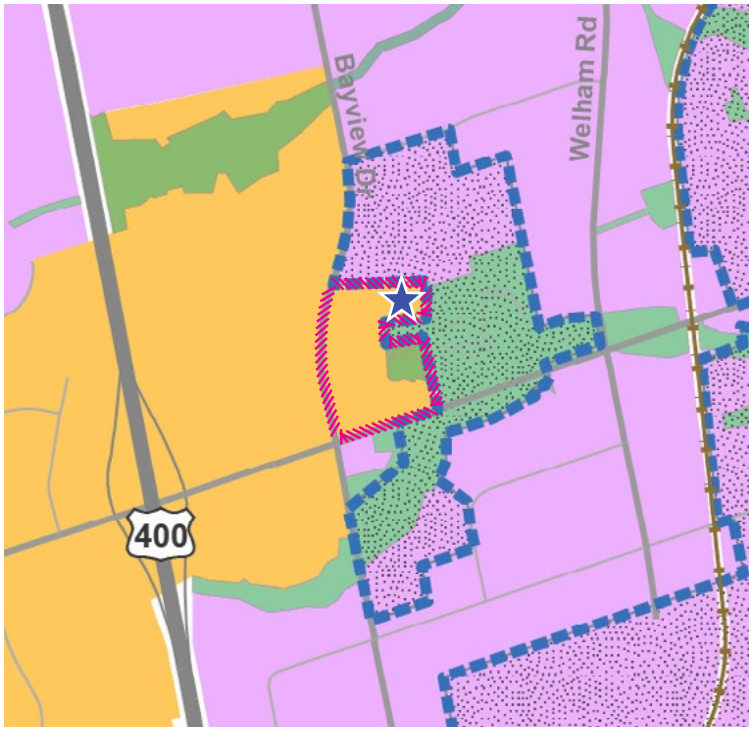


Figure 4.1 : OP Map 1- Community Structure

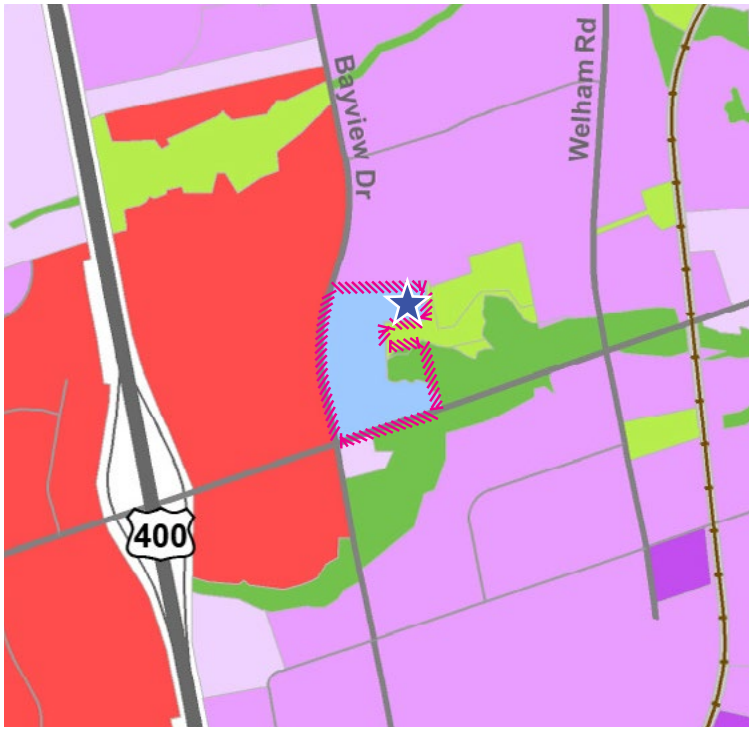


Figure 4.2 : OP Map 2- Land Use Designations

5.0
THE PROPOSAL

The proposal is to establish a 2-storey YMCA building with an attached youth heaven in 3 levels containing 12 YMCA transitional residential units.

The proposed building will offer areas and facilities for multiple programs and activities, including a youth haven, a gymnasium with running tracks, an inter-generational hub, an aquatic centre, a childcare space, a surface parking lot and indoor and outdoor play areas.

The proposed development strategically utilizes two vehicular access points off Bayview Drive to ensure seamless vehicular circulation.

The proposal contemplates 72 new parking spaces, including 8 barrier-free spaces, in the form of a well-designed and organized surface parking lot situated to the west of the building with landscape decorations and pedestrian walkways. The proposal further incorporated efficient parking by sharing the existing

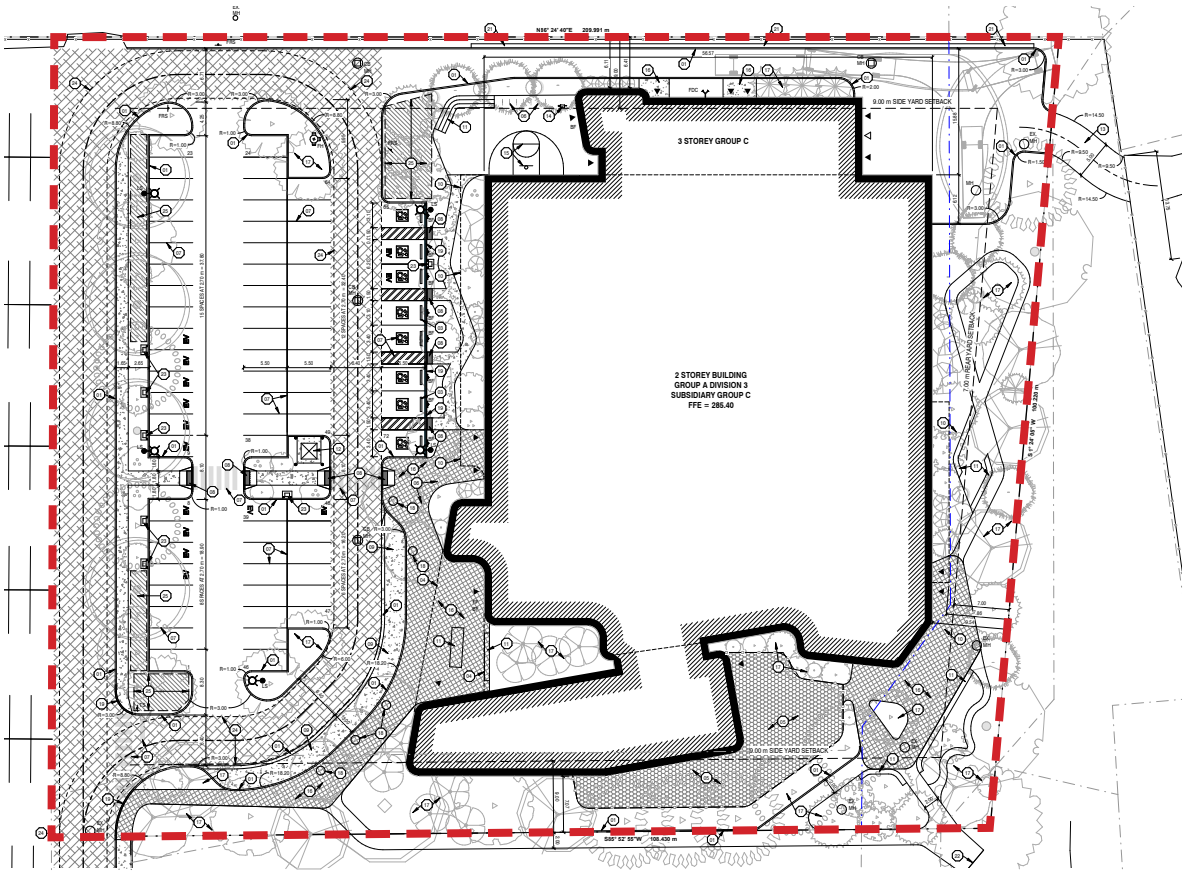


Figure 5.1 : Proposed Site Plan by Martin Simmons Sweers Architects

surface parking to the west with Sadlon Arena and the dog park.

Bicycle parking spaces are provided near the main entrances of the building to support active transportation and increase users' accessibility within the area.

Landscape design are proposed along all frontages of the building and within the proposed parking lot, upgrading the pedestrian realm, creating an inviting space for users and facilitating pedestrian connections throughout the site.

The proposed development prioritizes a pedestrian-oriented design by establishing an interconnected pedestrian walkway system, connecting the main building entrances to the surface parking areas, the off-leash dog park, and eventually to Bayview Drive. This thoughtful approach aims to enhance fluid circulation, and promote active transportation.

Overall, the development respects and fits the existing and emerging context harmoniously.

The proposal supports the vision for "Community Hub" and "Strategic Growth Area (SGA)". It fosters the intent to create complete communities where the City will achieve residential growth, commerce, job and social interaction.

Figure 5.2 : Render of the Proposed Development by Martin Simmons Sweers Architects

6.0
SITE DESIGN & ORIENTATION

CITY OF BARRIE "OFFICIAL PLAN" 2051

3.3.1 General Built Form Development Criteria

The following urban design policies apply to all new development in Barrie:

a) Buildings shall be oriented to create a strong street presence, with main entrances located to face the street.

3.3.2 Low-Rise Development

c) Low-rise development shall respect and complement the scale, massing, setback, and orientation of other built and approved low-rise buildings in the immediate area and shall be consistent with the other policies in this Plan.

CITY OF BARRIE URBAN DESIGN MANUAL

2.0 Physical Environment And Building Siting

A. Incorporate development measures to appropriately address the physical environment of the site and adjacent lands when siting the building(s).

B. Ensure compatibility of the development with adjacent area development. The visual character and unity of the neighbourhood should be enhanced through the subject development.

I. Locate buildings to meet public transit supportive measures.

J. Design multi-use sites to reduce conflict.

L. Energy saving designs and features is encouraged. Orient buildings, outdoor spaces and pedestrian activity areas to maximize sunlight exposure during cooler months and shading during the warmer months.

O. Consider future site intensification and possible integration with adjacent lands including connections between parking lots.

Q. Locate buildings close to the street with unobstructed views of the street, parks or open spaces and neighbouring buildings.

GATEWAY

RHYTHM AND PATTERN

STREETWALL

CHARACTER

RESPONSE

The proposed building structure is located towards the back of the Subject Lands so as not to interfere with the shared parking for the Sadlon Arena while maintaining the flexibility for potential redevelopment of the Arena and surrounding lands over the long term.

The proposal incorporates generous setbacks to create landscape transition areas from the adjacent properties. The proposed landscape treatment and building frontages will contribute to the creation of an animated, safe, and publicly accessible green space.

Informed by the overall orientation and shape of the Subject Lands and its existing and planned uses, the proposed building is oriented toward east, facing Bayview Drive. Its siting will successfully integrate into the existing and emerging context. The proposed site design leaves sufficient space for the surface parking area, safe and continuous vehicular and pedestrian circulation, signage, and planting.

In order to continue supporting parking spaces for the arena and the adjacent dog park, the associated

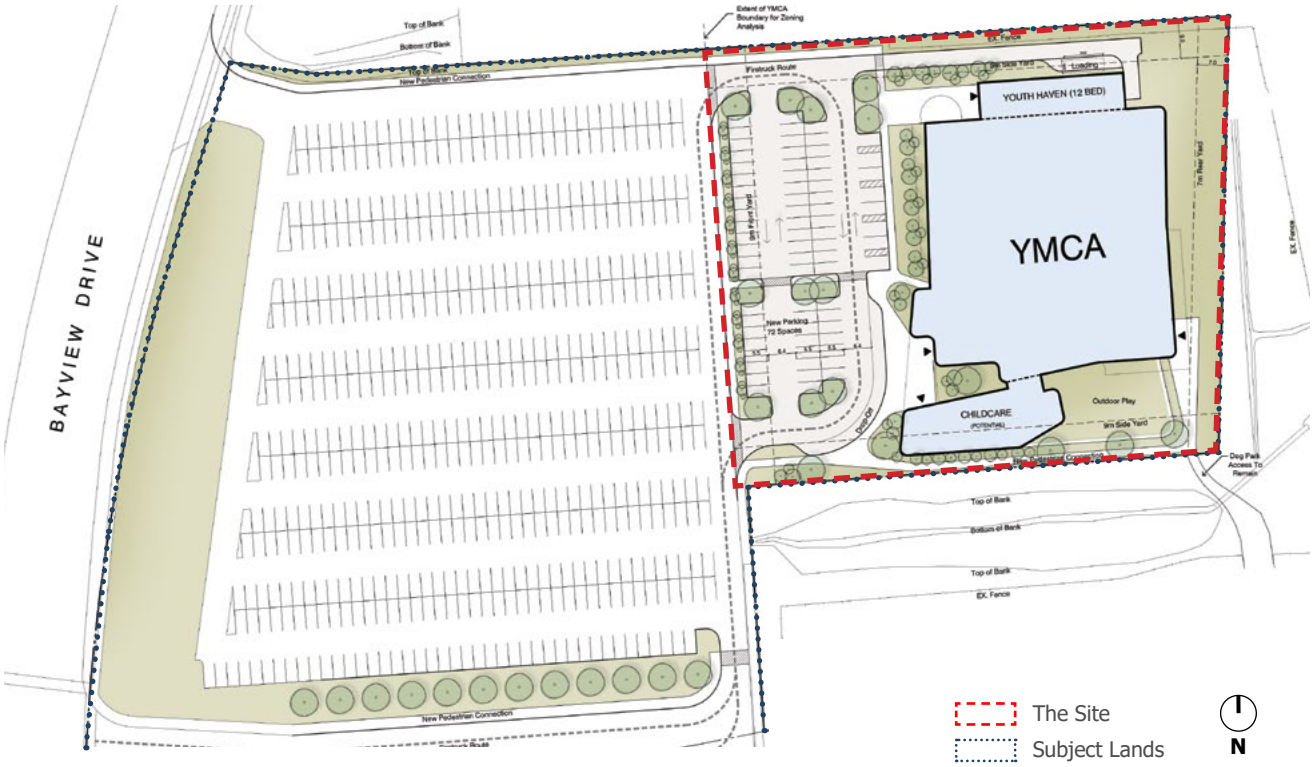


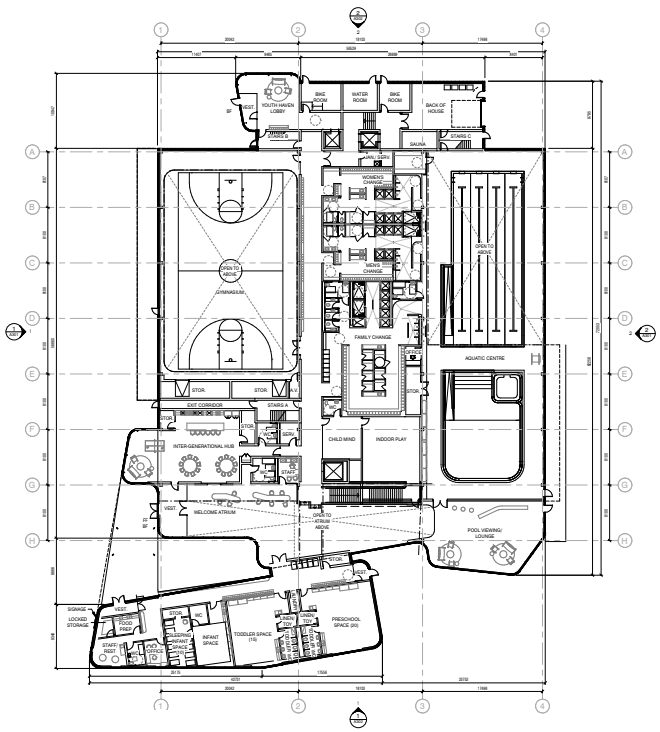
Figure 6.2 : Proposed Site Plan by Martin Simmons Sweers Architects

surface parking is located at the front of the building. However, it is appropriately landscaped and contains welldefined pedestrian connections to the main pedestrian entrances.

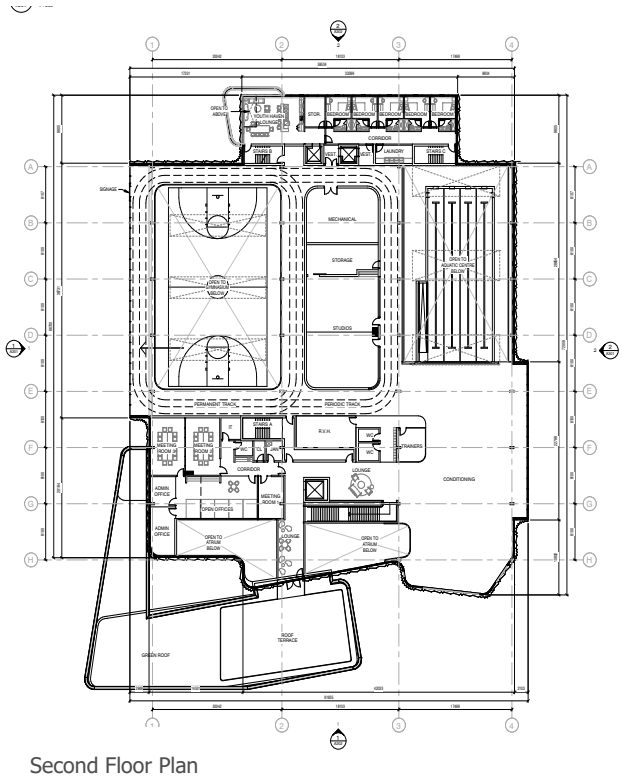
Facing Bayview Drive, the building's ground floor contains several active uses, including the main lobby, childcare facility and inter-generational hub. Loading and other back of the house services are located at the rear of the building, away from public view.

Daycare's outdoor play area is located on the southwest corner of the Site maximizing sunlight exposure and buffering it from the surface parking by the proposed building.

Overall, the proposed site design significantly enhances the character, usability and functionality of the the Site. It fits into the existing context and does not impede the functionality of the existing arena nor the potential redevelopment of the Subject Lands.



Ground Floor Plan



Second Floor Plan

N

Figure 6.3 : Floor Plans by Martin Simmons Sweers Architects

7.0
BUILT FORM & ARCHITECTURAL DESIGN

CITY OF BARRIE "OFFICIAL PLAN" 2051

3.2.1 Human Scale Design

a) To create human scale neighbourhoods that accommodate the City's anticipated intensification and growth, development applications, where appropriate, shall demonstrate the following:

ii) A context-appropriate continuous built form and street frontage which engages with and animates adjacent streets and open spaces;

iii) Architectural design that contributes to a rich pedestrian environment and experience through the location of building entrances along public streets and open spaces, the use of high-quality materials, increased glazing and transparency at the ground level, and pedestrian protection from the elements;

b) Attention must be paid to appropriate transition between existing and planned land uses and built form. While still conforming with the development standards of the appropriate land use designation, this may result in lower heights and densities than proposed based on or responding to site characteristics, building and site performance, and neighbourhood context.

c) Height and density are built form characteristics that are interrelated. Given this, proposed developments must seek a balance between height and density that is context sensitive.

3.3.1 General Built Form Development Criteria

The following urban design policies apply to all new development in Barrie:

c) Blank facades facing a street, open space, or park shall be strongly discouraged.

d) Buildings adjacent to the street edge and at sites with high public visibility shall be designed to take into account elements such as appropriate height, roof features, building articulation, and high-quality finishes and windows.

f) Buildings will be designed to completely screen roof-top mechanical equipment from public view.

3.3.2 Low-Rise Development

a) Low-rise development shall respect and complement the scale, massing, setback, and orientation of other built and approved low-rise buildings in the immediate area and shall be consistent with the other policies in this Plan.

g) To create visual interest and diversity in the built environment, a wide variety of architectural designs are encouraged. However, new buildings proposed within older, established areas of the city are encouraged to be designed to complement the visual character and architectural/building material elements found in these areas.

CITY OF BARRIE URBAN DESIGN MANUAL

2.0 Physical Environment And Building Siting

C. Design buildings at a scale that is compatible with adjacent structures. New buildings should respect the established heights and setbacks in the neighbourhood.

G. Design the building setback at a pedestrian scale where appropriate and to contribute to a desirable streetscape.

N. Provide a variety of reliefs and architectural elements within the façade of lengthy "strip" buildings to enhance and diversify the visual presentation of the structure.

R. Orient building entrances and windows toward the street to enhance surveillance.

7.0 Architectural Design

A. Ensure that the architectural design is compatible with the developing character of the neighbouring area. Design compatibility includes complementary building style, form size, colour and materials. Ensure that building heights and scale relate to the existing developed form of the area and unify or enhance the building character of the neighbourhood.

C. Coordinate exterior building design and detail on all elevations with regard to colour, types of materials, number of materials, architectural form, and detailing to achieve harmony and continuity of design.

D. Locate the main building facade towards a public street or internal courtyard. Principle walls should have windows along the street or interior space to provide casual surveillance and break up the building mass. Where blank walls are unavoidable, use architectural techniques (banding, soldier course, etc.), landscaping, and murals to enhance the elevation.

E. Enclose or screen rooftop mechanical equipment. Integrate roofs and screening with the design of the building in terms of form, materials and colour.

G. Design rooftops to have some identifiable shape. Avoid square or flattops on large buildings.

H. Ensure that main entrances to buildings are prominent and identifiable from the street to encourage pedestrian use.

I. Effective use of building materials, architectural details and lighting is encouraged

RESPONSE

The proposal includes a 2-storey building that gradually steps down to 1-storey towards the south, adjacent to the existing dog park and along the drop-off area where the main entrance is located.

The proposed development is compatible with the general scale, height and massing of the adjacent developments. It maintains a respectful low-rise relationship with the surrounding context.

The proposed design approach celebrates the essence of an attractive community facility and has the potential to seamlessly complement future redevelopment initiatives within the Subject Lands. The building's overall massing is a playful and fitting combination of straight and curvilinear walls, which gives it a unique character as a community facility.

Primary facades are articulated with a combination of vertical and horizontal architectural elements, and material variation to create aesthetic interest, break down the long facades and avoid blank walls.

The proposed building is designed to provide a continuous and animated frontages along the publicly visible facades to the east, west and south. Public-fronting facades will incorporate a high level of transparency to create "eyes on the street" based on Crime Prevention Through Environmental Design (CPTED) principles, as well as contribute to a more pedestrian-friendly environment.

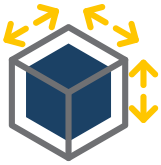
Building primary facade and entrance are oriented towards Bayview Drive, animating and providing active uses facing the public realm. The main entrance of the building will be highly visible and will serve as a key focal point to the building, and will be recessed and equipped with weather protection. Entrances and exits at grade will be flush with the proposed walkways to provide seamless barrier-free access for pedestrians. The proposed window glazing with breaks on the facades creates an inviting arrival experience that engages with the public realm and establishes a sense of identity.

The proposal will provide well proportioned and continuous "streetwalls" to create a pedestrian scale built form along the walkways. In addition, the proposed active frontages are clad with vision glass, providing an animated, safe and pedestrian-oriented environment.

SETBACK

HEIGHT TRANSITION

BUILT FORM



MASSING

Figure 7.1 : Render of the Proposed Development by Martin Simmons Sweers Architects

Figure 7.2 : Examples of well-designed YMCA building

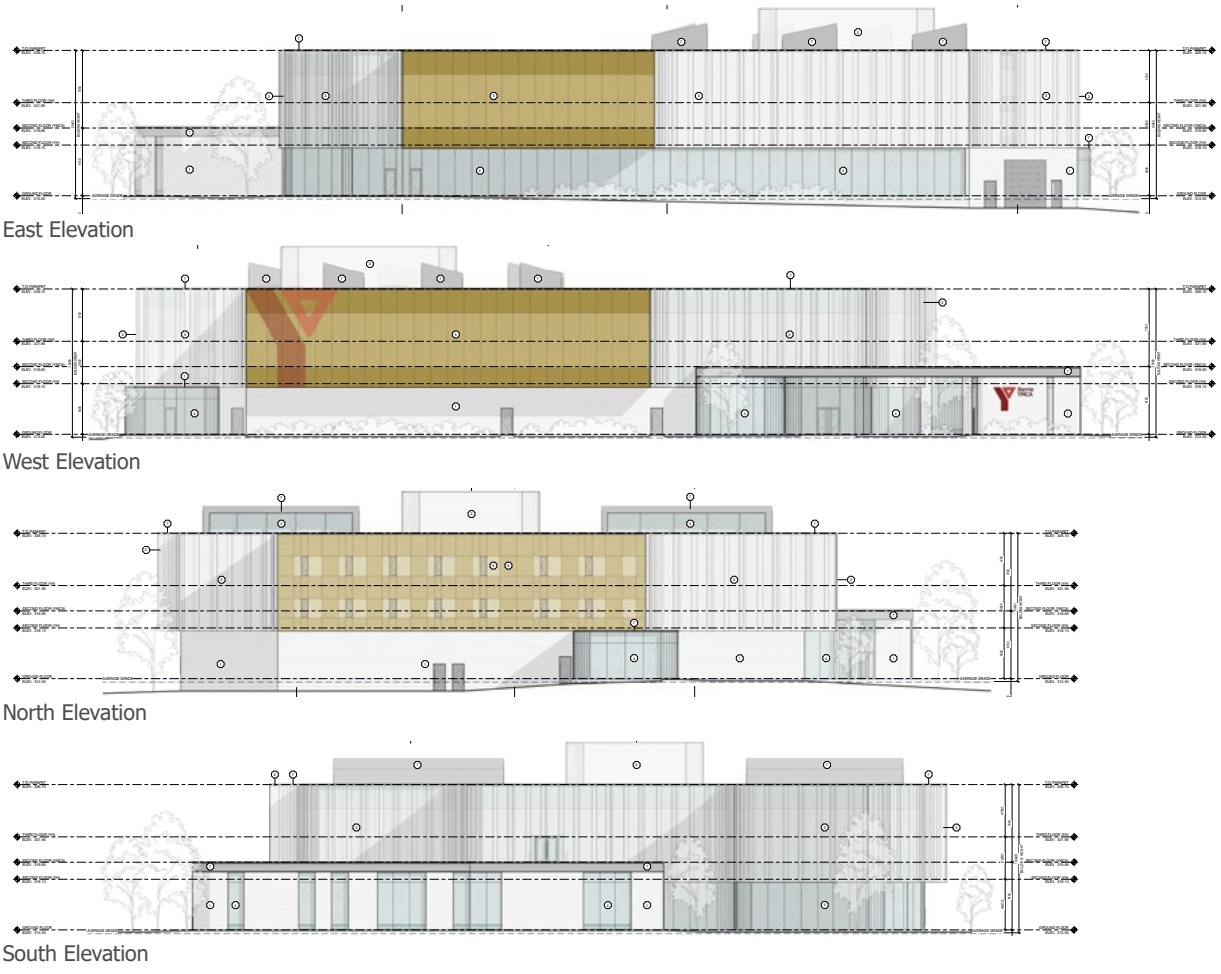


Figure 7.3 : Building Elevations by Martin Simmons Sweers Architects

The proposed building façade design will provide a balanced proportion between glazing and solid materials, such as two-toned break, curtain wall glazing, and metal panels to achieve a legible, and sophisticated building appearance. The proposed building will establish a high quality architectural design as a precedent for the overall character of the area. Light fixtures will be strategically located to ensure safety throughout the site.

The design of the building will seamlessly integrate the YMCA culture by prominently featuring its logo on the primary façade, enhancing recognition and character. Colour variations will be incorporated, adding an engaging architectural style and serving as a wayfinding element. The flat roof will further integrate the proposal into the existing context and assist in the consistency of commercial and industrial buildings to the west and north. Any proposed rooftop equipment will be setback from the facade edge, shielded from view of the public realm and therefore limit the impact on the visual appearance of the building.

STREETWALL

ARTICULATION

SUSTAINABILITY

STEP BACK

Figure 7.4 : Examples of High-quality Building Material

8.0
PEDESTRIAN & VEHICULAR CIRCULATION

CITY OF BARRIE "OFFICIAL PLAN" 2051

3.2.1 Human Scale Design

a) To create human scale neighbourhoods that accommodate the City's anticipated intensification and growth, development applications, where appropriate, shall demonstrate the following:

i) A compact and walkable pattern of streets and blocks which responds to, and connects with, the existing and planned community structure, including how streets, blocks, and open spaces are used to:

iv) Prioritization and optimization of public streets, mid-block connections, or other connections for human scale modes of transport including active transportation and public transit;

3.2.1 Human Scale Design

a) To ensure the development of complete neighbourhoods, development applications outside of Employment Areas, where appropriate, shall generally be designed to contribute to:

iv) Connectivity to transit facilities and active transportation networks in the neighbourhood;

v) Connectivity to community facilities, amenities, parks, and open space in the neighbourhood

3.2.4.5 Access, Circulation, Loading and Storage

a) Shared driveways are encouraged for employment, commercial, and mixed-use sites to reduce access points and reduce conflicts with pedestrians.

d) Well-articulated and distinct pedestrian walkways should be placed along a building street frontage and linked to public boulevards, public sidewalks, transit stops, trail systems and other pedestrian systems, as well as to Greenspace.

CITY OF BARRIE URBAN DESIGN MANUAL

3.1 Pedestrian Circulation

A. Provide a safe and convenient and accessible pedestrian network from street to building, parking area to building, and building to building, that is visible from the street and buildings, and clear from visual obstructions.

B. Provide pedestrian links between neighbouring properties where appropriate.

C. Provide pedestrian walkways connecting municipal sidewalks to all public institutions, office developments, neighbourhood and larger commercial developments and multi-unit residential developments.

D. Identify and emphasize major pedestrian routes through the use of signage, pavement markings, bollards, trees, appropriately scaled lighting and continuous hard surfaces.

E. Minimize pedestrian and vehicular crossings on site.

G. Install park and street furniture to create monitoring

opportunities along pedestrian pathways and open areas.

H. Discourage dead ends, reducing the potential for entrapment and concealment.

3.2 Vehicle Circulation and Parking

A. Design parking and vehicular movement plans in a safe, convenient, and easily understood manner with appropriate turning radii and visibility.

G. Clearly define primary vehicle routes on the site through the use of signage, curbing, bollards and line painting. Separate parking areas from primary vehicle routes and driveway entrances to public streets.

3.4 Access Driveways

A. Locate site access in a manner that reduces traffic conflict and confusion.

B. Provide mutual driveways where appropriate, especially along major collector and arterial roads to minimize the number of driveways.

C. Ensure pedestrian safety and maximize visibility through the proper location of driveways.

12.0 Transit

A. Design for convenient pedestrian access with transit routes. Minimize walking distances between transit stops and primary activity areas.

C. Coordinate transit stops with major activities, pedestrian routes and building entrance locations.

E. Bike racks should be located near building entrances or in high foot traffic areas to increase pedestrian circulation for deterring potential offenders.

RESPONSE

8.1 Pedestrian Access and Circulation

The proposal will support the transit-oriented vision of the community hub area by providing community uses close to Bayview Drive and Mapleview Drive East with multiple bus routes, optimizing the use of existing and potential future public transportation infrastructures.

Furthermore, the Site is within a 10-minute walking distance of existing commercial and industrial services, as well as recreational facilities, parks and green spaces, which together provide convenience for daily lifestyle activities and social congregation .

The development supports active transportation and safe pedestrian movement. The proposed site design promotes an attractive and comfortable pedestrian experience within the community hub area.

Safe pedestrain linkages are provided through a network of continuous concrete walkways, pedestrian crossing demarcations, and clear sightlines for pedestrians and cyclists. The proposed pedestrian network will contribute to the improvement of pedestrian experience throughout and beyond the Site and Subject Lands, given the development is in close proximity to existing commercial and recreational services, natural features, and industrial uses, all

within a 10-minute walking distance, as mentioned in Chapter 3 of this document.

In particular, the proposal will provide legible walkways all around the building to ensure safe, continuous, and universally accessible route to and from the main entrances to the key points within the Site. These walkways offer direct access to Bayview Drive, Mapleview Drive East, Sadlon Arena, and an off-leash dog park, while also connecting to a broader context and services through a sidewalk system and a multi-purpose trail network.

Additionally, there is a clearly delineated east-west walkway bisecting the parking lot providing safe and direct access from the surface parking to the building, avoiding conflict between vehicle and pedestrian movement and prioritizing safety and efficient pedestrian circulation.

Bicycle parking spaces are strategically positioned next to the primary building entrance and the basketball court, easily accessible from nearby public streets through the proposed walkway system. These placements support active transportation, encourage the use of bicycles, reduce vehicle dependency, and ultimately promote sustainability.

To prioritize users' safety, vehicular access points to the Site are limited to two entry points where pedestrian crossings are clearly marked. This measure effectively mitigates the potential for conflicts among pedestrians, cyclists, and vehicular traffic.

Weather protection elements will be implemented at building entrances, in conjunction with appropriate lighting to create a safe, comfortable, and well-defined pedestrian arrival and departure experience.

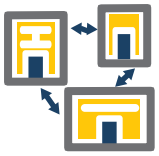
BARRIER FREE

DESIRE LINE

ACCESSIBILITY

PEDESTRIAN -ORIENTED

CIRCULATION



CONNECTIVITY

The proposed entranway and walkways will ensure Accessibility for Ontarians with Disabilities Act ("AODA") requirements are met by implementing sufficient walkway width, curb ramps and gradual grade changes. Design features, including the provision of textured surface paving and curb ramps, will be implemented where applicable to guide pedestrian movement, provide visual cues, and ensure a gentle, barrier-free transition for users of all ages and abilities.

Walkways will be well-lit to add another layer of natural surveillance and safety. In doing so, the proposed development will result in a walkable, enjoyable, and safe pedestrian experience

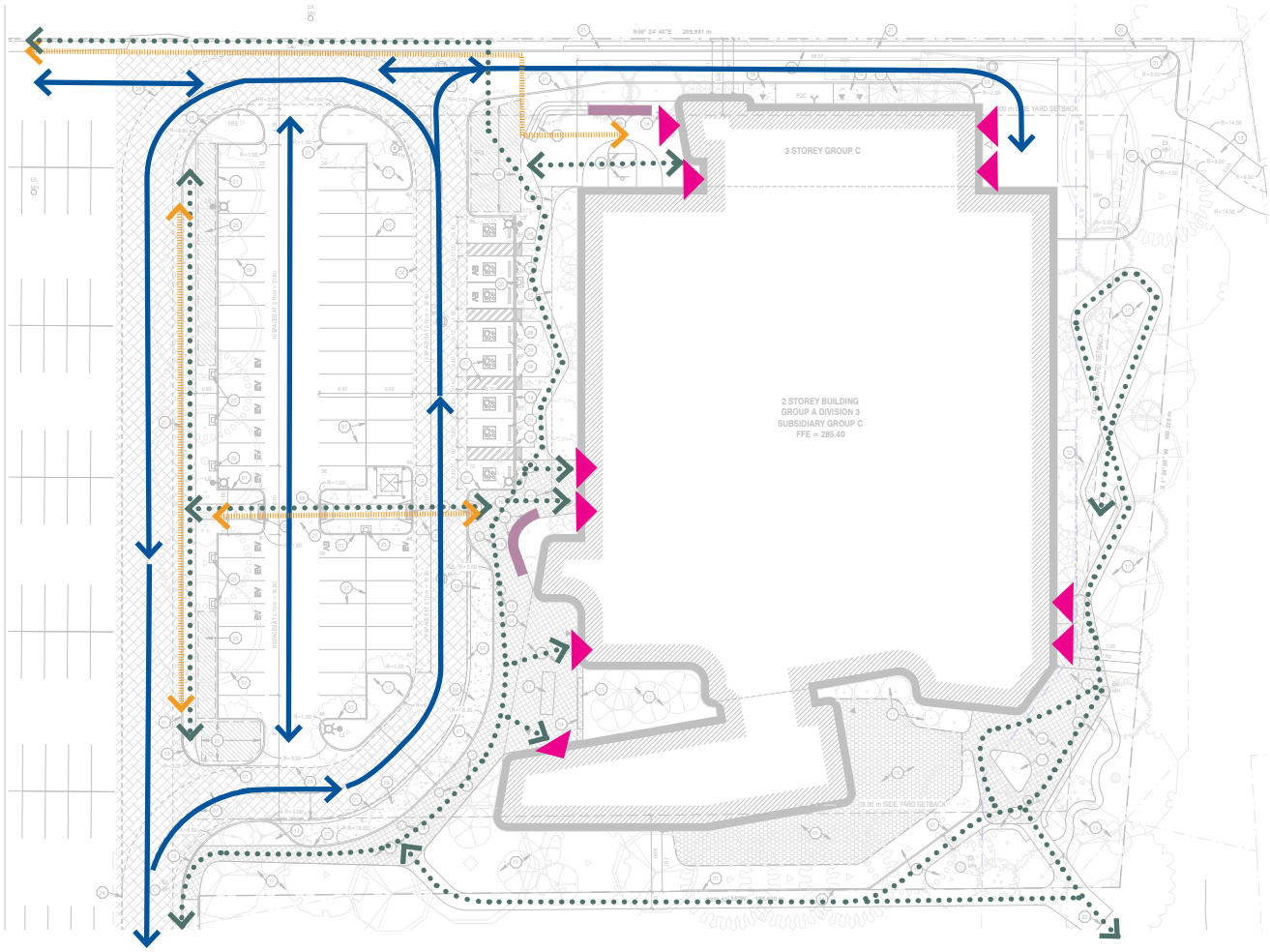


Figure 8.1 : Circulation Map

Figure 8.2 : Site Flow Diagram by Martin Simmons Sweers Architects

Figure 8.3 : Example of a clearly demarcated pedestrian and vehicular treatment surface to help direct movement and minimize conflict between pedestrians and motorists.

Figure 8.4 : Example of a well-lit walkway free of obstacles to allow for safe pedestrian movement

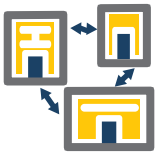
8.2 Vehicular Access and Circulation

The proposed development will utilize two existing vehicular access points off Bayview Drive, providing direct routes to the existing parking area to the west and subsequently to the Site. These access points will facilitate smooth vehicular circulation, providing direct entry to the surface parking area. It will also connect to the pick-up/drop-off area at the front and the loading area located at the rear. These key areas are linked through a two-way driveway, wraps around the proposed parking lot, ultimately leading back to the main access points off Bayview Drive.

The driveway, with a minimum width of 6.4m, will ensure vehicular circulation in a safe manner by meeting fire and emergency service standards and enforcing clear sight lines for safe pedestrian movement.

The surface parking and servicing access will be screened via landscaping where appropriate to avoid potential visual and physical impacts on the public realm and pedestrian activity zones. Design features, including clear wayfinding through signage will be implemented to promote a safe pedestrian and vehicular environment on site.

CIRCULATION



CONNECTIVITY

DESIRE LINE

ACCESSIBILITY

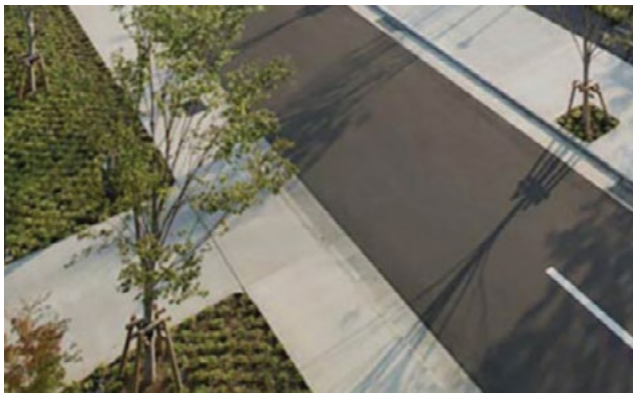


Figure 8.5 : Example of a Well-lit Vehicular Circulation Route with Clear Sight-lines and High Visibility

9.0
LANDSCAPE DESIGN

CITY OF BARRIE "OFFICIAL PLAN" 2051

3.2.1 Human Scale Design

v) Appropriate transitions between the private and public realm. This shall be achieved using setbacks, landscaping and materials, signage, lighting and/or other design techniques that create visual and physical transition between public and private spaces, as identified in the City-Wide Urban Design Guidelines.

3.2.4.6 Semi-Public Spaces and Amenity Areas

b) Tree planting is strongly encouraged as trees are considered an essential part of the neighbourhood fabric.

c) Where required, buffer strips shall consist of plant material that, at maturity, will form a visual barrier, in combination with other strategies such as fencing.

3.2.4.7 Lighting and Displays

a) Signs, display areas and lighting should be compatible in scale and intensity to the proposed activity and tailored to the size, type, and character of a development or the space to be used.

b) All building and site lighting shall be oriented and shielded to minimize the infringement of light and the creation of glare on adjacent properties or public streets. Outdoor lighting shall follow industry standards and should incorporate energy efficiencies, such as sensors and timers, and direct light away from the night sky. Lighting of prominent buildings, monuments and other built features to accentuate civic and architectural design may be permitted.

c) Adequate pedestrian-scaled lighting to accent walkways, steps, ramps, transit stops, and other features should be provided.

e) Signage should be incorporated into the building design.

g) Where outdoor display areas are associated with a large building, the use of landscape elements such as plantings, decorative fencing, and architectural elements such as façade extensions and canopies shall be incorporated for effective integration with the overall development.

CITY OF BARRIE URBAN DESIGN MANUAL

2.0 Physical Environment And Building Siting

E. Design outdoor spaces with regard to the programmed uses, the quality of views and the influences of sun and wind.

H. Locate active uses such as retail, service shops and restaurants at the street level to encourage pedestrian activity and interaction between internal spaces and the public realm.

M. Minimize shadows cast on adjacent properties, especially outdoor spaces and pedestrian activity areas.

P. Screen with landscaping external transformers located on arterial roads or highways and in areas of high visibility. Ensure that the landscaping does not prohibit access to operate and maintain the transformer.

S. Where appropriate, plan and design mixed land use development and supporting facilities to create and

enhance surveillance.

3.1 Pedestrian Circulation

F. Provide weather protected shelters and lighting at transit stops.

I. Provide adequate lighting along pedestrian connections.

5.0 Lighting

A. Select exterior lighting fixtures based on compatibility with the architectural design of the building and the character of the neighbourhood and enhance the ability for surveillance.

B. Design site lighting that considers all building and user needs. Particular attention is to be paid to pedestrian areas, barrier free travel paths, driveways, transit stops, parking, service areas and buildings.

C. Feature lighting is encouraged to high-light building relief, landscape features, and monuments.

D. Use of full "cut-off" light fixtures for exterior parking lot lighting and fully shielded fixtures for wall mounted exterior lighting to eliminate glare and light spillage on neighbouring properties and streets

F. Use pedestrian scaled lighting

G. Coordinate lighting systems and landscaping to ensure that plant materials or other landscape features do not obscure site and street lighting.

H. Encourage lighting areas that are intended to support evening/night activities. Avoid lighting all public areas as it creates a false sense of security for people passing through the night.

8.0 Signage

A. Architecturally integrate all signs with their surroundings in terms of size, shape, colour, texture and lighting so that they are complementary to the overall design of the building and are not in visual competition with other signs in the area.

B. Construct ground signs that incorporate building and landscape materials used elsewhere in the project.

C. Ensure that new signs proposed for existing buildings provide a compatible appearance with building signage of other tenants. With multiple signs on a single building, attempts to bring in a unifying element such as size.

D. Provide a uniform height and location of fascia signs on multiple tenancy buildings in order to portray a unified image.

G. Ensure that mature landscaping and signage work in harmony with each other.

9.0 Landscape Design

A. Promote the preservation of existing natural features such as watercourses, specimen, trees, hedgerow and woodlot vegetation wherever reasonably possible in an effort to minimize the environmental impact on the site and surrounding areas.

B. Promote an attractive landscape treatment of the site to soften and improve the visual character of the development by designing a harmonious integration of planting, fencing, retaining walls, hard surfaces, signage, etc.

C. Ensure appropriate plant species are proposed in relation to availability, cold hardiness, mature size and habit, sunlight/soil requirements, moisture/drought tolerance, pollution/salt tolerance, and seasonal effects.

E. Ensure soft landscape areas on the perimeters of the site to delineate boundaries, and establish streetscape appeal, spatial separations, berming and snow storage areas.

F. Strategic landscape screening and/or fencing is encouraged for exposed parking, driveways, storage, services and garbage containment areas.

G. Design landscaping to encourage positive functional relationships between the site uses and their surroundings in order to avoid conflicts, and/or require effective levels of buffering and fencing to minimize those conflicts. Relate landscape treatment of soft areas to their specific function, such as streetscaping, buffering, erosion control and energy conservation (windbreaks/shading).

I. Provide additional soft landscape areas within the site and foundation planting to reduce the negative impact of continuous expanses of pavement, to help delineate vehicular and pedestrian circulation, and provide opportunities to layer the landscaping between the street and building in relation to façade design.

J. Where appropriate, include the provision of appropriate site amenities and furnishings

RESPONSE

9.1 Landscape Design

The proposal contemplates an enhanced landscaped design that will provide pedestrians with both visual aesthetics and comfort along all frontages.

High-quality landscape design and details are proposed to achieve a unique sense of place and identity. The building's main entrance and connecting walkways will be equipped with landscape features to create a comfortable and well-defined pedestrian arrival and departure experience, as well as increase the site's visual interest. The landscape materials are proposed to maintain views into activity areas, including the entrance, windows, and walkways, to promote natural surveillance and ensure users' safety.

The proposal includes landscaped outdoor amenity areas adjacent to the entrance featuring a podium isle, the northern amenity area equipped with a bench and basketball system, and well-designed side yards and back yard. A highly programmed landscape experience is provided across the site where seating is complemented with coniferous and deciduous trees framed by decorative paving to provide all-season landscaping and accentuate the space while offering screening from abutting properties.

Landscape areas accommodate high shrubs and dense tree coverage will assist in defining and animating the visual corridor from Bayview Drive and Mapleview Drive East, presenting a sense of place, creating screens and buffers. Landscaped areas and islands will be provided adjacent to proposed surface parking areas and loading areas, mitigating the impact of on-site operational activities, and assisting in screening these areas from the public view. The landscaped areas also form green connections with green spaces and natural heritage system to the east.

PEDESTRIAN -ORIENTED

ACCESSIBILITY

STREET FURNITURE

STREETWALL

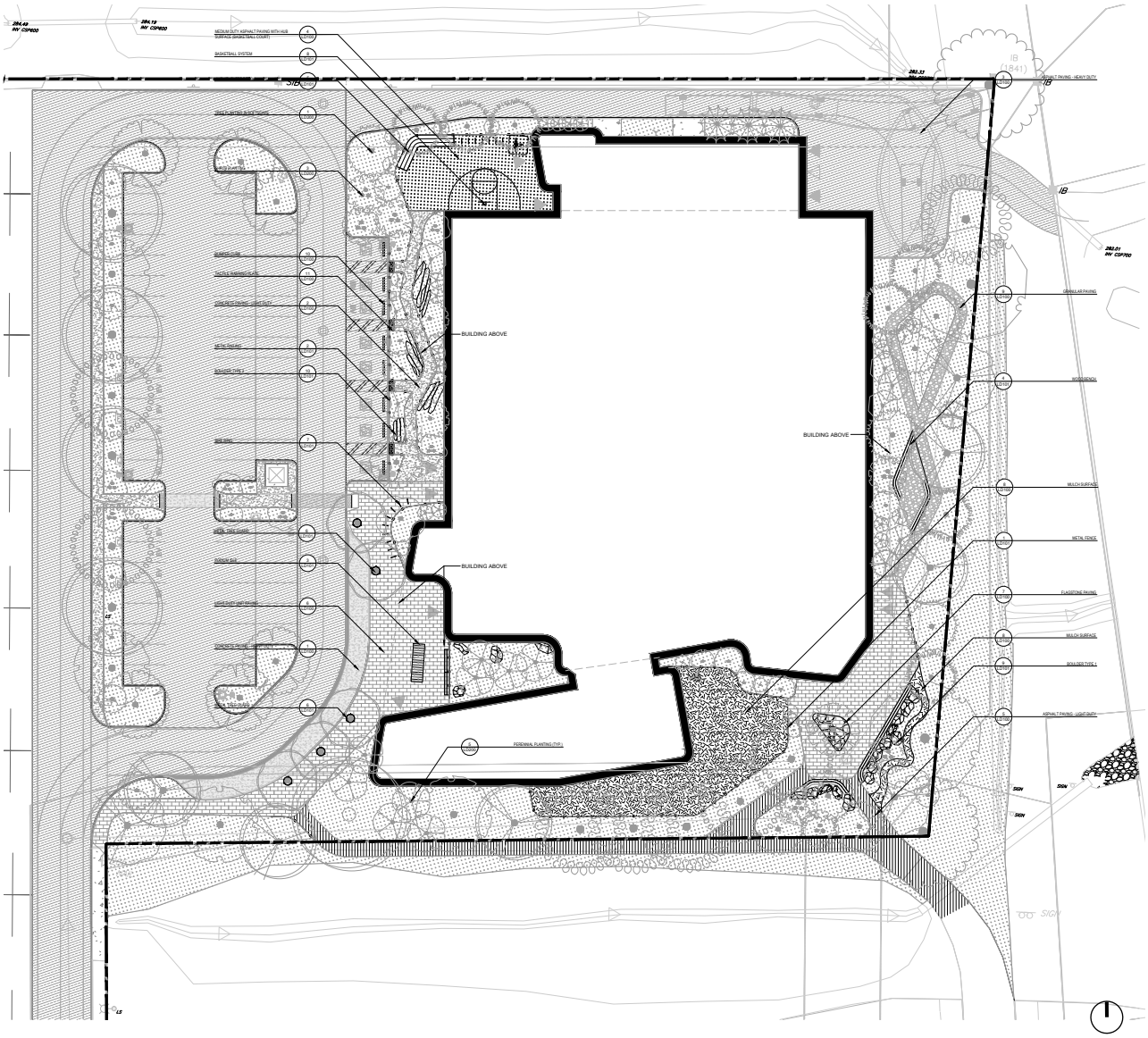


Figure 9.1 : Landscaped Plan by The Planning Partnership

The proposal will seek to use vegetative species that are native, non-invasive, and tolerant to urban conditions such as drought, salt, heat, and disease, with low resource maintenance requirements. The proposed landscape trees and plant species will be selected based on the appropriate Hardiness Zone, year-round climatic conditions, and visual appearance to promote a sense of place and the characteristics of the area.

A mixture of soft and hard landscapes will be included to enhance the edges of the site. Changes in paving material and pattern will be used to mark essential site thresholds and programmatic changes. This approach aims to improve the overall legibility of the development, effectively distinguishing different activities such as pedestrian walkways, crossings, amenity areas. Moreover, surface finish materials will be selected to display harmonious texture/ patterns aligning with the area's visual definition.

SUSTAINABILITY

NATIVE PLANTING

HEAT ISLAND EFFECT

WAYFINDING

Figure 9.2 : Example of landscape layering through a combination of trees, shrubs, and integration of landscape elements

Figure 9.3 : Example of well defined walkway edge through a hardscape and softscape design

Figure 9.4 : Example of a coherent softscape and hardscape landscape design that provides outdoor amenity spaces and facilitate pedestrian circulation

9.2 Utility, Signage, and Lighting

The proposal will situate utilities in clusters to avoid clutter with appropriate screening from the public realm. This placement minimizes the noise and visual impact on the public realm and surrounding area, while allowing for connections of existing utilities to align with any future services and expansions.

Exterior lighting will ensure adequate illumination levels and a unified distribution maintained for all building entrances, pedestrian walkways, amenity areas, parking and loading spaces, using strategic lighting placement to create natural surveillance opportunities and reinforce safe public use for pedestrians and cyclists based on CPTED principles.

The proposal contemplates lighting that will be applied to complement and animate building architecture/ landscape details and will be internally oriented and low-angled without glare light spillage onto adjacent properties or public spaces. Lighting will be further accommodated by using fixtures that have reduced energy consumption; such as LEDs, which ensures contribution to the safe urban form, as well as the compatibility of the surrounding context.

The signage, such as the address sign, YMCA sign, and parking sign, will be designed as an integral element of the site layout and high-quality building form design that does not dominate the overall development character. The design elements will be included in the proposal, where needed, accompanied by signage designed in compliance with principles of Universal Design and standards set by the Accessibility for Ontarians with Disabilities Act ("AODA").

Signage would be focused on main pedestrian thoroughfares such as building entrances, walkways, amenity areas, and accessible parking. These design features will increase the legibility and inclusivity of the site, making it inviting to people of all ages and abilities.

Figure 9.5 : Example of Thoughtfully-designed Light Fixtures and Signages

10.0
SITE SERVICING & PARKING

CITY OF BARRIE "OFFICIAL PLAN" 2051

3.2.4.5 Access, Circulation, Loading and Storage

e) Loading bays, waste service areas and building utilities/mechanical equipment should be located within a building. If permitted outside a building, they shall not be located immediately adjacent to an intersection, and will be directed away from a public street, park, river, public open space or residential area. If this is not possible, they will be adequately screened.

3.4 Parking Design for Developments of All Types and Areas

c) Surface parking lots should generally be located at the rear or side of buildings and not between the front of a building and the street. Where permitted adjacent to the public realm, surface parking lots shall be designed in a manner that contributes to an attractive public realm by providing screening and landscaping.

d) Walkways should be provided directly from parking lots and municipal sidewalks to the main entrance(s) of the building(s). Walkways should be well articulated, safe, accessible, and integrated with the overall network of pedestrian linkages in the area to create a comfortable walking environment. Landscaping should enhance the walkway.

e) Large surface parking areas should be divided into smaller and defined sections using landscape strips, islands and/or pedestrian walkways.

g) Bicycle parking shall be provided and conveniently located near building entrances. Sheltered bicycle parking should be integrated into built form.

h) Surface parking lots shall incorporate the use of pervious surfaces where feasible.

CITY OF BARRIE URBAN DESIGN MANUAL

2.0 Physical Environment And Building Siting

F. Locate open storage, loading, garbage enclosures or equipment areas where they are not visibly prominent from public space(s) or street(s).

K. Site buildings to reduce the visibility of parking areas or treat parking areas with visual breaks (e.g. landscaping) to reduce the impact.

3.2 Vehicle Circulation and Parking

B. Provide parking areas with appropriate signage and adequate and uniform lighting for visibility and safety surveillance.

C. Locate parking areas (particularly barrier free parking spaces) in close proximity to building entrances.

D. Incorporate pedestrian circulation within the parking area.

F. Pave all parking and traffic circulation areas for light & heavy use as required.

G. Clearly define primary vehicle routes on the site through the use of signage, curbing, bollards and line painting. Separate parking areas from primary vehicle routes and driveway entrances to public streets.

K. Use areas located immediately adjacent to buildings or structures for walkways and/or landscaping and not for parking.

L. Provide landscaping around the perimeter of parking areas and laneways. Use low level screening adjacent to public streets. Use dense screening (i.e. solid fences, coniferous plant material) when adjacent to conflicting land uses. Be sure that landscaping does not create hiding places or be a visual obstacle.

M. Provide raised traffic islands to break up large parking areas and at a suitable scale and size to accommodate shrub and tree planting. Provide barrier free traffic islands where they are part of the pedestrian circulation system.

N. Consider ground cover, or a decorative hard surface for pedestrian uses, as a possible alternative to sod within raised traffic islands. Select parking lot plant material that is easy to maintain, hardy, and pollution, salt and drought tolerant.

O. Ensure that parking lot planting does not obstruct views of approaching traffic, pedestrians, the street and building entrances.

P. Incorporate landscaping features in parking areas to provide shade and influence wind, erosion, noise and glare.

Q. Provide appropriate snow storage areas that do not interfere with pedestrian and vehicle circulation, or sensitive landscape plantings, as well as in an area that could be a visual obstacle.

R. Visitor parking areas should be located near main entrances of buildings and marked with signage, providing visitors with a direct route to and from the building.

4.0 Site Services

A. Ensure that loading bays, recycling areas and garbage storage facilities are located away from public streets or screened through the use of landscaping, walls and buildings but not to create entrapment areas and hiding places.

B. Eliminate conflict between service/loading areas and vehicle/pedestrian routes.

C. Design on-site circulation to eliminate reversing or maneuvering on public streets.

D. Orient continuous sources of noise and odour away from sensitive adjacent uses. Use noise attenuation measures where necessary.

F. Locate recycling and garbage handling within the primary building or within an accessory structure. Ensure adequate access for the related service vehicle and a loading space located adjacent to the recycling and garbage handling area.

H. Store all recycling and garbage bins within the structure.

I. Provide interior waste storage areas for restaurants and commercial buildings providing food services.

J. Locate utilities underground to improve the appearance of the development. Where above ground utilities are necessary, ensure compatibility with other site features.

K. Provide adequate lighting to ensure safety.

12.0 Transit

E. Bike racks should be located near building entrances or in high foot traffic areas to increase pedestrian circulation for deterring potential offenders.

RESPONSE

The proposal provides a total of 72 surface parking spaces on the Site, including 8 barrier-free parking spaces. The existing parking lot to the west of the Site is shared by the proposed facility and the Sadlon Arena to the south. The proposed parking spaces are located west of the building. The configuration of the parking spaces represents a shallow parking field that will support safe vehicular circulation while ensuring accessible parking needs are prioritized and situated in close proximity to building entrances with barrier-free access. The proposed surface parking area is divided into smaller and defined sections using landscape strips and pedestrian walkways.

Bike parking spaces will be thoughtfully situated adjacent to the primary building entrance and to the north, integrated within the amenity area near the basketball system, promoting and facilitating active transportation.

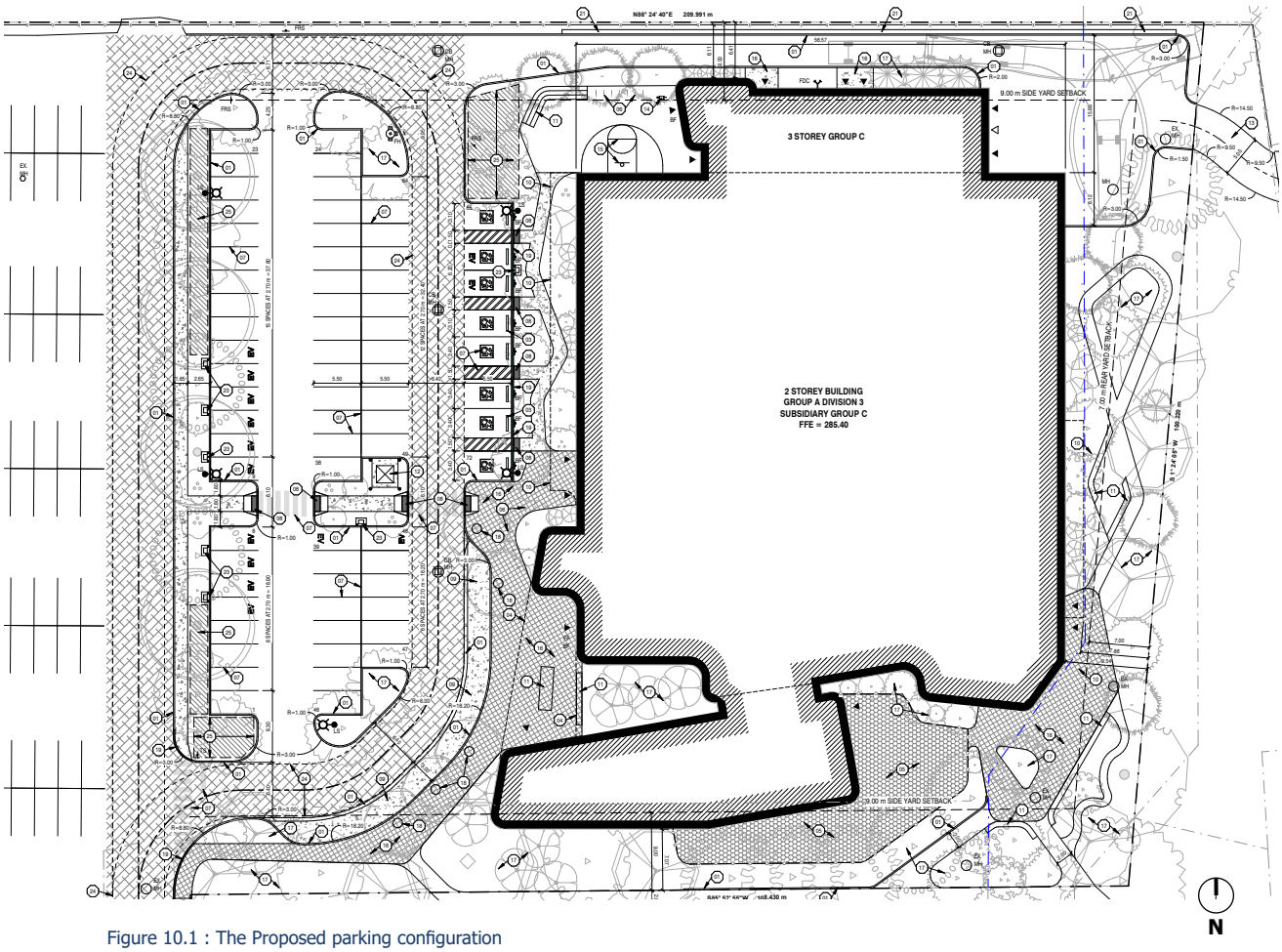


Figure 10.1 : The Proposed parking configuration

The loading area and service facilities will be integrated into one location and are positioned at the rear of the building. These areas are appropriately screened by a well-designed landscaped area to minimize potential physical and visual impact. Snow storage will be provided without physical or visual disruptions to pedestrian and vehicle circulation, or sensitive landscapes.

SUSTAINABILITY

PEDESTRIAN -ORIENTED

ACCESSIBILITY

CIRCULATION

Figure 10.2 : Examples of well-integrated surface parking spaces

11.0
SUSTAINABILITY & MICROCLIMATE

CITY OF BARRIE "OFFICIAL PLAN" 2051

3.2.3 Sustainable and Resilient Design

a) To support the City's sustainable design priorities, all development applications shall demonstrate how the City's sustainable and resilient design priorities are being addressed, including through:

i) Optimization of passive and renewable energy design strategies;

ii) Minimization of non-renewable energy consumption, as well as waste;

iii) Use of environmentally-friendly products;

iv) Protection and conservation of water;

v) Enhancement of the natural environment;

vi) Mitigation of climate change and major weather events, including through the use of design elements and durable materials;

vii) Adaptation to Barrie's seasonal changes; and,

viii) Resource conservation through operational and maintenance practices.

3.2.3.1 Green Development Standards

a) The City will establish green development standards in consultation with the building and construction industry, and until such time as green development standards are adopted by City Council, applications for an Official Plan amendment, Zoning By-law amendment and/or plan of subdivision or site plan approval are required to submit a Sustainable Development Report, indicating how sustainable design best practices are being addressed. While justification can be made for why certain best practices are not being pursued, the report shall demonstrate how the development proposal intends to:

i) Provide a high level of efficiency in energy consumption to reduce greenhouse gas emissions;

ii) Maximize solar gains and be constructed in a manner that facilitates future solar energy installations;

iii) Include or facilitate future on-site renewable energy systems;

iv) Provide a high-level of efficiency in water consumption, including rainwater harvesting and greywater recirculation for irrigation purposes;

v) Enhance indoor air quality;

vi) Contain or facilitate the future installation of plug-ins for electric vehicles;

vii) Use environmentally preferable building materials, high-renewable and recycled content building products, and certified sustainably harvested lumber;

viii) Prioritize local sourcing to reduce carbon footprint;

ix) Provide water efficient and drought resistant landscaping, which should include the use of native plants;

x) Incorporate low impact development and maximize permeable surfaces, including the provision of permeable driveways;

xi) Incorporate green roofs into building design;

xii) Reduce construction waste and divert construction waste from landfill;

xiii) Design to connect amenity areas, open spaces, and parks; and,

xiv) Promote Energy Star qualified and LEED-certified development.

3.2.4.8 Bird-Friendly Design

To protect the bird population in Barrie, the following bird-friendly design best practices are encouraged:

a) The City will develop bird-friendly design guidelines.

b) All windows should be constructed (e.g., of the proper material) and oriented in a way to reduce bird collisions.

c) Lighting should be oriented in a manner that is friendly to bird migratory patterns, behaviour and habitat.

d) The City will assess and mitigate risk to birds from existing and proposed municipal buildings.

RESPONSE

A sustainable design approach will be applied to the proposed YMCA facility within the Subject Lands. The design strategies outlined below are referenced from the Design Intent Letter by Martin Simmons Sweers Architects, Inc:

YMCA is committed to best practices in facility design, construction, and operations with an intent to minimize its footprint, reduce ongoing operational costs and maximize the utility of its facilities and programs within the local community. The Barrie YMCA project team is exploring LEED (Leadership in Energy and Environmental Design) Certification.

An analysis on the balance of high-performance building envelope vs. mechanical and electrical systems will be undertaken in the next stage of project development. This involves weighing cost and performance benefits of each approach in consultation with the overall design team. The path to achieving LEED certification will be a combination of these elements as we identify the systems best suited to the building type and project specific parameters. In the later stages of project development, we'll focus in on building details such as thermal bridging, air tightness, and mechanical and electrical equipment specifications. These important decisions will come into focus once an energy model is completed.

We provide our strategies below for the criteria identified in Section 3.2.3 of the Official Plan 2051.

i) Optimization of passive and renewable energy design strategies

The need to address cooling loads and occupant comfort is increasing due to the effects of climate change. Warmer average temperatures and extended

periods of extreme heat requires buildings to respond to current and future climatic conditions. At this stage in the project, we've considered site and environmental factors, most importantly heat gain through solar radiation. The building use greatly benefits from natural light and glass curtain wall is used throughout. In studying our glazing ratio and overall building form it was critical to include a solar shade in the form of a perforated metal screen to allow the passage of natural light but greatly reduce heat gain through ultra violet radiation. Additionally, north facing roof lights provide natural light to darker areas of the building without contributing to solar heat gain. These massing and material decisions will greatly reduce the building's cooling load and energy consumption.

ii) Minimization of non-renewable energy consumption, as well as waste;

To achieve LEED certification the project team will be looking at renewable energy source options for mechanical and electrical systems. These include geothermal energy in lieu of or to offset natural gas and photovoltaic panels to offset electric consumption. Each of these renewable energy sources could be part of our LEED design strategy. Construction and lifestyle costs as well as performance and suitability for this project will be studied in the next phases of design.

SUSTAINABILITY

FACADE

NATIVE PLANTING

PEDESTRIAN-ORIENTED

Figure 11.1 : Examples of sustainability measures proposed for the site including (left to right): bicycle storage, landscaping, light coloured paving and native plantings (Canadian Serviceberry)

iii) Use of environmentally- friendly products;

The products we specify for this project are considered through a 'cradle-to-grave' approach. Considering the embodied carbon of materials as well as their durability, life cycle, and effect on indoor air quality. Where possible we strive to use natural materials, from floor and wall finishes to insulation materials. Limiting the use of concrete is also important to reducing the embodied carbon footprint of the building.

iv) Protection and conservation of water:

The building will minimize its use of potable water through a grey water system for fixtures that can use non-potable water. On the site, permeable pavers and landscape areas will retain rain water and limit the amount of storm water being directed off-site.

v) Enhancement of the natural environment:

The project site is currently a surface parking lot, and therefore all of the proposed natural landscape areas are a net increase to the city's urban tree cover and natural environment. All available landscape area within the limit of work has been carefully designed to maximize potential for planting and tree cover. The basis of the landscape design is native trees and planting that will naturally fit in to the local environment and nearby storm water pond. Walking trails, benches, and gathering areas encourage use and enjoyment of these naturalized areas

vi) Mitigation of climate change and major weather events, including through the use of design elements and durable materials:

vii) Adaptation to Barrie's seasonal changes:

As mentioned in paragraph i) the effects of climate change and the impact on our local environment is present and must be anticipated to increase in severity in the future. Extreme heat in summer months and severe weather that brings above normal levels of precipitation are elements the building and site will address. Strategies that have been described herein to manage these major weather events include shading to reduce cooling loads, renewable energy sources to fuel cooling equipment, and landscape surfaces that will absorb water during heavy rainfall.

viii) Resource conservation through operational maintenance practices.

LEED certification demands resource conservation across all building systems. The building envelope will achieve R-vales above Ontario Building Code minimums to reduce the amount of warm or cool air being lost through building elements such as walls, roofs, and windows. Lighting systems will be equipped with occupancy sensors to minimize the electrical load and HVAC systems will be of high efficiency and utilize energy efficient components such as ERVs (Energy Recovery Ventilator). High attention through each stage of design will be given to building envelope for air tightness to ensure the building operates as efficiently as possible.

12.0
CONCLUSION

The proposed a 2-storey YMCA building with an attached youth heaven in 3 levels containing 12 transitional residential units, childcare, and associated parking area utilize the existing surface parking lot and facilitate future growth and development along Bayview Drive and Mapleview Drive East. The proposal provides high-quality architecture and landscape design that will achieve a sense of arrival and be recognized as a prominent urban form.

The proposed design will offer an active, safe environment to its users. The combination of landscaping and high-quality architectural design will result in a visually appealing design that is welcoming and inviting.

Based on our review of the City of Barrie Official Plan 2051 and the City of Barrie Urban Design Manual, it is our opinion that the proposal adheres to the vision and design direction for the Community Hub and Strategic Growth Area. As outlined in this Urban Design Brief, the proposed development represents an appropriate development of the Subject Lands, in keeping with the Provincial and Municipal policies and regulations.

Design Terms

ANIMATION
Support sustained activity on the street through visual details, engaging uses, and amenities

ARTICULATION
The layout or pattern of building elements (e.g. windows, roofs) that defines space and affects the facade

BARRIER FREE
Public and private places and spaces, designed to accommodate persons of all ages and abilities

BUILT FORM
The physical shape of developments including buildings and structures

DESIRE LINE
Shortest or most easily navigated route marked by the erosion of the ground caused by human traffic

ECOLOGICAL RESTORATION
Strategies to enhance existing natural heritage systems for environmental benefits

FACADE
The exterior wall of a building exposed to public view

FIGURE GROUND
The visual relationship between built and unbuilt space

HEIGHT TRANSITION
The gradual change in height between buildings within a community

INFILL DEVELOPMENT
Development of underused lands within existing built communities to complete or densify those communities

LANDMARK
Highly distinctive buildings, structures or landscapes that provide a sense of place and orientation

LANDSCAPE BUFFER
Enhanced landscaping along property perimeters that protect privacy and promote compatibility

NODE
A place where activity and circulation are concentrated

PASSIVE SOLAR DESIGN
Building design and orientation that utilizes the sun to promote greater use of renewable energy and building comfort

PASSIVE SURVEILLANCE
Design techniques to enhance visibility and safety of public areas

PEDESTRIAN-ORIENTED
An environment designed to ensure pedestrian safety and comfort for all ages and abilities

STREET ENCLOSURE
The ideal ratio of street to building wall that promotes a walkable and comfortable pedestrian realm

STREET FURNITURE
Municipal equipment placed on streets, including light fixtures, fire hydrants, trash receptacles, signs, benches, mailboxes, newspaper boxes and kiosks

STREETWALL
The consistent edge formed by buildings fronting on a street

SUSTAINABILITY
Developing with the goal of maintaining natural resources and reducing human impact on ecosystems

VISTA
Direct and continuous views along straight streets or open spaces

WAYFINDING
Design elements that help people to navigate through an area (e.g. signs, spatial markers)

URBAN INTENSIFICATION
Increasing urban density and land use efficiency through re-development

WATER MANAGEMENT
Management of available water resources to promote water quantity, and its efficient use and reuse

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