

# Cornell Centre Precinct Plan

November 26, 2012

URBAN STRATEGIES INC


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The Cornell Centre Precinct Plan was initiated by the City of Markham in early 2011. The purpose of the study is to provide greater planning and design direction for the growth and evolution of Cornell Centre.

**The major outcomes of the project are as follows:**

- To confirm and refine the directions of the Secondary Plan;
- To align recent development proposals and infrastructure requirements with the Secondary Plan and emerging Precinct Plan; and
- To provide greater detail and certainty through an effective development framework and design guidelines.

**Project Team**

The project was led by the Planning and Urban Design Department and managed by Catherine Jay, Manager of Urban Design.

Urban Strategies Inc., an integrated urban design and planning firm, lead the consultant team in the preparation of the Precinct Plan. Urban Strategies was responsible for the urban structure planning, urban design, and stakeholder and public engagement portions of the project.

The Precinct Plan development process was informed by a larger steering committee made up of City staff. Members of the steering committee represented a diversity of interests and expertise, including planning, urban design, transportation, transit, parks and infrastructure. The steering committee was regularly involved through vision sessions, project update meetings and other review processes.



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FIGURE 0.1: 2012 AERIAL

# 1 Cornell Today

Master planned in the 1990's, the Cornell Community has seen significant residential development. However, Cornell Centre, the future heart of Cornell, remains undeveloped within the larger community. This section outlines a series of planning initiatives that have informed this Precinct Plan. It also examines several recent development proposals for lands within Cornell Centre, highlighting both the potential of this important centre as well as the need for detailed built form and planning direction.

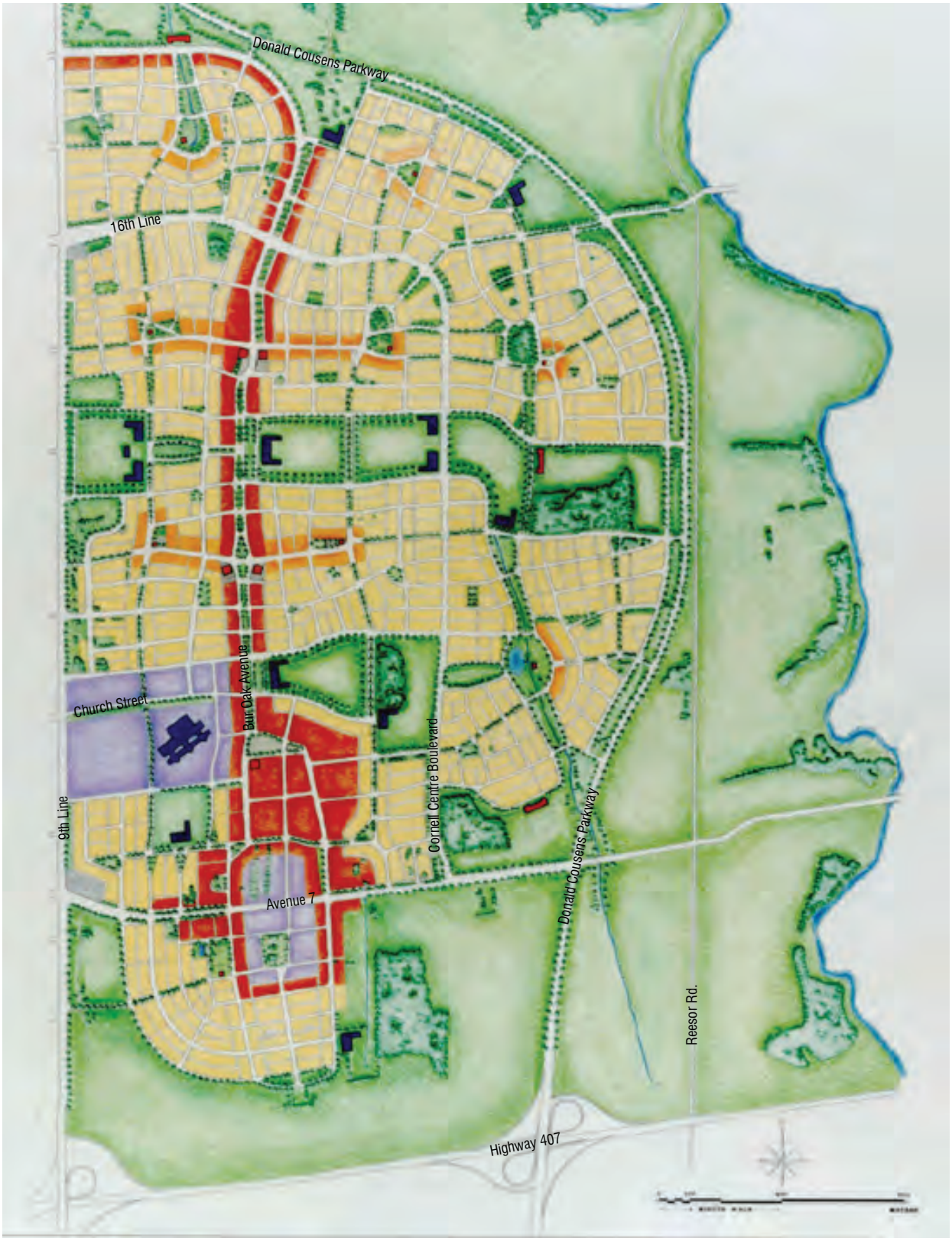



FIGURE 1.1: 1994 PLAN BY DUANY PLATER-ZYBERK + CO

# 1.1 History of Cornell

**Located at the northeast corner of the urbanized GTA,** the Cornell community was planned on a greenfield site. Urban development, was preceded only by the construction of the Markham-Stouffville Hospital, which opened in 1990. The hospital serves as a regional health centre and a major employment anchor, supporting hospital, medical office and other related uses.

Cornell is a planned community, designed in the mid-1990's by Duany Plater-Zyberk, an internationally recognized design firm. Cornell was designed according to principles of New Urbanism, which is an approach to urban development that promotes walkable, mixed-use communities that value connectivity, high quality design and human-scaled open space. The Cornell Community was masterplanned in accordance with these principles. The overall vision for Cornell included a series of local neighbourhoods organized around a retail corridor along Bur Oak Avenue and an integrated open space network that provides linkages to the surrounding natural areas and countryside.





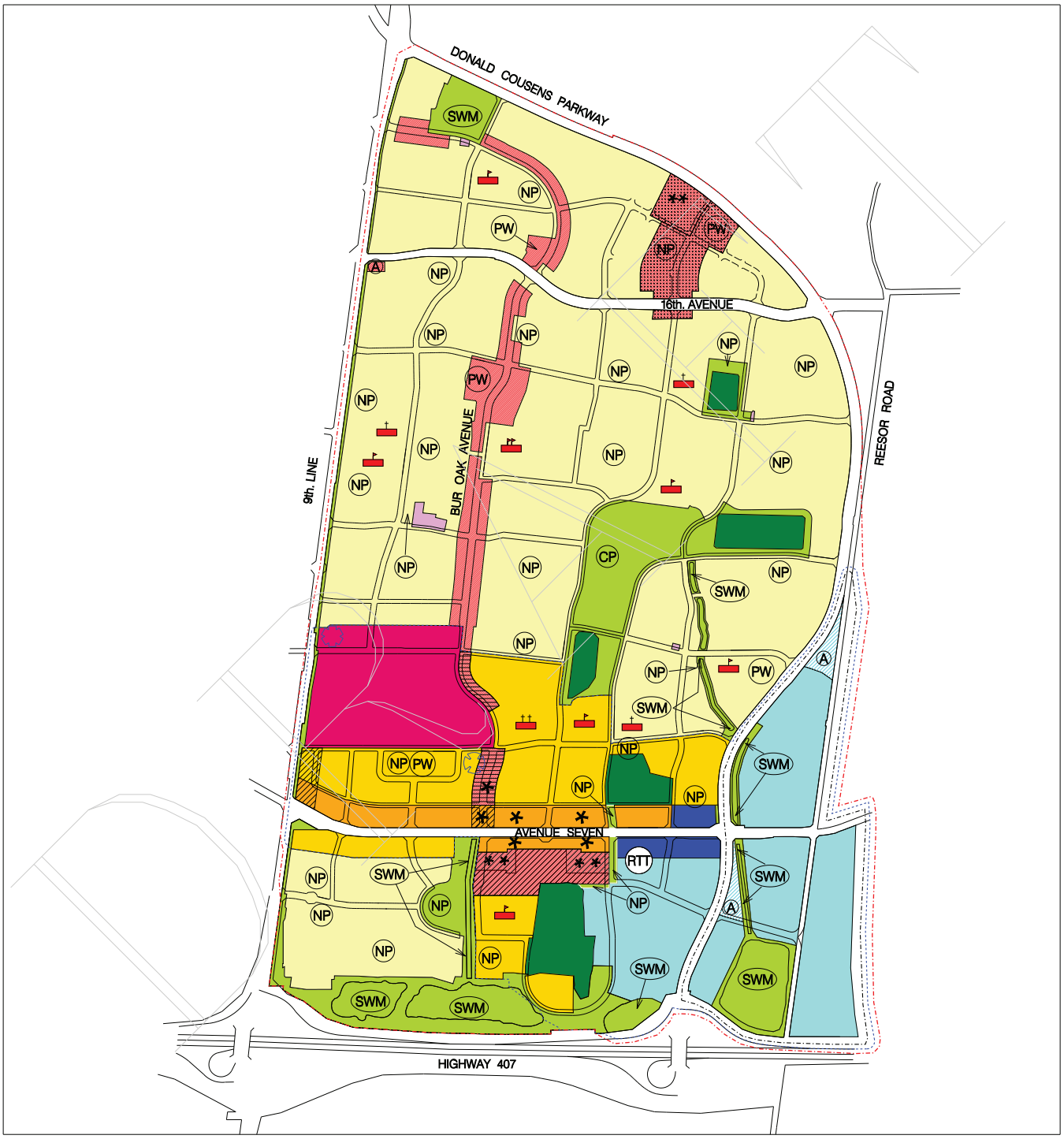



FIGURE 1.2: CORNELL SECONDARY PLAN - DETAILED LAND USE MAP

# 1.2 The Cornell Secondary Plan

The Cornell Secondary Plan was approved in 2008 and retained much of the original urban structure and vision for Cornell. The Secondary Plan refined the vision for Cornell into a more detailed planning and urban design framework.

Overall, the Secondary Plan anticipates that Cornell Centre will develop with predominantly high density housing and will accommodate approximately 10,000 residents and 10,000 jobs.

**Under the direction of the Secondary Plan and the Cornell Planning Principles, this Precinct Plan provides detailed direction to ensure the effective development of Cornell Centre as the heart of the greater Cornell community.** The Cornell Secondary Plan anticipated the creation of a more detailed precinct plan that would provide further design and planning direction specific to Cornell Centre. This Precinct Plan was prepared to provide this detail, and includes 3-dimensional vision drawings and detailed built form guidelines to clearly communicate built form and design intentions. The process of developing this Precinct Plan provided opportunities for further refinement and additional direction for important issues, such as the location and integration of the transit terminal into the surrounding community.

Generally, this Precinct Plan is consistent with the Secondary Plan. The only changes are the consolidation of commercial activity within a more concentrated node at Highway 7 and Bur Oak Avenue and an increase in building heights in and around this node. This will ensure the success of retail development and further align commercial development with major infrastructure and city building initiatives.

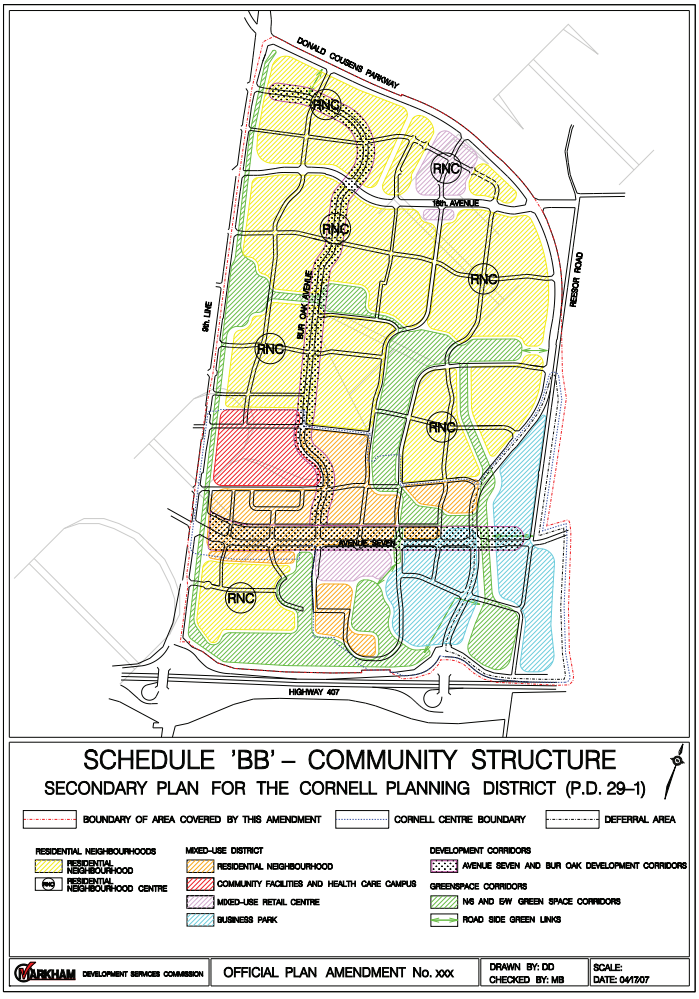



FIGURE1.3: CORNELL SECONDARY PLAN - COMMUNITY STRUCTURE MAP







# 1.3 Cornell Today

**The original Cornell master plan** established a detailed pattern for the development of the entire community. Over time, this vision has begun to be realized through the development of several residential neighbourhoods and small retail areas. Today, Cornell's built neighbourhoods are characterized by a diversity of unique housing types, a grid-like pattern of streets and laneways, intimate open spaces and a mix of uses.

Though Cornell has seen extensive residential development, many areas remain undeveloped, most notably, Cornell Centre. Cornell Centre was always intended to be the heart of Cornell, a higher density mixed use centre with a retail core. This vision continues to be relevant. The continued application of the principles of new urbanism within a high density, mixed use environment is one of the challenges addressed in the Precinct Plan.

Cornell continues to evolve from the original Master Plan, shown here (fig. 1.1) , to meet today's reality of intensification and high density development. Although some of the physical design has changed, Cornell has remained true to its guiding planning principals. This evolution has allowed the plan to take advantage of intensification targets, development trends and transit investment while still creating the kind of community originally envisioned.





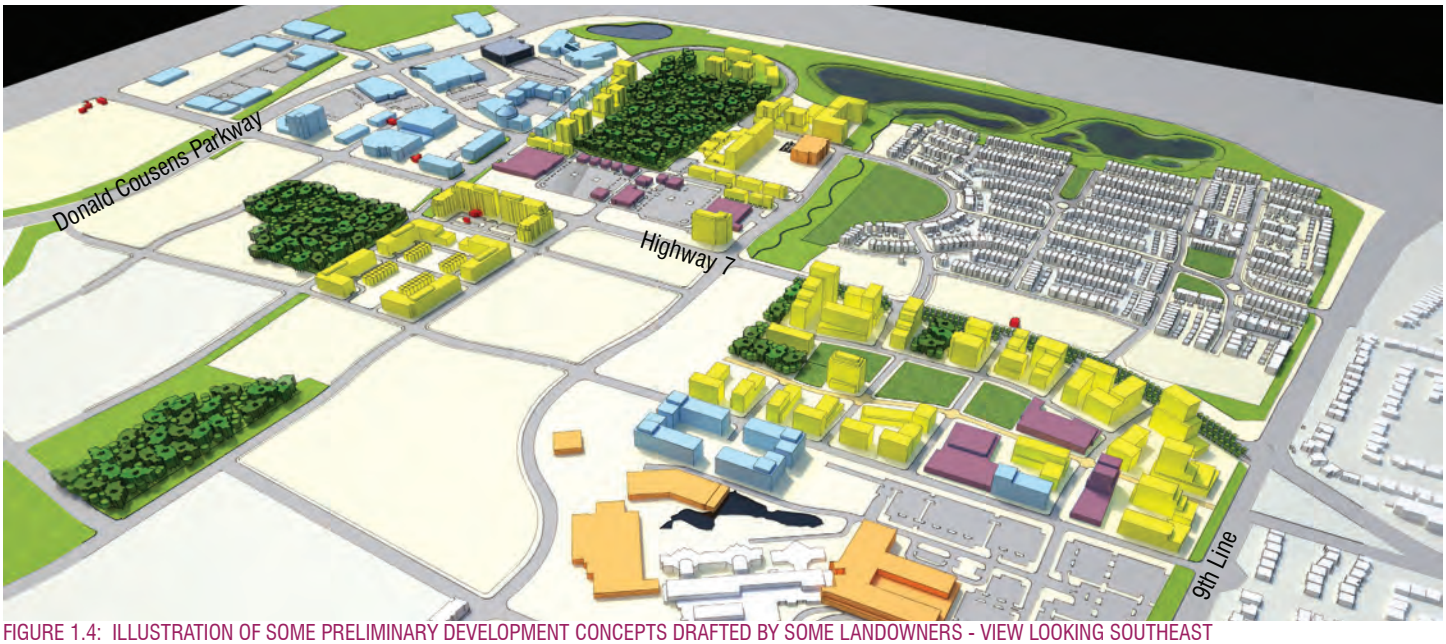


FIGURE 1.4: ILLUSTRATION OF SOME PRELIMINARY DEVELOPMENT CONCEPTS DRAFTED BY SOME LANDOWNERS - VIEW LOOKING SOUTHEAST

## On-going Development Proposals

Many of Cornell Centre's landowners have begun to plan new development. This planning is in various stages of refinement and some planning approvals have already been granted for mixed-use residential development.

While the Secondary Plan provides detailed planning direction for new development, the Precinct Plan ensures further consistency between various development approvals and provides a higher level of detail to support, streets and blocks, built form, transportation and other urban design considerations.

The Precinct Plan process engaged landowners in a series of consultation meetings and project update packages to support design and planning coordination. Many of the concepts and ideas proposed by the landowners are consistent with the Secondary Plan and are brought forward in the Precinct Plan. However, some refinements have been implemented in order to ensure the Secondary Plan's planning principles are upheld and the objectives for this planning process were met.

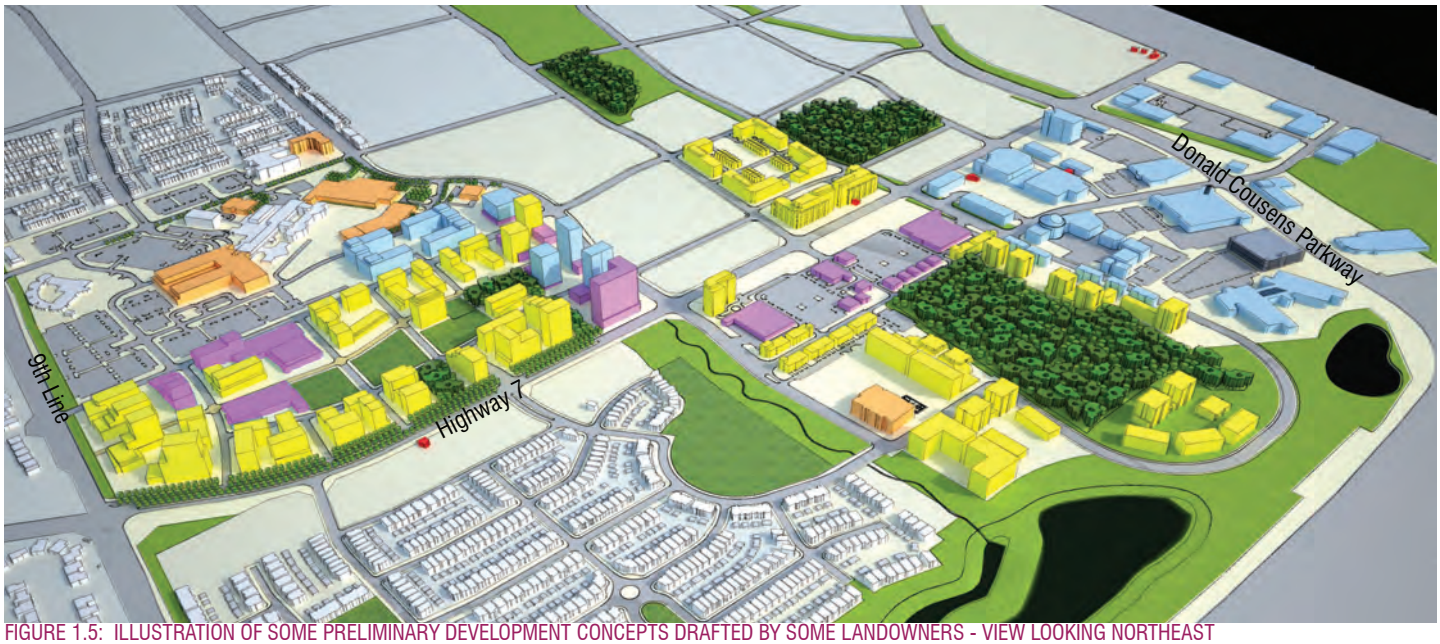



FIGURE 1.5: ILLUSTRATION OF SOME PRELIMINARY DEVELOPMENT CONCEPTS DRAFTED BY SOME LANDOWNERS - VIEW LOOKING NORTHEAST




FIGURE 1.6: ILLUSTRATION OF SOME PRELIMINARY DEVELOPMENT CONCEPTS DRAFTED BY SOME LANDOWNERS

# Vision for Cornell Centre 2

The Vision for Cornell Centre has undergone a process of evolution and refinement since the original New Urbanist plan was developed in the mid-1990's. However, the planning principles for the Cornell Community are still relevant. These planning principles formed the basis for the development of the Secondary Plan and informed the evolution of this Plan

**Summary of the Cornell Planning Principles:**

- Ensure neighborhoods are compact, pedestrian-friendly, and mixed-use.
- Locate activities of daily living within walking distance.
- Design interconnected street networks to encourage walking and reduce driving.
- Offer a broad range of housing types and price levels.
- Ensure appropriate land uses and building densities within walking distance of transit.
- Embed concentrations of civic, institutional, and commercial activity in neighborhoods and districts.
- Size and locate schools to enable walking and cycling.
- Implement graphic urban design codes that serve as predictable guides for change.
- Distribute a range of parks within neighborhoods.
- Use open spaces to define and connect neighborhoods and districts.



FIGURE 2.1: AERIAL VIEW LOOKING NORTH-EAST



FIGURE 2.2: AERIAL VIEW LOOKING SOUTH-EAST




FIGURE 2.5: VISION PLAN




FIGURE 2.3: INTERSECTION OF AVENUE 7 AND BUR OAK AVE LOOKING NORTH-EAST




FIGURE 2.4: AERIAL VIEW LOOKING NORTH




FIGURE 2.6: AERIAL VIEW OF AVENUE 7 LOOKING EAST

Cornell Centre will be developed as a pedestrian-oriented, mixed use community. Well-served by transit, the community will evolve with a fine-grained street network and an extensive open space network. The emerging employment district to the southeast will grow as a high quality employment hub with thousands of jobs, and wide-ranging residential built form will ensure a diversity of housing options for all members of the community.

The mixed-use heart of Cornell remains at the intersection of Highway 7 and Bur Oak Avenue, with main street retail stretching north along Bur Oak. Highway 7 will continue to support the greatest residential and employment heights and densities, supplemented by greater heights and densities along the retail main street portion of Bur Oak. Areas of transition at the edges of Cornell Centre and near existing residential neighbourhoods will experience lower heights and densities. Generally, the building heights and densities considered in the Cornell Secondary Plan remain relevant for Cornell Centre, however the Precinct Plan provides greater detail regarding building massing and overall development strategies.

# Vision: Key Moves




FIGURE 2.7: HIGHWAY 7

### 1. Highway 7 is a Grand, Green Transportation Spine

Highway 7 is the primary street on which Cornell Centre is structured and will evolve as grand, green boulevard. The Highway 7 right of way will evolve over time to grow into its urban character, continuing to accommodate traffic while absorbing regional rapid transit in the centre of the right of way with bicycle lanes and enhanced pedestrian sidewalks at its edges. Continuous tree planting along its entire length will support its 'greenway' role within the larger open space network. Alignment of north-south streets across Highway 7 will help break down the barrier effects of this busy street and protect for a long-term grid network, supported by the maximum allowable number of signalized intersections. Highway 7 will accommodate significant growth and intensification, including some of the highest heights and densities at the intersection with Bur Oak Avenue. The City with work with the Region to realize a common vision for Highway 7.



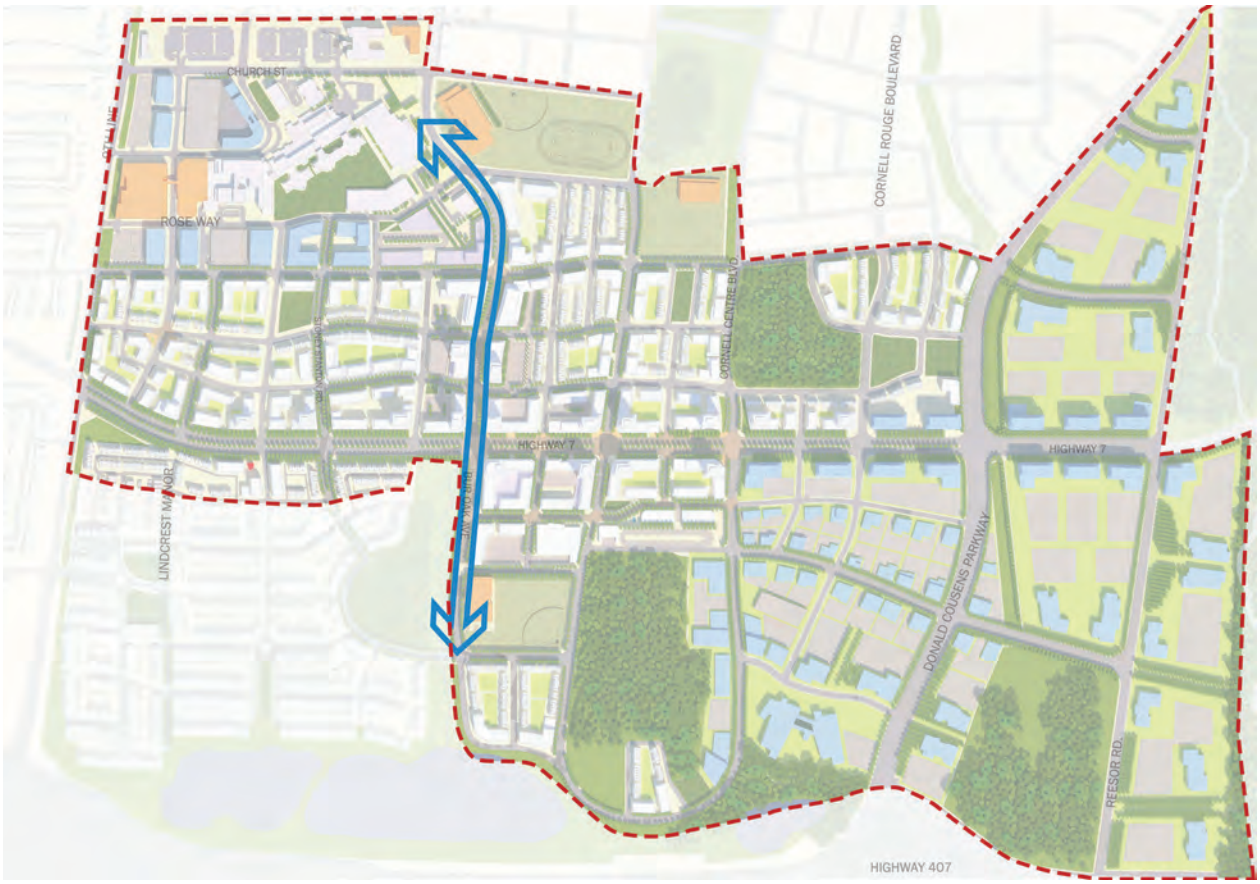



FIGURE 2.8: BUR OAK AVE

### 2. Bur Oak is the Retail Main Street

North of Highway 7, Bur Oak will serve as a retail main street for the entire Cornell community. It will be developed as a retail spine and transit-oriented development, linking retail areas, the hospital campus and other civic facilities while facilitating pedestrian activity and transit use. The right-of-way will accommodate a generous pedestrian environment while ensuring appropriate vehicular access. Continuous local cross streets will support pedestrian access, create additional retail frontage on corners, provide more parking opportunities and enhance access to parking and servicing. Wide sidewalks with high quality paving materials will support high pedestrian volumes and other public uses, such as outdoor cafés and restaurants. A continuous row of street trees will be augmented by large planted areas or planter boxes within the right-of-way. Parking, loading and servicing will be located in behind the main street.






FIGURE 2.9: CORNELL'S COMMERCIAL CORE

### 3. The Intersection of Highway 7 and Bur Oak is Cornell's Commercial Core

The intersection of Highway 7 and Bur Oak and the Bur Oak main street is the focal point for Cornell Centre. Consistent with the original vision for Cornell and with the policies of the Cornell Secondary Plan, the intersection of Bur Oak and Highway 7 will be the mixed use and retail heart of Cornell Centre, supporting a wide variety of retail and service uses with higher density residential development above grade.

The Secondary Plan permits some low density, large format retail area south of Highway 7. This will allow some large format retail uses to serve the community in the near term while providing an opportunity for a higher density, urban retail development in a mixed use setting with residential above grade to evolve over time once land use patterns have been established. At-grade retail requirements along the rest of Highway 7 will be reduced to ensure the success of the more concentrated retail centre and main street. Small local retail nodes within residential neighbourhoods and the employment district will meet day-to-day needs.

This area will accommodate increased building heights and densities. These changes will support the vitality of commercial uses and help create a functioning main street for the Cornell community. Built form guidelines will ensure appropriate transition and integration of this development into the surrounding neighbourhoods.



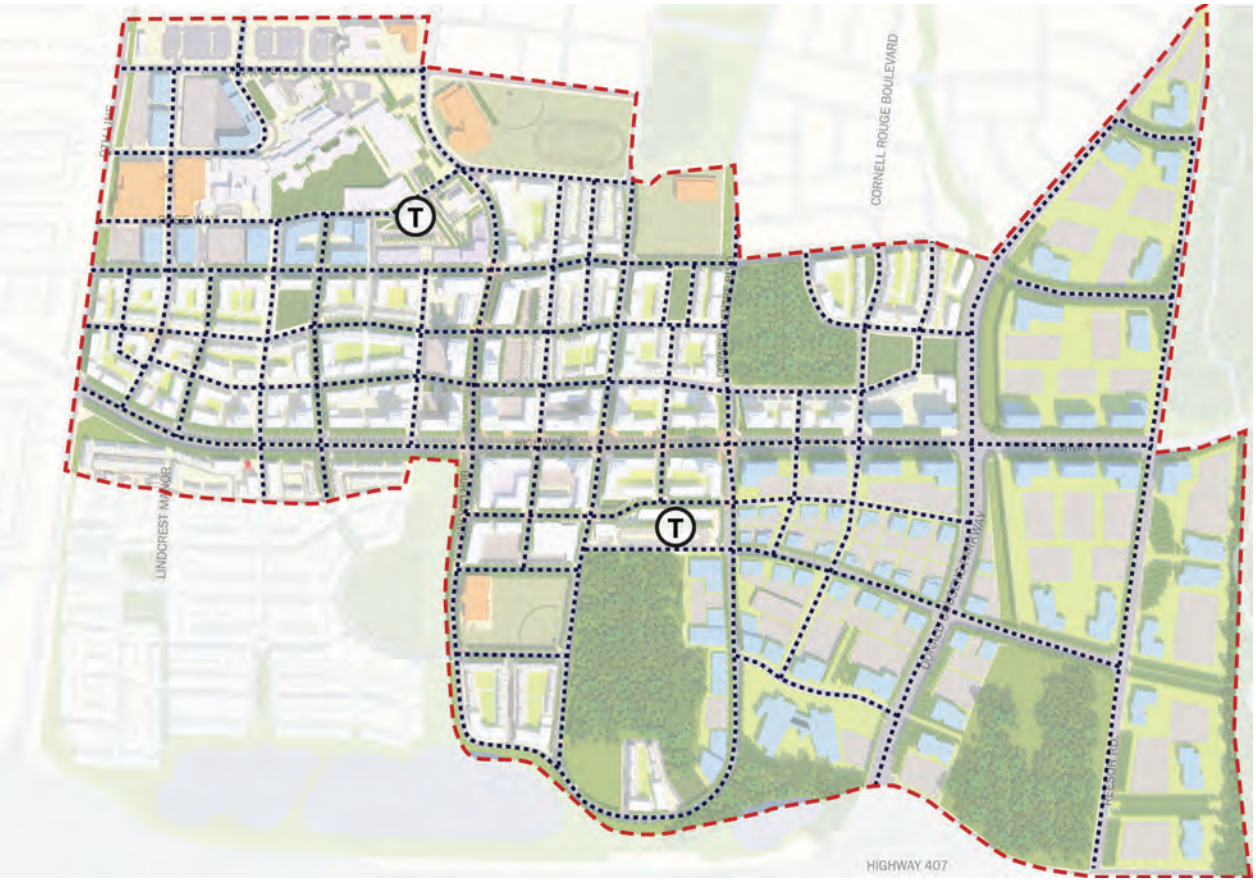



FIGURE 2.10: MOVEMENT NETWORK

### 4. A Complete Movement Network Supports Connected Neighbourhoods

The movement network is designed to ensure seamless connectivity for pedestrians, cyclists, transit users and drivers. A grid-like network of streets and blocks will ensure porosity and connectivity across Highway 7 and throughout Cornell Centre. Rapid transit investment on Highway 7 will provide regional connectivity and serve as a backbone for local transit service. The planned Locust Hill GO train station will provide additional regional transit service. On and off-street trails and bikeways will ensure safe and convenient connectivity for pedestrians and cyclists.

The street network is the largest component of the public realm and the primary means by which people will experience Cornell Centre. It will be designed as a high quality public space and will contribute to the character and functioning of Cornell Centre and the larger Cornell Community. Laneways will play an integral role in the function of the movement network, providing access to loading, servicing and parking areas to minimize impacts on the public realm.

To ensure the development of a diverse community, a mix of housing types will be supported in Cornell Centre. New housing will include townhouses, stacked townhouses, mid-rise condominiums and, at the intersection of Highway 7 and Bur Oak, point tower forms. Residential parking will be accommodated primarily below grade. The provision of community resources, such as the Cornell Community Centre, and connected open spaces will support higher densities and increased populations, ensuring Cornell Centre develops with adequate resources to become a great place to live and work.






FIGURE 2.11: EMPLOYMENT AREAS

### 5. Employment Uses Build on a Remarkable Setting

With a large employment district and a rapidly growing regional hospital, Cornell Centre will be home to thousands of high quality jobs in the long term. The hospital is an existing and growing employment cluster that will continue to be nurtured. Health and wellness-related employment opportunities will be supported in areas surrounding the hospital, and convenient regional transit will facilitate access.

A diversity of employment types is envisioned in the large southeast employment district. Highway 7 will accommodate mid-rise office-type buildings to reinforce the significance of this street and maximize transit potential. Campus-like office environments will develop along the extensive natural heritage edges of the district. Remaining areas are flexibly planned to accommodate a variety of prestige industrial and office uses depending on future need and city and regional employment density targets.








FIGURE 2.12: OPEN SPACE NETWORK

### 6. Parks and Environmental Protection Support a Comprehensive Open Space Network

The open space network will continue to be implemented and evolve to support a connected network of natural heritage features and functions, to contribute to and enhance the character of Cornell Centre. This network will provide areas of play and recreation for all members of the community. Natural heritage features identified in the Secondary Plan process will continue to be protected, including large woodlots, the stormwater management ponds to the south and related open spaces. This Plan will see the integration of these features into a larger network of connected open spaces both within Cornell and at its borders.

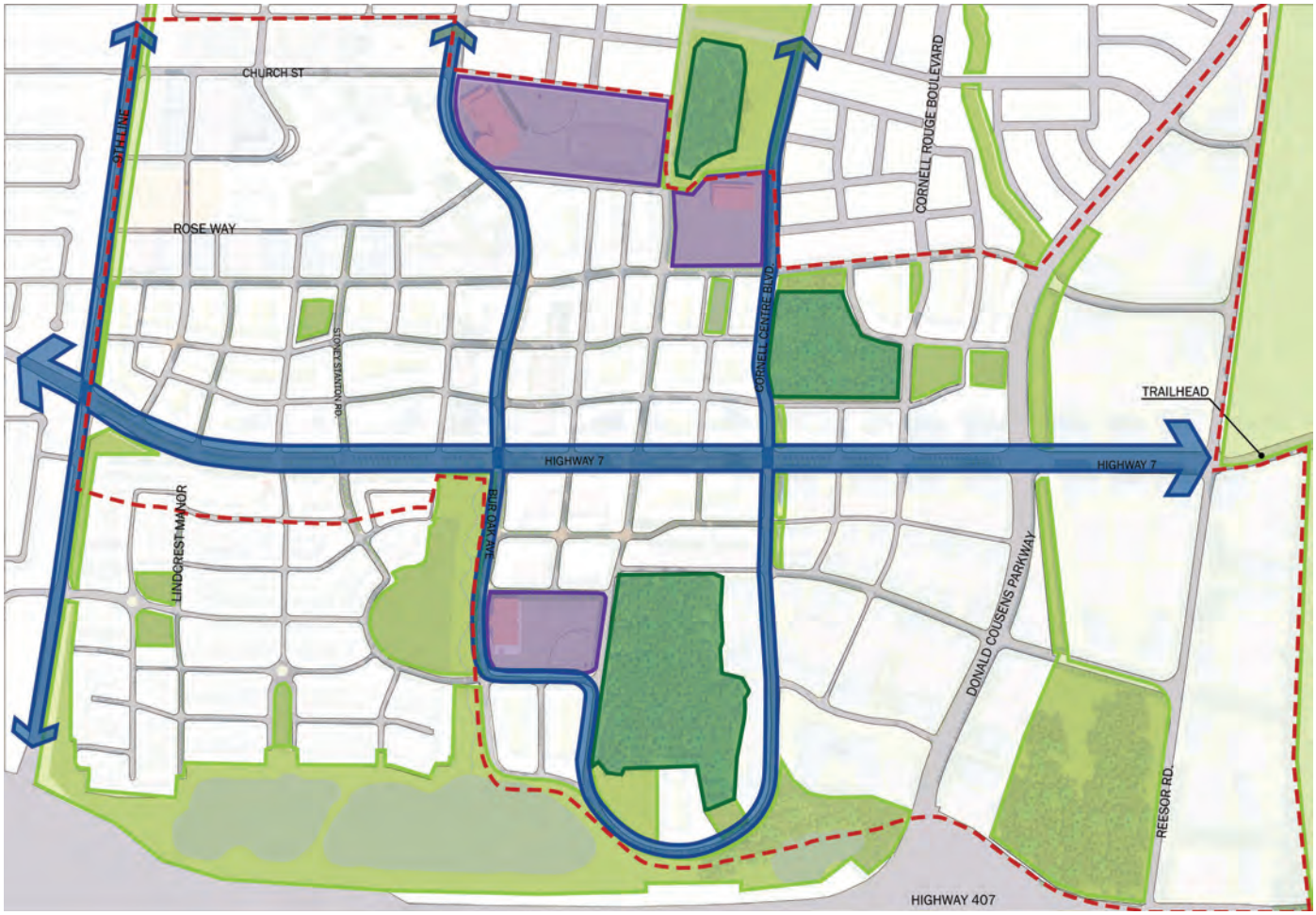
Existing open spaces will be augmented with new parks and adjacent school playing fields, fully integrated and linked by a new network of greenways. New urban parks will be introduced in a number of locations within Cornell Centre and will be designed to meet the intensive demands of a larger and more concentrated population. Pocket parks may augment larger parks, providing small and intimate open spaces that can be secured on a variety of sites through the development approvals process.





# The Public Realm 3

The public realm consists of publicly accessible spaces that define Cornell's urban form and function. It is comprised of the streets, boulevards, lanes, parks and open spaces and the public use activity areas of public lands and buildings. Ensuring a high quality, accessible and enjoyable public realm will contribute to the liveability and vitality of Cornell Centre.




ENVIRONMENTAL PROTECTION AREAS

OPEN SPACE AND STORM WATER MANAGEMENT

SCHOOLS

GREENWAY

FIGURE 3.1: CORNELL CENTRE OPEN SPACE NETWORK

# 3.1 The Open Space Network

The Cornell Secondary Plan identifies protected natural heritage features and outlines a comprehensive network of connected open spaces. These features and functions will continue to be respected through the Precinct Plan, including further refinements to the open space network. The existing open space network includes large woodlots located along Cornell Centre Boulevard, a series of connected stormwater management ponds and related open spaces along Highway 407 and Grand Cornell Park. This network also includes existing and proposed smaller open spaces, such as neighbourhood parks and parkettes, woodlots, the Golden Jubilee Greenway, and the public and private realm connections between them.

Existing open spaces may be augmented with new open spaces and parks, fully integrated and connected by a network of greenways. Highway 7, 9th Line, Bur Oak Avenue and Cornell Centre Boulevard will serve as greenways, with extensively landscaped boulevards and pedestrian areas that link larger open spaces and parks. These green streets will supplement protected greenways, streams and other linear open spaces. School sites are positioned adjacent to open spaces and will be designed to augment open space functions through sports fields and landscaped areas. The large stormwater areas along the Highway 407 corridor should continue to be developed with extensive path networks and opportunities for passive recreation.

New parks and greenways will be urban in character, meeting the demands of a higher intensity of uses. Natural open spaces will require more extensive protection and management to minimize impacts from surrounding uses. Generally, the open space network will contribute to and enhance the character of Cornell Centre and the vision for the Cornell Community.



## 3.1.1 Regional Open Spaces and Natural Heritage Features





### Environmental Protection Areas

Of the five large woodlots in Cornell, two of the largest are located in Cornell Centre. They are both located adjacent to Cornell Centre Boulevard, one north and one south of Highway 7. Woodlots serve as important natural heritage features that provide many environmental functions and benefits, including supporting biodiversity, contributing to water balance and acting as a carbon sink. New development should provide a substantial environmental buffer from woodlots to ensure their continued health and vitality. The TRCA and City of Markham will work with property owners to ensure an appropriate woodlot management strategy is implemented. Trail connections and passive recreational uses in and around woodlots are only permitted where there will be no adverse impacts on the health of the woodlot.

Though much smaller than woodlots, hedgerows support similar natural heritage features and functions. Hedgerows are often residual elements of former woodlots that were cleared for agricultural use. The hedgerows in Cornell Centre, identified on Secondary Plan Schedule I, will continue to be protected. Where impacts on hedgerows cannot be avoided, an equivalent or greater quality tree cover should be implemented elsewhere in Cornell Centre.

### Open Spaces and Stormwater Management

A comprehensive park and open space network has been integrated with Cornell's stormwater management strategy. These open spaces play the dual role of providing places for amenity and recreation while also providing space for the management of stormwater.

The stormwater management ponds, and the landscape in which they are set, at the southern edge of Cornell are one of the largest open spaces in the community. These lands perform a number of important functions, including providing natural stormwater management, serving as habitat for plant and animal species, acting as a buffer from Highway 407, providing recreational opportunities for residents and serving as an active transportation link.

New development should maximize connectivity to these important resources. Buildings should be positioned to create and protect view corridors into the open space. Sidewalks and pedestrian trails should be aligned to support access. Wide sidewalks should be provided along the edge of the open space, which can also serve as a focal point for pedestrian amenities such as benches, seating areas, outdoor exercise equipment and other amenities. Opportunities to support permitted passive and active recreational uses within this large open space should be encouraged.

## 3.1.2 Neighbourhood Parks



Neighbourhood parks are some of the most used open spaces within communities. Highly accessible to the immediately surrounding neighbourhoods, they support a variety of open space amenities and activities for all residents. Parks should provide a diversity of hard and soft surface environments, and the provision of park facilities and infrastructure should be geared toward all age groups and all abilities. Neighbourhood Parks in Cornell Centre should be planned and programmed by the City of Markham in consultation with residents and landowners.

The location and size of parks in Cornell Centre was determined through the 2007 Cornell Master Parks Agreement. Park enhancements, including increases in size, can be secured as community benefits through the development approvals process.

## 3.1.3 Urban Open Space



On a much smaller scale, urban open spaces, enhanced street corners and publicly-accessible private open spaces are an important element of the open space network. Though small and not heavily programmed, these open spaces provide opportunities for socializing, relaxation and impromptu meetings. They can even include small-scale parks infrastructure such as children's playgrounds and seating areas. These open spaces are encouraged throughout Cornell Centre. Where appropriate, publicly-accessible private open spaces are encouraged in major developments.

## 3.1.4 Greenways



Greenways provide important pedestrian friendly connections between parks, natural heritage features and other amenities. The focus is on connecting and facilitating movement within an enhanced open space setting. Existing greenways in Cornell Centre include the Golden Jubilee Greenway, along 9th Line with proposed greenways along Highway 7, Cornell Centre Boulevard and on Bur Oak Avenue. Greenways should be heavily vegetated with high quality landscaping. Wider sidewalks and dedicated bicycle lanes will encourage active transportation. Adjacent development can contribute to greenways through setbacks that allow for vegetation and the provision of private open space along greenway edges.

## 3.1.5 Rouge Park



Immediately east of Cornell Centre is a small part of the much larger Rouge Park. This regional open space is a major open space and natural heritage asset for southern Ontario. This importance is reflected in a recent federal government decision to identify Rouge Park as a new National Park. The proximity of Rouge Park to Cornell is unique as it will be the only National Park close to other more traditional parks and “suburban woodlots”, services and amenities.

The development of Cornell Centre will implement the following principles in relation to Rouge Park.

- The park should be visible and accessible from the adjacent communities;
- Development in adjacent communities should be integrated with the Rouge Park; and
- Buildings along the interface with the park should be designed with public ‘faces’ addressing the park.

Improving access to Rouge Park and highlighting its natural beauty and importance will be important for Cornell Centre. A critical means for addressing Rouge Park is to enhance the interface between Cornell Centre and Rouge Park. Natural heritage and trail connections into Rouge Park and at the park edge will be enhanced. Direction should be taken from the Rouge Park Trail





Master Plan and other existing or new Rouge Park planning frameworks. A large trailhead and gateway feature is planned at the northeast corner of Highway 7 and Reesor Road. This will include a parking lot and transit stop for access, and will feature a secondary trail that extends south across Highway 7 and into Rouge Park. Two new trailheads and associated trails are planned along the Donald Cousens multi-use trail. The first will extend east from Donald Cousens, midway between Highway 7 and Highway 407 and the second will extend east from Donald Cousens near the terminus of Rose Way. All of these proposed new trails will provide access into the larger Rouge Park trail network.

Development adjacent to Rouge Park should not compromise the quality and experience of the park. Buildings will be positioned to protect view corridors into the park. Impacts of development activity should be minimized, and permeable surfaces are encouraged, especially in close proximity to the park's edge. Extensive landscaping should be provided along the park's edge to serve as a buffer and extension of the natural heritage features and functions.  Further direction and guidelines for development are identified in Section 5.7 and in the design guidelines for the Cornell Centre lands east of Reesor Road prepared on behalf of the Rouge Park Alliance.






FIGURE 3.2: CORNELL CENTRE STREET NETWORK

- REGIONAL STREETS
- BUR OAK AVENUE
- LOCAL STREET
- SIGNALED INTERSECTION
- POTENTIAL TRANSIT FACILITY LOCATION

# 3.2 Movement Network

## 3.2.1 Streets and Block Pattern

The movement network refers to all elements of the public realm that support movement and transportation. More than just travel lanes, the movement network includes high quality public spaces like retail main streets and multi-use trail systems. The movement network also includes working spaces such as laneways and loading areas that are necessary for accessing and servicing the community.

The movement network will contribute to the character and functioning of Cornell Centre and the larger Cornell Community. The objectives for the movement network are based in the Cornell Planning Principles, with the overall intention of creating a safe, convenient and high quality transportation system that serves the entire community. Generally, the order of priority in the planning and design of the movement network should be pedestrian, bicycle, transit, vehicle. Further design direction for the movement network should be taken from the Markham Streetscape Manual and the Markham Built Form Height and Massing Study.

The street network is an important element of the large public realm. Streets occupy a large portion of Cornell Centre's overall land area and are the primary means by which most people will experience the community. In addition to providing access for pedestrians, bicycles and vehicles, streets provide opportunities for vistas, view corridors and amenity areas. Emphasis for the streets and lanes in Cornell Centre will be on enhancing the public realm through high quality landscape elements, tree planting, signage, street furniture, and co-ordination of utilities and services.

The street network established in the Cornell Secondary Plan has been carried forward and refined through this Plan. Small adjustments to the Secondary Plan street network have been identified to ensure appropriate alignment and connections, streamline travel patterns, and strengthen development potential. The Precinct Plan also identifies additional local streets and small block sizes that will further support a fine-grained and diverse transportation network.

The Cornell Centre street network is based on a dense, grid-like pattern of streets and blocks. This pattern accomplishes a series of objectives. It provides flexibility and porosity to accommodate movement patterns for all modes of transportation, including walking, bicycling, transit use and driving. This high level of connectivity supports transit-oriented development and the potential to accommodate higher density development throughout Cornell Centre. The dense pattern of small blocks supports a high quality pedestrian experience and encourages urban patterns of development. Finally, the alignment of north-south streets across Highway 7 and the design of continuous east-west streets across Cornell Centre breakdown the barrier impacts of Highway 7 and reduce the reliance on Highway 7 as a primary corridor.





## Highway 7

Highway 7 is the primary street on which Cornell Centre is structured. It provides access from other parts of Markham through the countryside and the eastern GTA. To support the overall vision for Cornell Centre and the larger Cornell Community, Highway 7 will be 'tamed' as a large, urban street. As a regional arterial street, the City of Markham must work in cooperation with York Region to achieve this objective.

The Highway 7 right of way will evolve over time to grow into its urban character. While continuing to accommodate the highest traffic volumes within its right-of-way, Highway 7 will become a grand boulevard street along its entire length from 9th Line to Rouge Park. With future rapid transit investments, the centre median will be converted into a dedicated right-of-way for a regional rapid transit line and associated transit stops. In the short term, rapid transit will operate in mixed traffic with associated curb-side infrastructure, such as bus bays, passenger waiting areas, and queue jump lanes. Dedicated bicycle lanes will be protected from traffic by a curb or other means. The pedestrian experience will be enhanced through wide sidewalks, landscaped setbacks from the travel lanes, and street furniture improvements. Six through travel lanes will continue to be protected.

Alignment of north-south streets across Highway 7 will break down the barrier effects of this busy street and protect for a long-term grid network. A series of proposed signalized intersections along Highway 7 will provide porosity for pedestrians, bicycles and vehicles. The grid-like road network will also support effective local transit systems, which in the future will be organized around the rapid transit corridor.

## Bur Oak Avenue

Bur Oak Avenue will function as a pedestrian-oriented retail main street linking the surrounding Cornell neighbourhoods to Cornell Centre. The right-of-way is wide enough to accommodate a generous pedestrian environment while ensuring appropriate vehicular access. Four travel lanes will be provided from south of Highway 7 through to Church Street. Parking may be provided on-street at off-peak hours, supported by additional surface and structured parking lots behind the main street. A high density of local cross streets will support pedestrian access, create additional retail frontage on corners, provide more parking opportunities and enhance access to parking and servicing. Bicycle use will be encouraged with the provision of dedicated bicycle lanes.

The retail main street character of Bur Oak will extend from Highway 7 through to Rose Way. Retail thrives in high quality pedestrian streets, and the Bur Oak main street will include wide sidewalks that support high pedestrian volumes and other public uses, such as outdoor cafés and restaurants. A continuous row of street trees will be augmented by large planted areas or planter boxes within the right-of-way. High quality paving materials will be used for sidewalk treatments.





## The Local Street Network

The remaining Cornell Centre street network consists of local streets. Generally, these will have have two to four travel lanes and a right-of-way widths between 15.5 to 28 metres. Some local streets that serve to reduce block sizes but do not contribute to the larger street network may have reduced setbacks. All streets require continuous tree planting within the right-of-way, and building setbacks are defined by the design guidelines in Chapter 4.

Reesor Road is a unique street at the edge of Cornell Centre. Located at the edge of Rouge Park and the Greenbelt, it provides a link into the Oak Ridges Moraine to the north. The country heritage and rural character of Reesor Road will be maintained in new development. Recreational bicycle use may be supported through on or off-road bicycle lanes and connectivity to other trails and bikeways. Sidewalks may not be required on both sides of Reesor Road.

## Laneways

To ensure the attractiveness of the public streets, minimize disruptions from servicing and to improve safety, a system of laneways will provide the primary access for on-site parking and servicing functions. Laneways are service and parking routes that serve a utilitarian purpose. Laneways are designed to support through movement and should allow two-way traffic. No building setbacks are required. Naturalization of laneways through greening and permeable paving is encouraged to allow stormwater infiltration.

## 3.2.2 Transit







Rapid transit along Highway 7 will form the backbone of transit infrastructure in Cornell Centre. In the short term, bus rapid transit will operate in mixed traffic with some transit priority features. In the long-term, bus rapid transit will operate within a dedicated right of way down the centre of Highway 7. York Region Transit has identified two potential locations for a transit facility. The first is centrally located at the northwest corner of Bur Oak and Rose Way, which would provide enhanced transit service to the hospital and serves as a northern focal point for the Bur Oak main street. The second location is south of Highway 7, west of Cornell Centre Boulevard which would enhance access to the retail and employment uses. Either location can be developed as a mixed-use hub, accommodating uses in addition to transit.

Infrastructure investments associated with transit investment should be planned and designed to ensure full integration with the public realm and surrounding development and land use framework. Transit stops should provide weather protection and be accessible by direct pedestrian routes and connections. Secure bicycle parking should be provided near all rapid transit stops and at key local transit stops. Landscape treatment in and around transit facilities should ensure effective integration of the station into the larger public realm.




FIGURE 3.3: POTENTIAL TRANSIT FACILITY LOCATIONS

Ⓣ POTENTIAL TRANSIT FACILITY LOCATION

## 3.2.3 Pedestrians and Bicycles



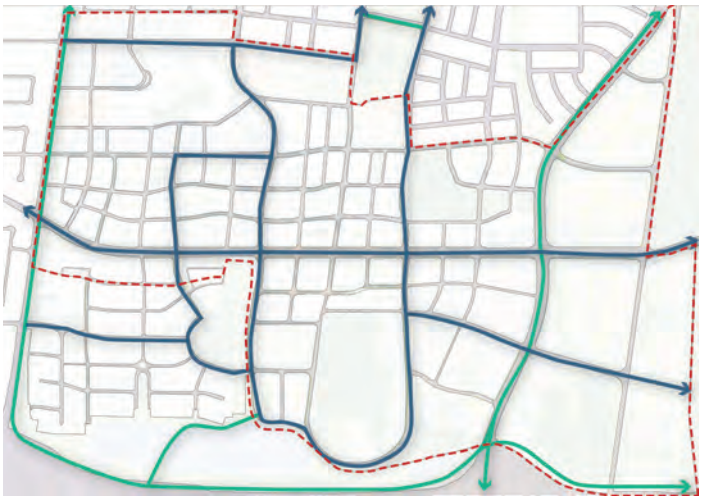


FIGURE 3.4: TRAIL NETWORK

↔ TRAIL
↔ BIKE LANE

Support for pedestrian and bicycle movement is a high priority within Cornell Centre. A continuous network of sidewalks will be provided on both sides of all streets, with wider sidewalks in areas with anticipated high pedestrian volumes. Such areas include Highway 7, Bur Oak Avenue, Rose Way west of Bur Oak, the mixed use retail area south of Highway 7.

Streets should be designed for pedestrian and bicycle safety and convenience. Street crossing distances should be minimized to the extent possible, and passive traffic calming measures should reduce vehicle speeds and volumes on local streets. Pedestrian intersections and crossing areas should be emphasized through special design treatment to ensure greater visibility and safe use. Direct and safe pedestrian links will be provided to community amenities, open spaces and other amenities. A continuous network of on- and off-street bicycle routes will be provided in accordance with the City of Markham's 2007 Cycling Master Plan. Safety and convenience for pedestrians and bicyclists will be prioritized in the planning and design of arterial and collector streets.

Street furniture and amenities will be designed and located to enhance the pedestrian experience, including seating areas, waste receptacles, pedestrian-scale lighting. Adequate bicycle parking should be provided along retail street frontages and in other highly trafficked areas such as employment centres, retail clusters and cultural and recreational facilities. Minimum requirements for occupant and visitor bicycle parking will be 1 bike rack for every 5 parking spaces for all major residential and non-residential developments.

## 3.2.4 Parking, Loading and Servicing



To reduce the impact of surface parking and to provide more opportunities for at grade amenities and open space areas the provision of structured parking shall be encouraged for higher density development in Cornell Centre. Where surface parking is provided in higher density mixed use, employment or apartment-type residential developments, site plan and building placement arrangements will ensure that surface parking lots can be phased out over time in favour of structured or reduced parking. On-street parking will generally be permitted throughout Cornell Centre in highly trafficked areas such as employment centres, retail clusters and cultural and recreational facilities, subject to detailed parking planning.

To enhance the quality and safety of the public street, the construction of private parking lots and structures which occupy the at-grade frontage of public streets is discouraged. Where it is not feasible to locate parking below grade, surface parking lots shall be situated to the side or rear of buildings to increase street presence of buildings. Loading and service functions will be screened from the street and, wherever possible, accessed from a laneway. Further design direction is provided in the design guidelines in Chapter 4.

## 3.2.5 Accessibility



The design and implementation of Cornell Centre should be inclusive of people of all ages and abilities. Ensuring an accessible urban environment is a growing priority, especially with an aging population. The City of Markham is committed to achieving universal accessibility within the public realm and supporting universal accessibility in new developments. Public buildings will be designed to the highest standards accessibility. The Markham Accessibility Guidelines will be used to evaluate all new development, and all new development must conform to the Accessibility for Ontarians with Disabilities Act.

Public realm infrastructure should be designed and planned to ensure access for people of all ages and abilities. Measures such as textured paving patterns, audible pedestrian crossing signals, seamless sidewalk connections and appropriate grading represent first steps to ensuring an inclusive public realm. Consistency in streetscape design is also a priority, including the use of planting, fencing, lighting, signage and street furniture. Building entrances and public-oriented spaces should be oriented toward the street, while parking garage vents and building ventilation systems and other similar obstructions should not be located in pedestrian areas.

# 3.3 Servicing and Sustainability






Mostly located underground, services and utilities provide important services that keep communities functioning. While essential to the function of Cornell Centre, most utilities should operate in the background with minimal impacts on the public experience of Cornell Centre. Design, construction and implementation of services should be effectively coordinated as Cornell Centre develops to ensure the provision of efficient services while achieving high quality design and appropriate integration with the public realm and new development.

Utilities and services, including infrastructure to support water and wastewater, electricity and natural gas, should be planned and designed to minimize adverse impacts on the public realm. All utilities should be located below-grade throughout Cornell Centre. Where possible, utilities and telecommunications infrastructure should be co-located in tunnels, duct banks or other means, and consolidated to minimize disruption due to upgrades and construction. Service infrastructure should generally be avoided in all areas of natural heritage, and above-grade infrastructure should be avoided in all open spaces and public parks. Utility and telecommunication bollards and equipment should be located behind buildings or screened from view through landscaping and building design. Wherever possible, such functions should be clustered and consolidated to minimize impacts.

Services and utility networks should be designed to support sustainable energy systems. Community energy planning and generation will be encouraged, including solar, geo-thermal, district energy systems and other low-impact energy initiatives. Buildings themselves should be designed for sustainability and durability, including but not limited to consideration for materials, orientation, energy and water consumption, surface permeability, and support for alternative modes of transportation.

Sustainability

The development of sustainable buildings is encouraged throughout Cornell Centre. Sustainable practices identified in Markham's Sustainable Standards and Guidelines should be incorporate into building design. Other sustainability and green development standards and certification systems (e.g. LEED) are also encouraged.

# 3.4 Community Amenities

## 3.4.1 Community Facilities



As the focal point for the entire Cornell Community, Cornell Centre will be the home to a high concentration of community facilities. Such facilities include the Cornell community centre, schools, emergency services and other community-serving needs. The development of community hubs is encouraged, as is the co-location and consolidation of community uses on adjacent or nearby sites. Community hubs achieve multi-functional purposes and uses for users through sharing resources, facilities and lands. The partnership between the hospital and community centre is an example of such a partnership. School sites will also provide opportunities for such partnerships and enhanced uses.

In the site selection and site planning process for community facilities, considerations related to accessibility and visibility for the surrounding residents and users is critical. Community facilities should be centrally located for their user-base. Designed to be universally accessible, community facilities should also support pedestrian, bicycle and transit access. This includes designing facilities to be oriented to the street to minimize pedestrian walking distances.  They should also be located on or adjacent to transit stops and provide convenient and secure bicycle parking facilities.

## 3.4.2 Public Art





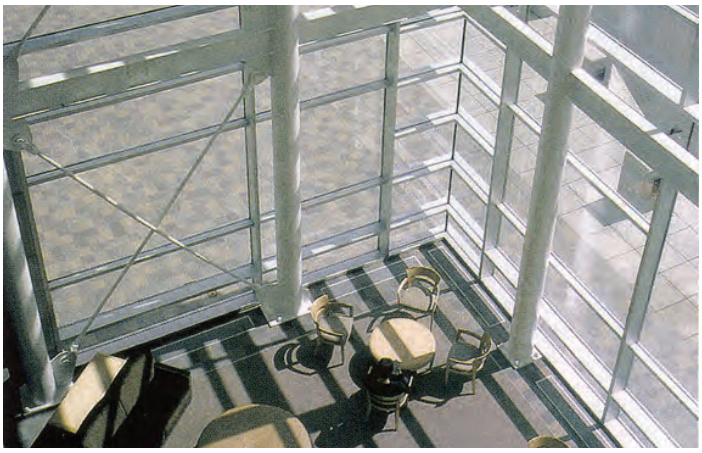
The provision of public art in new development will enhance the quality and experience of Cornell Centre.  Public art investment will be required for major development in accordance with the City of Markham Public Art Policy Framework (2003, as amended). Opportunities to enhance the public experience of Cornell Centre through the provision of public art will be encouraged. Public art should be directed to highly public locations and should be appropriately integrated into the public realm. Public art can also be used to highlight and celebrate the character and uniqueness of the Cornell Community.  Places that would be appropriate for public art include key gateways, such as the intersection of Bur Oak Avenue and Highway 7, neighbourhood parks and other places within the Open Space Network, and commercial streets, such as Bur Oak Avenue between Rose Way and Highway 7.

# Built Form & Design Guidelines

# 4

The built form and design guidelines apply to all development in Cornell Centre. The guidelines will ensure development achieves a high quality public realm and architecture, contributes to enhanced quality of life in Cornell Centre, and prioritizes sustainability. Applicable design direction has been taken from the Streetscape Manual and the Markham Built Form Height and Massing Study.

# 4.1 The Location, Massing, & Orientation of Buildings in Relationship to their Context



### 4.1.1 General Guidelines for Building Location and Massing

4.1.1.1 Building heights and densities should be consistent with the heights and densities identified in Figures 4.1 and 4.2 of this document.

4.1.1.2 Generally, building height and density will shed outward from the Highway 7 Corridor and provide appropriate transition to adjacent residential neighbourhoods and employment areas. The greatest concentration of built form and height will be located in the vicinity of the Highway 7 and Bur Oak Avenue intersection.

4.1.1.3 New development should be sited, oriented and designed to ensure compatibility and appropriate transition with existing neighbouring development to minimize negative impacts.

4.1.1.4 Massing should respond to surrounding context including on all frontages and the rear of the property. When planning the block, orient building frontages and density toward the higher order street. Buildings on corner sites should be sited and massed toward the corner of the block.

4.1.1.5 Reverse lot frontage is not permitted.

4.1.1.6 The form and location of early phase development should encourage further development intensification over time. This is particularly relevant for retail development within the Commercial Core. Where future intensification is anticipated, a connected network of streets and blocks should be created to an urban standard as part of early phase development. Within this network of streets and blocks, a focus for pedestrian/retail activity should be identified that can expand over time and connect to other retail areas. To support future intensification, sites should not be encumbered with extensive near-term development.

### 4.1.2 Public Safety and Comfort

4.1.2.1 Buildings should be sited to contribute to and reinforce the comfort, safety, and amenity of the public streets.

4.1.2.2 Buildings should be sited to provide opportunities for visual overlook and ease of physical access to adjacent streets, parks and open spaces.

4.1.2.3 Buildings should minimize adverse impacts on wind conditions to ensure comfortable walking and sitting conditions in the public realm. Wind testing may be required in larger developments, and may influence building size, mass and height of development, and the locations of mitigating features.

4.1.2.4 Shadowing on the public realm should be minimized through building siting and orientation, setbacks and stepbacks. Shadow studies may be required in larger developments to minimize adverse impacts.






### 4.1.3 Community Buildings

4.1.3.1 Community buildings should be designed, sited and constructed to serve as high quality landmarks. They should be visually prominent to emphasize their importance to the community and should be massed to emphasize their dominant visual presence within the community.

4.1.3.2 Where possible, community buildings should be located on prominent sites at the termination of significant view corridors, at important street intersections, or on Bur Oak Avenue.

4.1.3.3 Community buildings should be oriented to the higher order street upon which they are located to create a sense of containment for the street. Prominent building entrances should be located on the higher order street.

4.1.3.4 Buildings of significant public use or architectural merit may be sited to specifically differ from the surrounding urban fabric in order to emphasize their importance as landmarks.

### 4.1.4 Relationship to Open Space

4.1.4.1 When located adjacent to an open space, including parks, woodlots or other open spaces, buildings and the overall block density should be oriented toward the open space.

4.1.4.2 The massing, siting and scale of buildings located at the edges or across the street from open spaces will create a degree of enclosure or definition appropriate to the type of open space they enclose.

4.1.4.3 Buildings located at the edges or across the street from open spaces will provide opportunities for overlook onto the open space.

4.1.4.4 Significant views and focal points should be enhanced and preserved, including views to open spaces and natural features, important public and heritage buildings, and sites that terminate streets and view corridors.






### 4.1.5 Building Setbacks

4.1.5.1 Buildings should be aligned parallel to the public street with consistent setbacks. The siting and massing of new buildings will provide an appropriate degree of continuity and enclosure to the public street and open spaces. Streets should provide a continuous streetwall.

4.1.5.2 The following setback dimensions are suggested for Cornell Centre, however variance in these dimensions may be permitted, depending upon final ROW dimensions and overall street design.

- Highway 7: 6 metres
- Highway 7 (Retail Centre): 0 metres
- Bur Oak: 0 metres
- Major local streets: 0 metres
- Minor local Streets: 0-7 metres

### 4.1.6 Building Separation Between Nieghbouring Development

4.1.6.1 Nieghouring residential buildings should be spatially separated from each other a minimum of 12 metres where there are facing residential windows. This may be relaxed for low-rise, house form buildings

4.1.6.2 Residential buildings should be located a minimum of 10 metres from the rear property boundary. Where ownership is consolidated on both sides of the block, buildings should retain a minimum separation distance of 20 metres to provide adequate space for internal courtyards and/or loading, service and parking functions. These requirements may be relaxed for low-rise, house form buildings.

4.1.6.3 Block depths should be sufficient to support an appropriately sized building, setbacks and stepbacks along all building edges, and access to loading and parking. For mid- and high-rise developments, a minimum parcel depth of 40 metres is appropriate.

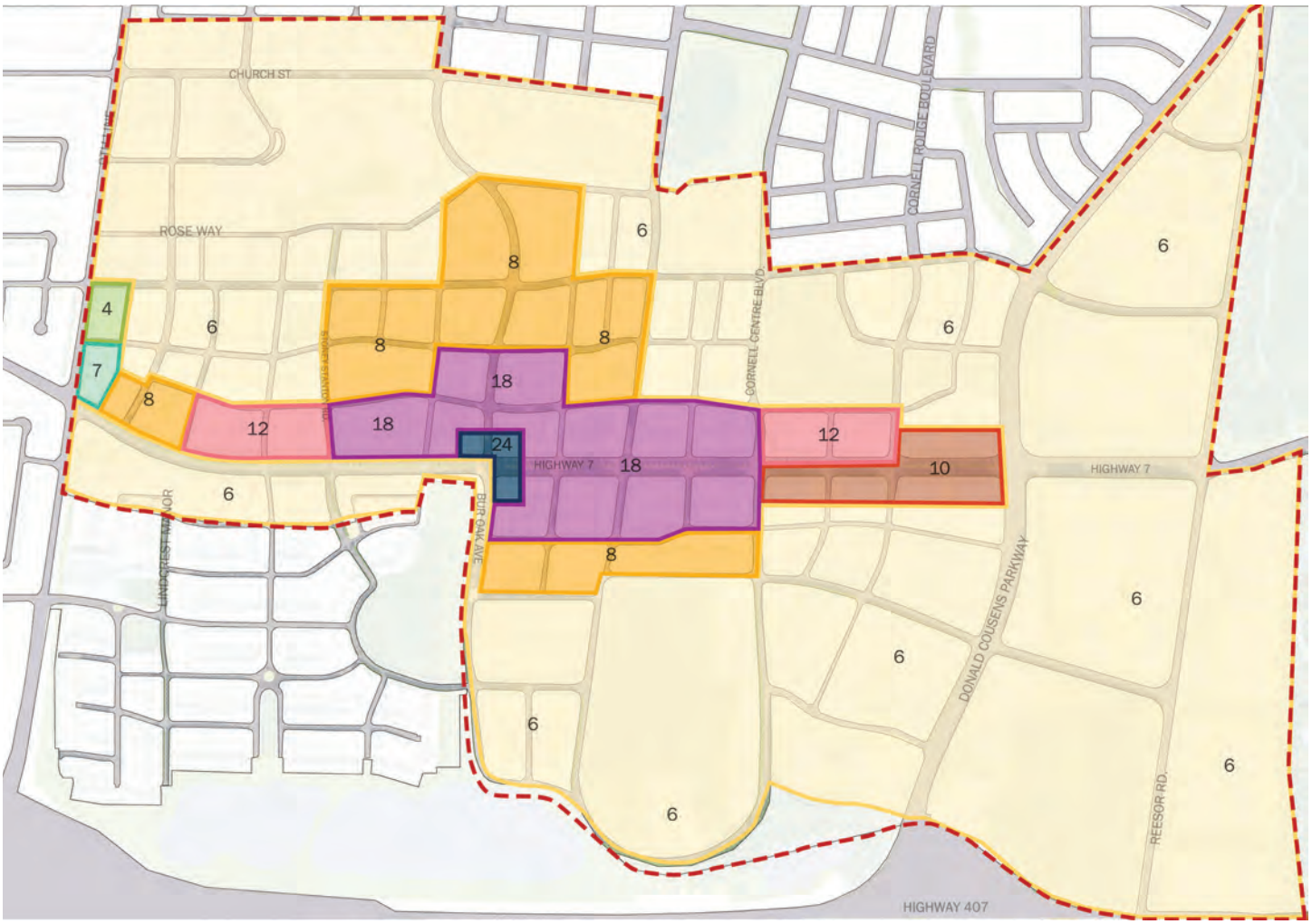



FIGURE 4.1: MAXIMUM PERMITTED BUILDING HEIGHTS




FIGURE 4.2: MAXIMUM PERMITTED DENSITY

# 4.2 Built Form




### 4.2.1 General Built Form Guidelines

4.2.1.1 Development in Cornell Centre should achieve design excellence and be constructed of high quality materials that are durable and energy efficient. Blank sidewalls should be minimized and designed as finished surfaces through appropriate glazing, architectural stone/formed concrete and other means.

4.2.1.2 Buildings should have a minimum ground floor height of 4.5 metres along Bur Oak Avenue, Highway 7, and other retail areas to provide opportunities for retail and commercial uses at grade.

4.2.1.3 Outside of the Cornell Retail Centre precinct, no building will have a continuous building wall that exceeds 70 metres. Small increases to this maximum may be considered where block sizes and corresponding parcel widths are less than 85 metres. Within the Cornell Retail Centre, buildings should enforce a continuous streetwall along the entire block, but should break up the streetwall through articulation, changes in building materials or other means. Development on the Bur Oak main street will be built to side property lines to establish a continuous streetwall.

4.2.1.4 Balconies and other building projections should be designed as integrated elements of the building and should not adversely impact the public realm.

### 4.2.2 Podiums and other buildings six stories or lower

4.2.2.1 Podiums are the street-related portion of a building that establishes the streetwall and accommodates a diversity of uses, including retail and services, residential, loading and servicing, offices and other uses.

4.2.2.2 Subject to maximum permitted heights, the maximum height of the podium portion of residential buildings is 6 storeys. The required podium height on Highway 7 and Bur Oak is 4-6 storeys. On all other streets, the required podium or building height is 3-4 storeys. Above 5 storeys, podium buildings should step back a minimum of 3 metres on any street frontage.





### 4.2.3 Towers and portions of buildings above the sixth floor

4.2.3.1 High-rise buildings consist of a podium and tower, where the tower portion has a smaller floor plate. For discussion here, any floor about the 6th floor is considered part of a building tower. Buildings taller than six stories should be designed with a compact floor plate that minimizes adverse impacts on the surroundings.

4.2.3.2 The floorplate of a tower cannot exceed 800 square metres and cannot exceed a building width of 30 metres along the higher-order street.

4.2.3.3 The tower portion of a building should generally be located at the building corner and should front onto the higher order street. If two towers are planned on the same block, they should generally be located at opposite corners.

4.2.3.4 The tower portion of the building should be set back a minimum of 3 metres from the podium along any street frontage.

4.2.3.5 The tower portion of the building should be set back from other towers a minimum of 25 metres and from side property lines a minimum of 12.5 metres.

4.2.3.6 The top of towers should be attractively designed using setbacks, articulation and other means. Rooftop mechanical penthouses are required to be integrated into the design of the tower and should not exceed 5 metres in height.

### 4.2.4 Relationship to the Street

4.2.3.1 Corner lot buildings should be designed with articulation on both streets to maximize views and maintain an animated street edge.

4.2.3.2 Facades should be designed to create a consistent rhythm to maintain visual interest and vitality. Rhythm can be achieved through the use of materials, fenestration, articulation and entrances.

4.2.3.3 Active at-grade streetwalls are encouraged along on all streets. The ground floor and entrances of retail buildings should be aligned with the street grade and large display windows should face and animate the street. Public and shared use areas within buildings should be located at grade and oriented to the public street.

4.2.3.4 Ground floor residential entrances should include setbacks, appropriate changes in grade, landscape and other means to create a transition between public and private space. Private space should be clearly distinguished from the public right of way and open spaces.

4.2.3.5 Street trees will be planted in accordance with the guidelines established in the *Streetscape Manual* (2009, as amended).





### 4.2.4 Heritage

4.2.4.1 Built heritage resources are identified in Appendix 1 and 2 of the Cornell Secondary Plan. Conservation of built heritage resources consistent with Official Plan and Secondary Plan.

4.2.4.2 The City of Markham will ensure protection of built heritage resources as a condition of development approval. The primary objective is to retain and conserve heritage resources on the original site.

4.2.4.3 Heritage resources should be sensitively integrated with new development which should have regard for the scale, massing, building materials and design features.

4.2.4.4 Built heritage resources should be integrated as functioning elements of the larger development proposal and should be given prominence through siting/setback and other means.

4.2.4.5 Where an identified cultural heritage resource is relocated, an appropriate means of commemoration or interpretation should be secured as a condition of development approval.

4.2.4.6 As Cornell Centre is urbanized, elements of its rural heritage can be retained, such as single significatn trees, stands of trees, stone walls or fences, and other remnants.

# 4.3 Access, Parking & Loading






### 4.3.1 Access & Circulation

4.3.1.1 Primary entrances to principal buildings shall be clearly visible and located on a public street frontage or on a public open space.

4.3.1.2 Access from sidewalks and public open space areas to primary building entrances should be convenient and direct, with minimum changes in grade. Primary entrances should be accessible to people with disabilities.

4.3.1.3 Parking and loading access will be provided from the lowest order street, with a priority on access from a laneway or a local street.

4.3.1.4 The number of vehicular access points to each block should be minimized to reduce impacts on the pedestrian realm. Wherever possible, structured parking should have a single consolidated entry and exit, accessed from the lower order street. Large retail parking structures may have a second access point, but both must be provided from a lower order street. Where possible, access points should be shared between adjacent properties.

4.3.1.5 Access to individual private parking spaces (e.g. private garages) must be provided from a laneway. Individual, private garages may not be located on a street frontage.

### 4.3.2 Parking and Loading

4.3.2.1 Structured parking is encouraged and surface parking is discouraged

4.3.2.2 Above-grade parking structures should be integrated with adjacent buildings and uses, and the primary frontage of the parking structure should be wrapped with development. High quality materials should be used throughout, including screening along secondary streets.

4.3.2.3 Shared parking is encouraged in mixed use areas to minimize parking supply, and a portion of customer parking for the ground floor commercial uses may be provided through on-street parking, where appropriate.

4.3.2.4 Surface parking is encouraged to be located behind buildings and screened from the street.

4.3.2.5 Surface parking lots should be well landscaped and lit to provide safe and comfortable walking environments and to minimize solar heat gain. Large parking lots should be broken up into smaller units using continuous treed areas and other landscaping, with at least one tree for every five spaces.

4.3.2.6 Individual private surface parking spaces should be integrated into buildings or standalone garages and accessed through laneways.

4.3.2.7 Loading, garbage and recycling areas should be located behind buildings and integrated into the building. Loading and waste areas are to be accessed from laneways and minor streets.






The following demonstration blocks illustrate the implications of the Built Form and Design Guidelines in a holistic manner.

## Demonstration Block 1






FIGURE 4.3: DEMONSTRATION BLOCK 1

# Demonstration Block 2



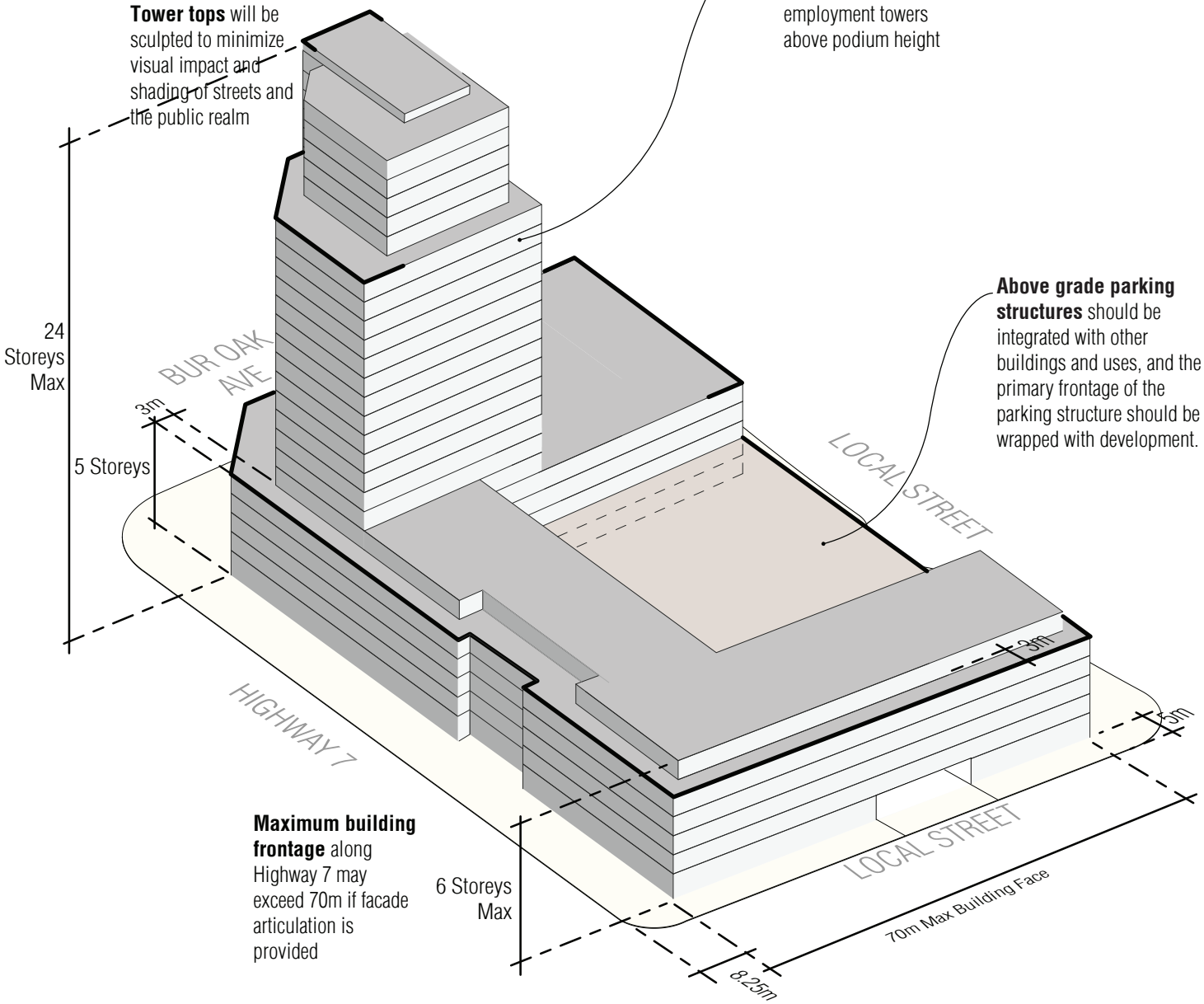



FIGURE 4.4: DEMONSTRATION BLOCK 2

# Demonstration Block 3



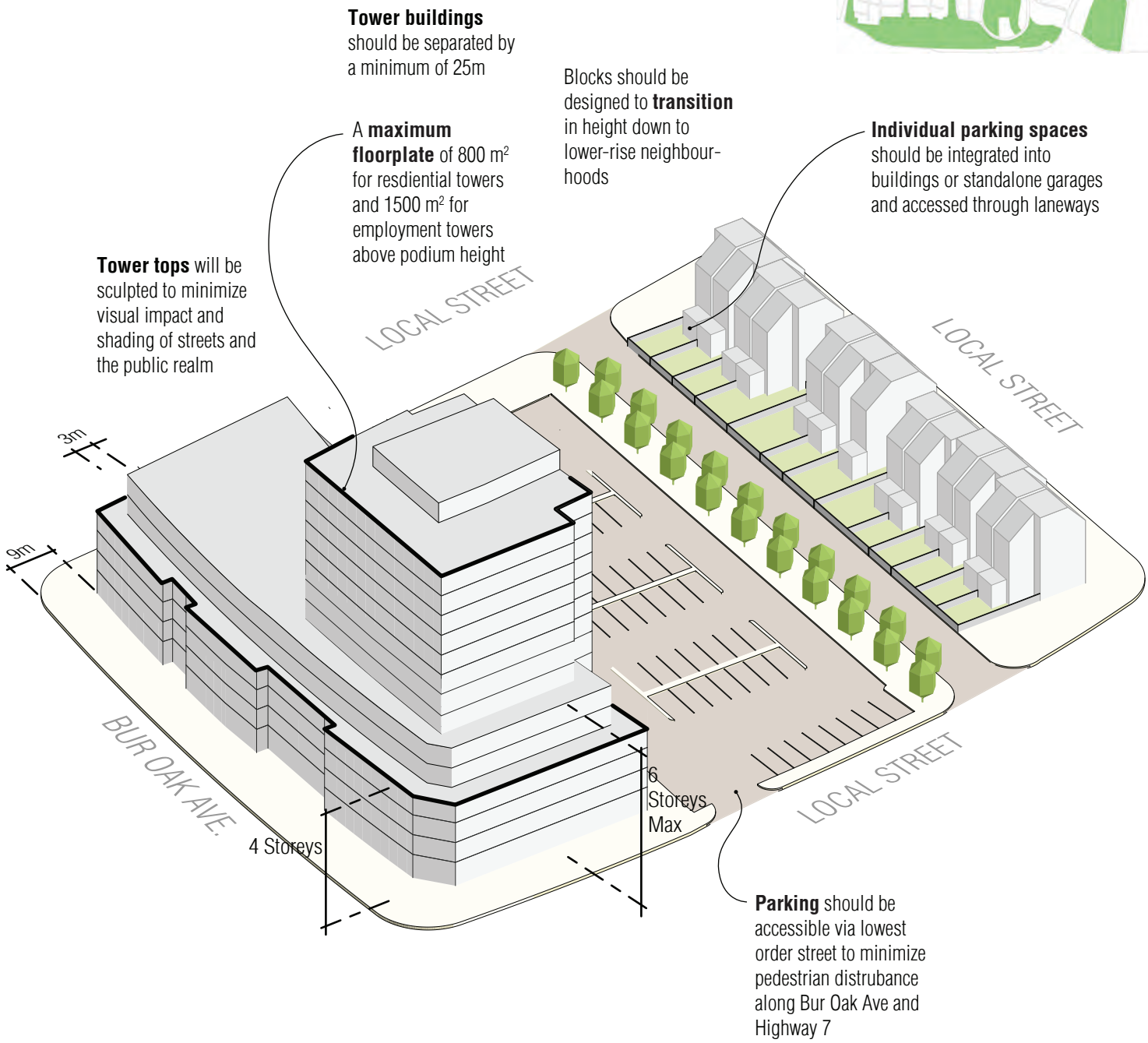



FIGURE 4.5: DEMONSTRATION BLOCK 3

# 4.4 Employment Uses





The Employment District towards the southeast of Cornell Centre will accommodate a variety of employment uses. It will serve as a diverse regional employment hub, supporting the development of office buildings in a campus-like setting visible from Highway 407, with more dense office developments along Highway 7, and other office and light industrial uses in the interior. Figure 4.3 identifies the distribution of types of employment uses within the Employment District.




FIGURE 4.6: DISTRIBUTION OF EMPLOYMENT USES WITHIN THE EMPLOYMENT DISTRICT

### 4.4.1 Business Park Areas

The Business Park Areas are intended to provide for prestige employment uses and create an opportunity for high profile office development in a campus-like setting. Positioned within a larger natural setting at highly visible locations along the 407 corridor, Business Park Areas will be reserved for large-scale premium development such as head offices, major institutions and other similar uses. At the interchange of Highway 407 and Donald Cousens, prestige employment development will provide a gateway into the larger Employment District.

Uses permitted in Business Park Areas include office buildings, research and development facilities, post-secondary institutions, hotels and convention centres, and small-scale, locally serving commercial and recreational uses located at grade. The following urban design standards shall apply to development in Prestige Employment 1. Implementation of these standards will be through site specific established in the Zoning By-law provisions.

4.4.1.1. Lot widths should generally be a minimum of 100 metres.

4.4.1.2 Buildings should generally be a minimum of 3 storeys and a maximum of 10 storeys in height.

4.4.1.3 Main building entrances should address and be accessible from a public street.

4.4.1.4 The massing of buildings at the interchange of Donald Cousens and Highway 407 should frame the entrances to the employment district.

4.4.1.5 High-quality exterior cladding materials, such as glass, steel, metal paneling, and masonry should be used on the facades of buildings. The use of pre-cast paneling and exterior insulated finishing systems should be minimized. At least 50% of a facades surface area, facing a public street, should be clear glazed.

4.4.1.6 Mechanical penthouses, antennae, vents, and chimneys should be screened from view or incorporated into the design of the roof.

4.4.1.7 Buildings at the corner of two streets should address the corner with special architectural massing or detail. Landscaping should also reinforce this special corner condition.

4.4.1.8 A minimum of 25% of the site area must be landscaped to a high quality and include lawn, coniferous and deciduous trees, and gardens. Fences are prohibited within the area between the building and the street. These open spaces may contain low impact design/ sustainable stormwater facilities.

4.4.1.9 Landscaped areas should be located and designed to enhance the setting and image of development and provide passive amenity space. Integration/ coordination of open spaces between neighbouring developments is encouraged.

4.4.1.10 Any structured parking should generally be located at the rear of buildings and screened from view from primary and secondary streets. Where structured parking faces streets, high-quality exterior cladding materials and extensive should be used.

4.4.1.11 Parking lots should be well landscaped and lit to provide safe, comfortable walking environments. Large parking lots should be divided by islands of trees and other landscaping, with a ratio of one tree for every five parking spaces.

4.4.1.12 To accommodate front yard landscaping and, where desired, visitor parking, buildings must be set back a minimum of 30 metres.

4.4.1.13 Servicing and loading areas shall be located at the rear of the primary building, away from public streets or appropriately screened from view of public streets in the interior side yard of the lot.. Garbage facilities shall be fully enclosed within the primary building.

4.4.1.14 Outside storage or display of goods is prohibited.

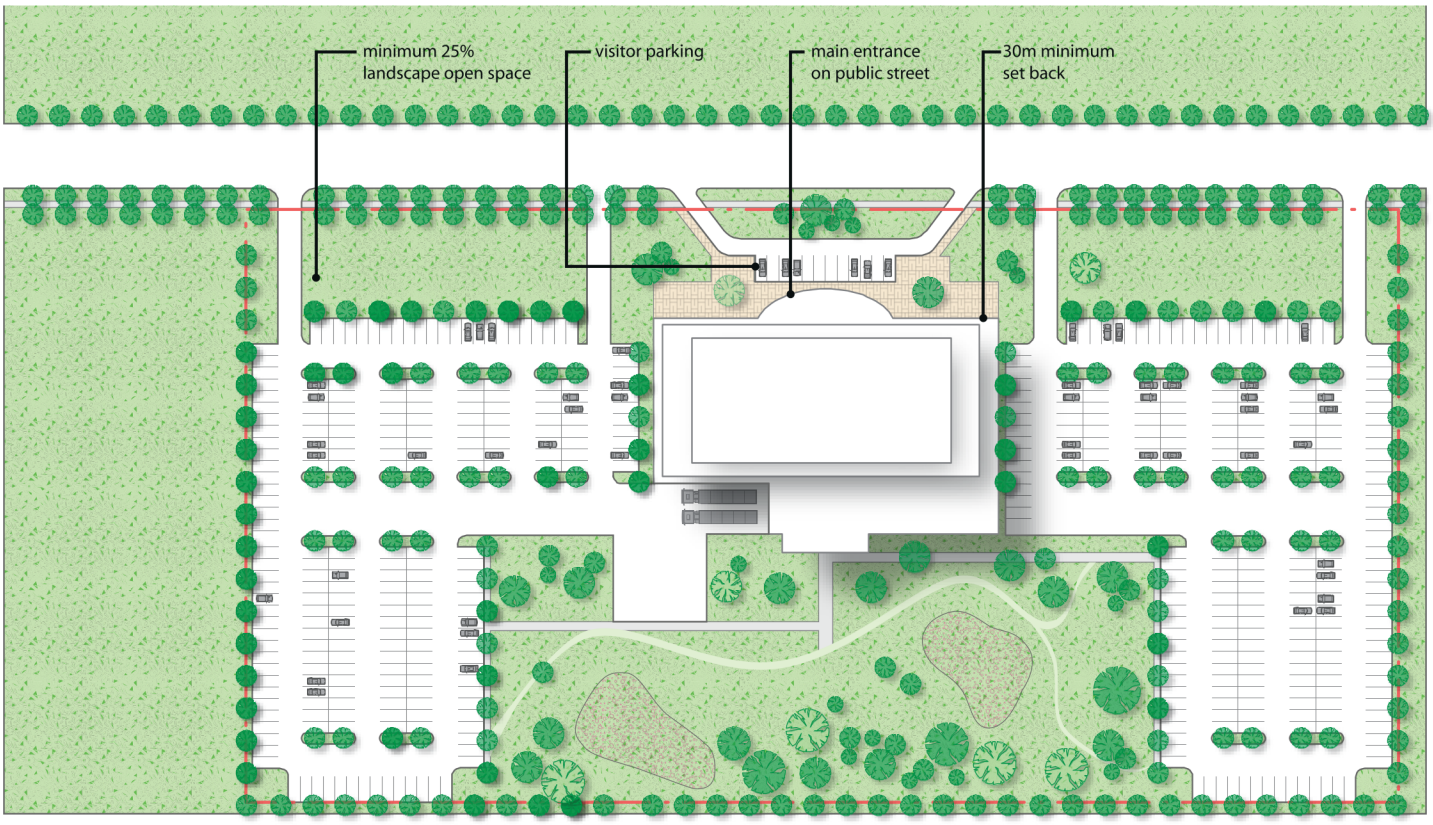



FIGURE 4.7: ILLUSTRATIONS OF DESIGN GUIDELINES FOR BUSINESS PARK USES




FIGURE 4.8: ILLUSTRATION OF DESIGN GUIDELINES FOR LIGHT INDUSTRIAL USES

### 4.4.2 Light Industrial Areas

Light Industrial Areas are located internal to the Employment District in less visible areas of the site. Uses with low employment density or that generate significant truck traffic, such as large warehouses, outside storage areas, trucking depots, storage units and distribution centres, are not in keeping with the vision for Employment District and should not be permitted.

Uses permitted in Light Industrial Areas include business offices, research and development facilities, light industrial uses, recreational uses, and small-scale, locally serving commercial and recreational uses located at grade. The following urban design standards shall apply to development in Light Industrial. These standards will be implemented through site specific Zoning By-law provisions.

4.4.2.1 Lot widths should generally be a minimum of 40 metres.

4.4.2.2 To establish a consistent streetscape edge, buildings should be built parallel to the street and 6 metres set back from the property line.

4.4.2.3 Buildings should generally be a minimum of 2 storeys and maximum10 storeys in height.

4.4.2.4 Outdoor storage and display of goods is permitted, provided it does not exceed 25% of the lot area. Storage must be at the rear of the site and screened from view from all directions.

4.4.2.5 Main building entrances should address and be accessible from a public street.

4.4.2.6 The building façade fronting a public street should be at least 40% of the lot frontage.

4.4.2.7 High-quality exterior cladding materials, such as glass, steel, metal paneling, and masonry should be used on the facades of buildings. The use of pre-cast paneling and exterior insulated finishing systems should be minimized. At least 50% of a facades surface area, facing a public street, should be clear glazed.

4.4.2.8 Mechanical penthouses, antennae, vents, and chimneys should be screened from view or incorporated into the design of the roof.

4.4.2.9 Driveways should not be located between the front of buildings and the street. Driveways should be located in between buildings. Shared driveways are encouraged.

4.4.2.10 Visitor and Employee parking lots should be located to the side and/or rear of buildings. Parking lots should be well landscaped and lit to provide safe, comfortable walking environments and minimize energy waste. Large parking lots should be divided by islands of trees and other landscaping, with a ratio of one tree for every five parking spaces..

4.4.2.11 A minimum of 10% of the site area should be landscaped. Fences are prohibited within the area between the building and the street.

4.4.2.12 Servicing, loading and garbage areas must be enclosed within the building and located at the rear of buildings.

### 4.4.3 Highway 7 Employment Area

4.4.3.1 A row of mid-rise commercial buildings are anticipated along both the northern and southern sides of Highway 7. These buildings are to be urban in nature, and as such, the design controls for this portion of the Employment District are consistent with the general built form guidelines. The maximum floorplate size for the 7th floor and higher is 1500 metres square.