

3

MASTER PLAN

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INTRODUCTION

Although numerous site constraints appear cumbersome, the opportunities afforded by the Langstaff Site prevail over apparent adversities. Langstaff has been acknowledged as a crucial development opportunity site locally, regionally and globally.

From a **GLOBAL** perspective, Langstaff is an opportunity to demonstrate how dense places lend themselves to state of the art environmental design and how concentrating people, commercial and office development near transit is a proven success in the function of cities.

In addition, the Province of Ontario and Metrolinx have designated the site and the area to its North (in Richmond Hill) as a **REGIONAL** opportunity to create an Urban Growth Centre with a targeted density and a “Mobility Hub”. Because of its location at the crossroads of numerous (existing and planned) regional transportation systems in the Greater Toronto Area (GTA), the site is a prime place to develop for the growing population and employment needs. Locating people, jobs and other amenities here will increase transit ridership; decrease dependency on cars, roads and parking; and create a more even jobs-housing balance.

LOCALLY, the unprecedented access to all these transit systems provides the community not only with full regional access to jobs and amenities on and off site, but also access to a renewed urban environment. Langstaff will enhance the existing community with new stores, parks, restored open space, community facilities, and additional housing options without the hassle of traffic congestion experienced when commuting by car.



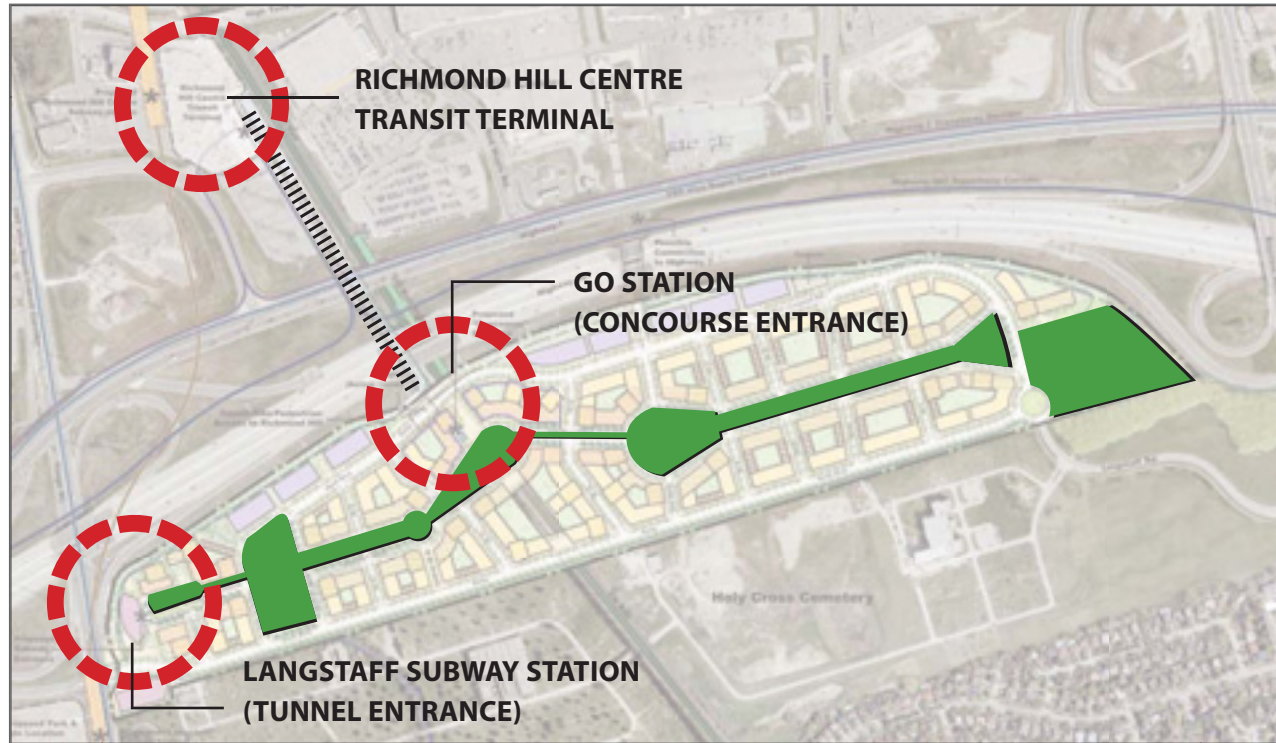
Peter Calthorpe presents the site analysis and design principles for the project during the Vision Workshop.

DESIGN PROCESS

The planning and design of Langstaff was a collaborative process with a continuous dialogue between Calthorpe Associates and Ferris + Associates (the Project Team), the Town of Markham, the landowners, IBI Group (traffic and transit consultants), MMM Group Limited (stormwater consultants), various regional agencies, and members of the community. The design process began with an intensive site analysis followed by multiple public and private meetings and design workshops. Meetings and workshops were an opportunity to educate those in the community unfamiliar with this type of urban form and give all interested an opportunity to be involved and comment on the design of the site. A transparent design process helped explain the site’s distinction, reveal the design principles which fueled the planning process, and gain the trust of the community. Concerning everything from transit timelines and traffic analysis to building types and land uses, the feedback received during this process informed the final design of the Langstaff Master Plan.

Chapter 8, Workshop Process, outlines each major public and private meeting concerning the design and program of the Plan, highlighting major comments made in regards to transit, building and block types, land uses, access, roads, adjacencies, etc. Accompanying the Workshop Process is a timeline showing the ‘Evolution of the Plan’. With each sketch, drawing, or model, the design concept is continuously refined until a plan cohesively reflects the needs of its community.

DESIGN CONCEPT



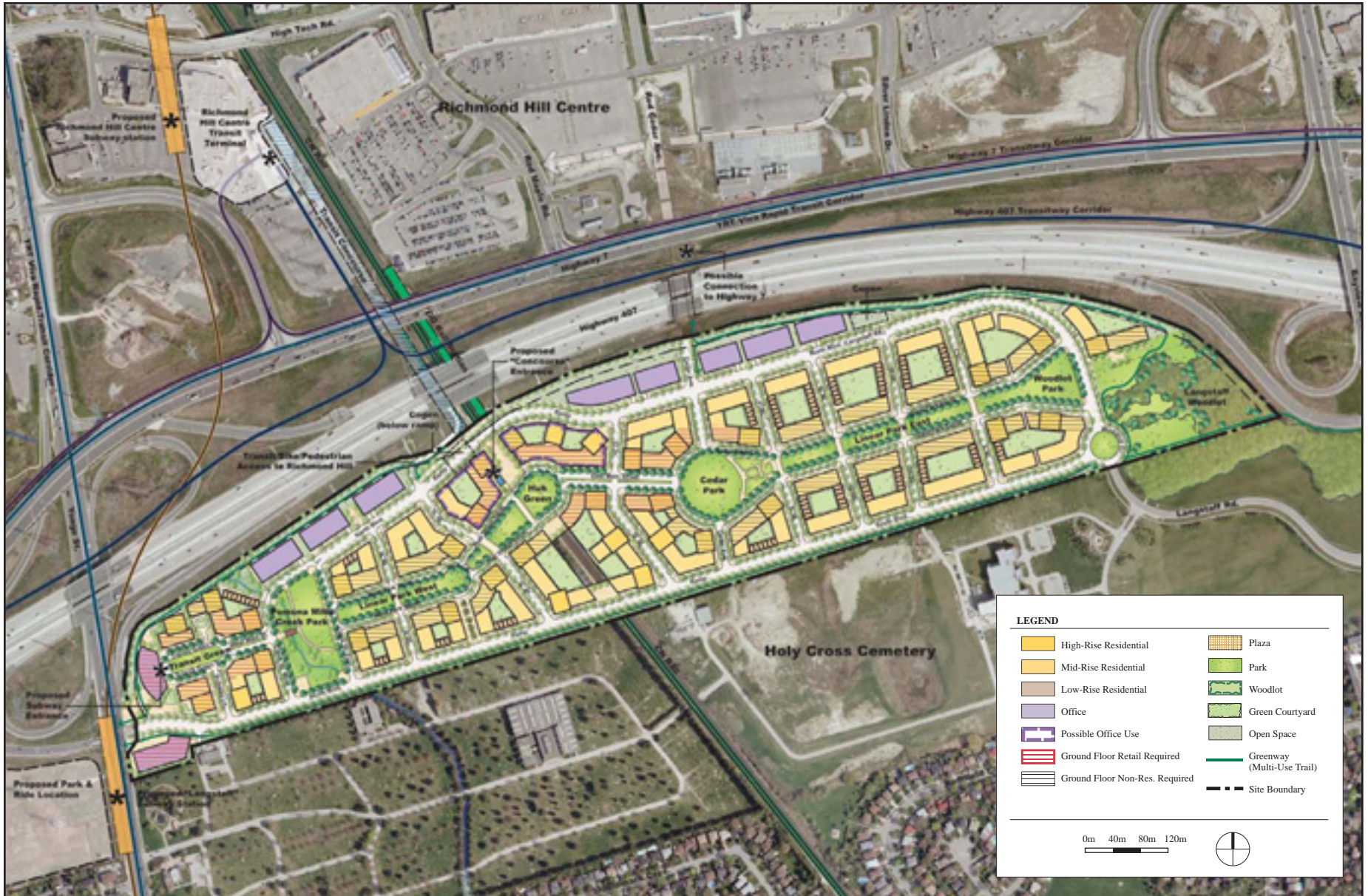
The Calthorpe-Ferris team used its own design principles, proven successful in projects worldwide, to motivate the base program set by the Town and region. Molding and enhancing the original concept, pushing design goals and targets to see what was possible, it went through multiple iterations and exhaustive measures to harness the full potential of the Langstaff Site.

DESIGN CONCEPT

From the beginning, the design concept held to the idea of a linear central green that connected existing open spaces, major arterials and residents with the planned transit nodes. This green link was imagined as a pedestrian, bicycle and transit-oriented corridor that opens up

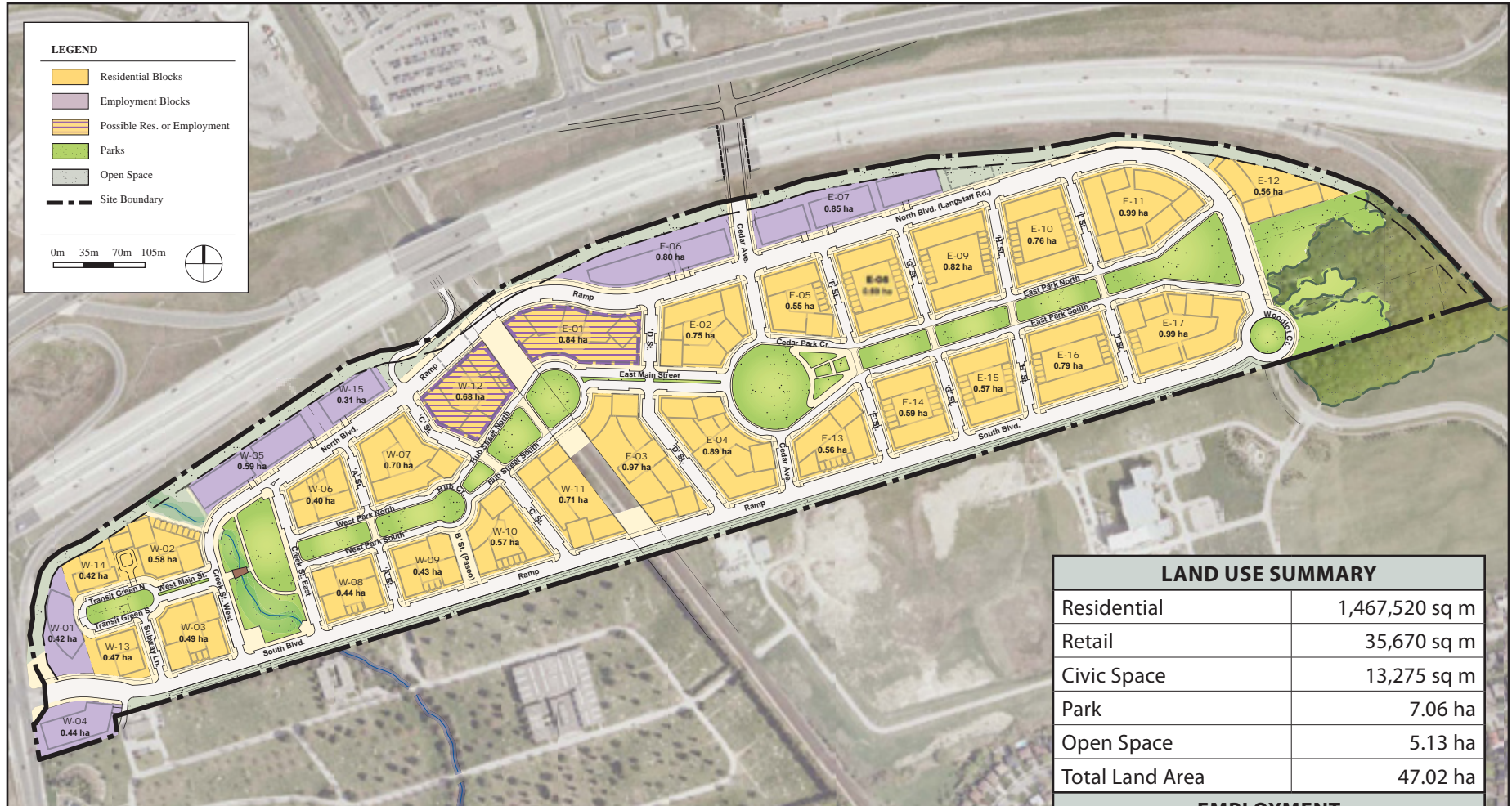
into parks across the plan highlighting retail and transit nodes at the Transit Green and Langstaff (Longbridge) Subway station at the west end and the Hub Green, GO Station platform and Richmond Hill Centre Transit Terminal in the centre. Bordering the linear park are mixed-use blocks with “Boulevard” type mid-rise residential buildings with ground floor retail and civic uses. A grid network of streets creates a walkable, connected place creating a pleasant atmosphere with more human scale block types. The wider roads, North and South Boulevards, make automobile and regional bus access to the employment buildings along the Highway 407 edge convenient and free-flowing. And road site access points at Yonge Street, Langstaff Road from Bayview Avenue and Cedar Avenue (underpass from Richmond Hill) allow for greater connectivity between Langstaff and existing neighbourhoods.

LAND USE & BUILT FORM MASTER PLAN



The Langstaff Land Use and Built Form Master Plan (above) is a true mixed-use plan that focuses density, office and retail at the two transit nodes that access the subway and rail stations.

LAND USES



LAND USE SUMMARY	
Residential	1,467,520 sq m
Retail	35,670 sq m
Civic Space	13,275 sq m
Park	7.06 ha
Open Space	5.13 ha
Total Land Area	47.02 ha
EMPLOYMENT	
Office Space	217,850 sq m
Jobs Created *	9,624
HOUSING	
Total Housing Units	15,140 du
Population	31,790 people
Density	322 du/ha

The Land Use Block Plan (above) points out the primary land uses of the west and east development blocks in Langstaff. Residential use makes up the majority of the plan while employment is focused at the transit nodes and bordering Highway 407. The Land Use Summary table to the right gives a brief look at total areas for major land uses, and employment and housing numbers (a more complete summary is on pages 64 - 65 of this chapter). In addition, Chapter 5, Development Guidelines, will discuss land uses, ground floor use, block types, building heights, massing, etc. in more detail through guideline text and control diagrams.

* 'Jobs Created' includes office, civic and retail employment.

LAND USES

RESIDENTIAL BLOCKS

Offering a wide variety of housing options allows for a diverse mix of household sizes, lifestyles, and incomes. Langstaff will include a spectrum of housing types, from high-density towers and mid-rise “Boulevard” style buildings (10 floors) with ground floor retail and other nonresidential uses to lower-density mid-rise (6 floors) and townhomes. The configuration of housing and building types, with unique design features and interior courtyards/ rooftop terraces, creates a distinct neighbourhood character and dynamic human scale environment.

TRANSIT NODES, RETAIL CENTRES & EMPLOYMENT

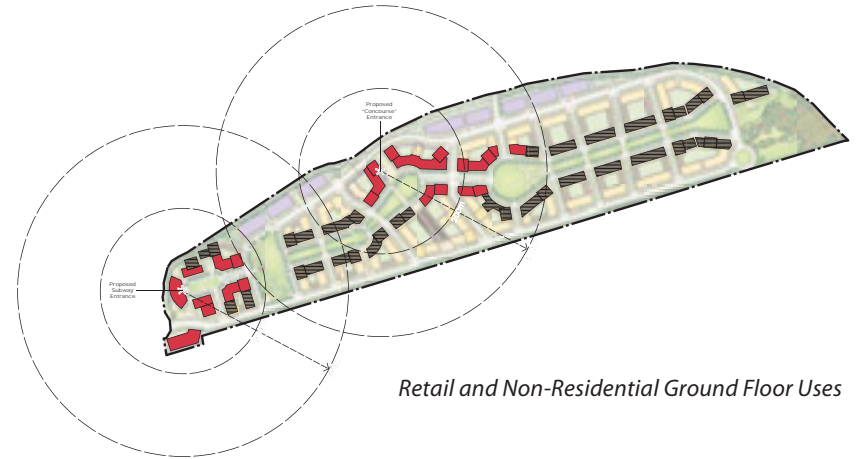
The vibrant mix of uses in these cores—including high-density residential, office towers, and main streets lined with ground floor retail that offer uses such as restaurants, clothing stores, banks, and salons—serve both residents and employees within walking distance of the transit nodes. Commuters can combine walks to the station with small errands and social activities, reducing trips by car and invigorating the pedestrian life of the main streets. The West (Langstaff (Longbridge) Subway station) and East (GO Station platform and Richmond Hill Centre Transit Terminal) Transit Nodes are the primary hub of activity for the community. Additional employment will allow Highway 407 to give greater access and exposure to office buildings as well as buffer the interior residential development from the highways.

CIVIC

Additional services at the ground floor level will be civic and community facilities such as child care, community recreation center, library, post office and schools. The proposed population of Langstaff will require two new schools. Typical suburban elementary schools require a 4-6 acre site, but the urban structure of Langstaff requires an alternative to the typical school layout. A school that is integrated into the mixed-use urban environment at the ground floor of higher density residential buildings is more appropriate. The mixed-use structure of urban schools allows multiple civic and community institutions to share facilities.



Low to High-Rise Residential Buildings

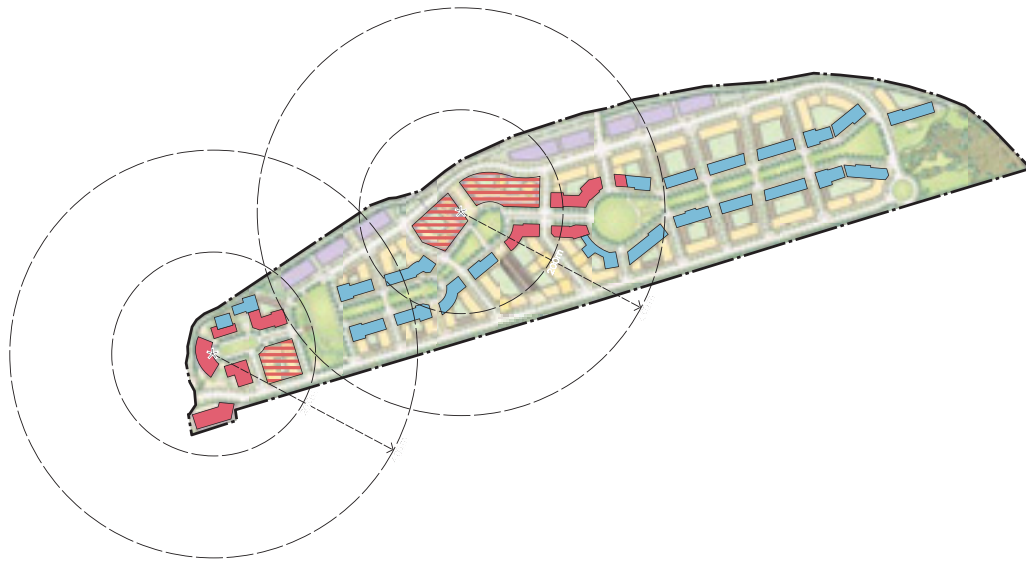


Retail and Non-Residential Ground Floor Uses

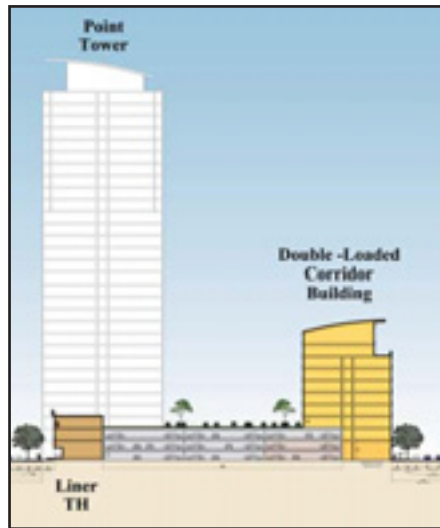


Employment and Mixed-Use Employment Buildings

LAND USES



The diagram above (described in more detail in Chapter 5, Development Guidelines) highlights required ground floor uses. 'Full Ground Floor Retail Allowed' is hatched in red, 'Required Ground Floor Retail' is solid red, 'Ground Floor Non-Residential Required (Minimum 30% Civic)' is solid blue.



The image (Yaletown, Vancouver, BC) and building section above illustrate how a mixed-use block functions with multiple uses, building types and structured parking in the centre.

MIXED-USE BLOCKS

Mixing high-density residential, retail, office, open space, and public uses brings vitality to neighbourhoods and enables people to accomplish daily tasks by foot, bicycle, or transit, as well as by car. When complemented by streetscapes that favour pedestrian use, mixed arrangements of land uses can encourage social interaction, street activity, and neighbourhood safety. Langstaff, at 47 hectares, 1,400 meters east-west and 300 meters north-south, is a neighbourhood in scale. The number of dwelling units and the targeted density, however, require a mix of uses not only at the neighbourhood scale but also within each block.

Retail, high-rise residential, and office are largely focused around the West (at Transit Green) and East (at Hub Green) Transit Nodes and Main Streets. As one moves away from these retail cores, nonresidential ground floor use is mainly civic and community service oriented and housing types taper in density to mid- and low-rise townhomes to create blocks of a more intimate character. The mixed-use blocks that frame the central linear park system are typically made up of high-, mid- and low-rise residential buildings with structured and/or underground parking, internal courtyard roof terraces, and a nonresidential ground floor use required facing the park.

A good mixture of retail, employment, residential, entertainment, and civic uses is crucial to the long-term success of Langstaff. Attracting and retaining a wide array of activities will broaden the community's appeal, while strengthening its economic viability.

PARKS & OPEN SPACE



PARK AREAS	
West Side Parks	1.50 ha
East Side Parks	5.56 ha
Total Parks Area	7.06 ha
OPEN SPACE AREAS	
West Side Open Space	2.60 ha
East Side Open Space	2.54 ha
Total Open Space Area	5.13 ha

OVERALL PARKS & OPEN SPACE PLAN

Langstaff offers a number of parks and open spaces that collectively function as a “spine” of public parks and linear open spaces. These major open space elements create a linkage of green spaces that connects the west to the east side of Langstaff, anchored by Pomona Mills Creek to the west, and the Langstaff Woodlot to the east.

Langstaff’s open space core transforms the role of the urban park from a more traditional type of recreational outlet into a catalyst for community development and enhancement. These parks play a pivotal role in shaping the built environment of Langstaff and are the centre around which development will evolve. The park system will be an essential component in transforming and enriching Langstaff as a place of social and cultural exchange.

Quality open spaces are designed to be accessible and offer activities integrated into the daily routine of home life, shopping, and travel. Transit, bicycle and pedestrian connections help to increase access to these parks from other neighbourhoods. Public open spaces should not be secluded from the community nor enclosed within private spaces or buildings. Open spaces should be predominately green and provide a variety of opportunities from paved plazas to open lawns to shaded areas and provide a place of relief from the surrounding built environment. Climate-sensitive design facilitates intimate, comfortable spaces for a momentary retreat and surrounding buildings can help create a sense of enclosure. Versatility and safety are promoted around the clock by providing a variety of adjacent uses which correspond to different time periods such as offices in the day, bars and cinemas at night or a farmers’ market on the weekend. The diverse forms of parks and open space are highlighted on the following pages with detail plans and sections.

GREENWAYS

The northern and southern edges of the project are distinguished by linear greenways providing a continuous trail around the entire community. Both greenways have multi-use bike and pedestrian trail that is separated from traffic, creating a pedestrian and cycling supportive neighbourhood with bicycle routes that serve local destinations and that are linked to the larger town-wide network of bicycle routes. Both greenways, North Linear and South Linear, act as landscaped buffers to the neighboring land uses, to the north Highway 407 and to the south Holy Cross Cemetery. North Linear Greenway is interrupted between Cedar Avenue and the CNR crossing but is connected as a 'Signed Bike Route' along North Boulevard to run up and over the CNR tracks. The South Linear Greenway runs uninterrupted from Yonge Street to the Langstaff Woodlot with a terraced, landscaped edge to give the cemetery a pleasing greenery-filled view where the path crosses CNR. There will be special surface treatments and street furniture at periodic intervals to provide users with the opportunity to pause and enjoy the view to the south. Pedestrian-scaled lighting standards will make these trails a safe and a popular option at night.



Midtown Greenway. Minneapolis, MN (USA).



Midtown Greenway. Minneapolis, MN (USA).

PARKS & OPEN SPACE



TRANSIT GREEN

The Transit Green is a small oval-shaped green park and plaza at the centre of the West Transit Node. At 21 meters wide, the green is a convenient gathering space to support surrounding activity. The Transit Green sits at the centre of a one-way couplet system, designed to enhance the area’s pedestrian character, increase safety, and improve parking and drop-off access.

The Transit Green is a retreat for the residents, shoppers and employees that use this area on a daily basis. An entrance to the Langstaff (Longbridge) Subway station on one end and West Main Street on the other, the Green is an ideal space for people to meet friends, break for lunch, or take the dog for a walk. Urban square by summer and potentially a skating rink with outdoor fireplace by winter, this is an hybrid park and plaza that could be programmed with concerts and other activities to serve, engage and entertain the large number of people passing through the West Transit Node. The Transit Green also serves as the entrance to the Master Plan’s central park system, a main pedestrian and bicycle route through the plan providing connectivity between transit nodes, Pomona Mills Creek Park and the Langstaff Woodlot.



The 16th Street Transit Mall in Denver, CO (USA) and Hayes Green in San Francisco, CA (USA), has comparable design features to that of the Transit Green: a couplet creates a pedestrian friendly environment and fosters an active centre.



PARKS & OPEN SPACE



The Transit Green design shown to the left complements the entrance to the proposed Langstaff (Longbridge) Subway station and a 25 storey office tower. The Green anchors the western terminus of the central linear park system and is designed to help provide safe and convenient access and movement for pedestrians and cars. Auto access to parking structures (below grade) are from side streets (Subway Lane and the loop driveway off of Transit Green North) with an additional options for underground access and egress in the Green from Transit Green North and South streets.



The image above of Brantford Civic Square in Brantford, ON gives an example of how people enjoy sitting in this type of plaza open space with landscaping that organizes and enhances the experience of relaxing here.



POMONA MILLS CREEK PARK

The plan for Pomona Mills Creek is to restore, protect and enhance the existing creek system and make the restored Creek the centrepiece of a new neighbourhood park. At nearly 2 hectares, the Park will house a mix of active use areas and lend itself to passive enjoyment along its meandering creek bed. With a diversity of offerings and a direct connection with the site's natural ecosystem, Pomona Mills Creek Park will assuredly become one of the most popular open spaces in the Langstaff Master Plan.

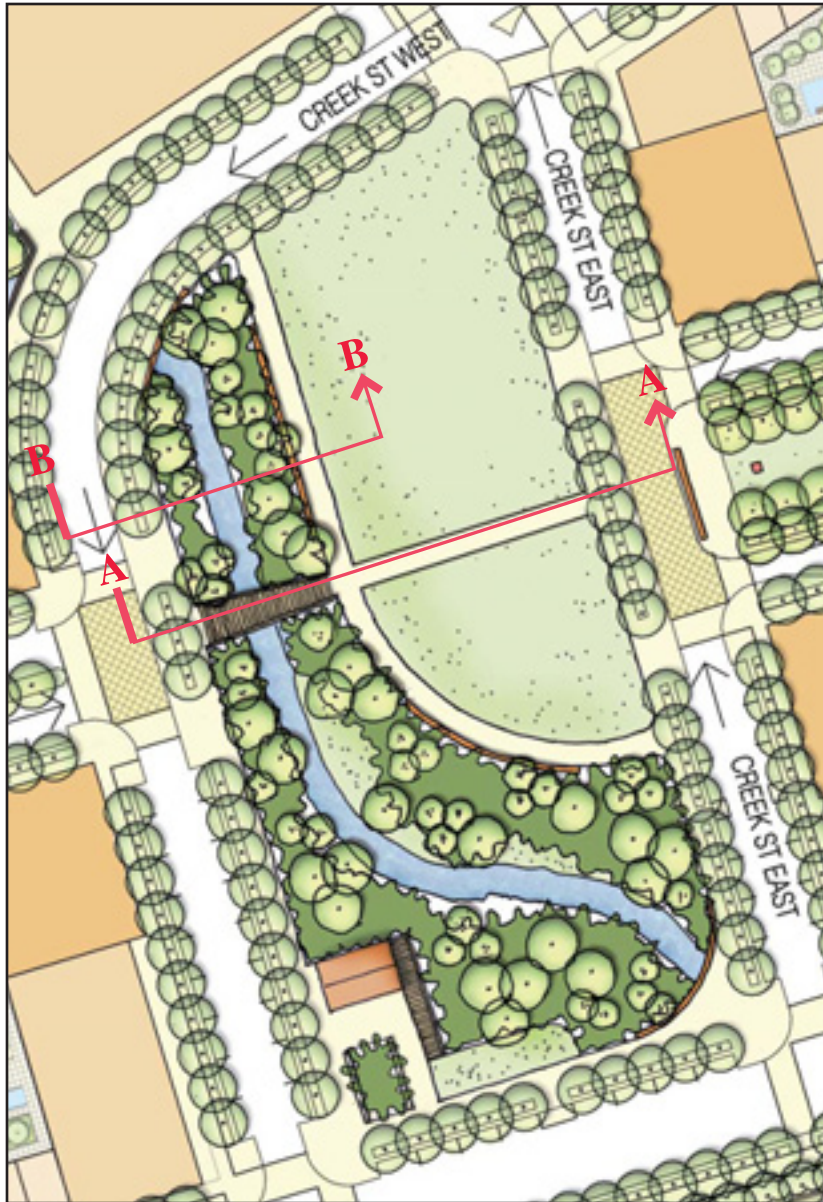
Designed to respect Toronto and Region Conservation Authority (TRCA) required setbacks and buffer, Pomona Mills Creek Park will contribute to the aesthetic beauty and overall identity of Langstaff's West Side. A set of standards for the protection and enhancement of the creek will be necessary to respect the creek in its natural setting. Its naturalized landscape will contrast the traditional view of parkland, providing residents with a natural enclave in an urban setting. Natural features will blur the distinction between the pre-existing creek and designed park lands, with vegetated buffers and boardwalk bridges lending a feeling of ecological sensitivity to the entire park. The creek bed will be



Park Blocks. Portland, OR (USA).

appropriately landscaped with native planting to create an attractive yet ecologically appropriate watercourse area, with creative terracing down to the water offering opportunities for seating, gathering, and passive enjoyment of the waterway. An underground stormwater management cistern will be mostly invisible to the casual park user and any access doors or other necessary equipment will be located outside the Park's primary activity zone. And similar to the Transit Green couplet system, a one-way road surrounds the park, instead of bisecting it, in order to preserve a space large enough for town park activities, play areas and picnic areas.

PARKS & OPEN SPACE



0m 6.25m 12.5m 18.75m



Section A-A (Looking North)
1 : 500



Section B-B (Looking North)
1 : 500



PARKS & OPEN SPACE



LINEAR PARK WEST

Linear Park West will offer a range of amenities such as basketball courts, climbing structures, seating, game areas, and landscape displays. The park is 27 meters wide within a 82 meter right-of-way and is surrounded by a narrow, one-way couplet street which accommodates a circulating shuttle for convenient access to retail centres and transit nodes. Couplets that surround parks have the added benefit of increasing pedestrian safety and improving vehicular movement.

The Linear Park West, and East, are crucial to the Master Plan's overall linear park concept. On the west side, the Linear Park is one of the primary organizing elements of the neighbourhood, indeed much of the whole site. Depending on open space connection, the Linear Park network connects the west and east sides of the plan, offering pedestrians and cyclists a clear and easy path from end to end. Alternating grassy areas with plaza spaces, Linear Park West will create



Santana Row, San Jose, CA (USA)

a rich and varied public realm for the site's new neighbourhoods and encourage adjacent ground floor uses, such as cafes and restaurants, to spread out into the sidewalk and take benefit from the Park's open feel. Framed by mixed-use buildings of varying heights, the Linear Park will become a vibrant public 'living room' for residents of the community and employees alike.

PARKS & OPEN SPACE



0m 6.25m 12.5m 18.75m

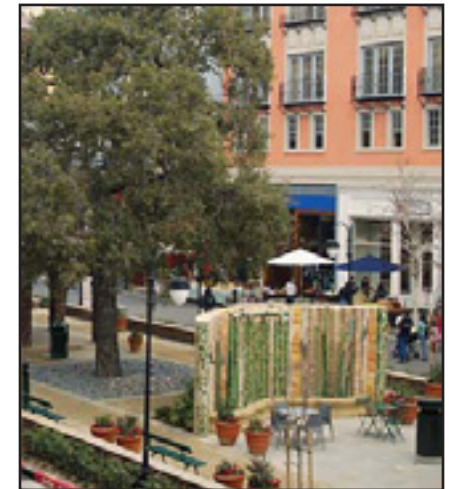


Section C-C (Looking East)

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Columbus Circle. New York City, NY (USA).



Santana Row. San Jose, CA (USA).



Southern Playground. Hong Kong.

PARKS & OPEN SPACE



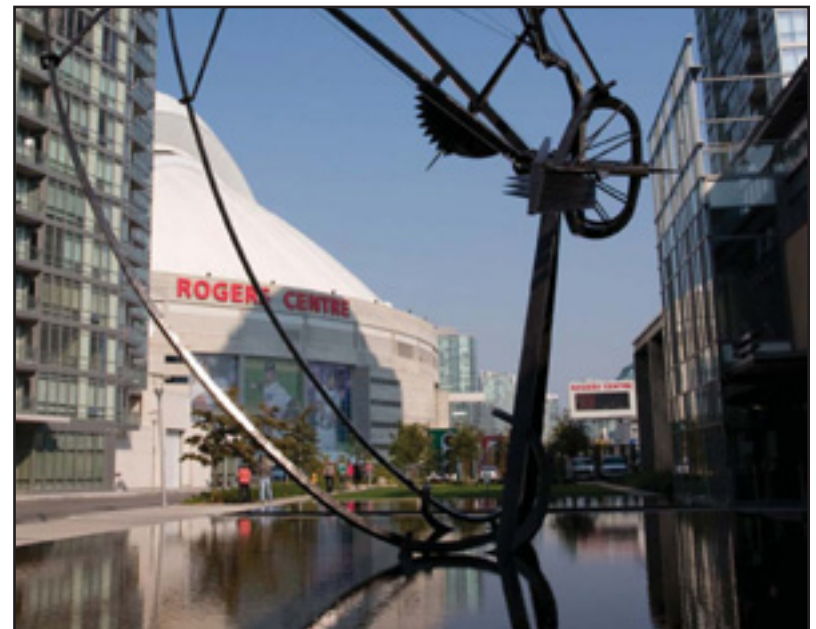
HUB GREEN

The Hub Green is the focal point of the East Transit Node. This small open space, similar to the Transit Green in the west side, is a convenient space to take a break in the middle of a busy day. Bordered on the west by Main Street and a transit node to the east, Hub Green serves as a vital linkage between major components of the plan. It is part of an important network of pedestrian crossings over existing CNR tracks, with a surrounding one-way couplet providing automobile and bicycle connectivity.

The Hub Green is the point at which the central open space spine deflects towards the north to connect with the East Transit Node and proposed Transit Concourse. Flared wide at its east end and pinched to a narrow throat to the west, Hub Green is a dramatic public open space that will eventually be one of the two busiest areas in the project by virtue of its connection to the proposed concourse. The park increases in grade like the road on either side so that it acts like a large ramp crossing over the CNR corridor. Hub Green drops in elevation east to west, and its landscape treatment will take advantage of this gently sloping condition with a series of interconnected terraces. A southwesterly orientation makes the Hub Green a pleasant and sunny gathering spot.



Brantford Civic Square. Brantford, ON.



Harbour View Estates. Toronto, ON.

PARKS & OPEN SPACE



0m 6.25m 12.5m 18.75m



Columbus Circle. New York City, NY (USA).



Air Canada Centre. Toronto, ON.



Columbus Circle. New York City, NY (USA).

PARKS & OPEN SPACE



CEDAR PARK

At 1.5 hectares, Cedar Park is Langstaff’s largest active park space. As a symbolic keyhole linking the bustling activity of East Main Street to a linear open space and eventually the Langstaff Woodlot, its central location will make it an important and often used destination for the entire community.

Cedar Park is essentially a large meadow, perfect for active sports like informal soccer and frisbee. It will take advantage of its large open space and accommodate various programmed activities such as concerts, performances, fairs and markets. Where the park narrows to the east, the meadow becomes more structured and dense with trees, helping it transition into Linear Park East. An underground stormwater management cistern will be mostly invisible to the casual park user and any access doors or other necessary equipment will be located outside the Park’s primary activity zone.

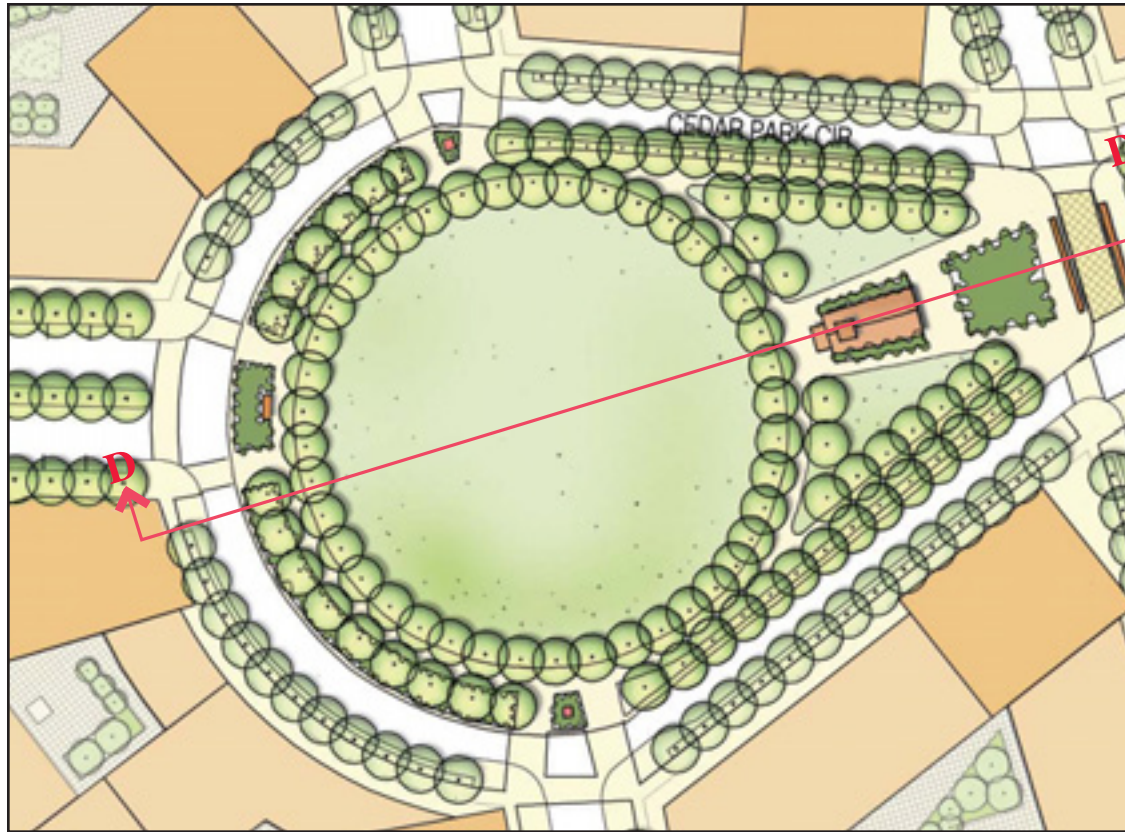


Stapleton. Denver, CO (USA).



Battery Park. New York City, NY (USA).

PARKS & OPEN SPACE



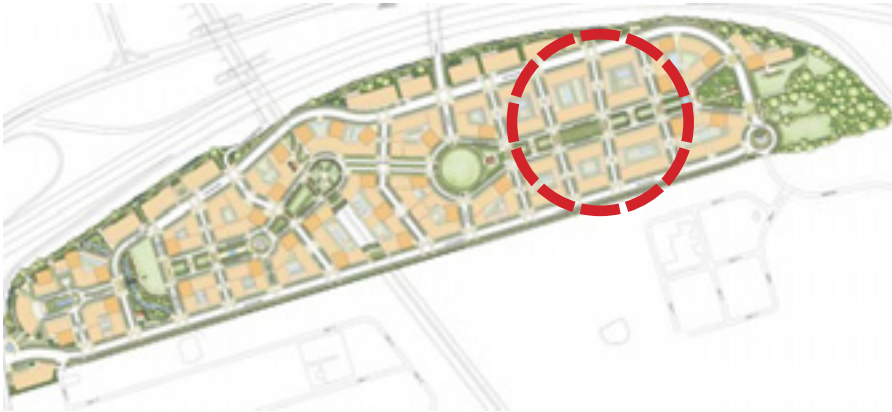
New York City, NY (USA).



New York City, NY (USA).



Section D-D (Looking North)
1 : 500



LINEAR PARK EAST

Linear Park East like Linear Park West will offer a range of amenities such as basketball courts, climbing structures, seating, game areas, and landscape displays. Framed by mixed-use buildings of varying heights, the linear park system will become a vibrant public 'living room' for residents of the project and employees alike.

The Linear Park East and West are crucial to the Master Plan's overall linear park concept. On the east side, the Linear Park is one of the primary organizing elements of the neighbourhood, indeed much of the whole site. Depending on open space connection, the Linear Park network connects the west and east sides of the plan, offering pedestrians and cyclists a clear and easy path from end to end. The park is 27 meters wide within a 82 meter right-of-way and is surrounded by a narrow, one-way couplet street which accommodates a circulating transit shuttle for convenient access to retail centres and



Hermann Park. Houston, TX (USA).

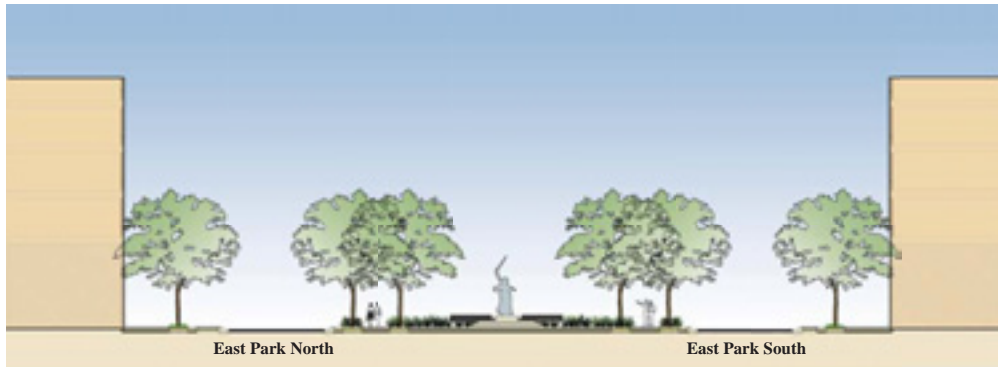
transit nodes. Couplets that surround parks have the added benefit of increasing pedestrian safety and improving vehicular movement.

Alternating grassy areas with plaza spaces, Linear Park East will create a rich and varied public realm for the site's new neighbourhoods and encourage adjacent ground floor uses, such as cafes and restaurants, to spread out into the sidewalk and take benefit from the Park's open feel. Special paving and surface treatments will be used in the adjacent couplet streets and in the streets that cross the park perpendicularly to create the impression of an unbroken linear pedestrian space while still accommodating the necessary interruptions.

PARKS & OPEN SPACE



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Section E-E (Looking East)

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Hermann Park. Houston, TX (USA).

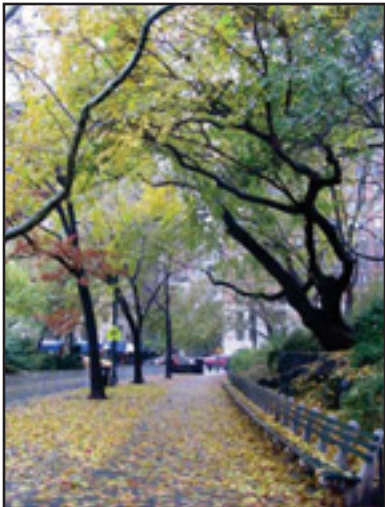
PARKS & OPEN SPACE



WOODLOT PARK

Woodlot Park is a dynamic and important open space where the more formal landscape geometries of the linear green opens up and transition to the natural 'wildness' of the Woodlot. This transitional quality is reflected in the design of the park itself, with trees planted in ad-hoc clusters instead of in orderly bosques and rows as elsewhere in the plan.

In addition, Woodlot Park is intended to be a Central Green space that will be an important destination for the community. It shall have a strong identity for the community, safe, clean, easy to get to and connected to the surrounding community. Most importantly is the sociability, it should be a place to meet other people which are an integral part of community life. The park may host many unprogrammed activities such as open field play, children playing, walking, jogging, cultural activities, art community events or socializing with other people.



New York City, NY (USA).



Paris (France)



Addison Circle. Dallas, TX (USA).

PARKS & OPEN SPACE



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Park Blocks. Portland, OR (USA).



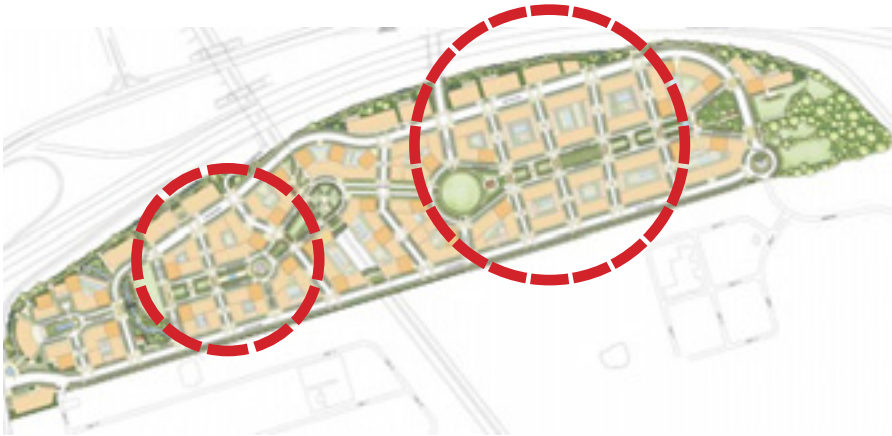
East Park North

East Park South

Section F-F (Looking East)

1 : 500

PARKS & OPEN SPACE



ROOF TERRACES

In addition to the 25% of the site that is established as public open space, an additional 10% is reserved as private open space in the form of internal courtyards and usable open space (in the middle of the mixed-use development blocks.) These courtyards will be a mix of at-grade and elevated open spaces on top of structured parking podiums. These spaces are primarily intended for the private use of residents in that particular block, but some could be shared with the larger community, especially if on a block with below-grade parking. These courtyard open spaces will feature a mix of 'hardscape' and 'softscape' areas, with grassy areas and trees in planters. Shared courtyards will have a variety of amenities for residents and neighbours, which may include pools, barbecue and picnic areas, table and seating clusters, and even dog-walking zones.

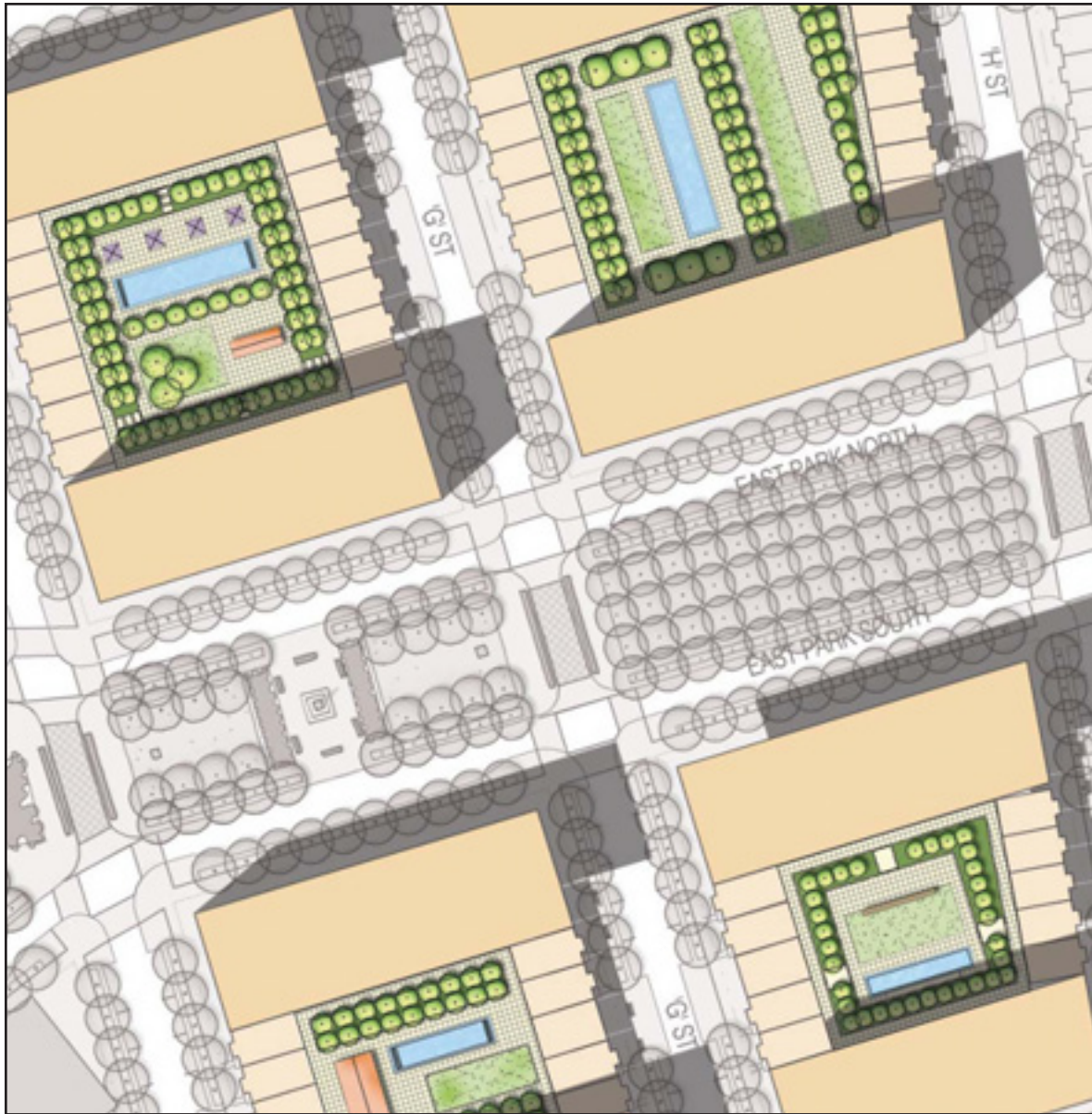
The courtyards at the centre of the block will in most cases be the largest contiguous private open space areas in a given block, but many of the building rooftops on the block will be available for shared use as well. While some building tops will be true green roofs meant to soak up rainwater and reduce heat gain, others will be roof gardens



Hoyt Apartments. Portland, OR (USA).

programmed with amenities and features. Every building of course will have the standard outdoor private open spaces in addition to courtyards and roof tops: these spaces include balconies, porches, patios, decks. Taken together, these various open space elements will create a private realm that is just as rich and varied as the site's linear park system.

PARKS & OPEN SPACE



0m 6.25m 12.5m 18.75m



Phoebe Street Condominiums. Toronto, ON.



The Louisa. Portland, OR (USA).



LANGSTAFF WOODLOT

One of the remaining vestiges of Markham's original rural character, the Langstaff Woodlot will be preserved and enhanced as a part of the Master Plan. The Woodlot, a grove of mature deciduous trees, acts as a natural buffer that provides screening against Bayview Avenue. Detailed design recommendations for this open space amenity will need to wait until a Woodlot Management Plan is completed as a part of Phase One development (with appropriate community input). But it is expected that a new pedestrian path might be sensitively and carefully added to the Woodlot to maximize the community access and appreciation of this heritage landscape. New active open space areas are appropriate at the edges of the Woodlot where trees have been removed in the past. The informal and natural character of the Woodlot will be respected in any case, and this ungrooved open space will be an effective and powerful counterpoint to the more formal open spaces further west on the site.



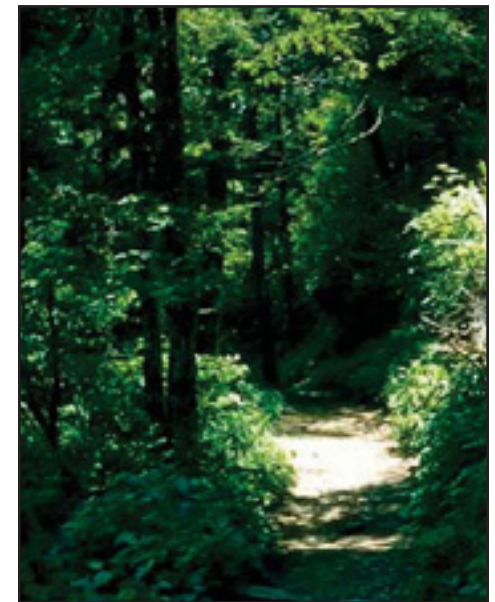
PARKS & OPEN SPACE



0m 7.5m 15m 22.5m



*Sydney & Walda Besthoff Sculpture Garden.
New Orleans, LA (USA).*

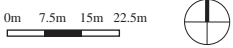
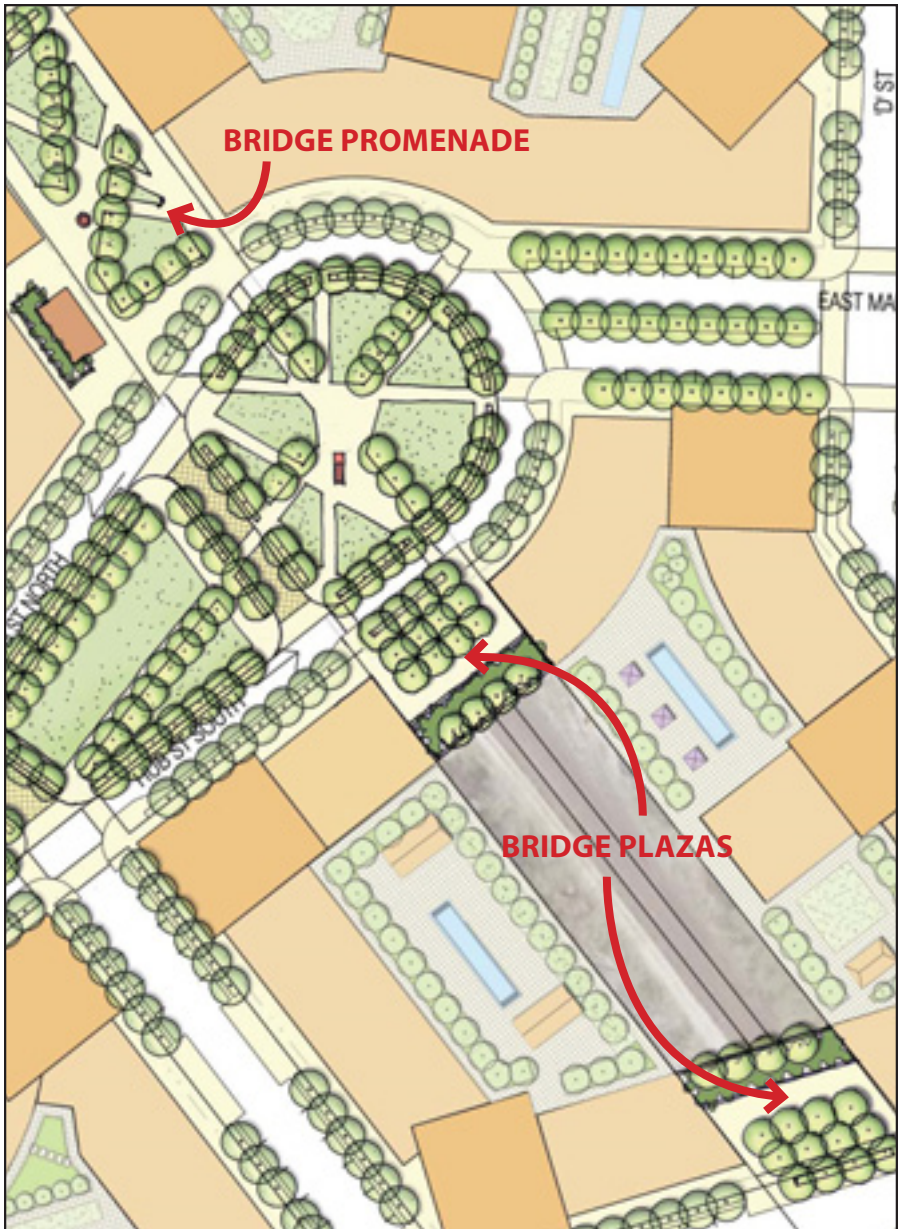


PARKS & OPEN SPACE



BRIDGE PROMENADE

The busy CNR freight corridor will be decked over as it passes thru the site (subject to CN's approval): this will protect the new Langstaff neighbourhood from the noise and vibration of freight trains passing underneath. There are important CNR safety and access criteria that the deck design must respect, so detailed design of the Bridge Promenade areas will need to be resolved later in the development process.





PROMENADE PARK

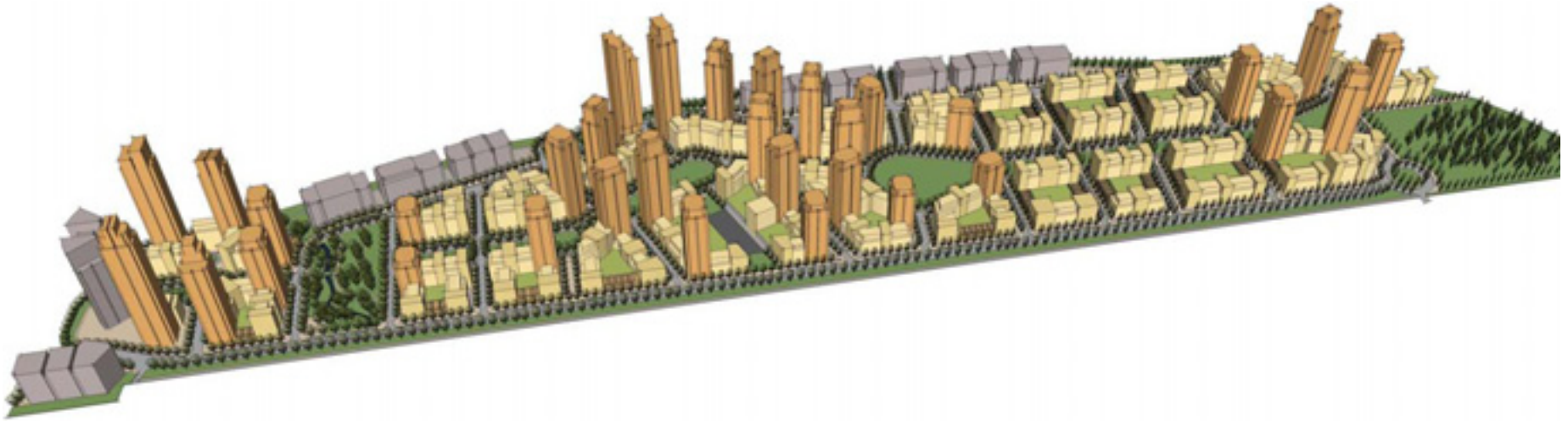
Because the Langstaff development is so heavily transit oriented, certain streets that would otherwise be standard paved facilities for cars have been converted to transit and pedestrian-only streets. . . or 'park streets', Promenade Park is such an instance. The Promenade Park designation is used for a particular street where an extraordinary pedestrian emphasis and/or place-making are warranted. The Park is expected to have a unique design and may function as both a street and as a public space for sidewalk cafes, street fairs, and festivals, cultural and special events. Special paving may be used to designate this street as pedestrian friendly where significant attention is given to the aesthetic quality of the pedestrian environment. Moreover, special paving is required on designated street rights-of-way to create distinctive places for people to gather, live, work, shop, dine, and socialize, where extra emphasis is desired to signify the importance of these focal points of people activity.

The Promenade Park, at 20 meters wide, will be an intimate pocket park creating a green linkage from the central Transit Spine south to South Boulevard. Ground floor residential units will face directly on to this park: small front yards and entry stoops will animate the space and create a healthy balance between public and private space. As there is no below-grade parking under this park, a full landscape treatment with in-ground trees is possible.



Morrison Hall, University College. Toronto, ON.

PROJECT MASSING



Sustainability mandates that significant densities and a mix of uses, residential, office, and retail, be introduced to the Langstaff Site near to major public transportation nodes to maximize transit-oriented efficiency. High-rise buildings are certainly one of the construction types that will help the site achieve this goal. But how to accommodate development without letting the site become a forest of towers? The Langstaff Site establishes three clusters of density -- at the major East and West Transit Nodes -- as well as a lesser cluster at the very east end.

Connecting these areas of concentration is a diverse urban fabric of mixed-use urban buildings that range in height from three to ten stories. The central open space spine and its flanking couplet transit-only streets is a unifying, Parisian-scaled streetscape that ties the east and west sides of the project together. Buildings that face the Linear Park are uniformly 6 to 10 stories in height, although building mass over eight stories is set back from the street so it is barely visible from the ground below (views of what these streetscapes may look like are shown below).



PROJECT MASSING



WEST TRANSIT NODE

The development cluster at the West Transit Node (model views shown at left and below) is directly adjacent to the planned Langstaff (Longbridge) Subway station and park'n'ride facility on Yonge Street. The tall, slender towers proposed for this location will serve as a dramatic gateway to Markham, and as a regional marker for the future regional transit crossroads created by the nexus of the GO Commuter Line, the 407 Transitway, and the Yonge Street Subway line. Towers are set back from the Transit Green as much as possible to give this space a more human and intimate scale.



PROJECT MASSING



EAST TRANSIT NODE

A similar cluster of slender towers is located at the East Transit Node (modeled above), at the entrance to the Transit Concourse that will connect Langstaff to the Richmond Hill Transit Centre. Taller towers will shape and define the Hub Green open space as well, creating an iconic park and plaza space that is sure to become a community focal point. Taller buildings in this location will soften Highway 407 and Hydro corridor impacts to the southern neighbourhoods.

A lesser group of towers (modeled to the right) is located at the east end of the site near to the Langstaff Woodlot. There are several reasons for this clustering. One is the need for a dramatic focal point at the east end of the open space axis. Another is the desire to have an easternmost anchor point for the Transit Spine circulator; maximum efficiency of the system will be achieved if people are riding in both east and west directions. And lastly it is desirable to have a concentration of density near to the Langstaff Woodlot for 'eyes-on-the-street' informal surveillance of this natural environment.



PROJECT MASSING



The Project Massing Model (in elevation view above) clearly reveals the layout and heights of the building types that the Langstaff Master Plan has to offer. Residential towers are concentrated at major nodes at the east, west and centre of the site. Employment is focused along the edges at Yonge Street (west end) and along Highway 407 (northern edge). Lower density mixed use blocks make up the majority of the plan, framing the linear park system and Local streets with human scale building heights and streetscapes. Taken together, the neighbourhoods in Langstaff will create a rich and varied urban experience for residents and visitors alike. Seen from afar, the clusters of towers will be a dynamic presence on the skyline.



SHADOW STUDIES

In a more northerly climate such as Markham's, access to sunlight becomes critically important to the success of outdoor spaces. In a dense, mixed-use TOD type of community like the Langstaff Site--with mid-rise and high-rise buildings -- solar access considerations are even more essential. For this reason, extensive solar shading analysis was done for the project to make sure that the site's parks and plazas will have adequate access to sunlight. The analysis studied shadows cast on a typical March 31 day, starting at 10 am and then every hour until 4 pm, when kids are getting home from school. The study concluded that with the exception of the subway-adjacent Transit Green at the west end of the site (which is appropriately surrounded by high-rise mixed-use buildings) none of the site's major parks and plazas are unduly shadowed. The generous width of the Linear Park (almost 60 meters face to building face) insures that some of this important open space enjoys sunlight at nearly every hour of the day.



10 am



11 am



12 pm



SHADOW STUDIES



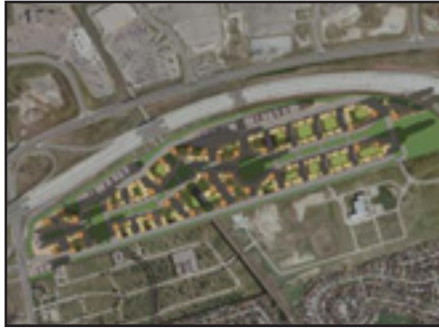
1 pm



2 pm



3 pm



4 pm



DEVELOPMENT PROGRAM

PROGRAM SUMMARY DESCRIPTION

The Langstaff Gateway neighbourhood will be a mixed-use community in the truest sense of the word. A residential population of approximately 15,000 dwelling units will create a vibrant 24 hour district. Up to 36,000 square meters of ground floor retail space will animate area sidewalks and open spaces making the streets feel lively and lived-in. High-paying jobs for neighbourhood residents will be created by the provision of up to 218,000 square meters of office space. A maximum of 30,000 square meters of ground floor residential service space (community rooms, gym rooms, etc.) will face onto the project's linear open spaces making them active and safe at any time of the day or night. And perhaps most importantly, fully 25% of the whole site will be publicly-accessible open space; this public realm will be defined by a series of parks and plazas of various shapes and sizes that connect the site together east to west.

Area	Land Area						
	Parcel Description	Metric		Imperial		Analysis	
		Sq Meters	Hectares	Sq Ft	Acres		
West Side	Land Use	Development Parcels =	76,516 sq m	7.65 ha	823,611 sf.	18.90 ac.	45.42% of West
		Open Space (Programmable) =	14,974 sq m	1.50 ha	161,179 sf.	3.70 ac.	8.89% of West
		Open Space (Other) =	25,963 sq m	2.60 ha	107,940 sf.	6.41 ac.	15.41% of West
		Open Space (All Kinds) =	40,937 sq m	4.09 ha	269,119 sf.	10.11 ac.	24.30% of West
		Development + Open Space =	117,453 sq m	11.75 ha	1,092,730 sf.	29.01 ac.	69.72% of West
	Intensity	Gross Project Acreage =	168,460 sq m	16.85 ha	1,813,287 sf.	41.61 ac.	
		Streets =	51,007 sq m	5.10 ha	549,034 sf.	12.60 ac.	30.28% of West
		Persons =	12,687 Persons				
		Persons + Jobs =	18,609 Persons + Jobs				
		Persons+Jobs/ha =	1,105 Persons + Jobs/ha		447 Persons + Jobs/ac		
East Side	Land Use	Development Parcels =	129,727 sq m	12.97 ha	1,396,368 sf.	32.04 ac.	43.00% of East
		Open Space (Programmable) =	55,646 sq m	5.56 ha	598,968 sf.	13.75 ac.	18.44% of East
		Open Space (Other) =	25,355 sq m	2.54 ha	91,493 sf.	6.26 ac.	8.40% of East
		Open Space (All Kinds) =	81,001 sq m	8.10 ha	690,461 sf.	20.01 ac.	26.85% of East
		Development + Open Space =	210,728 sq m	21.07 ha	2,086,830 sf.	52.05 ac.	69.85% of East
	Intensity	Gross Project Acreage =	301,700 sq m	30.17 ha	3,247,469 sf.	74.52 ac.	
		Streets =	90,972 sq m	9.10 ha	979,214 sf.	22.47 ac.	30.15% of East
		Persons =	19,107 Persons				
		Persons + Jobs =	22,810 Persons + Jobs				
		Persons+Jobs/ha =	756 Persons + Jobs/ha		306 Persons + Jobs/ac		
TOTAL	Land Use	Development Parcels =	206,243 sq m	20.62 ha	2,219,979 sf.	50.95 ac.	43.87% of total
		Open Space (Programmable) =	70,620 sq m	7.06 ha	760,147 sf.	17.44 ac.	15.02% of total
		Open Space (Other) =	51,318 sq m	5.13 ha	199,434 sf.	12.68 ac.	10.92% of total
		Open Space (All Kinds) =	121,938 sq m	12.19 ha	959,580 sf.	30.12 ac.	25.94% of total
		Development + Open Space =	328,181 sq m	32.82 ha	3,179,559 sf.	81.07 ac.	69.80% of total
	Intensity	Gross Project Acreage =	470,160 sq m	47.02 ha	5,060,755 sf.	116.14 ac.	
		Streets =	141,979 sq m	14.20 ha	1,528,248 sf.	35.07 ac.	30.20% of total
		Persons =	31,794 Persons				
		Persons + Jobs =	41,419 Persons + Jobs				
		Persons+Jobs/ha =	881 Persons + Jobs/ha		357 Persons + Jobs/ac		
Gross FAR (Whole Site) =		3.75 FAR					

Note: "Gross Project Areas" do NOT include the CN Rail ROW

DEVELOPMENT PROGRAM

Program Calculation Assumptions													
Population				Employment									
Persons/du				Residential		Office		Retail		Civic			
2.1 persons/du						25 sq m/job 269 sq ft/job		47 sq m/job 500 sq ft/job		93 sq m/job 1,000 sq ft/job			

Area	Development Program														
	Residential					Office				Retail		Civic		TOTAL	
	Dwelling Units		Gross Bldg Area			Gross Bldg Area		Gross Bldg Area		Gross Bldg Area		Gross Bldg Area		Gross Bldg Area	
	# du	Population	Gross Density		Sq Meters	Sq Ft	Sq Meters	Sq Ft	Sq Meters	Sq Ft	Sq Meters	Sq Ft	Sq Meters	Sq Ft	
		Hectares	ac												
West Side	Land Use	6,042 du	12,687 p			580,132 sq m	6,244,477 sf.	136,030 sq m	1,464,213 sf.	20,080 sq m	216,139 sf.	4,530 sq m	48,760 sf.	751,447 sq m	8,088,495 sf.
				358.6 du/ha	145.1 du/ac.										
		Employment					5,441 jobs		432 jobs		49 jobs		5,922 jobs		
East Side	Land Use	9,099 du	19,107 p			887,393 sq m	9,551,804 sf.	81,824 sq m	880,745 sf.	15,592 sq m	171,846 sf.	8,745 sq m	94,130 sf.	1,013,544 sq m	10,913,696 sf.
				301.6 du/ha	122.0 du/ac.										
		Employment					3,273 jobs		335 jobs		94 jobs		3,702 jobs		
TOTAL	Land Use	15,140 du	31,794 p			1,467,524 sq m	15,796,282 sf.	217,854 sq m	2,344,959 sf.	35,672 sq m	387,985 sf.	13,275 sq m	142,891 sf.	1,764,990 sq m	19,002,191 sf.
				322.0 du/ha	130.3 du/ac.										
		Employment					8,714 jobs		767 jobs		143 jobs		9,624 jobs		

