25 Hillcrest Avenue & 3154 Hurontario Street

Urban Design Study

May 2022

SvN

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1. Introduction

This Urban Design Brief has been prepared in support of the planning application for the lands municipally addressed as 25 Hillcrest Avenue and 3154 Hurontario Street in the City of Mississauga, Regional Municipality of Peel, herein referred to as the "site." It is a companion document to the Planning Justification Report, prepared by Glen Schnarr & Associates Inc., which sets out the planning rationale for the development application.

This Urban Design Study provides the design rationale that has guided the site's urban design, built form, landscape, and mobility strategies to create a dynamic, attractive, mixed use infill development. The proposed design integrates with the existing and planned context, provides a spectrum of community benefits, and achieves Provincial, Regional and Municipal policy objectives. This Urban Design Study has been prepared in accordance with the City of Mississauga's Urban Design Study Terms of Reference, January 15, 2019.

1.1 Goals and Objectives

There is a growing need to create denser, more livable and inclusive urban environments that are connected to transit and promote social, environmental and economic sustainability. This is driving an ongoing shift in cities all over the world. Intensification sites located at transit accessible locations and in amenity-rich areas are in high demand as they offer great places to live, work and play.

The site is like no other in the City. It is located in the heart of Downtown Cooksville, which is a unique community full of vibrancy and diversity, as well as a major intensification node in Mississauga. The site presents an opportunity for responsible growth at an intermodal transit hub and can set the benchmark for integrated and innovative development. Over-arching goals for the site include:

- To create a dynamic, mixed use infill that makes a significant contribution to city building by supporting Provincial, Regional and Municipal planning objectives
- To leverage existing and planned transit improvements by providing high density and mixed uses where they maximize return on investment by serving the most people
- To respond to community aspirations by integrating major destinations within the development program and the public realm to create an inclusive community with a sense of local ownership and belonging
- To proactively respond to the climate emergency through sustainability practices in building and landscape design
- To be a model development in the establishment of the 15-minute city in downtown Cooksville, where daily needs are met within a short walk of people's residence

These goals manifest in specific land uses and physical design concepts of the master plan. The vision for the site is ambitious, matching the strategic potential of the site's location with tangible public benefits. There is a desire to create a meaningful contribution to community building, one that will be a legacy to future generations.

Throughout the design process, TAS, with support from Process and Incisive, has participated in a number of community engagement initiatives with the goal of understanding the key priorities and needs of the community. This has shaped the development of the project through the following:

- Celebrating Cooksville's rich cultural diversity and identity through the design of public spaces that promote social cohesion, inclusion and a sense of belonging for all visitors
- Prioritizing community spaces that encourage connectivity and capacity building through the creation of a community hub including:
  + A full service community centre
  + Accessible public gathering spaces programmable by the community
  + A food hub and food programming to address food security
  + Small scale retail providing business and entrepreneurial opportunities for the community
- Integrating diverse uses and support for local businesses to provide employment opportunities within the community, thereby reducing the need to travel for work.
- Supporting neighbourhood affordability and affordable housing through a mix of housing types on site
- Promoting sustainability and environmental innovation through the creation of a community forest, to provide a net-positive environmental benefit and create a 'green heart' for downtown Cooksville
- Promoting walkability and design for human scale through a fine-grained network of public spaces anchored by a central public plaza
- Integrating the development into the evolving downtown Cooksville through good urban design, positive street relationships, and animated public space fronted by active uses at ground level

1.2 Analysis of the Existing Site and Neighbourhood

1.2.1 Context

The site is located along Hurontario Street in Cooksville, a long-established neighbourhood in the City of Mississauga, and is adjacent to the Cooksville GO Station. Major transportation corridors, including the St. Lawrence & Hudson railway, Hurontario Street, and Dundas Street East, have been instrumental in shaping the area's history and current land use mix. These continue to play the lead roles in the ongoing planning and revitalization efforts that will significantly change the area. These changes are part of the larger transformations occurring across the Greater Golden Horseshoe as policy, economic and social drivers are leading to more sustainable community building, emphasizing complete communities linked by public transit.

Within the urban region, the site has excellent connectivity east-west along the GO regional express rail corridor, with connections west to Milton and east to Toronto, as well as north-south along the future Hurontario Light Rail Transit (LRT) corridor, connecting Port Credit with the City of Brampton.

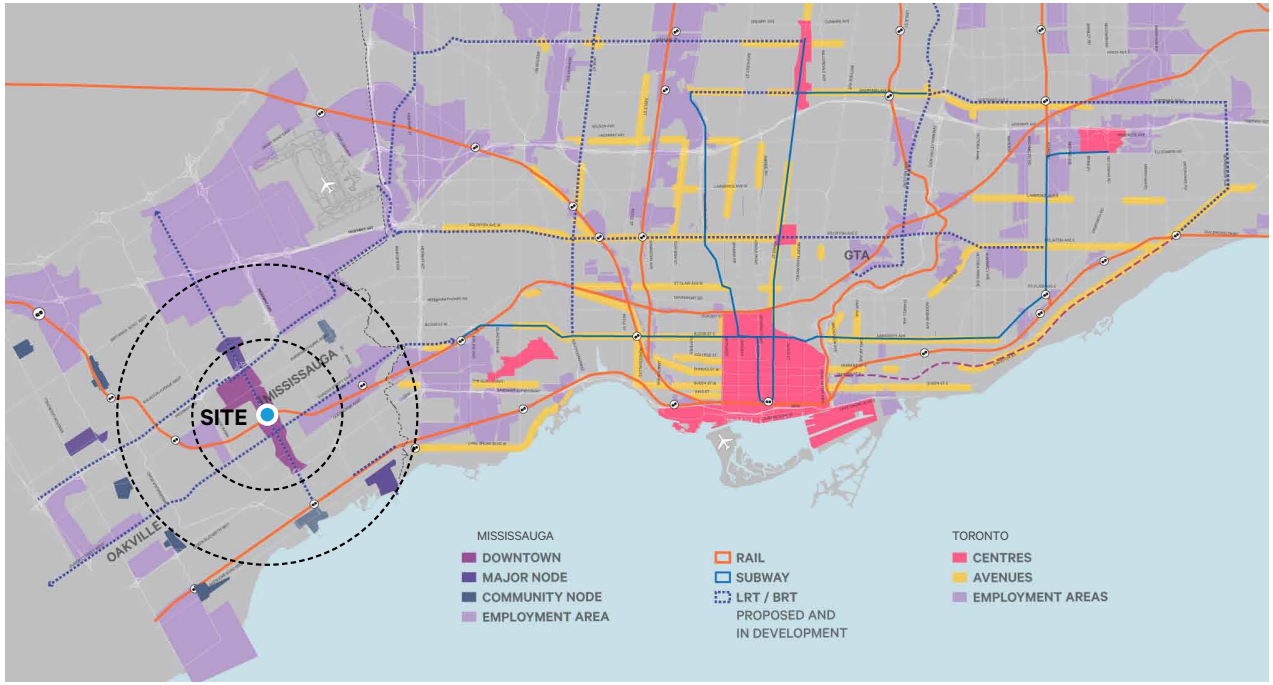


Figure 1: Regional Context
The site is well connected to the urban region and is at the heart of a major growth centre.

Within the City of Mississauga, the site is part of the Downtown corridor served by the future Hurontario LRT. This corridor is planned for significant change and intensification to accommodate high density mixed uses with high quality urban design focused on pedestrian amenity. The site is the only site in Mississauga with such immediate proximity to the LRT, GO rail line and the future Dundas Street Bus Rapid Transit (BRT) corridor, making it an ideal location for a mixed use community. The site and the surrounding lot fabric are large parcels, which will help to facilitate the comprehensive planning changes that will achieve the City's desired urban structure.

Downtown Cooksville already exhibits some of the physical characteristics of a mixed use urban centre. A high proportion of residents live in apartment forms – 92% of occupied dwellings are five or more storeys. There is significant retail focused along the major transportation corridors, however it is low density and dominated by surface parking. It represents the area's greatest opportunity for change given the ongoing and planned investment in public transportation.

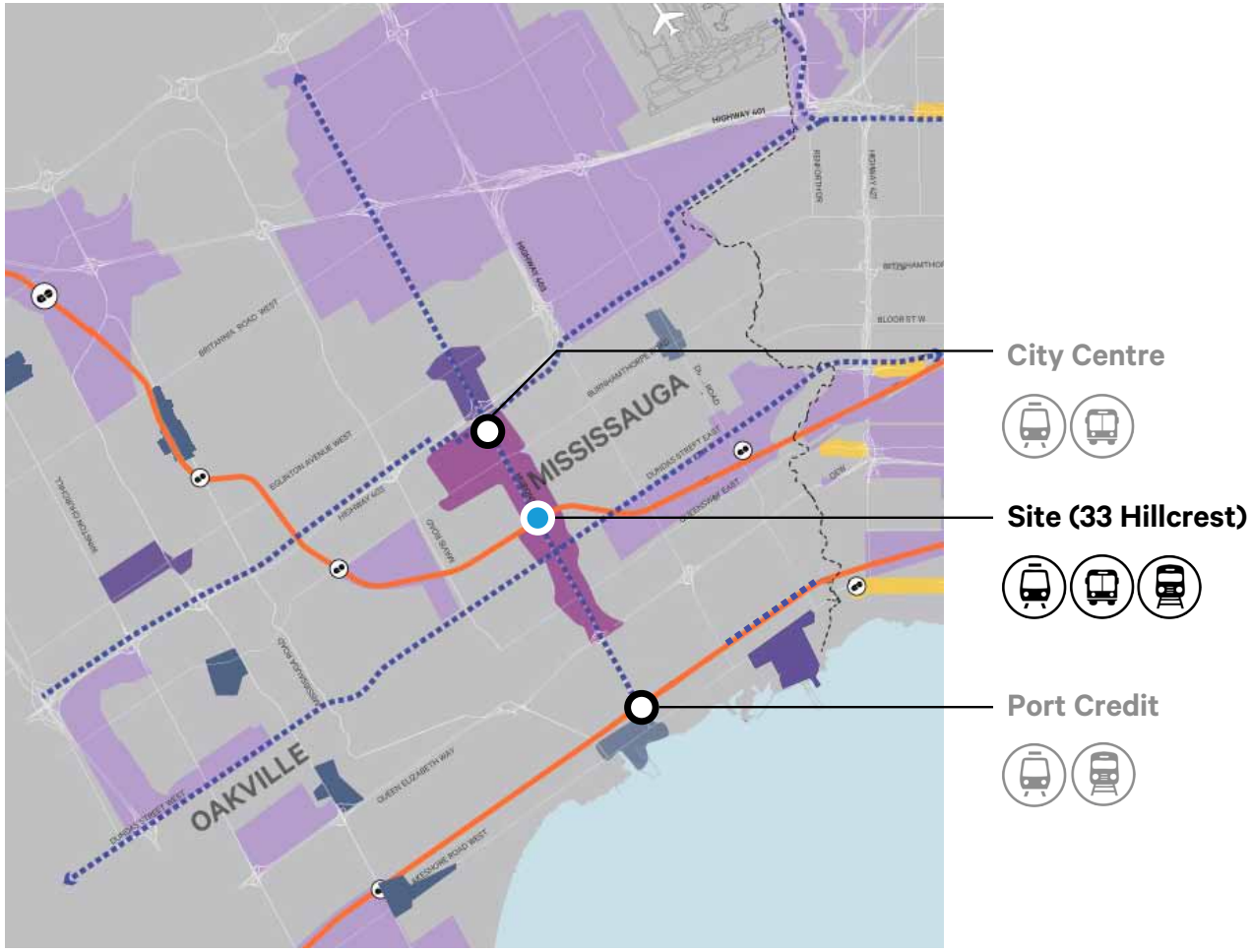


Figure 2: City Context

1.2.2 Site

The site is located in the Downtown Cooksville neighbourhood, directly adjacent to the Cooksville GO Station. The site is rectangular in shape, 2.14 hectares in area, with 108 metres of frontage on Hurontario Street along its east boundary, and 192 metres of frontage on Hillcrest Avenue along its south boundary. Its west boundary is defined by the GO Access Road, and its north boundary by John Street, both owned by Metrolinx and providing access to the Cooksville GO Station. John Street, formerly used for commuter parking, has been improved to become a functional street corridor.

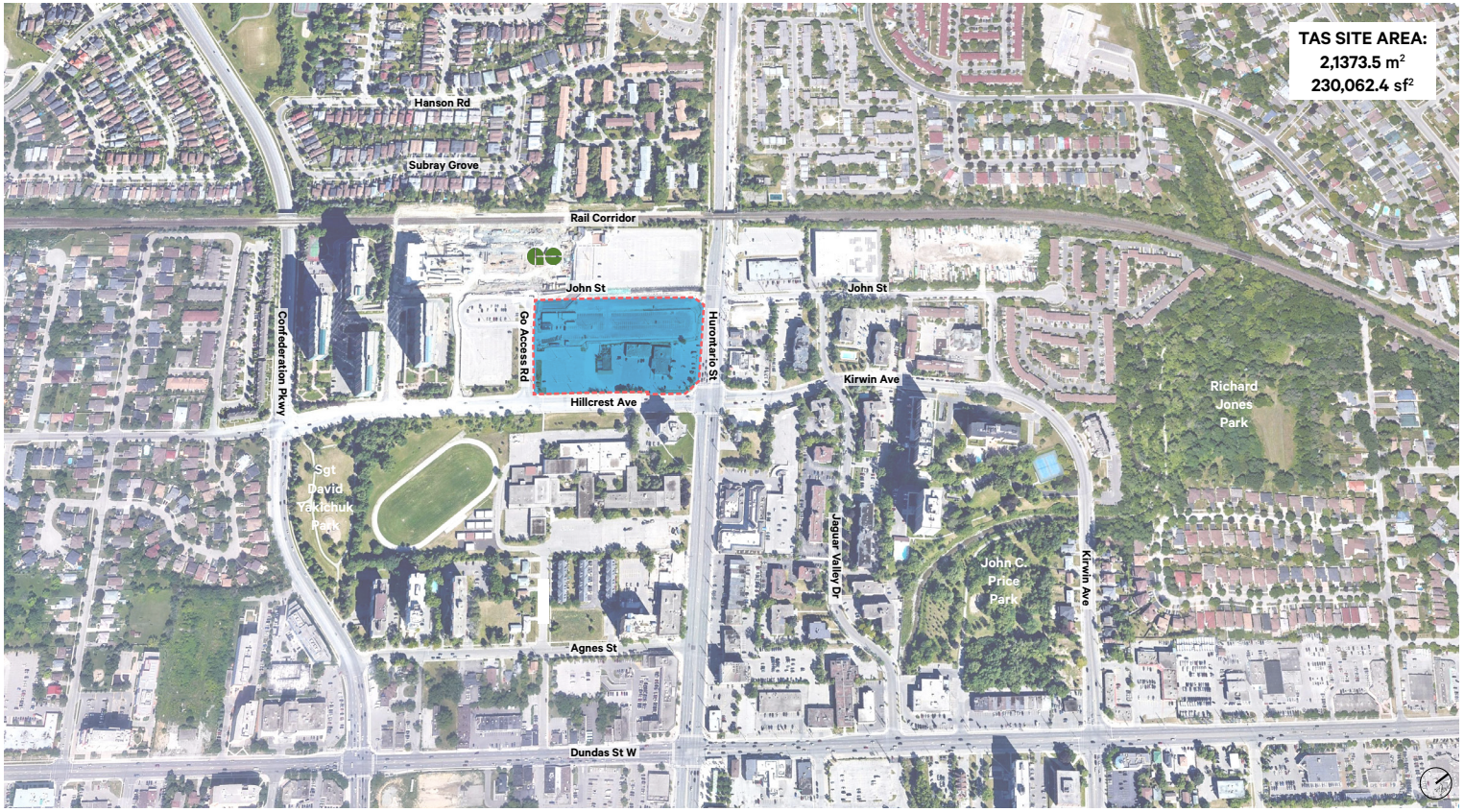


Figure 3: Site Context in Cooksville

Figure 4: Local Site Context

The site is currently occupied by one storey commercial uses and surface parking. A portion of the surface parking along the northerly portion of the site, adjacent to John Street, has recently been used for construction staging related to the GO station improvements.

The site is virtually all hard surfaces. Vegetation is sparse, being limited to a few landscaping shrubs and sod areas. There are no natural features. The site topography falls a total of 8 metres from northwest to southeast. The high point in the northwest corner is 5.2 metres higher than the southwest corner and 6.0 metres higher than the northeast corner. Currently, retaining walls running east-west bifurcate the site.

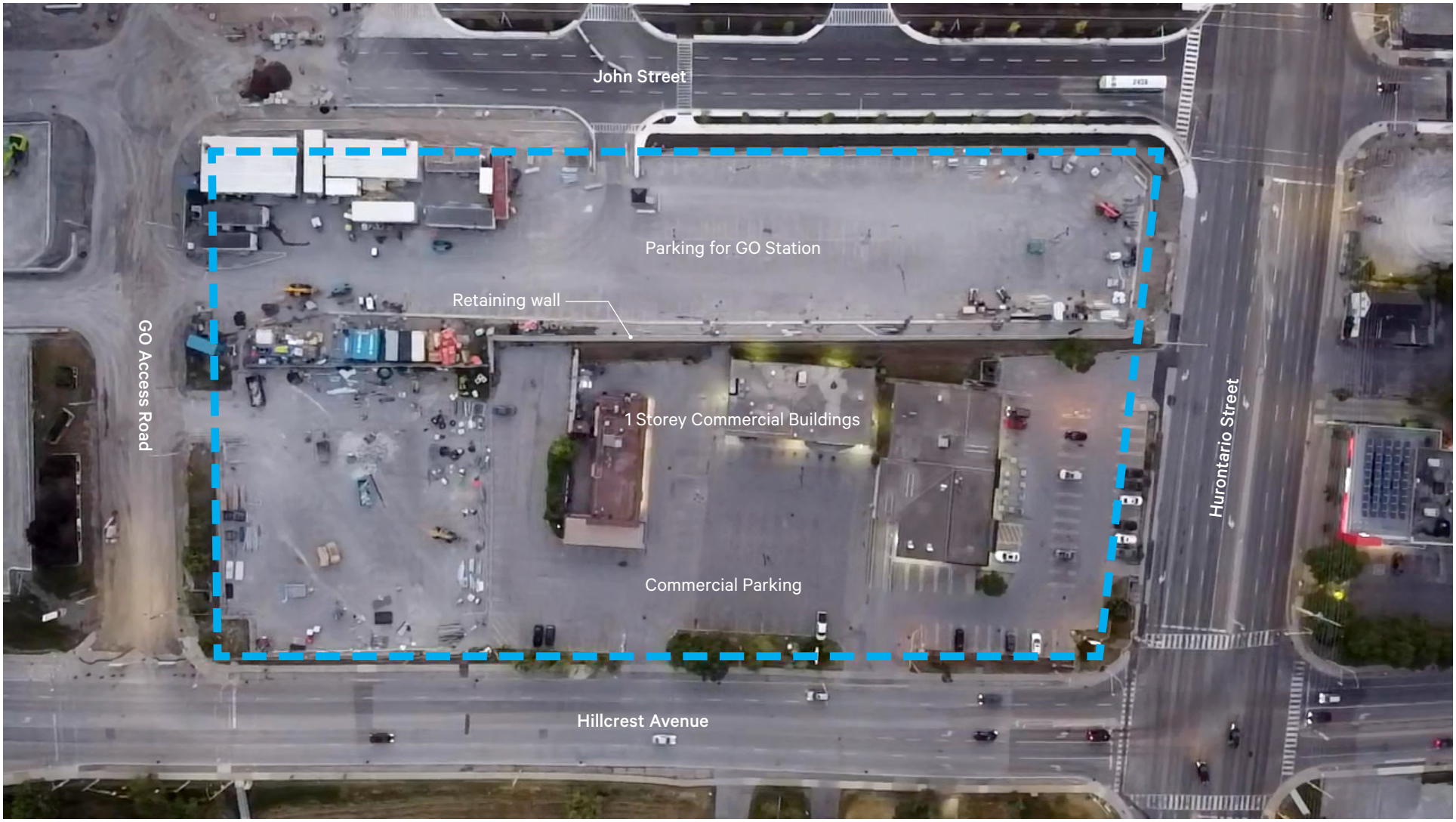


Figure 5: Aerial Photograph of Site

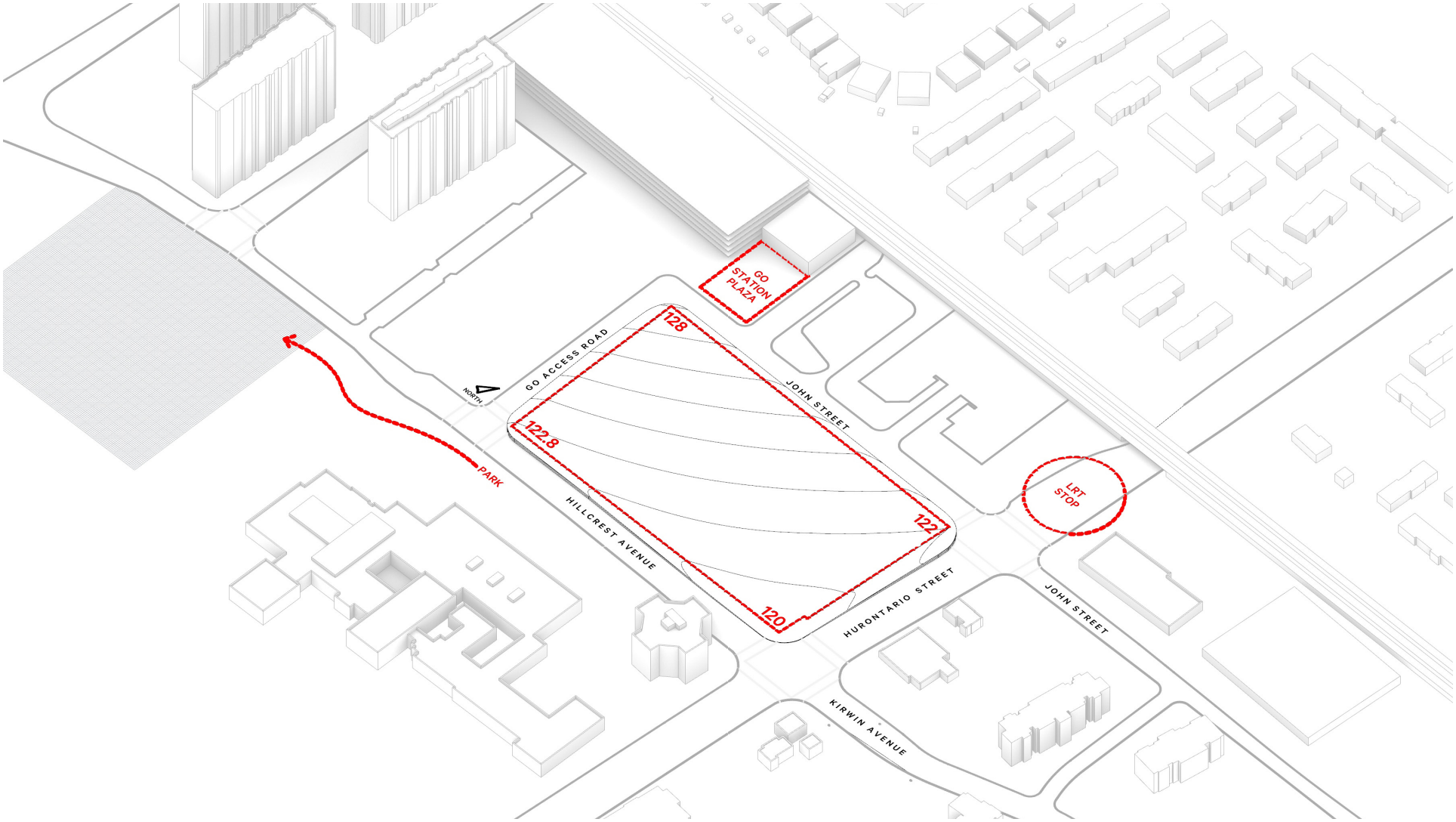


Figure 6: Site Topography (Elevations in Metres)

Figure 7: Site Photographs

Looking west from the corner of Hillcrest Avenue and Hurontario Street.

Looking north from the corner of Hillcrest Avenue and Hurontario Street.

Looking northeast from Hillcrest Avenue.

Looking east from John Street.

1.2.3 Adjacencies

The site's adjacencies exhibit disparities in urban character: underutilized, low-rise development with surface parking contrasts with higher-density development that tends to lack a street relationship and has little to no ground floor retail. The site is within the Major Transit Station Area of the Cooksville GO Station.

Figure 8: Site Adjacencies

North

The site borders the Cooksville GO Station, and is within 125 metres, or a two minute walk, of the station platform. To the site's immediate north is surface parking for the station. The Metrolinx site includes a new station entrance building, plaza, and multi-storey, above grade parking garage.

The Metrolinx site is a Mobility Hub and is likely to be redeveloped at some point in the future. The Cooksville Mobility Hub Master Plan Study, 2011, establishes a vision for how this could occur, and includes the subject site within the master plan. The study suggests a new, fine-grain pattern of streets and mid-block connections, with street-edge development featuring active uses at grade, and high-rise buildings above. An important element of the Cooksville Mobility Hub Master Plan is establishing John Street as a street connection to the GO Station. Many of the study's recommendations have been implemented in some form, including the new plaza and a parking structure, but in a modified form from the original vision.

West

The Cooksville GO Station site wraps the site on the north and west sides. To the immediate west is the GO Access Road, the station's primary vehicular access which connects to Hillcrest Avenue. The GO Access Road includes a sidewalk on its east side, adjacent to the site. On the other side of the road is surface parking for the station, also owned by Metrolinx. Beyond that are four residential apartment buildings of 22 storeys.

Looking north from John Street at the GO Station improvements.

Looking northwest from Hillcrest Avenue at the adjacent residential apartments.

South

The site borders Hillcrest Avenue to the south, a four lane road with sidewalks on both sides and few street trees. On the southwest corner of Hurontario Street and Hillcrest Avenue is a 12 storey residential apartment building, set back from the corner and flanked by landscaping, mostly sod, and surface parking. T. L. Kennedy Secondary School occupies most of the frontage south of Hillcrest Avenue. It is a low-rise building set back from the street edges with surface parking and landscaping. The school's athletic fields are west of the building stretching along Hillcrest Avenue, adjacent to Sgt. David Yakichuk Park at the corner of Hillcrest Avenue and Confederation Parkway. Built form along the south side of Hillcrest Avenue is set well back from the street edge, creating an impression of undefined open space.

The area south of the site has been identified as a potential intensification area by the Cooksville Mobility Hub Master Plan Study, 2011, and by the Dundas Connects Master Plan, 2018. Those studies identify the area along Hurontario Street, including the frontage of T. L. Kennedy Secondary School, as candidates for mixed use intensification supporting the Hurontario LRT. This includes the introduction of a finer-grain block pattern, the extension of Cook Street north to the Cooksville GO Station, and a new, reconfigured site for T. L. Kennedy Secondary School.

Looking southwest from Hurontario Street at the 12 storey residential apartment.

Looking west from Hillcrest Avenue at T. L. Kennedy Secondary School.

East

The site borders Hurontario Street to the east, a major thoroughfare undergoing transformation to deliver the Hurontario LRT. The ultimate configuration of Hurontario Street will include separated bicycle lanes, sidewalks, and vehicular travel lanes. The LRT will have a passenger platform just north of the site, close to the railway tracks, where it will facilitate passenger interchange with the Cooksville GO Station.

On the east side of Hurontario Street are low rise commercial properties with surface parking, and beyond that, mixed high-, mid-, and low-rise residential apartments.

Looking east from Hurontario Street at the commercial properties, with residential apartments beyond.

1.2.4 Open Space Network

Sgt. David Yakichuk Park is the closest public park to the site, approximately 250 metres to the west, located beside the athletic fields of T. L. Kennedy Secondary School. The park includes a playground, walking trails and planting. To the east, there are a series of parks along the Cooksville Creek trail system, a linear open space that connects with the Mississauga Valley Community Centre and the Mississauga Valley Trail. Parks along Cooksville Creek include John C. Price Park, Richard Jones Park, and Stonebrook Park, collectively offering playgrounds, a walking trail, naturalized habitat, scenic vistas along the creek, and tennis courts. Cooksville Creek is approximately 550 metres to the east.

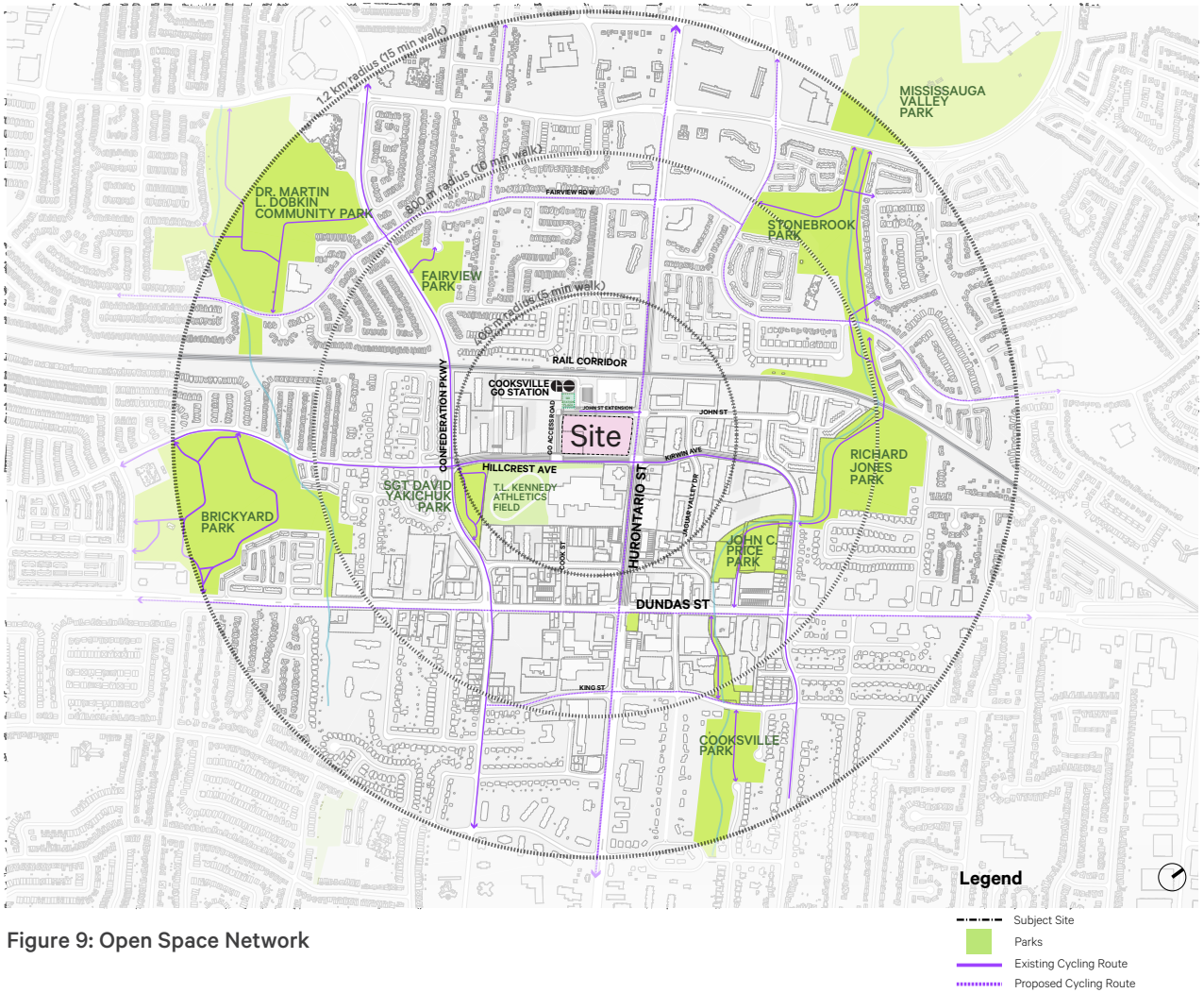


Figure 9: Open Space Network

1.2.5 Transportation Network

The site is well served by existing, under construction and planned transportation networks, enabling all modes of travel.

'The Big Move,' Metrolinx's regional transportation plan, identifies three transit lines that will intersect in Cooksville. These include the existing Milton GO Transit rail line, the Hurontario LRT, and the proposed Dundas Street BRT. The Cooksville GO Station is a Mobility Hub and the site is within the Major Transit Station Area boundary being developed by the Region of Peel. Local MiWay transit service complements the regional network. The site is directly adjacent to the Cooksville GO Station and the Hurontario LRT, and within a five minute walk of Dundas Street East.

Given the proximity to higher order transit, the site is ideally suited to accommodate a variety of land uses at high density, including community destinations, public space, employment, retail and residential. The site can be an exemplar of planning for the 'last mile,' as walking distances are so short to the adjacent transit options, and the proposed mix of uses for the site is so diverse.

The area's public streets provide pedestrian, cycling and vehicular access to the City's broader network. Signalized crossings at Hillcrest Avenue and Hurontario Street, and Hillcrest Avenue and GO Access Road, enhance pedestrian access to the Cooksville GO Station, T. L. Kennedy Secondary School (via walkway), and to Cooksville Creek to the east.

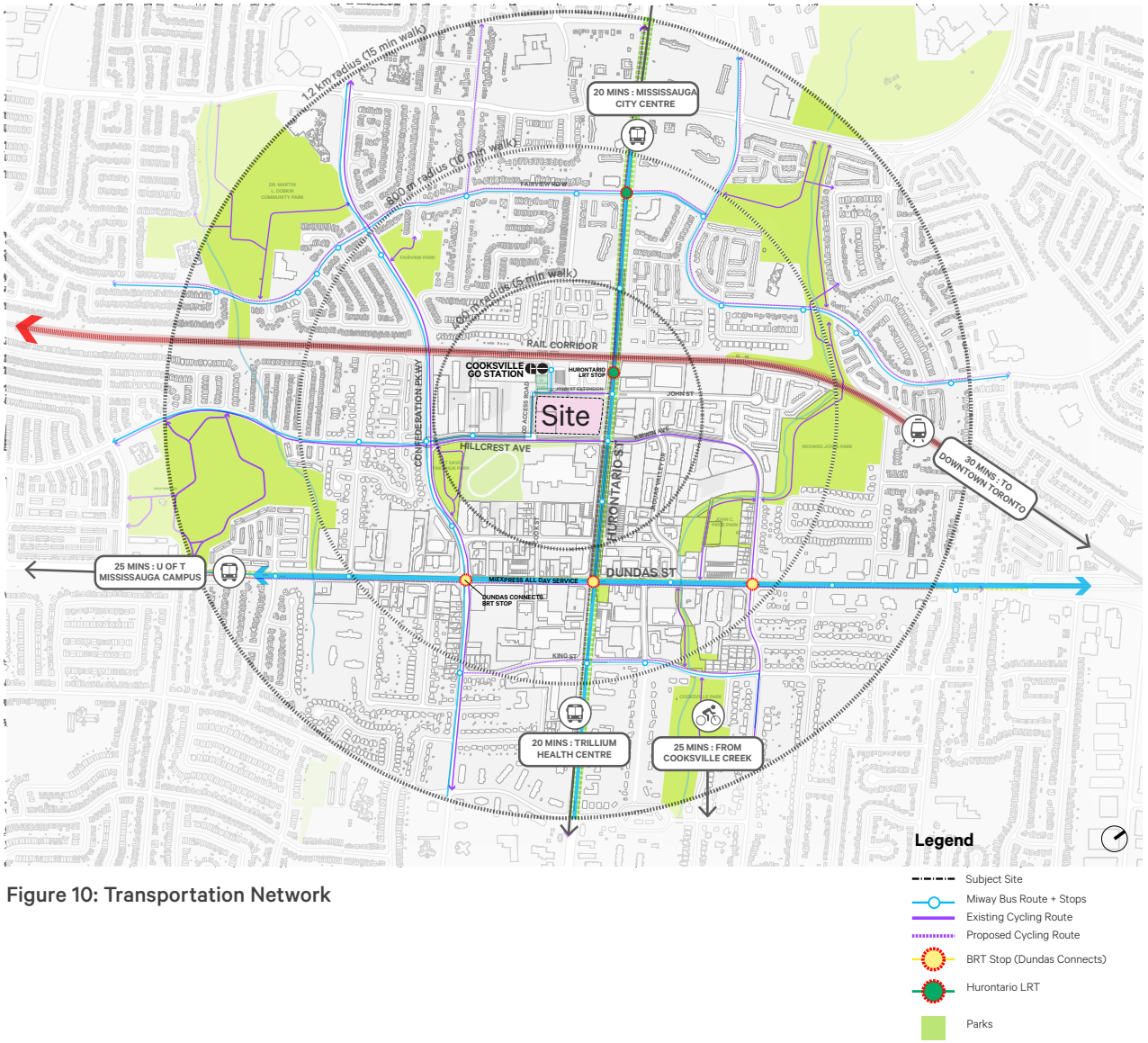


Figure 10: Transportation Network

Mobility Facts

Less than a 5-minute walk from:

- Cooksville GO Station
- Hurontario LRT Stop
- An existing co-located public park and secondary school

Within a 10-minute walk from:

- MiExpress Route All Day service on Dundas
- The Cooksville Creek and associated trail network

Directly connected to the signed bike route on Hillcrest.

Only 20 minutes away by transit from Mississauga City Centre and from the Trillium Health Centre.

Approximately 25 minutes to the University of Toronto Mississauga Campus

Approximately 30 minutes to / from Downtown Toronto

2. Analysis of the Proposed Development

2.1 Site Design

The master plan illustrates the proposed, long term build out of the site and adjacent sidewalks. The master plan responds to the planned context where known or likely, such as the intensification of the Metrolinx site and the potential intensification of the public school and residential properties to the south. The design concept is compatible with a wide range of potential future scenarios that may evolve for the surrounding context, because it creates a highly permeable, urban edge with positive relationships on all four sides of the block.

2.1.1 Grading

There is approximately 8 metres of grade change from the northwest corner of the site to the southeast corner. Today, there is an east-west retaining wall through the site that creates two levels.

The scale of the site allows for grade changes to be integrated with the built form to create a seamless, gentle grading strategy across the site. The retaining wall will be removed. The intent is to create level transitions to the new, urban public realm sidewalks on all sides of the future development, as well as internally throughout the public spaces. Pedestrians will be able to move through and around the site in an uninterrupted path of travel without need for stairs or ramps. All building entrances from public streets will be at grade and accessible, and the buildings themselves will adjust floor heights to facilitate level transitions.

The proposed grading strategy ensures sloped areas do not exceed 5% for pedestrians, creating gentle grade transitions, well below AODA thresholds for ramps.

Ground floor entrances for retail, residential, and commercial uses will be at grade, including large areas of transparency along the facades that create a direct indoor-outdoor relationship for people at ground level. All building entrances will ensure a barrier free, accessible path of travel.

2.1.2 Public Spaces

In speaking with community residents, ensuring the design of public spaces that promote social cohesion, belonging and inclusion is of upmost importance. The design of the public realm seeks to create spaces that are welcoming for people of equity deserving backgrounds and that celebrate Cooksville's unique and rich cultural diversity. This is achieved by creating a highly accessible and fine-grained public realm network with a diversity of spatial experiences, supported by animated building edges.

The site is organized around a central plaza and community forest with 42 metres of frontage on Hillcrest Avenue, ensuring it has a significant community presence and is welcoming to the neighbourhood. Four direct and highly visible pedestrian links connect the central plaza with the surrounding streets on the other three sides of the site. There are wide sidewalks and landscape zones on all surrounding street edges. All public spaces are lined by active uses that include small scale retail and community uses, promoting indoor-outdoor interaction and retail spill out.

All public realm elements within the site including the central plaza and pedestrian links will remain in private ownership because of the need to provide underground parking beneath the entire site. These Privately Owned Public Spaces (POPS) will be designed, operated and maintained to be completely accessible to the public.

Approximately 49% of the site area is devoted to the public realm, or 1.04 hectares (2.6 acres) of publicly accessible walkways, plaza area, gardens, landscaping and street edges including the internal lane-ways.

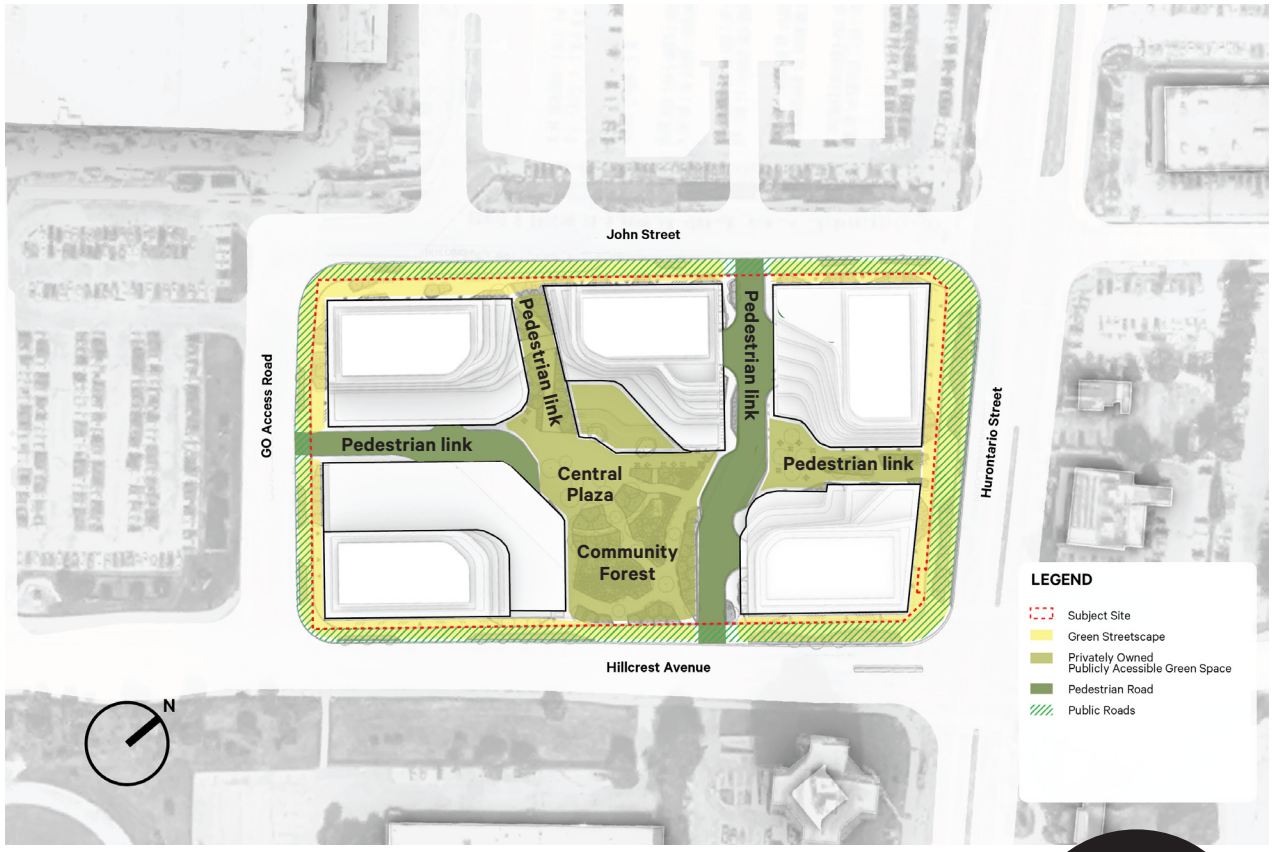


Figure 11: Public Spaces

49%
Public Realm

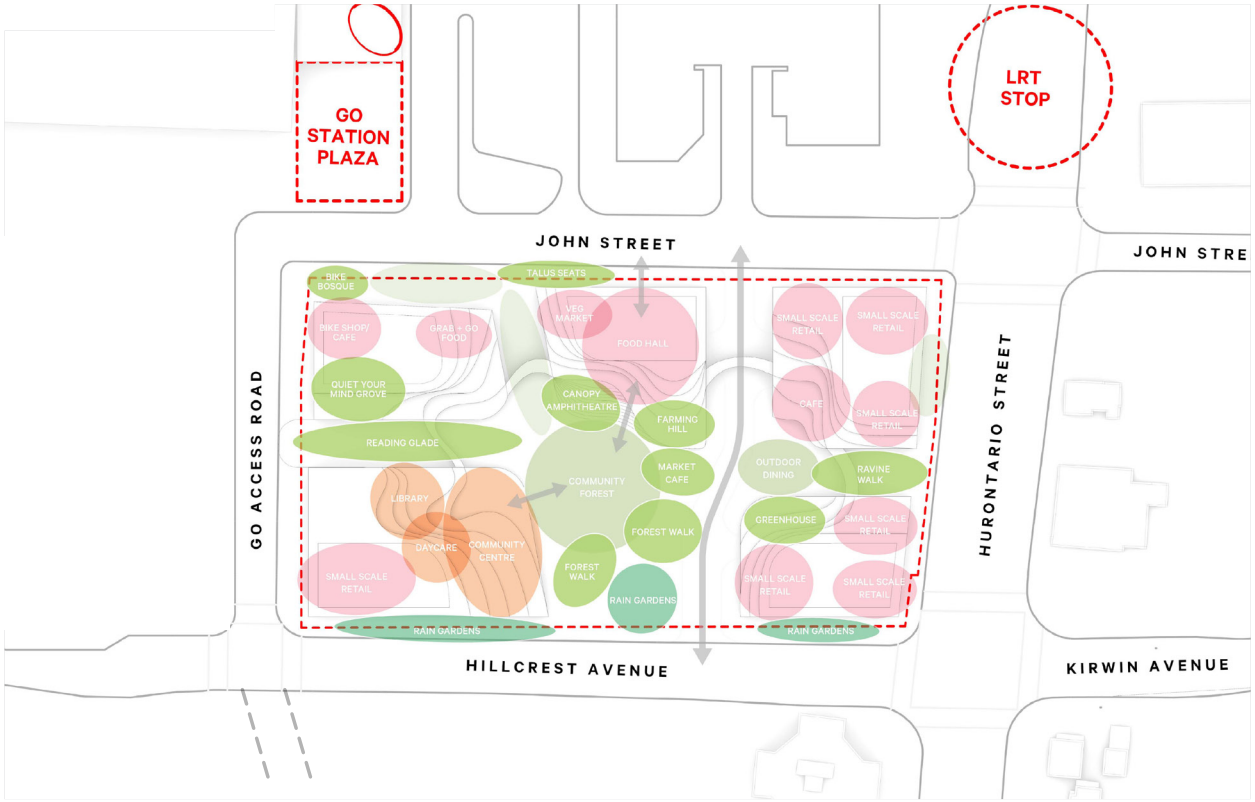


Figure 12: Program Diagram

What We Heard

Over the last year and a half, TAS with support from PROCESS and Incisive, has connected with community residents through workshops, surveys, interviews, community meetings and site activations. Some of the key priorities articulated by the community that are shaping the design are highlighted below:

- **"It would be great to see ethnically relevant programming and landscaping... as a direction for the public space..."**
- **"a facility with gathering space that helps people engage, connect, and celebrate their cultures will be an asset in building social capital and increasing community development.**
- "We need to create ... high density walkable features, and make the best use of the LRT stop..."
- "Please make it local and interesting, we have enough pharmacies, clinics and doctors as it is around here."

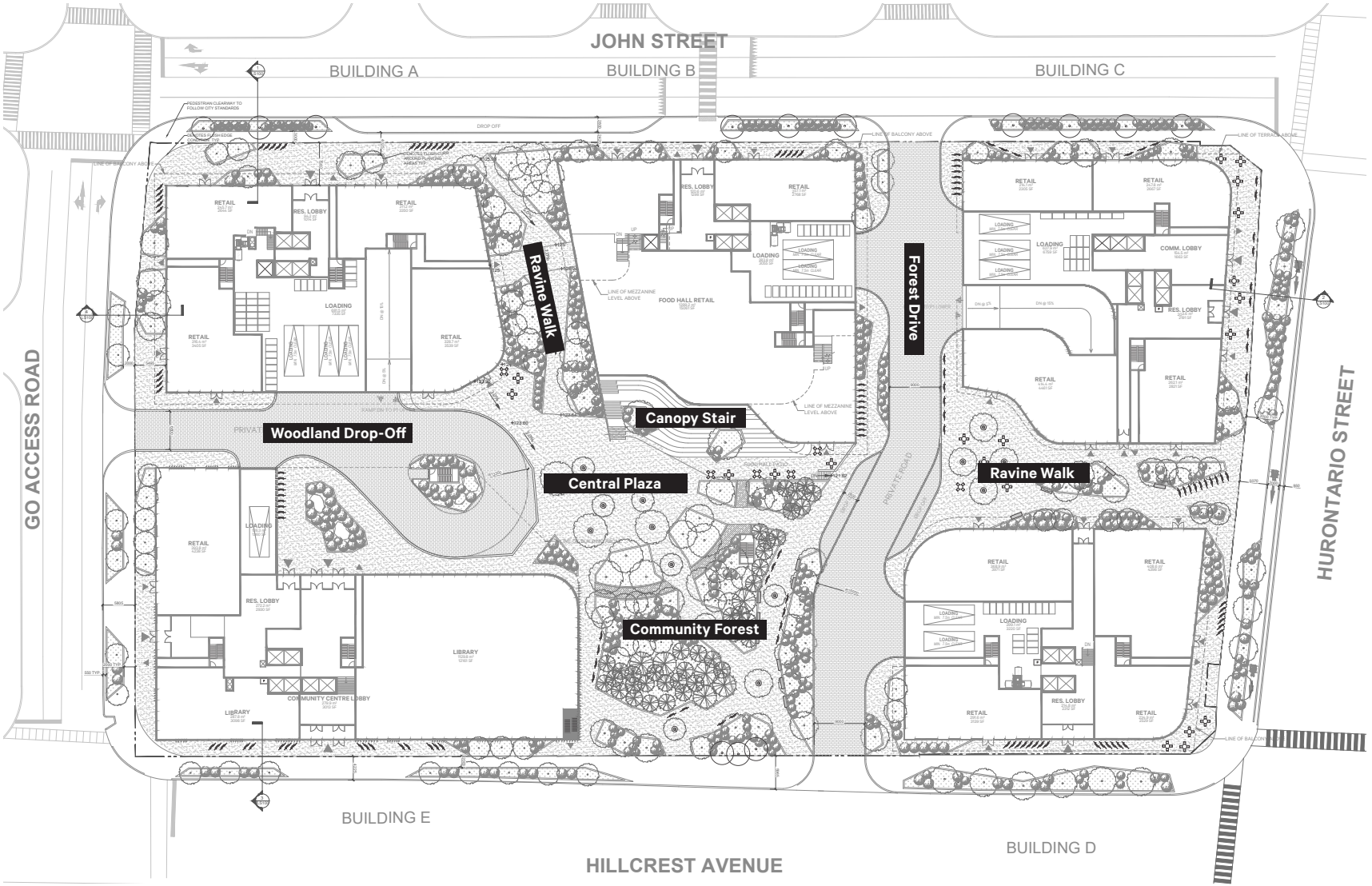


Figure 13: Landscape Plan

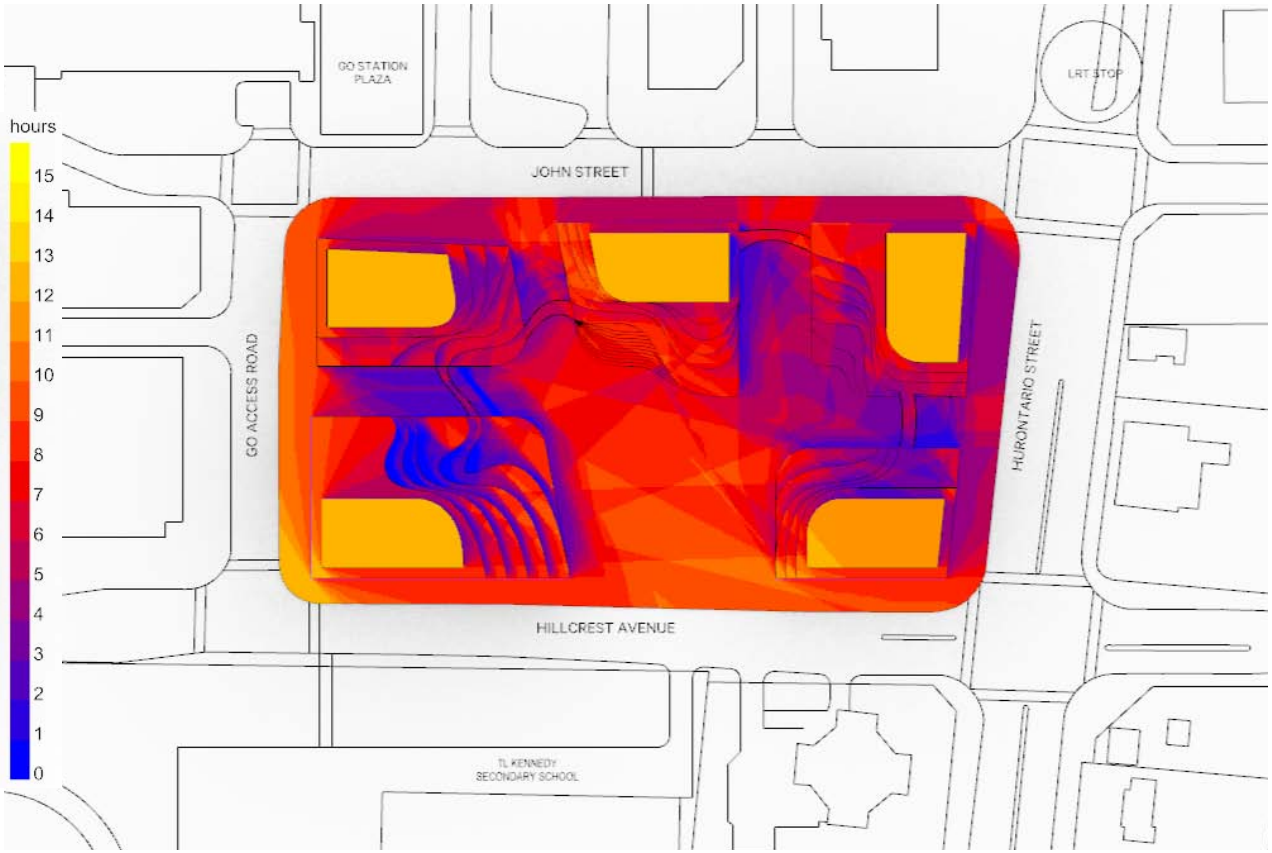


Figure 14: Sun-shadow Analysis (March/September 21) Sunlight modeling shows the central plaza receives 7-10 hours per day of direct sunlight on the equinoxes.

Central Plaza

In response to community feedback, a key tenant of the design is to create a large community gathering area as a focal point. The proposed central plaza will be open and accessible to the existing community, and will serve the new population from this development as well as the anticipated future growth of Downtown Cooksville.

A sun-shadow analysis has been undertaken to locate the central plaza, and shape the adjacent built form, to maximize sunlight potential. This will allow planting to thrive, and provide both sunny and shaded micro-climate options throughout the year.

The central plaza will be designed to be flexible to accommodate a variety of activities. It will be a meeting point for the mixed uses on site including the community centre, retail, residential, and commercial office uses. The central plaza is lined by retail or community uses on all sides. A highly transparent façade and numerous entrances will ensure a high degree of interaction between the central plaza and surrounding uses. Hard surface areas along the building edges will provide the ability for adjacent retail to animate the public realm through outdoor seating/cafés, merchandise display, and pop up events.

The central plaza has a high potential for complementary programming with the community centre. It is envisioned to be an indoor-outdoor relationship, and could include outdoor daycare play space, a community kitchen/oven, reading/story areas for the library, and other community uses. The ideal programming mix can be determined in collaboration with the City of Mississauga.

Figure 15: View of Central Plaza looking down from grand stair.

Infrastructure to support community events can be embedded within the central plaza and the ground level of the community centre, such as power outlets and water access, and a flexible hard surface ground plane for hosting events.

The landscape design provides a diversity of experiences – natural, urban, contemplative, and active. The density of the community forest will ebb and flow to accommodate for programmed areas of activity throughout the public realm. The trees will open up to a larger gathering space at the base of the grand stair with visibility and reciprocity to the library and community centre beyond.

A central feature of the design is a grand outdoor stair. It will act as a social gathering space with built in seating that can be used for events – for example, outdoor theatre or movie nights. The stair will connect to a raised terrace on the podium of Building B, where there will be additional publicly accessible amenities such as community gardens. The stair is positioned in the middle of the central plaza, with views and sunlight exposure to the south, and is a natural focal point for activity.

Ravine Walks

The Ravine Walks are pedestrian links that function both as connector spaces linking the central plaza to the surrounding streets, as well as activity spaces in their own right. They are smaller, more intimate spaces, providing different types of experiences.

The Ravine Walks are highly animated by adjacent retail, which face onto them with transparent facades and retail entrances. Hard surface areas provide space for retail spill out and small programmable areas. The community forest extends through the Ravine Walks to create a seamless experience throughout the site.

Vehicular laneways to service the development are accommodated within the Ravine Walks. The surface treatment of the laneways features interlocking paving and low-profile curbs, creating continuity with the public realm plaza and walkway areas to emphasize pedestrian priority.

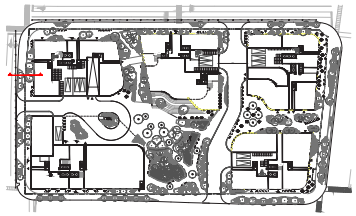
Streets

Hurontario Street and Hillcrest Avenue are public streets, while John Street and the GO Access Road are both owned by Metrolinx. It is recognized that the City of Mississauga and Metrolinx are in discussion about the ownership of John Street and that there is potential that both John Street and the GO Access Road could become public streets in the future. For design purposes, both of the Metrolinx roads are assumed to look and function as public streets.

The boulevards within the right of ways, as well as the areas within the building setbacks, are treated as a comprehensively designed streetscape flowing from curb edge to building face. The area within the building setback is designed to be publicly accessible and seamless with the right of way.

The built form facing the surrounding streets feature retail at ground level, transparent facades and frequent entrances. Retail can spill out onto the adjacent sidewalk. All main residential and commercial/office lobbies are oriented to the surrounding street network and will contribute to street animation.

Wide sidewalks are provided on all streets, with further widenings at street corners and along some building edges to provide additional pedestrian amenity. Generous landscape zones support healthy tree canopies, understorey planting, and opportunities for pedestrian amenities such as seating and street furniture.



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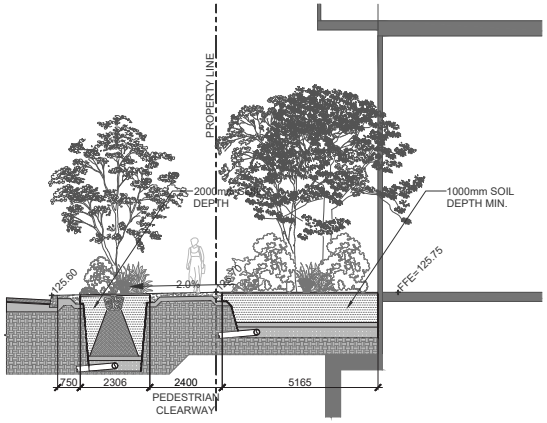
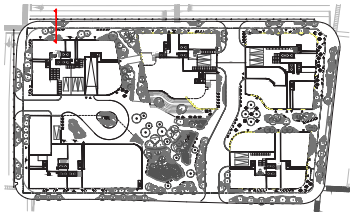


Figure 16: Landscape Section at GO Access Road



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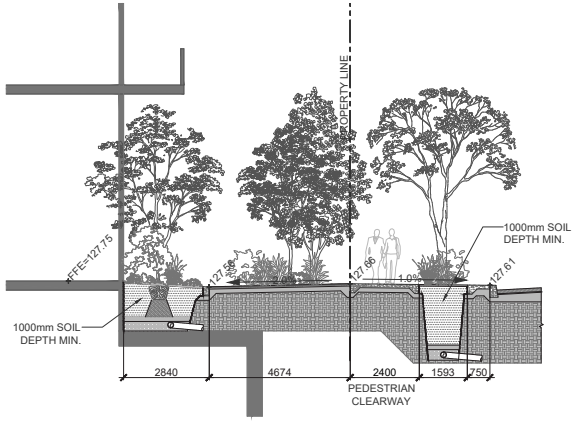
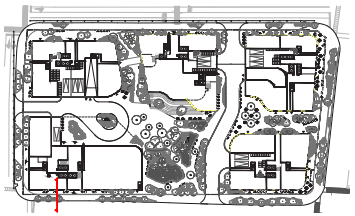


Figure 17: Landscape Section at John Street



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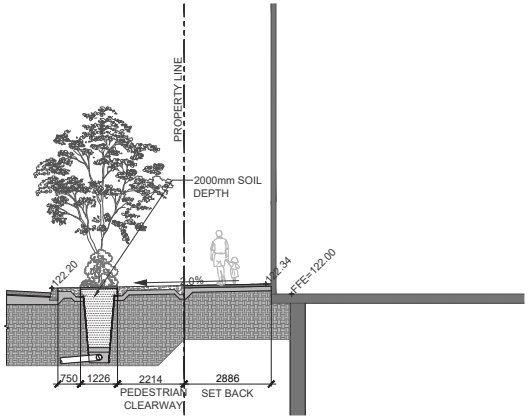
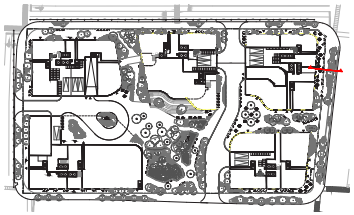


Figure 18: Landscape Section at Hillcrest Avenue



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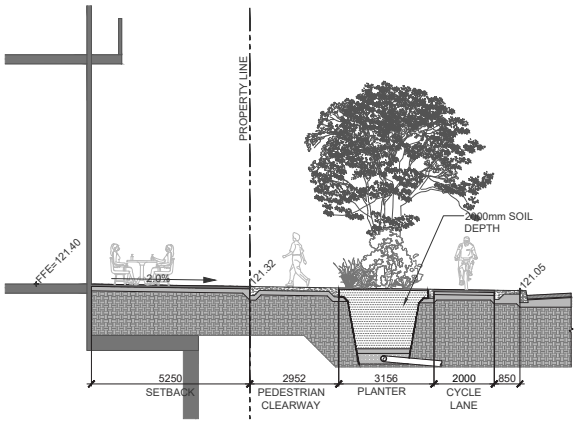


Figure 19: Landscape Section at Hurontario Street

2.1.3 Landscape Opportunities

The design concept takes a landscape first approach to the organization of the site. A key goal is to create an urban community forest on the site that extends throughout the public realm. The forest will provide shade, reduce the heat island effect and cooling loads on the building facades, promote innovative stormwater mitigation strategies and provide a much-needed connection to nature for residents and visitors. The forest will extend through all elements of the public realm including streets, the Ravine Walks and the central plaza.

The forest will function as a 'green heart' for the area. The trees are conceived as essential infrastructure, providing ecosystem services, increasing biomass and biodiversity, sequestering carbon and filtering pollutants. The landscape strategy follows the Miyawaki Forest principle where a diversity of species are planted together to emulate the conditions of a natural forest environment which encourages resilience, and faster growth. Case studies show more rapid growth when trees are planted close together, and the resultant forest begins to mimic natural processes of forest of succession and pruning. Studies also show trees provide human health benefits such as reduced stress, increased sense of wellbeing, and lowered incidences of major diseases.

The green space will be programmed as community and amenity spaces including shared gardens, children's play areas, nature walks and an outdoor gathering space. A natural trail system weaves through the trees allowing users to immerse themselves in nature within the urban context.

The character of the forest changes through different areas of the site. Trees in open soil volumes will be densely planted to create a more forested and shaded environment. These areas create landscaped frames to activity areas. Trees in hardscape will be more sparsely planted to permit programming and active uses underneath a dappled canopy.

There will be a linked path network throughout, with many connections to adjacent sidewalks. Paths widen out into activity areas along building edges and in the central plaza, and narrow down to create forested walkways. There will be seating and activity areas along the pathways. The gentle approach to the grading strategy and extensive pedestrian network will create a unified feeling to the entire public realm, fostering a sense of connectivity by blurring boundaries. The paving system will reinforce the continuity of the public realm by creating a continuous, flush surface throughout, without use of retaining walls, ramps or stairs. Decorative paving on the internal laneways will further emphasize pedestrian priority.

Paving will be permeable, allowing water to be collected and directed to planted areas. Low impact development techniques (LIDs) will be employed to manage stormwater and contribute to a green public realm.

A coordinated design language throughout the public realm will create a distinct image for the site. Seating, lighting and furniture will be consistent throughout the public realm.

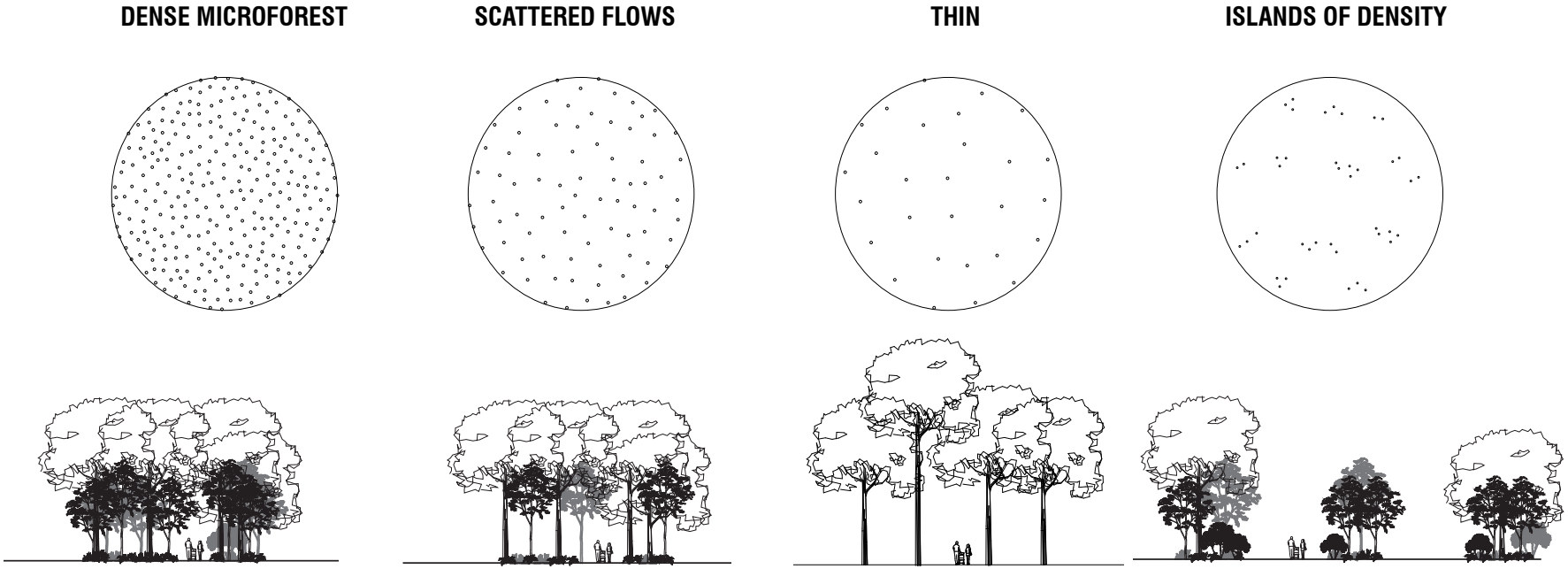


Figure 20: Community Forest Landscape Design Principles
Changes in forest density and typology support different activities within the public realm.

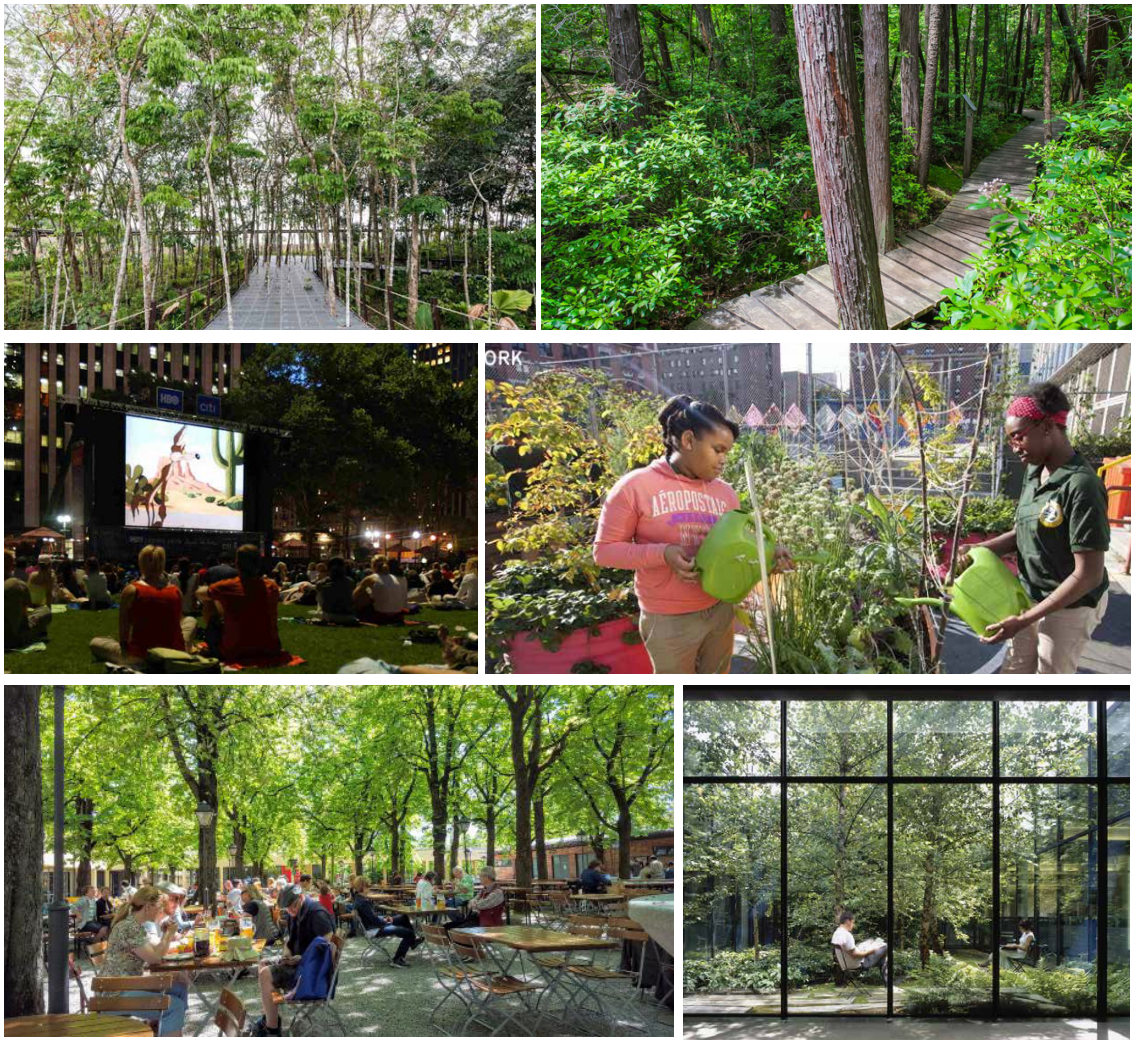


Figure 21: Community Forest Precedents
The community forest will create a unique green amenity for the community. Its character will vary across the site to accommodate a variety of activity areas.

Figure 22: View of Community Forest in the Central Plaza

2.1.4 Amenity Spaces

The goal is to create smaller communities within the buildings, or 'micro-communities,' each with a social-recreational focal point in the form of a small amenity space. These smaller amenity spaces are distributed throughout the buildings, on different floors, where they can serve smaller groups of people, and create a feeling of intimacy where people can get to know their neighbours.

The network of smaller amenity spaces are anchored by larger, centralized amenity spaces within or just above the podium levels of each individual building, that act as a main hub and offer a greater variety of activities. The larger indoor amenity spaces will have direct access to an outdoor amenity spaces in the form of terraces. The outdoor amenity spaces are located above the retail, community centre and commercial-office components of the podiums. They overlook the central plaza and Ravine Walks, creating a sense of connection and animation between the public realm and the amenity terraces. Amenity terraces have multiple exposures, taking advantage of the unique building terracing to provide south and/or west exposure for each, and a variety of City views.

This approach to a distributed network of micro-community amenity spaces complements the public realm at grade, which is extensive and fully accessible to the public.

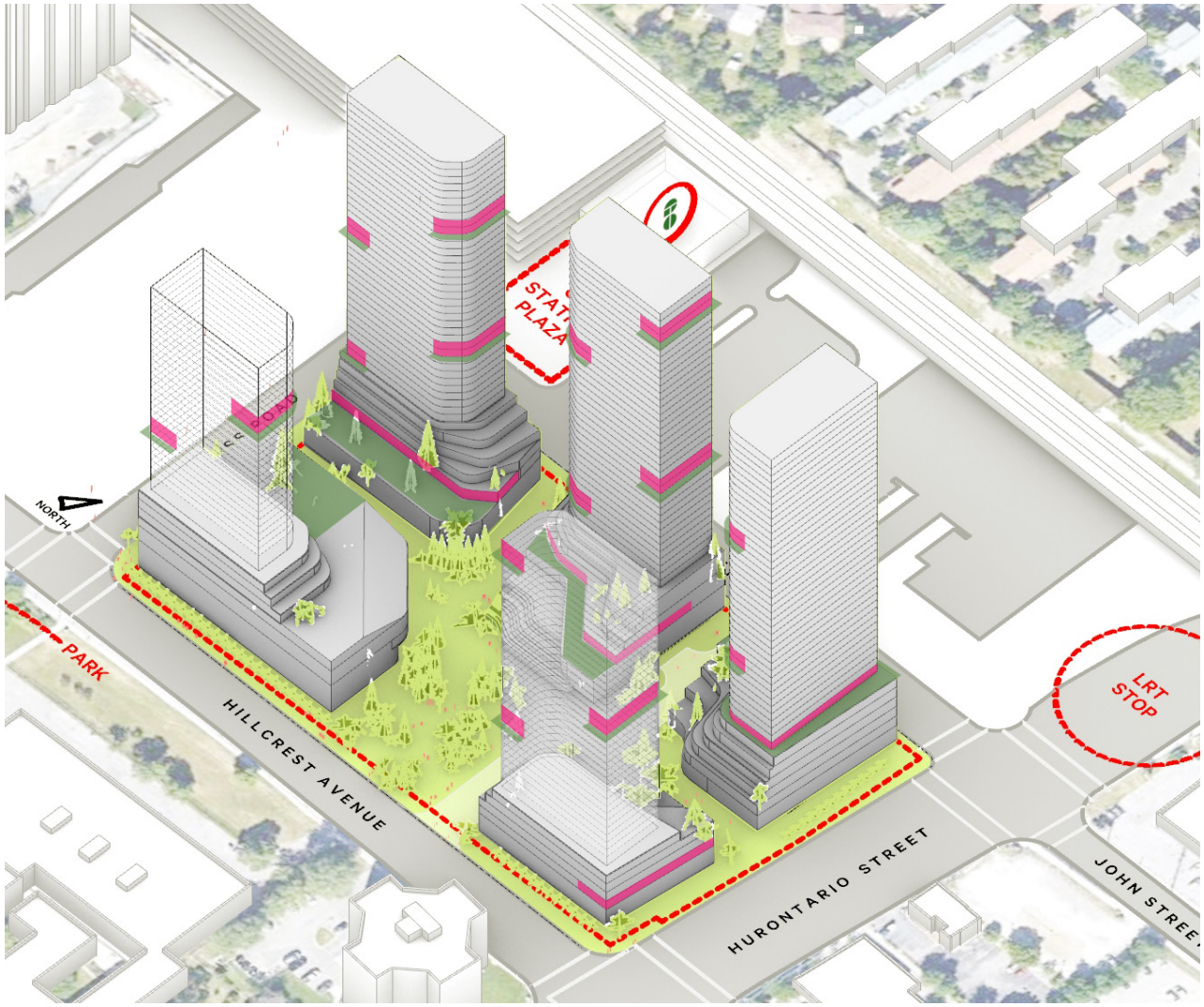


Figure 23: Amenity Spaces Distributed Throughout Buildings to Create Micro-Communities

2.1.5 Site Statistics

The following summarizes the site and building statistics of the proposed development.

Stats Summary

	(m²)	(ft²)	%
SITE AREA	21373	230059	
GCA TOTAL	189151.9	2036031	
NON RES GFA TOTAL	21177.8	227958	13%
RES GFA TOTAL	140093.0	1507961	87%
TOTAL GFA	161270.8	1735918.89	
SITE FSI	7.5		

UNIT SUMMARY		UNIT MIX
1B	1289	58%
1B+D	303	14%
2B	524	24%
3B	108	5%
TOTAL	2224	

Vehicular Parking

PARKING RATES	RATE	UNITS		SPACES REQUIRED	
RESIDENT		PHASE 1	PHASE 2	PHASE 1	PHASE 2
1B	0.62/UNIT	767	1289	476	799
1B+D	0.62/UNIT	193	303	120	187
2B	0.72/UNIT	316	524	228	377
3B	0.80/UNIT	64	108	51	86
SUBTOTAL		1340	2224	**874**	**1450**

LEVEL	SPACES PROVIDED	
	PHASE 1	PHASE 2
P1 UPPER	89	0
P1 LOWER	321	137
P2	358	143
P3	359	143
P4	298	146
SUB TOTAL	1425	569
TOTAL	1994	

	RATE	AREA (m²)		SPACES REQUIRED	
NON-RESIDENT		PHASE 1	PHASE 2	PHASE 1	PHASE 2
VISITOR	0.15/UNIT	1340	2224	201	334
COMMUNITY CENTRE	2.9/100m²	6215.8	6215.8	180	180
COMMERCIAL	2.0/100m²	-	8692.2	-	174
RETAIL	3.0/100m²	3879.7	6269.9	116	188
CC1-CC4 Sharing Arrangement (before Sharing)				497	876
CC1-CC4 Sharing Arrangement (after sharing)				**296**	**542**
TOTAL SITE REQUIREMENTS				**1170**	**1992**

Bicycle Parking

RESIDENTIAL	RATE	UNITS		SPACES REQUIRED	
		PHASE 1	PHASE 2	PHASE 1	PHASE 2
LONG TERM	0.80/UNIT	1340	2224	1072	1780
SHORT TERM	0.10/UNIT	1340	2224	134	223

	RATE	AREA (m²)		SPACES REQUIRED	
NON-RESIDENTIAL		PHASE 1	PHASE 2	PHASE 1	PHASE 2
COMMUNITY CENTRE (LT)	0.30/100m²	6215.8	6215.8	19	19
COMMUNITY CENTRE (ST)	0.30/100m²	6215.8	6215.8	19	19
RETAIL (LT)	0.15/100m²	3879.7	6269.9	6	10
RETAIL (ST)	0.30/100m²	3879.7	6269.9	12	19
COMMERCIAL (LT)	0.20/100m²	-	8692.2	-	18
COMMERCIAL (ST)	0.15/100m²	-	8692.2	-	14
SUBTOTAL LT				**1097**	**1827**
SUBTOTAL ST				**165**	**275**
TOTAL				**1262**	**2102**

LEVEL	LT SPACES PROVIDED		ST SPACES PROVIDED		
	PHASE 1	PHASE 2	PHASE 1	PHASE 2	
AT GRADE	-	-	165	110	
P1 UPPER	533	517	-	-	
P1 LOWER	621	243	-	-	
P2	-	-	-	-	
P3	-	-	-	-	
P4	-	-	-	-	
SUB TOTAL	1154	760	165	110	GRAND TOTAL
TOTAL	1914		275		2189

TOTAL AMENITY	(m²)	(ft²)
INDOOR AMENITY	7405.2	79710
OUTDOOR AMENITY	5135.2	55275
TOTAL PROVIDED	**12540.4**	134985
REQUIRED *(10% of Site)*	2137.3	23006
REQUIRED *(5.6m²/unit)*	12454.4	134059

BELOW GRADE AREA

	GCA	
LEVEL	(m²)	(ft²)
P1 UPPER	5659.3	60917
P1 LOWER	19543.3	210364
P2	19542.6	210357
P3	19542.8	210359
P4	17960	193321
TOTAL	**82248**	885317

Notes:

**ST refers to Short Term, LT refers to Long Term*

*** Amenity inclusive of both indoor and outdoor amenity*

Building A

	GCA		AMENITY**		GFA NON-RES		GFA RES		UNIT COUNT				
LEVEL	(m²)	(ft²)	(m²)	(ft²)	(m²)	(ft²)	(m²)	(ft²)	1B	1B+D	2B	3B	
Ground	2132.9	22959	-	-	1202	12938	94.2	1014	0	0	0	0	
Level 2	1468.4	15806	1470	15823	-	-	764.9	8233	1	6	2	1	
Level 3	1366.8	14712	-	-	-	-	1280.8	13787	1	12	2	2	
Level 4	1256.7	13527	-	-	-	-	1170.7	12601	1	11	2	2	
Level 5	1108.7	11934	-	-	-	-	1022.7	11008	4	8	1	2	
Level 6	1000.2	10766	-	-	-	-	927.5	9984	5	4	1	3	
Level 7	804.6	8661	367.2	3953	-	-	544.4	5860	6	1	2	0	
Level 8	667.8	7188	48.9	526	-	-	544.4	5860	6	1	2	0	
Level 9	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 10	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 11	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 12	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 13	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 14	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 15	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 16	808.6	8704	283.4	3051	-	-	536.8	5778	6	1	2	0	
Level 17	610.9	6576	-	-			536.8	5778	6	1	2	0	
Level 18	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 19	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 20	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 21	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 22	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 23	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 24	808.6	8704	-	-	-	-	734.5	7906	8	1	2	1	
Level 25	808.6	8704	277.9	2991	-	-	545.5	5872	6	1	2	0	
Level 26	667.8	7188	48.9	526	-	-	544.4	5860	6	1	2	0	
Level 27	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 28	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 29	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 30	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 31	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 32	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 33	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 34	808.6	8704	283.4	3051	-	-	536.8	5778	6	1	2	0	
Level 35	610.9	6576	-	-	-	-	536.8	5778	6	1	2	0	
Level 36	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 37	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 38	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 39	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 40	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 41	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 42	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
Level 43	808.6	8704	-	-	-	-	734.5	7906	7	1	4	0	
MPH	632.1	6804	-	-	-	-	-	-	-	-	-	-	TOTAL UNITS
TOTALS	**38,203.0**	**411,217**	**2,779.7**	**29,921**	**1,202.0**	**12938.33**	**30,887.2**	**332,470**	**277**	**78**	**112**	**24**	**491**
							MIX %		56%	16%	23%	5%	

BUILDING A	(m²)	(ft²)
TOTAL GCA	**38203**	411,217
TOTAL GFA	**32089.2**	345,408

AMENITY AREA	(m²)	(ft²)
INDOOR AMENITY	1489.1	16029
OUTDOOR AMENITY	1290.5	13891
TOTAL PROVIDED	**2779.6**	29920
AMENITY REQUIRED	2749.6	29597

(Greater of 5.6m unit or 10% of site area)

LOADING		
# PROVIDED	3	*(Includes shared loading space for Building E)*
# REQUIRED	2	

Building B

LEVEL	GCA (m²)	GCA (ft²)	AMENITY** (m²)	AMENITY** (ft²)	GFA NON-RES (m²)	GFA NON-RES (ft²)	GFA RES (m²)	GFA RES (ft²)	UNIT COUNT 1B	1B+D	2B	3B	
Ground	2196.4	23642	-	-	1660.7	17876	120.6	1298	0	0	0	0	
Mezzanine	717.7	7725	-	-	623.2	6708	-	-	0	0	0	0	
Level 2	1627.2	17515	1503.8	16187	-	-	566.1	6094	1	5	0	1	
Level 3	1380.5	14860	-	-	-	-	1206	12981	4	8	1	3	
Level 4	1222.1	13155	-	-	-	-	1071.8	11537	2	6	1	4	
Level 5	1109.9	11947	-	-	-	-	1006.1	10830	2	8	2	2	
Level 6	793.2	8538	-	-	-	-	722.6	7778	7	1	4	0	
Level 7	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 8	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 9	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 10	793.2	8538	232.2	2499	-	-	546.7	5885	6	0	3	0	
Level 11	675.8	7274	58.4	629	-	-	546.7	5885	6	0	3	0	
Level 12	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 13	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 14	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 15	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 16	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 17	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 18	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 19	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 20	793.2	8538	259.6	2794	-	-	545.1	5867	6	1	2	0	
Level 21	672	7233	56.1	604	-	-	545.1	5867	6	1	2	0	
Level 22	793.2	8538	-	-	-	-	722.4	7776	8	1	2	1	
Level 23	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 24	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 25	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 26	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 27	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 28	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 29	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 30	793.2	8538	232.2	2499	-	-	546.7	5885	6	0	3	0	
Level 31	675.8	7274	58.4	629	-	-	546.7	5885	6	0	3	0	
Level 32	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 33	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 34	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 35	793.2	8538	-	-	-	-	1006.1	10830	7	1	4	0	
Level 36	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 37	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 38	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 39	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 40	793.2	8538	259.6	2794	-	-	545.1	5867	6	1	2	0	
Level 41	672	7233	56.1	604	-	-	545.1	5867	6	1	2	0	
Level 42	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
Level 43	793.2	8538	-	-	-	-	722.4	7776	7	1	4	0	
MPH	624.7	6724	-	-	-	-	-	-	-	-	-	-	TOTAL UNITS
TOTALS	**38,542.9**	**414,876**	**2,716.4**	**29,239**	**2,283.9**	**24583.9**	**30,293.7**	**326,081**	**279**	**61**	**120**	**22**	**482**
							MIX %		58%	13%	25%	5%	

BUILDING B	(m²)	(ft²)
TOTAL GCA	38542.9	414,876
TOTAL GFA	32577.6	350,665

LOADING	
# PROVIDED	2
# REQUIRED	2

AMENITY AREA	(m²)	(ft²)
INDOOR AMENITY	1,919.6	20,663
OUTDOOR AMENITY	796.6	8,575
TOTAL PROVIDED	**2,716.2**	29237.18
AMENITY REQUIRED	2,699.2	29,054

(Greater of 5.6m unit or 10% of site area)

Building C

LEVEL	GCA (m²)	GCA (ft²)	AMENITY** (m²)	AMENITY** (ft²)	GFA NON-RES (m²)	GFA NON-RES (ft²)	GFA RES (m²)	GFA RES (ft²)	UNIT COUNT 1B	1B+D	2B	3B	
Ground	2241.9	24132	-	-	1240.7	13355	203.5	2190	0	0	0	0	
Level 2	2048.6	22051	-	-	1948.8	20977	-	-	0	0	0	0	
Level 3	2021.9	21764	-	-	1921.6	20684	-	-	0	0	0	0	
Level 4	1844.7	19856	-	-	1744.6	18779	-	-	0	0	0	0	
Level 5	1652.8	17791	-	-	1551.7	16702	-	-	0	0	0	0	
Level 6	1471.9	15844	-	-	1371	14757	-	-	0	0	0	0	
Level 7	803.8	8652	1453.5	15645	-	-	49.2	530	0	0	0	0	
Level 8	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 9	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 10	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 11	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 12	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 13	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 14	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 15	806.3	8679	228.7	2462	-	-	564.9	6081	5	1	3	0	
Level 16	700.5	7540	65.3	703	-	-	564.9	6081	5	1	3	0	
Level 17	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 18	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 19	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 20	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 21	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 22	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 23	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 24	806.3	8679	235.3	2533	-	-	561.1	6040	5	1	3	0	
Level 25	631.2	6794	-	-	-	-	561.1	6040	5	1	3	0	
Level 26	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 27	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 28	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 29	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 30	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 31	805.7	8673	-	-	-	-	736.1	7923	8	1	2	1	
Level 32	806.3	8679	228.7	2462	-	-	564.9	6081	5	1	3	0	
Level 33	700.5	7540	65.3	703	-	-	564.9	6081	5	1	3	0	
Level 34	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 35	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 36	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 37	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 38	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 39	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 40	806.3	8679	235.3	2533	-	-	561.1	6040	5	1	3	0	
Level 41	631.2	6794	-	-	-	-	561.1	6040	5	1	3	0	
Level 42	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 43	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 44	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 45	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
Level 46	805.7	8673	-	-	-	-	736.1	7923	7	1	4	0	
MPH	602.3	6483	-	-	-	-	-	-	-	-	-	-	TOTAL UNITS
TOTAL	**43,553.2**	**468,807**	**2,512.1**	**27,040**	**9,778.4**	**105254.7**	**27,575.8**	**296,826**	**277**	**39**	**108**	**20**	**444**
							MIX %		62%	9%	24%	5%	

BUILDING C	(m²)	(ft²)
TOTAL GCA	43553.2	468,807
TOTAL GFA	37354.2	402,081

LOADING	
# PROVIDED	3
# REQUIRED	3

AMENITY AREA	(m²)	(ft²)
INDOOR AMENITY	1,451.1	15,620
OUTDOOR AMENITY	1,060.8	11,418
TOTAL PROVIDED	2,511.9	27,038
AMENITY REQUIRED	2486.4	26,764

(Greater of 5.6m unit or 10% of site area)

Building D

LEVEL	GCA (m²)	GCA (ft²)	AMENITY** (m²)	AMENITY** (ft²)	GFA NON-RES (m²)	GFA NON-RES (ft²)	GFA RES (m²)	GFA RES (ft²)	UNIT COUNT 1B	1B+D	2B	3B	
Ground	1919.1	20657	-	-	1304	14036	214.8	2312	0	0	0	0	
Level 2	1429.6	15388	1313.7	14141	-	-	450.8	4852	1	4	0	1	
Level 3	1501.1	16158	-	-	-	-	1359.6	14635	0	13	3	2	
Level 4	1326.6	14280	-	-	-	-	1226.1	13198	3	11	1	2	
Level 5	1088.6	11718	-	-	-	-	1017.8	10956	2	9	0	3	
Level 6	806.4	8680	298.9	3217	-	-	587.1	6320	5	1	2	1	
Level 7	660.8	7113	-	-	-	-	591.2	6364	5	1	2	1	
Level 8	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 9	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 10	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 11	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 12	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 13	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 14	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 15	806.9	8685	290.4	3126	-	-	540.5	5818	6	1	1	1	
Level 16	609.7	6563	-	-	-	-	540.5	5818	6	1	1	1	
Level 17	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 18	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 19	806.4	8680	-	-	-	-	737.3	7936	8	1	2	1	
Level 20	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 21	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 22	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 23	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 24	806.9	8685	273.1	2940	-	-	548	5899	6	1	2	0	
Level 25	666.9	7179	-	-	-	-	597	6426	7	1	2	0	
Level 26	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 27	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 28	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 29	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 30	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 31	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 32	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 33	806.9	8685	290.4	3126	-	-	540.5	5818	6	1	1	1	
Level 34	609.7	6563	-	-	-	-	540.5	5818	6	1	1	1	
Level 35	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 36	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 37	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 38	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
Level 39	806.4	8680	-	-	-	-	737.3	7936	7	1	4	0	
MPH	630.4	6786	-	-	-	-	-	-	-	-	-	-	TOTAL UNITS
TOTAL	**34,636.0**	**372,822**	**2,466.5**	**26,549**	**1,304.0**	**14036.26**	**27,924.2**	**300,576**	**245**	**71**	**100**	**24**	**440**
							MIX %		56%	16%	23%	5%	

	(m²)	(ft²)
TOTAL GCA	34636	372,822
TOTAL GFA	29228.2	314,612

LOADING	
# PROVIDED	2
# REQUIRED	2

AMENITY AREA	(m²)	(ft²)
INDOOR AMENITY	1,646.2	17,720
OUTDOOR AMENITY	820.3	8,830
TOTAL PROVIDED	2,466.5	26,549
AMENITY REQUIRED	2,464.0	26,522

(Greater of 5.6m unit or 10% of site area)

Building E

LEVEL	GCA (m²)	GCA (ft²)	AMENITY** (m²)	AMENITY** (ft²)	GFA NON-RES (m²)	GFA NON-RES (ft²)	GFA RES (m²)	GFA RES (ft²)	UNIT COUNT 1B	1B+D	2B	3B	
Ground	2623.5	28239	-	-	2091.2	22510	272.2	2930	0	0	0	0	
Level 2	3450.3	37139	-	-	3319.5	35731	-	-	0	0	0	0	
Level 3	1281.9	13798	-	-	1198.8	12904	-	-	0	0	0	0	
Level 4	1316.7	14173	1504	16189	-	-	738.6	7950	1	6	3	0	
Level 5	1226.7	13204	-	-	-	-	1151.3	12393	1	10	3	2	
Level 6	1151.8	12398	-	-	-	-	1082.4	11651	1	10	2	2	
Level 7	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 8	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 9	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 10	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 11	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 12	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 13	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 14	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 15	815.1	8774	274.4	2954	-	-	555.1	5975	6	1	2	0	
Level 16	675.1	7267	-	-	-	-	605.3	6515	7	1	2	0	
Level 17	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 18	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 19	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 20	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 21	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 22	815.1	8774	-	-	-	-	744.9	8018	8	1	2	1	
Level 23	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
Level 24	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
Level 25	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
Level 26	815.1	8774	287.8	3098	-	-	539.9	5811	6	1	2	0	
Level 27	659.5	7099	-	-	-	-	589.7	6348	7	1	2	0	
Level 28	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
Level 29	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
Level 30	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
Level 31	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
Level 32	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
Level 33	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
Level 34	815.1	8774	-	-	-	-	744.9	8018	7	1	4	0	
MPH	638.7	6875	-	-	-	-	-	-	-	-	-	-	TOTAL UNITS
TOTAL	**34,216.8**	**368,310**	**2,066.2**	**22,241**	**6,609.5**	**71144.86**	**23,412.1**	**252,008**	**211**	**54**	**84**	**18**	**367**
							MIX %		57%	15%	23%	5%	

BUILDING E	(m²)	(ft²)
TOTAL GCA	34216.8	368,310
TOTAL GFA	30021.6	323,153

LOADING		
# PROVIDED	1	*(Waste pickup to occur in Building A)*
# REQUIRED	3	

AMENITY AREA	(m²)	(ft²)
INDOOR AMENITY	899.2	9,679
OUTDOOR AMENITY	1,167.0	12,562
TOTAL PROVIDED	**2,066.2**	22241
AMENITY REQUIRED	2,055.2	22,122

(Greater of 5.6m unit or 10% of site area)

2.2 Built Form and Uses

2.2.1 Ground Level

With over 49% of the site area devoted to the public realm, buildings occupy a comparatively small amount of the ground plane for a site of this scale. The built area is divided into five separate buildings, creating a highly porous environment and a fine grain block network.

Through the community engagement process, investing in local employment opportunities and supporting local businesses emerged as a key priority for the development. In response, the ground level has been designed to incorporate spaces for small scale businesses and local entrepreneurs.

Over 90% of the building perimeter at ground level or over 880 metres is animated by positive frontages, primarily active uses within the building. This is an extraordinary amount of active building edge that interfaces with the public realm for a site of this scale. All four sides of all five buildings have active uses of some nature, only interrupted by the necessary servicing functions. A substantial amount of the active uses is for retail or community purposes.

All buildings are set back from their adjacent streets to extend the boulevard, create a larger public realm, and provide space for generous landscaping and the continuation of the community forest. Setbacks vary from approximately 2.6 to 2.9 metres on Hillcrest Avenue; 5 metres on Hurontario Street; 3 to 7.5 metres on John Street; and 3.7 to 5.5 metres on GO Access Road.

Retail

The ground floor retail uses are intended to create small scale, multi-tenant environments that provide a diversity of shops and services to serve the community. The retail space within Building B, fronting onto the central plaza, is intended to be a food hub with small food vendors and seating. It could take the form of a food hall or indoor market.

The primary retail buildings are located closest to Hurontario Street and the Cooksville GO Station where pedestrian traffic will be the highest.

90%

Positive building frontage

Figure 24: Retail Streetscape and Public Realm Precedents
Ground floor retail uses will create a highly animated building frontage along all streets and public spaces.

Community Centre

In discussion with local residents, the need for a community centre, more opportunities for recreational activities and improved outdoor gathering spaces with a focus on culturally and socially relevant programming was identified as an important development goal.

Initial meetings with the City of Mississauga have identified the desire to provide a City owned community centre on the site. The proximity to a multi-modal transit hub makes the site an ideal location and is supported by members of the Cooksville Hub Working Group.

The preliminary program is for a library of 1,400 square metres (15,000 square feet), and 5,575 square metres (60,000 square feet) of other community space, which can accommodate an aquatic centre with 2 pools, a gymnasium, and multi-use space for meeting rooms or potentially a daycare. The intention is to work closely with the City and community to refine the building program and design as the project development progresses.

Figure 25: Community Centre Precedents
The community centre can include a range of amenities. The design concept ensures these uses are highly visible and accessible to the community, with direct indoor-outdoor relationships.

Daycare

Community Centre

Library

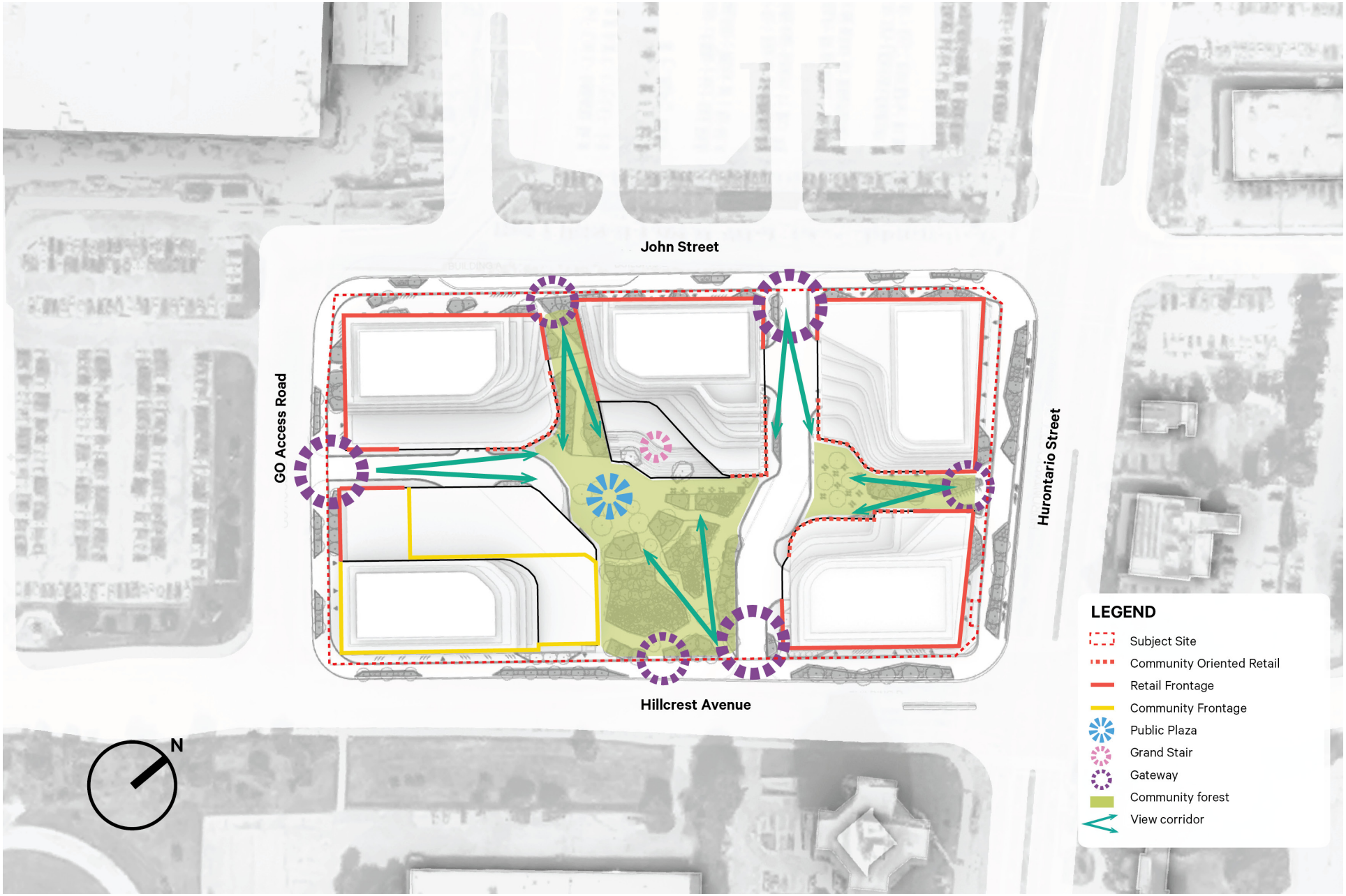


Figure 26: Built Form – Ground Level Strategy: Uses

2.2.2 Height and Massing

The overall height and density of the proposed development is driven by the need to make the most efficient use of existing infrastructure, transit and amenities, as well as providing a critical mass of people to support the site's diverse uses.

The distribution of massing across the site was informed by sun-shadow analysis to optimize sunlight into the central plaza and onto building facades, providing excellent daylighting for interior spaces. Building heights and spacing are calibrated to maximize the solar gain potential in order to reduce heating needs for the interior space.

Buildings are sited to shape the public realm. At ground level, building podiums are sited to create a grid-like pattern that promotes north-south and east-west movement. Above ground level, podiums are sculpturally shaped by a landscape-first approach that creates a topographical base that frames the landscaped public realm. Podiums incorporate curved and non-orthogonal geometries to shape a dynamic, interesting public realm with continuously changing views. Podiums gradually taper in sculptural layers, transitioning to the tower forms, while creating amenity spaces and large terraces for landscaping that reinforces the green design concept for the site.

Along public streets, podiums are more rectilinear to define the street edges, and rise 5 to 6 storeys in height. Internal to the site, podiums are more sculptural, and taper from ground level up to the 6th storey as organic layers. Along the streets, at the 5th or 6th storey, towers have step backs of 2.5 metres from the podiums.

A commercial-office component is contained within the podium levels 2 to 6 of Building C in the northeast corner, with a lobby entrance from Hurontario Street. The community centre components are contained within the podium of levels 1 to 3 of Building E in the southeast corner, with entrances from Hillcrest Avenue and the central plaza. The community centre creates a strong presence along Hillcrest Avenue and GO Access Road, as well as the central plaza. The library is on the ground floor and has a highly transparent façade to reinforce the library as a new type of community hub blending learning, technology and reference. The aquatic centre and other uses are located above.

Building heights are tallest closest to the Mobility Hub along the north edge of the site, with a transition down towards the southeast. The staggered tower heights create variety, interest and diversity in the Cooksville skyline. Tower heights range from 34 to 46 storeys and the floor plates are 800 square metres. The tower spacing ranges from 35.8 to 53.8 metres, exceeding the minimum requirement of 30 metres.

Tower separations are maximized to create sky view, allow sunlight penetration, and reduce overlook/ privacy concerns.

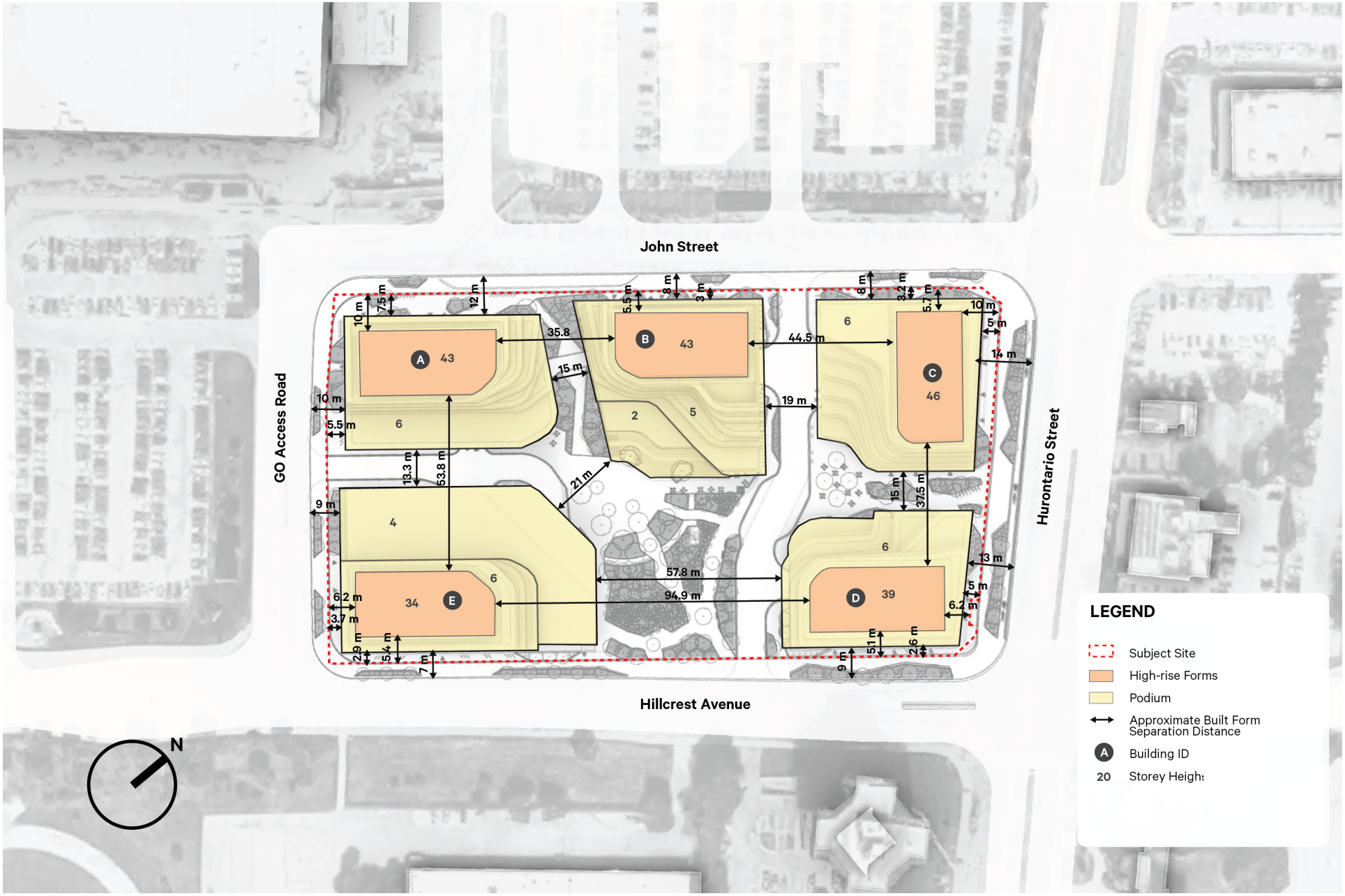


Figure 27: Built Form – Massing Strategy

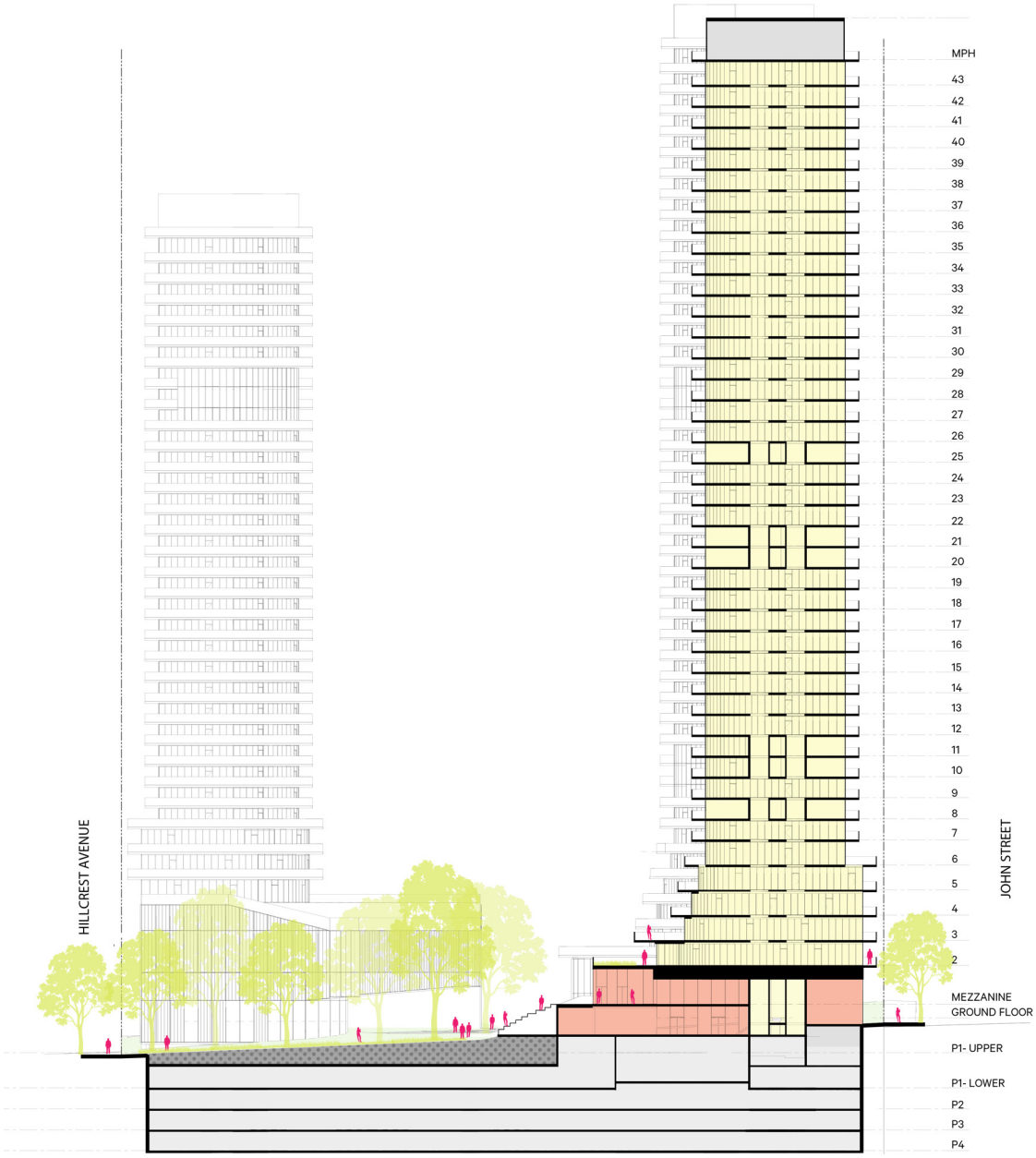
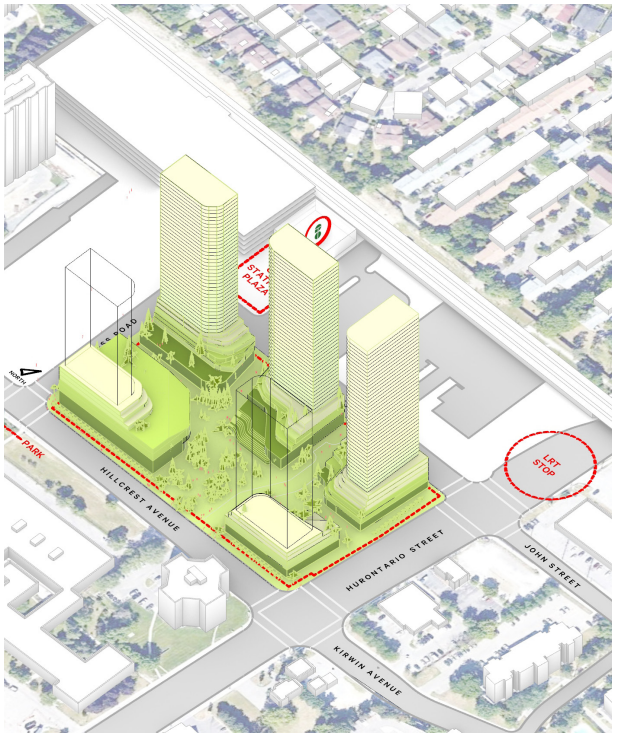


Figure 28: Built Form – Massing Strategy: Site Section



2.2.3 Transition and Context

The site is located in a context dominated by low-rise commercial uses and surface parking lots, with some high-rise buildings scattered around. The site is not close to any low-rise residential uses. The closest low-rise residential is over 150 metres away on the north side of the railway tracks.

The transportation planning framework is changing how Downtown Cooksville is connected to the rest of the City and the broader region. Development interest is increasing, and the area is likely to see significant change in the coming decade, as the entire Hurontario Street corridor continues its transformation to a more walkable, mixed use, high density urban form. While the site needs to relate well to the existing surroundings, the design approach looks forward to its future context. As a leading development of the broader transformation, the site has the chance to establish the design benchmark.

A key element of creating a good fit within the site's existing and future context is the establishment of a highly porous ground plane with great building edges, both around the perimeter streets, and adjacent to the internal public realm. The design facilitates increased pedestrian connectivity across the site in all directions, setting up the desired connectivity between the Dundas Street corridor and the Cooksville GO Station, as well as between Hurontario Street and the Cooksville GO Station.

With direct adjacency to the GO Station and the Hurontario LRT, the site is an appropriate location for tall buildings. It is highly likely to be a tall building context on all sides of the site in the future. The site relates well to its street edges through the podium forms and human-scaled street edge with active uses at grade, improving current conditions and setting the example for future development.

2.3 Access, Circulation, Parking & Services

2.3.1 Pedestrian Strategy

Pedestrian access and circulation are the first priorities of the site design. The pedestrian network provides a choice of routes throughout the highly permeable ground plane. Streets on all sides of the site are provided with wide sidewalks, with direct connections to adjacent building entrances and the Ravine Walks.

The pedestrian network facilitates increased transit accessibility, both for site users, as well as for the existing and future surrounding community. It promotes north-south movement to and from the Cooksville GO station and Hurontario LRT stop via Hurontario Street, the GO Access Road and two Ravine Walks (pedestrian links) internal to the site. It promotes east-west movement to the Hurontario LRT via John Street, Hillcrest Avenue and an internal Ravine Walk (pedestrian link).

Given the proximity of the transit stops, visitors, residents and employees using transit will have only a two to three minute walk to their destinations.

All pedestrian routes will be designed to AODA standards and will facilitate barrier-free access to all streets, building entrances, and public spaces.

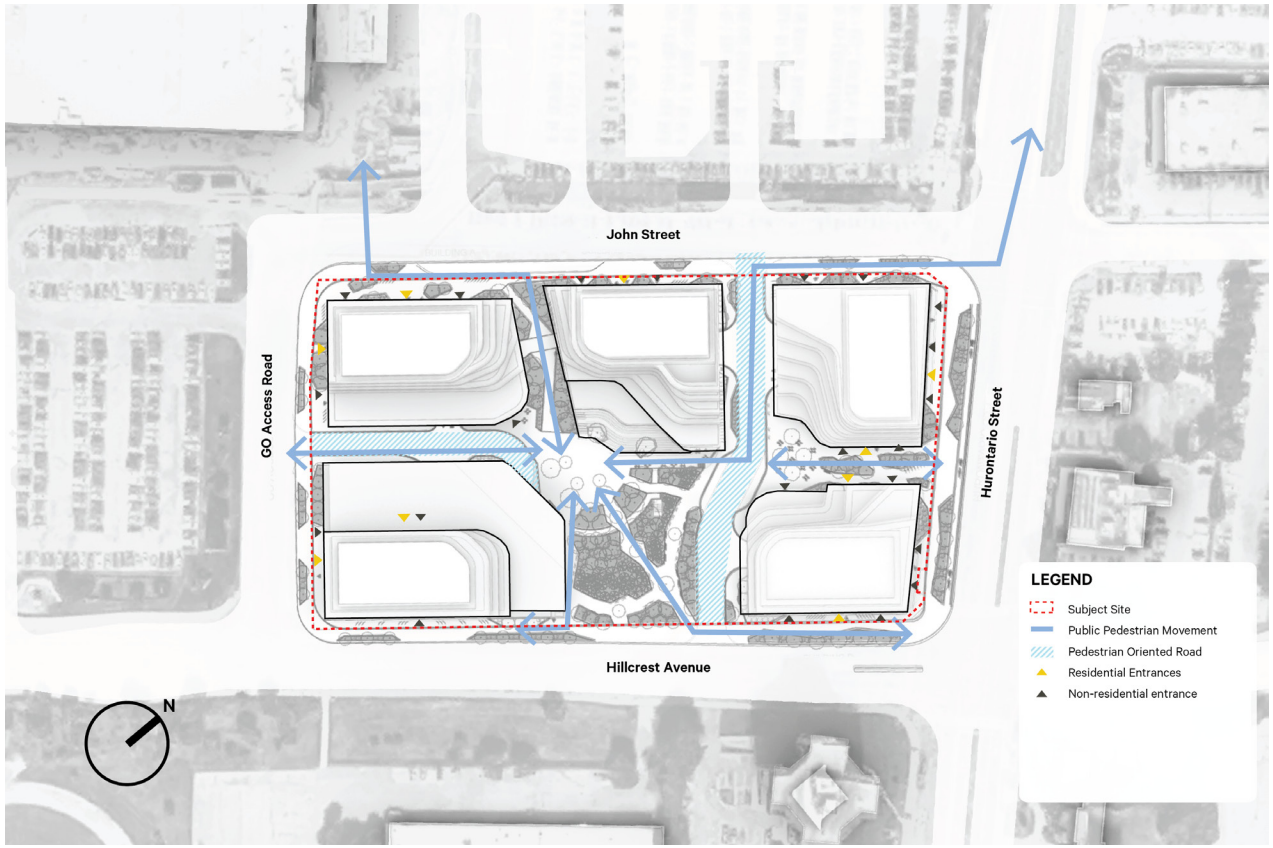


Figure 29: Pedestrian Strategy

2.3.2 Cycling Strategy

The site is well positioned within the City of Mississauga's Cycling Strategy. Hillcrest Avenue is a Shared Route, and there are existing bike lanes on Confederation Parkway and Kirwin Avenue/Camilla Road. John Street has a multi use trail along the north side, providing access to the Cooksville GO Station. Hurontario Street will have a separated cycle track. These existing and planned cycling routes at the site's doorstep provide excellent connectivity to the City's larger cycling network.

Within the site, on-road cycling will occur along the internal laneways, where there will be access to underground bicycle parking. The public realm will include provision for short term visitor bicycle parking throughout.

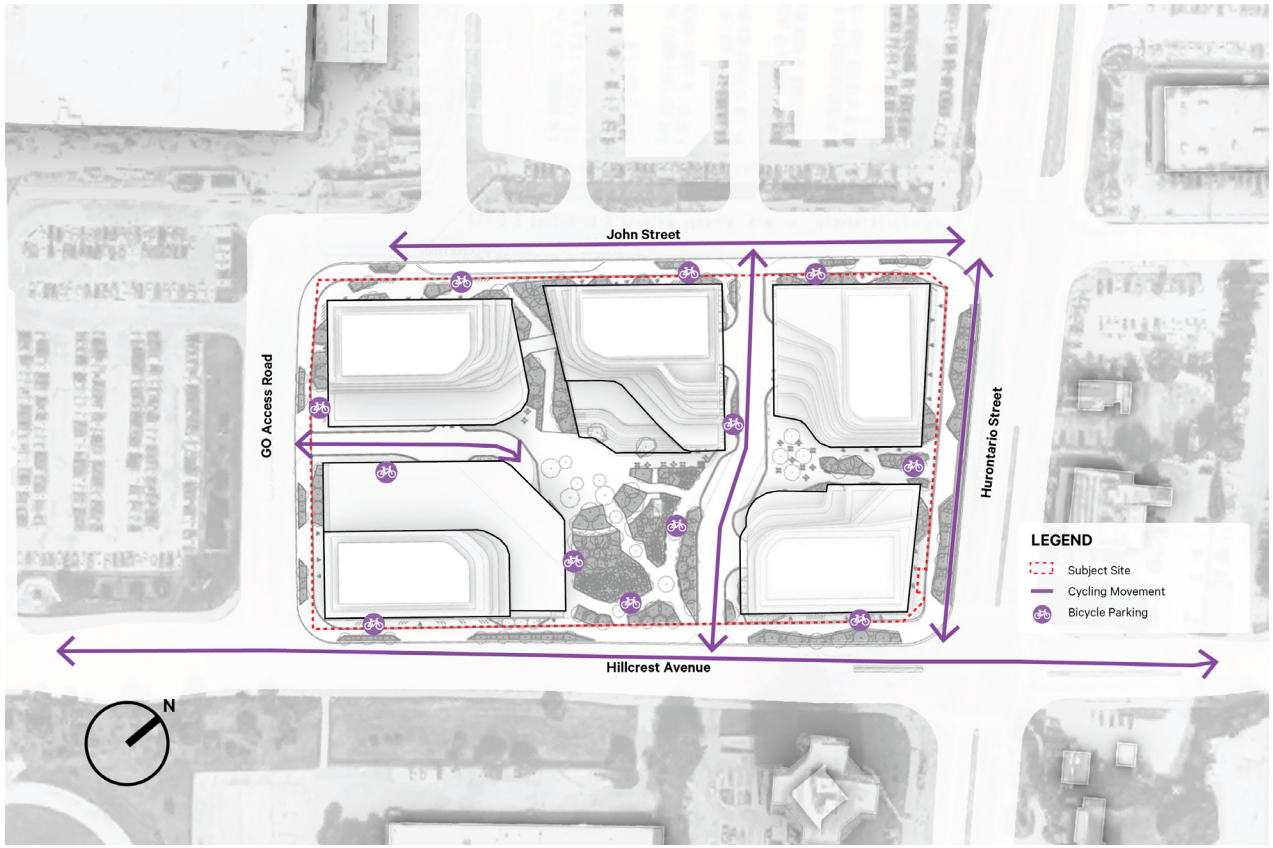


Figure 30: Cycling Strategy

2.3.3 Vehicular Strategy

The site has excellent vehicular access, with streets on all four sides. Privately owned but publicly accessible laneways provide access to the site for vehicles from the surrounding streets. These include a north-south laneway connecting John Street and Hillcrest Avenue, and an east-west drop-off loop at the community centre. The drop off loop will be weather protected by the building overhang.

All vehicular loading is internal to the site. Loading areas do not face streets, and wherever possible do not face the central plaza. Each building has its own loading and garbage truck bays, accessed from the laneways.

There is layby lane along John Street for short term drop off/pick up purposes, as well as along the internal north-south laneway.

Vehicular parking spaces for all of the proposed land uses are provided in a four level underground garage that extends beneath the entire site. Both of the internal laneways provide a ramp to access the underground garage.

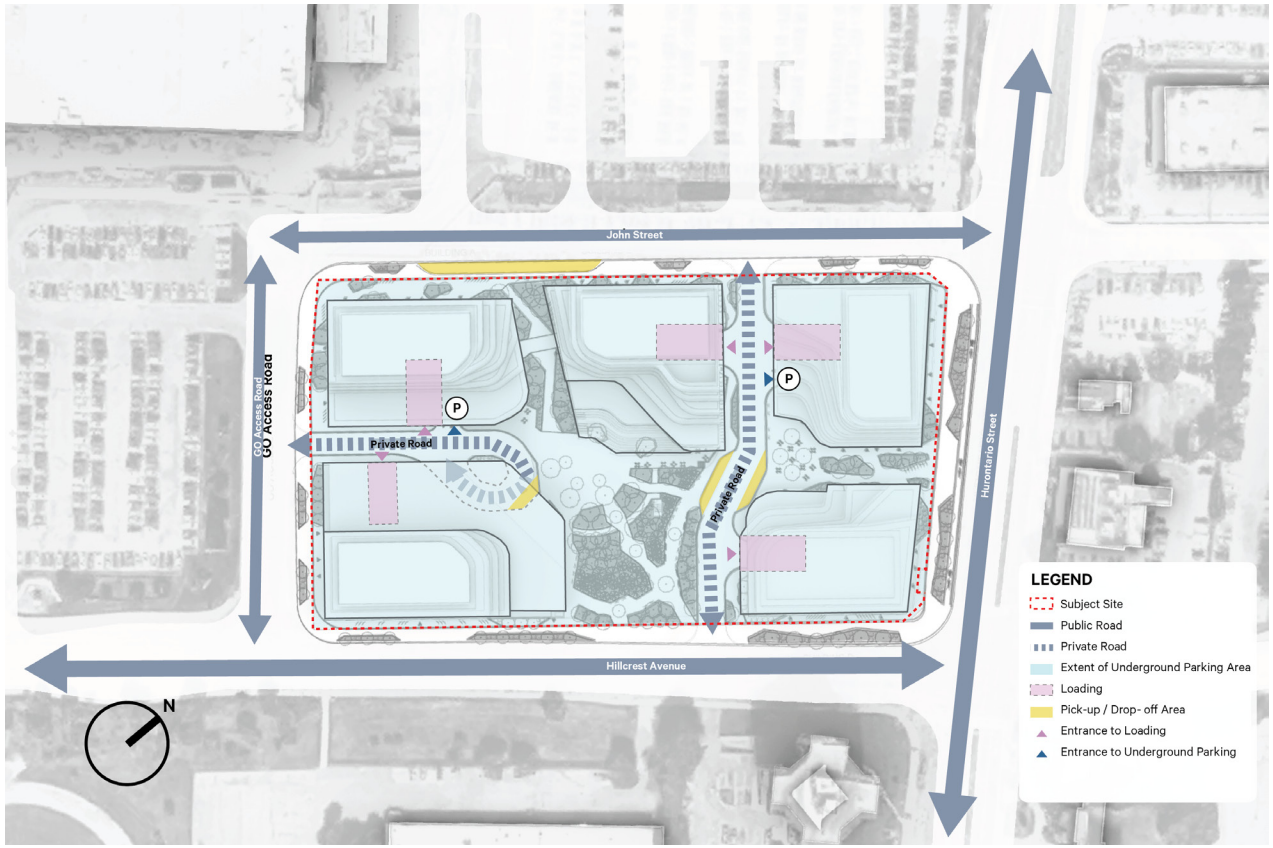


Figure 31: Vehicular Strategy

2.4 Supporting Studies

2.4.1 Shadow Study

SvN prepared a shadow study for the proposed development in accordance with the City of Mississauga's Standards for Shadow Studies, 2011. Generally, the study shows that shadows from the tall buildings do not fall on sensitive uses, and where they do, shadows move quickly across those uses and do not have a significant impact. In a few cases, shadows exceed the City's recommended guidelines, however, these cases are very limited in both extent and duration. The five areas of focus are discussed below.

1. Residential Private Outdoor Amenity Areas

The criteria is largely met. On June 21, a few low rise residential rear yards are impacted, however, shadows are clear by 9:20 a.m. On September 21, a few low rise residential rear yards are impacted with shadows clear by 10:20 a.m., and a few townhouse rear yards are impacted with shadows clear between 10:20-11:20 a.m.

2. Communal Outdoor Amenity Areas

This criteria is met. All outdoor amenity areas experience a sun access factor greater than 50%.

3. Public Realm: Sidewalks, Open Spaces, Parks and Plazas

a. Low and Medium Density Residential Streets

The criteria is largely met. On September 21, there are low rise residential streets that are impacted between 9:12-10:12 a.m. These shadows pass quickly. There are also small portions of streets to the east, within the existing apartment neighbourhood, where there are shadow impacts at the end of the day only.

b. Mixed Use, Commercial, Employment and High Density Residential Streets

This criteria is not met on September 21 between 12:12 a.m. and 2:12 p.m. on Hurontario Street and John Street, directly adjacent to the site. It is worth noting that this criteria would be difficult to achieve with any building massing above six storeys in height.

c. Public Open Spaces, Parks and Plazas

This criteria is met. All public open spaces experience a sun access factor greater than 50%.

4. Turf and Flower Gardens in Public Parks

This criteria is met. All turf and flower gardens experience more than 6 hours of sunlight on September 21.

5. Possibility for Solar Energy

The criteria is largely met. On September 21, there are a few townhouses impacted in the morning, with shadows clear by 10:12 a.m. There are a few low rise residential units that are impacted in the morning, with shadows clear by 9:12 a.m. This constitutes a limited impact to the ability to generate solar power for those dwellings.

2.4.2 Pedestrian Wind Comfort and Safety Study

Rowan Williams Davies & Irwin Inc. (RWDI) was retained to assess the potential wind conditions at pedestrian levels on and around the proposed development. Their findings are summarized as follows:

- Given that the new buildings are taller than their existing, surrounding context, wind will be directed to the ground level. There are positive features to the design such as the stepped massing which helps to moderate wind impacts.
- Wind conditions at ground level at most building entrances are expected to be appropriate for the intended usage.
- There will be some uncomfortable wind conditions along the northern edge of the site, including on sidewalk areas along John Street. However, high wind activity away from the sidewalk areas and between buildings B and C can be considered appropriate because the areas are intended for vehicular roadways.
- Where there are a few areas with higher than desired wind speeds, mitigation measures are suggested. Mitigation techniques include canopies, vegetation, planters, vertical screening, and recessed entrances, all common design elements associated with new high rise development.
- The above grade amenity terraces for buildings A, B and E are predicted to be windy for passive uses during summer, and therefore similar mitigation measures are suggested, as commonly employed on amenity terraces.

2.4.3 Acoustic Impact and Vibration Study

SLR Consulting (Canada) Ltd. was retained to conduct an Environmental Noise and Vibration study to assess impacts of the environment on the proposed development, as well as impacts of the proposed development on its environment and on itself. Their findings are summarized as follows:

- Based on sound levels on the facades of buildings as a result of the surrounding urban context (e.g. Hurontario Street, railway line), mitigation measures are required including upgraded glazing, ventilation recommendations, and warning clauses. Noise impacts on outdoor amenity areas meet guideline limits. The mitigation measures are commonly employed by new development in existing contexts such as this.
- No vibration impacts are anticipated.
- Stationary noise impacts are predicted to meet guidelines. A warning clause is recommended due to the proximity of the Cooksville GO Station.
- The development is unlikely to have impacts on its environment, however, another assessment should be undertaken when there is more detail available (e.g. suite configuration, mechanical equipment).

3. Summary and Conclusions

This Urban Design Study demonstrates how the site's urban design, built form, landscape, and mobility strategies will create a dynamic, attractive mixed use infill development that achieves Provincial, Regional and Municipal objectives for inclusive city building that maximizes use of existing and planned infrastructure. The proposal demonstrates a commitment to socially responsible and sustainable development.

The site has a unique context within the City – it is the only location in Mississauga that has direct access to GO Transit, Light Rail Transit (the Hurontario LRT), and Rapid Bus Transit Service (MiWay on Dundas Street East), in a city fabric of larger parcels that are prime for investment, intensification and redevelopment; and is only one of three intermodal mobility hubs in the City. It is an ideal location for the City to achieve aspirations of transit-oriented development and the "15-minute" city, and provides a great opportunity to achieve the objectives of walkability, vibrancy and inclusive community.

The design is focused on creating a great public realm that provides community gathering, fosters accessibility to public transit and community services, is animated throughout by active uses at ground level, and provides a diversity of active and passive recreational opportunities. A community forest provides a green heart for the neighbourhood and contributes meaningful environmental benefits in the heart of an intensifying urban area.

The design presents an exciting opportunity to strive towards the City's mitigation and adaptation targets including the Climate Change Action Plan and the strategic pillars for change in the Mississauga Strategic Plan. It demonstrates clear alignment with the City's higher-level objectives and can be showcased as a demonstration of climate responsive and resilient design achieved through inclusive community building.

The design is inclusive and recognizes that the community comprises the people who live and work and play both on the site and in the Downtown Cooksville area. The concept responds to known community needs - including providing a community centre and library that are integrated into the built form and public realm. The site's proximity to transit and greater density of residents maximizes accessibility to on- and off-site amenities and reduces reliance on the car.

The proposed concept is ambitious and forward-looking – it presents an opportunity to "do things differently" and prosper. As noted in the closing note of the City's Strategic Plan, change is challenging and easy to resist. This, however, is not the time to settle with the familiar. Sustaining the status quo will not be sufficient to meet the City's aspirational goals and objectives. In partnership with TAS, the City of Mississauga has an opportunity to explore an exciting new possibility, showcase innovation, and demonstrate leadership within the Region and to its community.

Key Benefits

A full spectrum of land uses on a single site

Promotes use of public transit

Creates a community focal point

Provides diverse new public spaces including a programmable gathering space

Provides a new community centre and library

Represents responsible growth

Represents a commitment to integrated city building

SvN

25 Hillcrest Avenue & 3154 Hurontario Street

Urban Design Study