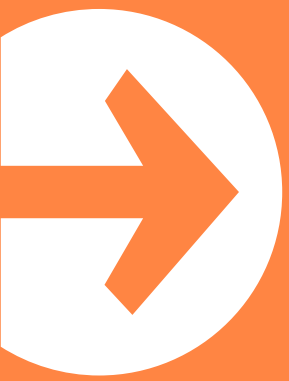


Streetscape Plan

Streetscape Plan

- Community Context
- General Framework
- Character of Street Network
- Street Hierarchy
- Street Typologies & Design
- Green Infrastructure
- Streetscape and Open Space Details

Streets are essential elements of the overall framework of the Study Area . Streets structure the distribution of land, inherently defining the nature of the urban fabric. They are also connective devices for the community and adjacent neighbourhoods. Streets also give address and access to the parcelized development blocks. However, it is important also to recognize that streets play a critical role in defining the public realm. They give identity and character to a community and are seen as important "democratic" spaces in the city, which should be viewed as safe environments during all hours of the day and throughout the year.

The Steeles West Secondary Plan establishes the framework of the overall street network. The Streetscape Plan builds on this framework and includes a more detailed street system with a hierarchy that supports both public and private sector interests.

Community Context

York University

As its most immediate and largest neighbour, York University plays a vital role in the development of the Steeles West District. The general urban fabric of the university extends roads and blocks to its northern edge. Despite the clear physical linkage with the university, there are also important socio-economic issues which will influence the future development of the Steeles West community. Clearly the Steeles West District will be related to York University as a key commercial and residential partner. A unique mix of users (residents, students, academics, service workers, etc.) will attract enthusiastic cycling and pedestrian activity. Transit users will also contribute a mixed mobility culture, thereby reducing the influence of the automobile throughout this new community. The urban design and streetscape measures used must recognize this reality in order to meet the needs of these primary users.

It is also important to recognize the sensitivity of the Steeles West community to the existing operations at York University. One notable measure is the pursuit of "dark skies" and the reduction of light pollution to help ensure the continual work of the observatory on campus.

Employment Lands / Highway 407/ Hydro Corridor

The Steeles West District is unique in that it is bounded by land uses that are in tension with the residential and commercial focus proposed by the Secondary Plan. The employment lands to the east and west, and the Highway 407/hydro corridor to the north, provide an unusual context for a high density, mixed-use community. It is for this reason that emphasis needs to be placed upon making the Steeles West District a "complete" community. Its isolation from other residential areas in Vaughan and Toronto means that adequate open space, commercial/retail and opportunities for institutional uses need to be planned for the sustained development of this high density, mixed-use community.

Black Creek

Black Creek is the most pronounced natural heritage feature to the Steeles West community, and is a major tributary to the Humber River watershed. Similar to other watersheds in urban areas, both Black Creek and the Humber River are under continual stresses brought on by stormwater runoff, pollution, erosion and engineered constraints from past city building methods. Thus, the Plan strives to lessen the strain on the watershed through a more sustainable urbanism.

Black Creek Pioneer Village

Black Creek Pioneer Village offers a significant cultural and natural heritage reference for the Steeles West community. With close proximity to the Spadina Subway Extension, Steeles West will offer a gateway to the visitors coming to Black Creek Pioneer Village. At the same time the village can provide a landmark and notable heritage influence to the built environment of Steeles West.

Mobility Hub

As demands for public transportation continue to grow regionally, so, too, will the need for Steeles West to integrate the various modes into a seamless multi-modal hub. As part of the Province's Growth Plan and Metrolinx's "Big Move", Steeles West will include a York University-Steeles West mobility hub with a new TTC subway station. This subway station is part of an expansion of the Yonge-University-Spadina Line, connecting Downsview Station to the future Vaughan Metropolitan Centre. Although in the City of Vaughan, the Steeles West community directly borders the City of Toronto and will, therefore, be an important transit hub for not just the TTC but also York Region Transit, GO Transit and possibly other regional transit agencies. With such a transit focus, Steeles West will also be an important place for pedestrians, cyclists and vehicular users and function as a transition point among commuters. The streetscape will have an ever important role in helping to accommodate safe and efficient access to all these services.

Streetscape Plan

Separated Yet Connected

Despite being physically isolated, the Steeles West District will be connected to neighbourhoods in the north and south by the Spadina Subway Extension. The mobility hub in the District will serve the needs of a much wider community and allow for Steeles West to be connected to a broader urban area. It is for this reason that the Plan must address varying expectations of a more complex urban condition. The area must integrate the needs of residents, commuting workers, visitors, shoppers, students, and transit users.

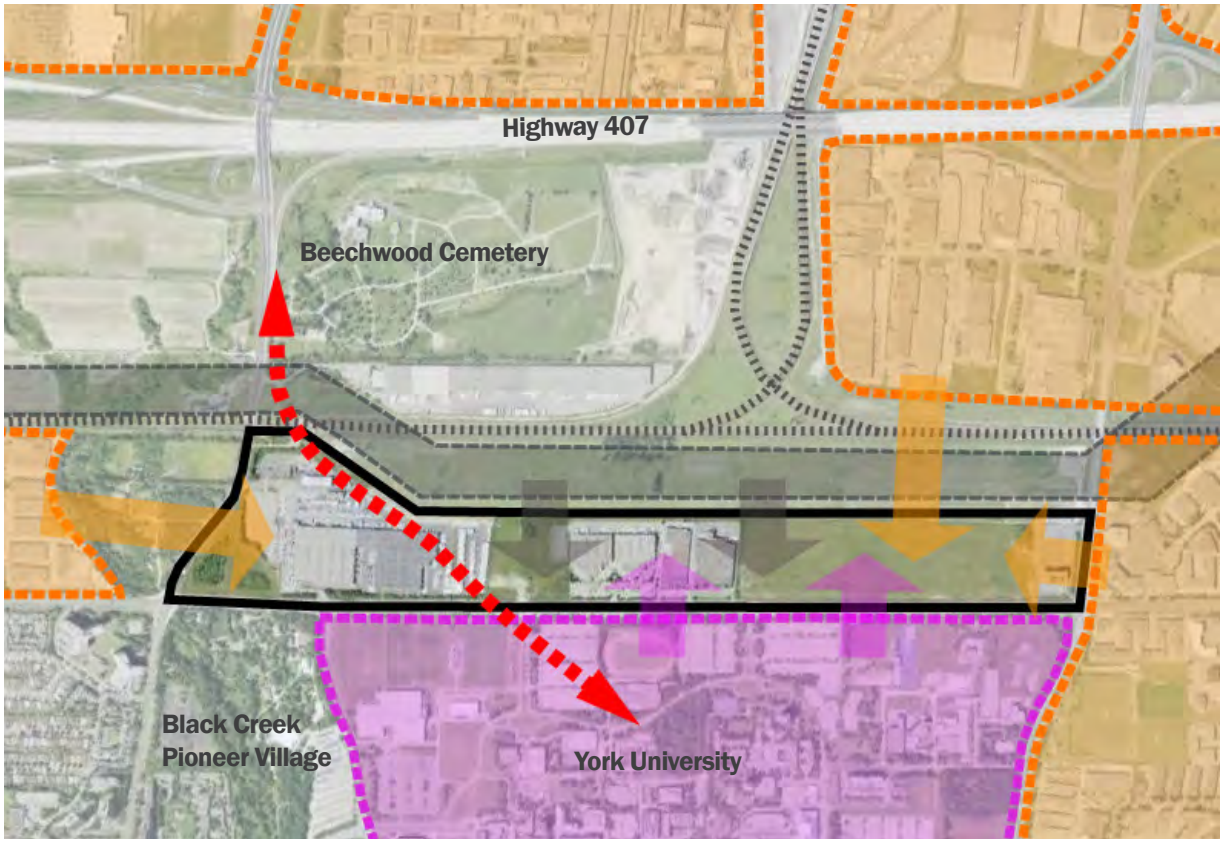


Figure SP. 1 Context Diagram

Study Boundary
York University
Employment Lands
Hydro Corridor
Future Spadina Subway Extension
Rail Corridor

Streetscape Plan

General Framework

The Streetscape Plan builds upon the Steeles West Secondary Plan street network and proposes a number of additional "local" streets that will help divide up the landholdings into suitable block areas for a walkable community.

New blocks should be sized to provide generous dimensions that accommodate efficient building and parking garage layouts (and/or underground parking structures).

Internal circulation of these blocks should be designed to work with the street network by providing appropriate access for drop-off, pick-up, parking and loading. Consolidation of these entries are encouraged to reduce the number of breaks in the streetscape.

Several streetscape types have been identified throughout the District. The Steeles West Streetscape Plan clearly outlines this hierarchy.

North Promenade (Vaughan, ON)


Loading Bay (York University, Toronto, ON)


Steeles Ave view of York University


On-street Parking (York University, Toronto, ON)

Streetscape Plan

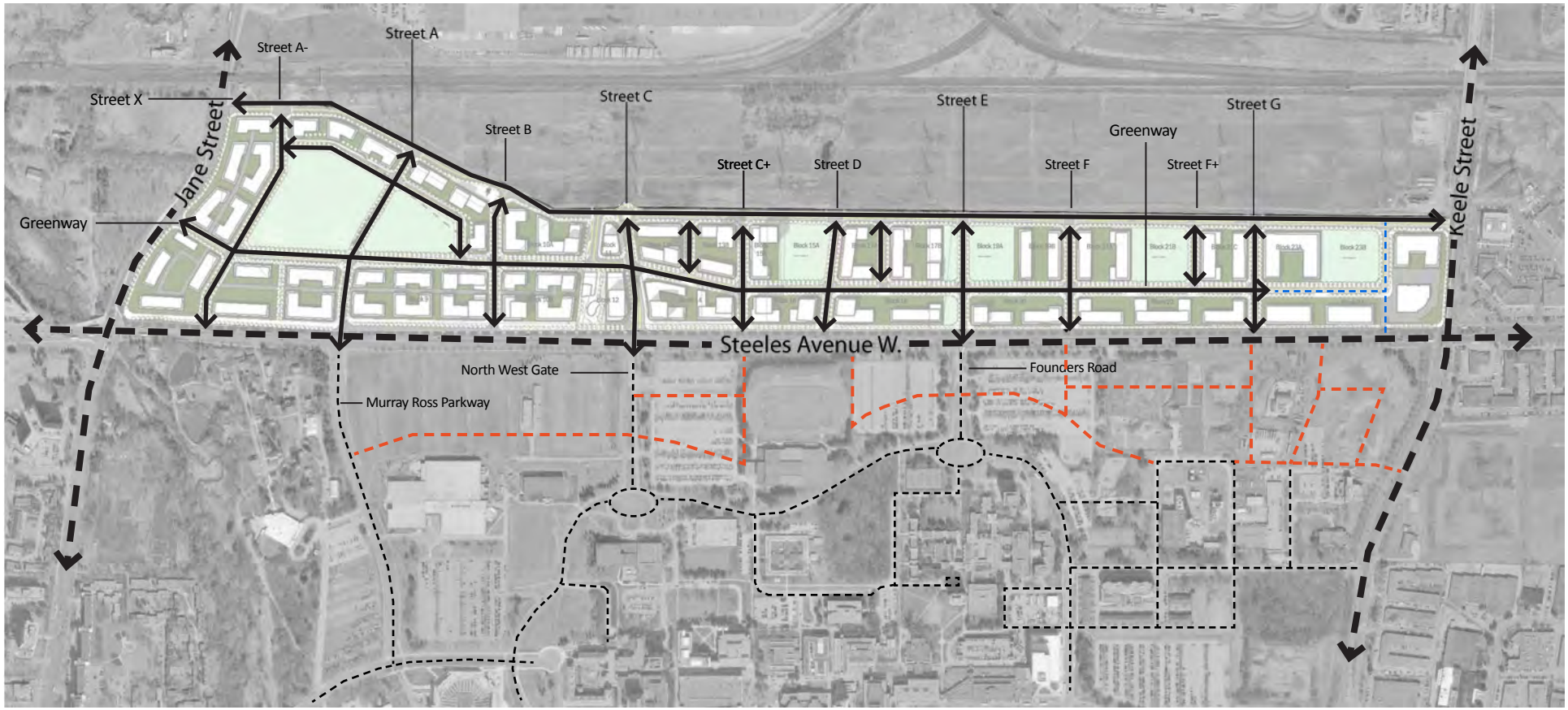


Figure SP. 2 Street Framework

Bounding Arterial Roads
Internal Street Network
Internal Roads to Milestones Properties
Existing Road Network through York University
Proposed Road Network expansion through York University
NOTE: Proposed Road Network is provided by recommended plan as outlined in York University Secondary Plan Update and Transportation Master Plan (October 2009)

Overall Character of Street Network

In defining the character of the street network it is important to understand a multitude of user expectations. It is also critical to note that the Steeles West community will need to balance differing spatial scale and levels of activity, with some areas being more neighbourhood-oriented and other areas bustling with urban activity. The street network will play a vital role in defining these spaces and how they are perceived.

Queens Quay (West 8 Competition, Toronto, ON)

Exchange of the Multi-Modal System

The Steeles West District is envisioned as a sustainable urban community with an emphasis on diverse mobility opportunities. A significant portion of the Steeles West Secondary Plan area is recognized as a "mobility hub" by Metrolinx. With the advancement of the Spadina Subway Extension, the District anticipates a variety of modes which will facilitate a more holistic transportation system. Historically, this has resulted in conflict between automobile users, cyclists, incoming transit systems, pedestrians and supporting facilities. Through the Streetscape Plan, Steeles West will plan for appropriate spatial requirements which meet the needs of each transportation user and ensure that provisions are made for comfortable exchanges between each mode, thereby minimizing conflicts.

Within the 2011 Metrolinx Mobility Hub Guidelines, the York University – Steeles West Station will be designated as a "Unique Destination", a typology within the urban context. As part of a transportation focal point it is recognized that this mobility hub will be centred upon the distinctive nature of York University which is anticipated to be a "large trip generator". As a "Unique Destination", a wide variety of transportation needs will need to be met through the design of the overall streetscape, thereby further reinforcing the advancement of a multi-modal streetscape throughout the Steeles West District.

Safe Streetscapes

Just like any other space in the city, streetscapes have a responsibility to contribute to a safe environment. The City of Vaughan has actively incorporated Crime Prevention through Environmental Design (CPTED) principles into their planning process for reviewing development applications; however, it is important to note that many of these same principles need to be applied to streetscapes and the exchange between the public and private realm. Carefully planning for continual views along streetscape corridors can help to improve natural surveillance. This can be achieved through defining the right type of street furnishings, planting and pedestrian scale lighting (particularly in places of high pedestrian activity), as well as avoiding rear-lotting against public streets. In limiting access points into development parcels, we can also ensure that a clear exchange exists between the public and private realms and can help to define a system of natural access control upon private property. This measure can also help in reducing breaks in the streetscape. Maintaining a quality environment is also important in giving residents and commercial owners a sense of ownership of their community.

Streetscape Plan

Apart from personal safety and security the overall streetscape designs for Steeles West will also need to offer safe functional use on a day to day basis. As a result streetscape details should include durable site furnishings, low maintenance street tree and plant selections, and "non-trip" paving solutions. In order to further reinforce "safe streets", barrier–free design should be supported through the public and private realms. The entire pedestrian network must also be designed to be accessible. As being a focus of multi-modal movement, streetscapes need to take into account a safe exchange between users including pedestrians, cyclists, automobiles and modes of public transit. Such measures can help to promote streetscapes as comfortable and safe environments at all times of the day, which will be of particular importance to Steeles West residents and users.

St. George Street (Toronto, ON)

A Part of the Larger Public Realm System

The street network is a vital component of the public realm experience. In order to achieve this, a fundamental understanding of the role streets play in the community must be established. Streets are more than functional pieces of infrastructure; they are also places of social and cultural importance. They are seen as essential components to successful retail and commerce in the urban environment. They are places of movement as well as places of social interaction which give rise to a sense of place. Outdoor patios, wide sidewalks, large pedestrian queuing pads, site furnishings and seating walls can all help to reinforce streets as a place of gathering and community importance. Therefore, issues of microclimate should also be taken into consideration, thereby designing streets which are hospitable for all 12 months of the year.

This approach informs the character of the streets, despite their dimensions or role within the street hierarchy. The character of each street will be inviting, safe and multi-functional, which builds the basis of the urban fabric.

Place Making

Streets are much more than just devices of circulation; they are places that harbour social activity in the community. Their design is critical in giving sense of place and definition to how the Steeles West District will be perceived by residents and visitors alike. Using streetscapes for place making is achieved through understanding the role of the street and designing it to serve the purposes of its users, while invoking a noticeable character and experience. It is through the use of paved materials, site furnishings, lighting, physical arrangement of vehicular vs. pedestrian movement, defining areas of static activity, street trees, at-grade planting, the street wall, and iconic elements that place making takes shape. This section establishes a clear strategy for each of these items which helps the street network become a vital part of the community's identity.

Cherry Blossom (Chicago, IL)

Sustainable Streets

In an effort to reduce adverse impacts from the overall development of Steeles West, the District will look to employ a series of sustainable measures. The Steeles West Streetscape Plan outlines how sustainable streetscape design and engineering can help to reduce adverse impacts at both the human and urban scale.

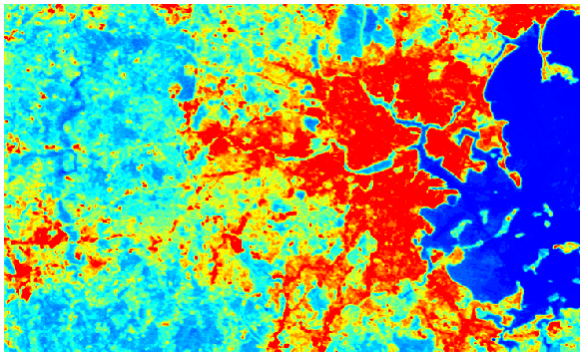
Advancing Urban Forestry

Robust street tree allocation will be advocated through the Streetscape Plan. This includes street tree planting along every street typology and the use of sufficient soil volumes to ensure survival of trees in the long term. In places with high volume pedestrian use, paved surfaces and constrained right-of-way widths, street trees will be planted using structural soil cell systems to maintain tree-lined streets in urban conditions (Street C). Mature street tree canopies provide at-grade improvements to micro-climate, while also advancing the urban forest canopy to the betterment of the wider context.

Streetscape Stormwater Management

Streetscapes offer a great opportunity to provide stormwater infiltration on site and reduce the need to redirect runoff to rearby ponds and watersheds. The Streetscape Plan outlines a conceptual network of bioswales and rain gardens as source controls, (subject to further study and detailed design). These Green Streets could provide localized infiltration and natural irrigation, providing stormwater relief, water quality improvement and aesthetic features to the streetscape.

Top Left: Bio-Swale (Seattle, WA)
Bottom Left: Rain Garden (Seattle, WA)
Top Right: Urban Heat Island Mapping (Boston, MA)
Bottom Right: Urban Forest Canopy



Streetscape Plan

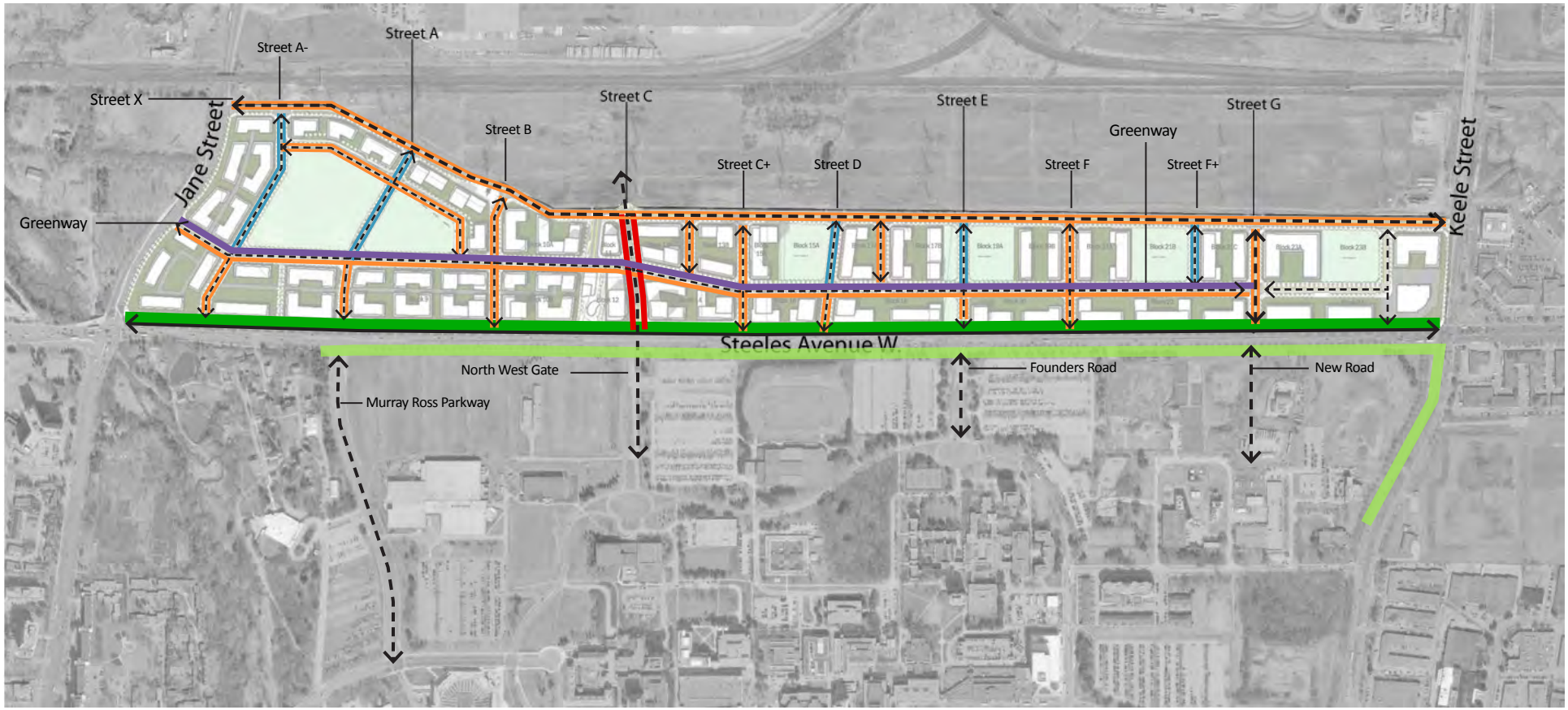


Figure SP. 3 Landscape Strategy & Stormwater Attenuation *

Street Trees in Urban Condition (use of structural soil cells/ advanced soil systems)
Street Trees in Continuous Plant Bed
Bioswales and Street Trees
Rain Gardens and Street Trees
Double Allee of Street Trees in Continuous Plant Bed
York University Landscape of Cultural Significance

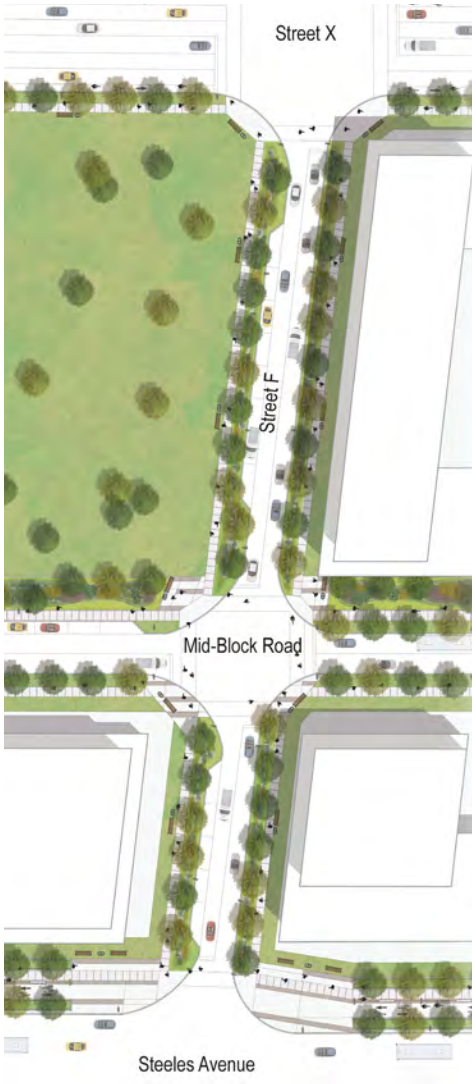
** Green Streets (Bioswales and Rain Gardens) are subject to further study and detailed design*

Streetscape Plan

Street Hierarchy

The Steeles West District will be made up of a development strategy which will yield unique spatial conditions throughout the District. Some areas will be more retail and commercial-oriented, while others will be neighbourhood-based. To appropriately address the needs of each, the Streetscape Plan must respond to the varying needs of the community. As a result, the Streetscape Plan identifies a street hierarchy and typologies which will address the multifaceted needs of residents, workers, visitors, and commuters.

Top: St. George Street (Toronto, ON); Mid Left: Humber Bay Shores Active Transportation (Toronto, ON); Mid Right: Sidewalk and Planted Edge (Brampton, ON); Double Allee (Brooklyn, NY)



Streetscape Plan

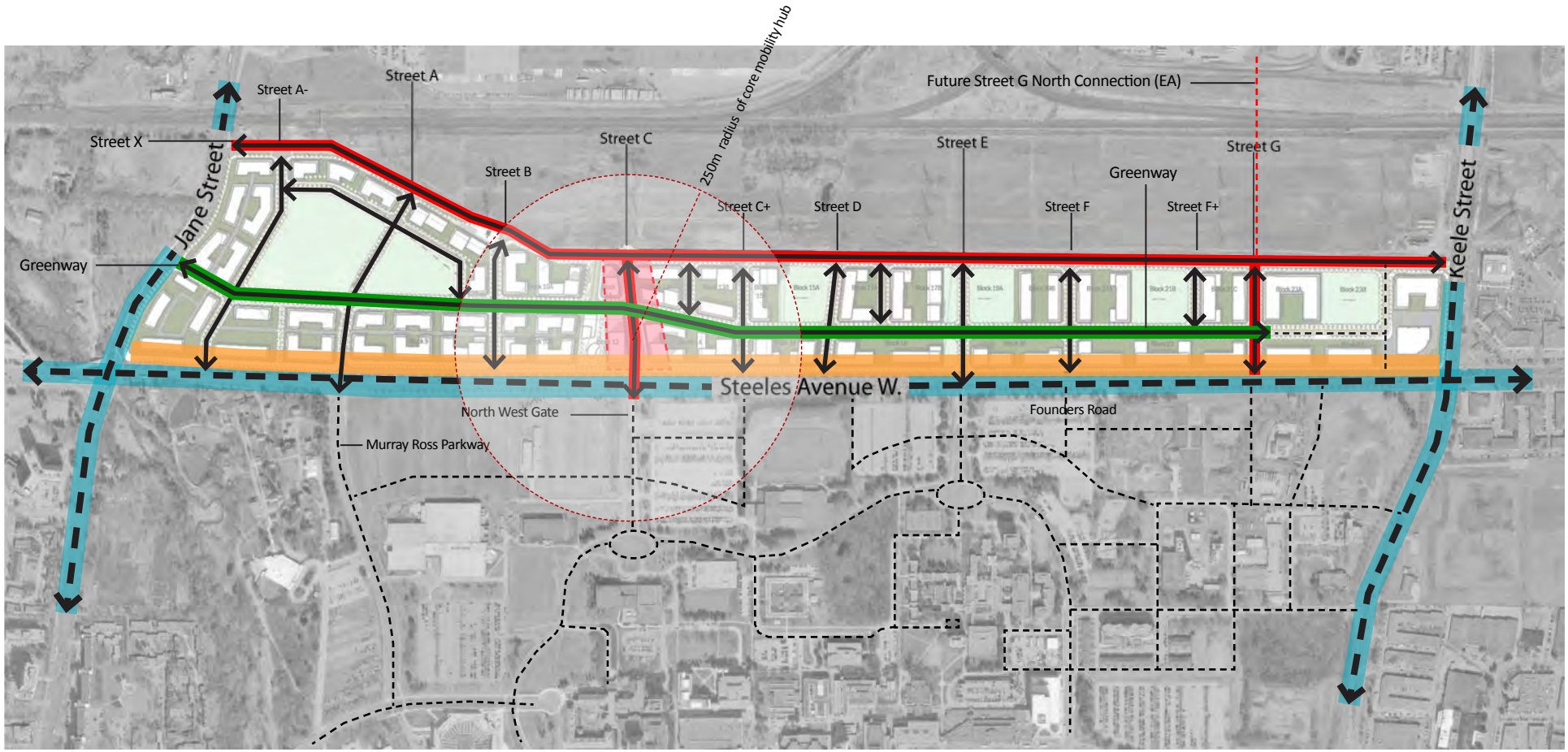


Figure SP.4 Streetscape Character

- *Primary Retail*
- *Priority Transit Connection*
- *Existing Transit Connections*
- *Greenway*
- *Ceremonial Edge*
- *Internal Minor Connections*
- *Contextual Connections*

Right of Way Dimensions:

17.5m ROW	*Greenway*
26.0m ROW	*Street C*
11.2m ROW (+/-)	*Steeles Ave. (Northern Blvd)*
26.0m ROW	*Street X*
23.0m ROW	*Street G*
20.0m ROW	*Street A B D E F (inter block connections)*

Pedestrian and Cycling Focus

The streetscape network for the Steeles West District is modeled after the concept of "complete streets" and advancing of active transportation infrastructure. The different contextual relationships and functions of each street informs how pedestrians, cyclists, transit and vehicular movements are best accommodated.

With a particular focus placed on walkability and cycling, the Streetscape Plan incorporates contextual linkages, proposed connections, commuter needs, pedestrian and cycling, as well as expected growth in demands of active transportation facilities. As a result, the pedestrian and cycling network includes a variety of classifications to help define a formal approach to non-motorized movement throughout the community.

These classifications are based upon the needs of commuters (fast moving, direct connections, high volumes at peak hours) and passive users (slower pace, indirect and meandering movement, consistent low volumes).

The classifications assigned to each street are also tied to contextual relationships to transit amenities (including demands of the mobility hub), retail activity, association to open space, projected vehicular speeds/volumes, and linkages to existing and future connections within Vaughan, York University and the City of Toronto.

Taking these variables into consideration impacts the widths of pedestrian sidewalks and character of cycling facilities upon each street. Varying widths of pedestrian sidewalks, dedicated cycling lanes, sharrow lanes, offroad cycling tracks and a mixed-use active transportation path are all utilized throughout the Steeles West District.

The provision of short term bike parking within streetscapes should follow the strategy and design criteria outlined in the "Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy". The Streetscape Components Matrix in this Streetscape Plan (page 129) specifies all street furnishings including bike stands.

St. George Street - Road Distribution of Various Modes (Toronto, ON)

Separated Cycling Track along Road (Portland, OR)

Off Road Cycling Trail (Toronto, ON)

Streetscape Plan

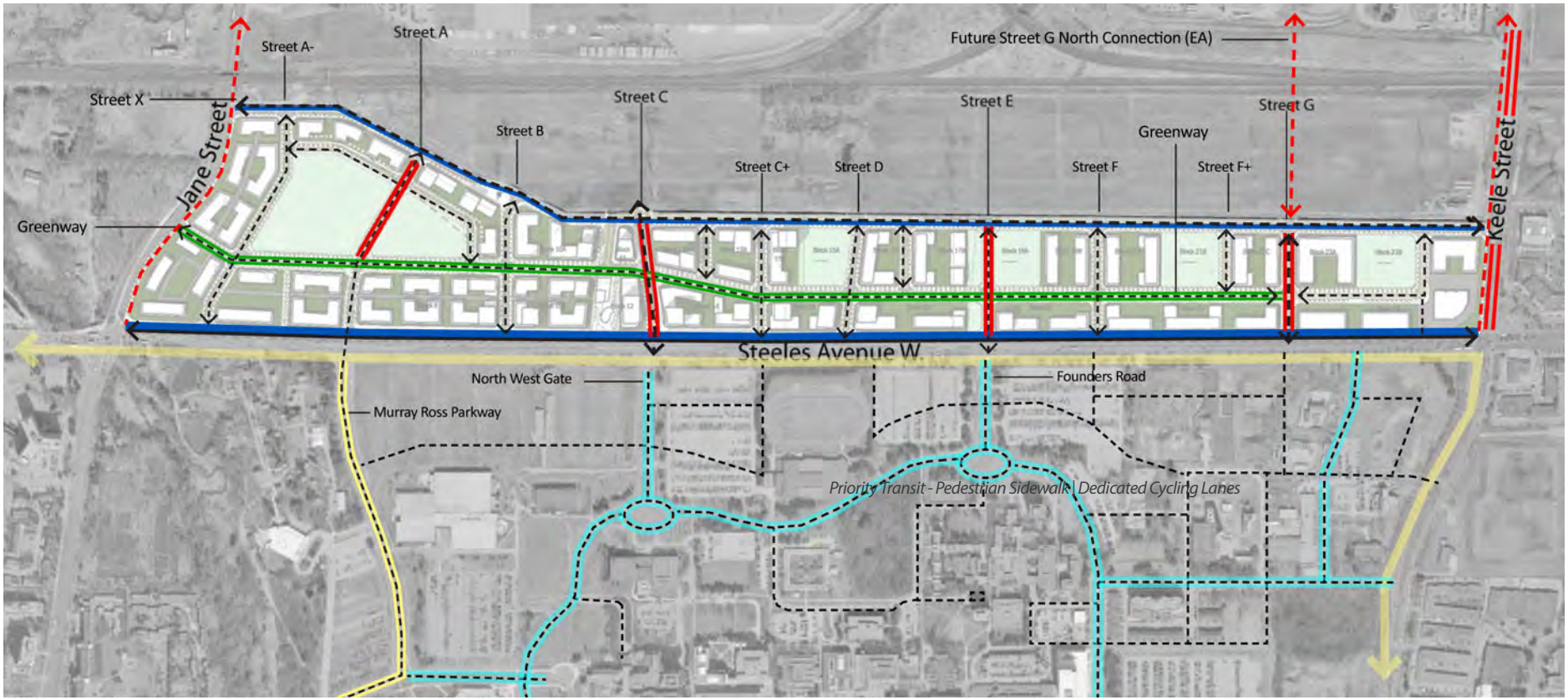


Figure SP. 5 Pedestrian and Cycling Network

Priority Transit - Pedestrian Sidewalk | Dedicated Cycling Lanes
Greenway - Pedestrian Sidewalk | Sharrow Lanes
Ceremonial - Pedestrian Path | Offroad Cycle Track (single sided)
Street X - Active Transportation Path

Local Roads - Pedestrian Sidewalk | informal Cycling Connection
Future Connection to City of Vaughan Cycling Network
Future Offroad Cycling Connection to City of Toronto Cycling Network
Future Signed Routes to City of Toronto Cycling Network
York University Proposed Cycling Lanes Network
(Secondary Plan and Transportation Master Plan)

NOTE:
The Keele Street Environmental Assessement has determined the overall profile of the future R.O.W. According to the EA, Keele Street will have a 1.5m (min.) sidewalk and a dedicated cycling lane.

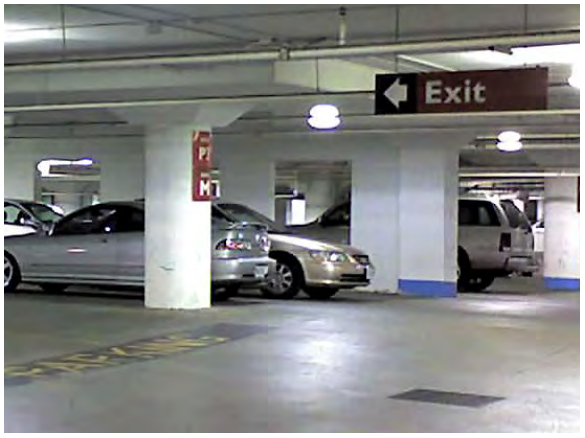
Public Parking Strategy

As a multi-modal community it is important for the Steeles West District to adequately accommodate the needs of car users. Appropriate parking stock accessible to the public will be assessed through a parking study; however, the overall streetscape plan also plays an important role in including parking at strategic locations. It is understood that a surface commuter parking lot will be located within the hydro corridor, north of Street X. In addition, underground parking will be allocated to buildings along Street C, and portions of these facilities should be made available for public use. These facilities will assist in providing primary parking stock to serve the needs of the mobility hub, including transitional mode users, and regional patrons of the retail, office and commercial amenities along Street C.

Beyond the Street C and the transit facilities, the Steeles West District will have more of a residential/commercial mixed-use focus. The community feel will be highlighted with on-street parking on selected streets, including most north south streets (north of the Greenway) as well as along the Greenway adjacent to open space and development blocks. It is anticipated that parking needs of residents will be located in underground parking facilities associated to each block. These public on-street parking facilities will then serve the needs of visitors to the Steeles West District. They will also act as overflow parking during times of peak use of transit facilities and events.

TTC Finch Station east parking lot

Public underground parking entry (Boston, MA)



Public underground parking

On-Street meter parking (Charlotte, NC)

Streetscape Plan

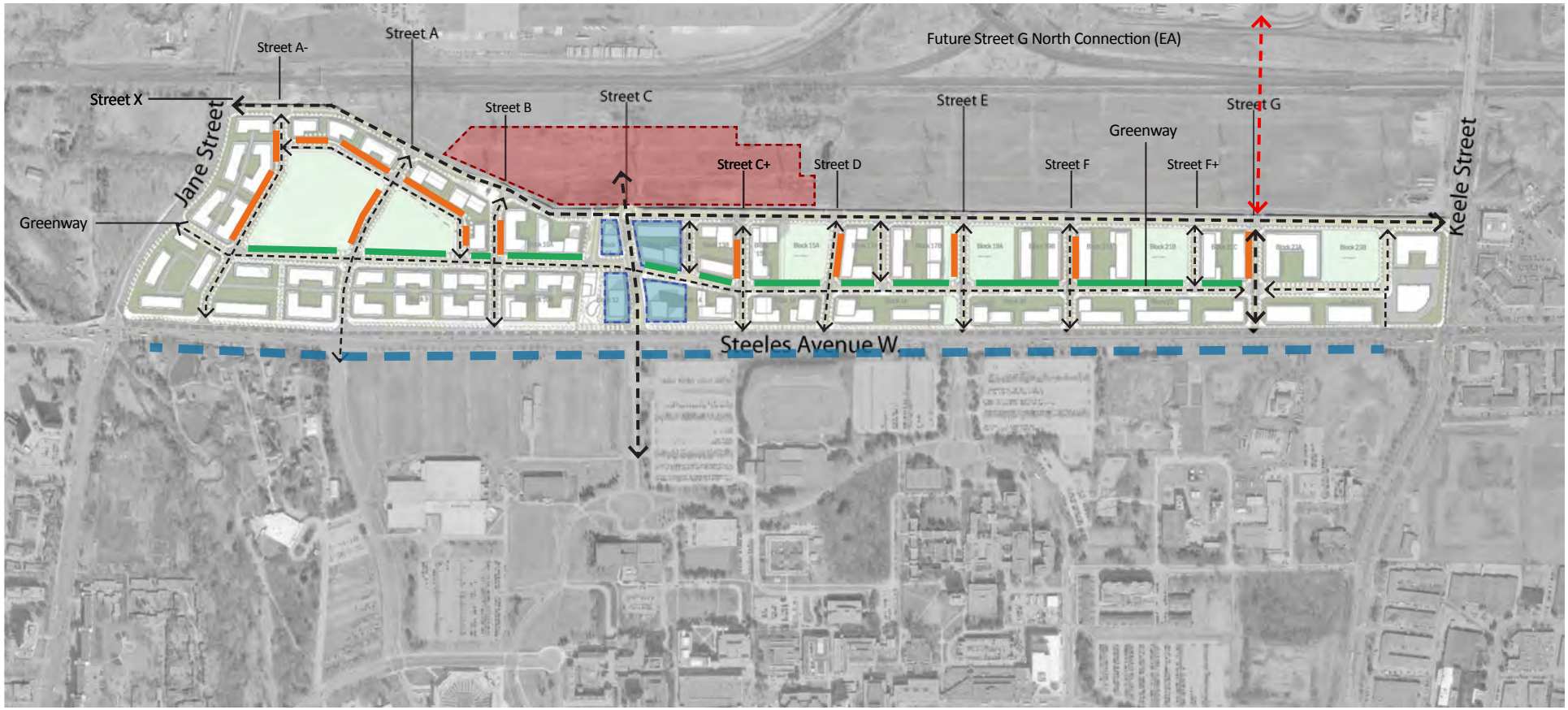


Figure SP.6 Public Parking Strategy

- *TTC Commuter Parking Lot (preliminary footprint)*
- *Paid Underground Parking for Public Use*
- *Greenway On-Street Parking*
- *North-South Minor Street On-Street Parking (See Bike Lane Alternate for Streets A and E)*
- *Future On-Street Parking (to be determined by City of Toronto)*

Streetscape Plan

ICONIC STREETS

Mid-Block Local Road "Greenway" (17.5m)

The Mid-Block Local Road or "Greenway" is the central east-west spine of Steeles West District life. It is a critical neighbourhood linkage which ties together the community's public places, civic spaces and the mobility hub. The Greenway is a 17.5m right-of-way (ROW) that works in conjunction with added setbacks on both the north and south sides. The southern setback will be mainly a landscape treatment and will be determined during site plan application.

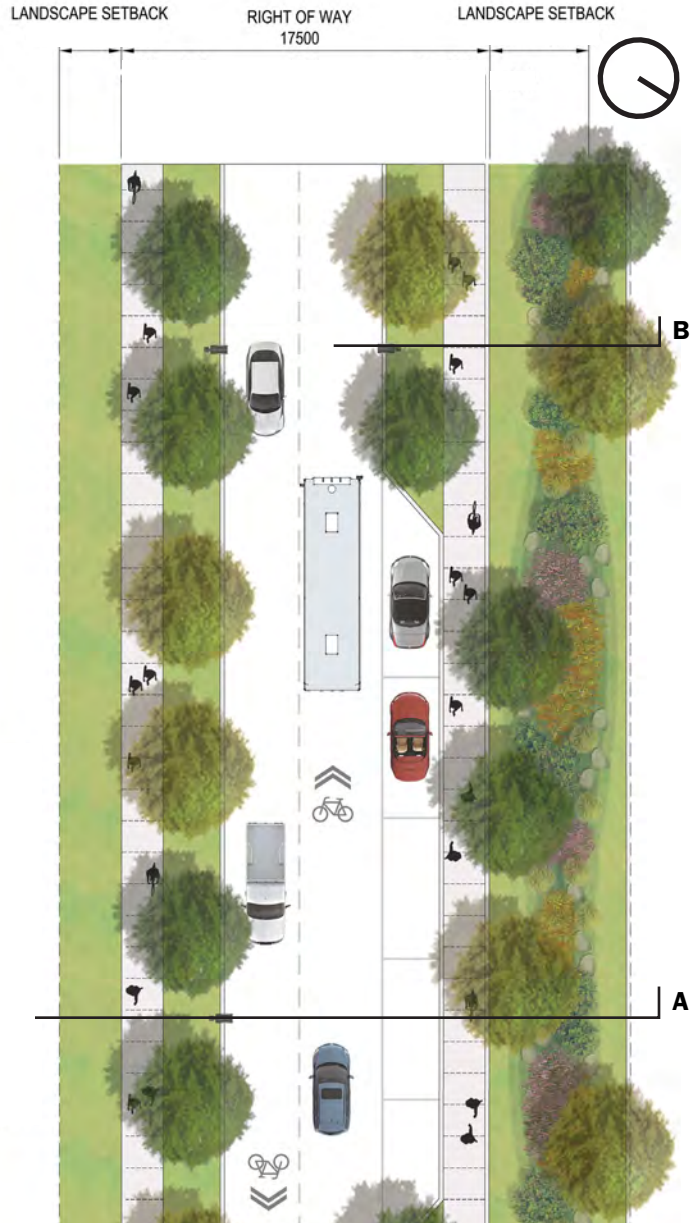
The southern setback is envisioned to be largely planted; however, in special conditions hardscape should be considered to support at-grade commercial activity, particularly when facing parkland on the opposite side of the street.

The northern setback is designed to facilitate a near-continuous rain garden along the Greenway. This proposed rain garden would be designed to link directly to the bioswales along the north-south minor streets with a 20.0m ROW. *

The section of the Greenway, from south to north, includes:

1. Minimum 3000mm landscape setback.
2. 2000mm concrete pedestrian sidewalk.
3. Planting zone, with street trees. The planting zone will have street trees placed 8m on centre.
4. Asphalt roadway. Roadway will accommodate both cyclists and motorists.
5. Asphalt on-street parking. Parking will be largely allocated along park blocks. Where parking is not needed, the boulevard will revert to a planting zone, with street trees placed 8m on centre.
6. 2000mm concrete pedestrian sidewalk.
7. Landscape edge treatment.
8. 7000mm rain garden designed with double allée of trees and overflow system.*

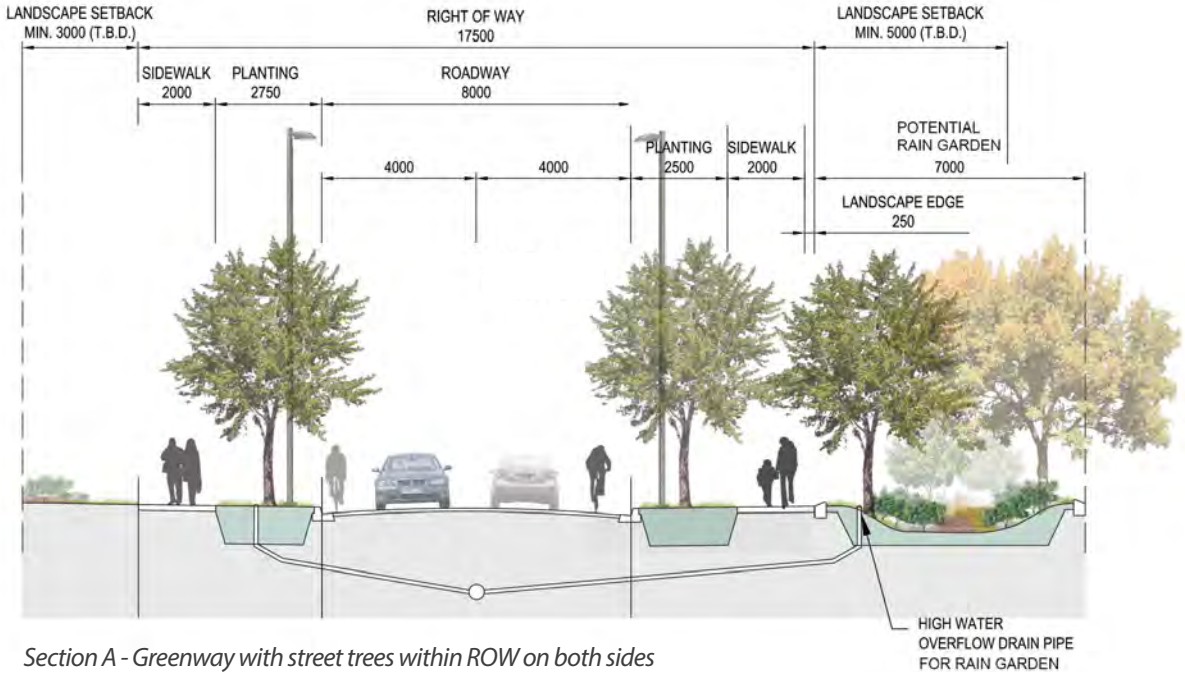
** Green Streets (Rain Garden) are subject to further study and detailed design*



Plan - Sample Section of Greenway

Streetscape Plan

The design philosophy behind the Greenway section is to introduce an asymmetrical design emphasizing the public realm on the north side of the street. This allows for clear pedestrian access to the community parks which are all located on the northern side of the street. As a result, the design also aligns the parking along the north side to further frame the park spaces with added street activity. On-street parking will be allocated where feasible to support the mobility hub and parks. Cyclists and vehicles share the travel lanes, thereby encouraging recreational riders to utilize the Greenway at lower speeds. The intersection at Street C will accomodate wider paved areas to support high pedestrian volumes, further supporting the mobility hub. Traffic calming and enhanced public realm measures, such as curb extensions and pedestrian crossings, should be employed wherever possible.



Section A - Greenway with street trees within ROW on both sides

** Green Streets (Rain Garden) are subject to further study and detailed design*

Section B - Greenway with on-street parking on north side

Street C (26.0m)

As part of the core mobility hub, Street C is the most important gateway, link, and street destination in the Steeles West District. As a northern extension of Northwest Gate from York University, Street C connects transit facilities, including two bus terminals located north and south of the Steeles Avenue, the new subway station, and supporting commuter parking facilities within the hydro corridor.

Street C will be an active, multi-functional and multi-modal street and as such, is designed to accomodate the greatest amount of pedestrian activity within the District. As the key primary retail street, boulevards must support retail commercial viability and offer amenities for mobility hub pedestrian (and cycling) traffic. To spatially accommodate projected pedestrian volumes, street trees will be planted using structural soil cells to maximize walkable surface area between the curb and property line.

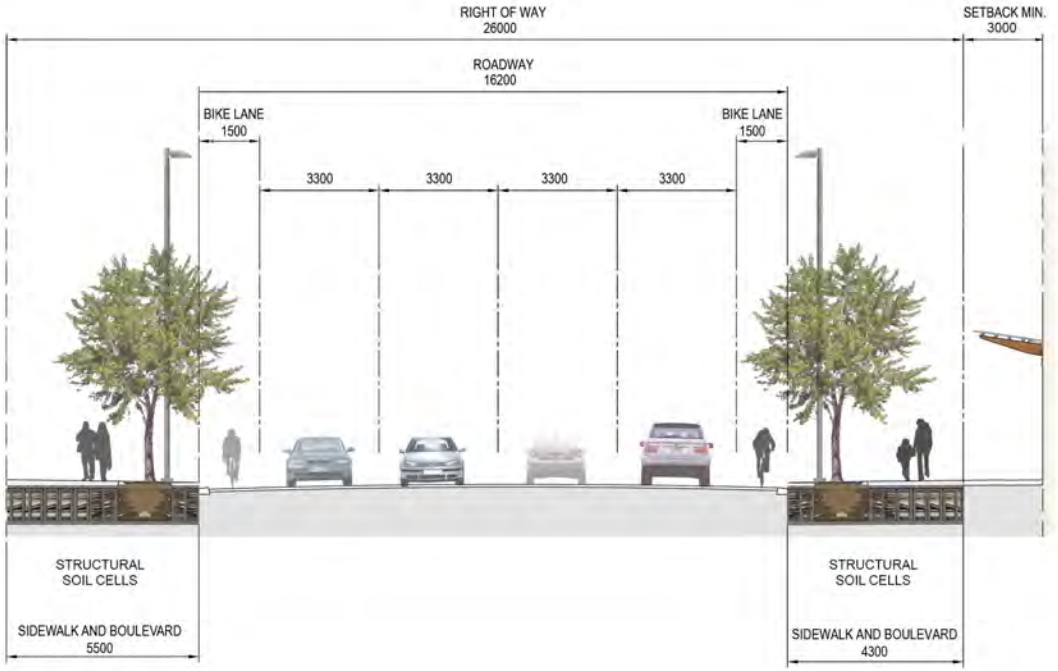
Outdoor Patios (Montreal, QC)

Street C section, east to west, includes:

1. **Minimum 3000mm at-grade building setback. Setback must be constructed of hardscape materials to complement the public boulevard.**
2. **Minimum 4300mm sidewalk and boulevard treatment. Sidewalk and boulevard to be constructed of hardscape materials (combination of concrete and unit paving).**
3. **Street trees planted in soil cells.**
4. **Minimum 1500mm dedicated bicycle lane (northbound).**
5. **16200mm asphalt roadway. Roadway is 3300mm x 4 travel lanes (2 lanes each way).**
6. **Minimum 1500mm dedicated bicycle lane (southbound).**
7. **Minimum 5500mm sidewalk and boulevard treatment. Sidewalk and boulevard to be constructed of hardscape materials (combination of concrete and unit paving).**
8. **Street trees planted in soil cells.**

Note: Final location and extent of structural soil cells, street trees and lighting, and their coordination with underground utilities ,will be determined through detailed design.

West Side *East Side*



Streetscape Plan

Plan - Conceptual Layout of Street C

The design philosophy behind Street C is to create a comfortable and safe urban streetscape designed to maximize space for pedestrian flows and activities within the ROW as a public space destination in itself, while also allowing for cyclists, transit and vehicles to travel through this link.

Street C is designed with a flexible framework to accomodate growth and change as the mobility hub develops.

The street layout is an asymmetrical design and caters to indoor-outdoor spaces which are expected to emerge from the at-grade retail, restaurants and services located within the buildings fronting both sides of the street.

A sun model determined that the east side of the street will be more attractive for outdoor café/ dining uses as the sun will be directly overhead after 12pm. It will continue to provide natural light to the east side until the western building's shadows cross the ROW. As a result, Street C will require a larger setback along the east side of the street to achieve a wider boulevard space. There will be a maximum of 3m depth from the face of the building for semi-private commercial space.

The west side of Street C is designed to a minimum boulevard width of 5.5m within the ROW, which allows space to support commuter pedestrian movement to the YRT bus terminal and subway entry located along the west side of the street, and the associated urban retail anticipated to meet the needs of commuting pedestrians and the Steeles West District.

Street C will also provide short-term bike parking to address possible overflow of bike parking surrounding the subway station.

Streetscape Plan

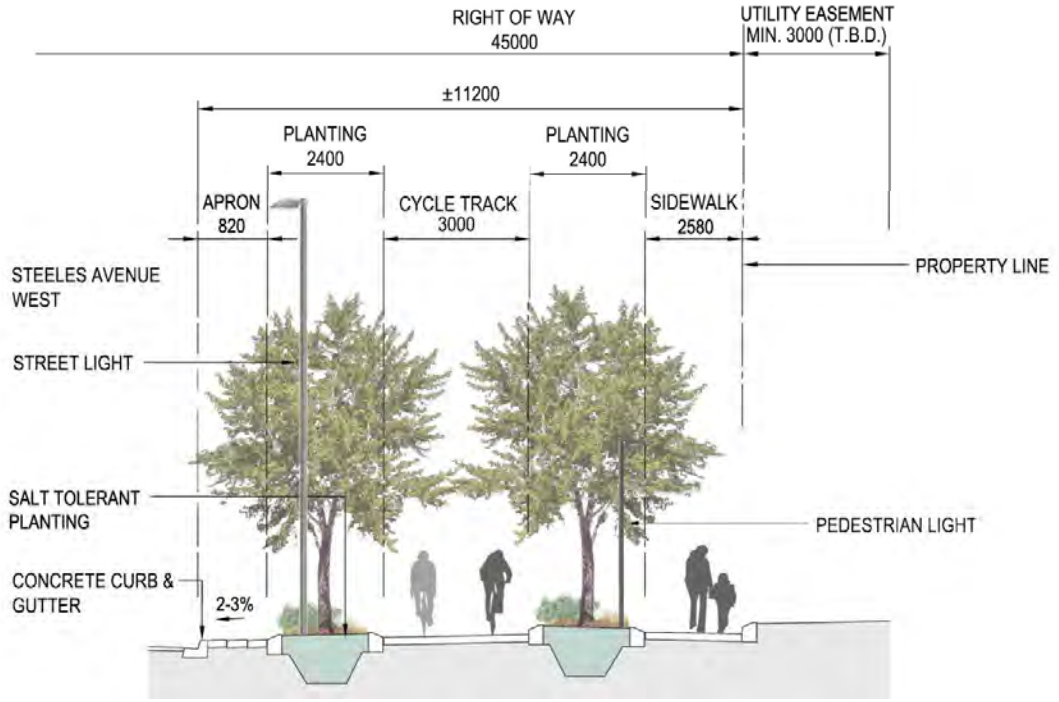
Steeles Avenue (North Side) (+/-11.2m)

The Steeles Avenue cross section outlines the design for the north side of the street located within the City of Vaughan. The streetscape design has been developed in coordination with the City of Toronto and York University from the north curb line to the property line and outlines the proposed setback. The section includes, from south to north:

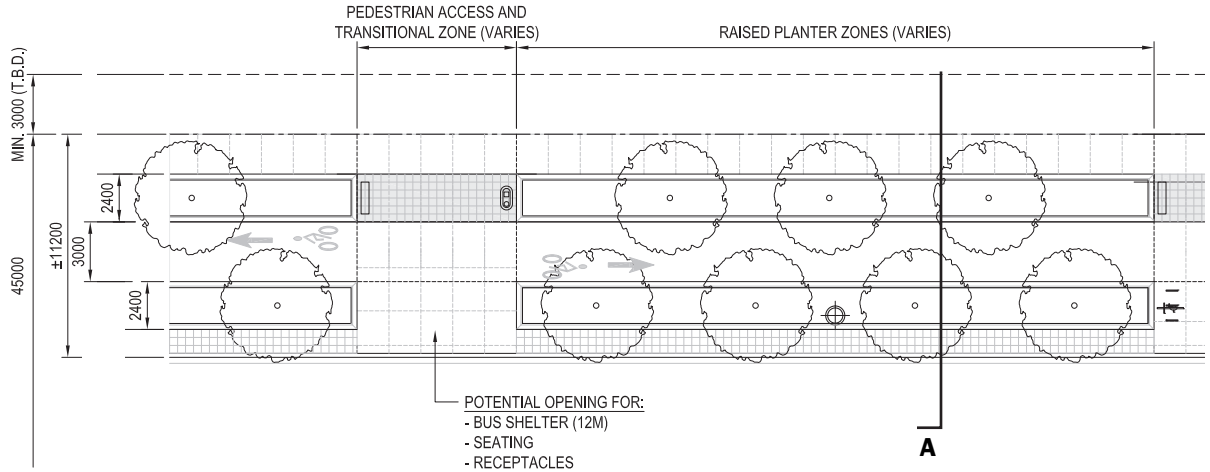
1. **820mm apron (splash guard) against the curb.**
2. **2400mm planted boulevard with street trees (ability to allow street lighting), planted 8m on centre in a continuous soil trench, as per City of Toronto Streetscape Manual Detail.**
3. **3000mm wide cycle track (will be converted to function as an east/west commuter cycle track upon full build-out of the Steeles West streetscape length between Keele to Jane).**
4. **2400mm planting zone with street trees, planted 8m on centre (in a continuous soil trench).**
5. **2580mm concrete pedestrian sidewalk.**

NOTES:

Varying width unit paver access points and transitional zones will be introduced based upon site specific conditions. These zones will allow for periodic furnishings including seating, receptacles, pedestrian lighting and bus shelters. In locations where bus shelters are permitted these zone must be a minimum width of 12m. Fire hydrants and other utilities will be placed on the curbside apron.



Section A - North Side of Steeles Ave. Cycle Track & Pedestrian Sidewalk (Typical)



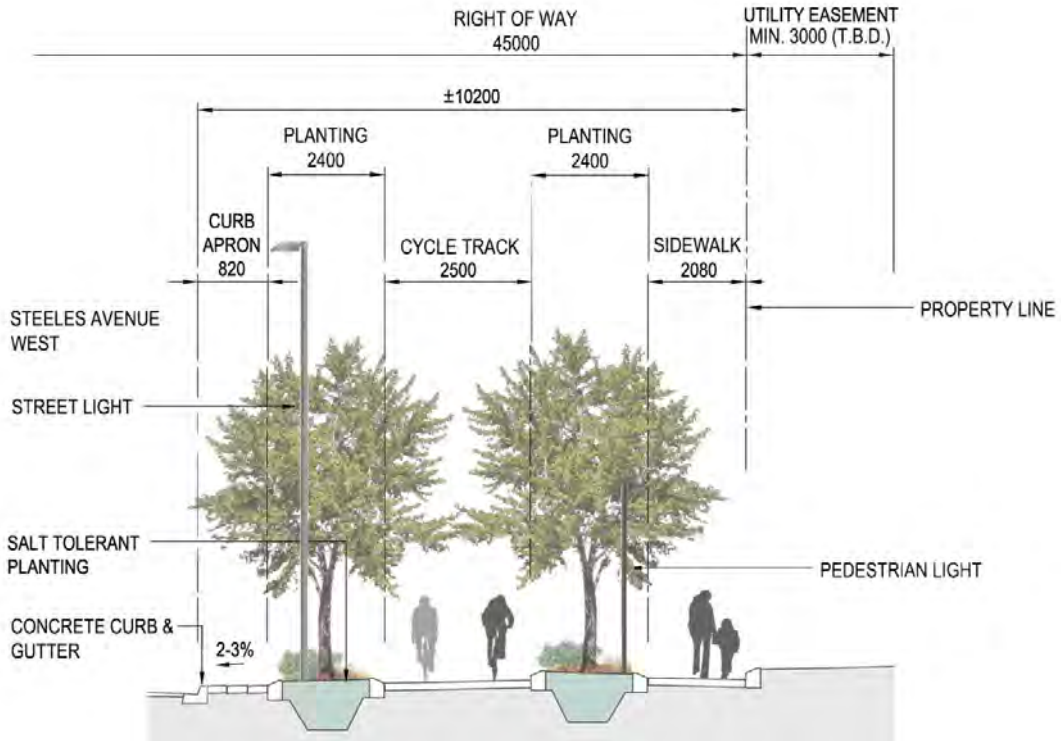
Plan - North Side of Steeles Ave. Cycle Track & Pedestrian Sidewalk (+/- 11.2m Typical Condition)

Streetscape Plan

The design philosophy behind the Steeles Avenue streetscape is to create a comfortable commuter cycling and pedestrian environment and to complement the York University campus streetscape on the south side, including the cultural heritage landscape. This is achieved through a double row of trees to soften the extent of hardscape throughout Steeles Avenue, while providing generous cycle lanes and sidewalks. It is expected that Steeles Avenue will be a commuter route for cyclists as it will have less interruptions than the Mid-Block Greenway. Therefore, a planting zone has been designed to avoid pedestrian/cyclist conflict. The concept is based on similar conditions where separation of cyclists and pedestrians is warranted, comparable to the Martin Goodman Trail along the Toronto waterfront.

Steeles Avenue (North Side) Atypical Conditon (+/- 10.2m)

Due to isolated constraints in the width of the boulevard, particularly outlined along the eastern end of the Study Area , a streetscape design for the "atypical" condition of 10.2m (width) is provided. In order to keep with the same design philosophy of the typical condition, the cycle track can be reduced to 2.5m, and the width of the sidewalk reduced to 2.08m. These reductions in width will allow for a continuous double allee along the entire length of Steeles Avenue West.



Section B - North Side of Steeles Ave. Cycle Track & Pedestrian Sidewalk (+/- 10.2m Atypical Condition)

City of Toronto Standards for Steeles Avenue

The City of Toronto will maintain certain portions of the North Side of Steeles Avenue West. City of Toronto Road Operations maintains grass cutting in summer on both sides of Steeles Avenue except business development areas. City of Toronto Road Operation does not, however, perform any winter maintenance on the North Side of Steeles Avenue except for bus stops. It also does not maintain or make repairs to the sidewalks but will make repairs to the cycle track. Should the City of Vaughan decide not to maintain the cycle track during the winter the City of Toronto will install "No Winter Maintenance" signs.

All tree planters and street tree pits will be constructed to the City of Toronto street tree standards (as outlined in Toronto Streetscape Manual, including Toronto Street Trees: Guide to Standard Planting Options). The City of Toronto T-1A Continous Soil Trench: Open Planting Bed and Concrete Sidewalk detail with a low curb will be used for all planters along Steeles Ave West in this location. In addition, street furnishings, signage and markings will also be designed to meet the City of Toronto standards. City of Toronto has approved the street tree species proposed in the Streetscape Plan.

Refer to the Streetscape Components Matrix or the Toronto Streetscape Manual for more information.

T-1 Open Planting Bed - City of Toronto

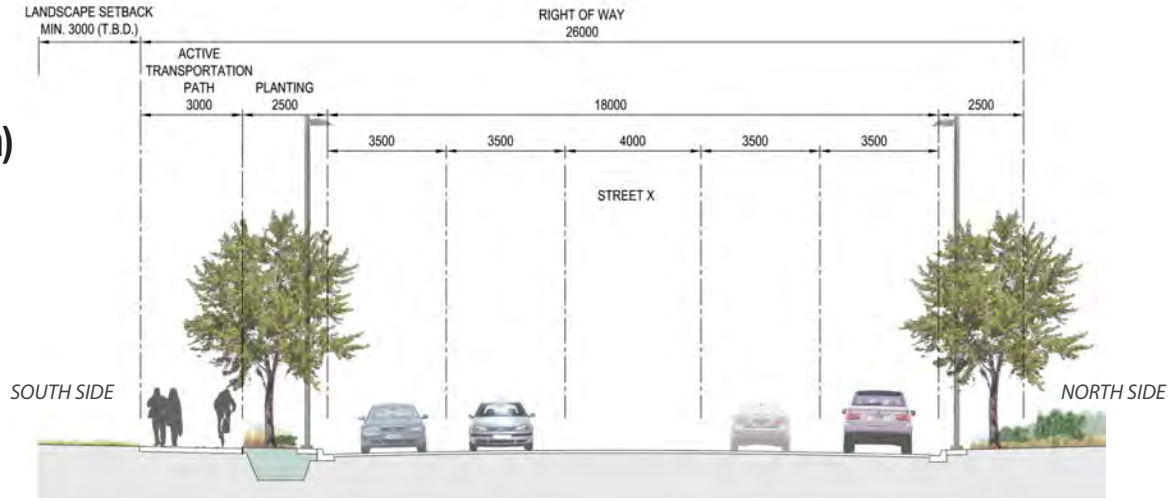
Streetscape Plan

EAST - WEST STREETS

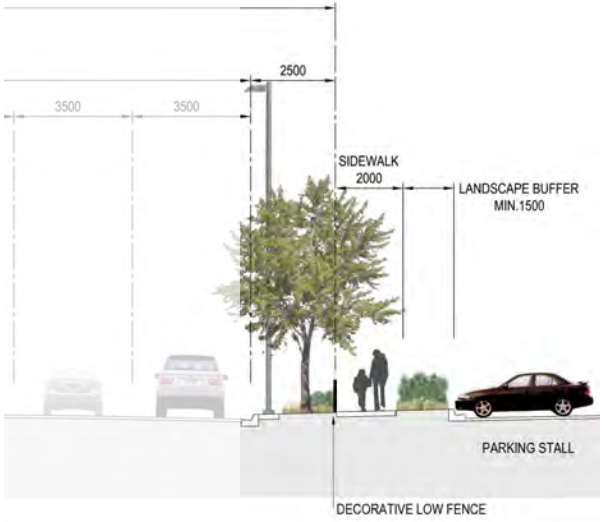
Street X – East-West Collector Road (26.0m)

Expected to carry significant commuter traffic volumes, Street X, between Street "C" and Keele Street adjacent to the south property limit of the existing hydro corridor, is designed within a 26m ROW. This section, from south to north, includes:

1. **3000mm Active Transportation Path – mixed use pedestrian and bicyle path on the south side.**
2. **2500mm planting zone with street trees planted 8m on centre.**
3. **18000mm asphalt roadway. Roadway is made up of 3500mm x 4 travel lanes (2 lanes each way) and a continuous 4000mm left-turn lane.**
4. **2500mm landscape buffer. Buffer will be wide enough to accommodate proposed pedestal utilities and allow for planted strip to buffer against hydro corridor.**



Section A - Street X (Typical)



Section B - Street X against commuter parking

Street X (Typical)

The design of Street X should recognize its importance as a commuter road for cyclists and transit users as well as motorists. The illustrated section shown is modelled after the preferred option in the OPA 620 East-West Collector Road EA of May 2012. Through detailed design, it is recommended that lane and boulevard widths are optimized to also include a cycling facility on the north side. The utility/landscape buffer on the north side of Street X offers an opportunity to provide some barrier to the street from the windswept landscape of the hydro corridor, which will remain largely unaltered.

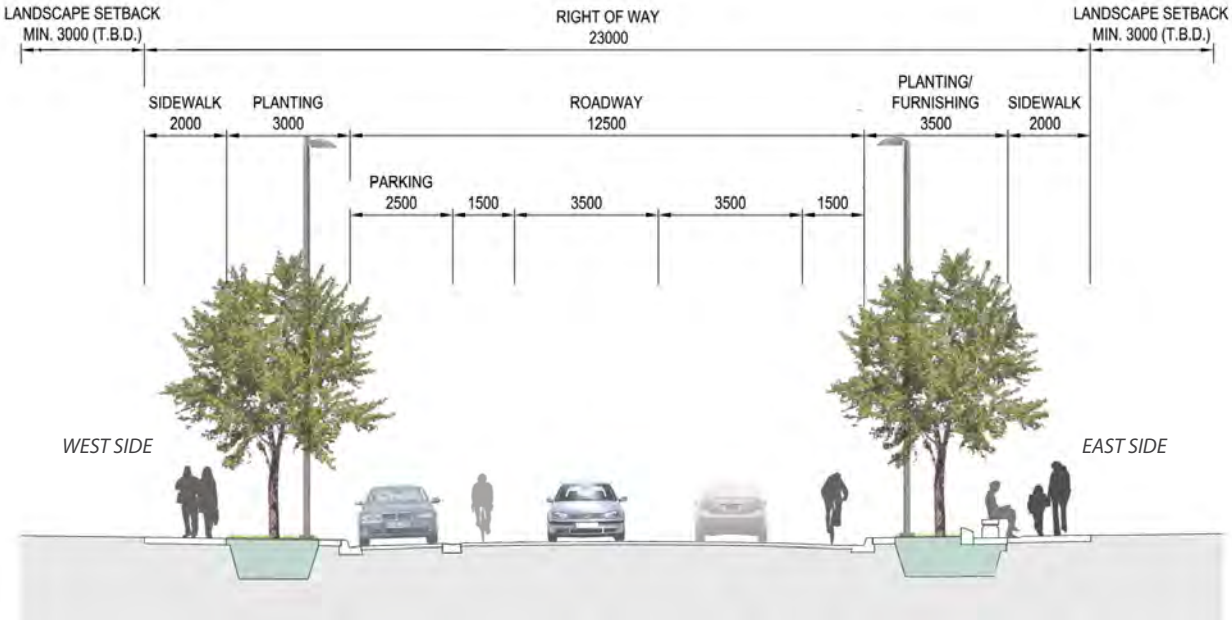
Street X at Commuter Parking Lot

The Steeles West Subway Station commuter parking lot and bus terminal will ultimately be serviced by Street X. An appropriate interface between Street X and the commuter parking lot could include a decorative low fence, accompanied by a concrete sidewalk and landscape buffer. The landscape buffer can also be designed to include a bioswale which can connect to the overall stormwater management network. This adjacent landscape treatment should occur outside of the 26m ROW in order to ensure a continuous row of street trees along the north side of Street X within the ROW and to protect for the utility corridor.

Street G | Local Street with Transit and Cycling Lanes (23.0m)

Street G is a local north-south street designed as a gateway location and to support public transit and cycling, as well as on-street parking. This section, from west to east, includes:

1. **2000mm concrete pedestrian sidewalk.**
2. **3000mm planted boulevard with street trees. Street trees will be planted 8m on centre.**
3. **2500mm asphalt on-street parking. Parking will be broken at strategic points to allow for pedestrian crossings and intersections.**
4. **1500mm asphalt dedicated bicycle lane (southbound).**
5. **7000mm asphalt roadway. Roadway is made up of 3500mm x 2 travel lanes.**
6. **1500mm asphalt dedicated bicycle lane (northbound).**
7. **3500mm planted and furnished boulevard with street trees. Street trees will be planted 8m on centre. The boulevard will also include bus stops, benches, receptacles and bike racks in appropriate areas.**
8. **2000mm concrete pedestrian sidewalk.**



Section A - Street G (Typical)

The design philosophy surrounding Street G is to allow for significant width for transit vehicles, while supporting dedicated lanes for cyclists. It is expected that both sides of the street will also be bounded by a landscape setback. On-street parking is assigned to support retail activity focused upon Street G.

Street G is also expected to be an important connection between York University and the Vaughan Metropolitan Centre. As road improvements on campus will connect York University to Street G, it is expected that Street G will extend northwards, through the hydro corridor, and connect with Highway 7 in the future.

Streetscape Plan

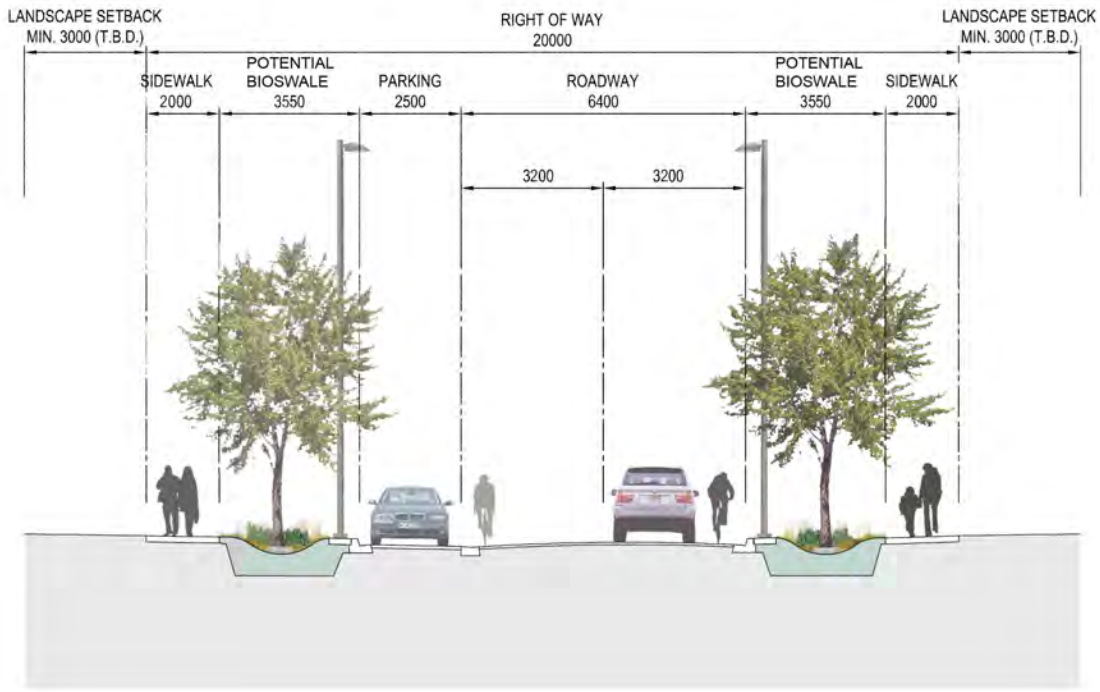
NORTH - SOUTH STREETS

Local Street without Transit (20.0m)

Street A-, A, B, C+, D, E*, F, and F+

Street F is an example of a local north-south street with no transit. Street F is designed to be a local community connection and is not for major volumes of vehicular traffic. This section, from west to east, includes:

1. **2000mm concrete pedestrian sidewalk.**
2. **3550mm planting zone (vegetated bioswale option).***
3. **2500mm asphalt on-street parking. Parking will be broken at strategic points to allow for pedestrian crossings and intersections.**
4. **6400mm asphalt roadway. Roadway is made up of 3200mm x 2 vehicular lanes.**
5. **3550mm planting zone (vegetated bioswale option).***
6. **2000mm concrete pedestrian sidewalk.**



Section A - Local Street (Typical)

With a narrower width, these local streets will be more comfortable for local cyclists compared to Street C and G (other north-south streets), which are expected to be more commuter focused.

The street section allows space for the future incorporation of bioswales designed to absorb stormwater run-off and also transport additional stormwater to rain gardens along the Greenway. Therefore, the bioswale allowance is wider than typical planted zones and boulevard conditions. Bioswales can contain street trees planted 8m on centre.*

It is also expected that both sides of the street will be bounded by a landscape setback.

***** An alternate cross section for Street A and E with bike lanes is to be determined through detailed design.**

** Green Streets (bioswales) are subject to further study and detailed design*

Jane Street

Although studied, the Jane Street Corridor is not part of the scope of this Streetscape Plan. Jane Street was subject to an environmental assessment (EA) at the time of this Study.

Jane Street is a visibly significant edge to the Steeles West District. The streetscape will be a focal point as it will demarcate a major gateway feature at the corner of Steeles Avenue, as well as a possible minor gateway feature at the intersection of the Greenway.

It is recommended that a formal connection to the cycle track along Steeles Avenue should be accommodated and landscape treatments help buffer pedestrians from the significant traffic volumes along Jane Street. Where possible, a double allee of street trees should be implemented. Consistent site furnishings and lighting standards should be identified for Jane Street through the section adjacent to the Steeles West District.

Streetscape Plan

NORTH - SOUTH STREETS

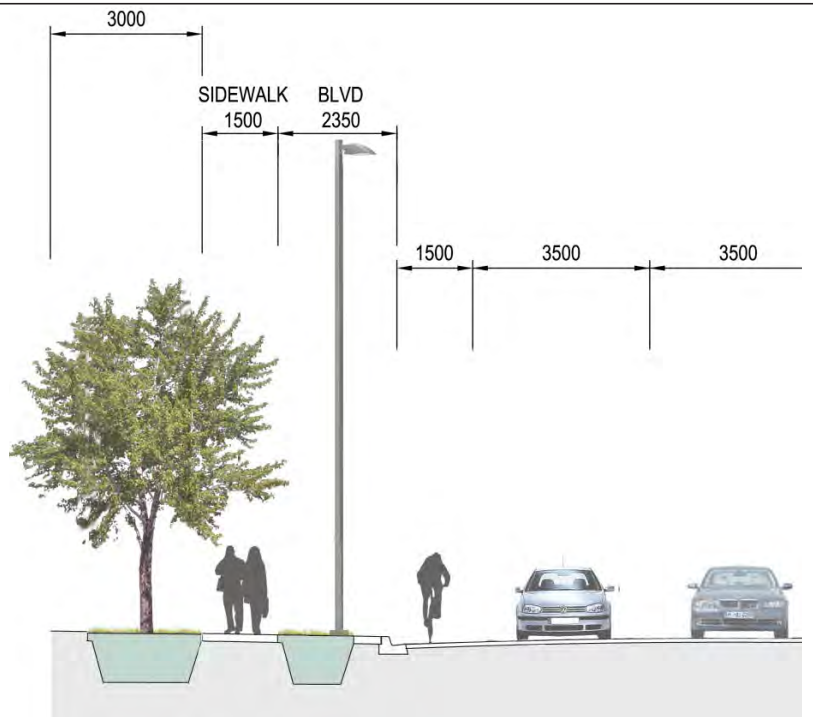
Keele Street

An Environmental Assessment for Keele Street between Steeles Avenue West and Rutherford Road was being conducted by York Region at the time of this Study. The Region has since completed the Class Environmental Assessment Study and the preferred option recommends a roadway section consisting of four 3.3m traffic lanes, two 3.5m HOV lanes, two 1.5m bike lanes and a central median planter. A 1.5m concrete sidewalk is flanked by a ROW widening strip as required, to be planted with street trees.

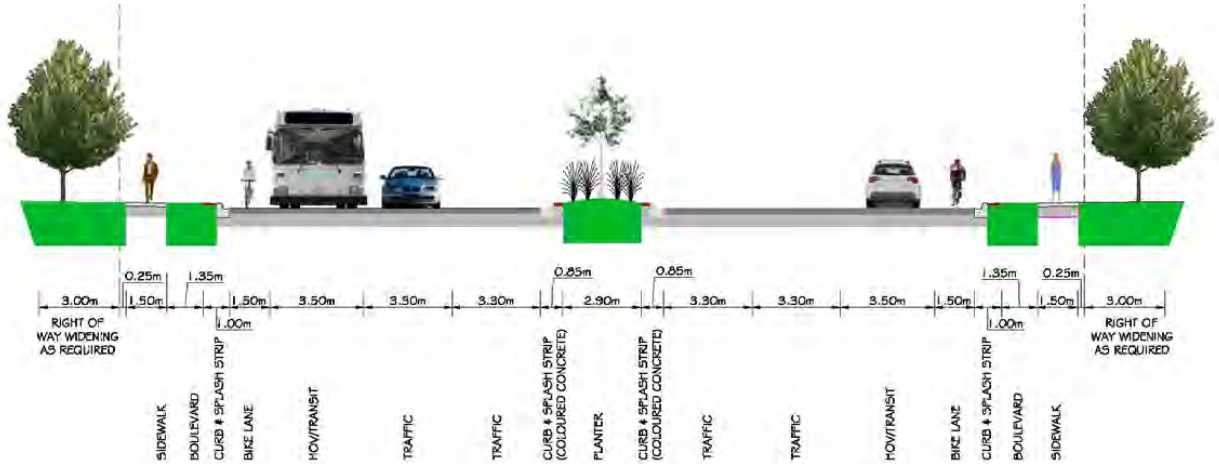
Beyond the ROW widening strip, there will be a landscape setback through the Steeles West District section of Keele Street. This setback will incorporate more robust planting and insular pedestrian pathways, providing additional landscaping and circulation opportunities between buildings and Keele Street. These measures will help ease the impacts of Keele Street's heavy vehicular volumes, particularly during times of peak flows.

NOTE:

The Keele Street section is subject to change pending detailed design by York Region.



Section A - Keele Street West Side (Typical - as determined by the EA)



Section B - Keele Street (Typical) - provided by York Region

Streetscape Plan

Character of Retail Streets

Within the Study Area, three essential conditions have emerged which define streets that can support retail:

1. Mobility Hub Retail Street (Primary)
2. Neighbourhood Retail Street (Secondary)
3. Parkland Supportive Retail Street (Tertiary)

These streets will act to support a variety of scales, and house both regional and community focused retail and services. The retail streets are critical in making Steeles West a complete community, encouraging walking and cycling as ways to move around within the District. The Streetscape Plan also calls for flexibility in areas to allow for adaptation, thereby promoting viability of business in active pockets of the community. Retail streets are designed to include spaces of transformation to allow for restaurant and commercial activity to spill into the public realm and further activate the streetscape. Appropriate setbacks of buildings and connection to public sidewalks is key in formulating a streetscape that can adapt to varying commercial needs.

Primary: Mobility Hub Retail Street

Metrolinx's Mobility Hub Design Guidelines outline a dynamic vision for transit oriented community. A clear benchmark for all planned mobility hubs is to include a measure of placemaking; Objective 5 outlines this measure as a "vibrant mixed-use environment with higher land use intensity".

Within the Steeles West Corridor, **Street C** is designed to take on the role of the active mixed-use environment, which supports the needs of the wider Study Area and community. Street C is designed as a retail street with wider sidewalks, generous street corners, street trees in paving, and site furnishings that allow for passive activity and support retailers. These measures will ultimately support a comfortable environment capable of handling high volumes of pedestrian flow, particularly at peak hours of transit exchange.

The built environment also responds to the needs of year-round pedestrian movement offering protection from the elements and a balance of sun and shade. Street C's retail focus also supports connectivity between moving from various modes of transportation. The introduction of unique paving materials, seating walls and lighting will enhance the experience of Street C.

Street C Concept Plan

Streetscape Plan

Magnificent Mile (Chicago, IL)

Magnificent Mile (Chicago, IL)

Secondary: Neighbourhood Retail Street

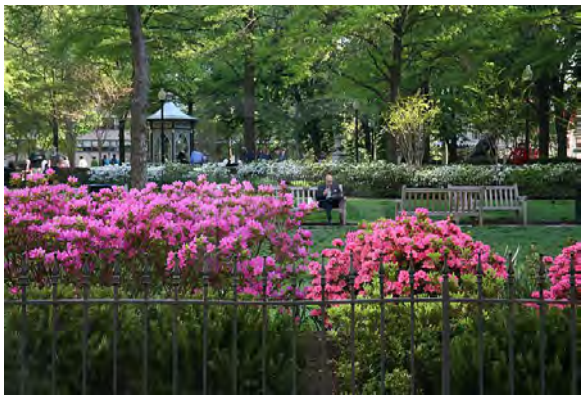
Neighbourhood retail opportunities will be designed to address the street and integrate with the urban mixed-use residential/commercial community. It is expected that these streets will have a more community related function, with retail businesses at street corners and intersections to maximize frontage and visibility. However, situations may arise where additional temporary attenuation is required to improve the business viability of particular commercial uses. In such an event, changes to the street will need to be discussed with City staff, bylaw controls and engineering to determine whether such adaptations should be permitted. This may include the need for temporary/ seasonal outdoor patios, special lighting or signage, and shade structures.

These neighbourhood retail streets are focused along the southern portions and intersections of Street A, Street E and Street G. Combined with Street C, the distribution of retail will ensure that the Study Area supports the five-minute walking radius model, whereby retail will be no further than 500m-600m from any given place within the Steeles West District. It is expected that the combination of the Mobility Hub Retail and Neighbourhood Retail Streets, will provide the District with a holistic commercial distribution, providing residents with access to vital goods and services. This will further reduce the need to drive for local trips, while promoting walking and cycling as an alternative means of movement.

Santana Row (San Jose, CA)

Rockville City Centre (Rockville, MD)

Streetscape Plan



Rittenhouse Sq. (Philadelphia, PA)

Tertiary: Parkland Supportive Retail Street

As an extension of the neighbourhood retail street network, areas opposite to parkland should be treated with added sensitivity. In order to promote at-grade commercial and retail uses, the streetscape plan calls for more flexibility to adapt typical streetscape conditions beside parkland. Similar to Neighbourhood Retail Streets, temporary attenuation to improve viability of restaurants and business by temporary/seasonal outdoor uses should be encouraged, in strategic locations. By creating more retail activity and sustained commercial uses around parkland we can ensure more active use of the parks while also creating more visibility of community open space, reinforcing CPTED principles. Parkland-supportive retail can be a unique opportunity which gives added value to the single loaded road condition.

Streetscape Plan

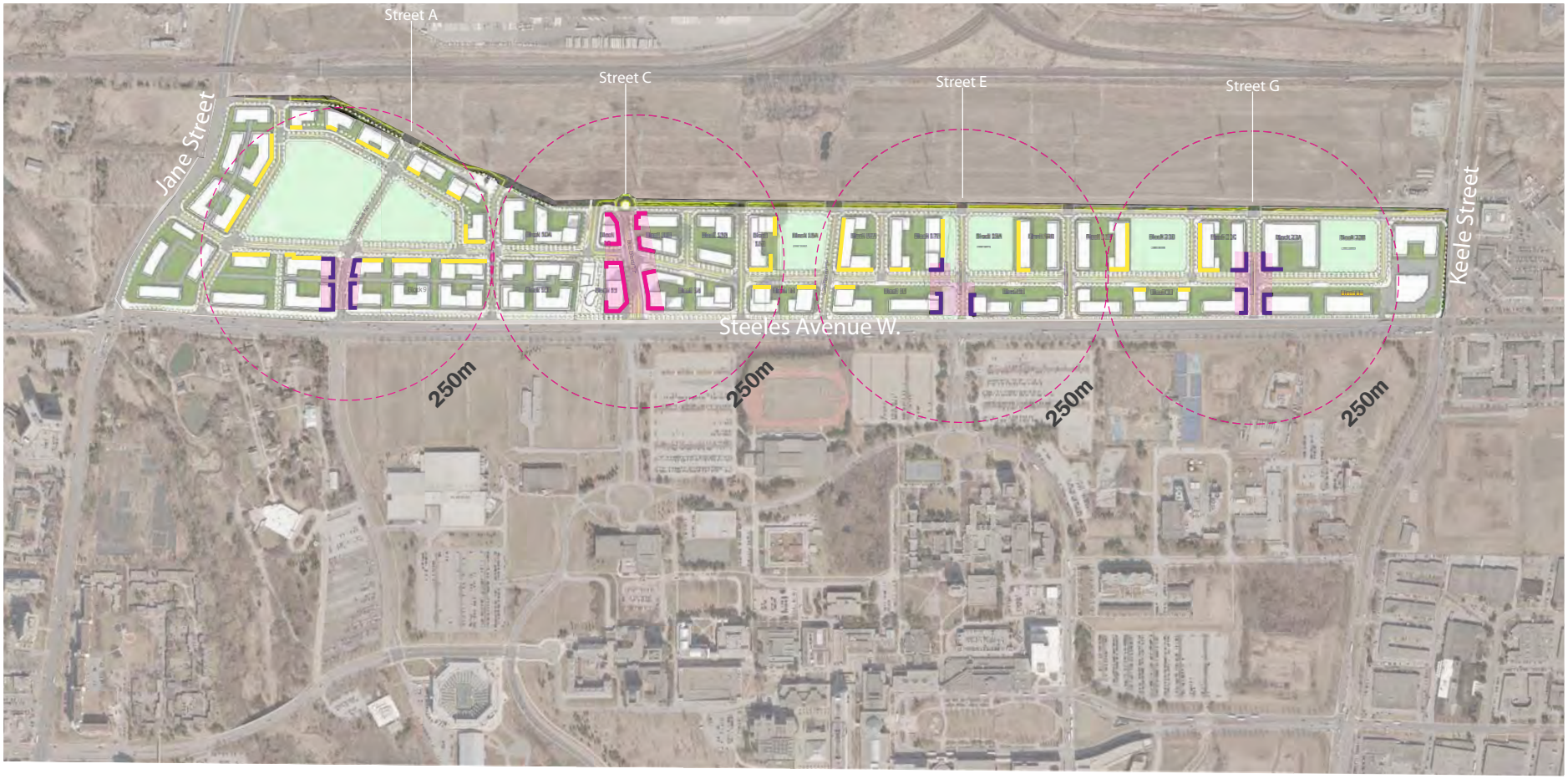


Figure SP.6 Retail Frontage Diagram

- *Primary*
- *Secondary*
- *Tertiary*

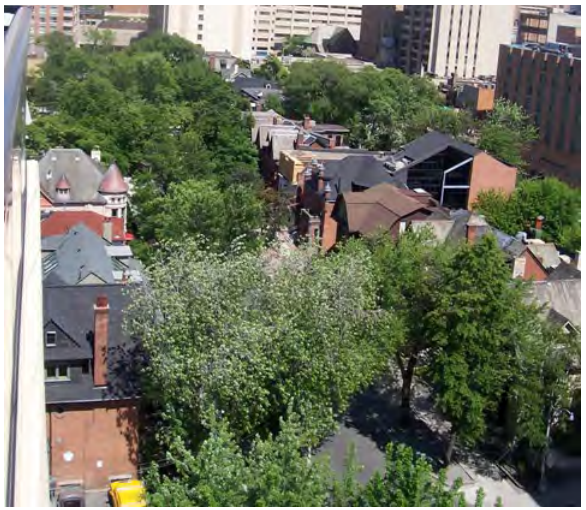
Green Infrastructure

The new street network for Steeles West an opportunity to rethink the role of road infrastructure in the City as multi-functional and integrated design. There are a number of measures that can be taken to reinvent the streets and reduce their environmental impacts throughout the District and in the wider context. Steeles West is not part of an existing natural heritage system and, therefore, streets will play a particularly important role in "greening" the overall District.

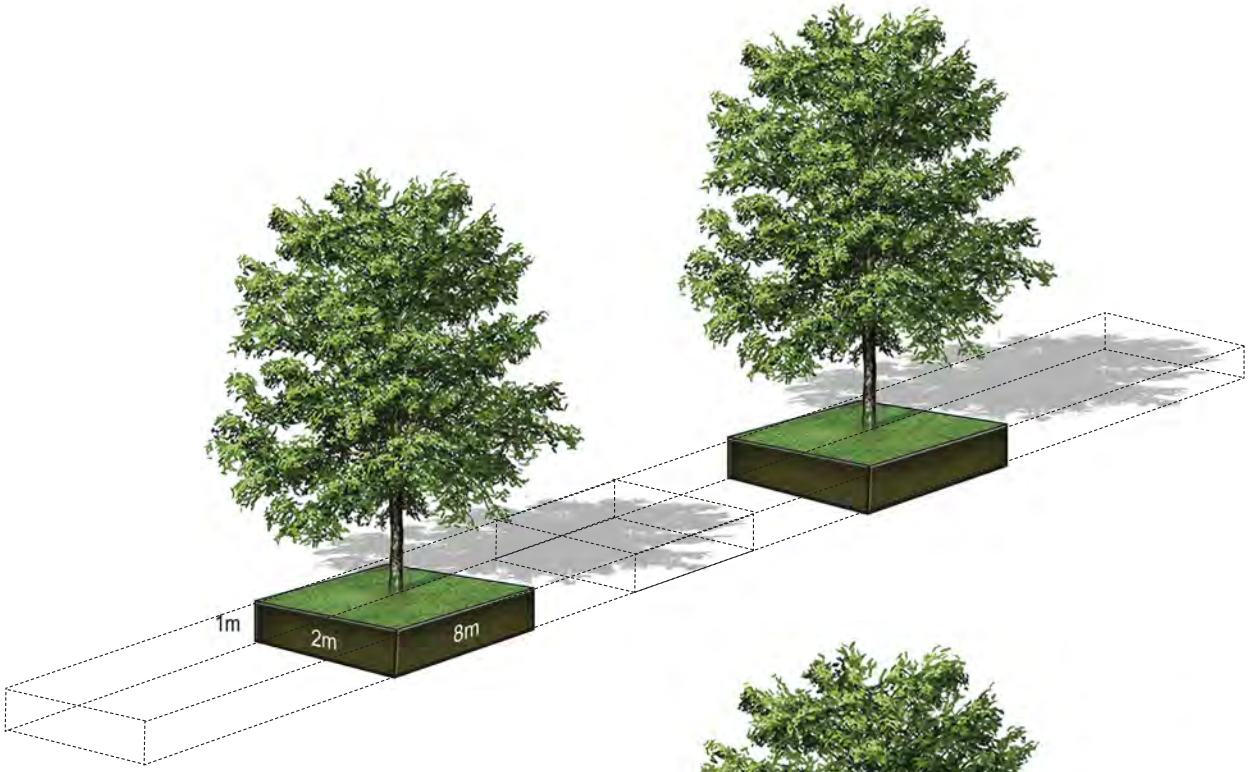
The Steeles West Streetscape Plan includes a proposal for "Green Streets", incorporating rain gardens and bioswales into the ROW as an added layer to improve the quality of stormwater and reduce the quantity of stormwater entering the muncipal system and the Black Creek watershed.

Urban Forestry

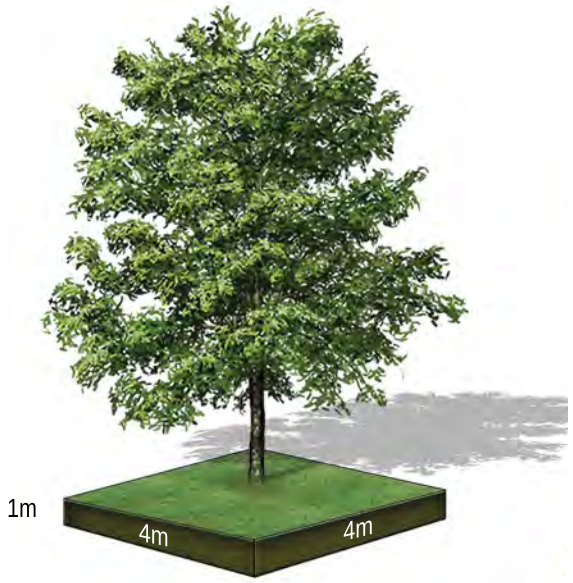
One of the most important aspects of streets is that they can provide much needed relief through the provision of trees. Tree planting along streets can account for approximately 70% of all trees in urban areas. They provide protection from the elements in winter and shade from the sun in summer. Street trees also assist in creating microclimatic conditions and cool the environment during days of extreme heat. This can have wide ranging effects on reducing the urban heat island effect and making the overall urban environment a much more comfortable place. Therefore, it is important to recognize the importance of street trees to the overall urban forestry strategy. Urban forestry also works to sequester carbon from the environment which helps reduce air pollution. It is for this reason that every effort be made to introduce viable street trees as part of the streetscape strategy for each street. Trees within the boulevard should always be planted with optimal growing conditions in mind. Street trees should be seen as an investment and, therefore, their sustained growth is greatly valued.



Streetscape Plan



overlapping soil volumes within soil trench ensuring each tree has a minimum of 16 cubic meters of soil



stand alone tree with a minimum 16 cubic metres of soil

Tree Guidelines

Growing conditions should be designd to ensure healthy tree growth to maturity and this should include a minimum of 16 cubic metres of soil per tree in boulevard conditions with a minimum bed width of 2.0m. Soil trenches should be designed with the least amount of breaks to ensure continuous trenches and overlap of soil volumes for each tree. Trees should be placed with a minimum of 1.0m away from sidewalks and curbs. This offset will improve growing conditions and help to accomodate snow storage. Street trees should be selected for durability within the local climate and should vary in order to avoid a monoculture. Parks & Forestry street tree diversity guidelines are a maximum of four (4) of any one tree species within a block, and a maximum of 10% genus in the District

In conditions of intense urban activity and limitations to "soft" boulevard treatment, the use of alternative planting methods is required to meet soil volume requirements for healthy tree growth. This would include the use of enhanced planting strategies such as soil cells, at present only identified for Street C and constrained sections of Steeles Avenue. Use of this system should be considered for private streets and tree planting areas constructed over structured parking.

Stormwater Management

Bioswales & Rain Gardens

"The integration of stormwater management and water recycling facilities in the design of building, open spaces and parking areas is encouraged."
6.2 Secondary Plan

The Steeles West Streetscape Plan includes a proposal for Green Streets, a conceptual network of rain gardens and bioswales as source controls on selected streets based on considerations of topography, adjacent land use, and street function. The street network can generate a tremendous amount of stormwater runoff and, depending upon grading of adjacent surfaces, the stormwater management system is expected to take added volumes that subsequently drain on to them. Traditionally this water would be moved through drains to another location, adding with it a collection of residue from the paved surfaces, creating higher velocity to the movement of water, and increased potential for flooding. As a result, the Streetscape Plan recommends the use of source controls to help reduce the impacts of stormwater generated from the municipal rights-of-way and their immediate context including water quality. It is important to note that the integration of source controls into the street network requires a different approach to maintenance of streetscapes as compared to traditional sodded boulevards, and therefore will require further study and detailed design prior to implementation.

How it Would Work

Onsite stormwater management can help reduce these impacts by providing immediate collection and infiltration. The collection of onsite stormwater can also be used to irrigate plant beds, boulevards and gardens. Both bioswales and rain gardens are designed to work with the natural grade of the Study Area. As the overall grade is lower along Steeles Avenue (to the south) and higher to Street X (to the north), the system simply works by collecting and moving water through the bioswales along the local streets (20m ROW) which run north-south. The gradual grade towards the south will allow for infiltration and irrigation of the street trees and terrestrial planting along these streets. At times of higher volumes the water within the bioswales will migrate south into the Greenway rain garden. The rain garden will be a wider and more aesthetically diverse stormwater attenuation system designed to collect and infiltrate more water, while supporting the irrigation of a wider array of plants. Both the bioswales and rain gardens will be subject to pedestrian access and amenities. These will include sidewalk connections from the curb edge (including on-steet parking) to the sidewalk and development sites. In order to accommodate the continued function of the bioswales and rain gardens, strategic points of access will be made providing pedestrian access over these facilities, thereby minimizing the number of crossings. The bioswales and rain gardens will be directed under these access points by way of a culvert. Appropriate signage and lighting will help identify the access points to reduce pedestrian disruption to the bioswales and rain gardens.

rain garden (Kitchener ON)

rain garden (Portland OR)

Streetscape Plan

Guidelines

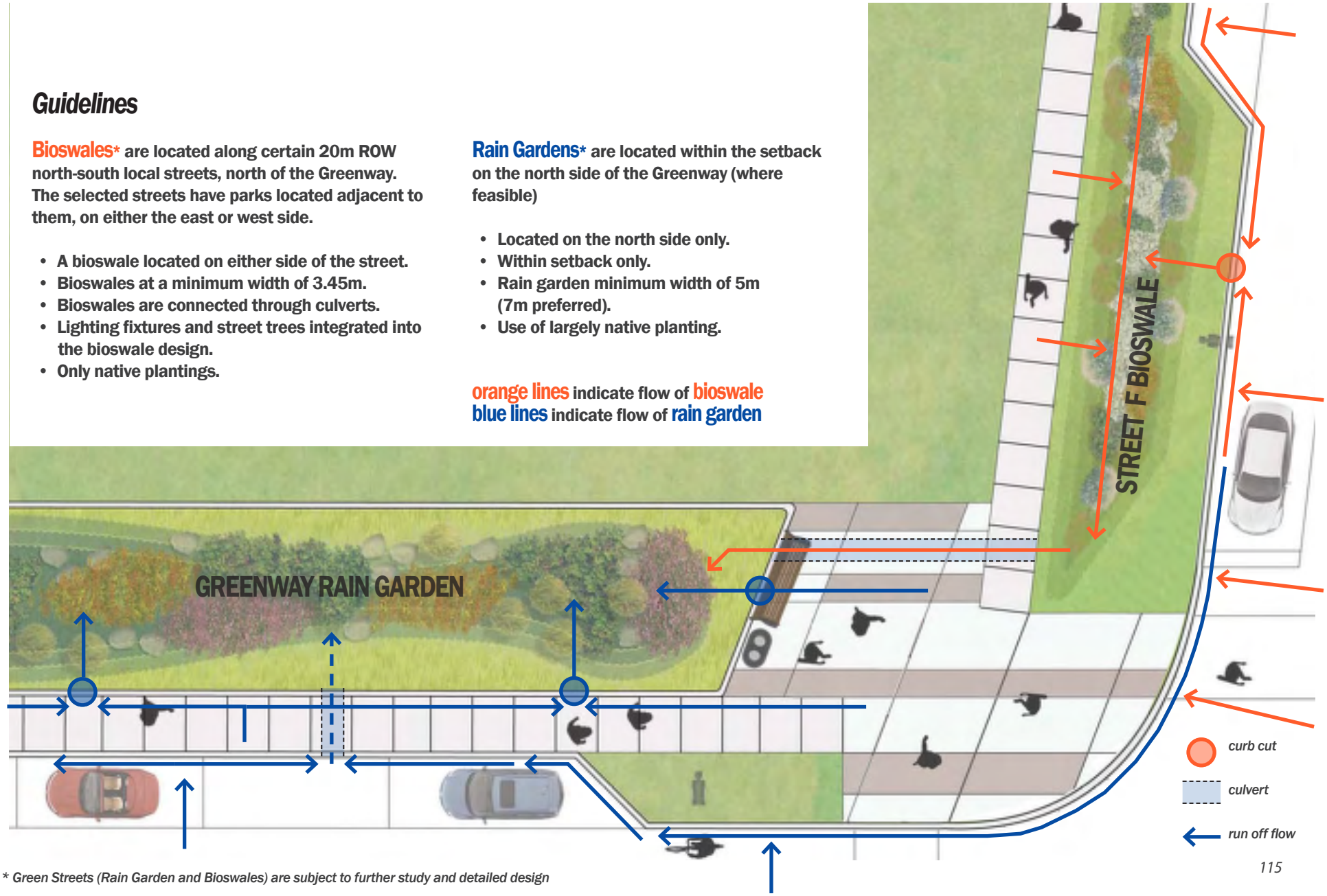
Bioswales* are located along certain 20m ROW north-south local streets, north of the Greenway. The selected streets have parks located adjacent to them, on either the east or west side.

- A bioswale located on either side of the street.
- Bioswales at a minimum width of 3.45m.
- Bioswales are connected through culverts.
- Lighting fixtures and street trees integrated into the bioswale design.
- Only native plantings.

Rain Gardens* are located within the setback on the north side of the Greenway (where feasible)

- Located on the north side only.
- Within setback only.
- Rain garden minimum width of 5m (7m preferred).
- Use of largely native planting.

orange lines indicate flow of bioswale
blue lines indicate flow of rain garden



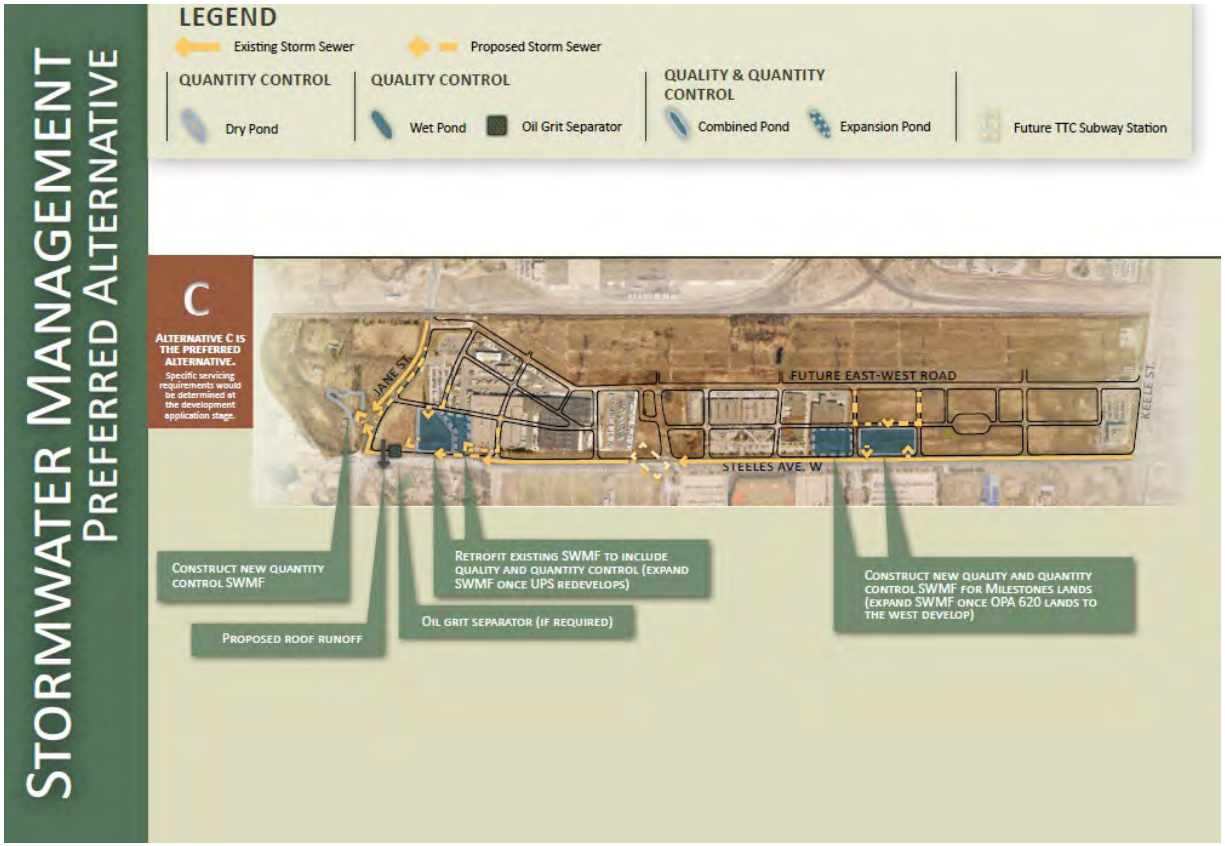
** Green Streets (Rain Garden and Bioswales) are subject to further study and detailed design*

Streetscape Plan

Stormwater Ponds

The draft Municipal Servicing Master Plan Class Environmental Assessment Study – Steeles Corridor: Jane to Keele OPA 620 Report, dated October 2011, has identified several locations for stormwater management ponds within the Study Area. The preferred Alternative "C" shows several ponds located along Steeles Avenue, located both in the west and east precincts of the plan. This draft EA report was completed after the final submission of the Steeles West Urban Design & Streetscape Plan in August 2011, and therefore the conceptual plan in the Steeles West Urban Design & Streetscape Plan Study does not include the preferred pond locations.

These preferred locations are meant to be conceptual and to be determined through site plan approvals for each development/land parcel. The ponds are presently in a schematic design phase, and therefore it is important to recognize that as they evolve into detailed design, these ponds are expected to change. Also, the preferred locations will affect the density distribution across individual blocks and land parcels, and may result in a configuration of buildings different than the conceptual plan. Proposed building configurations, resulting densities and final locations of stormwater ponds should be evaluated against the policies of the Secondary Plan, and the guidelines found within this Steeles West Urban Design & Streetscape Plan.



Municipal Servicing Master Plan Class Environmental Assessment Study - Alternative "C"

Streetscape Plan

South Pond - UIOT Durham Campus (Oshawa, ON)

Stormwater Pond - Western Waterfront (Toronto, ON)

Recommendations and guidelines should take into account the following when determining the final locations for ponds:

- **Ponds should be combined with parks and open space blocks wherever possible.**
- **Avoid pond location at "Primary Retail" corners unless located within parks and open space.**
- **Ponds should be designed as urban amenity features and are highly encouraged to integrate into the landscape design approach.**
- **The strategic use of cisterns or underground storage is to be considered where optimal pond location coincides with strong urban edges at "Priority Connections" and "Greenways" or "Ceremonial Edges".**
- **Locations internal to blocks away from "Priority Connections" are encouraged (other than in parks).**
- **Detailed design should also take into account measures from added stormwater mitigation measures, such as the introduction of rain gardens, bioswales, advanced site plan infiltration features, use of L.I.D.S. and climate change to help ensure that stormwater ponds are sized appropriately.**

Street Trees

The allocation of trees is very important in defining the composition of the streetscape. In addition to environmental benefits, street trees help to define space and hierarchy. In the Steeles West Streetscape Plan, each street type has a selection of trees to offer diversity and interest when traveling through the Steeles West District.

The following species have been selected for the Streetscape Plan as the "foundation" street trees. To meet City of Vaughan tree diversity guidelines of maximum 4 trees per block of any one species, additional species should be selected from the City of Vaughan Tree and Plant Species List (Appendix D in the Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy) to complement the foundation street tree list. Consider tree form, performance in local environment, diversity, any limitations of the planting site and harmonizing tree selections within and between blocks to enhance sense of place.

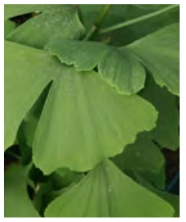
Street Tree Species

NAME	*COMMON NAME*	*HEIGHT*
Capinus betulus 'Fastigiata'	Hornbeam	12m
Quercus rubra	Red Oak	28m
Gingko biloba	Maidenhair Tree	17m
Gleditsia var. inermis	Honey Locust	17m
Acer saccharum	Sugar Maple	22m
Tilia cordata	Littleleaf Linden	17m
Acer saccharinum	Silver Maple	20m

Rain Garden Tree Species

NAME	*COMMON NAME*	*HEIGHT*
Prunus serrulata	Cherry Blossom	8m
Quercus bicolor	Swamp White Oak	20m
Fagus sylvatica	European Beech	25m











Streetscape Plan

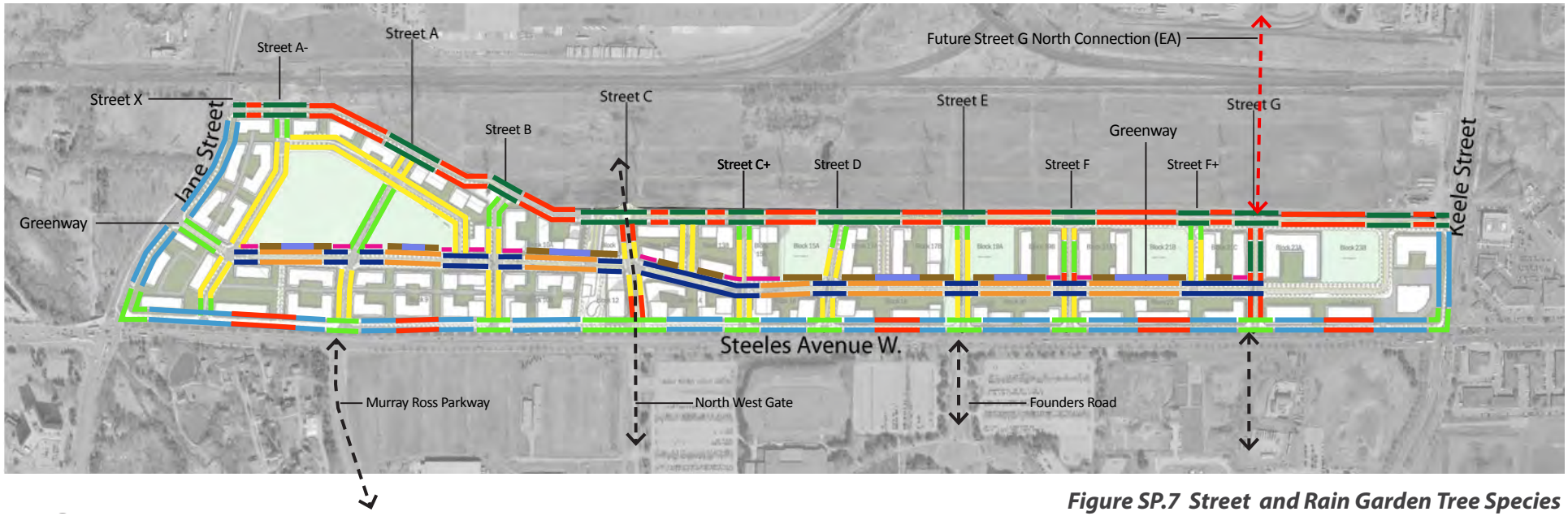


Figure SP.7 Street and Rain Garden Tree Species

Street and Rain Garden Trees

- *Red Oak*
- *Maidenhair Tree*
- *Silver Maple*
- *Honey Locust*
- *Sugar Maple*
- *Linden*
- *Hornbeam*
- *Cherry Blossom*
- *Swamp White Oak*
- *European Beech*

Note: To meet Parks & Forestry tree diversity guidelines of maximum 4 trees per block of any one species, and maximum of 10% genus in the District, additional decidous tree species should be selected from the City of Vaughan Tree and Plant Species List (Appendix D in the Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy).

Street Tree Allocation Method

Trees will be clustered; however each block should include a minimum of two tree species*. This measure is to ensure that if a particular species becomes prone to an emerging disease or outbreak, removal of that species will not leave the entire streetscape without maturing street trees. The following is the description of tree selection according to street type:

** See City of Vaughan street tree diversity guidelines. The selection of additional tree species should complement the design intent described for each street type in this section.*

Local Street | 20.0m ROW

combination of Silver Maple and Honey Locust

Streets A-, A, B, C+, D, E, F and F+ are included in this typology. Silver Maple were chosen for the intersections to create visual interest as well as a subtle neighbourhood aesthetic. Honey locust trees will be allocated to the central stretches of the street. The wider canopy of the honey locust will provide significantly more shade and also are relatively fast growing and attain their leaves quickly.

Street G | 23.0m ROW

combination of Red Oak and Gingko

This tree selection applies to Street G. Since this street can accommodate a larger volume of traffic and have a wider ROW, the streetscape plan identifies larger species of trees which can provide more substantial shade. The corners will be identified by red oak trees and gingko trees along the middle of the corridor for visual distinction.

Street C | 26.0m ROW

combination of Red Oak and Honey Locust

Street C will consist of trees with the largest canopies. A particular emphasis is placed on the shade provided by these trees throughout varying times of the day and year. Street C is also the widest street within the Steeles West District and therefore can benefit from the added mass these trees offer. Both tree species are to be planted rows within a structural soil cell system that has proven success in urban conditions. Red oak species are planted at the corners, while honey locust is planted in the middle of the block.

26.0m ROW Street X Collector

combination of Gingko and Red Oak

Street X is characterised as a collector road and it has the widest area of the paved lanes, therefore the Plan looks to use red oak trees along the corridor since they grow to be tall and offer a more substantial canopy, which will provide a large amount of shade for both the pedestrian and the vehicular environment. Ginkgo trees will be concentrated at the intersections, which are shorter and narrower, in order to not obstruct sightlines from the road.

Streetscape Plan

Street C - Street Tree Demonstration Plan

- *Red Oak*
- *Maidenhair Tree*
- *Silver Maple*
- *Honey Locust*
- *Sugar Maple*
- *Linden*
- *Hornbeam*
- *Cherry Blossom*
- *Swamp White Oak*
- *European Beech*

Note: To meet Parks & Forestry tree diversity guidelines of maximum 4 trees per block of any one species, and maximum of 10% genus in the District, additional decidous tree species should be selected from the City of Vaughan Tree and Plant Species List (Appendix D in the Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy).

17.5m ROW / Greenway

combination of Linden and Hornbeam (street) and Cherry, Swamp White Oak and European Beech (rain gardens)

The Midblock Road or 'Greenway' has the most variety in its composition. This particular street will have two rows of trees within the right of way, supported by additional trees within the rain garden which runs parallel to the street. For the Greenway it is essential to maintain the format used throughout the plan along the street and have a separate palette of trees within the rain garden. Linden trees are used at street corners and visual intersections, and hornbeam trees along the inner corridor.

Within the rain garden, cherry trees are used at the corner for visual interest; swamp white oak and american beech along the corridor. This will help to bolster the edges of the park and provide a great deal of shade.

Steeles Avenue West

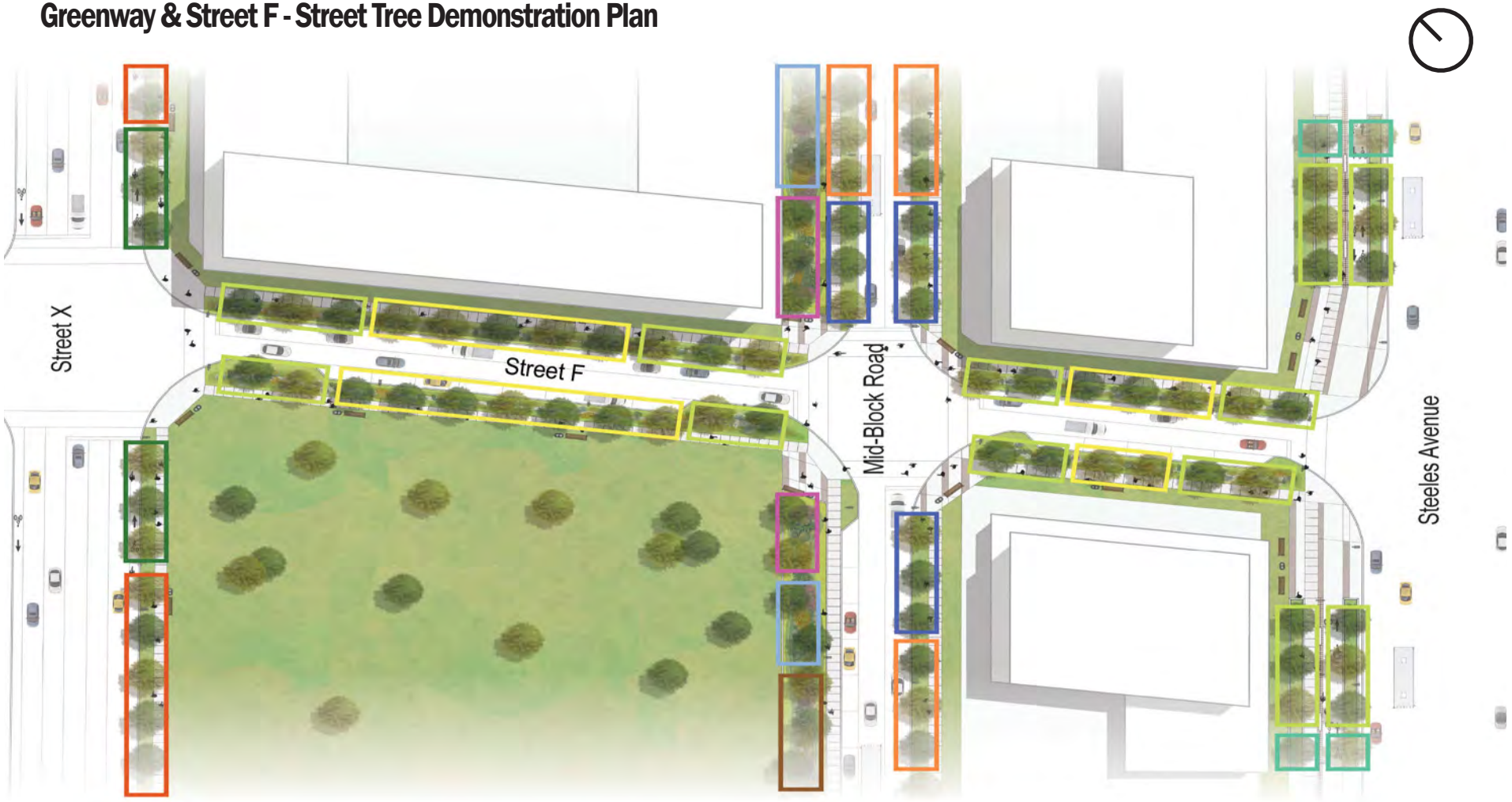
combination of Sugar Maple, Silver Maple and Red Oak

The Steeles Avenue tree selection is part of the 'Active Transportation' corridor which runs the length of the project boundary. In order to differentiate this street, the Streetscape Plan has identified three (3) types of trees within the double allée which also joins with Jane Street and Keele. A large stature green mountain maple will be used at the corners to create visual distinction, while silver maple and red oak will break up the inner corridor. Jane Street and Keele Street both play off this layout for consistency, minus the red oak trees. Presently hydro lines do exist along the north side of Steeles Avenue. All efforts should be made to coordinate tree planting in alignment with these utilities.

Despite using a different set of tree species, the north side looks to complement the south side of Steeles Avenue West, by introducing large scale trees that have similar form and height to those existing trees on the south side. In addition, the tree planting will maintain a double allée throughout its length, further reinforcing the strong tree line and cultural heritage landscape along York University's northern edge.

Streetscape Plan

Greenway & Street F - Street Tree Demonstration Plan



- *Red Oak*
- *Maidenhair Tree*
- *Silver Maple*
- *Honey Locust*
- *Sugar Maple*
- *Linden*
- *Hornbeam*
- *Cherry Blossom*
- *Swamp White Oak*
- *European Beech*

Note: To meet Parks & Forestry tree diversity guidelines of maximum 4 trees per block of any one species, and maximum of 10% genus in the District, additional decidous tree species should be selected from the City of Vaughan Tree and Plant Species List (Appendix D in the Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy).

Bioswale Planting
(seleced north-south local streets)

Bioswales are composed of terrestrial planting. Each will work to stabilize the grading designed to facilitate infiltration and movement of water. They support other measures of stormwater management including municipal storm sewers and ponds. The composition of the bioswale should be made up of river stone and the following plant materials:

BIOSWALE PLANT LIST

Perennials

NAME	*COMMON NAME*
Eutrochium maculatum	Spotted Joe-Pyeweeds

Grasses

NAME	*COMMON NAME*
Carex bebbii	Bebb's Sedge
Spartina pectinata	Prairie Cordgrass

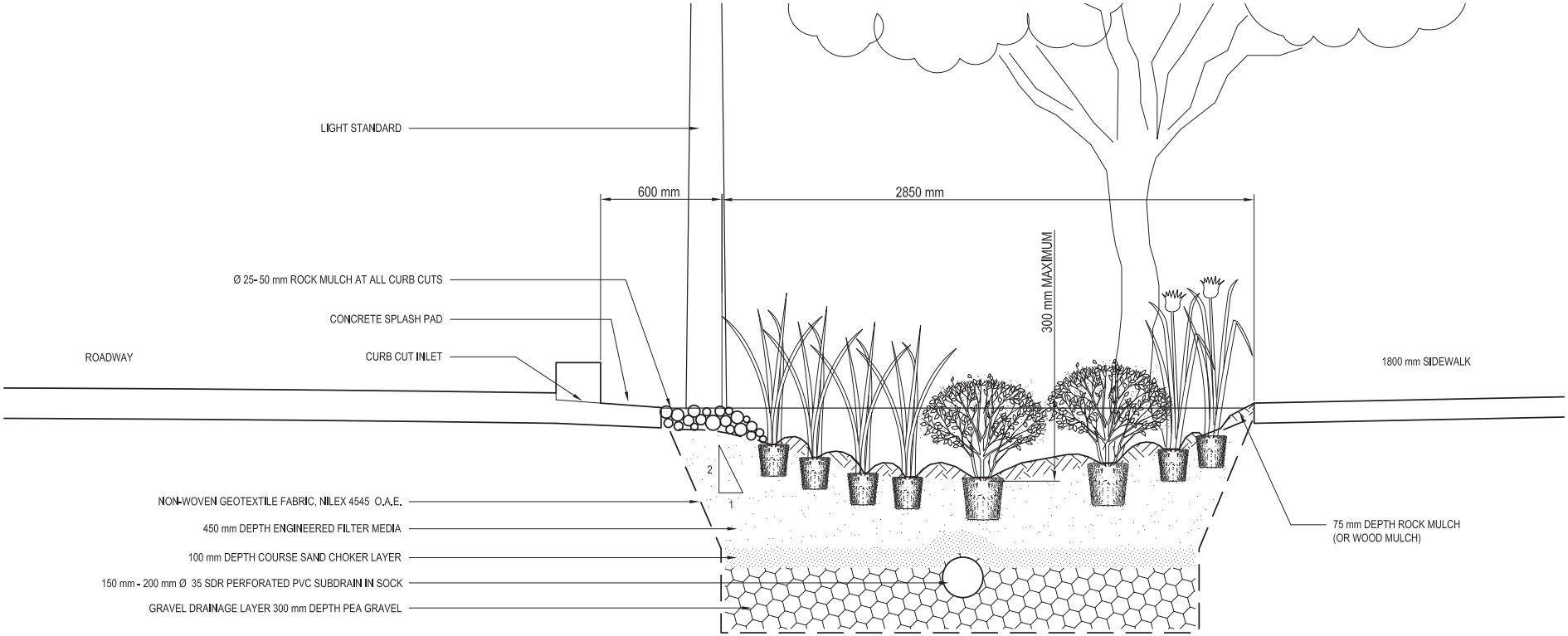
Spotted Joe-Pyeweeds

Bebb's Sedge

Prairie Cordgrass

Wildlife Linkages: The Green Streets network of enhanced landscapes provide corridors for wildlife, linking York University landscapes to the south with the Hydro corridor lands to the north of the District.

Streetscape Plan



NOTES:
1. THE ENGINEERED FILTER MEDIA SHALL BE COMPRISED OF 20 - 30% COMPOST AND 70 - 80% SANDY LOAM TOPSOIL, BY VOLUME.
2. THE TOPSOIL SHALL HAVE BE:
   - 0% PARTICLES OVER 75 mm;
   - 0% - 10% PARTICLES FROM 2 - 75 mm;
   - 50% - 70% PARTICLES FROM 0.05 - 2 mm (SAND);
   - 15% - 48% PARTICLES FROM 0.002 - 0.05 (SILT);
   - 2% - 5% PARTICLES LESS THAN 0.002 mm (CLAY)
2. THE COMPOST SHALL HAVE AN ORGANIC CONTENT OF 50-60% AND BE WELL AGED. PEAT MOSS IS RECOMMENDED.
3. THE COMBINED ENGINEERED FILTER MEDIA SHALL HAVE THE FOLLOWING PARAMETERS:
   - THE pH BETWEEN 5.5 AND 7.5;
   - SOLUBLE SALTS LESS THAN 500 PPM;
   - NITROGEN 20-40 PPM;
   - MAGNESIUM 60-480 PPM;
   - PHOSPHORUS 80-120 PPM POTASH;
   - ORGANIC CONTENT MINIMUM 4%.
4. THE ENGINEERED FILTER MEDIA SHALL ALSO HAVE OTHER NUTRIENTS IN SUFFICIENT QUANTITY TO SUPPORT PLANT GROWTH.
5. THE FILTER MEDIA SHALL BE PLACED IN 200 mm LIFTS AND SHALL BE WATERED TO ENSURE THERE ARE NO VOIDS.
6. THE ENGINEERED FILTER MEDIA SHALL HAVE A HYDRAULIC CONDUCTIVITY GREATER THAN 13 mm/ HR.
7. THE CHOKER LAYER SHALL BE WASHED CONCRETE SAND 0.05 - 5 mm IN DIAMETER.
8. THE PEA GRAVEL SHALL CONTAIN PARTICLES FROM 3 - 10 mm IN DIAMETER.

DILLON CONSULTING	PROJECT: STEELES WEST URBAN DESIGN & STREETSCAPE MASTER PLAN	PROJECT NO.
DATE: APRIL, 2012	TITLE: BIOSWALE SECTION	FIGURE NO.

Rain Garden Planting
(Greenway)

The composition of the rain gardens builds on the plant types of the bioswales and has additional planting that consists of flowering plants, grasses and shrubs. The variety of plants creates a distinct vibrancy as an identifiable marker of the Greenway. The Greenway rain garden design is made up of river stone and the following plant materials:

RAIN GARDEN PLANT LIST

Shrubs

NAME	*COMMON NAME*
Salix discolor	Pussy Willow
Comus stonlonifera/C. sericea	Red Osier Dogwood

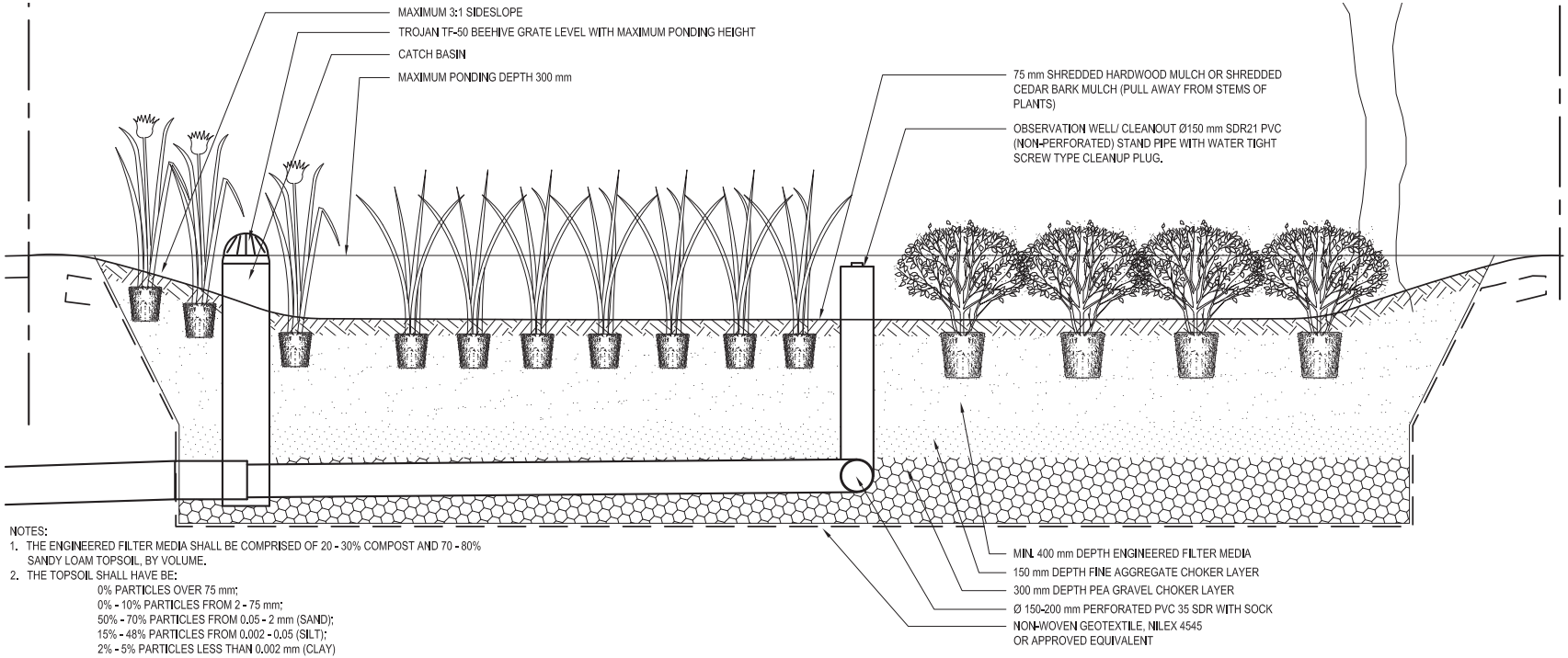
Perennials

NAME	*COMMON NAME*
Echinacea purpurea	Purple Coneflower
Rudbekia hirta	Black-Eyed Susan
Salvia nemerosa 'May Night'	May Night Sage
Lobelia cardinalis	Red Cardinal Flower

Grasses

NAME	*COMMON NAME*
Carex bebbii	Bebb's Sedge
Arrhenatherum elatum 'Variegatum'	Bulbous Oat Grass
Carex vulpinoidea	Fox Sedge
Spartina pectinata	Prairie Cordgrass
Juncus effusus	Soft Rush

Streetscape Plan



NOTES:

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2. THE TOPSOIL SHALL HAVE BE:
   - 0% PARTICLES OVER 75 mm;
   - 0% - 10% PARTICLES FROM 2 - 75 mm;
   - 50% - 70% PARTICLES FROM 0.05 - 2 mm (SAND);
   - 15% - 48% PARTICLES FROM 0.002 - 0.05 (SILT);
   - 2% - 5% PARTICLES LESS THAN 0.002 mm (CLAY)
2. THE COMPOST SHALL HAVE AN ORGANIC CONTENT OF 50-60% AND BE WELL AGED. PEAT MOSS IS RECOMMENDED.
3. THE COMBINED ENGINEERED FILTER MEDIA SHALL HAVE THE FOLLOWING PARAMETERS:
   - THE pH BETWEEN 5.5 AND 7.5;
   - SOLUBLE SALTS LESS THAN 500 PPM;
   - NITROGEN 20-40 PPM;
   - MAGNESIUM 60-480 PPM;
   - PHOSPHORUS 80-120 PPM POTASH;
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6. THE ENGINEERED FILTER MEDIA SHALL HAVE A HYDRAULIC CONDUCTIVITY GREATER THAN 13 mm/ HR.
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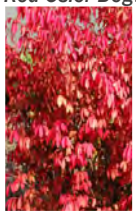
8. THE PEA GRAVEL SHALL CONTAIN PARTICLES FROM 3 - 10 mm IN DIAMETER.

DILLON CONSULTING	PROJECT: STEELES WEST URBAN DESIGN & STREETSCAPE MASTER PLAN	PROJECT NO.
DATE: APRIL, 2012	TITLE: RAIN GARDEN SECTION	FIGURE NO.

Red Osier Dogwood



Pussy Willow

Purple Coneflower

Black-Eyed Susan

May Night Sage

Red Cardinal Flower

Bebb's Sedge

Bolbous Oat Grass

Fox Sedge

Prairie Cordgrass

Soft Rush

Streetscape and Open Space Details

Design components have been selected in order to help provide identity to each street type within the Steeles West District. Although there is variation in the selection of certain elements, it is important to note that all items work towards creating an overall family of details. The consistent use of this family of elements within the District will reinforce the community identity and overall sense of place. It is important to note that significant deviation from these furnishings will contribute to an inconsistent streetscape.

Paving

Overall the paving palette is made up of simple materials. Accents materials are used in strategic locations to highlight street hierarchy. Essentially much of the pedestrian movement zones have been designed with the use of cast-in-place concrete. Coloured concrete accents are used to provide additional impact at certain intersections. Precast pavers are also utilized to demarcate edge treatment on higher order streets (Street C, Street G, and Steeles Avenue West). The use of pavers will help to accent planting and street trees particularly in high traffic areas and retail hubs.

Lighting Fixtures and Furnishings

The overall selection of lighting and furnishings are designed to complement each other. They are contemporary in style and designed with a soft colour palette in order to not draw significant visual impact. The City of Toronto has stipulated that Steeles Avenue West be constructed using the City's standards for site furnishings. Although identified in the matrix, all efforts should be made to further coordinate these standards with the rest of the Steeles West District.

Planting

Street planting is an important part of the Streetscape Plan. It is important to introduce understorey planting along all the boulevards, where possible. Ornamental grasses and terrestrial wildflowers should be applied.

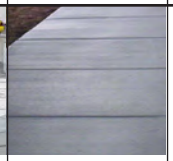
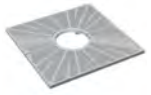
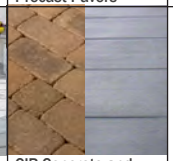
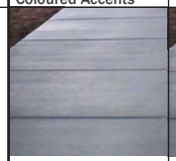
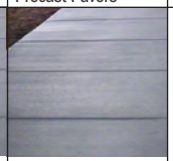
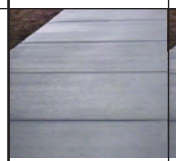
Philips Lumec Capella Lighting (Street and Pedestrian)

Maglin SCRC1604 Recycle Unit/ Waste Receptacle (Silver powdercoat finish)

Maglin SCB1600 Series Bench (Silver powercoat finish, Ipe wood seat)

Streetscape Plan

Streetscape Components Matrix

	intersection corner paving	sidewalk paving*	lighting fixtures (LED)*	street benches*	waste receptacles*	bicycle racks*	planting bed vegetation	tree grates	additional notes
Greenway (17.5m)	 CIP Concrete with Coloured Accents	 CIP Concrete	 Philips Lumec Capella	 Maglin SCB1600 Series	 Maglin SCRC 1604	 Maglin MBR 600	 Rain Garden Option		* Enhanced Streetscape Level of Service includes street furnishings, pedestrian lighting and precast concrete unit pavers. See Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy. Rain Garden Option subject to futher study & detailed design
Street C (26.0m)	 CIPConcrete with Coloured Accents	 CIP Concrete and Precast Pavers	 Philips Lumec Capella	 Maglin SCB1600 Series	 Maglin SCRC 1604	 Maglin MBR 600		 Cast Iron Grate	* Premium Streetscape Level of Service includes street furnishings, pedestrian lighting and precast concrete (or stone) unit pavers and other amenities. See Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy. Businesses should be encouraged to introduce temporary planters in summer months to enhance Street C. Street C includes structural soil cells for street tree planting.
Steeles Ave. West (north) (11.2m/ 10.2m)	 CIP Concrete with Coloured Accents	 CIP Concrete and Precast Pavers	 Philips Lumec Capella	 City of Toronto Standard Benches	 City of Toronto Standard Receptacles	 City of Toronto Standard Bike Racks	 Ornamental Grasses and Wildflower		* Enhanced Streetscape Level of Service includes street furnishings, pedestrian lighting and precast concrete unit pavers. See Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy. Coordinate with City of Toronto Standards for Streetscape design details and furnishings.
Street X (26.0m)	 CIP Concrete	 CIP Concrete	 Philips Lumec RoadStar	 Maglin MLB1050BW Series	 Maglin SCRC 1604	 Maglin MBR 600	 Ornamental Grasses		* For Standard Urban Streetscapes, streetscape-related furnishings are provided within private setbacks. See Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy.
Street G (23.0m)	 CIP Concrete	 CIP Concrete and Precast Pavers	 Philips Lumec Capella	 Maglin SCB1600 Series	 Maglin SCRC 1604	 Maglin MBR 600	 Wildflowers		* Enhanced Streetscape Level of Service includes street furnishings, pedestrian lighting and precast concrete unit pavers. See Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy.
Street A-, A, B, C+, D, E, F, and F+ (20.0m)	 CIP Concrete	 CIP Concrete	 Philips Lumec Capella	 Maglin SCB1600 Series	 Maglin SCRC 1604	 **Maglin MBR 600**	 Bioswale Option		* Enhanced Streetscape Level of Service includes street furnishings, pedestrian lighting and precast concrete unit pavers. On Standard Urban Streetscapes, streetscape-related furnishings are provided within private setbacks. See Vaughan City-Wide Streetscape Implementation Manual & Financial Strategy. Bioswale Option subject to further study & detailed design

Gateway Treatments

Similar to the use of site furnishings and paving materials, gateways are also used to help define sense of place; however, gateways constitute a much more distinct and obvious opportunity to express entry into a community or neighbourhood. Gateways are places which can foster civic pride, public art and key spaces in the city, as well as landscape and architectural expression. Gateways can exist in a multitude of conditions based on site visibility, building constraints and community needs. They can also be places of gathering or visual expression or a combination of both.

The Streetscape Plan also provides a hierarchy to gateway treatments, identifying major and minor locations. The location of each gateway relates to the immediate context, and therefore references gateway locations along the northern edge of York University. It is also important to note that the Steeles West Mobility Hub is identified as a "Gateway Hub" and "Unique Destination" through the Mobility Hub Guidelines. Gateways should always be designed to a high level of finish and construction, while paying special attention to materials and details. Consistency in elements, such as signage, lighting and materials should be encouraged; however, it is also important to note that the gateway locations outlined will have differing spatial constraints and should address the immediate site in each application. The allocation of public art should also be strategically allocated in places of high traffic and public focus, including the Mobility Hub as well as community parks.
The design of these gateway features presents a unique opportunity to project an overall image of the Steeles West District and entry into the City of Vaughan. Thematic responses for gateways may include, but are not limited to:

1. **Art and Design**
2. **Cultural Heritage**
3. **Contemporary Architecture**




Streetscape Plan

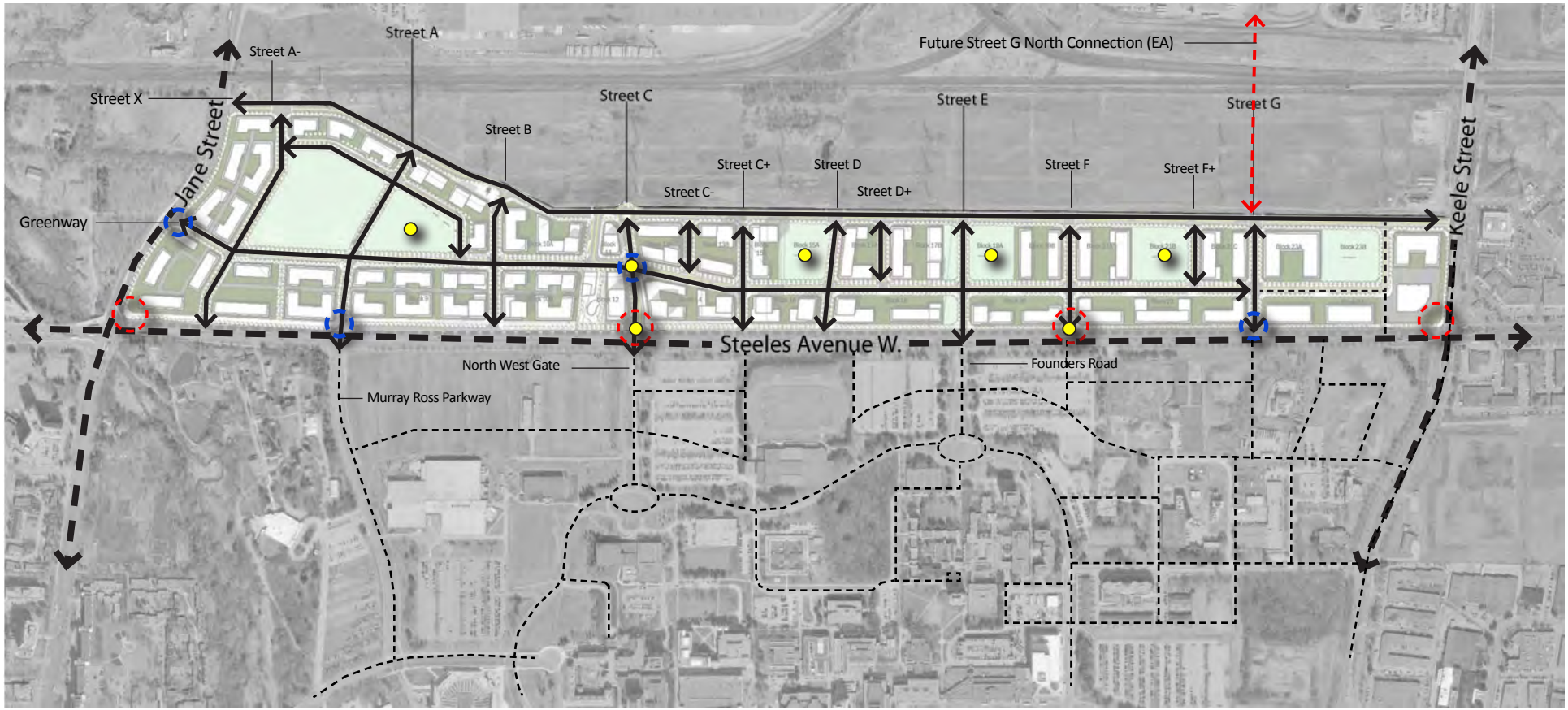


Figure SP.8 Gateway Locations

Major Gateway Locations

Minor Gateway Locations

Potential Locations for Public Art (Vaughan City-Wide Public Art Program)