



City of Vaughan

Vaughan Healthcare Precinct

Streetscape Development Concept

July 2015





Contents

Streetscape Strategy

Precinct Overview	6
Street Classifications	7
Level of Service	9
Streetscape Typologies	10
Design Component Matrix	12
Street Objectives and Priorities	13
Street Character	14
Boulevard Growing Conditions	16
Proposed Street Trees	18
Planting + Maintenance Strategy	19
Preliminary Plant Lists	22

Streetscape Design

Regional Roads Concepts	27
Major Mackenzie Drive	
Jane Street	
Internal Street Concepts	31

Appendices

Streetscape Plans	a.3
Streetscape Sections	a.10



Streetscape Strategy

	page
Precinct Overview	6
Street Classifications	7
Level of Service	9
Streetscape Typologies	10
Design Component Matrix	12
Street Objectives and Priorities	13
Street Character	14
Boulevard Growing Conditions	16
Proposed Street Trees	18
Planting + Maintenance Strategy	19
Preliminary Plant Lists	22



Precinct Overview

Existing Site

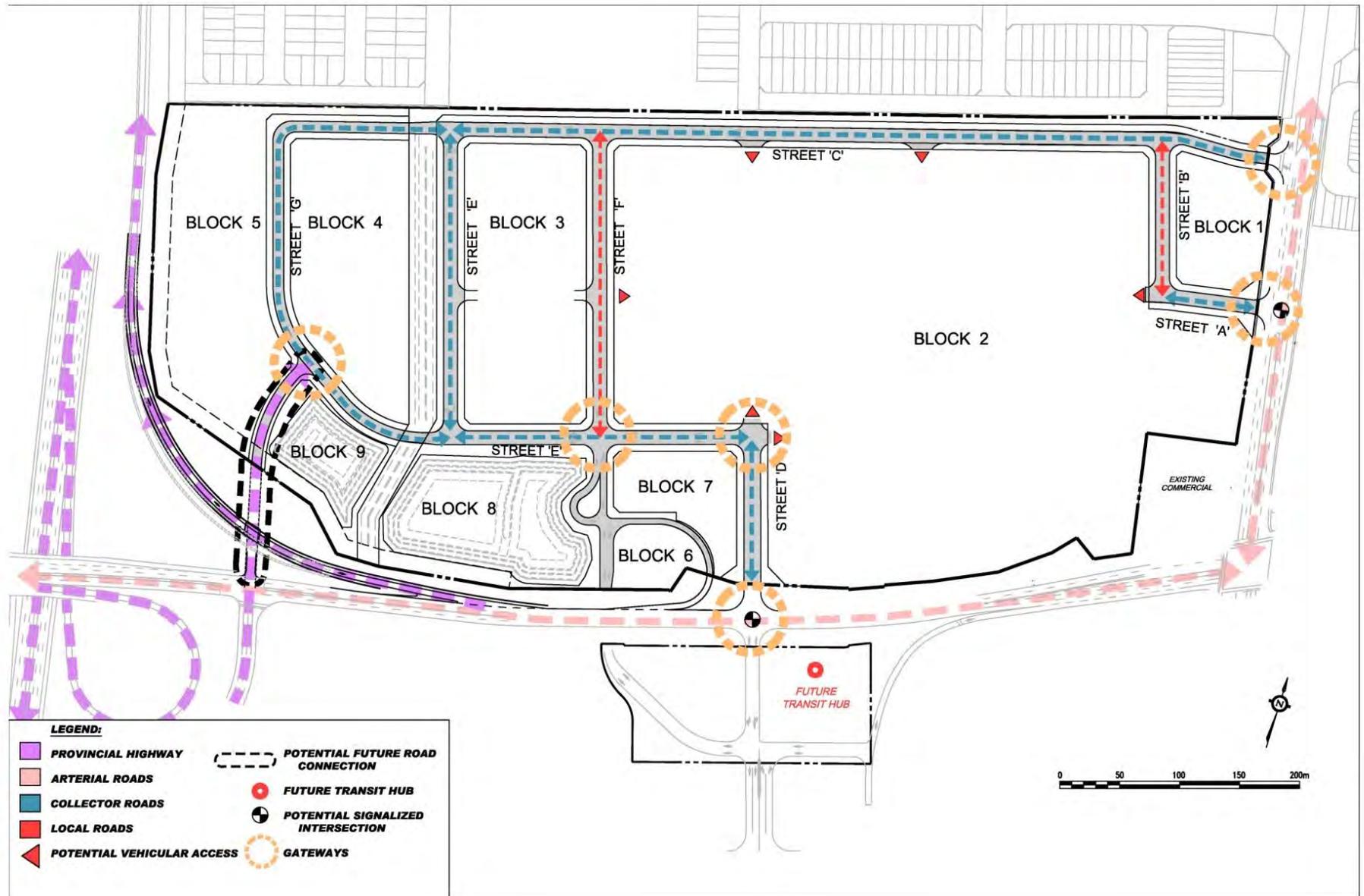


Vaughan Healthcare Centre Precinct (VHCP)

This prominent 82 acre parcel is located in the northwest quadrant of Major Mackenzie Drive and Jane Street, bounded by Highway 400 to the west, a residential community to the north, Jane Street to the east and Major Mackenzie Drive to the south.

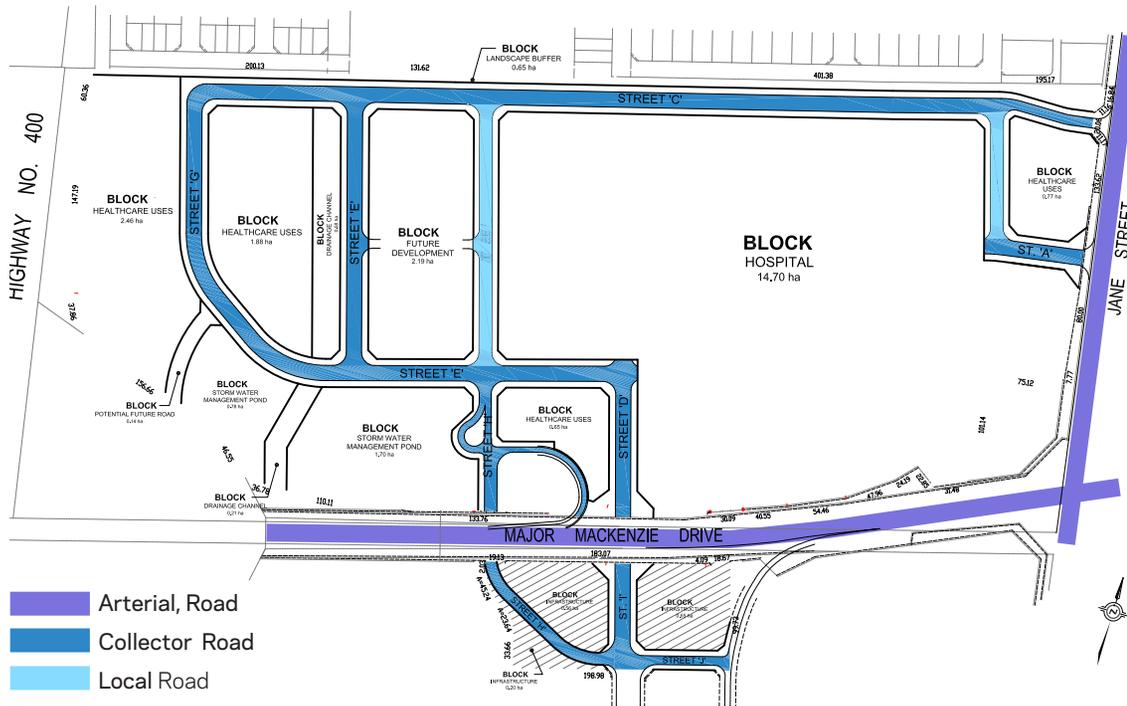
This urban precinct will be anchored by the new Mackenzie Vaughan Hospital and is to accommodate a range of healthcare related uses, such as a long term care facilities, community housing, a medical mall, research, education and training facilities and medical office space .

VHCP Street Classifications



VHCP Street Classifications

The Precinct Plan identifies 3 street types: Arterial, Collector & Local Road designations



(1) ARTERIAL ROADS (43 M ROW)

include Jane Street and Major Mackenzie.

The arterial roads are designed in conjunction with York region's context sensitive approach. As "Urban Avenue" street typologies, both Jane and Major Mackenzie are envisioned to support people on foot, bicycle, and transit-- as well as in vehicles.

Arterial roads make use of hardy, resilient native plant species that can withstand the challenging growing conditions. Designated in-boulevard cycle paths reinforce the Region's commitment to an integrated network of bicycle route and serve as important feeders which connect the precinct's multiuse trail network into the larger region.

(2) COLLECTOR ROADS (23-26M ROW)

includes Street A, C, D, E and G

These streets distribute main traffic flows through the precinct. The landscape for each collector road differs in response to the street frontage, adjacencies, and multiuse pathways.

For example, Collector Roads which bound open space are landscaped differently than those bound by development parcels. For this reason, many collector roads have asymmetrical landscaping treatments to ensure each street frontage is fully integrated into the urban fabric, natural corridors, and open space system.

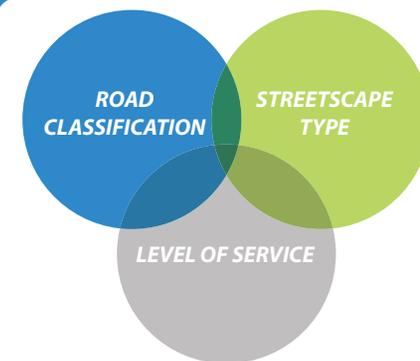
(3) LOCAL ROADS (23M ROW)

includes Street B, F

With the least amount of traffic and low operating speeds, these streets provide the greatest opportunity for creating quiet streetscapes for respite. In contrast to the environmental pressures (soil salt, drought, snow storage, ice, wind) endured by the arterial roads. Local street boulevards may be able to support more sensitive landscaping treatments, such as perennial plantings. Likewise, private frontage zones should incorporate planting that contribute to the verdant nature of the local streets.

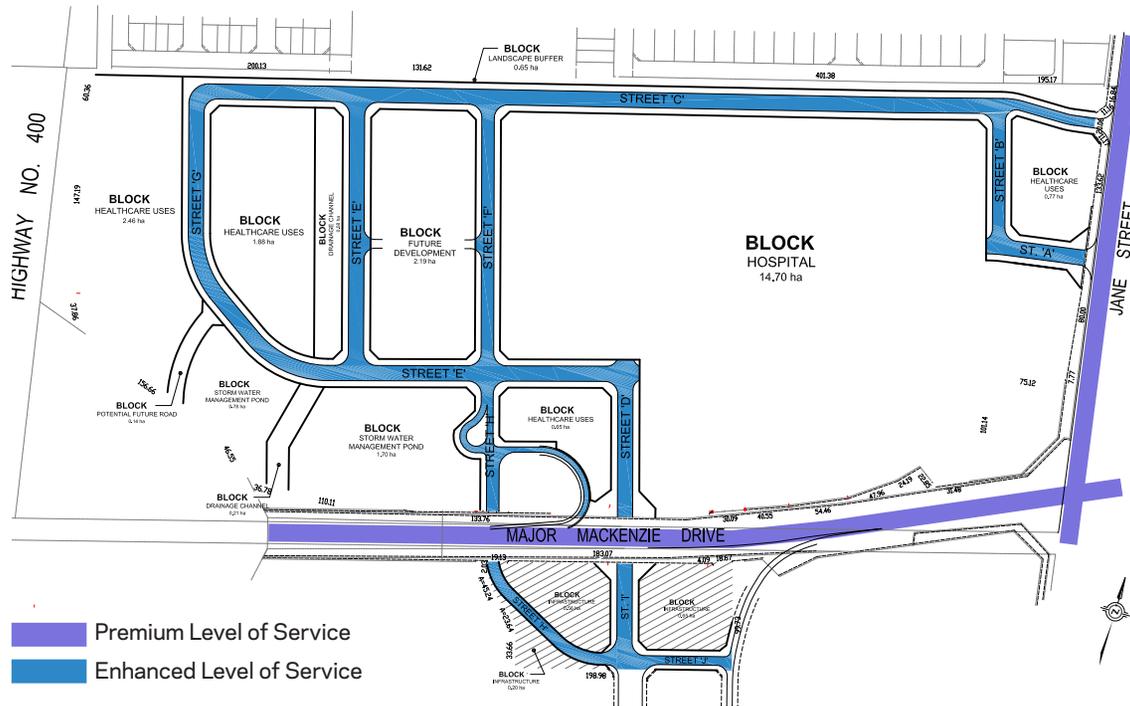
Context Sensitive Design

The structuring elements of streetscapes for the City of Vaughan are road classification, streetscape type and level of service. These elements are useful tools for the design of streets that respond both to the local context and the context of the greater regional area. It is important that the streetscape is designed with consideration of the context of the street in the overall street network, the function of the roadway, the functions within the pedestrian boulevard, the adjacent land uses, and the future development of the area.



VHCP Street Level of Service

The Precinct Plan identifies streets with both Premium and Enhanced Level of Service



"The level of service concept provides a simple way of understanding the design and financial differences between subsequently higher quality streetscapes. It creates a "typical prototype" to understanding streetscape construction and planning."

LEVEL OF SERVICE DESIGNATIONS

The streetscape level of service is focused on the pedestrian boulevard and the pedestrian experience relative to the road classification and streetscape type.

The VHCP has been identified as an "Intensification Area" as defined by the City of Vaughan Official Plan 2010.

All Precinct streets (including Local, Arterial, and Collector Roads) have been identified as having either Premium or Enhanced level of service based on the criteria in the Vaughan City-Wide Streetscape Manual and Financial Strategy

Streetscapes within the Precinct meet the *retail criteria* for enhanced level of service. These streets support a high level of pedestrian traffic and a variety of activities associated with urban retail, transit, and employment areas. Given the Precinct's abundance of naturalized areas and open space, the city's *environmental criteria* also supports streetscape planting enhancements.

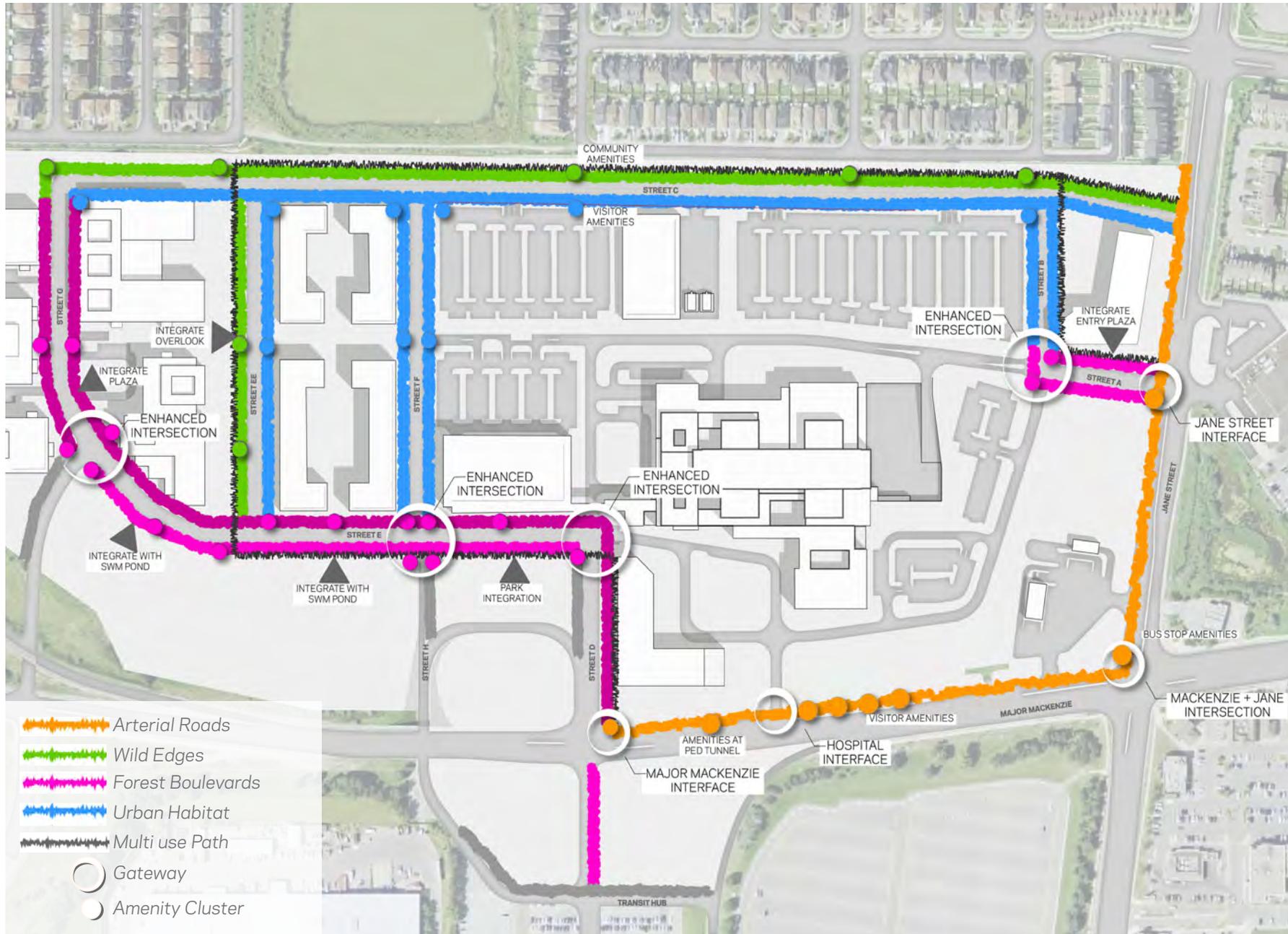
Arterial Roads fronting the Hospital Block have a premium level of service given *civic significance* and *high order transit criteria*.

The Regional Transportation Hub and Main Hospital Plaza are places of civic pride and activity. A premium enhancements reinforce the importance of these streets and represent the district at a regional scale by reinforcing an identity and brand for the Precinct.

Refer to the Vaughan Citywide Streetscape Implementation Manual for further details on Level of Service and corresponding functional, design and economic parameters.

VHCP Street Typologies

Street Typologies



VHCP Street Typologies



Forest Boulevards

Precinct's most vibrant streetscapes; animated with pedestrian activity + retail frontage

Space for large canopy trees are negotiated with flexible boulevard conditions required for gathering and animated street life. Boulevards are well furnished to support future growth of the Precinct. A combination of permeable paving and tree planters strike a balance between needs of a healthy urban forest and busy pedestrian thoroughfare.



Urban Habitat

Precinct's most verdant streetscapes; quiet community streets with rich boulevard gardens

Bio-diverse, ecologically rich native planting strategy framed by a palette of urban elements and street amenities. Prioritize gardens spaces for ecosystem service as well as for health and wellness



Wild Buffers

Where the order of the street dissolves into a naturalized meadow condition.

This informal street language takes cues from the cultural and natural history of the site. These boulevards take on an expanded role, supporting ecological diversity, structural habitat and native plant communities while buffering neighbours from the precinct's active Healthcare Facilities



Arterial Roads

Precinct's most resilient streetscape; designed for all modes of active transit

Urban Avenue typology, with an enhanced eco-boulevard condition. These multi-modal corridors are designed for effective use by community and commuters. Jane and Major Mackenzie feature distinct gateway conditions, as well as premium levels of pedestrian service and cycling infrastructure to encourage the ongoing urbanization of these corridors

Street Component Matrix

PAVING OPTIONS

FURNITURE OPTIONS

TREE SURROUNDS

BIKE OPTIONS

RUBBISH

ACCENT LIGHTING

REGIONAL ROADS

JANE ST

Standard Concrete
Etched Concrete (to designate cycle way)
Cast Iron Detectable Warning Plate, Neehan Foundry



Cast Stone Seatwalls
Cast Stone Gateway Planters



150 x 250mm broad CIP curb



Landscape Forms Bola



Landscape Forms
Select Litter Receptacle



iLight Plexineon White 1X Series,
or equal exterior grade LED accent



MAJOR MACKENZIE

Standard Concrete
Etched Concrete (to designate cycle way)
Cast Iron Detectable Warning Plate, Neehan Foundry



Cast Stone Seatwalls w/ Graphic concrete etching
Cast Stone Gateway Planters



150 x 250mm broad CIP curb



Landscape Forms Bola



Landscape Forms
Select Litter Receptacle



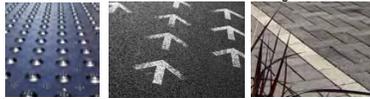
iLight Plexineon White 1X Series,
or equal exterior grade LED accent



FOREST BOULEVARDS

STREET D

Asphalt MultiUse Path
Unilock EcoPriora Paver, Santa Fe Colour 12 x 12; 24 x 12
Cast Iron Detectable Warning Plate, Neehan Foundry



Landscape Forms Bancal Bench



1200 Trystan Toronto Tree Grate
Structural Soil Cells



Landscape Forms Bola

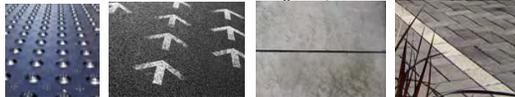


Landscape Forms
Select Litter Receptacle



STREET A/G / E

Asphalt MultiUse Path, Standard Concrete
Unilock EcoPriora Paver, Santa Fe Colour 12 x 12; 24 x 12
Cast Iron Detectable Warning Plate, Neehan Foundry



Landscape Forms Bancal Bench
Reclaimed Wood Planter Seating



500 x 250mm broad CIP curb
Structural Soil Cells



Landscape Forms Bola
Landscape Forms Flo



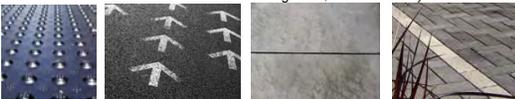
Landscape Forms
Select Litter Receptacle



URBAN HABITAT

STREET B, C, EE, F

Asphalt MultiUse Path, Standard Concrete
Unilock EcoPriora Paver, Santa Fe Colour 12 x 12; 24 x 12
Cast Iron Detectable Warning Plate, Neehan Foundry



Landscape Forms Bancal Bench
Reclaimed Wood Block Seating



150 x250mm broad CIP curb



Landscape Forms Bola
Landscape Forms Flo



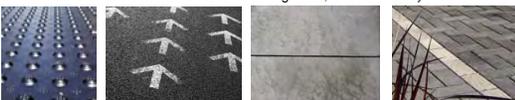
Landscape Forms
Select Litter Receptacle



WILD EDGES

STREET C, EE

Asphalt MultiUse Path, Standard Concrete
Unilock EcoPriora Paver, Santa Fe Colour 12 x 12; 24 x 12
Cast Iron Detectable Warning Plate, Neehan Foundry



Informal Boulder Seating
Reclaimed Wood Block Seating



Landscape Forms Bola



Landscape Forms
Select Litter Receptacle



VHCP Street Objectives



Multimodal Transportation



Learning and Engagement



Street Amenity Clustering



Low Maintenance Street Boulevards



Sustaining an Urban Forest



Reducing Impermeable Areas and Runoff



Streets for healing and restoration



Streets as Habitat + Food sources

Primary Streetscape Objectives (Vaughan Healthcare Centre Precinct Plan)

1. Attractive, safe streets for pedestrians + cyclists
2. Permeable, connected street system
3. Built forms to address the street
4. Achieve Precinct Identity and Character

Secondary Streetscape Objectives (Vaughan Healthcare Centre Precinct Plan)

1. Low Maintenance Planting regimes
2. Support a Healthy Urban Forest
3. Pocket Habitat + Ecosystem Service
4. Community Engagement + Investment
5. Strategic Clustering of Street Amenities
6. Flexibility for growth and future use
7. Support Landscape Health and Wellness Themes
8. Seamlessly Integrate with Precinct open spaces to create an interconnected public realm.

VHCP Internal Street Character



VHCP Arterial Road Character



VHCP Boulevard Growing Conditions

Street Tree trenches



Preliminary diagram of VHCP Street Tree Trenches

Width Continuous Soil Trench	Tree Spacing	Trenched Growing Media Per Tree
>3.50m	9.0m O.C.	50.00 m ³ +
3.50 m	9.0m O.C.	31.50 m ³
2.75 m	10.0m O.C.	27.50 m ³
2.50m	9.0m O.C.	22.50 m ³
2.50m (soil cells)	9.0 m O.C.	22.50 m ³
2.00m (small trees)	9.0 m O.C.	18.00 m ³

The Precinct's Street Trees are a vital piece of urban infrastructure which provide enormous climatic, environmental, health, ecological, aesthetic and psychological benefits.

Streetscapes are typically harsh environments for trees, and many do not survive or never grow to a large canopy size. Understanding this, careful consideration has been given to creating optimum growing conditions which balance cost effectiveness with appropriate provision for healthy tree canopies.

Soil Volume

VHCP boulevards are designed to accommodate continuous soil trenches and planting beds. The intent is for street trees to benefit from shared soil resources.

Under these conditions, 22 - 32m³ of soil is available per tree- suitable for attaining healthy mature size. Along many of the precinct's street, trees also benefit from rich native soil resources of Precinct Ponds, Buffer, Stream Channel, and fallow development parcels. These additional growing resources further support the overall health, density, distribution and diversity of street trees.

Tree Spacing

As utility locations are refined during detailed design, of tree spacing irregularities may be required to avoid growth-limiting conflicts with utilities, street furniture and footings. Securing growth space for sizable trees is to remain a strong organizing factor in the Precinct's final boulevard layouts.

Understanding the health of the precinct's tree depends largely on the quality and quantity of the root space, the streetscape must attempt to maximize and protect the integrity of tree trench wherever possible.

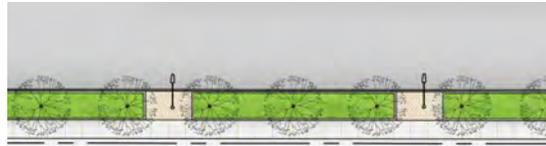
VHCP Boulevard Growing Conditions

Growing Conditions

Four growing typologies are identified as part of the VHCP concept design.

1. *Open Planter with low curb*
2. *Open Planter with raised seatwall*
3. *Conventional Soil Trench with permeable pavers + tree grates*
4. *Structural Soil Cells with permeable pavers + tree grates*

Each typology has wildly different spatial impacts on the boulevard. Individual streets may employ a combination of these typologies in order to negotiate specific conditions- including anticipated frontages, street classification, boulevard width, available soils (direct and indirect), pedestrian uses and amenity space.



Open Planter with Low Curb

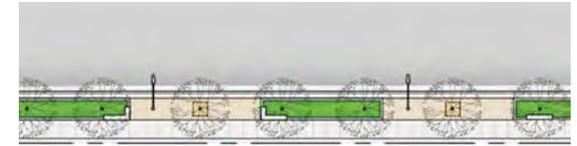
As the most cost effective means of supporting healthy tree growth, open planters are the predominant typology used across VHCP streets. Streets may be arranged with a combination of open planters and tree grates to balance soft and hard boulevard conditions, per specific needs of the individual street.



Open Planter with Raised Seat Wall

As a typology with premium cost, raised open planters are limited to the Street E (the precinct's main civic spine) and regional Roads (Jane and Major Mackenzie).

Here, trees benefit from additional growing medium and protection from street's environmental stresses. Shaded seating is an additional benefit of this typology.



Conventional Soil Trench with Permeable Pavers and Tree Grates

This typology is used in conjunction with open planters where a hard boulevard condition is most practical. Permeable pavers allow for air and water exchange, important to recharge the soil trench.

Tree Grates have been selected for their ample opening size, allowing for root flare and trunk growth. 19mm crushed granite mulch (50mm thick) is recommended to further protect tree base and retain soil moisture.



Structural Soil Cells with Permeable Pavers and Tree Grates

Due to the intensive installation and premium costs, Silva Cell technology is highly limited within the Precinct. This constructed growing condition is located only where free pedestrian circulation is desirable (strategic gathering nodes at Street A, D +E) or where boulevard space is constrained (Street D).

An important entrance into the precinct, Street D acts as highly visible and iconic gateway. The Boulevard's space constraints lends itself well to the use of rigid soil cells.

VHCP Proposed Street Trees

Street Tree distribution



● Acer saccharinum	Silver Maple	Salt-Tolerant Evergreen Trees**
● Acer rubrum	Red Maple	Picea glauca
● Acer Freemanii	Freeman Maple	Picea pungens var. glauca
● Acer Freemanii 'karpick'	Karpick Maple	Pinus banksiana
● Acer saccharum	Sugar Maple	Pinus parviflora
● Acer nigrum	Black Maple	Pinus thunbergii
● Betula nigra	Paper Birch	Juniperus virginiana
● Carpinus betulus "Fastgiata"	European Hornbeam	
● Cercis Canadensis	Red Bud	
● Celtis occidentalis	Hackberry	
● Fagus sylvatica	European Beech	
● Nyssa sylvatica var. sylvatica	Tupelo Tree	
● Ostrya virginiana	HopHornbeam	
● Platanus x acerifolia	Plane Tree	
● Salt-Tolerant Evergreen Trees**		
● Tilia x 'Redmond'	Redmond Basswood	
● Tilia cordata	Little Leaf Linden	
● Zelkova serrata	Zelkova	
● Liriodendron tulipifera	Tulip Tree	
● Liquidambar styraciflua	Sweetgum	
● Quercus shumardii	Shumard Oak	
● Quercus bicolor	Swamp White Oak	
● Quercus muehlenbergii	Chinkapin oak	
● Gateway Planters	Sumac, Amelanchier, Cercis, Prunus, Hamamelis	

Note:

1. Street Trees will be supplemented by additional screening trees and plant material along the full length of Block 9 Residential Buffer.
2. Street Trees will be supplemented by additional native trees and plant material along the full length of Block 4 Channel Buffer.
3. Refer to City of Vaughan Tree List (2014) for alternate trees species for Precinct Streetscapes
4. Refer to Region of York "Acceptable Street Tree Species List" for alternate trees for Jane Street and Major Mackenzie

Street tree diversity is paramount to a sustainable urban forest. Tree selections reflect a balance between cohesive street appearance and canopy diversity important for long term health of the tree population. Special prominence has been given to native species with specific food or habitat value urban wildlife, including insects and pollinators

VHCP Streetscape Planting Strategy

As a precinct premised on health & wellness, streets are themed around the concepts of restoration, growth and renewal.

Streetscape boulevards are designed to offer space for basic natural functions (habitat, growth, decay, phenology) while supporting the physical and emotional life of this healthcare community.

While urban boulevards typically offer cramped, challenging environments for growth, there is growing awareness that -properly managed- these environments may serve as high functioning green spaces which contribute to the intricacy of a precinct's ecology.

For this strategy to succeed, ecological dynamism must be embraced at the design, maintenance and management levels.

Establishing robust native plant communities is a long term strategy for financial, social and environmental sustainability.

Precinct Identity and Street Character

The aesthetic of wild, naturalized boulevard gardens have potential to create distinct character across the precinct streets. Replacing turf grass with hardy perennials, woody vines, and shrubs add seasonal and year round beauty to the street.

Thoughtful selection of perennial and native plant combinations should be an important part of the streetscape's planting strategy. Each of the plant's qualities should contribute to a balanced natural ecosystem- combining dense dwarfed woody shrubs with drought tolerant grasses provide four season interest and habitat function.

Native Communities and Building Ecological Structure

Developing an established understory layer is an important way of transforming Precinct streetscapes from a tree farms into an urban forest.

Careful plant selection must ensure each species is durable enough to tolerate urban conditions- heat, drought, road-salt stress, and snow piles.

To promote diversity, boulevard are to be planted with a wide variety of species. Diverse planting structure provides habitats for beneficial insects, reduces damage from periodic diseases and preserving genetic diversity.

Planting Strategy

Tolerating minor pest damage and encouraging for beneficial insects as part of a biological pest control strategy can be effective and low maintenance alternative to chemical controls.

Plantings should attract and provide a safe shelter for migratory birds and a food source for beneficial insects, including butterflies and honeybees that provide benefits like pollination.

Plants have been selected for their drought-tolerant qualities, such as deep roots that allow them to reach and store rainwater for long periods of time. Encouraging the development of well-adapted root system can allow boulevards to retain approximately 30 percent more water than a conventional turf grass. Maximizing the size of planting beds and soil volumes allow suitable growing space above and below the ground.

While the initial costs of installing and establishing a native plant structure may be greater than conventional turf grass, over time the long-life and durability of these plant communities make them less costly to maintain.



VHCP Streetscape Planting Strategy



Planting Maintenance

Annual (or biannual) cleanup of streetscape planters should be part of an established streetscape maintenance regime.

Tall grasses should be cut back annually for weed control. Clipping should be left on site to break down and encourage micro fauna and earthworms for healthy soils.

Perennials should be allowed to go to seed to encourage wildlife while eliminating unnecessary and costly 'tidying' maintenance. Likewise, boulevard perennials should not be cut back in the fall, but left standing through the winter months to provide food (seed + insects), nesting opportunities (stalks + twigs) and shelter for wildlife. Additionally, streets benefits from winter interest, in the form of height and structure.

The maintenance regime may also consider limiting the amount of fall clean up in the planting areas. Leaf litter also supports cocoon, larvae and adult insects – a critical baseline component for any healthy ecosystem. The organics material also functions as natural mulch- reducing moisture loss, frost damage and weeds in street planters.

Understorey shrubs and woody material provide important planting structure along precinct Streets. Minimal pruning should be used to maintain sightlines and safety along precinct sidewalks and multiuse paths. Woody stems should be left intact; old stems protect the crown from frost and harbor insects and chrysalises important for sustaining healthy micro fauna.



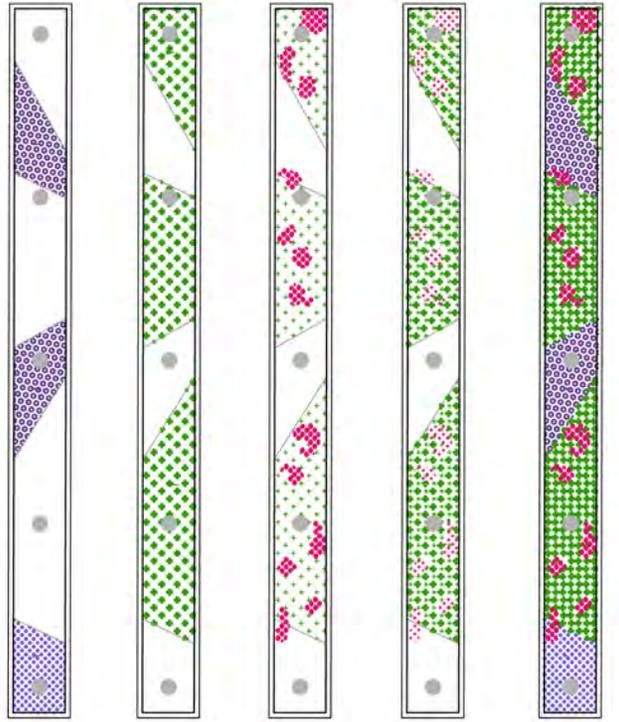
Embracing a wild naturalized aesthetic will not only reduce maintenance and operations costs, but increase the ecological capital of the precinct.

Refer to VHCP Planting Maintenance Manual for additional information on the establishment and ongoing care of Precinct landscapes

Ultimately, the management of all the Precinct's open spaces (including streets) should embrace principles of organic gardening where ever possible.

Naturalized Boulevard Planting Strategy

Boulevard Planting Strategy



PERENNIAL MASSING MATRIX GRASS SCATTERED PERENNIAL CLUMPS FILL IN MATRIX GRASSES + SEASONAL BULBS MIXED PERENNIAL GRASS MEADOW



Russian Sage Tussock Grass Rattlesnake Master Tussock Grass Drumstick Allium



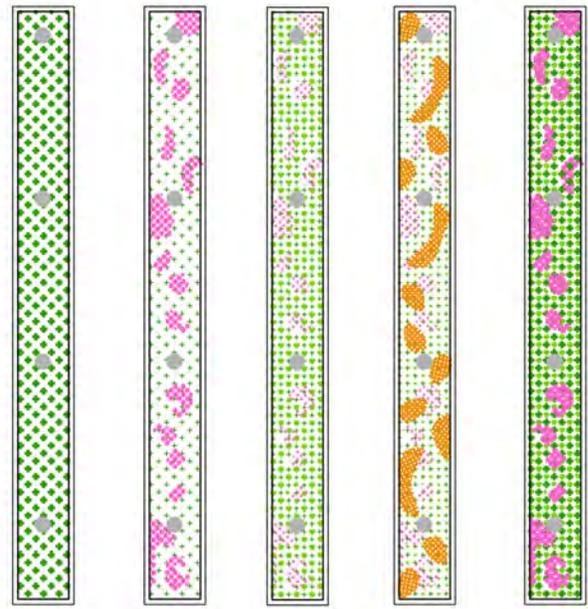
Native Echinacea



Blazing Star

STREET F PLANT LAYERING STRATEGY

1. MASS WOODY PERENNIALS INTO WIDE BANDS TO BREAK UP BOULEVARD INTO SEPARATE PLANTING BEDS.
2. WITHIN EACH PLANTING AREA, PLANT A SIMPLE AND RELATIVELY OPEN MATRIX OF MEADOW GRASS (*DESCHAMPSIA SP.*) SPACED 600mm O.C.
3. LAYER THREE SHOWS DIFFERENT TYPES OF PERENNIALS PLANTED AS SMALL CLUMPS, OFTEN INTERMINGLED WITH THE MATRIX GRASSES. DEPENDING ON THE SIZE OF THE PERENNIAL PERENNIALS MAY BE PLANTED IN GROUPINGS OF EITHER 5, 7 OR 9, AND SHOULD BE SPACED 300mm O.C. DEPENDING ON THE SIZE OF THE PERENNIAL.
3. ANY SPACE LEFT SHOULD BE FILLED WITH A COMBINATIONS OF SMALL FILLER GRASS, (*SESLARIA SP.*), THE FINAL DENSITY OF THE PLANTING SHOULD BE QUITE DENSE TO INHIBIT WEED GROWTH. PLANTS SHOULD BE NO GREATER THAN 300mm APART WITH NO PATCHES OF BARE SOIL.
4. CAREFULLY PLANT ALLIUM BULBS IN BETWEEN MEADOW GRASSES IN THE LATE AUTUMN. CALCULATE 50 BULBS PER SQM (150mm O.C), SPACE GROUPINGS RANDOMLY THROUGHOUT THE PLANTER.



MATRIX GRASS SCATTERED PERENNIAL CLUMPS FILLER GRASSES SEASONAL BULBS MIXED PERENNIAL GRASS MEADOW



Prairie Dropseed Globe Thistle Autumn Moor Grass Summer Beauty Allium



Eastern Beebalm



Native Echinacea

STREET B PLANT LAYERING STRATEGY

- BOULEVARD PLANTS SHOULD APPEAR OR NATURAL, OR SPONTANEOUS.
1. LAYER ONE REPRESENTS A SIMPLE AND RELATIVELY OPEN MATRIX OF MEADOW GRASS (*SPOROBOLUS SP.*) SPACED 600mm O.C.
 2. LAYER TWO SHOWS THREE TYPES OF PERENNIALS PLANTED AS SMALL CLUMPS, OFTEN INTERMINGLED WITH THE MATRIX GRASSES. PERENNIALS MAY BE PLANTED IN GROUPINGS OF EITHER 5, 7 OR 9, AND SHOULD BE SPACED 300mm O.C. DEPENDING ON THE SIZE OF THE PERENNIAL.
 3. ANY SPACE LEFT SHOULD BE FILLED WITH A COMBINATIONS OF SMALL FILLER GRASS, (*SESLARIA SP.*), THE FINAL DENSITY OF THE PLANTING SHOULD BE QUITE DENSE TO INHIBIT WEED GROWTH. PLANTS SHOULD BE NO GREATER THAN 300mm APART WITH NO PATCHES OF BARE SOIL.
 4. CAREFULLY PLANT ALLIUM BULBS IN BETWEEN MEADOW GRASSES IN THE LATE AUTUMN. CALCULATE 50 BULBS PER SQM (150MM O.C.), SPACE GROUPINGS RANDOMLY THROUGHOUT THE PLANTER.

VHCP Streetscape Preliminary Plant List

Arterial Roads, Forest Boulevards & Wild Edges

ARTERIAL ROADS

SHRUBS

PERRENIALS, GRASSES, GROUNDCOVER

Andropogon gerardii
Panicum virgatum 'Heavy Metal'
Panicum virgatum 'Shenandoah'
Sorghastrum nutans
Elymus canadensis
Solidago rugosa

Big Bluestem
 Heavy Metal Switch Grass
 Shenandoah Switch Grass
 Indian Grass
 Canada wild rye
 Rough-stemmed Goldenrod

FOREST BOULEVARDS

SHRUBS

PERRENIALS, GRASSES, GROUNDCOVER

Amelanchier laevis
Cornus stolonifera, sericea
Ceanothus americanus
Fothergilla gardenii
Juniperus horizontalis
Ilex glabra
Kalmia latifolia
Lonicera pileata
Physocarpus opuliflorus 'Nanus'
Rhus aromatica low grow
Taxus canadensis
Taxus cuspidata
Thuja occidentalis
Pinus mugo

Saskatoon Berry
 Red Osier Dogwood
 New Jersey Tea
 Dwarf Fothergilla
 Creeping Juniper
 Inkberry
 Mountain Laurel
 Box-leaved Honeysuckle
 Dwarf Ninebark
 Fragrant Sumac
 Canadian Yew
 Spreading Yew
 White Cedar
 Mugo Pine

Aruncus 'Horatio'
Alchemilla mollis
Asarum canadense
Amsonia hubrichtii
Clematis virginiana
Carex pennsylvanica
Chasmanthium latifolium
Deschampsia cespitosa
Euonymus fortunei coloratus
Parthenocissus quinquefolia
Sesleria autumnalis

Goatsbeard
 Lady's Mantle
 Wild Ginger
 Arkansas blue star
 Wild Hops
 Pennsylvania sedge
 Northern Sea Oats
 tufted hair grass
 Wintercreeper
 Virginia creeper
 autumn moor grass

WILD EDGES

SHRUBS

PERRENIALS, GRASSES, GROUNDCOVER

Aronia melanocarpa
Cornus stolonifera
Diervilla lonicera
Myrica pensylvanica
Symphoricarpos alba
Rubus canadensis
Rubus strigosus

Black Chokeberry
 Red Osier Dogwood
 Dwarf Bush Honeysuckle
 Northern Bayberry
 Snowberry
 thornless blackberry
 red raspberry

Arctium spp.
Andropogon gerardii
Achillea millefolium
Asclepias purpurascens, tuberosa
Anemone canadensis
Coreopsis lanceolata
Clematis virginiana
Monarda fistulosa
Panicum Virgatum
Penstemon digitalis
Sorghastrum nutans
Solidago sempervirens
Solidago gigantea
Vernonia missurica
Zizia aurea

Burdock
 Big Bluestem
 Yarrow
 Purple Milkweed
 Meadow Anemone
 Lanceleaf coreopsis
 Wild Hops
 Bee Balm
 Switchgrass
 Penstemon
 Indiangrass
 Seaside Goldenrod
 Late Goldenrod
 Missouri Ironweed
 Golden Alexanders

VHCP Streetscape Preliminary Plant List

Urban Habitat

URBAN HABITAT

SHRUBS

<i>Alchemilla mollis</i>	Lady's Mantle
<i>Comptonia peregrina</i>	Sweet Fern
<i>Cornus stolonifera, sericea</i>	Red Osier Dogwood
<i>Diervilla lonicera</i>	Dwarf Bush Honeysuckle
<i>Echinops ritro</i>	Globe Thistle
<i>Juniperus horizontalis</i>	Creeping Juniper
<i>Lonicera pileata</i>	Box-leaved honeysuckle
<i>Myrica pensylvanica</i>	Northern Bayberry
<i>Physocarpus opuliflorus 'Nanus'</i>	Dwarf Ninebark
<i>Rhus aromatica low grow</i>	Fragrant Sumac
<i>Taxus canadensis</i>	Canadian Yew
<i>Viburnum dentatum</i>	Arrowwood viburnum

PERENNIALS, GRASSES, GROUNDCOVER

<i>Agastache x 'Blue Fortune'</i>	Giant Hyssop
<i>Amsonia hubrichtii</i>	Arkansas Blue star
<i>Amorpha canescens</i>	Lead Plant
<i>Aruncus 'Horatio'</i>	Goatsbeard
<i>Aster laevis</i>	Smooth Blue Aster
<i>Asclepias tuberosa</i>	Butterfly Weed,
<i>Asclepius syriaca</i>	Common milkweed
<i>Amorpha canescens</i>	Lead Plant
<i>Baptisia australis</i>	Blue Wild Indigo
<i>Baptisia bracteata;</i>	Cream Wild Indigo,
<i>Bouteloua curtipendula</i>	Side-Oats Grama
<i>Chasmanthium latifolium</i>	River Oats
<i>Deschampsia cespitosa</i>	Tufted Hair Grass
<i>Echinacea purpurea</i>	Purple Coneflower
<i>Echinacea pallida</i>	Pale Coneflower
<i>Echinops ritro</i>	Globe Thistle
<i>Eryngium 'Big Blue'</i>	Sea Holly
<i>Euphorbia</i>	Crown-of-thorns
<i>Liatris spicata</i>	Blazing Star
<i>Monarda didyma</i>	Beebalm
<i>Rudbeckia hirta</i>	Black-eyed Susan
<i>Salvia x sylvestris</i>	Meadow sage
<i>Salvia nemorosa</i>	Garden Sage
<i>Schizachyrium scoparium</i>	Little Bluestem,
<i>Solidago speciosa</i>	Showy Goldenrod
<i>Solidago sempervirens</i>	Seaside Goldenrod
<i>Sporobolus heterolepis</i>	Sporobolus heterolepis
<i>Tiarella cordifolia</i>	Heartleaf Foamflower
<i>Veronicastrum virginicum</i>	Culver's Root
<i>Verbena stricta</i>	Hoary Vervain

Streetscape Design

Regional Road Concepts	page
Major Mackenzie Drive	27
Jane Street	
Internal Street Concepts	31

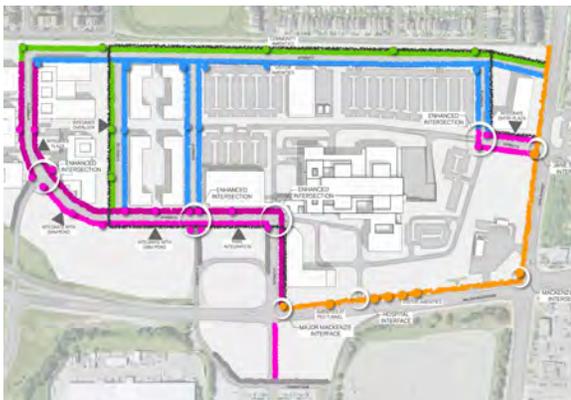
2

VHCP Streetscape Design

Detailed Design - Overall Plan



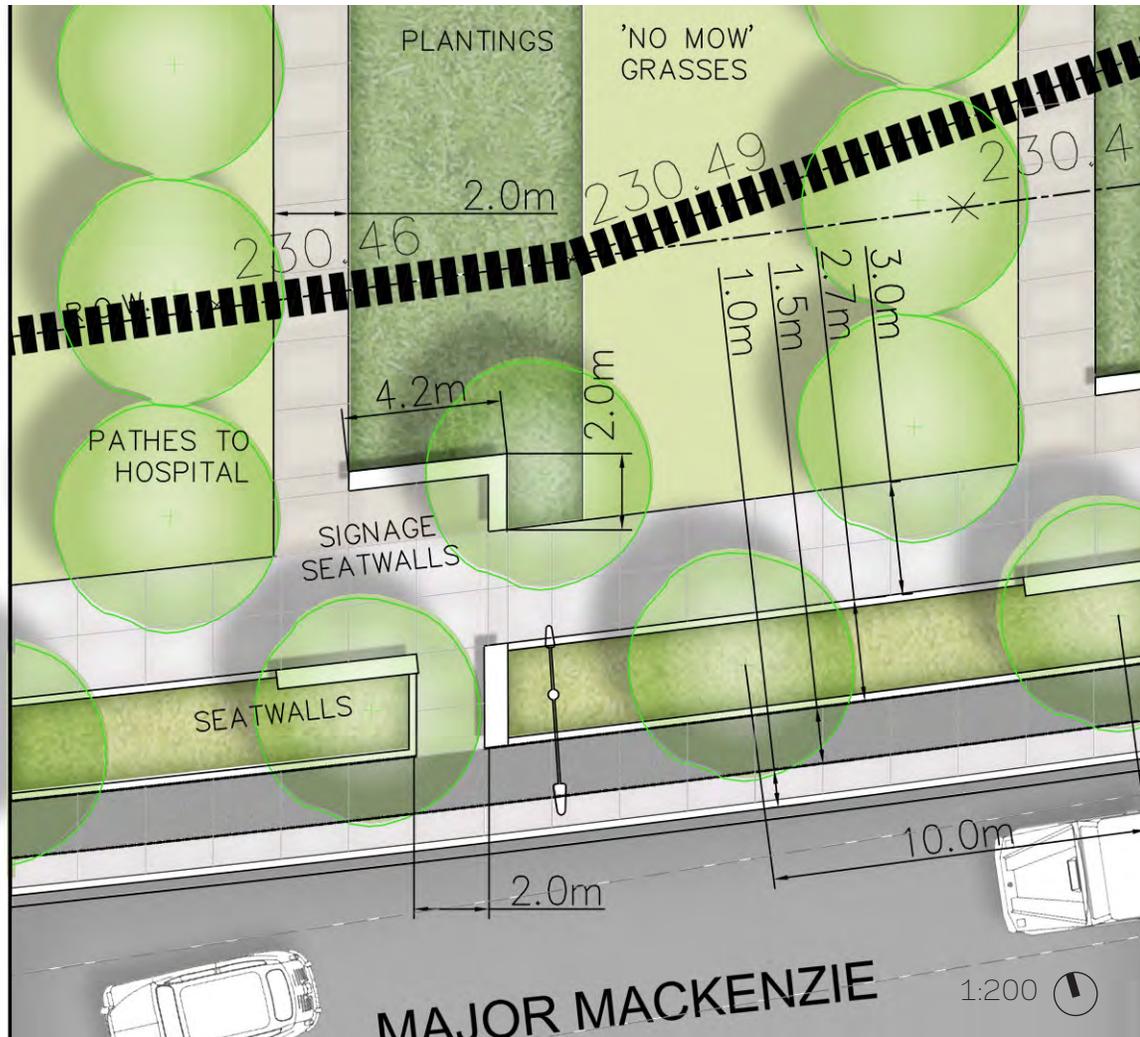
Street Typologies



-  Arterial Roads
-  Wild Edges
-  Forest Boulevards
-  Urban Habitat
-  Multi use Path

Regional Roads

Major Mackenzie



Major Mackenzie

This is conceived as a grand boulevard, featuring tall wild grasses with silver maple.

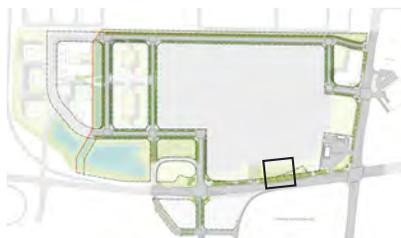
The design intent is to create a seamless connection between the street right-of-way and Block 2 landscaping.

Small gathering and orientation nodes are created where hospital pathways connect to the Major Mackenzie sidewalk. These connection points may provide space for pedestrian signage, wayfinding, seating, and respite amongst the tall grass landscape.

Precast Seatwall elements defining these nodes and planting edges while also providing shaded seating options.

The walls also offer opportunity for to integrate subtle etched signage and graphic designs which reinforce the identity and branding of the precinct.

Planting and paving materials should integrate with hospital design, but may include a palette of tall grasses, birch, poplar, and jack pine for screening around existing pump station. Concrete connector pathways should be wheelchair accessible and lit for safety.



Key Plan



Seatwalls



No mow grass

Regional Roads

Major Mackenzie at Jane



Jane Street and Major MacKenzie

This is an important gateway for the hospital and Precinct. While currently occupied by a service station, future development or hospital expansion may activate this intersection to create prominent focal point and branding opportunity for the precinct.



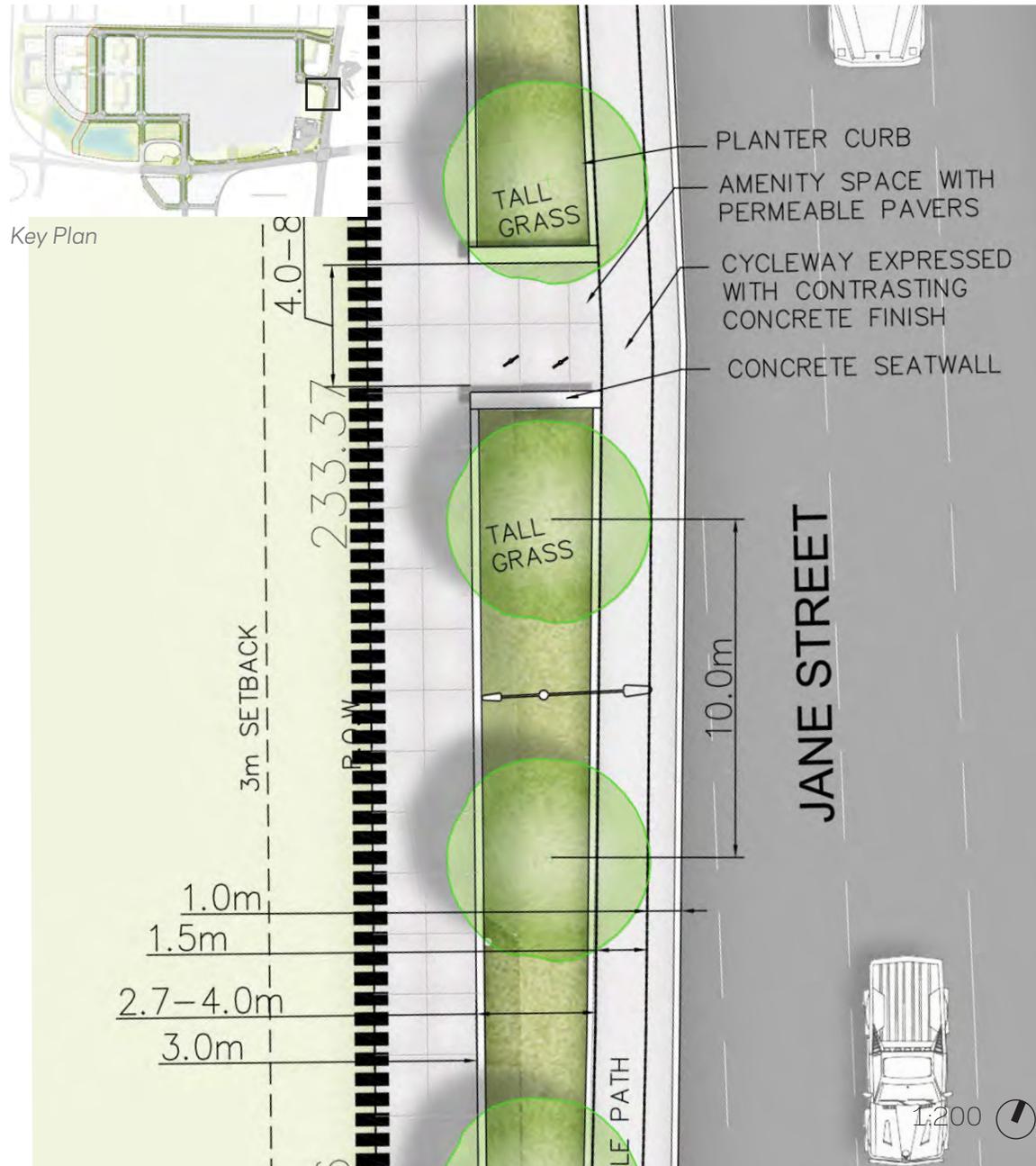
Expanding on the simple language of the seatwall, large scale sculptural planter surrounds are used across the regional roads to mark important precinct gateways.

The duplication of an iconic precast planter element across multiple gateways reinforces a clear identity for the precinct. While the planters themselves provide continuity, specific plants (such as witchhazel, serviceberry, or sumac) may be specific to different approaches. Special attention to be given to impactful planting structure which emphasize seasonal interest and native ecologies.

Ultimately, the gateway icons are meant to reflect the wild dense plant communities which characterize the Precinct's internal streets and open spaces.

Regional Roads

Jane Street



Jane Street

Inspired by oak savannahs of the region, the Jane Street Boulevard is characterized by Swamp White Oak an array of hardy grasses. Big bluestem, Switchgrasses, Canadian Rye and Indian grass and other suitable tall grass require minimal maintenance and mowing regimes.

Both Jane and Major Mackenzie will provide cyclists with a dedicated cycle track within the boulevard. The tall grass plantings provide suitable separation between pedestrian and cyclists. Additionally, the cycle track may be treated with any number of contrasting surface finishes (such as stamped or etched concrete) to further demarcate exclusive cycle use.

The physical separation of cyclists from traffic is continued within the precinct as a connected system of multi-use pathways.

Wherever possible, the existing street trees along Jane should be maintained, protected and incorporated into the redesign.



Panicum Grasses



Concrete cycle way

Regional Roads

Jane Street Entrance



Jane Street at Street A

This is a significant gateway into the precinct which should engage Block 1 (at the northwest side of the intersection), with both a long and short terms strategies.

An entry plaza is recommended as part of the future development of Block 1. The intersection should reinforce the public/civic nature of this plaza with permeable edges, open circulation, and direct connection the street right of way.

In the interim, gateway planters provide appropriate punctuation at this intersection, particularly at night when plantings may be accentuated with sensitive accent lighting.

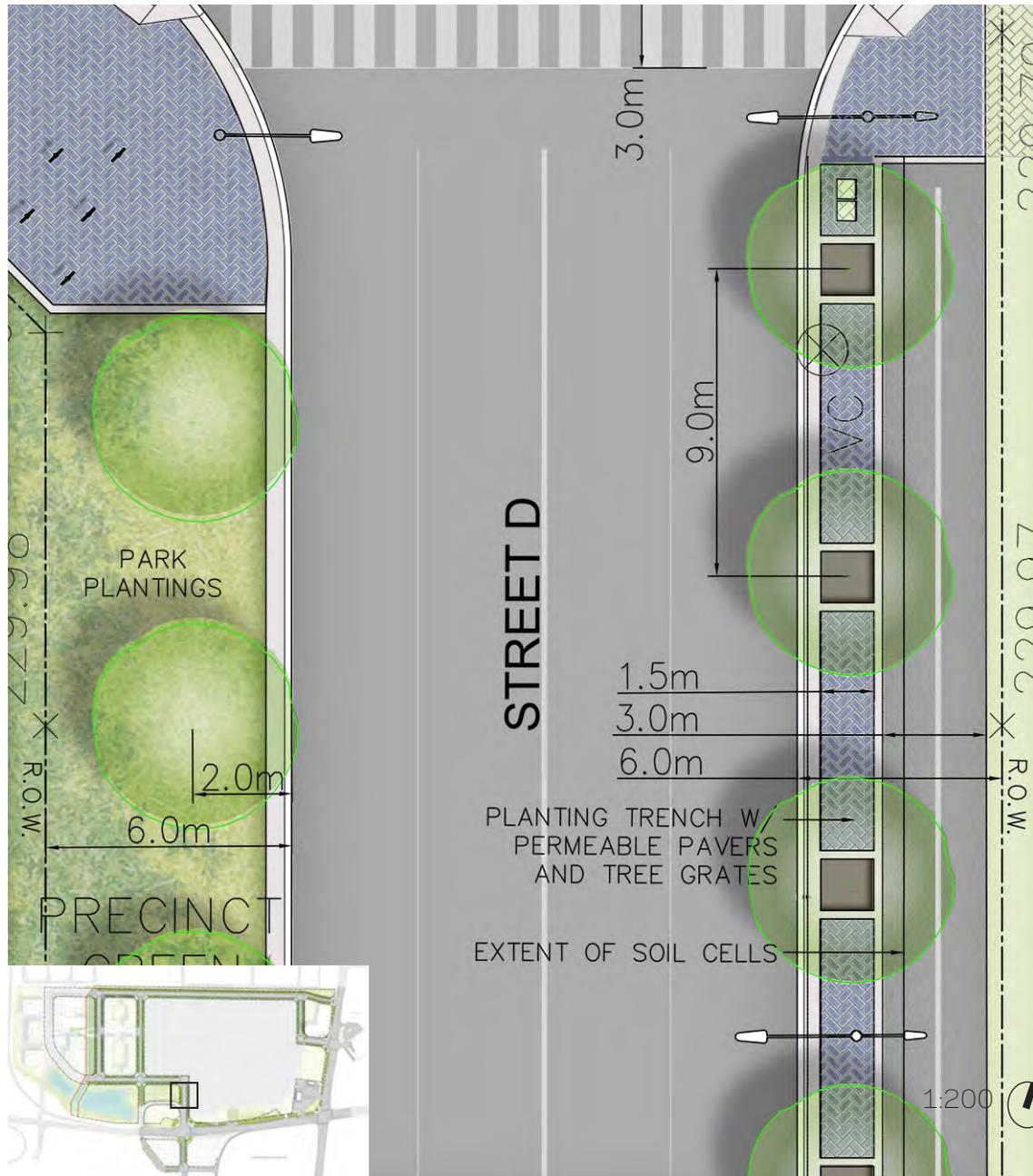
Accommodations should be made for additional focal points, such as additional art or signage associated with Precinct.



Gateway Planting and Lighting

Forest Boulevards

Street D



Street D

Street D is important gateway into the precinct from region's arterial roads and future transit hub.

The Cedar Fair site access ramp creates an asymmetrical treatment of Street D, where pedestrian and cyclist access is limited to the eastern boulevard. A hard boulevard with structural soil cells maximizes available space for trees and people.

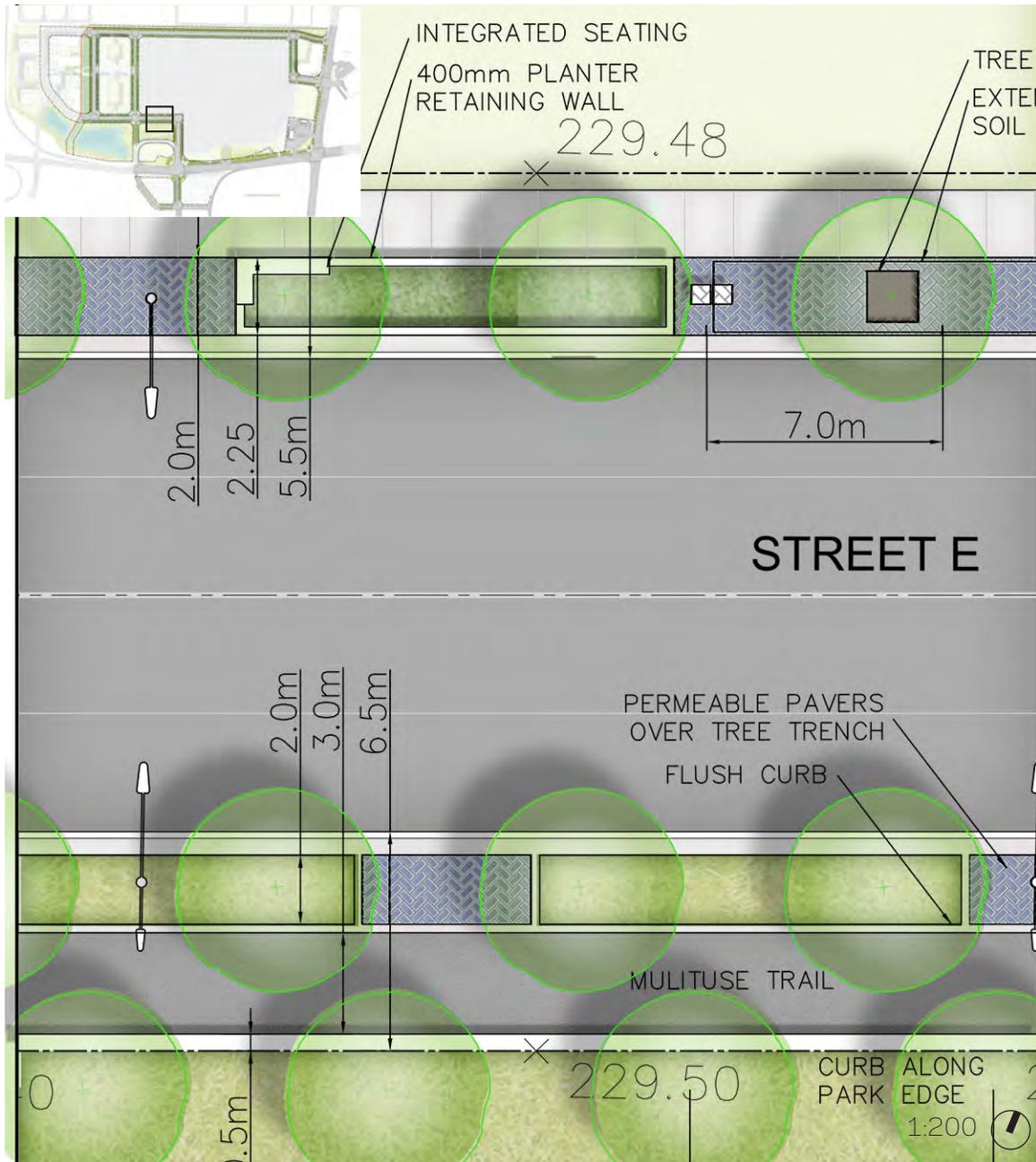
The 3m private frontage (associated with future office development) should complement the right of way, with a second row of trees, concrete sidewalk and additional amenities.



Street Character

Forest Boulevards

Street E



Street E

Street E will act as the main civic spine through the precinct. Not only does it connect the hospital to future development to the west, Street E also links the precinct's open spaces (Precinct green, SWM ponds, Channel).

The south side of Street D reinforces natural flows of people and program between open space and street. Depending on the open space adjacency - the boulevard may dissolve into free-circulating plaza condition or serve to frame a programmed green 'room'.

The north side of Street D must be flexible enough to respond to future development scenarios. Building frontage will be an important factor in defining this street character. Amenity spaces should be thoughtfully arranged to align with future entrances (street at corners, or mid-block entrance).

Raised planters provide opportunity for garden space and integrated seating elements- enhancing this street further.



Street Character

Forest Boulevards

Street A + B Enhanced Intersection



Intersections identified as focal points for the Precinct are treated with an enhanced level of materials and amenities.

Understanding these will be busy nodes of activity, enhanced intersections are designed for impromptu meeting and lingering, useful for sustaining healthy street life.

Street Tree rhythm may be interrupted to feature specimen trees. This is a useful strategy for intuitive wayfinding and shaping a distinct place within the street right of way.

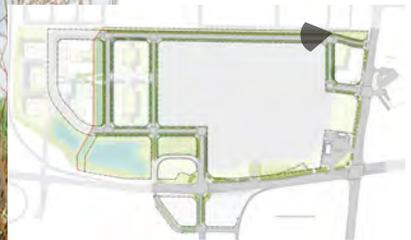
Hard paved surfaces allow for flexibility and gathering, while permeable pavestones mitigate the effect of runoff on the Precinct's stormwater ponds.

Adjacencies (including open space and buildings) should activate these intersections with clear frontage and direct connections. Clustering street amenities (bike racks, waste receptacles, seating elements) at these locations further support the anticipated frontage and use.

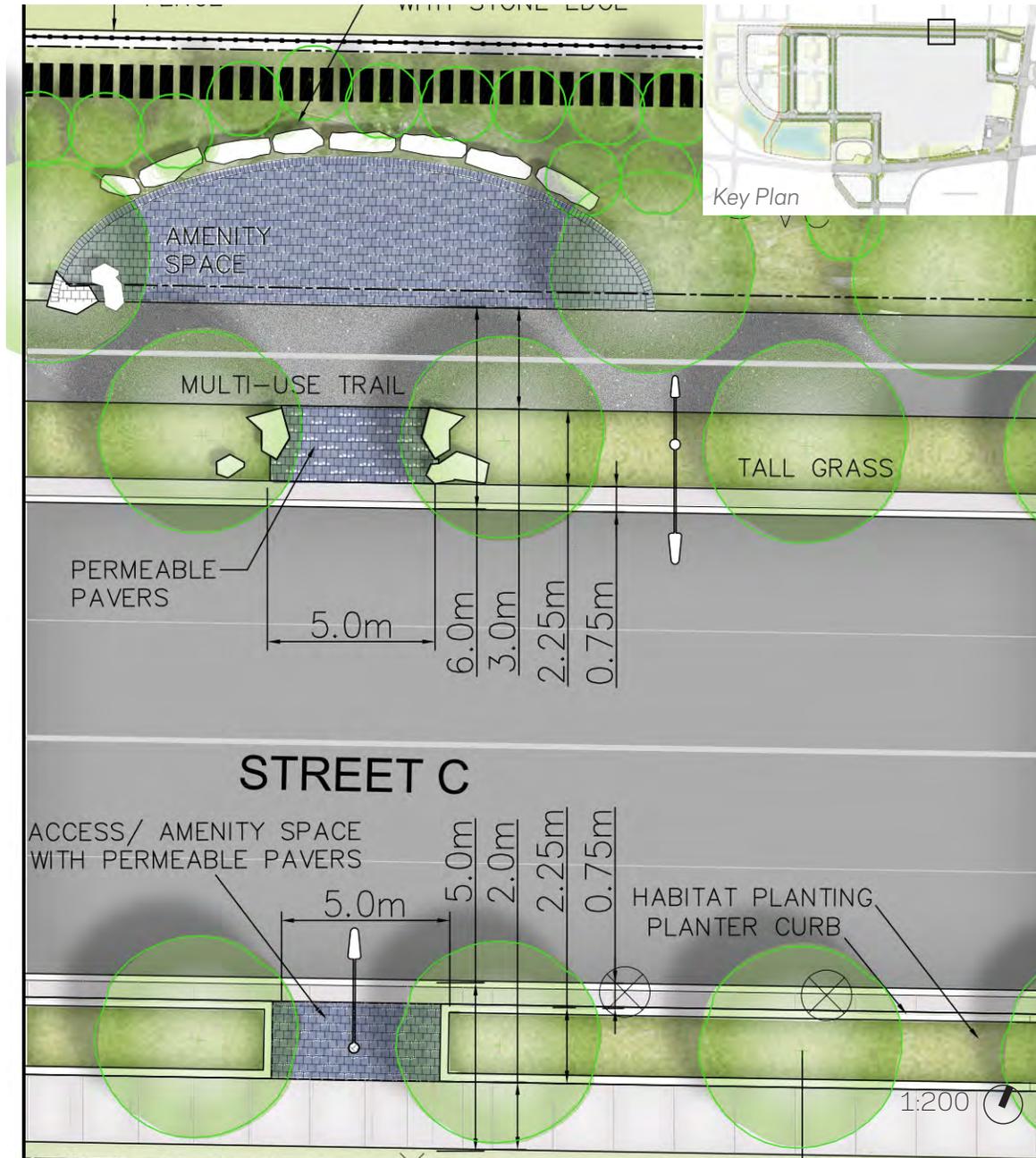


Intersection Treatment

Wild Edges
Street C View



Wild Edges Street C



Street C

Street C celebrates Maple's agricultural past and namesake. The double row of Maples evoke the farmstead landscapes of this historic area. Tall old field grasses and meadow plants informally line the boulevard, honoring memory of this agricultural community.

The old farm aesthetic is complemented by berry thickets and hedgerows of the adjacent buffer landscape. As the 'least formal' edge of the precinct, typical street furnishings may be augmented by boulder habitat elements or informal wood block seating.

Finally, given the established residential the north, there's clear potential for community investment in Street C. Urban foraging, both in the short term (berry picking), and long term (maple tapping) may be long term goals as this street develops.



Agricultural Character

Urban Habitat
Street F View



Urban Habitat / Wild Edges

Street EE



Street EE

Local streets EE, F and B run north-south through the precinct, connecting development blocks to collector streets

Prioritizing health and wellness, these streets should have a particularly verdant character. A system of perennial and shrub plantings beds not only to attract wildlife and pollinators, but create small urban havens for healing and restoration of both staff and visitors of this healthcare precinct.

The channel buffer provides a unique opportunity to merge the Street EE Boulevard with a rich woodlot typology.

Maple, red oak, basswood and Ironwood natives may be planted with hardy underbrush species to create a protective edge to this sensitive corridor.



Street Character



Key Plan



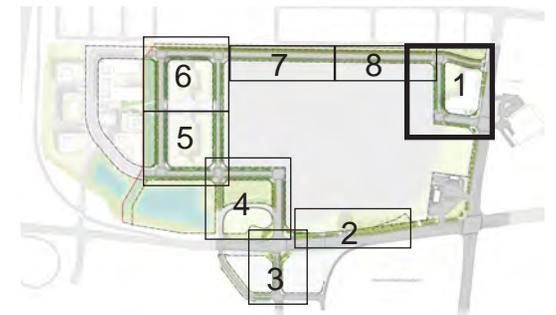
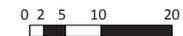
Appendix

Detailed Plans
Typical Sections

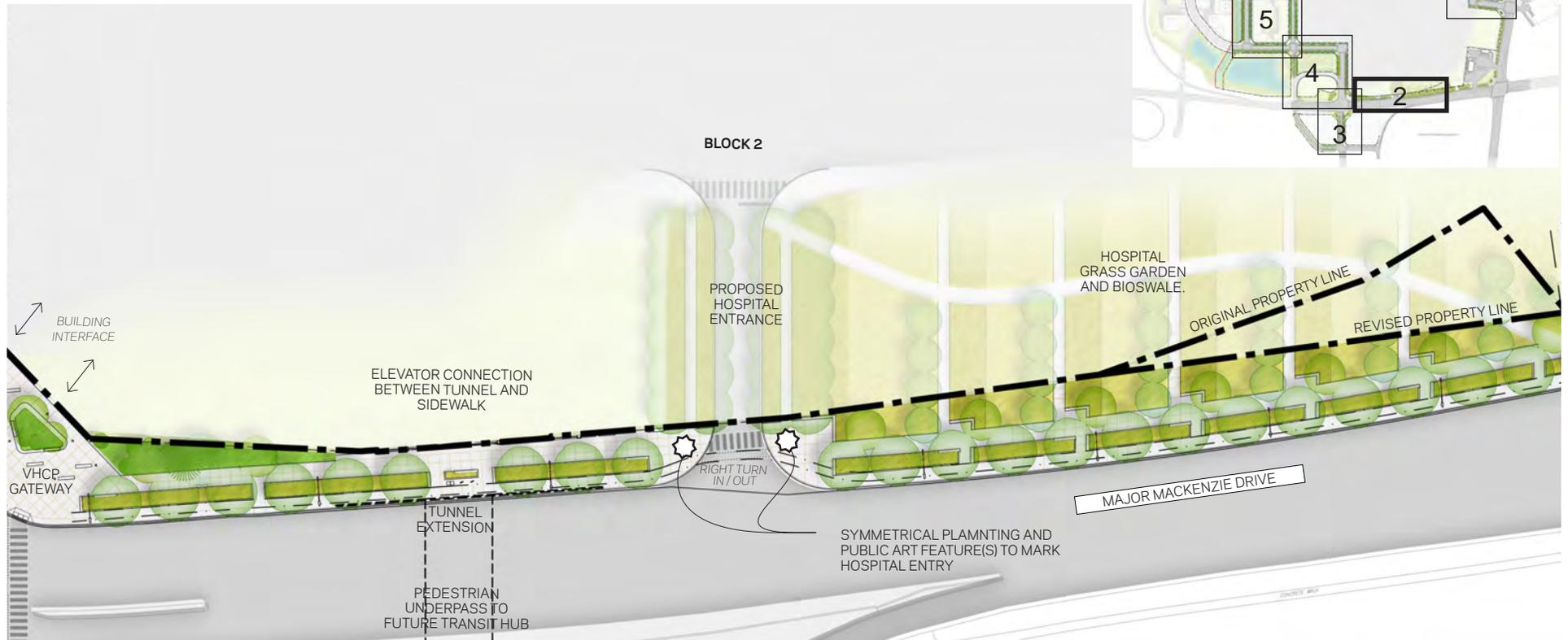
page
a.3
a.10



Plan 1



Plan 2



Public Art

Create Public Art Opportunity within the Major Mackenzie R.O.W. at the hospital entrance.

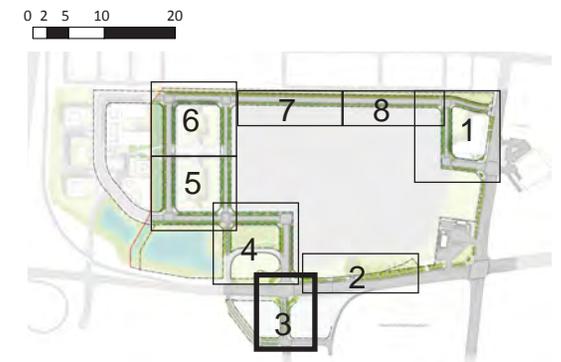
Art should emphasize a sense of entry at the driveway. Symmetry should be used, wherever possible, to reinforce a 'gateway' while driving into to the hospital block.

Art may take on any number different formats, but should be grounded and seamlessly incorporated into both Streetscape and Hospital Plans.

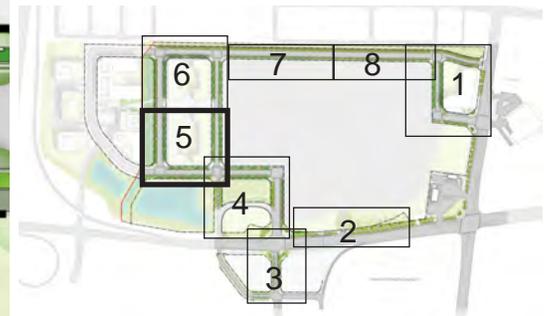
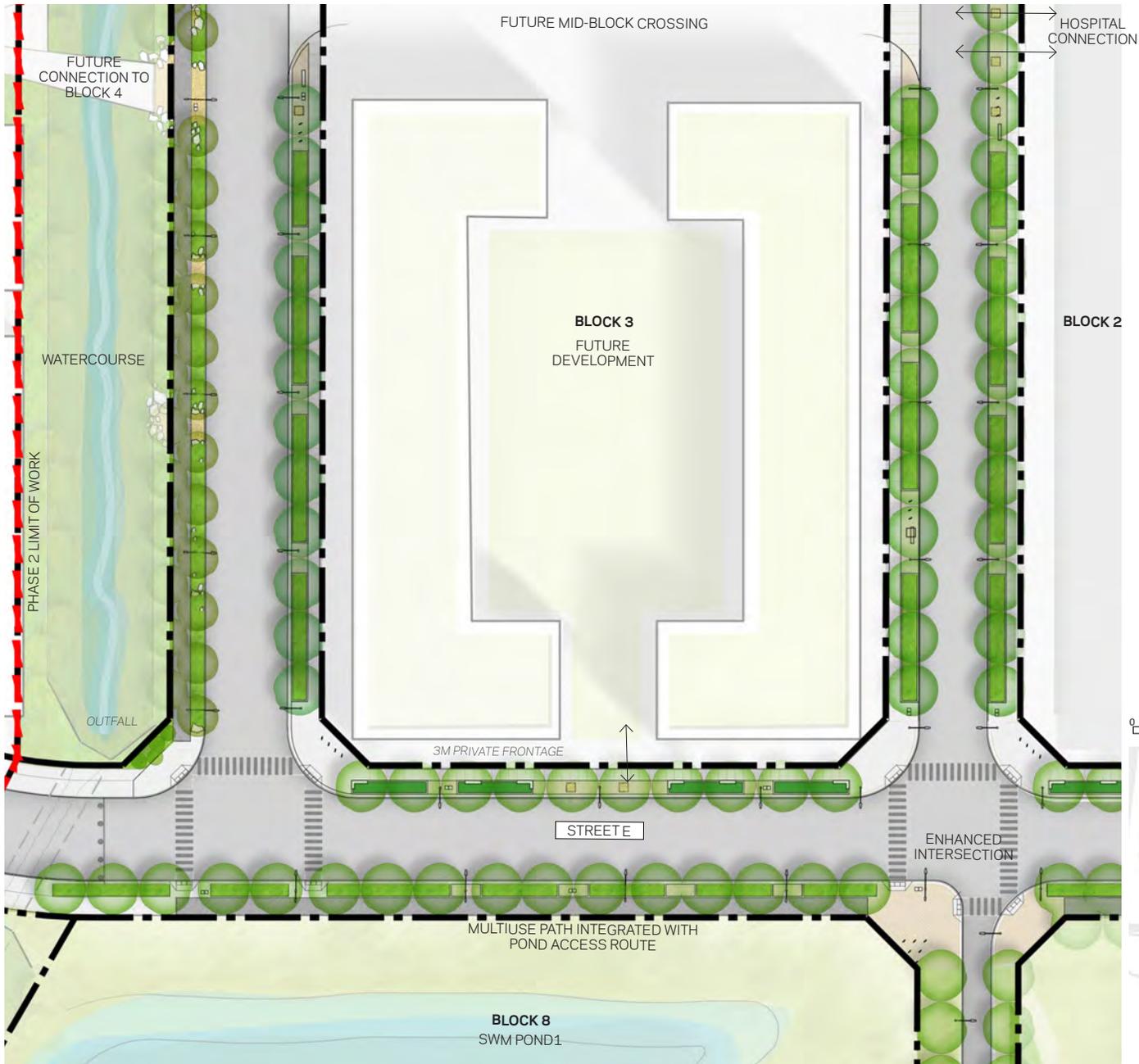
Interventions which integrate boulevard plantings, street lighting, signage, or other landscape/ environmental conditions are encouraged.

For further details on public art, refer to the City-Wide Public Art Study (winter 2016).

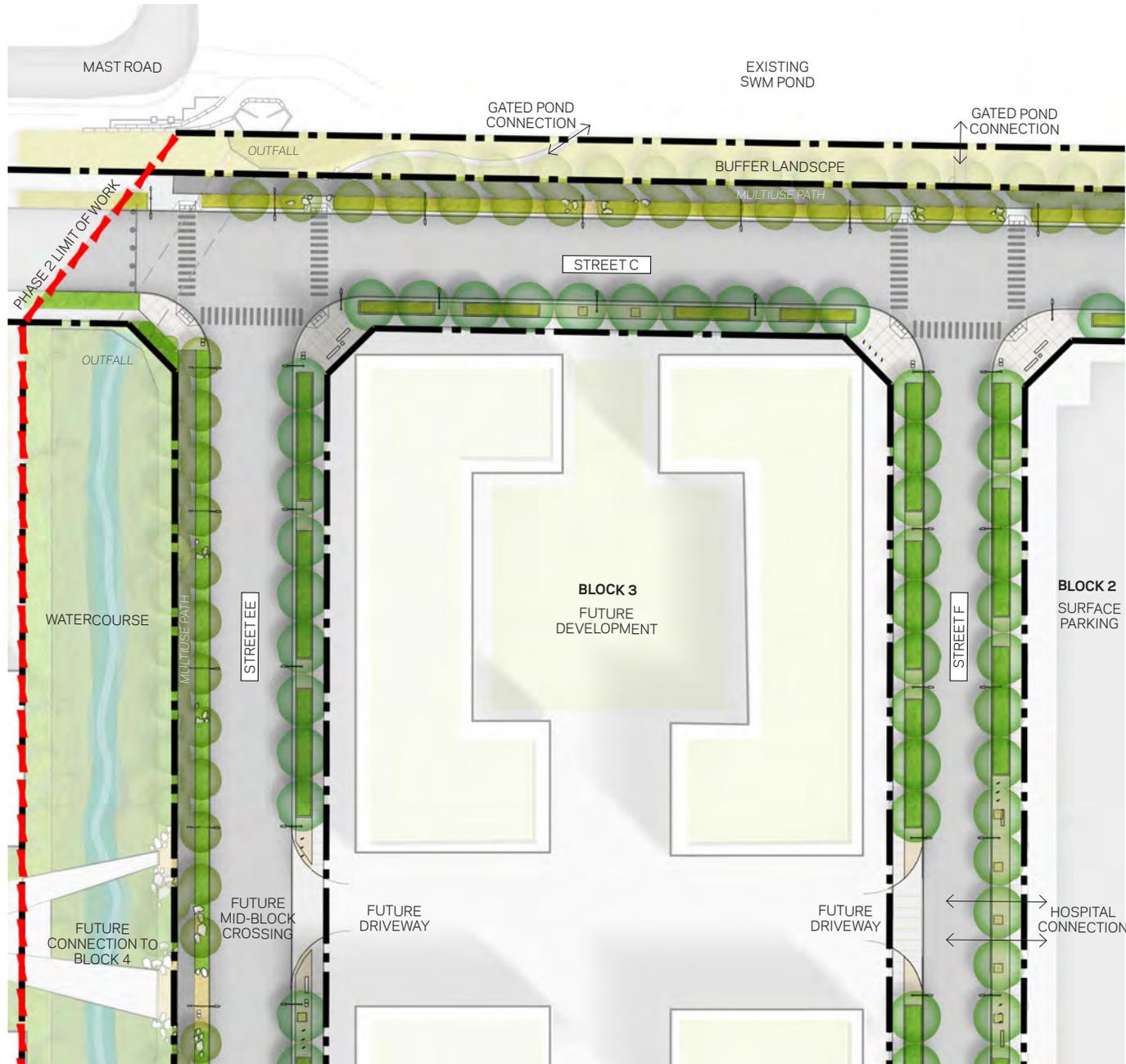
Plan 3



Plan 5

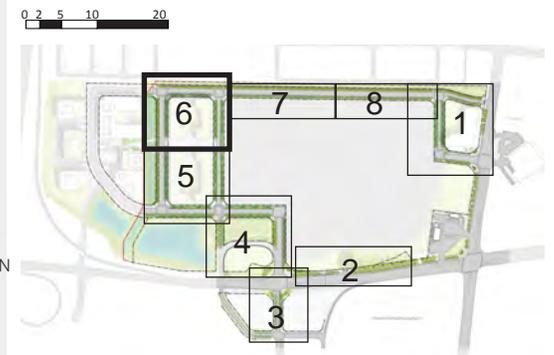


Plan 6



Note:

1. Street Trees will be supplemented by additional screening trees and plant material along the full length of Block 9 Residential Buffer.



Plan 7

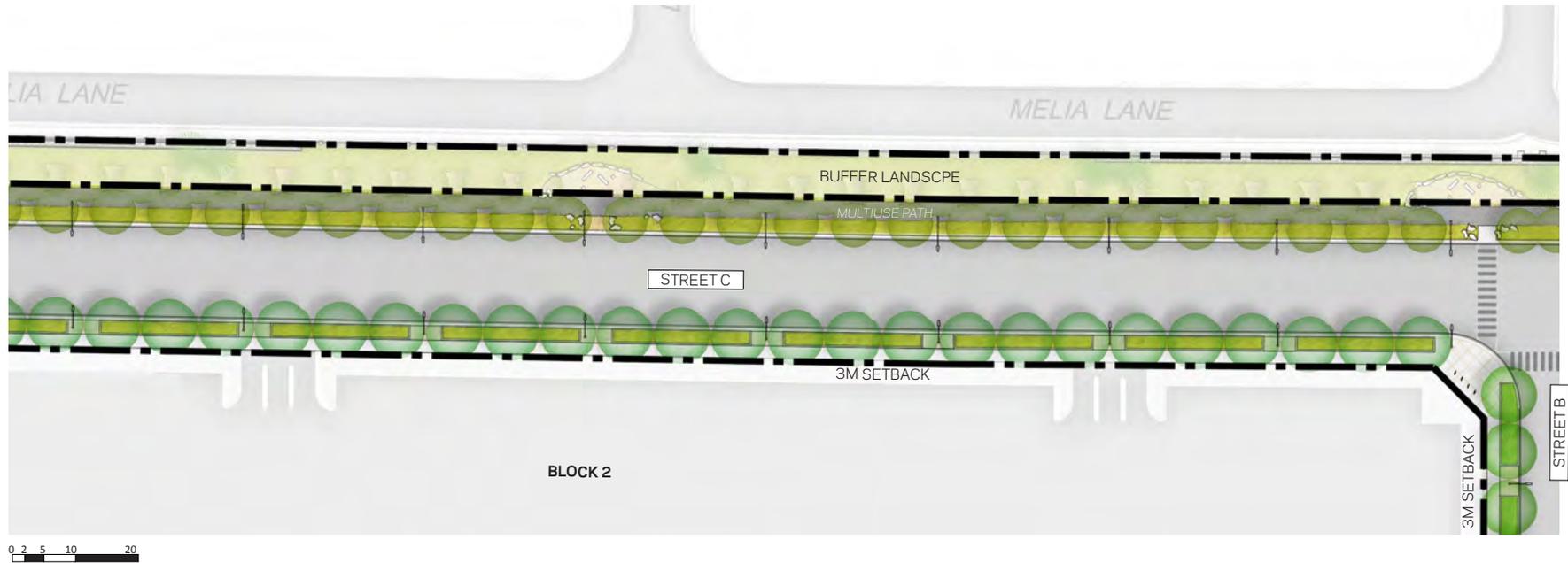


Note:

1. Street Trees will be supplemented by additional screening trees and plant material along the full length of Block 9 Residential Buffer.



Plan 8

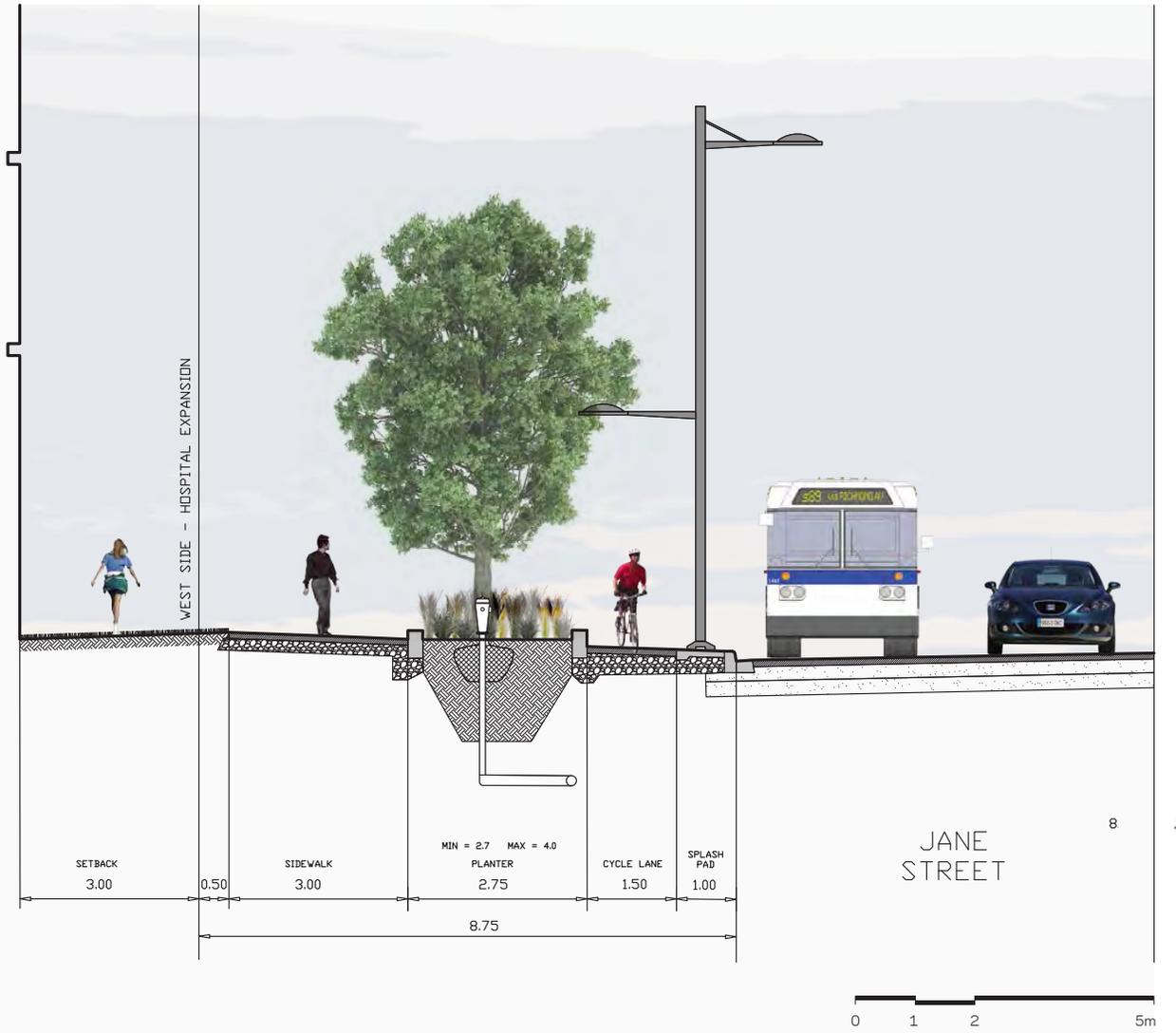


Note:

1. Street Trees will be supplemented by additional screening trees and plant material along the full length of Block 9 Residential Buffer.



Jane Street - Typical Section



Note:

1. Cross Section represents a hybrid between Urban Centre and Urban Avenue cross sections from 'Designing Great Streets': A Context Sensitive Approach
2. Streetlight location (and plan spacing) are for representative purposes only. Additional photometric study is required for final layout of pedestrian and vehicular luminaires.

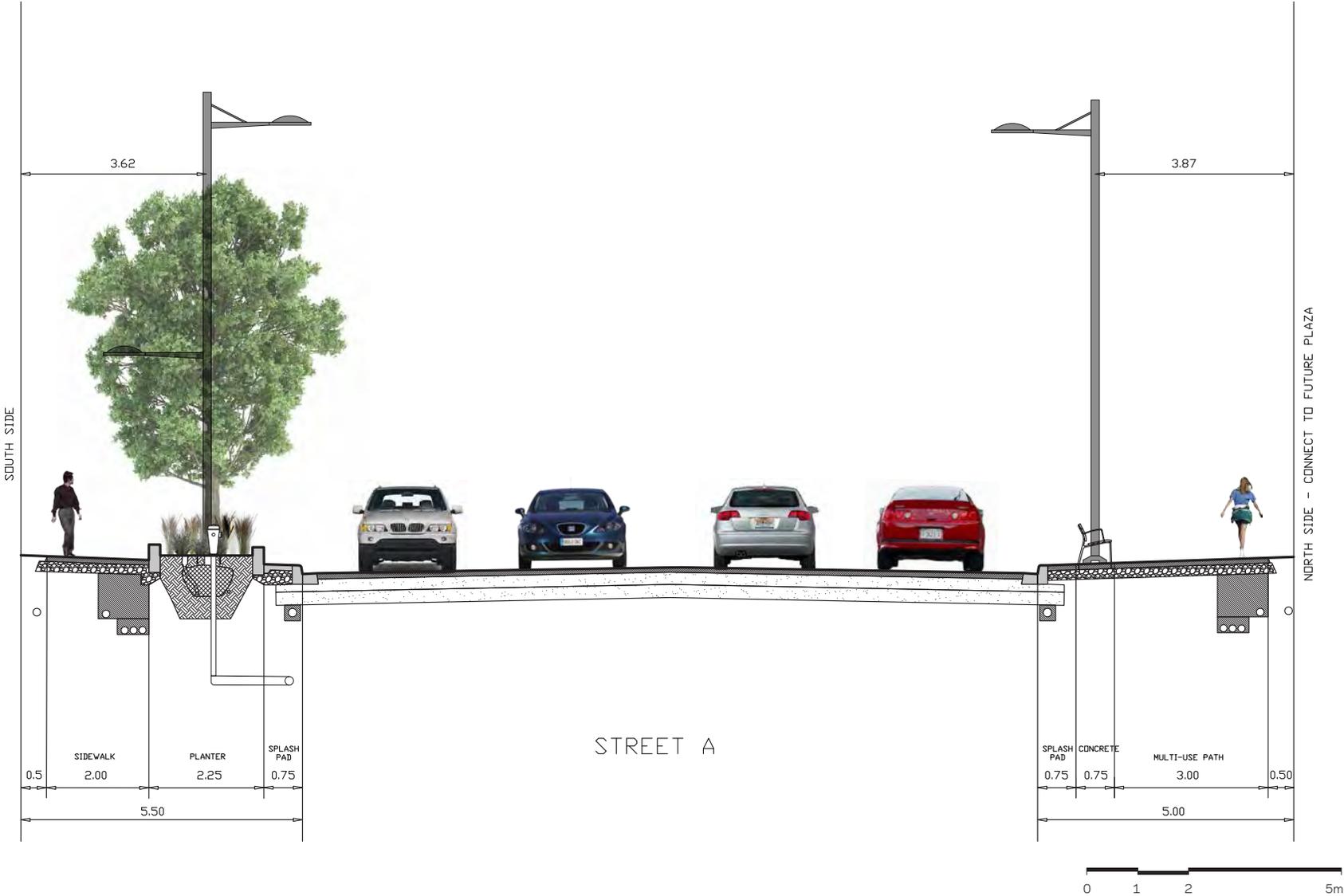
Major Mackenzie Drive - Typical Section



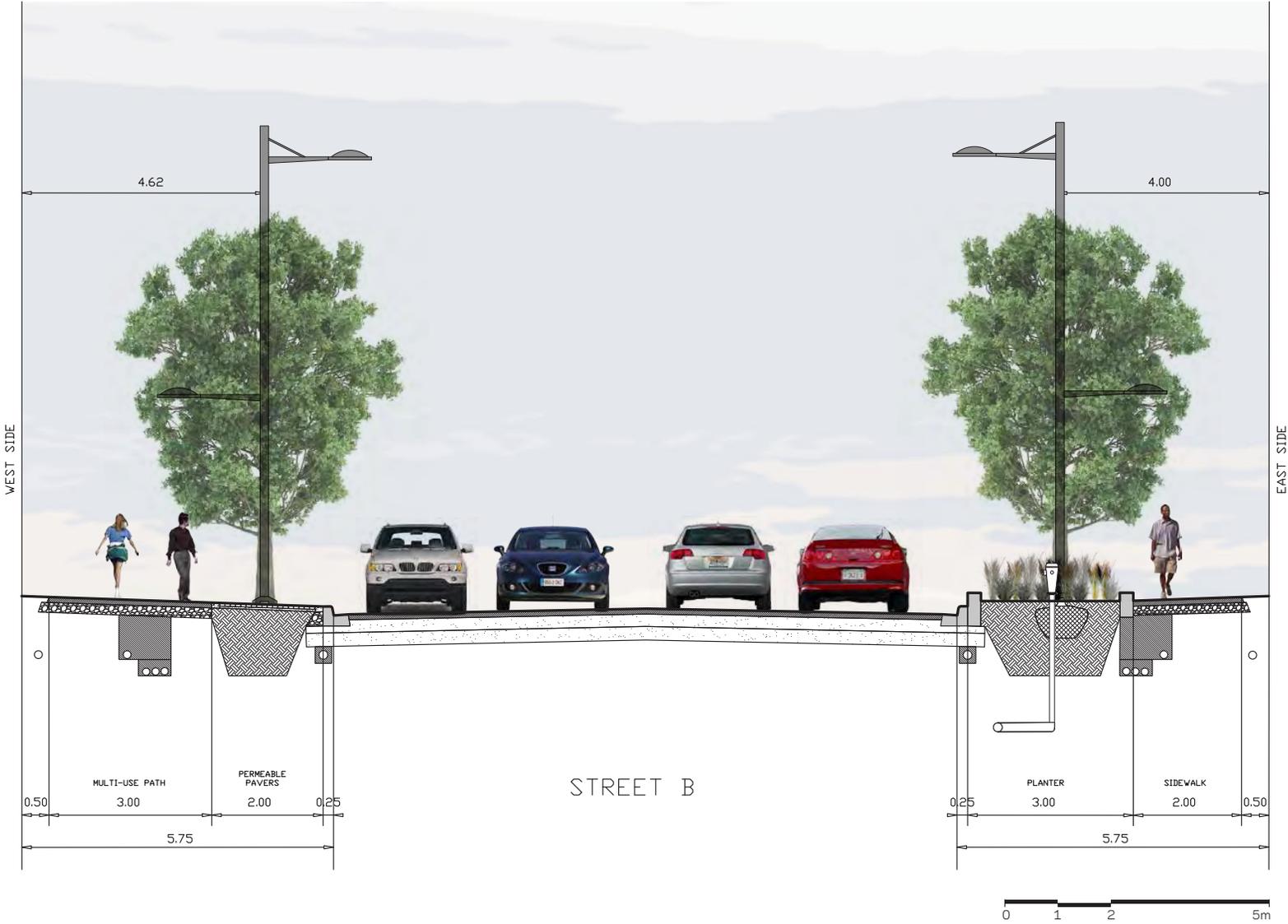
Note:

1. Cross Section represents a hybrid between Urban Centre and Urban Avenue cross sections from 'Designing Great Streets': A Context Sensitive Approach
2. Streetlight location (and plan spacing) are for representative purposes only. Additional photometric study is required for final layout of pedestrian and vehicular luminaires.

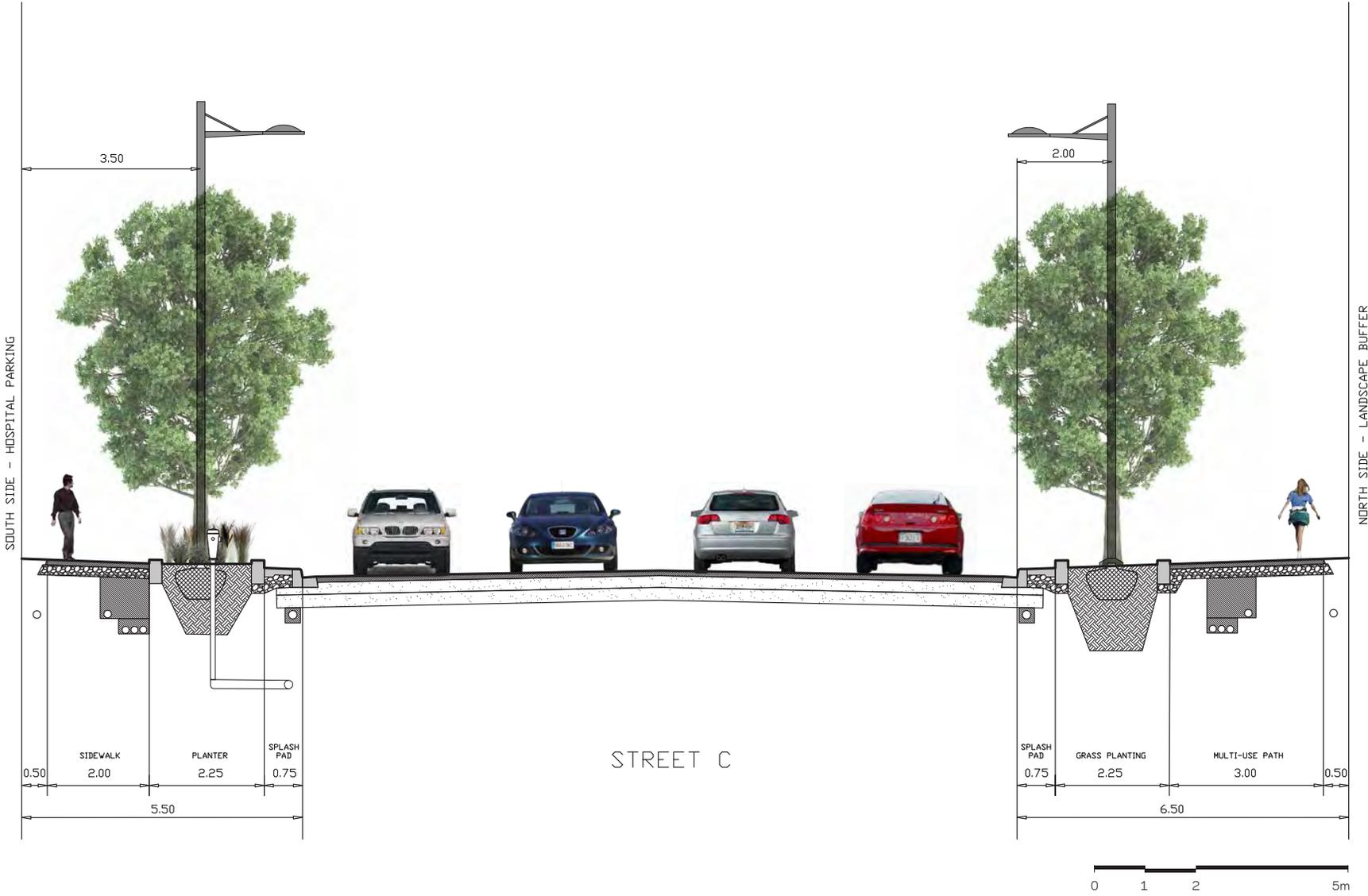
Street A - Typical Section



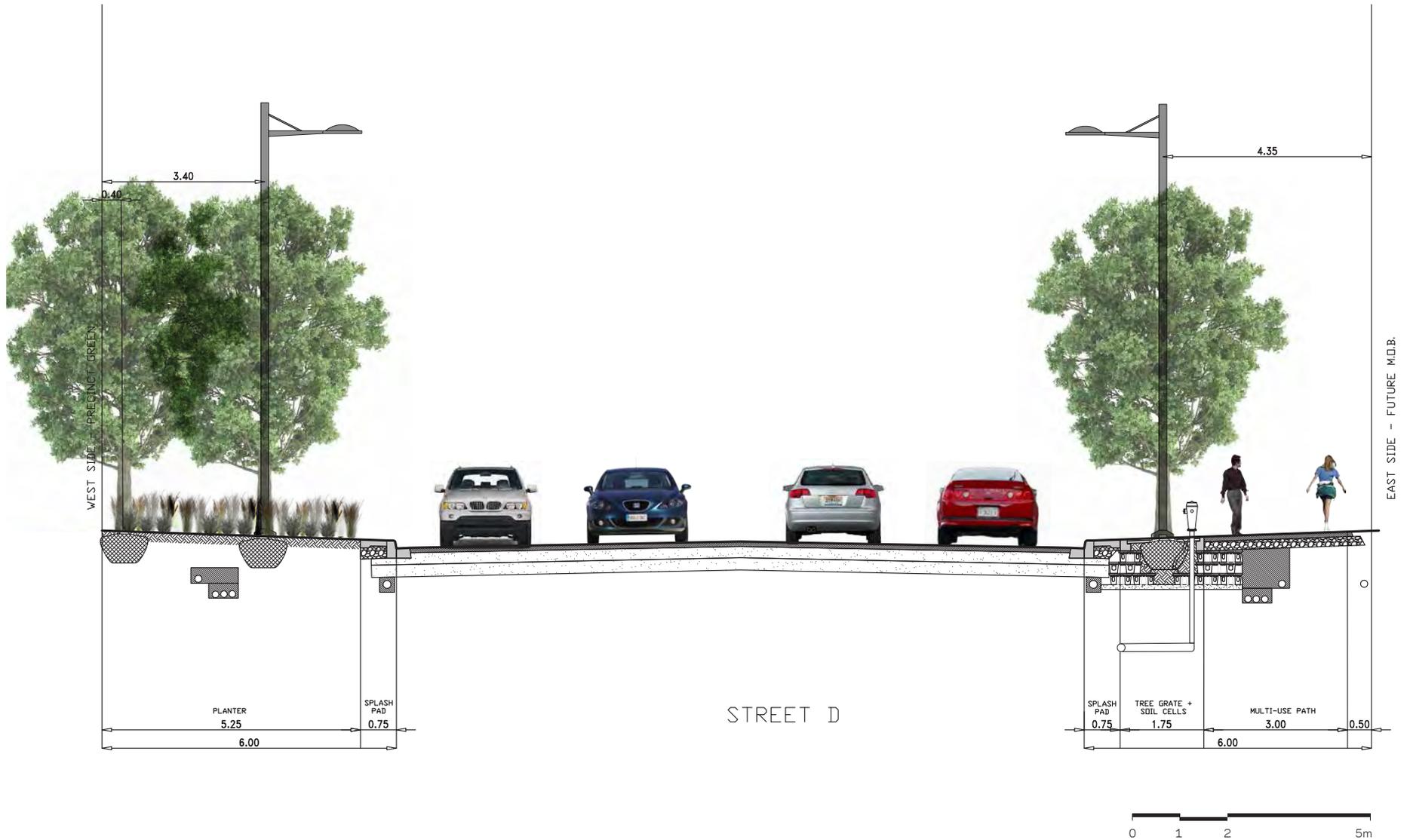
Street B - Typical Section



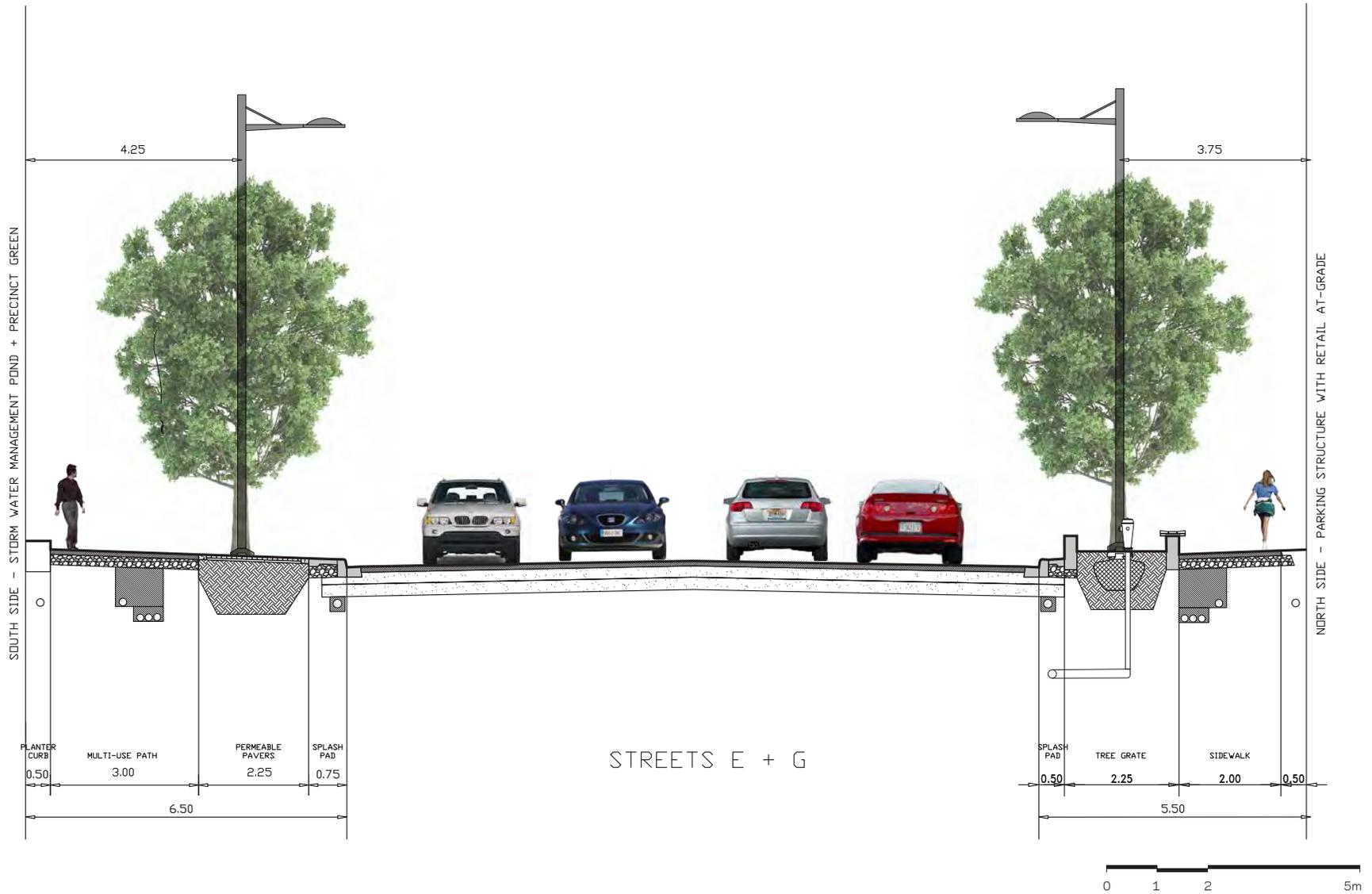
Street C - Typical Section



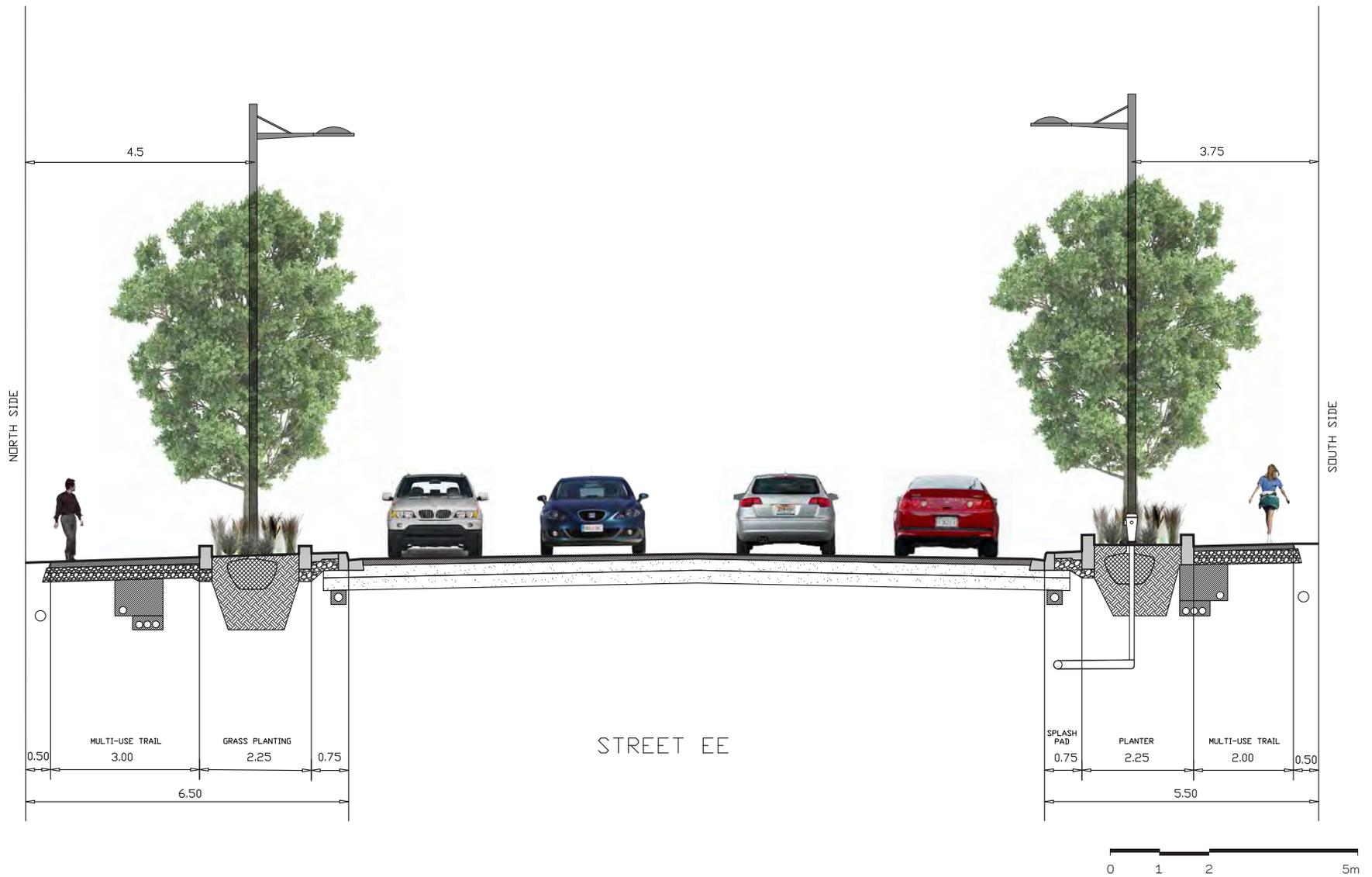
Street D - Typical Section



Street E / G - Typical Section



Street EE - Typical Section



Street F - Typical Section

