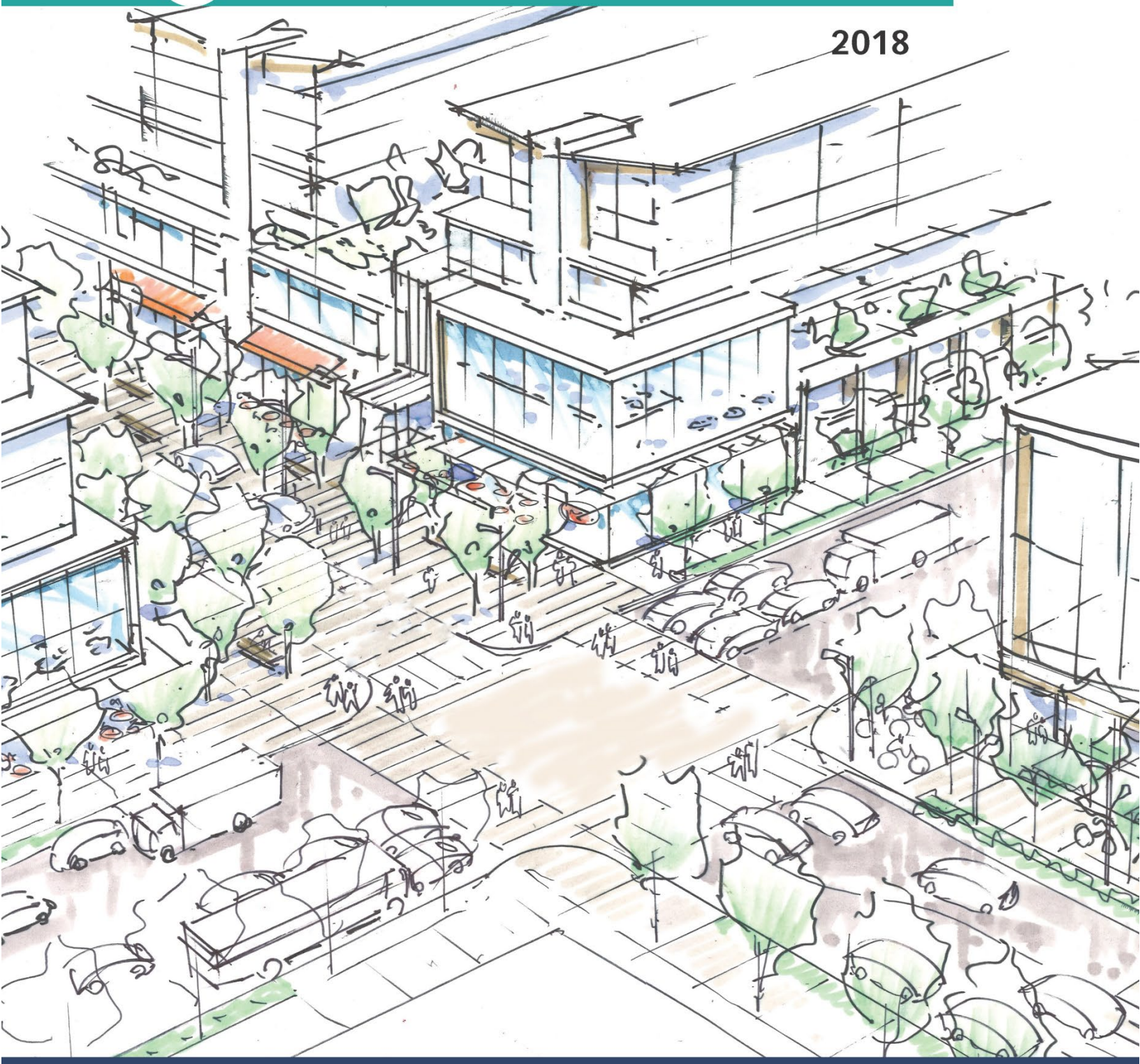
Bylaw 2600-2016,
being "Official Community Plan Bylaw, 2016" Schedule "B"

# UDISTRICT NEIGHBOURHOOD PLAN

2018



ABBOTSFORD

## How to Use this Plan

The UDistrict Neighbourhood Plan is intended to be used by everyone who is interested in the growth and development of this neighbourhood within the City of Abbotsford. The Plan has been organized to allow the user to easily find the information most pertinent to their interest, or to sequentially read the entire document. It is important to note, that the Plan has been created to comprehensively address changes to the neighbourhood and facilitate the redevelopment process.

Neighbourhood Residents should use this plan to understand the long-term vision for the UDistrict Neighbourhood, and to gain an understanding of how the neighbourhood will change over the coming years.

City Council should use this plan to guide decision-making for the neighbourhood.

Developers should use this plan to understand the allowable uses, building form and densities in order to understand where and what type and scale of development may occur within the neighbourhood. The Plan also provides an understanding of the public realm, and the developer's role of its creation through the funding and installation of infrastructure.

City Staff should use this plan with a lens to each department's responsibilities:

> Planning should use the plan to guide form and density through zoning, public space integration; and, character and urban design.
>
> Engineering should use the plan to guide utility servicing upgrades, frontage improvements, road dedication, and related street infrastructure upgrades.
>
> Parks, Recreation, and Culture should use this plan to guide park, trail and amenity space creation, and required upgrades to the public realm.

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# PART 1: INTRODUCTION AND VISION

## 1.1 CONTEXT + EXISTING CONDITIONS

### Context

The UDistrict is located within the City of Abbotsford and is unique, due to its location south of the Trans-Canada Highway. The neighbourhood is approximately 126 hectares (310 acres) in size, and is bounded by Jackson Street to the west, Agricultural Land Reserve (ALR) to the south, the Trans-Canada Highway to the north, and a steep escarpment just west of Riverside Road.


**Figure 1 - Neighbourhood Context**

The neighbourhood, although seemingly isolated, is connected to the northern and more populated side of the city by McCallum Road, an important arterial road in the city's street network. The UDistrict is home to Abbotsford's only major arena Abbotsford Centre (seats approximately 8,500). The other major anchor in the neighbourhood is the University of the Fraser Valley (UFV). The Abbotsford campus is UFV's largest, with approximately 5,200 full-time students in attendance.

## Neighbourhood Profile

### Demographics

This section provides an overview of key demographic information based on the 2011 and 2016 Census, as well as the 2011 National Household Survey. Since the dissemination area boundaries do not fully align with the UDistrict boundary, the information should be considered as an approximation of existing conditions in the neighbourhood.

The neighbourhood has a population of 3,775 people. The average age of a resident within the neighbourhood is 39 years old, and this is slightly higher than the city's average age of 38 years old. UDistrict is a very diverse neighbourhood, and the largest immigrant group is Asian. The median household total income is $69,696, and there is on average 3.08 persons per household. There are 1,400 dwellings within the neighbourhood, and the dominant housing type is low rise apartments.

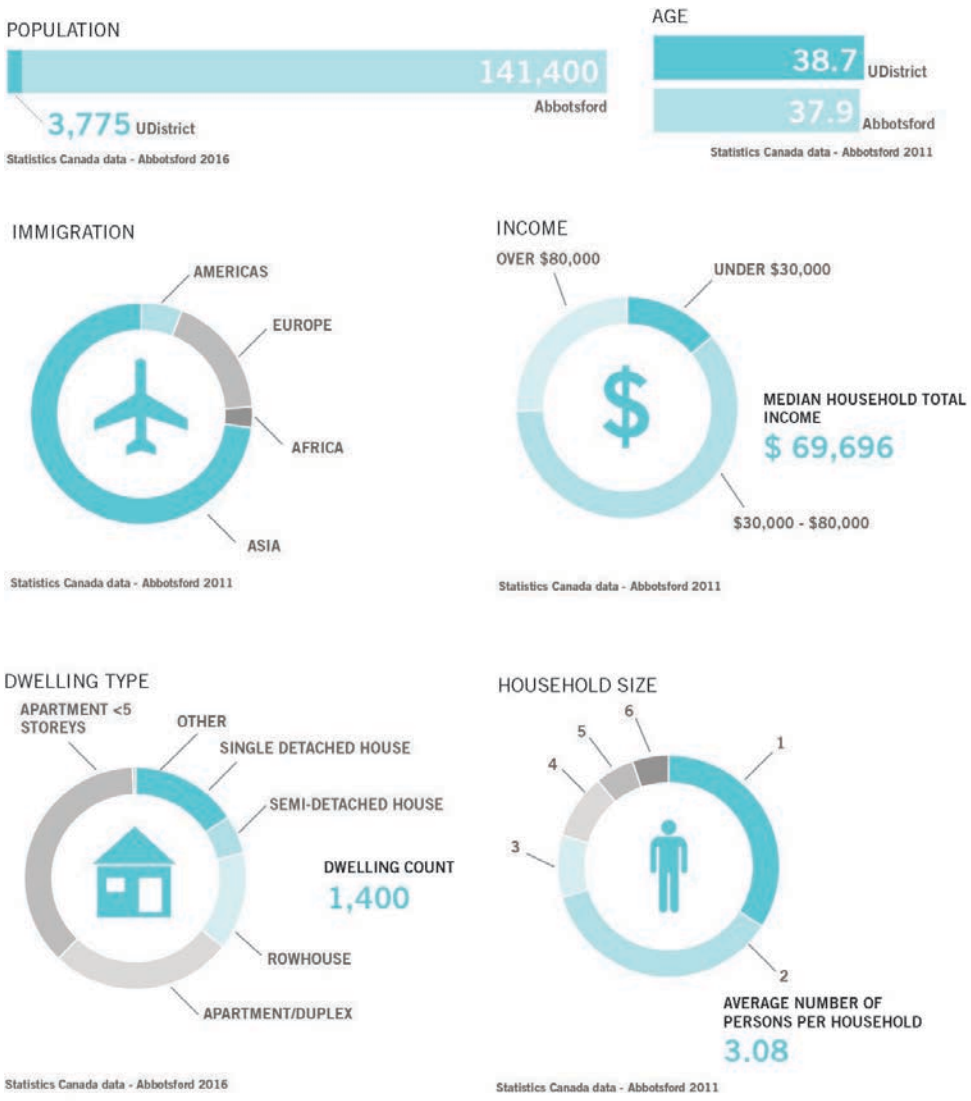



**Figure 2 - Neighbourhood Profile**

## Businesses

Based on business licenses issued between June 2014 and June 2015, there are currently 40 active businesses with approximately 340 employees within the neighbourhood.

## Churches and Schools

There are four church organizations that own either one or multiple properties in the UDistrict. These include:

- Canadian Reformed Church
- Central Heights Church
- Congregation of Jehovah's Witnesses
- Seventh-Day Adventist Church

There is one public elementary school (Jackson Elementary) located within the neighbourhood. Middle school and high school students will attend Abbotsford Middle School and Abbotsford Senior Secondary School.

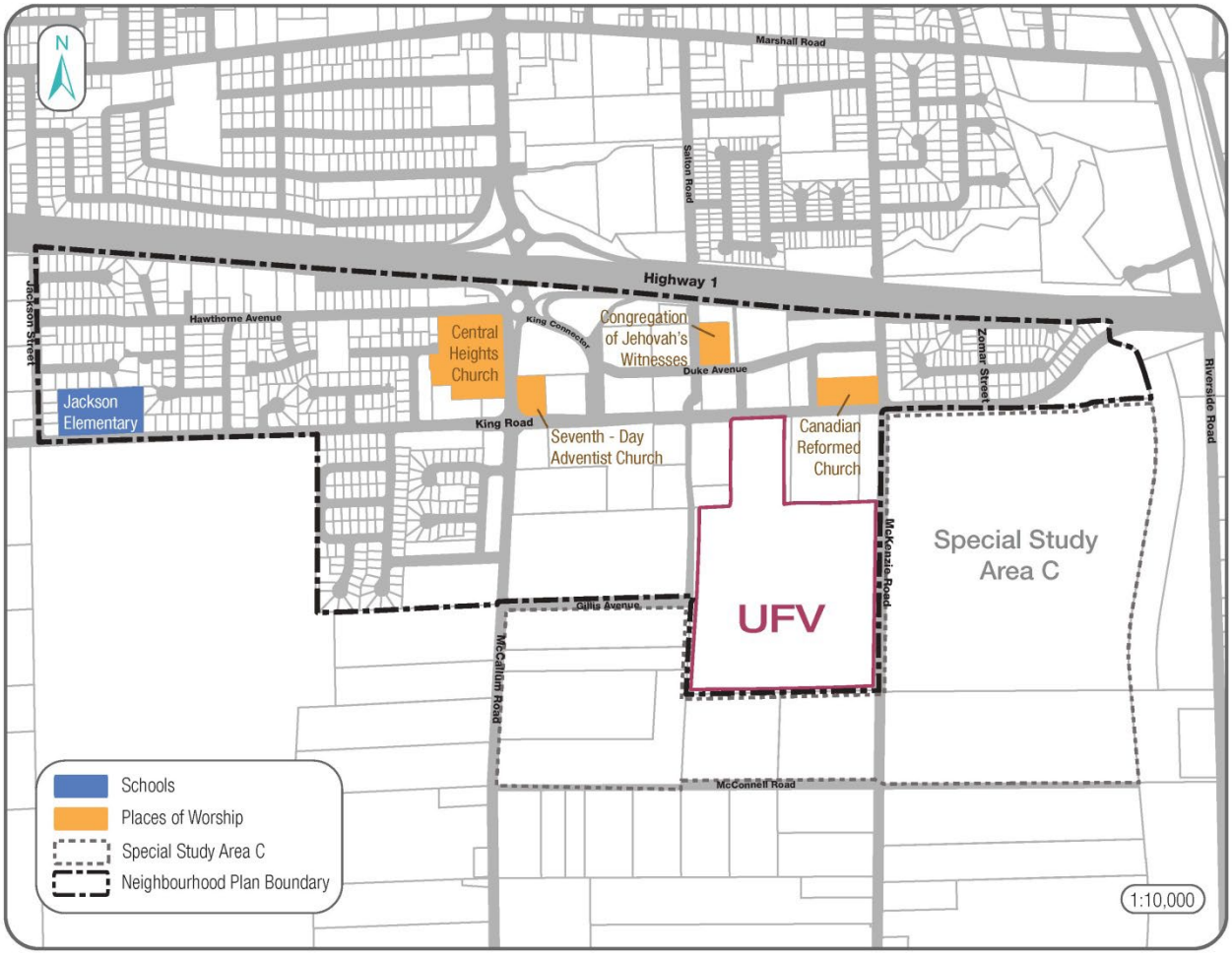



**Figure 3 - Churches and Schools**

## 1.2 PURPOSE + SCOPE

### Purpose Neighbourhood Plan

In early 2011, City staff began developing a long-term vision for the area surrounding the University of the Fraser Valley (UFV), known as the 'UDistrict'. Over the course of that year, staff consulted area residents, business owners and students to help develop a vision for the neighbourhood. The purpose of the Vision document was to support the long-term growth and diversification of UFV, and establish a predictable development process to create a complete community. In May 2012, the UDistrict Vision document was endorsed by City Council.

The Vision document was a conceptual illustration of what the area could be. Beyond the illustration and high level policy, there was no critical land use planning and servicing detail, making it challenging for the development community to invest and implement the vision for the UDistrict.

In order to create a complete neighbourhood for the residents in the area, the City partnered with UFV to complete two separate but fully integrated plans. Both partners undertook a process in February 2015 to concurrently complete a Neighbourhood Plan for the City and a Campus Master Plan for UFV. The Neighbourhood Plan will provide the land use planning and servicing detail required to implement the 'Vision' for the neighbourhood, while the Campus Master Plan will lay out the direction for future campus growth.

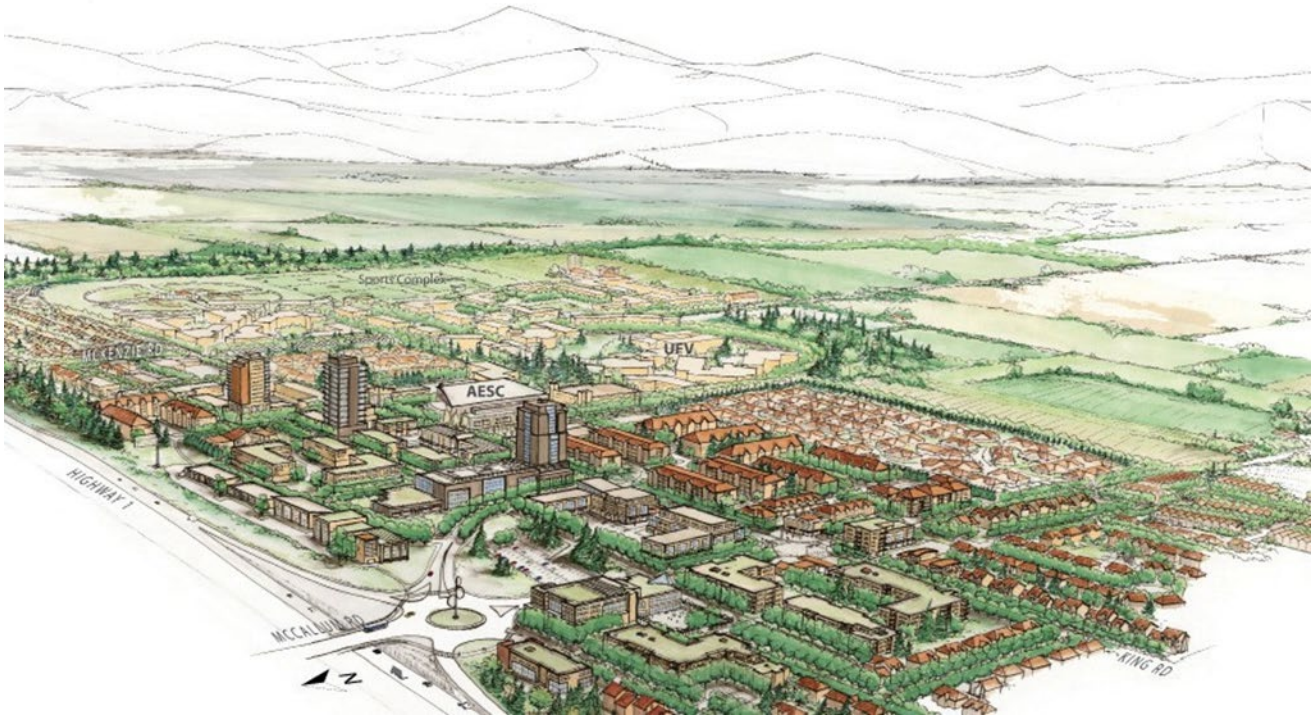



**Figure 4 - 2012 UDistrict Vision**

## Official Community Plan

In 2016, City of Abbotsford Council adopted a new and progressive Official Community Plan (OCP) through a process called 'Abbotsforward'. The new OCP paints a picture of what Abbotsford will be like at 200,000 residents. The Plan reflects a turning point for Abbotsford as it aims to implement change in the face of significant challenges and tough choices. As a practical and evolving document, it will continue to be updated to address new opportunities in city building as they arise.

## Urban Structure and Growth Plan

The OCP provides clear guidelines about how and where the City will grow in coming years. Abbotsford's urban structure is defined by a hierarchy of mixed use centres which are connected by a primary transit corridor (see Figure 5). 75% of future residential growth will occur in existing neighbourhoods, and 25% in new neighbourhoods. The UDistrict is one of four mixed use Urban Centres. It is located at the southern terminus of the Primary Transit Corridor.

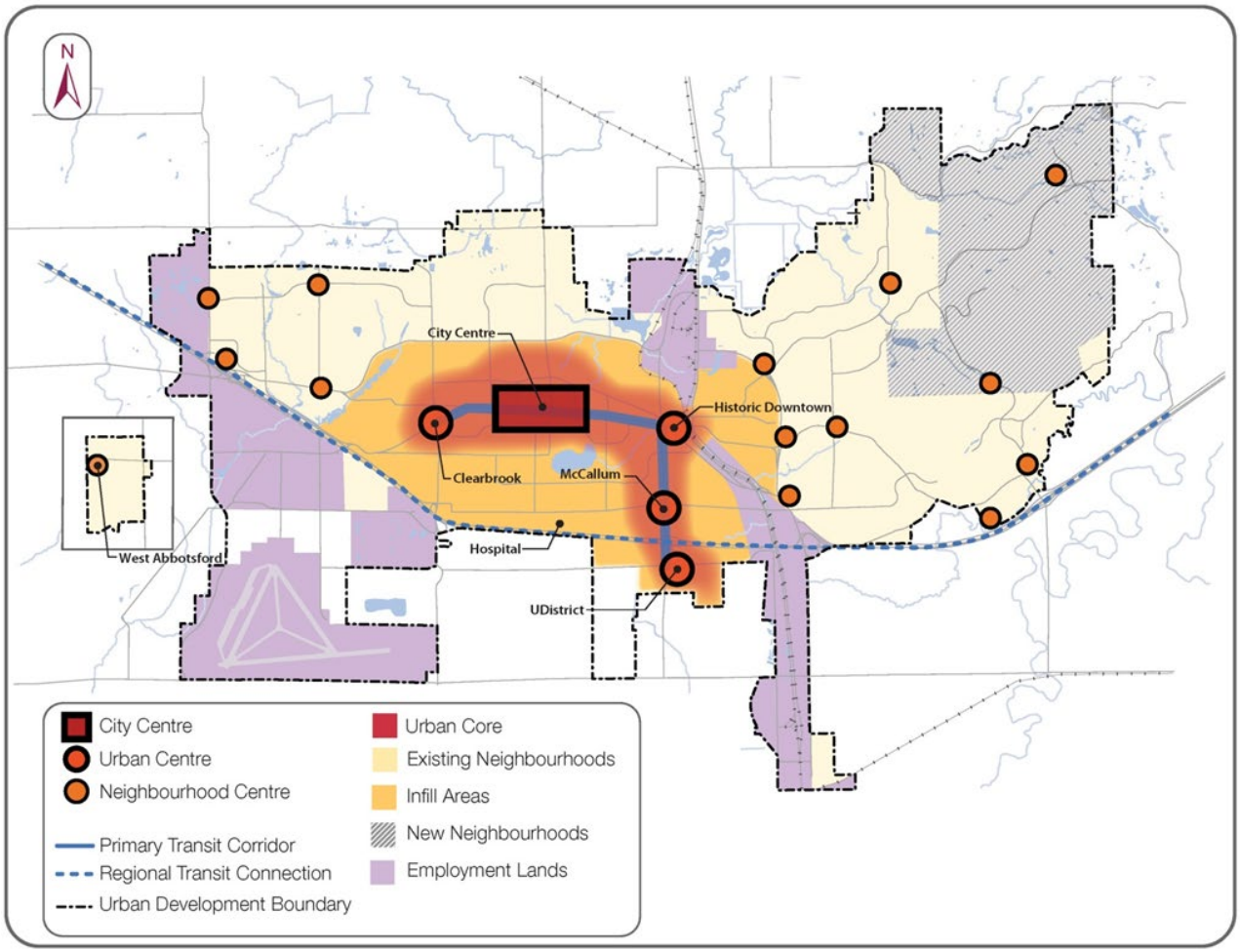



**Figure 5 - OCP Urban Structure**

## OCP Conformance

When adopted, the UDistrict Neighbourhood Plan (UDNP) will form part of the City's OCP. As part of the OCP, the UDNP must be consistent with the overall policy framework and demonstrate how it conforms to the plan, realizes the 'Big Ideas', and supports the urban structure and overall growth objectives. However, where the UDNP provides greater detail or differs from the OCP, the neighbourhood plan will prevail. In the case where the UDNP does not contain guidance or direction, the OCP continues to apply.

## Making the Plan Work: Plan For 200K

The OCP is a transformative document which sets the main policy direction for Abbotsford as it evolves into a community of 200,000 people. In order to realize the vision, the City will need to update many other plans and strategies to align them with the OCP and to ensure that they speak to each other. This will include updating engineering and transportation master plans, as well as creating new planning documents such as neighbourhood plans.

The City of Abbotsford has embarked on an unprecedented initiative, Plan For 200K, to coordinate various City departments as they update or create their plans and strategies to align with the OCP. The UDistrict Neighbourhood Plan is encompassed under the Plan For 200K project umbrella.

## Plan Integration

In order for the 'UDistrict' concept to be successful, it was realized in the project conception stage that the planning processes would need to be completely integrated for the Abbotsford Campus Master Plan and the UDistrict Neighbourhood Plan. An integration committee was established (UDistrict Integration Team – UDIT), which met regularly throughout the process to ensure that for each stage of the planning process, the integration objective was upheld. The Guiding Principles were developed to provide a framework for integration, and both the Abbotsford Campus Master Plan and the UDistrict Neighbourhood Plan reference these principles as key elements in the formulation and development of the respective plans. Public engagement events were coordinated through the direction of the UDIT, and project staff from the City and UFV attended events held in the neighbourhood and on campus.

Both plans were presented together at each engagement event to illustrate to the public that the plans were 'speaking to each other'. To confirm this approach, the public was asked about their thoughts on integration of the campus and the neighbourhood. The response was overwhelmingly in support of the integrated approach, and the mixing of campus and community across boundaries and even within buildings.

## 1.3 PLAN PROCESS

The planning process was organized into four stages with opportunities for public and stakeholder input at key milestones to ensure broad support for the plan. The four stages of the process are illustrated in Figure 6 (below):

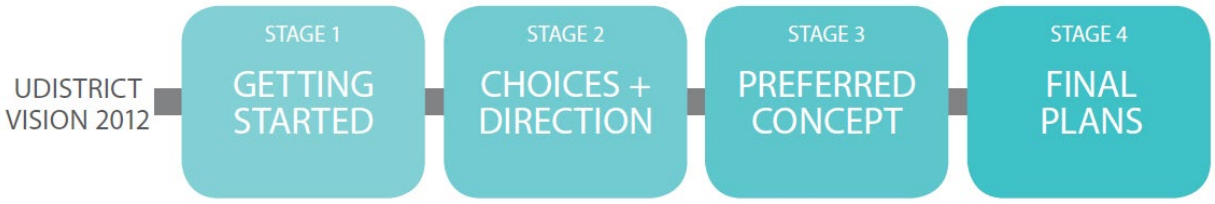



**Figure 6 - Plan Process**

### Stage 1: Getting Started

This stage included a review and analysis of existing conditions and opportunities, and initial community and stakeholder engagement to raise awareness and gather input on future directions for the neighbourhood. Stage 1 wrapped up with the completion of the UDistrict Background Report, a key input into the development of growth concepts.

### Stage 2: Choices and Direction

Two growth concepts were prepared in Stage 2. These concepts were shared with City Council prior to a public open house, where residents and stakeholders were asked to provide input on the draft concepts. The results from this public input session were shared with Council.

### Stage 3: Preferred Concept

Input from Stage 2 was used to develop a preferred concept. Once the preferred concept was developed, infrastructure modelling took place. A Servicing Strategy and Transportation Assessment were completed, to ensure the concept could be adequately serviced with a reconfigured street network complete with water, storm, and sanitary sewer services. A draft plan was presented to City Council on January 22, 2018 prior to public and stakeholder input.

### Stage 4: Final Plans

This final stage involved referrals to a number of senior government agencies for review and approval. Following this referral period, a Public Hearing was held to hear any concerns from the public.

## Public Consultation

### Stage 1

On April 8, 2015, the City of Abbotsford and the University of the Fraser Valley launched the UDistrict project. The purpose of the launch event was to raise awareness about the process and opportunities for involvement, communicate background research completed to date, and gather information from participants to inform concept options. The event was promoted by over 1,600 postcards, posters, newspaper advertisements, radio announcements, e-newsletters, and social media. Open houses were held at UFV in front of Abbotsford Centre. For those who were unable to attend the event in person, a questionnaire was made available on the project website.

### Stage 2

Stage 2 open houses were held on October 15, 2015, at Abbotsford Centre and the Student Union Building at UFV. Advertising the events followed the same format as Stage 1, and once again an online survey was offered for those who could not attend the event. Consultation focused on getting input on various design elements of the plan. Two different concept options were presented to the public, and they were asked to provide their comments on various design elements, which were centered on land use, mobility and open space.

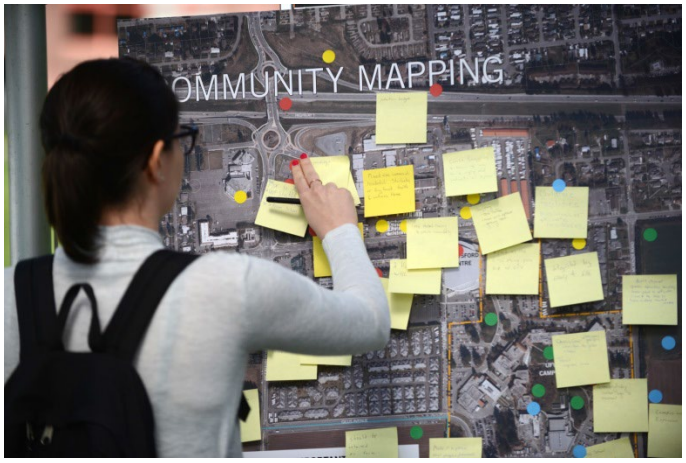



Figure 7 - Stage 1 Public Consultation


Figure 8 - Stage 2 Public Consultation

### Stage 3

Stage 3 public consultation took place on February 6th, 2018 and open houses were held at Abbotsford Centre and the Library Rotunda at UFV. Both events were well attended, and advertising followed the same format as the previous stages. The presentation boards and the comment form were posted online for those who could not attend the event. Engagement was directed towards receiving feedback on the draft plan, and determining if any last changes needed to be incorporated.

**Figure 9 - Stage 3 Public Consultation**

## Stakeholder Engagement

Stakeholders were engaged throughout each stage of the process. Planning staff met with strata councils, church groups, business owners, and land owners. During each round of public consultation, stakeholder meetings were held to ensure stakeholder comments and input were used to inform the development of the Plan.

A Design Charrette was held in June 2015 with various City Departments and representatives from UFV. The purpose of this design exercise was to brainstorm design elements that could be incorporated into the overall design of the neighbourhood and campus.

**Figure 10 - Design Charrette with UFV**

**Figure 11 - Concept Drawings**

## 1.4 UDISTRICT VISION

The UDistrict Neighbourhood Plan is based upon the principles of the original 2012 Vision. Neighbourhood residents, business owners, church groups and the University community provided their thoughts and aspirations in the hope of making the UDistrict a unique community that could support the long-term growth and diversification of UFV. The UDistrict neighbourhood planning process reconfirmed the principles of the previous process. The Neighbourhood Plan recognizes the previous hopes and desires for the neighbourhood, and took this to the next step by comprehensively ensuring that the campus and neighbourhood plans are fully integrated. The updated guiding principles will assist with the implementation and development of this unique project.

**Vision:**

***The UDistrict will become a vibrant and distinct urban community that supports a walkable, transit-oriented lifestyle, focused around an innovative university village.***

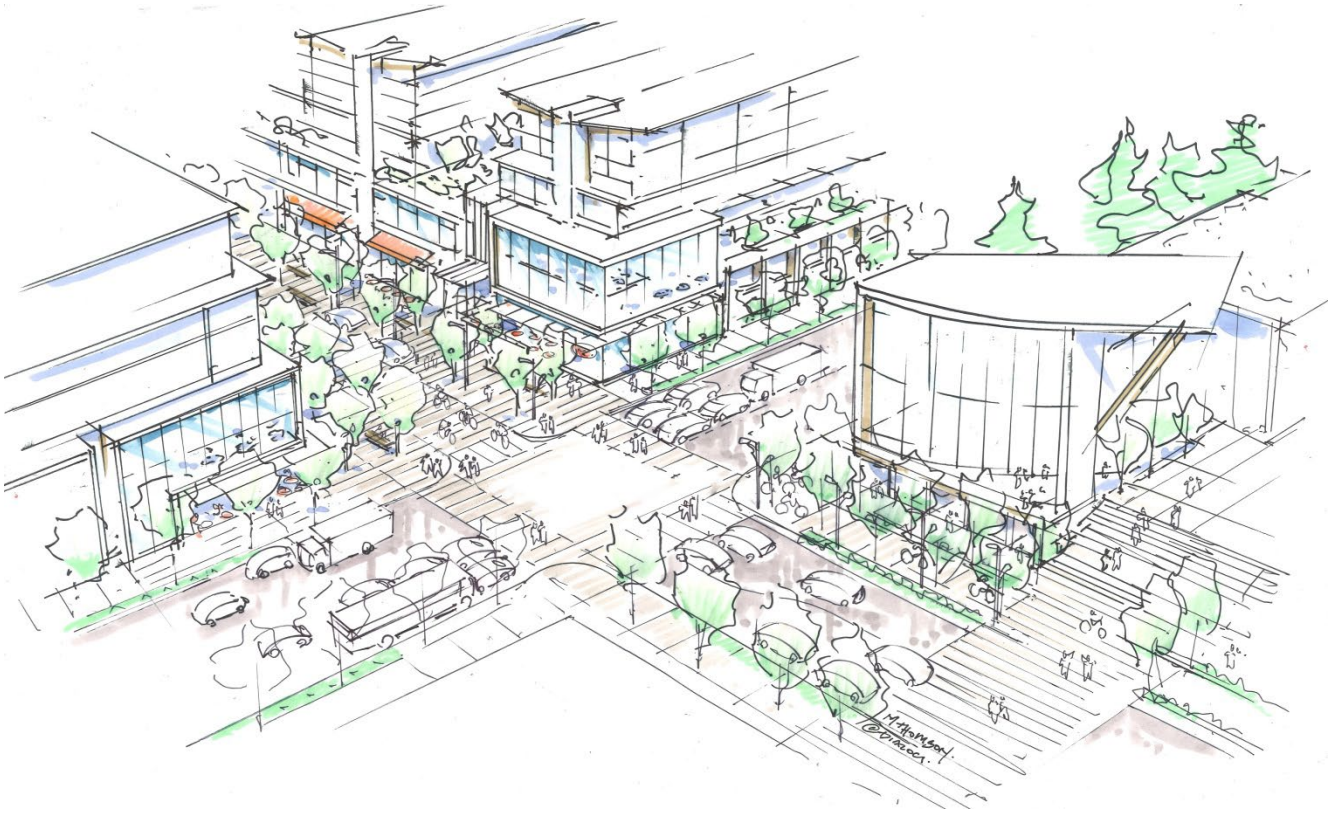


**Figure 12 - UDistrict Vision**

# PART 2: LAND USE

## 2.1 Neighbourhood Structure

## 2.2 Land Use Designations

## 2.1 NEIGHBOURHOOD STRUCTURE

### Land Use

The neighbourhood concept is designed to focus redevelopment efforts generally within the area between McCallum and McKenzie Roads. The majority of the built form will be comprised of apartment buildings ranging from 4 to 6 storeys. Towards the periphery of this area, the housing format will scale down to 2 to 3 storey townhomes to provide a seamless transition to existing single family homes.

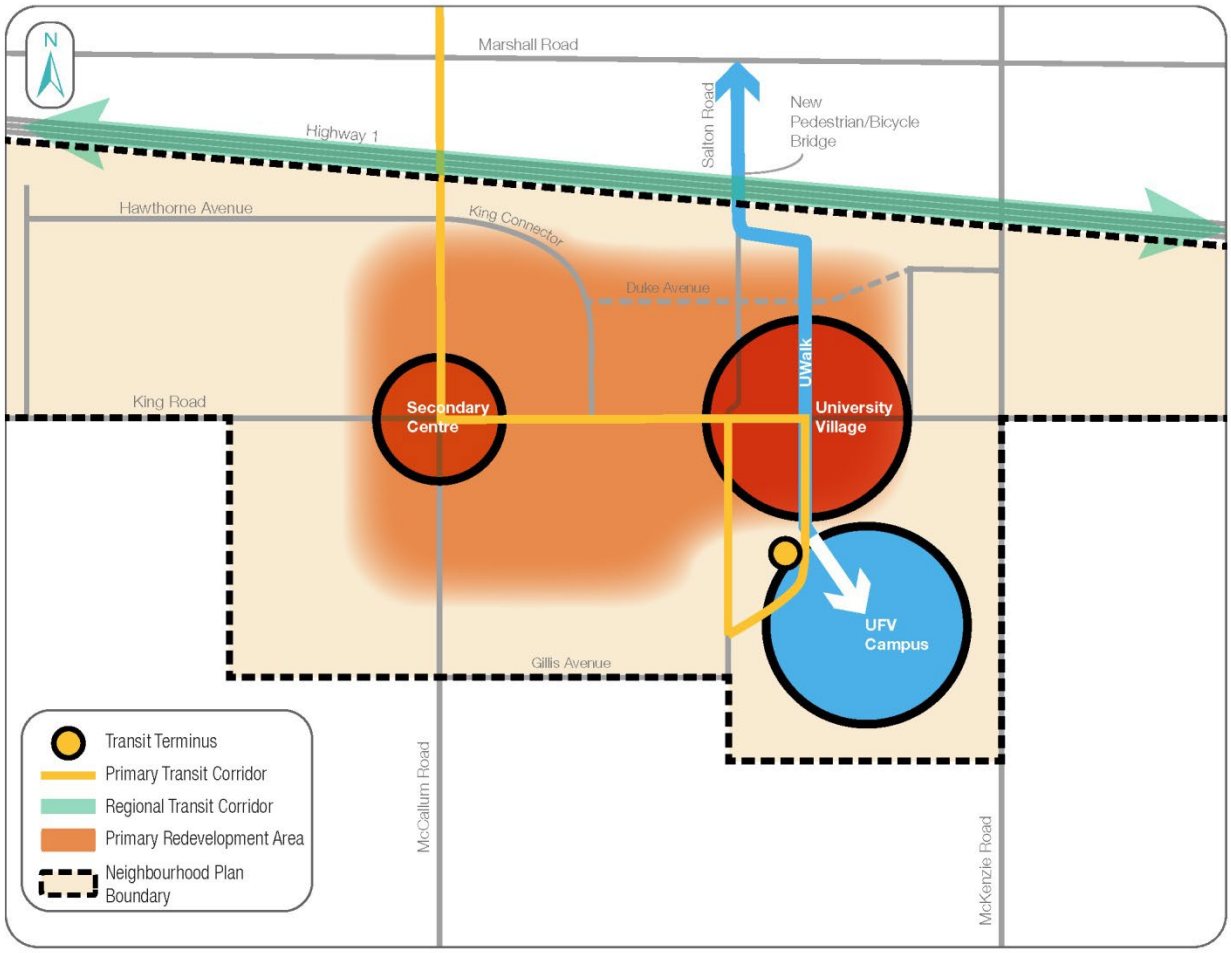



**Figure 13 - Preferred Concept**

The neighbourhood has been designed around two mixed use nodes. The first one is centered on the intersection of King and McCallum Roads, and the second one around the intersection of University Way and King Road. The node on King and McCallum Roads will function as a secondary centre with an active ground floor comprised of retail and services, with office and residential uses above.

The primary node is the focal point of the UDistrict, and will be referred to as the 'University Village'. This vibrant area truly reflects the theme of integration, and within this area the boundaries between the campus and neighbourhood will be blurred. The 'heart' of the University Village will be the extension of University Way North. This street will function as a shared street that can be closed off for major events to create 'Cascades Plaza'.

The street will be framed on either side with patio space occupied by cafés and restaurants that will be active day and night to support activity at UFV and events at Abbotsford Centre. The narrow paving stone street will be flanked on either side by wide sidewalks, a beautiful tree canopy and street furnishings to create spaces where people will want to gather and mingle. Above the street level, building floors will be a mix of residential, office, and institutional uses that will support the ground level activity, and add to the unique character of the area (see Figure 14).

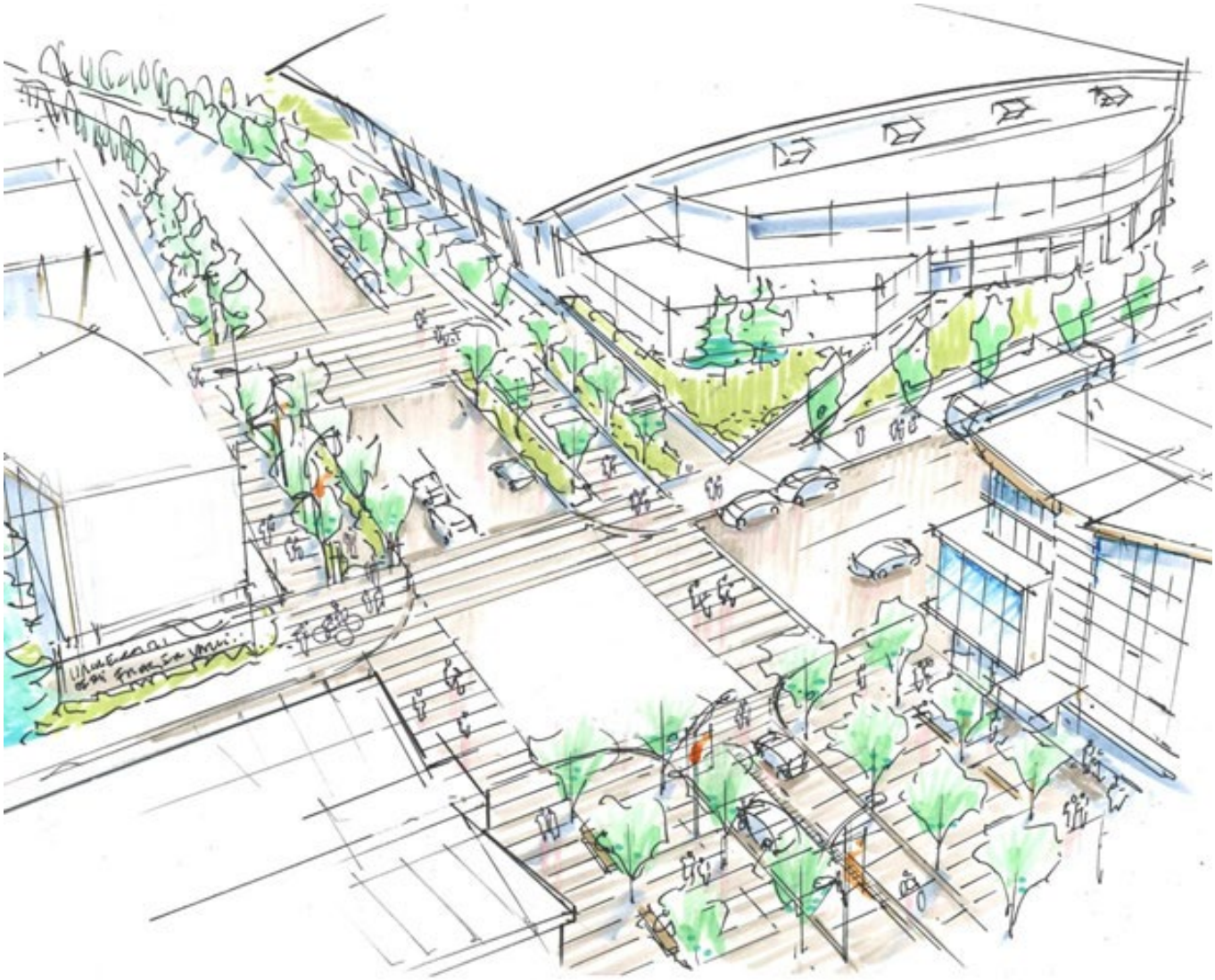


**Figure 14 - University Village**

## Mobility

University Village will be located at the intersection of two transportation corridors that are integral to the movement of people and goods within the UDistrict. UWalk will be the north/south pedestrian and cyclist route, and King Road will become a multi-modal transportation corridor with bike lanes, high frequency bus rapid transit service, and comfortable sidewalks.

UWalk will be comprised of three major components: a) UWalk North, b) Cascades Plaza, and c) UWalk South. UWalk North will connect the UDistrict to the greater City on the north side of the Trans-Canada Highway by a new pedestrian/cyclist bridge. From the south side of the bridge, UWalk North will become a greenway lined with trees and benches on either side of a delineated pathway for students or residents to enjoy their commute or moment of relaxation. After crossing Duke Avenue (a new east/west through street), the UWalk will connect to Cascades Plaza in the heart of the University Village. Here cyclists will share the paving stone street with slowly moving vehicles, while pedestrians will be separated and will continue their journey on wide sidewalks. UWalk South begins at the intersection of King Road and University Way, and the separation of cyclists and pedestrians continues as UWalk transitions into the formal campus. The separated pathway will continue all the way to the new front door of UFV, and on throughout the remainder of the campus.

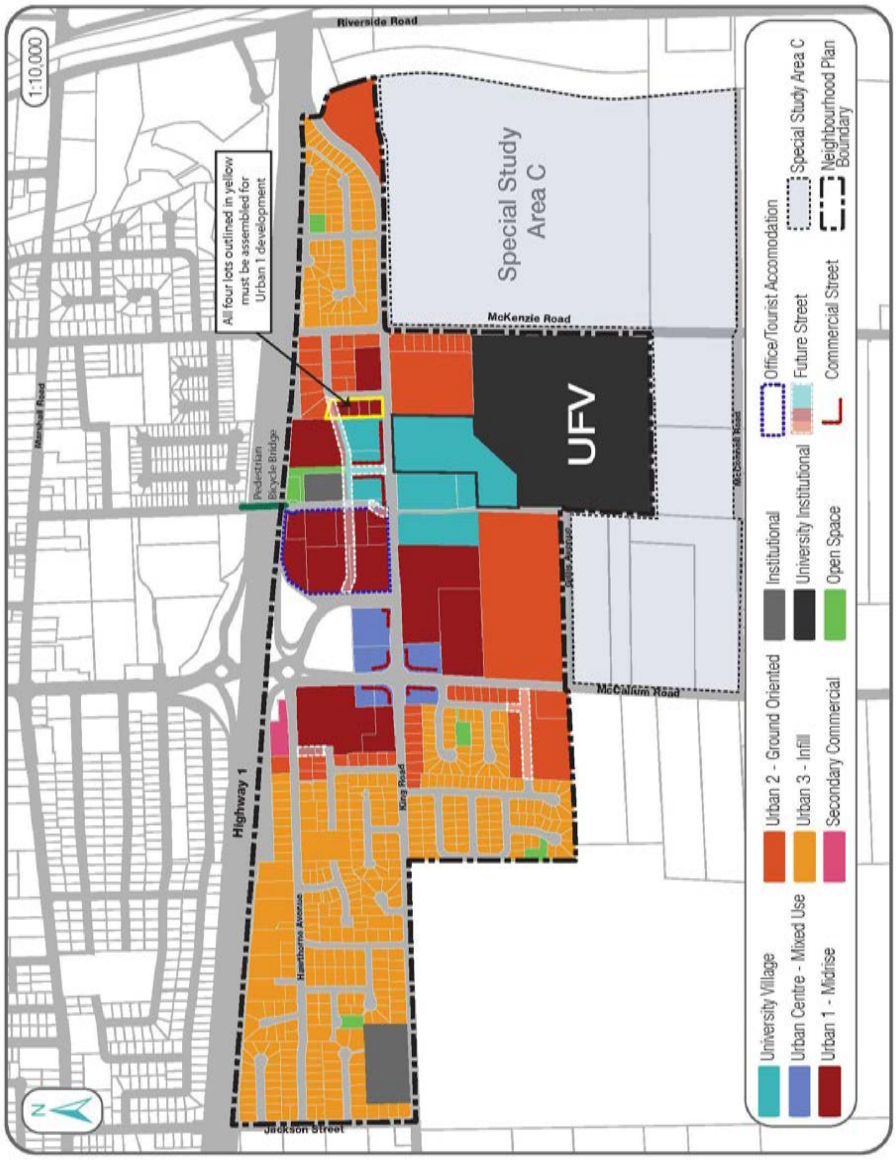
With transit supportive land use framing King Road, the form and function of this transportation corridor will make high frequency bus rapid transit an efficient mode of travel. With Regional transit connections located within the neighbourhood and the new bus terminus centrally located on University Way (UWalk South) in between Abbotsford Centre and the new front door of UFV, mode shift will be encouraged not just locally, but regionally. Separate bike lanes with ample protection will make cycling safe, and with bike lanes on every connecting street in the primary redevelopment area, all ages and abilities of cyclists will find moving through this neighbourhood a pleasant experience. Sidewalks will continue along both sides of the corridor, but with weather protection, more street trees, benches and wayfinding signs, the walk to school or work will become a much more enjoyable experience. Vehicles moving people and goods will continue to utilize King Road. The streetscape will be improved and the traffic will move slower due to sharing the road (see Figure 20).

## Open Space

Open space within the neighbourhood concept has been designed around connecting urban plazas and destinations with greenways. UWalk will not only act as transportation corridor, it will also function as a linear open space providing both hardscaped and landscaped environments. Cascades Plaza and a number of smaller plazas throughout the redevelopment area will provide urban green space for relaxation and enjoyment.

## 2.2 LAND USE DESIGNATIONS

The land use map for the UDistrict is shown below (Figure 15). Existing and proposed streets are also illustrated within the land use map. The land use designations demarcated within the Land Use Map (Figure 15) of this Neighbourhood Plan supersede the land use designations found within Official Community Plan.

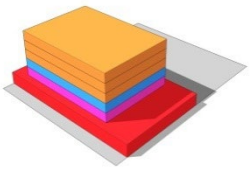
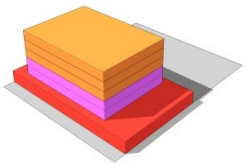



Bylaw No. 2909-2019

**Figure 15 - Land Use Map**

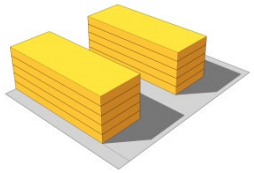
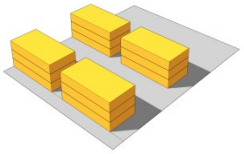
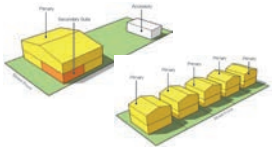
## URBAN CENTRE

Bylaw No. 2909-2019

| Designation | Purpose and Description | Building Type and Height | Uses | Density (min and max) |
|---|---|---|---|---|
| **University Village**  | Enable a mix of uses that creates the primary hub of activity in the UDistrict, unifying public spaces both north and south of King Road (within the campus) and integrating academic and neighbourhood uses. | Mixed Use Buildings.<br><br>Heights are a minimum of 4 storeys and a maximum of 6 storeys. | Mixed use (residential and commercial)<br><br>Multi unit residential<br><br>Commercial<br><br>Institutional | 1.0 to 2.5 FSR |
| **Urban Centre – Mixed Use**  | Enable a mix of uses that creates an active hub at the McCallum and King Road intersection. | Mixed Use Buildings.<br><br>Heights are a minimum of 3 storeys and a maximum of 6 storeys. | Mixed use (residential and commercial)<br><br>Multi unit residential<br><br>Commercial | 1.0 to 2.5 FSR |
| **Commercial Street**  | Require active ground floor commercial uses along certain streets to ensure buildings contribute to a vibrant street environment | Per the accompanying designation | The ground floor must be active commercial uses with individual access to the street | Per the accompanying designation |

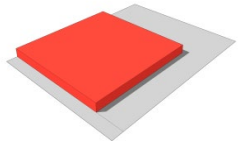
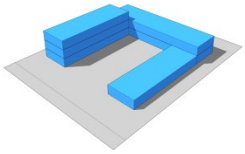
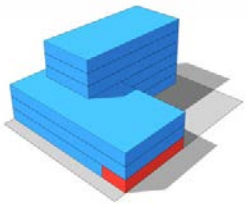
## RESIDENTIAL

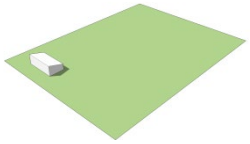
Bylaw No. 2909-2019

| Designation | Purpose and Description | Building Type and Height | Uses | Density (min and max) |
|---|---|---|---|---|
| **Urban 1 – Midrise**  | Per the Official Community Plan | Multi storey buildings including low and mid rises and integrated ground oriented units. Heights are a minimum of 4 storeys and a maximum of 6 storeys.<br><br>Large sites (1 ha or greater) **must** incorporate Ground Oriented Row and Townhouses. | Per the Official Community Plan | Per the Official Community Plan |
| **Urban 2 – Ground Oriented**  | Per the Official Community Plan | Ground Oriented Duplex, Row and Townhouses. Heights are limited to 3 storeys.<br><br>Large sites (1 ha or greater) will **not** be allowed apartment buildings. | Per the Official Community Plan | Per the Official Community Plan |
| **Urban 3 – Infill**  | Per the Official Community Plan | Per the Official Community Plan | Per the Official Community Plan | Per the Official Community Plan |

## SUPPORTING LANDS

Bylaw No. 2909-2019

| Designation | Purpose and Description | Building Type and Height | Uses | Density (min and max) |
|---|---|---|---|---|
| **Office/Tourist Accommodation**  | Enable office or tourist accommodation to serve the neighbourhood and broader community | Per the accompanying designation | Office<br><br>Tourist Accommodation | Per the accompanying designation |
| **Secondary Commercial**  | Enable commercial uses that serve a neighbourhood or city wide area. | Height is limited to 2 storeys. | Commercial<br><br>Indoor Industrial<br><br>Tourist Accommodation is **not** permitted | Per the Official Community Plan |
| **Institutional**  | Per the Official Community Plan | Per the Official Community Plan | Per the Official Community Plan | Per the Official Community Plan |
| **University Institutional**  | Enable a mixed use university hub with major institutions, assembly, and related office, commercial and residential uses.<br><br>Serve a city wide area | Multi storey buildings including low and mid rises. Heights are limited to 6 storeys. | Institutional,<br><br>Mixed Use (residential and commercial)<br><br>Multi unit residential<br><br>Commercial | Up to 1.0 FSR |

| | | | | |
|---|---|---|---|---|
| **Open Space**  | Per the Official Community Plan | Per the Official Community Plan | Per the Official Community Plan | Per the Official Community Plan |

## Special Study Area C

The 2016 Official Community Plan sets out a vision for how the city will grow. Through the creation of the OCP, four special study areas were identified for further planning and analysis. One of the four areas (Area C) is located adjacent to the UDistrict Neighbourhood, and is primarily identified as a potential location for a future city-wide athletic park containing multiple sports fields with the ability to host tournaments and marquee events. This location was identified because of its proximity to existing neighbourhoods, growth areas, and UFV. Opportunities could be explored to collaborate and partner with UFV to enhance their varsity sports and on-campus recreational programs.

In addition to parks space, this area is also conducive to agricultural programs relating to innovation, research and development, education, and exhibition opportunities. The proximity to the UFV campus provides a unique opportunity to explore these opportunities in a collaborative manner.

The City is currently creating a new Parks, Recreation and Culture Masterplan as part of the Plan200K initiative. The masterplan will provide an overarching approach and strategic direction for park space throughout the City. Special Study Area C will be analyzed in further detail following adoption of the new Parks, Recreation and Culture Masterplan. The analysis will take into account these opportunities and explore supporting and complimentary uses to the UDistrict neighbourhood and outline implementation strategies.

Special Study Area C resides within the Agricultural Land Reserve and must be approved by the Provincial Agricultural Land Commission. Until the necessary planning processes are completed and approved, all properties must comply with existing zoning.

## Projections

The tables shown below provide a breakdown of the land use and population statistics for the neighbourhood:

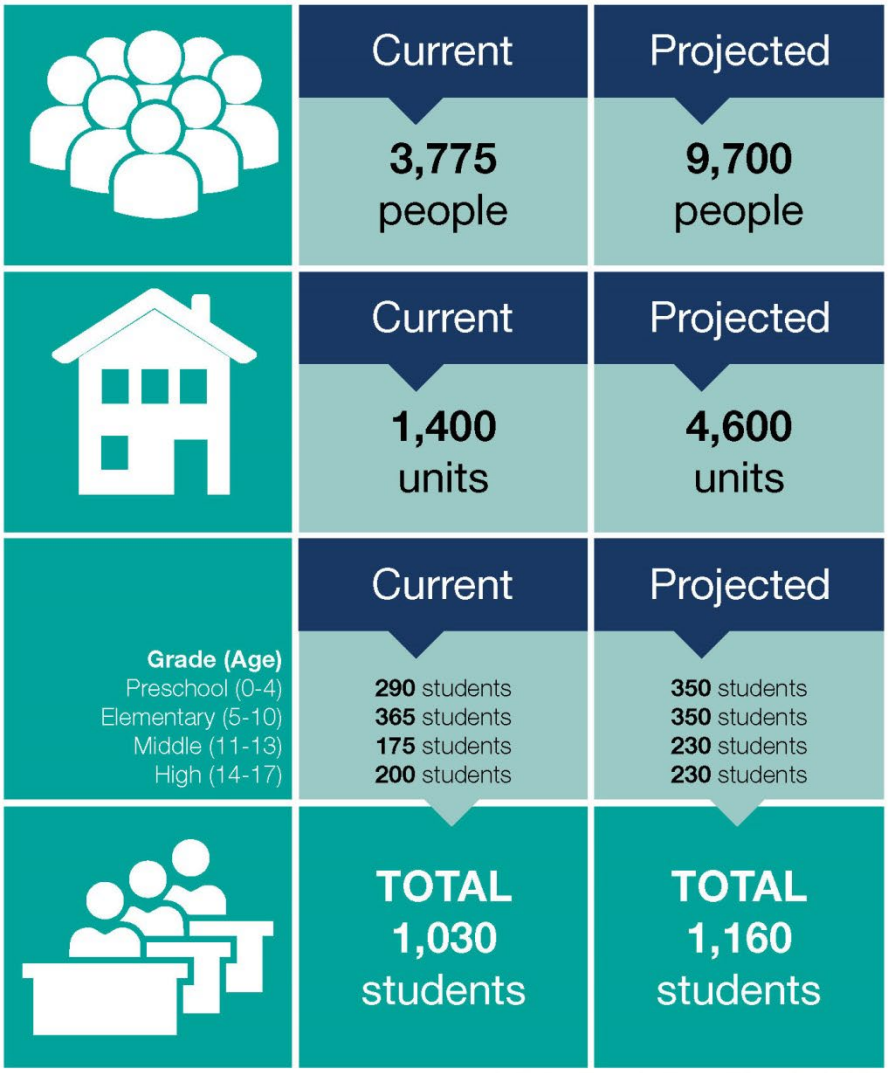



**Table 1 - Population and Units; School Age Projection (neighbourhood completely built out)**

# PART 3: POLICIES

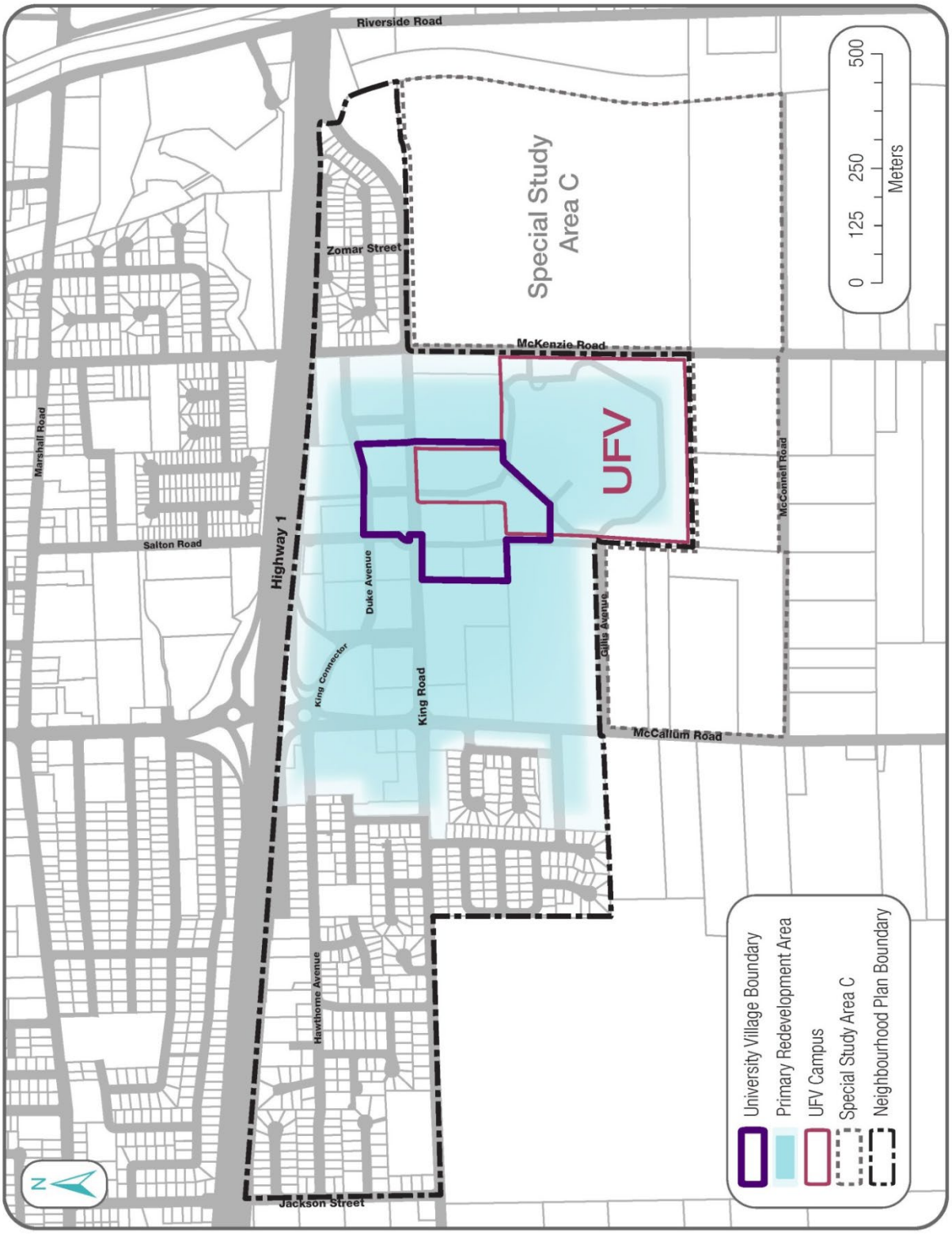



**Figure 16 - University Village**

## 3.1 CAMPUS AND NEIGHBOURHOOD INTEGRATION

Many universities across North America have realized the positive synergies gained by partnering with private business on or near the campus. By integrating the campus with the neighbourhood in the University Village, the opportunities for business growth and development are strengthened due to a close proximity to a centre of innovation. The University Village will also offer attractive accommodation with housing options technically off campus, in an area that offers a 24/7 experience. With entertainment, shopping, and places to gather, the attractiveness of the area is greatly enhanced for not only students, but residents seeking an urban experience.

### 3.1.1 University Village

Position the University Village as the heart of the neighbourhood by allowing for the broadest range of uses within this land use category, including institutional uses on non-university land.

### 3.1.2 Public/Private Realm

Create a unified look and feel through the public and private realms in the University Village by designating the area as a Development Permit Area and a special character area within the Street and Public Realm Design Guidelines.

### 3.1.3 Campus Integration

Encourage UFV to locate their Digital Hub and/or campus bookstore in the University Village to seamlessly integrate university and community uses.

### 3.1.4 Vibrancy

Promote a mix of day and night activity in the community by complementing UFV and the Abbotsford Centre with a range of commercial and entertainment uses that will draw residents and visitors into the University Village during and outside of regular business hours.

### 3.1.5 Abbotsford Centre

Along with the campus, Abbotsford Centre is an anchor to the University Village and host special events that service the greater community. The University Village will play an integral role in providing a reason to come early or stay late after an event.

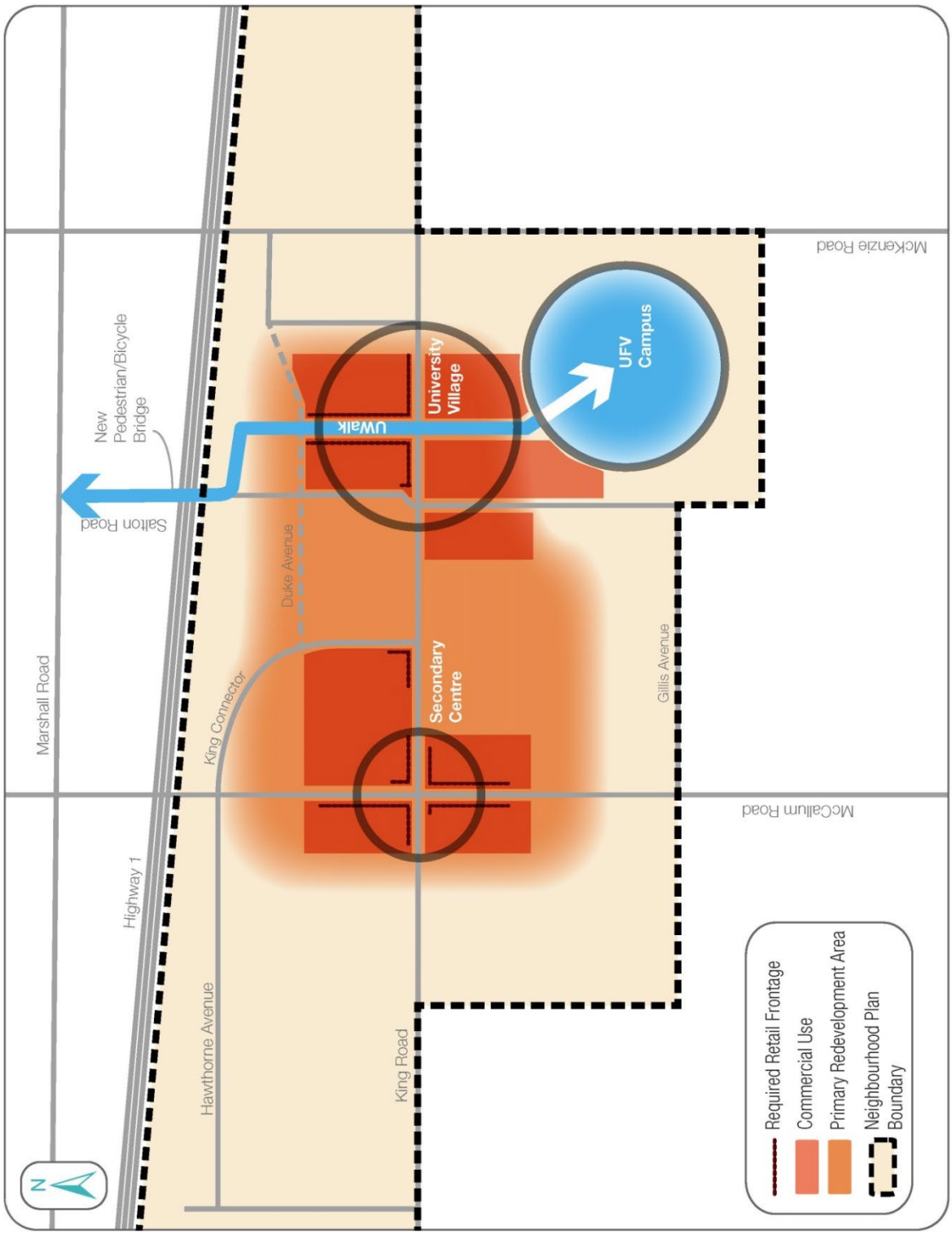



**Figure 17 - Commercial Nodes**

## 3.2 URBAN CENTRE

An important aspect of a complete community is ensuring that residents have convenient access to goods and services. Allowing for higher density mixed use development that is focused around opportunities for gathering, and serviced by multiple modes of transportation, will ensure residents of the UDistrict will have convenient access to the goods and services they need on a daily basis. To create this type of neighbourhood, the UDistrict will be focused around two mixed use nodes anchoring each end of King Road, which will function as a multi-modal transportation corridor.

### 3.2.1 Commercial Nodes

Concentrate retail and commercial businesses around two mixed use nodes within the neighbourhood. The first node will be centered at the intersection of King and McCallum Roads, while the second node (University Village) will be focused at the intersection of King Road and University Way.

### 3.2.2 Maximizing Density

Encourage new developments to maximize the prescribed density within the two mixed use nodes. This will help concentrate residential and commercial density in designated nodes, which is critical in ensuring the viability of an urban retail environment.

### 3.2.3 Range of Services

Strengthen and intensify neighbourhood-serving businesses within the commercial nodes that provide a full range of services for the community.

### 3.2.4 Retail Streets

Designate retail streets within the two mixed use nodes requiring ground floor retail to activate the street.

### 3.2.5 Retail Scale

Limit retailers to a maximum of 1,000 $m^2$ to preserve a walkable neighbourhood environment.

### 3.2.6 Patios

Promote outdoor patios and other on-street commercial activity in the mixed use nodes to create vibrant and spontaneous streets for people.

### 3.2.7 Use Transition

Address transitions in scale between mixed use and multi-family developments and ground-oriented residential uses by stepping down building heights where appropriate.

### 3.2.8 Continuous Streetwall

Encourage a continuous streetwall in the two mixed use nodes to create a highly urban and walkable environment.

### 3.2.9 Development Permit Requirements

Require Development Permit applications to include details of all proposed signage in their drawing submissions to ensure that they are appropriately scaled to a pedestrian retail environment.

### 3.2.10 No Drive Thrus

Prohibit drive-thrus within the neighbourhood, with the exception of the secondary commercial parcels.

## 3.3 RESIDENTIAL

In order to support the anticipated residential growth that will take place within the UDistrict neighbourhood over the next few decades, redevelopment activity will need to occur. The intensification process will be geared towards providing more compact housing forms such as apartments, row housing and townhouses. It will be important to provide a wide selection of multi-family housing choices in order to provide affordable options.

UDistrict will be diverse, as many of the residents will be attending University of the Fraser Valley. The average age of a student at UFV is in their late twenties, and differs from other universities in the Lower Mainland. Residential housing will need to reflect this reality. Other than individuals, housing will need to accommodate couples, young families, single parents, and even seniors who chose to live within the UDistrict. Housing form and character will be governed by development permit guidelines found within the OCP with specific DP guidelines for the University Village contained within this plan.

### 3.3.1 Multi-Family Variety

Provide a range of multi-family housing types, unit sizes, and tenures.

### 3.3.2 Three Bedroom Apartments

Incorporate 3 bedroom apartment units into new multi-family developments within the primary redevelopment area.

### 3.3.3 Purpose Built Rental

Encourage the construction of purpose-built rental housing within the primary redevelopment area.

### 3.3.4 Affordable Housing

Facilitate the provision of affordable market and non-market housing in collaboration with government, businesses and non-profit associations (excluding emergency shelters or transitional housing).

### 3.3.5 Accessory Units

Support housing affordability options by allowing ‘mortgage helpers’ in the form of accessory units within ground oriented row or townhouses.

### 3.3.6 Off - Campus Student Housing

Work with UFV to explore locating student housing options off-campus to further campus/neighbourhood integration.

### 3.3.7 Outdoor Amenity Space

Require functional outdoor amenity spaces for all new multi-family residential developments.

### 3.3.8 Gated Communities

Prohibit new gated communities as they do not encourage inclusivity and inhibit walkability.

### 3.3.9 Sound Mitigation

Incorporate sound attenuation measures into the design of residential buildings built adjacent to the Trans-Canada Highway based on Canadian Mortgage and Housing Corporation (CMHC) standards.

**Examples of multi-family residential**

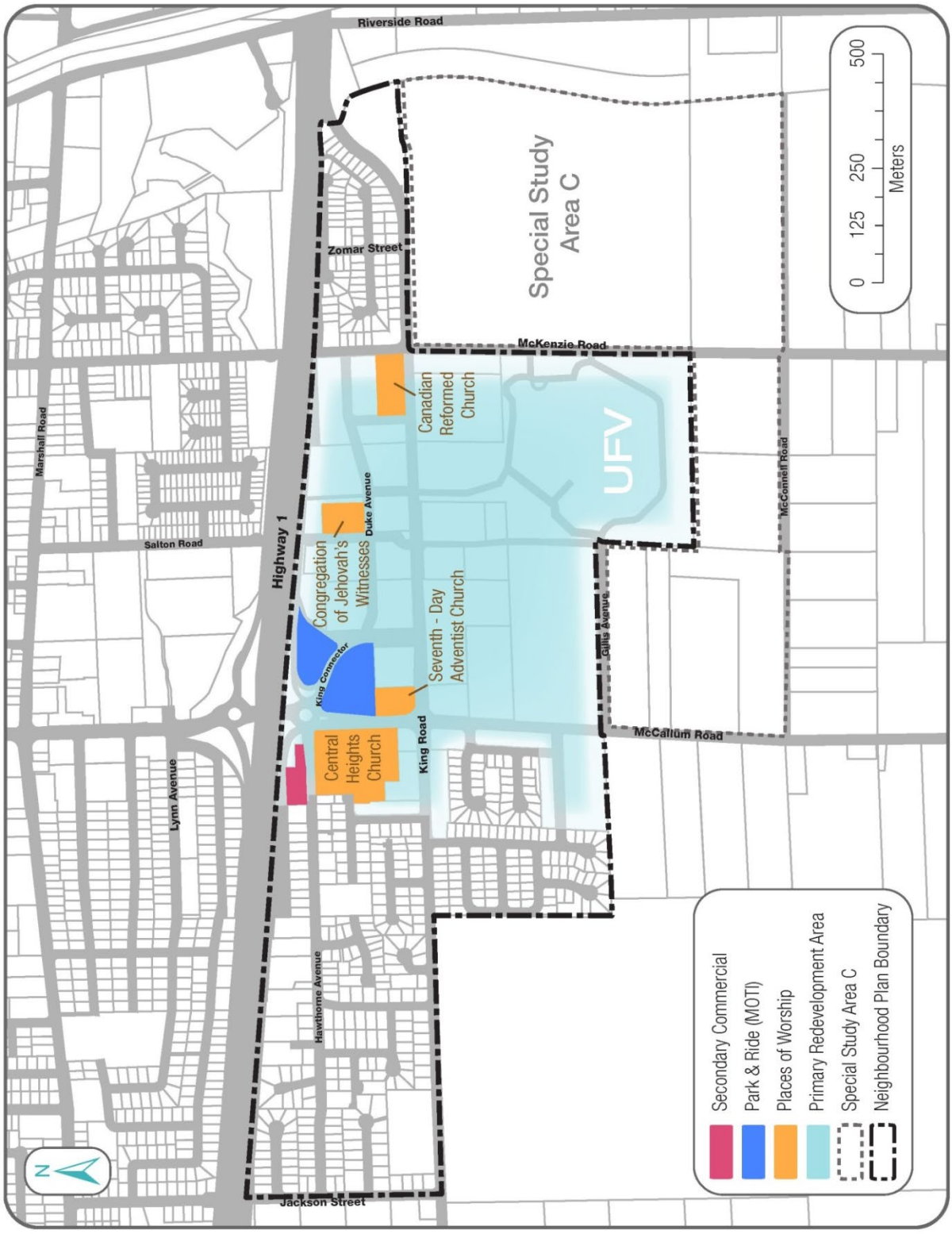



**Figure 18 - Supporting Lands**

## 3.4 SUPPORTING LANDS

Supporting Lands are largely comprised of institutional lands and secondary commercial uses. Institutional lands can play an important role in helping define the character of a neighbourhood. This is especially true with the UDistrict. The University of the Fraser Valley is a major institution in the neighbourhood, and its growth and development has the ability to change the character of the entire neighbourhood. Within the UDistrict, there are a number of churches. These religious institutions play an important role in the neighbourhood and provide community service and social outreach work. Their presence within the UDistrict will continue throughout the life of the Plan. Secondary Commercial lands within the UDistrict will play a very minor role in overall development of the neighbourhood, due to the limited amount of property with this land use designation.

### 3.4.1 Institutional Complex – Primary Use

The predominant use of land on UFV Abbotsford campus is for post-secondary education and research.

### 3.4.2 Institutional Complex – Location of Buildings

Enhance the University Village by requiring university buildings located within this area to incorporate a mix of uses, and specifically ground floor retail to generate activity at the street level.

### 3.4.3 Institutional Complex – Business Relationships

Encourage UFV to relocate or expand programs to the University Village in order to increase their prominence in the neighbourhood and take advantage of relationships with the business community.

### 3.4.4 Religious Worship (Existing and Transitional)

Enable existing churches to stay in their current form or to redevelop and integrate into an urban format, such as a floor(s) within a building.

### 3.4.5 Secondary Commercial – Buffers

Buffer residential uses from the Trans-Canada Highway on-ramp with compatible commercial uses for the travelling public.

### 3.4.6 Secondary Commercial – Drive-Thrus

Drive-thrus must be located behind the building out of view from public streets.

### 3.4.7 Secondary Commercial – Convenient Access

Enable secondary commercial uses near highway 1 with convenient vehicular access to service and highway traffic.

### 3.4.8 Park & Ride

Work with MOTI to consider appropriate land use options should the Ministry choose to redevelop existing Park & Ride facilities during the lifetime of the plan. Any redevelopment considerations will need to take into account the regional transit function of the site.


**Figure 19 - Amenity Spaces, Parks and Trails**

## 3.5 AMENITY SPACES, PARKS AND TRAILS

Providing adequate amenity space, parks and trails will be an important factor for fostering healthy lifestyles, encouraging social interaction and enhancing livability within the UDistrict. Throughout the intensive redevelopment process the population will continue to grow. With a more urban environment, it will become even more important to ensure that quality recreational space is provided for residents of the neighbourhood.

### Amenity Space

UWalk will not only act as a pedestrian and cycling corridor for residents and users of the area, a portion of this corridor (Cascades Plaza) will function as a plaza space. Removable bollards will be placed on either end of University Way North, and with the roadway portion blocked off to vehicular traffic the space will be able to accommodate events and activities.

### Parks, Trails and Open Space

The neighbourhood will be served by one proposed and four existing Neighbourhood Parks (see Figure 18). There is currently a deficit of Community Park space within the UDistrict; however, with the installation of the new pedestrian/cycling bridge over the TransCanada Highway, Berry Park is within walking distance. Through the Parks and Recreation Master Plan update, the distance and classification of Berry Park will be reassessed. The parks space ratio deficit in the area will be further explored with the potential city wide park located within Special Study Area C. This facility will not only provide ample recreational space for residents of the UDistrict, it will also provide much needed city-wide active recreational space for tournaments and large sporting events for residents and UFV varsity sports and on campus recreation programs.

Riverside Trail provides a unique opportunity for a walking, running and cycling loop within the neighbourhood, and to accommodate this recreational resource 1.70 ha (4.20 ac) of land will need to be designated for this purpose. The undeveloped road right-of-way for McConnell Road provides a connection from the trail to McKenzie Road. This connection will be in the mid to long term as the area is currently be used for gravel extraction.

**TOTAL**
Park and Open Space
**31.95 ha (78.96 ac)**

| Park & Type | Size ha (ac) |
|---|---|
| Amblewood Park (neighbourhood) | 0.17 (0.42) |
| Kaslo Park (neighbourhood) | 0.28 (0.69) |
| Keats Park (neighbourhood) | 0.16 (0.40) |
| Ketch Park (neighbourhood) | 0.22 (0.54) |
| Riverside Trail (major trail) | 4.50 (11.12) |
| Proposed Riverside Trail (major trail) | 1.70 (4.20) |
| Proposed Open Space (neighbourhood) | 0.50 (1.24) |
| Cascades Plaza | 0.14 (0.35) |
| Proposed Special Study Area (city-wide) | 24.28 (60.00) |

**Table 2 - Park Space Inventory**

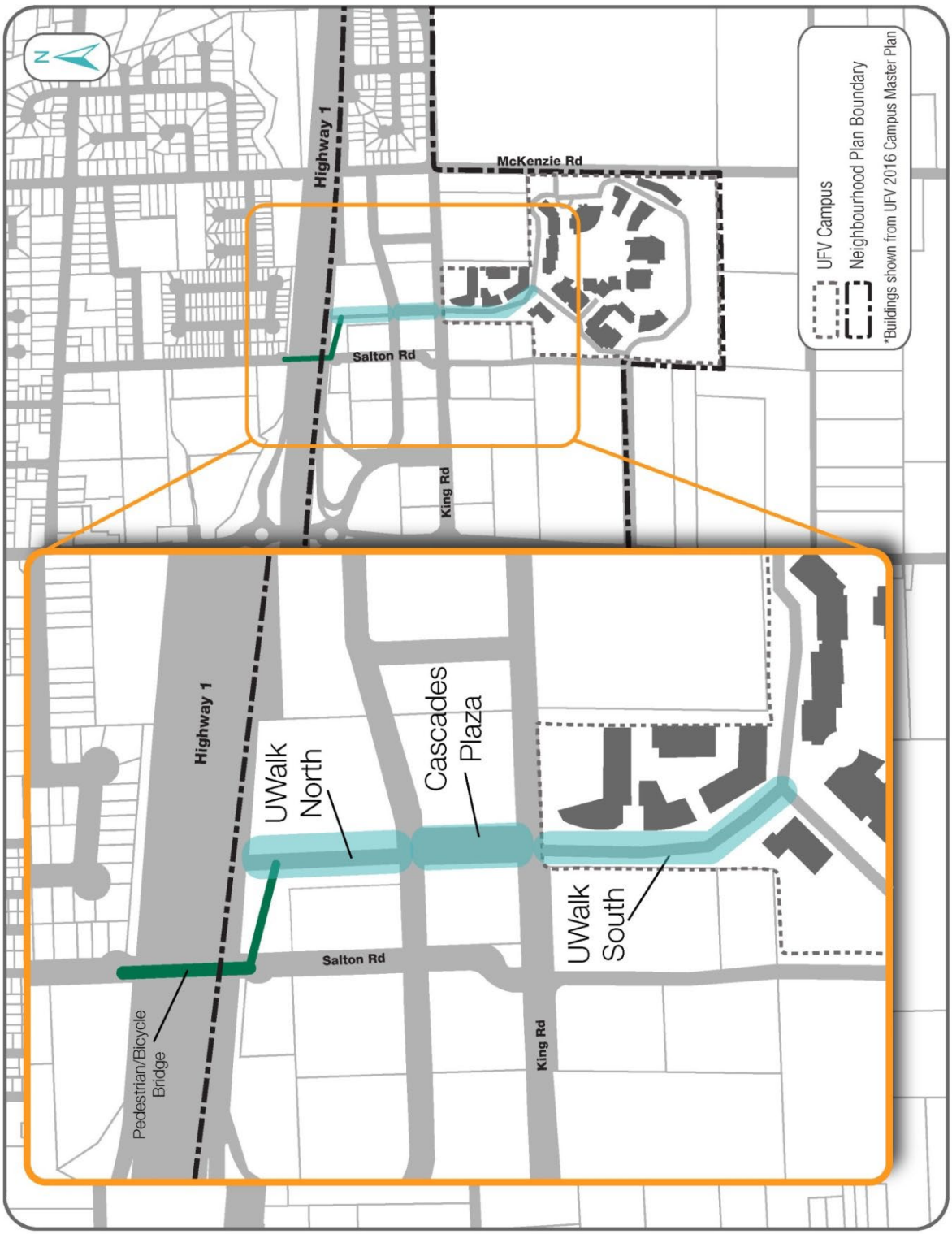



**Figure 20 - Amenity Spaces: UWalk**

### 3.5.1 Amenity Spaces – UWalk
The UWalk will be the primary movement and recreational corridor for the UDistrict which will connect the neighbourhood to the north side of the highway. It will be made up of three areas – UWalk North, Cascades Plaza, and UWalk South.

### 3.5.2 Amenity Spaces – UWalk Programming
The UWalk will provide passive recreational space and opportunities for informal gathering.

### 3.5.3 Amenity Spaces – UWalk North
Design UWalk North as a tree-lined urban greenway which acts as a northern gateway into the UDistrict for pedestrians and cyclists. Establish public access to lands required to complete this route.

### 3.5.4 Amenity Spaces – Cascades Plaza
Cascades Plaza will be an active, vibrant and shared space with the dual function of both a Street and plaza supporting day and night activity. The Street will have the ability to be converted into a plaza by placing removable bollards at both ends to create a car-free space for festivals and events.

### 3.5.5 Amenity Spaces – UWalk South
UWalk South will be the main entrance to the University and Abbotsford Centre, and will connect the campus to the greater UDistrict Neighbourhood.

### 3.5.6 Amenity Spaces – Salton/King Road
The alignment of Salton Road with College Drive will provide the opportunity to create a public plaza. This space will function as a west entrance to the University Village and will connect King Road with the pedestrian/cycling overpass.

### 3.5.7 Parks – Existing
Retain existing parks within the neighbourhood to support families with children.

### 3.5.8 Parks – Connections
Explore opportunities to provide safe and convenient connections between parks.

### 3.5.9 Parks – Special Study Area C
Explore the possibility for developing a large format active park in Special Study Area C, as per the Official Community Plan (OCP) to meet local and city-wide recreational needs (additional detail is provided on page 22).

### 3.5.10 Trails
Create a perimeter looping trail which will start along the unconstructed road right-of-way on McConnell Road, and will continue along the escarpment and connect back to the sidewalk along King Road.

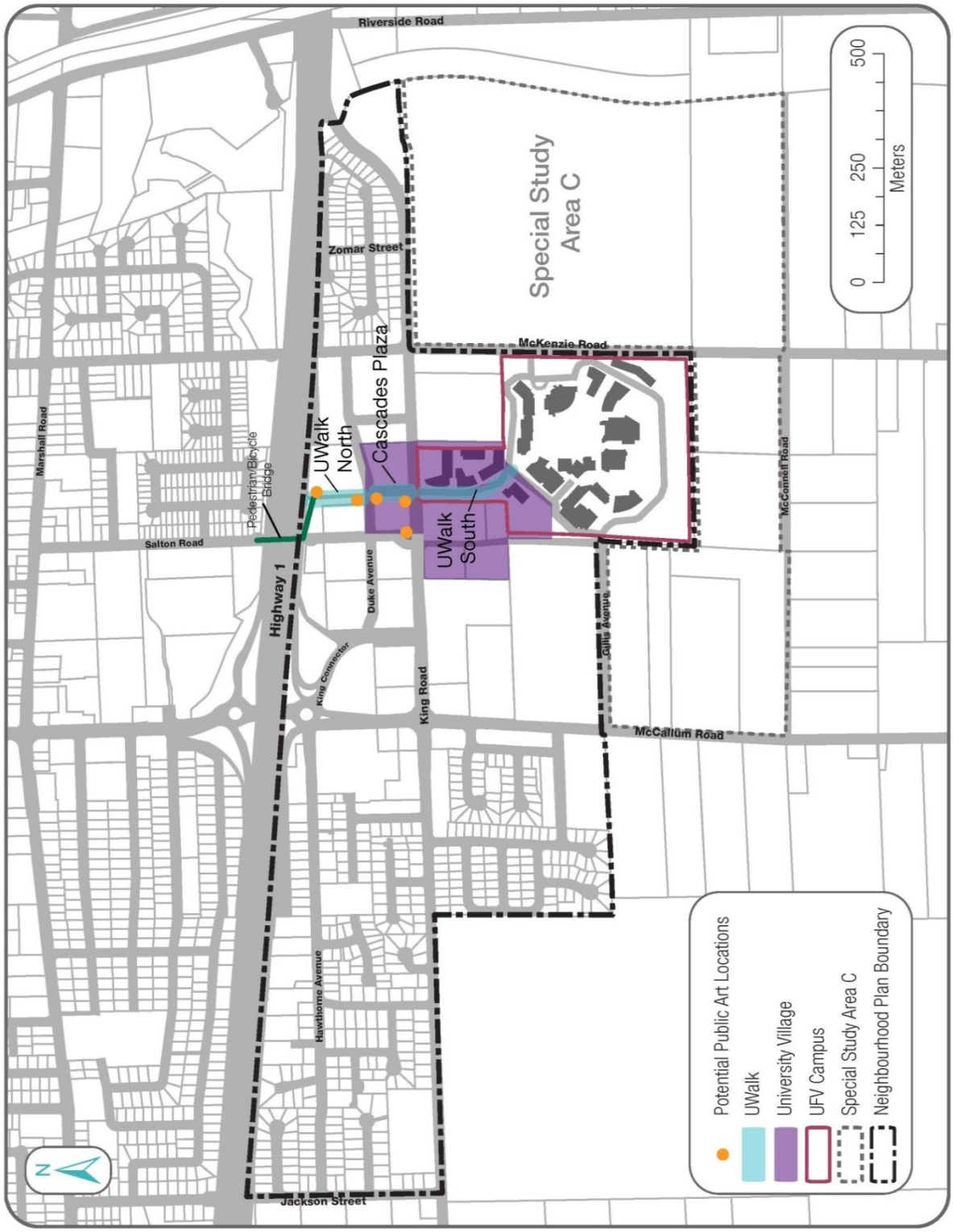



**Figure 21 - Public Art Locations**

## 3.6 COMMUNITY, RECREATION AND CULTURE

Policies within this section encourage the improvement of the UDistrict's social and cultural development. The neighbourhood's artistic and cultural resources will become more important to the community as the UDistrict redevelops and grows in population. Community gathering spaces need to be created and public art should be included to enhance the neighbourhood. These enhancements will help to establish a unique sense of place for residents.

Recreation within the neighbourhood can be supported by continued use of Abbotsford Centre for recreational community sports. In addition, UFV's recreational facilities are located within the neighbourhood, and the recreational needs of many area residents will be provided by this institution.

### 3.6.1 Special Events

Support special events (festivals, street parties, markets) in public spaces such as Cascades Plaza to help create a sense of community.

### 3.6.2 Daycare Facilities

Encourage daycare facilities to locate within the primary redevelopment area to support the families within the neighbourhood.

### 3.6.3 Social Services

Encourage essential social services (doctors, dentist offices) to locate within the two mixed use nodes to support the development of a complete community.

### 3.6.4 Gathering Spaces

Expand opportunities for group seating throughout the neighbourhood to encourage informal gathering spaces and to create a sense of community.

### 3.6.5 Age-Friendly Design

Encourage the design of age-friendly spaces that meet the needs of an aging population.

### 3.6.6 Abbotsford Centre

Support Abbotsford Centre as a place to host marquee events (sports and concerts) and integrate the University Village to enable people to take advantage of services within the neighbourhood.

**Abbotsford Centre**

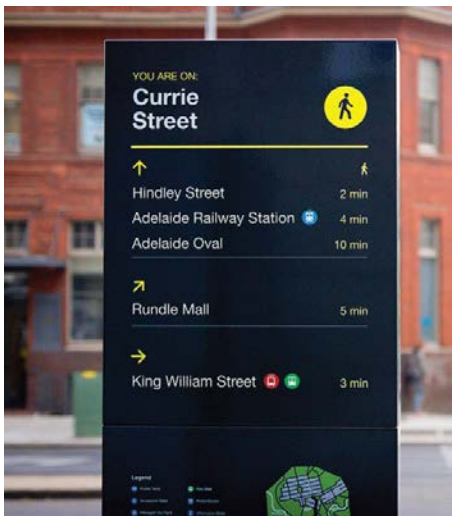
## 3.6.7 Public Art

Locate public art installations in key focal points to reinforce the unique sense of place and to act as landmarks for the neighbourhood.

**Examples of Public Art**

## 3.6.8 Wayfinding

Encourage innovative forms of wayfinding signage at key intersections and gateways into the neighbourhood to guide movement between major destination points.






**Wayfinding with high contrast between characters and background**

## 3.6.9 Street Lighting

Utilize banners with the UDistrict branding on street light mounting poles to differentiate the neighbourhood from other parts of the city.


## 3.6.10 UFV Recreational Facilities

Examine public access and use of UFV recreational facilities in relation to the PRC Master Plan.


**UFV - Abbotsford Campus Recreational Facility**

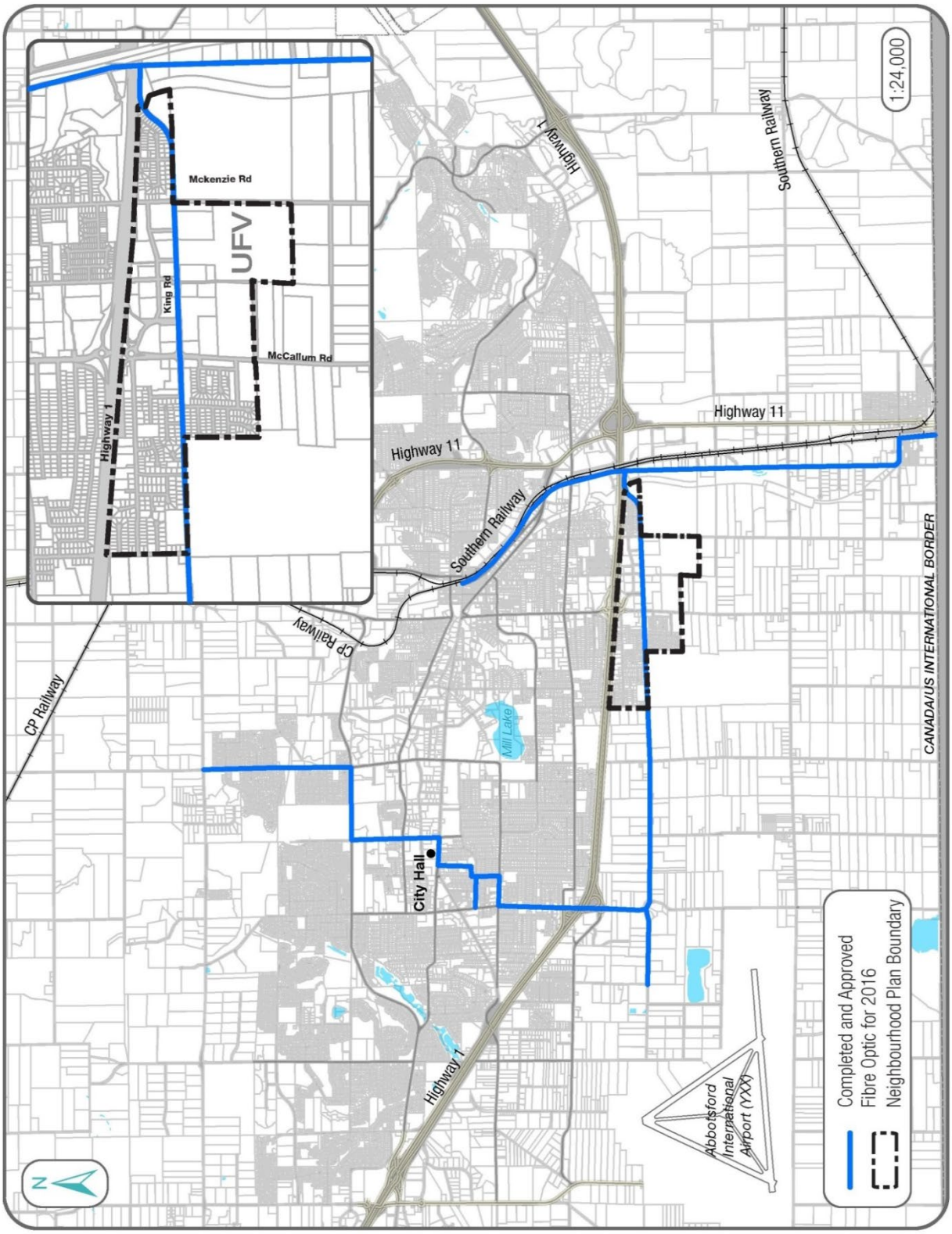



**Figure 22 - Fibre Optic Network**

## 3.7 ECONOMIC DEVELOPMENT

The UDistrict has the potential to provide exciting opportunities for business growth and development in the tech sector. With fibre optic service in the neighbourhood and synergies with UFV's digital hub, there is the potential to attract high quality businesses to the area. UDistrict is also well positioned geographically. With close proximity to the Abbotsford International Airport, the United States border, and the Trans-Canada highway, accessibility to the market is ideal.

### 3.7.1 Business Incubators

Encourage IT and high tech businesses to locate in the University Village and develop a strong working relationship with UFV (business incubators).

### 3.7.2 Hotel and Conference Centre

Encourage a hotel and conference centre to locate in the UDistrict and take advantage of the proximity to UFV, Abbotsford Centre and Highway 1.

### 3.7.3 Business Improvement Area

The City will assist businesses that wish to establish a Business Improvement Area (BIA) to promote and raise the profile of the University Village as a unique character area committed to community ownership.

### 3.7.4 Fibre Optic

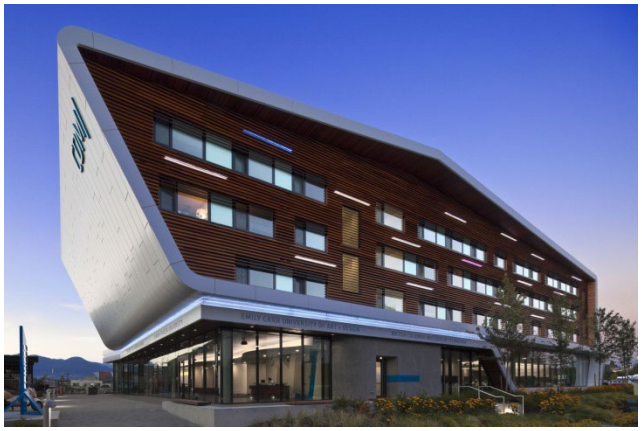
The UDistrict is connected to the city's fibre optic network and effort should be made to encourage businesses to capitalize on this resource.

### 3.7.5 Digital Hub

Design the University's Digital Hub to be a focal point for local job creation and ingenuity.

### 3.7.6 Business Transition

Assist existing businesses that are incompatible with the UDistrict land use concept with relocation to other more suitable sites within the city.



**Digital Hub Example: Centre for Digital Media, Vancouver**

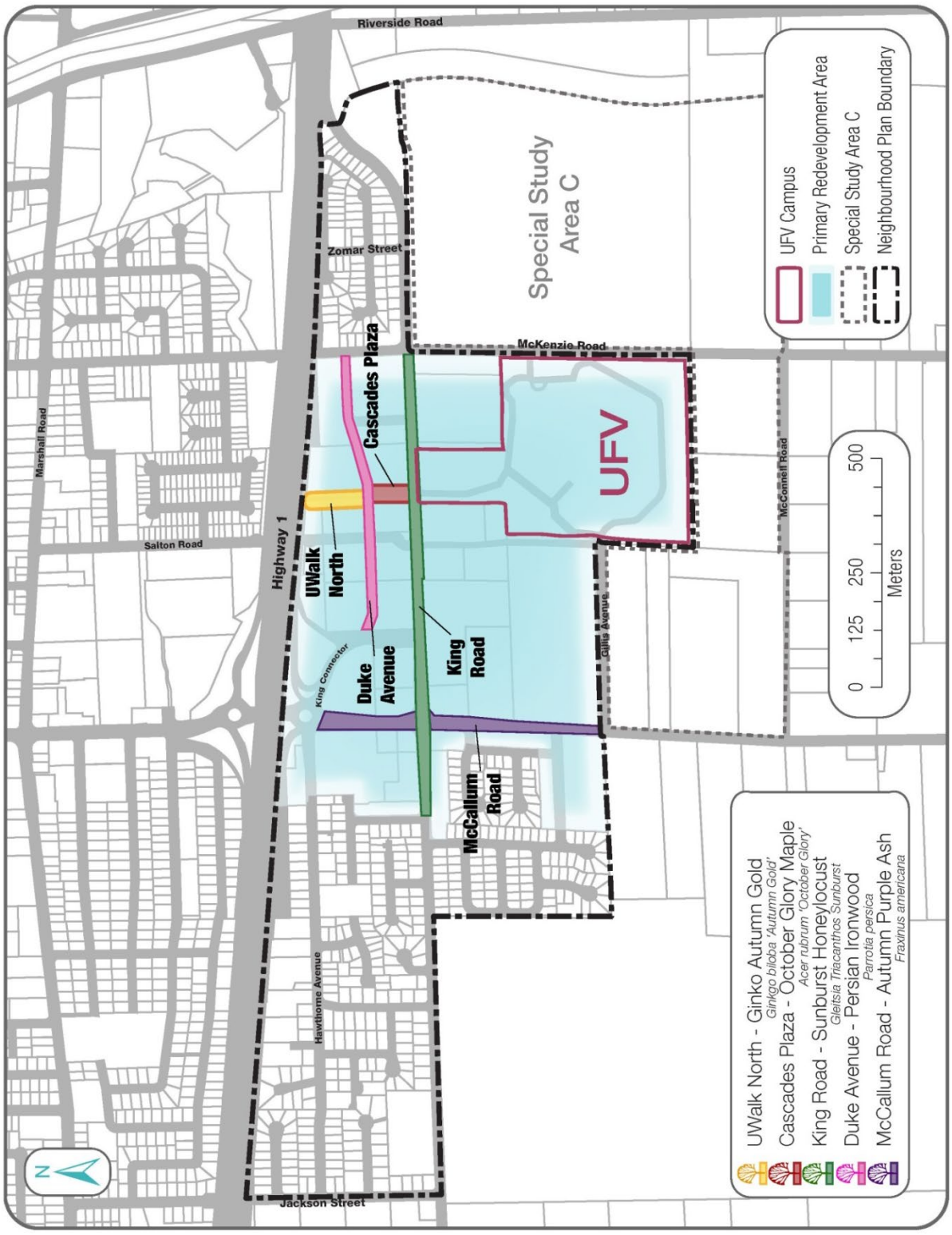



**Figure 23 - Street Trees**

## 3.8 ENVIRONMENT

Policies within this section will primarily focus on 'greening' the neighbourhood. As the primary redevelopment area transitions over time, there will be opportunities to provide more street trees and improve the tree canopy within the UDistrict.

### 3.8.1 Tree Canopy

Prioritize the expansion of the urban tree canopy by providing street trees.

### 3.8.2 Tree Species

Use different species of high branching deciduous street trees such as those shown in Figure 23 to create visual interest and protect against impacts of potential disease.


Ginko Autumn Gold


October Glory Maple


Sunburst Honey Locust


Persian Ironwood


Autumn Purple Ash

### 3.8.3 Structural Tree Soil

Consider the needs of appropriate structural soil for all new street trees planted within the Primary Redevelopment Area in order to extend the life of the street trees, and allow them to reach full maturity. Within Cascades Plaza, innovative tree planting technologies which utilize a shared trench and reduce the required soil volume will also be considered.

### 3.8.4 Tree Retention

Retain mature trees where possible as they provide character and a connection to nature.

### 3.8.5 Species at Risk

All greenfield or undeveloped lands within the neighbourhood have been identified as critical habitat for Townsend Moles (species at risk). Development applications within these areas will require appropriate approvals from senior government agencies.

### 3.8.6 Federal and Provincial Wildlife Regulations

Undertake appropriate measures to ensure any development activity is compliant with the federal Migratory Birds Convention Act and the provincial Wildlife Act with respect to bird nests.

## 3.9 FRANCHISE UTILITIES AND SERVICES

Franchise utilities are an important part of servicing a neighbourhood. They provide residents and business owners with essential services that are necessary to operating a home or a business. During the redevelopment process, it will be important to coordinate the location of utilities to ensure that interruptions in service are avoided, and to mitigate installation costs.

### 3.9.1 Underground Utilities

Coordinate and work with developers and all franchise utilities which traditionally provide overhead service (electrical, cable, and phone) to have these services located underground within the Primary Redevelopment Area. Overhead franchise utilities located within the Primary Redevelopment Area are not identified within the City's Streetscape Contribution Levy, except for the portion of McCallum Road which is north of King Road.

### 3.9.2 Utility Boxes

Ensure utility boxes are not located within University Way North (Cascades Plaza), if possible. Utility boxes should be screened or disguised by attractive wrapping, cladding or landscaping.

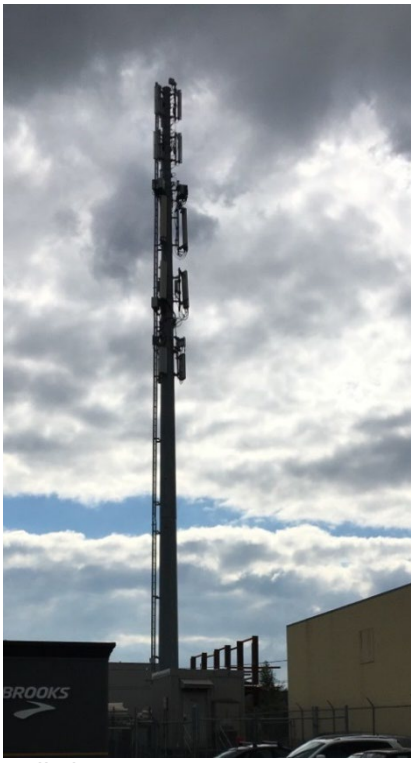
### 3.9.3 Cell Tower Relocation

Relocation of the cell phone tower located at 1707 Salton Road should be considered in order to create a better interface with the future apartment building to the south.

### 3.9.4 Digital Sign

The digital sign on the Trans-Canada Highway is operated by Pattison until 2031. Long term design and operation should be explored to integrate the sign within the neighbourhood.

Digital sign


Cell phone tower

# PART 4: DEVELOPMENT PERMIT GUIDELINES

# DEVELOPMENT PERMIT GUIDELINES

Local Governments are authorized to create and adopt Official Community Plans (OCP) through the *Local Government Act* in British Columbia. Official Community Plans provide the long term vision for a community and set the policies relating to land use management within the area covered by the plan.

Within the OCP, Local Governments can designate Development Permit Areas (DPAs) for several reasons, such as:

- the protection of the natural environment,
- protection from hazardous conditions,
- protection of agricultural lands,
- and/or to guide the form and character of development.

Development Permit Areas can help to achieve the objectives set forth in the Official Community Plan. Once an area has been designated, land development and construction can only take place after a development permit has been issued by City Council.

The University Village Development Permit Guidelines supersede the Development Permit Guidelines contained within the Official Community Plan. However**, all development applications outside of the University Village are subject to the Development Permit Areas and Guidelines contained within the Official Community Plan.**

## UNIVERSITY VILLAGE DEVELOPMENT PERMIT GUIDELINES

# AREA

Development within the University Village area is subject to these Form and Character Development Permit Guidelines.

**The map below outlines the University Village area**

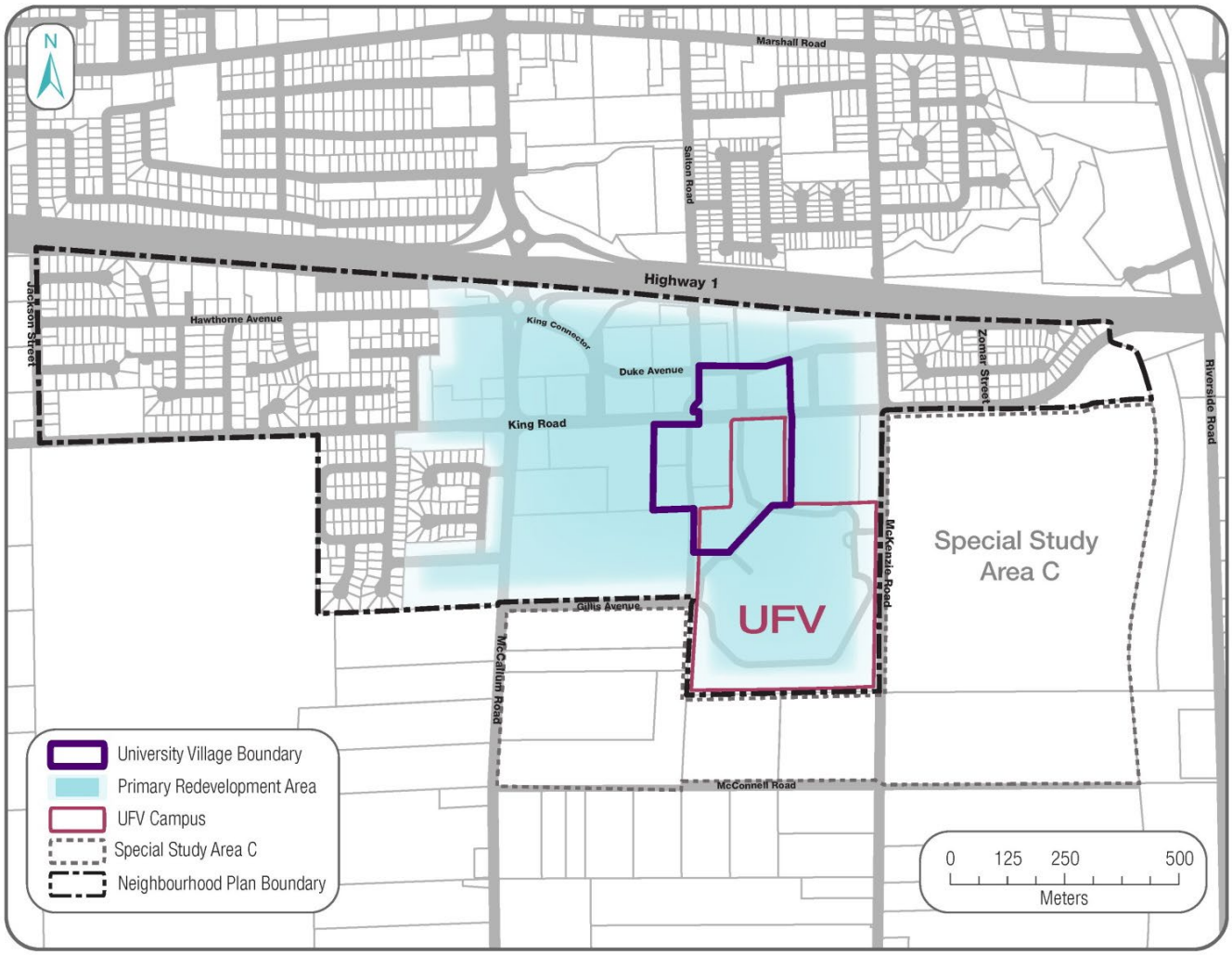



**Figure 24 - University Village**

# JUSTIFICATION

As the UDistrict Urban Centre redevelops, the new University Village will act as the focal point for the community. It will be important for this area to have a distinct character that blurs the boundaries between the university campus and the community. This core area will become the vibrant centre of the neighbourhood by providing the widest range of uses.

# OBJECTIVES

The following guidelines are intended to encourage the construction of a dynamic, livable and attractive neighbourhood. New University Village development should seek to enhance an innovative and distinct urban neighbourhood that brings community and campus life together.

# GUIDELINES

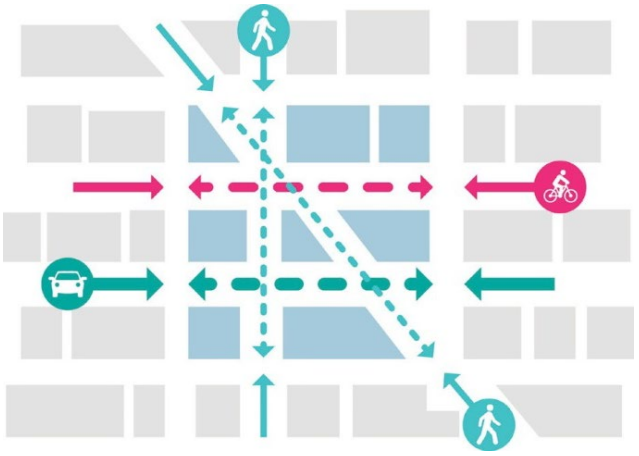
The following guidelines provide direction for intended outcomes for all development in the University Village, and may be applied when setting Development Permit conditions.

## SITE CONTEXT

To guide the design of development sites that fit within the broader context of the neighbourhood and are compatible with adjacent properties.

### UV1 Neighbourhood Connectivity

Design the site to enhance the pedestrian, bicycle, and vehicle connections in the area. Specifically, sites which are adjacent to UWalk North, Cascades Plaza, or UWalk South need to ensure pedestrian and bicycle connections are a priority.



### UV2 Neighbourhood Compatibility

Design mixed use development to be compatible, in terms of scale and design, with future land uses.

### UV3 Streetwall Continuity

Design mixed use areas with distinct, pedestrian friendly streetwalls by aligning architectural features and establishing patterns with neighbouring buildings.

### UV4 Landscape Integration

Site and design development to integrate with existing significant natural features, topography, and vegetation.

### UV5 Climate and Comfort

Maximize sun exposure to public open spaces, nearby buildings, and dwelling units through site planning and building height adjustments.

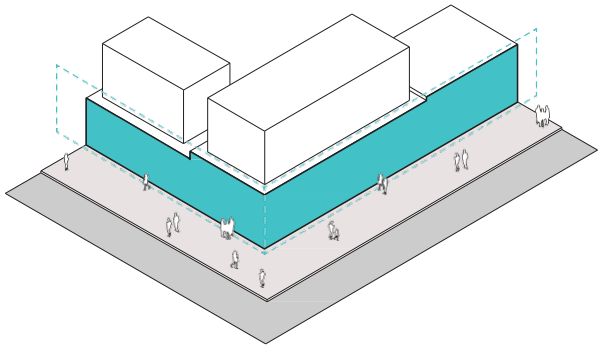
## SITE PLANNING

To guide the design of development sites with efficient circulation, safety and positive interfaces with public streets.

### UV6 Defined Streetscape

Orient buildings towards the UWalk, King Road, and Duke Avenue. Facades should be parallel to the property line directly abutting the public street.

New buildings should be sited along the maximum extent of both the front and flankage property lines. Gaps between buildings should be limited to driveways, laneways, walkways, and/or public space.



**UV8: Defined Streetscape**

### UV7 Shadow Impacts

Buildings should be designed to minimize adverse shadow impacts on adjacent buildings, streets, public spaces, or private amenity spaces.

### UV8 Passive Solar Design

Lay out development sites to optimize solar gain for each building.

### UV9 Hierarchy of Spaces

Define the spaces that are public, from those that are private, with elements such as patios, paving treatments, grade changes, fencing, or landscaping.

### UV10 Walking Connections

Connect main entrances and unit entrances to public sidewalks, parking areas and adjacent residential and commercial sites (existing and future) with a minimum 2m wide pathway.

### UV11 Access to Transit

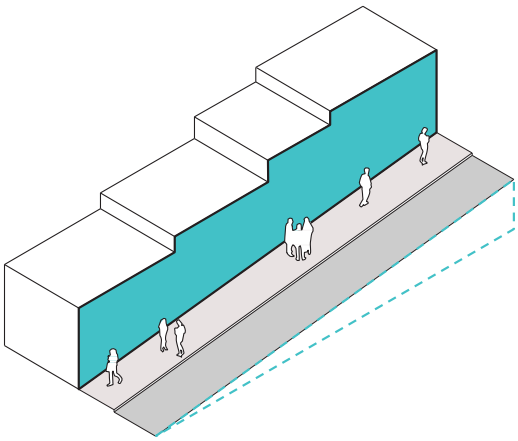
Design buildings to provide direct access and clear sightlines to bus stops and the transit terminus.

### UV12 Public and Private Amenity Spaces

Integrate usable public and private open spaces, including squares, plazas, and roof-top gardens. Locate public open spaces adjacent to active uses (cafes, shops, small businesses, etc.). Provide benches, shelters, and other amenities near main entrances.

## UV13 Site Grading

Avoid the use of retaining walls. Step buildings along the length of a sloping street. When retaining walls are required, limit the height to 1.2 metres and terrace and landscape them. Lock block style and poured-in-place concrete retaining walls are not permitted.



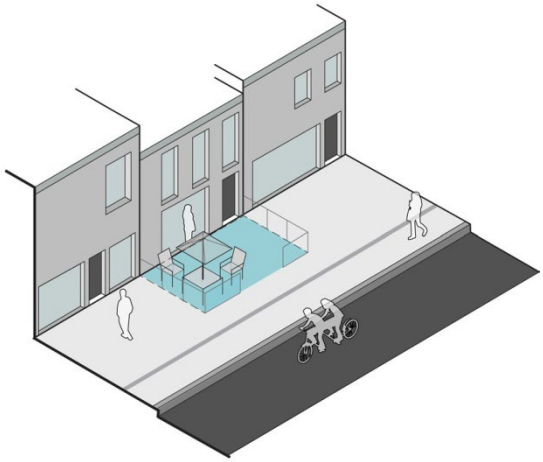
**UV13: Site Grading**

## UV14 Setbacks

Minimize building setbacks on University Way N and King Road while ensuring sufficient setbacks for weather protection, and from adjacent residential uses to allow for privacy.

## UV15 Commercial Patios

All commercial patios should be located between the building face and the street, or on building rooftops. Patios located in corner buildings should wrap around both building edges. Consistent fencing should be considered, such as matte stainless steel or aluminum fencing with glass panels to delineate patio spaces.



**UV15: Patios**

## UV16 Setback Treatment

If provided within Cascades Plaza, seating in the form of benches or chairs should be located close to building entrances. Similarly, store display areas, restaurant menu displays and sandwich boards must be located within the required building setback. Any landscaping should be in the form of planter boxes and flower pots; grass or in-ground landscaping is not permitted.

## UV17 Paving

Ensure that paving schemes in the public street right-of-way extends onto adjacent private land, including into entries, to provide visual uniformity.

A continuous paving band should be used to demarcate the private realm from public realm and to demarcate areas used for outdoor display areas, patios and awnings.

**Paving bands used to demarcate the private realm from the public realm**

## UV18 Bike Parking

Provide secured and weather protected bike parking inside residential buildings in the form of a cage or locked room where bicycles can be fastened to a rack.

## UV19 Parking

Reduce the number of accesses with shared parking facilities and shared access points. Provide all required off-street residential parking underground (including visitor parking).
Where surface parking is provided for commercial uses, parking spaces must be provided at the rear of the building, out of view from the street.

Access to parking areas, including underground parking, is not permitted from King Road or University Way N/Cascades Plaza.

Handicapped parking must be easily accessible and centrally located.

## UV20 Storage, Garbage, and Recycling

Incorporate garbage, composting, and recycling internally within buildings where possible. Otherwise, locate them behind or beside buildings, and screen them with attractive, high quality materials and architectural treatments that are complementary with the associated building(s).

## UV21 Loading

Loading areas must be internally located within buildings, where possible.

## UV22 Drive Thru Facilities

Drive thru facilities are not permitted within the University Village.

# BUILDING DESIGN

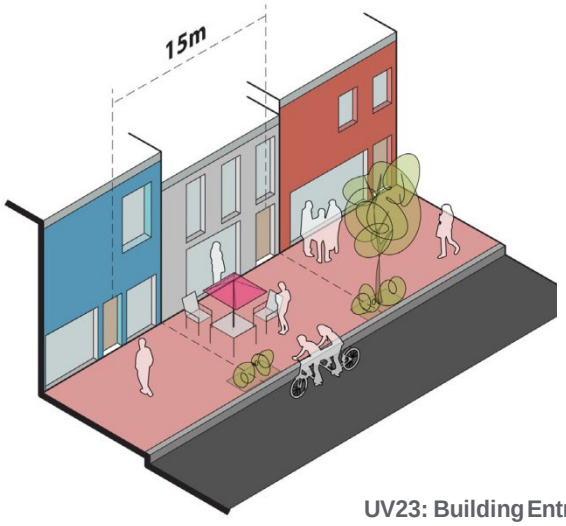
To guide the design of buildings that are people focused, attractive and functional with the streets on which they will front.

## UV23 Building Entrances

Provide well-lit and visually prominent entrances on King Road, University Way N, and Duke Avenue. Main commercial and residential entrances must face and directly connect to the public sidewalk. Large recessed entryways must be avoided.

Ensure entrances are a maximum of 15 m apart at their centres.

Where residential and retail entrances appear on the same block, residential entrances should be located on flanking streets, allowing for retail and commercial continuity. Where this is not possible, residential entrances will be recessed to minimize interruptions to retail frontage.




**UV23: Building Entrances**

## UV24 Corner Buildings

Design a building at the corner of two streets to front both streets. Mass the building at its corner to exhibit visually prominent, landmark architecture. Design corner buildings with corner entries.

## UV25 Active Uses

Active uses must be located at grade and be directly accessible from the public sidewalk. Active uses include, but are not limited to, cafes/restaurants, retail, lobbies, and community uses.

Entrances are to be located at grade and be covered by a cantilevered roof or awning. The height of a retail storefront along University Way N should be between 3.5m and 5.5m to facilitate a long-term range of uses while maintaining pedestrian scale.

## UV26 Building Transparency

Provide a minimum of 80% transparent glazing at the ground level, including entrances, for buildings located on King Road, University Way N, and the Duke Avenue. Transparent glass can be clear or lightly tinted to a minimum viewing depth of 1 metre. Do not obscure ground level facades with excessive window signage (1/4 of total window area).

## UV27 Self-contained Uses

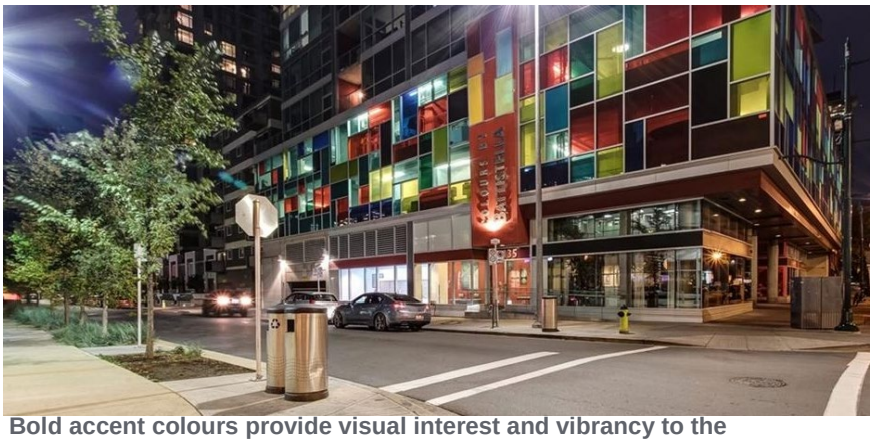
For mixed-use buildings, separate and distinctly design entrances for upper storey uses from the entrances to ground floor commercial uses. Design buildings to ensure each different use is self-contained, with a focus on security for residential uses.

## UV28 Architectural Interest

Vary building materials, colours, rooflines, and other architectural elements. Bold accent colors for architectural features are strongly encouraged.

Wider buildings should be visually broken into smaller building sections. Integrate vertical elements and breaks into the façade of a building. Large expanses of singular materials, such as vinyl siding and stucco, and blank walls are not permitted.

Variation in three-dimensional building elements such as balconies, bay windows, moldings, cornices, porches, and other similar elements should be used to provide depth and variation to the building mass. Large, flat street-facing walls should be avoided.



**Bold accent colours provide visual interest and vibrancy to the neighbourhood**

## UV29 Building Materials

Products such as natural wood, glazing, metal panels, or contemporary brick should be used. Ground floor levels should be clad in a different material than upper levels to provide a visual break. For residential uses, Hardi-Plank cladding may be used above the first floor.

The following facade materials are not permitted:

- Vinyl siding
- Stucco
- Cast concrete (except as an accent or base)
- Concrete units

## UV30 Balconies

Balconies should be integrated within the building façade through terraces or recessing, and be designed with transparent glass that is clear or tinted in a vibrant color.

Balconies projecting from exterior building walls should be designed with glass that is clear or has lightly tinted glazing.

## UV31 Rooftop Design and Accessibility

Landscape commercial and residential rooftops and make them accessible to customers, tenants and/or residents as usable common outdoor spaces. Screen or enclose mechanical equipment and appurtenances on rooftops.

## UV32 Scale Transition

Incorporate complementary building forms and transitional heights to harmonize with the height and scale of adjacent lower density residential land use designations.

## UV33 Grade Transition

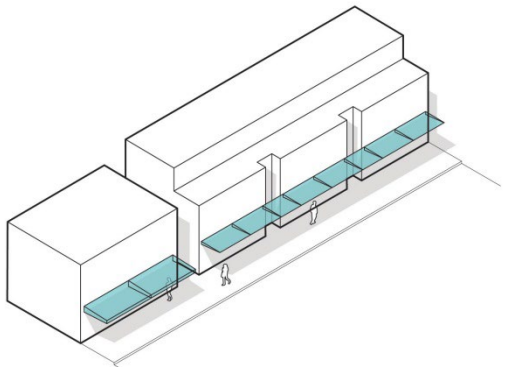
On sloping sites, step ground floor slabs to ensure a level transition between the sidewalk and the building/storefront entrances. Similarly, design the roofline to follow the slope of the site.

## UV34 Accessibility

Design buildings to address the functional needs of persons with disabilities including those who are mobility, visually, and hearing impaired, and/or have reduced strength or dexterity.

## UV35 Weather Protection (awnings/canopies)

Within Cascades Plaza, provide continuous 3m deep weather protection for patio space and building entrances. Acceptable forms include transparent glass with reinforced steel beams, and retractable awnings which provide greater sun/ shadow control for businesses. No arcades are permitted. Awnings/ canopies should provide a minimum height clearance of 3m, not obstruct pedestrians and be designed so that rainwater does not drip directly on the travel path of pedestrians, where possible.



**UV35: Weather Protection**

## UV36 Signage

Directly integrate signage into building façades. Signage should be designed to be architecturally consistent with associated buildings. Freestanding signs and/or backlit box signs are not permitted.

The following types of signage are permitted and should be sized appropriately for a pedestrian environment:

- Awning – located on awning/canopy to identify a business
- Fascia – mounted flush against a building face to identify a business or residence
- Sandwich boards – located within the setback to advertise a businesses
- Window – window signage should not exceed 25% of the window area
- Projecting – affixed to the building wall or canopy, perpendicular to the building face

# LANDSCAPING

To guide the design of landscaping for a development's natural beauty, legibility, and ecological sustainability.

## UV37 Visual Interest

Define pedestrian areas and screen unsightly areas such as blank walls, loading bays, garbage, composting and recycling areas, and storage areas with the use of landscaping elements.

## UV38 Public Realm

Design the spaces between buildings and street curbs as safe, convenient and interesting people places. Enliven the public realm with attractive amenities such as seating, plantings, transit shelters, public art and water features.

## UV39 Climate and Comfort

Strategically plant trees, shrubs, and other vegetation to protect from high winds and excessive heat.

## UV40 Tree Retention

Where possible, preserve mature trees and significant specimens and integrate them with new landscaping and buildings.

## UV41 Tree Canopies

Where sightlines are required, use tree species that allow for a canopy at least 2m in height.

## UV42 Tall Hedges

Avoid using tall, visually concealing hedges along public sidewalks and streets.

## UV43 Native Species

Where appropriate, use native and drought tolerant plant and tree species.

## UV44 Fence Height and Design

Keep fences below 1.5m along public streets. Matte stainless steel or aluminum fencing which provides adequate visibility should be used. Chain link fences are not permitted along public streets.

## UV45 Stormwater Infiltration

Incorporate bioswales and rain gardens into landscaped areas. Consider the use of permeable pavement for paved surfaces.

## UV46 Highway #1

Incorporate a landscape buffer adjacent to Highway 1 to buffer development from the highway.

## LIGHTING

To guide the design of lighting for the protection of the neighbourhood from light pollution, and for each individual development's security.

### UV47 Light Pollution

Avoid light pollution by directing lighting downwards and using full cut off fixtures with horizontally aligned flush mounted (non-protruding) lens.

### UV48 Pole Mounted Lighting Height

Place lighting fixtures no higher than 6m from the ground.

### UV49 Pole Mounted Lighting Orientation

Direct lighting fixtures on the perimeter of a site 45 degrees downwards away from adjacent residential uses with a side-to-side horizontal aiming tolerance of no more than 22.5 degrees. Lighting fixtures located inside the perimeter may be lit at 90 degrees from the pole.

### UV50 Up-lighting

Use up-lighting sparingly and only for accenting architectural elements or landscape features.

### UV51 Sensor Activated Lighting

Use sensor activated lighting for security lighting.

### UV52 Even Wash

Create an even wash of light across surfaces desired to be lit that are not adjacent to rural and residential uses.

### UV53 Nighttime Use

Do not light areas not intended for nighttime use. Focus lighting on popular pathways that provide key connections between destinations that people desire to use at night.

# PART 5: INFRASTRUCTURE

## 5.1 TRANSPORTATION

The Neighbourhood Plan establishes a foundation for the redevelopment of the UDistrict, and this will provide an opportunity for a complete mode shift where walking, cycling, and transit become preferred transportation choices. Streets within the Primary Redevelopment Area have been designed as complete streets, where all modes (walking, cycling, transit, and automobiles) can safely and comfortably move throughout the neighbourhood. A linear grid has also been developed within the Primary Redevelopment Area to break up larger blocks, provide more intersections, and allow future residents more direct routes to access local services by walking or cycling. Streets will become more attractive, vibrant, and interesting places with wider sidewalks, street furniture, street trees, and wayfinding signs.

### Pedestrians

Within the UDistrict walking will be encouraged as the preferred mode of travel for all local trips. In order to facilitate this preference, all streets within the Primary Redevelopment Area will have sidewalks on both sides of the street, and all local services within the area will be safely accessible by foot.

The new pedestrian/cyclist overpass connecting Salton Road north and south of the Trans-Canada Highway will become an important component of encouraging walking within the Neighbourhood. The bridge will allow residents to access services on either side of the highway, as well as allow UFV students and staff a safe and direct route to school. Events at Abbotsford Centre will also become more accessible to pedestrian traffic.

UWalk will further enhance the pedestrian experience, as this corridor will provide direct access to the University Village which is home to Cascades Plaza, Abbotsford Centre, and UFV. The corridor itself will range in width from 2.4 m in Cascades Plaza to 4 metres in UWalk North. Street furniture, wayfinding signs and public art will be located throughout the corridor and will provide comfort, directions and visual interest. Pedestrian-scale street lights will also add to the attractiveness of this corridor, and will provide a safe and comfortable night-time environment.

#### 5.1.1 Reduce Crossing Distances

Reduce crossing distances on local streets, and where possible on collector streets, by introducing curb bulges and other appropriate sidewalk treatments at intersections.

#### 5.1.2 Future Mid-Block Crossing

When warranted, work with the Ministry of Transportation and Infrastructure to evaluate the feasibility of a mid-block crossing on McCallum Road between the roundabout and King Road. This study will be subject to a detailed traffic analysis to ensure operations of the Highway 1 ramp terminal intersection at the roundabout will not be adversely impacted.

#### 5.1.3 Overpass Connection to UWalk

Design the Trans-Canada Highway overpass with an interim connection to Salton Road, but ensure that the ultimate pedestrian connection is made to UWalk North through City owned property at 1708 Salton Road.

#### 5.1.4 Pedestrian Scale Street Lights

Install pedestrian-scale street lights along UWalk to create a safe and comfortable night-time environment.

#### 5.1.5 Wayfinding

Provide wayfinding at key intersections along UWalk and ensure signs are placed in highly visible locations.

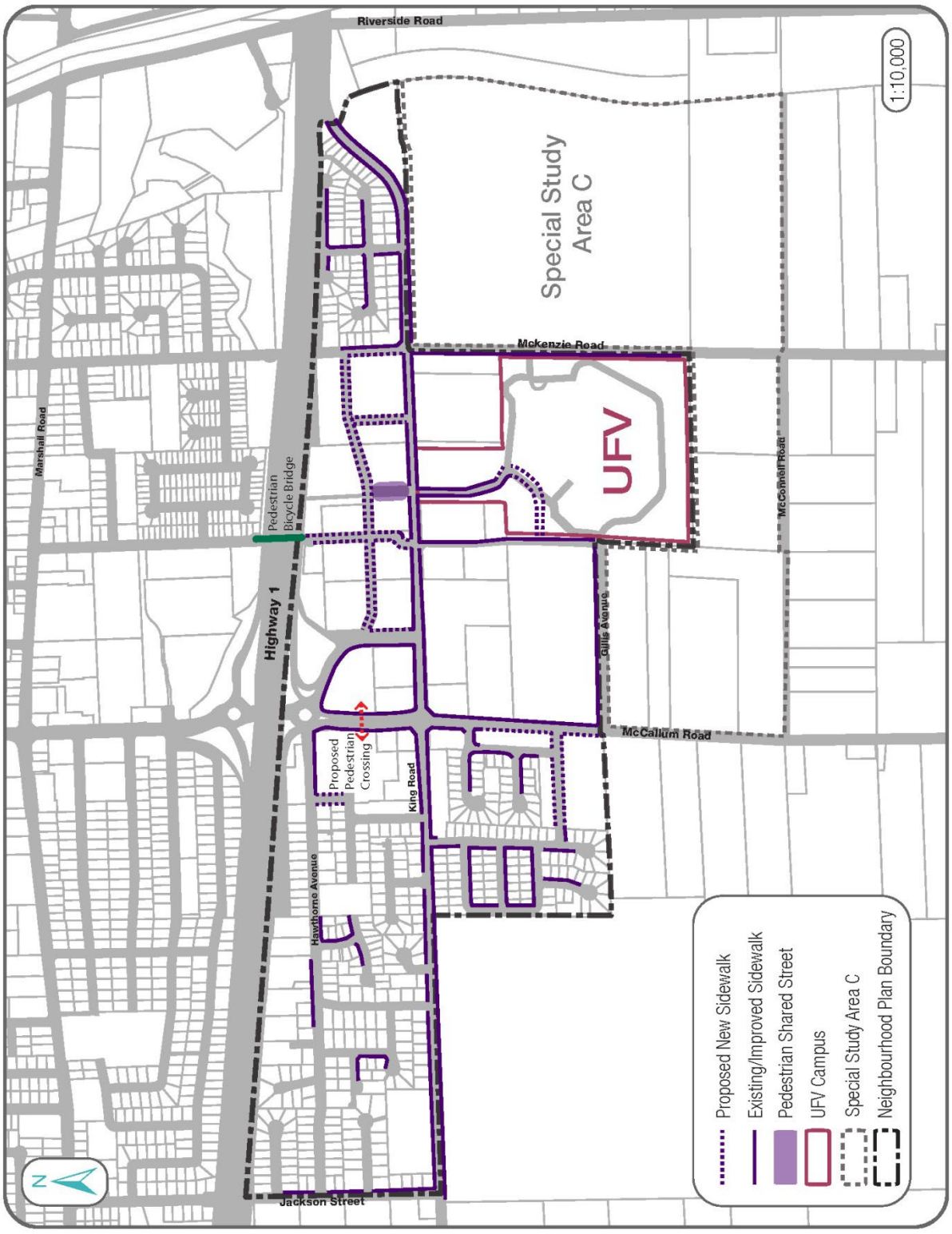



**Figure 25 - Future Pedestrian Infrastructure**



**Renderings of pedestrian and cycling bridge over Highway 1 (art is conceptual)**

**Renderings of Pedestrian and cycling bridge over Highway 1**

## Cycling

To help create a culture of cycling within the UDistrict the neighbourhood has been designed to take advantage of the relatively flat topography, and facilitate cycling by providing cycling lanes on both sides of the street within the Primary Redevelopment Area. This will allow residents the ability to access local services by cycling. Through intersections and areas of potential conflict, pavement markings will be in place. Signalized intersections along King Road are planned to utilize two-stage left queue boxes for cyclists for protection and priority. A protected intersection design (as shown in the latest TAC Guidelines) could also be incorporated as a measure to protect cyclists within intersections.

Linkages to the remainder of the City have also been facilitated by the Trans-Canada Highway pedestrian/cycling overpass. This important piece of infrastructure will allow all ages and abilities to safely ride over the highway in a multi-use format sharing the space with pedestrians. The bridge will also allow commuter cyclists to access UFV and other employers in the neighbourhood.

Cycling within the UDistrict will be further encouraged by providing end of trip facilities such as bike lockers, bike racks, and access to public washrooms at key destinations (UFV and Abbotsford Centre). To further enhance cycling more bicycle parking should be mandated within in Multi-family buildings. To be consistent with other Metro Vancouver municipality's off-street bike parking should be raised from 0.25 stalls per unit to 1.25 stalls per unit. This measure will help 'future proof' buildings and help foster a culture of cycling.

### 5.1.6 Cycling Network

Create a network of safe and interconnected bike lanes that connect the neighbourhood to the campus, as well as the broader city cycling network.

### 5.1.7 Pavement Demarcation

Demarcate areas of potential conflict between cyclists and other modes of travel through pavement markings along roads, and at intersections and crossings.

### 5.1.8 End of Trip Facilities

The provision of end of trip facilities such as bike racks, bike lockers and access to public washrooms, should be considered as part of new developments or renovations.

### 5.1.9 Off-Street Bike Parking

Consider updating the off-street bike parking by-law to increase bike parking within multi-family buildings to 1.25 stalls per unit, in order to help facilitate a culture of cycling within the neighbourhood and increase this mode of travel.

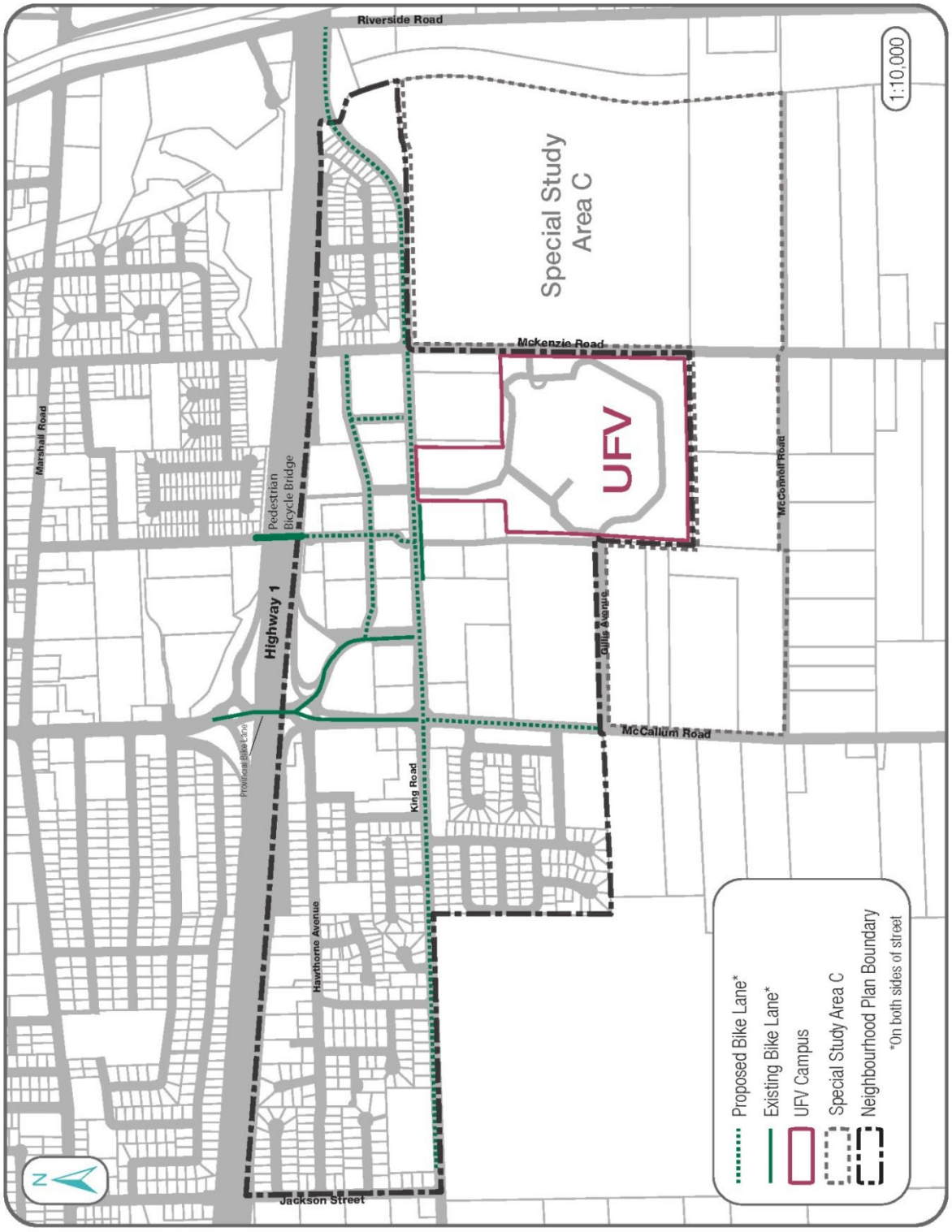



**Figure 26 - Future Cycling Lanes**

## Transit

Being on the southern terminus of the Primary Transit Corridor the UDistrict was designed to be transit supportive in terms of its densities, mix of uses and pedestrian friendly urban design. The neighbourhood has large trip generators in Abbotsford Centre and UFV, and these two facilities help support a higher demand for transit service. The neighbourhood is also well positioned with transit service, as regional transit connections to surrounding communities and Metro Vancouver are located within the UDistrict. These regional connections provide residents and users of the neighbourhood with exceptional transit service, and this will reinforce the importance of the neighbourhood regionally.

To further enhance transit service in the neighbourhood, the current transit terminus will be relocated to the new 'front door' of the university, and will be centrally located on University Way in between Abbotsford Centre and university buildings A and B. This would mean that buses coming from McCallum Road onto King Road would travel down College Drive, then across and up University Way before exiting onto King Road, back towards McCallum. This relocation will put transit more front and centre which is important in order to raise its profile, and show that it is a vital part of the campus, stadium and neighbourhood.

Additional transit infrastructure improvements may see all future stops located as far side stops, which is considered to be best practice by BC Transit. The streets have been designed to leave bus stops in traffic in order to keep buses on time and frequencies running efficiently. Transit stops will also be enhanced with updated bus shelters that which will provide better amenities to users of the system.

### 5.1.10 Relocate Transit Terminus

Work with BC Transit and UFV to relocate the transit terminus in between Abbotsford Centre and the new main entrance for the campus along University Way.

### 5.1.11 Far Side Stops

Where possible locate bus stops on the far side of intersections, and keep buses in traffic for stops to allow for optimal service.

### 5.1.12 Bus Shelters

Improve the comfort, safety and convenience of bus shelters within the UDistrict to create a positive waiting experience for all transit users through targeted improvements such as weather protection, seating, lighting, and real time bus scheduling.

### 5.1.13 Timing and Design

The timing and design of both interim and ultimate transit routes, including rapid transit service, will be determined by BC Transit in consultation with the City of Abbotsford, and is subject to ridership demand in the plan area and available funding for the service.

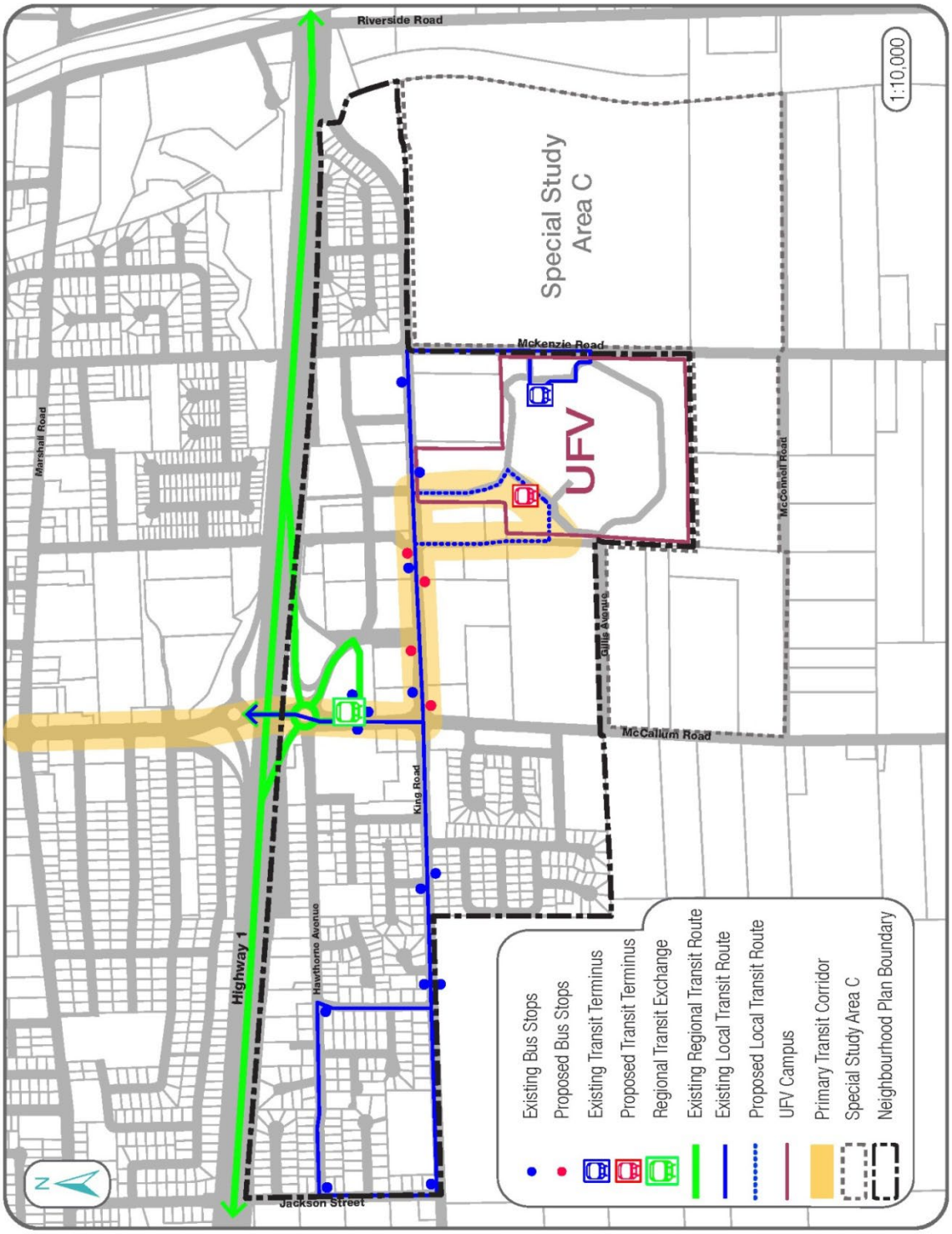



**Figure 27 - Future Transit Service**

## Street Network

Street planning and design is critical to the success of the plan. On a network-wide level, connectivity and permeability are important principles to encourage walking and cycling. Intersection density can often be used as a gauge of the number of people walking in a neighbourhood. The UDistrict street network plan introduces new streets to create smaller blocks and more intersections.

The streets of the UDistrict should be places where people want to come, meet, sit, watch, as well as travel on. These streets should be places that recognize travel movement is important, but enhancing social cohesion, people's health and the environment are equally as important. The complete streets planned for the UDistrict will be streets for everyone. They have been designed and will be operated to enable safe access for all users, including pedestrians, cyclists, transit riders and motorists.

While initially King Road was considered to be narrowed to 2 travel lanes with a median/left turn lanes, it was concluded through modelling results that King Road should retain its 4 travel lanes between McCallum Road and University Way due to significant traffic volumes during peaks. East of University Way, King Road is planned to be reduced to 2 travel lanes. Left turn lanes will be provided on King Road at significant intersections. Right turn lanes are also proposed, where required to accommodate anticipated future turning movement volumes. King Road is also currently designated as a truck route. If this designation continues throughout the redevelopment process, the vision of the neighbourhood could be negatively impacted.

Other streets are proposed to generally retain their current number of travel lanes. Salton Road will be aligned with College Drive and the intersection with King Road will be signalized. Cascades Plaza, the northern extension of University Way north of King Road, will be a shared use street between King and Duke that provides a focus for the neighbourhood. Landscaping and surface treatments are planned to ensure that while vehicles are permitted, drivers feel they are visitors in a pedestrian first space. Two other unnamed streets are also proposed within the plan. The first will connect Hawthorne Avenue with Kirk Avenue while the second will link Kipling Street to McCallum Road with a connection to Kimberly Street. Both of these streets will provide connectivity and permeability to the network.

### 5.1.14 Street Network

The conceptual street network (Figure 15) is designed to provide access to the neighbourhood and localized movements within the neighbourhood. New streets and upgrades will be secured through the development process.

### 5.1.15 Street Classifications

The City's street classifications for the neighbourhood are shown on Figure 28 and are consistent with Map 4 – Urban Road Classification of the OCP.

### 5.1.16 Attractive Streets

Design streets as attractive, vibrant and unique people places consistent with the cross-sections found within the Street and Public Realm Design Guidelines contained within this plan.

### 5.1.17 Truck Route Consideration

Removal of the truck route designation on King Road between McCallum and Riverside Road will follow the direction stipulated within the Transportation and Transit Master Plan process.

### 5.1.18 Future Intersection

Right of way requirements to protect for the possibility of a single lane urban (as per BC Supplement to TAC Section 700, approximate 46m diameter) roundabout at the proposed Duke Avenue and King Connector Road should be considered and achieved through dedication at the time of redevelopment of the surrounding lands to the east. The potential roundabout should be offset (to the east) to maintain the intersection spacing from the

McCallum interchange.


**Figure 28 - Future Road Network**

## 5.2 PARKING

One of the critical elements to the success of the neighbourhood will be to effectively manage parking. At full build out (in approximately 40 years), there will be roughly 6,000 more people living within the UDistrict, UFV will have about 1,600 more students and 370 more full time staff, and Abbotsford Centre will continue to host major marquee events. This exciting growth will invigorate the UDistrict, and will help to create a vibrant neighbourhood. To effectively handle the parking that could accompany this growth, the following sub-sections will address the City's plan to efficiently manage the situation.

### Transportation Demand Management

Transportation Demand Management (TDM) is defined as the application of strategies and policies to reduce travel demand (specifically that of single-occupancy private vehicles), or to redistribute this demand in space or in time. A successful TDM program can influence travel behavior away from Single Occupant Vehicle (SOV) travel during peak periods towards more sustainable modes such as High Occupancy Vehicle (HOV) travel, transit, cycling or walking; it may even reduce the need to travel.

In order for TDM to work successfully the proper land use and density, and street infrastructure needs to be in place. The neighbourhood has been designed to accommodate TDM through positioning transit supportive land use and densities concentrated around nodes. These nodes are centered on the Primary Transit Corridor and are well positioned to enable residents to choose transit as a preferred mode of travel. Complete street infrastructure has also been designed to be built, and will complement the land use and provide users the choice of walking, cycling, riding transit or driving.

As the UDistrict is building out, TDM measures should be implemented to help create the desired mode shift that will help achieve the City's OCP target. Measures such as offering subsidized transit passes, shuttle buses connecting to rapid transit, providing enhanced bicycle parking, and having better end of trip facilities for cyclists will encourage residents to choose different modes of travel other than the automobile, and will help reduce SOV travel demand during the peak periods. This environment will allow the UDistrict to accommodate the additional growth, and not overburden the neighbourhood with an overabundance of parking.

#### 5.2.1 TDM Strategy

To encourage the use of alternative modes of travel, the City should consider implementing a TDM strategy for the UDistrict to help reduce travel demand, and ensure that parking needs can be efficiently managed.

### Off-Street Parking

The required supply of off-street parking for private developments should closely correlate to estimated vehicle ownership demand, but also look to emerging land use diversity, transit provision and trends in vehicle ownership. The UDistrict has the potential to decrease the off-street parking required for new developments, in conjunction with TDM measures. Housing tenure has also proven to play an important role in determining demand for off-street parking requirements. Studies have shown that vehicle ownership rates for renters can be up to 0.3 to 0.5 vehicles per unit less than for owners. Given the projected demographics of the neighbourhood and the socio-economic situation of many students attending UFV, there is a high possibility of the market providing more rental accommodation.

In order to efficiently utilize site area given the planned land use and density, underground parking will be the preferred manner to accommodate the demand.

### 5.2.2 Parking Requirements

The City may examine the feasibility of allowing parking reductions in private off-street parking requirements for residential developments provided additional amenities or cash in lieu is provided. Parking reductions would be considered on a case by case basis.

### 5.2.3 Underground

Encourage all new multi-family developments to locate required parking underground, and developments within the University Village are required to accommodate all required parking underground.

### 5.2.4 Shared

Encourage shared, common off-street non-residential parking to serve multiple users and destinations within the University Village.

## On-street Parking

In order to facilitate street activity, support local business and provide additional parking for major events at Abbotsford Centre, the street network has been designed to maximize the number of on-street parking spaces. All streets within the neighbourhood will be available for on-street parking with the exception of a portion of King Road from the intersection of McCallum Road to the intersection of University Way. Within the Primary Redevelopment Area approximately an additional 250 spaces will be made available for on-street parking.

### 5.2.5 Maximize Parking

Maximize opportunities for permanent on-street parking throughout the neighbourhood by allowing parallel parking stalls on all public streets except for the portion of King Road from the intersection of McCallum Road to the intersection of University Way.

### 5.2.6 University Village

Parking within the University Village will be in high demand, parking in this vicinity should be controlled by time limits or pricing to encourage reasonable turnover of stalls.

### 5.2.7 Time Limits

In order to provide a turn-over of parking spaces, time limits should be implemented.

## Event Management for Abbotsford Centre

Event management is an important consideration for the neighbourhood given the presence of the Abbotsford Centre in the ‘heart’ of the UDistrict. Event management should mitigate both traffic pressures as well as parking demands.

Vehicle trip generation and thus parking demand, apart from seating capacity and attendance, are greatly influenced by travel mode (i.e. automobile, transit, cycling, walking) and vehicle occupancy (i.e. the number of persons traveling in each vehicle). Targeted transportation planning can have a significant bearing on these influences, reducing both the number of vehicles and the accommodation to park them.

#### Events

The Centre’s seating capacity varies depending on the event. For sporting events the seating capacity is 7,000, although this level of attendance is generally not reached. A typical sporting event attendance will be around 3,250 people and for concerts and other events capacity varies from 1,000 to 8,500.

## Travel Mode Split

The mode split achieved for events at the Centre should be dictated by the degree of travel demand management (TDM) pursued. This section outlines the regular 'business as usual' conditions, a travel mode split with a basic amount of TDM measures and conditions with the application of an aggressive TDM plan. These varied, but realistic levels of TDM are outlined below:

- Regular Operations: This is the least aggressive TDM model that provides ample parking, encourages the existing trend of automobile travel and offers auto-alternatives as an "option" only.
- Basic TDM: provides some constraints on availability and cost of parking to encourage non-auto modes as viable travel options.
- Aggressive TDM: provides significant constraints on automobile drivers to promote non-auto modes as the best way to get to the venue.

Mode splits which could realistically be expected from these TDM models for the Centre, upon full built out of the neighbourhood are set out in Table 3.

| Mode | Regular Operations | Basic TDM Plan | Aggressive TDM Plan |
|---|---|---|---|
| Auto | 89% | 82% | 72% |
| Transit | 5% | 11% | 20% |
| Bike/Walk | 6% | 7% | 8% |

**Table 3 - Mode Share**

The splits shown in Table 3 are based on best practice and also consider the currently proposed land uses for the neighbourhood and pedestrian amenities and connections. These rates also take into consideration the OCP's transit policy which is meant to encourage additional transit use in the future. It is also assumed that as per the mix and density of uses outlined with this Plan, walking and cycling will be a preferred mode of many neighbourhood attendees.

## TDM Options

The level of automobile use, associated mainly with attendees who live in Abbotsford will decrease as parking becomes constrained and additional transit services, transit promotions, and bike/walk facilities are enhanced under the 'basic' and 'aggressive' TDM plans. The following Table 4 outlines TDM options to be considered for either a basic or aggressive TDM strategy.

| TDM Measure | Basic TDM Plan | Aggressive TDM Plan |
|---|---|---|
| Parking | Moderate cost to Parking | Increase parking charge and limit available stalls |
| Cycling | Offer bicycle parking valet service | |
| Transit | Free transit with event ticket purchase | -Provide additional transit services such as express transit service from Main Transit Exchange directly to UDistrict Transit Terminus<br>-Provide additional regional transit service to Park and Ride |

**Table 4 - TDM Options by Mode**

It is estimated that over 60% of attendees reside in Abbotsford and therefore these measures could have a significant impact on the overall mode split. TDM options are likely to be less applicable for out of town attendees, and private automobile will for the foreseeable future be the main travel mode; however the cost of parking can greatly influence the decision to car pool, which is key in reducing parking demand and congestion.

## Anticipated Parking Demand

Table 5 summarises the anticipated parking demand based on the event type and TDM measure. The parking demand has been estimated based on two factors: auto mode split and average auto occupancy. For all scenarios, the auto occupancy has been assumed constant at 2.7 persons / vehicle (based on best practices). The auto mode split was assumed to vary based on the application of TDM measures as noted in the table, in order to estimate parking demand.

| Event | Attendance (persons) | Regular Operations (89% Auto) | Basic TDM Plan (82% Auto) | Aggressive TDM Plan (72% Auto) | Frequency |
|---|---|---|---|---|---|
| Sporting | 3,250 | 1,070 | 985 | 865 | <1 per week |
| Concerts and performances (Low capacity) | 1,000 | 330 | 305 | 265 | Unknown (possibly every 2-3 weeks) |
| Concerts and performances (High capacity) | 8,500 | 2,800 | 2,580 | 2,265 | Unknown (possibly every 2-3 weeks) |

**Table 5 - Estimated parking demand**

As shown, sporting events are expected to be the most frequent type of event at the Centre. It is difficult to estimate the future frequency of low and high demand events as this would depend on programming decisions by the site operator which are not known.

The parking demand for events is expected to vary greatly depending on the event. For a sporting event, which in the future is likely to be the most frequent type of event, is anticipated to draw a crowd of 3,250 and require parking for between 865 – 1,070 vehicles depending on the application of TDM measures.

For the next most common event, concerts and performances, there is a wide range of capacity and attendance, from 1,000 to 8,500 people. The minimum amount of parking demand that would be generated would fall between 265-300 vehicles, while the maximum would range from 2,265 – 2,800 vehicles.

## Parking Supply

The potentially available parking supply for events was estimated within a reasonable (800 m or 10 minute walk) walk of Abbotsford Centre. The total supply is summarized in Table 6, and illustrated in Figure 29. This approximate parking supply is expected to change with the redevelopment of the neighbourhood, and this is why a short and long term estimate has been included. It is assumed that some on-street parking could have time restrictions in place so it has not been included in this analysis, but some parking stalls at UFV would be made available to support events.

| Parking Supply Type | Location | Short Term | Long Term |
|---|---|---|---|
| Public | Arena Parking | 210 | 210 |
| Private | Phoenix Ballroom | 60 | 60 |
| Private | UFV | 1,330 | 1,190 -1,315* |
| Public | Park N' Ride (main) | 175 | 175 |
| Public | Park N' Ride (overflow) | 110 | 110 |
| Private | Central Heights Church | 480 | 0 |
| Private | Existing Institutional | 85 | 0 |
| Private | Abbotsford Canadian Reformed Church | 130 | 0 |
| Private | Cabela's | 305 | 305 |
| Public | Gillis Ave and McKenzie Rd. | 320 | 320 |
| Total | | 3,205 | 2,370 – 2,495 |

**Table 6 - Parking Supply Allocation**

***These values were previously identified in the UFV Campus Master Plan and existing and future parking considerations were examined. These values represent the estimated planned supply depending on 2 options in Phase 1. It was assumed the off-street surface parking lot east of University Way would be redeveloped in part, and would include an underground parking lot (as part of a student housing, administrative bookstore development) and a surface lot. Option 1 assumes that the parkade for Area A has two levels of underground parking. Option 2 assumes that the parkade for Area A has 1.5 levels of underground parking.**

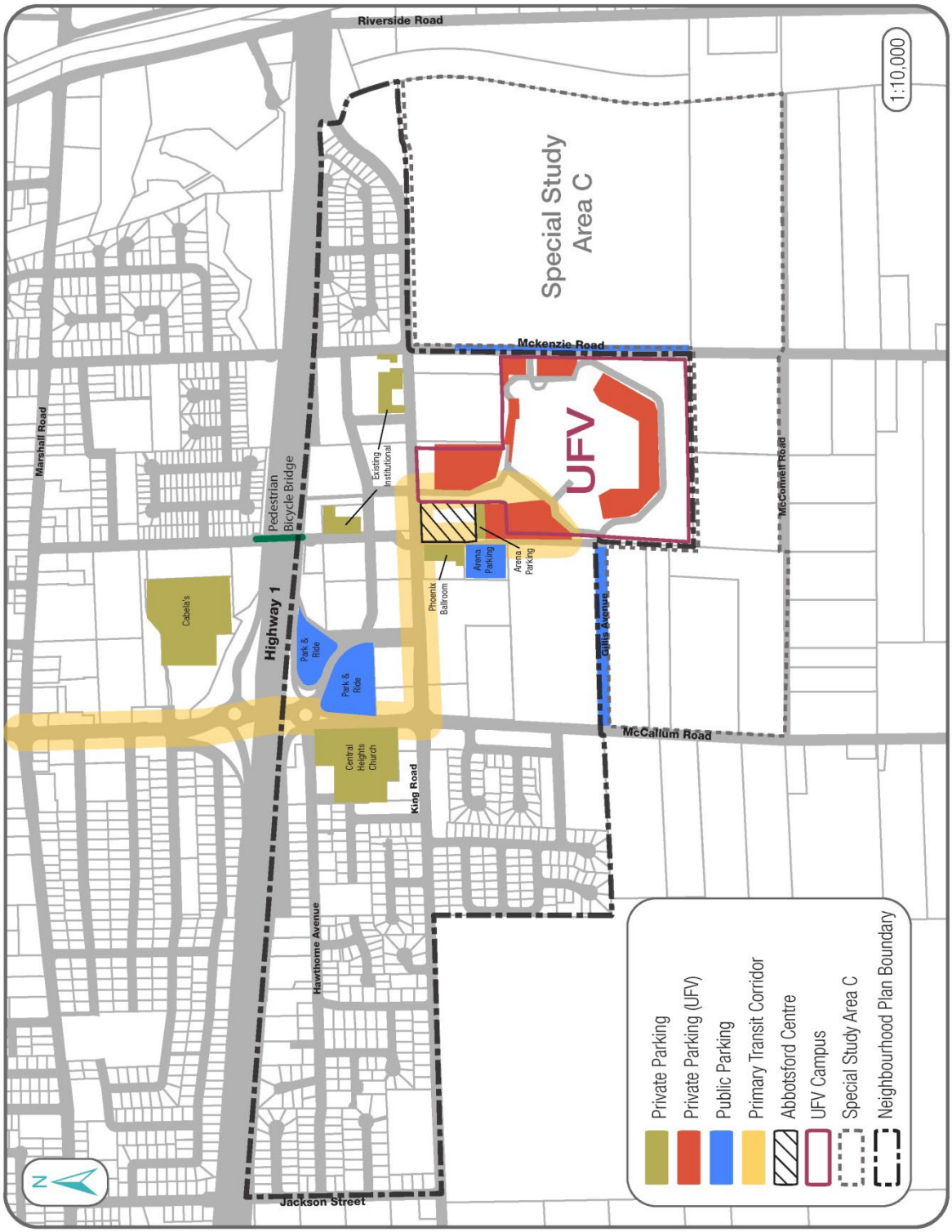



**Figure 29 - Event Parking**

Table 6 represents the maximum parking supply within 800 m that could be available to attendees of a high capacity event. It can be seen that with an auto mode split of about 82% or less, this supply would be sufficient to support the largest of events with 8,500 people. For the most frequent sporting event the existing and near term future area has sufficient parking capacity to accommodate the parking demand of 865 – 1,070 spaces, depending on the degree of TDM measures implemented and depending on the amount of private parking supply that can be secured.

Table 6 considers the near future parking supply of the UDistrict with little redevelopment, and at full build out. Also, included in Table 6 is an estimated supply of street parking that could be utilized for event parking. It is generally best practice to preclude street-parking from being used for event parking, given the long duration of stay which could negatively impact short term parking required for commercial uses. However, given the distance from commercial services of McKenzie Road and Gillis Avenue, these streets can be included for event parking.

To service the anticipated demand with available supply, good transit service couple with priced parking would be necessary to support lower auto mode splits to these large events. The city should consider developing an event transit service plan with BC Transit where the additional transit services are funded by the event organizers. It is possible that many of the private parking spaces within 800 m walking distance could be in use by owners of the parking stalls. For example, it may be that there is demand for UFV parking in the evenings and weekends in the future, although this will likely be significantly less than the daytime demand. It is possible, therefore, that event attendees may walk further than 800 m for major events with high demand.

### Recommended Event Parking Actions

Events at Abbotsford Centre generate a wide variation in parking demand. The most common sporting events require about 1,100 stalls assuming the current mode split of approximately 89% and auto occupancy of 2.7 persons per car. Peak events with 8,500 people can generate the need for up to 2,800 stalls with no TDM program in place. Currently, there are about 3,200 private and public stalls within 800 m walking distance of Abbotsford Centre that potentially could support event parking demand. At build out, this supply is expected to reduce to about 2,400 stalls. To accommodate the parking demand associated with events the City should implement the following policies:

## 5.2.8 TDM Event Plan

The City should work with the operators of Abbotsford Centre and BC Transit to implement TDM measures to reduce auto mode share to 80% or less, focused on pricing parking and improving Transit services. During larger scale events, TDM measures should be more aggressive to address the higher potential parking demand.

## 5.2.9 Event Traffic Management Strategy

The City in collaboration with the operators of Abbotsford Centre should develop an Event Traffic Management Strategy to ensure that traffic pre and post events at Abbotsford Centre are efficiently managed.

## 5.2.10 Work with UFV

Work with UFV to develop a long term parking strategy, which would include a parking agreement to utilize UFV parking facilities including future underground parking as well as a future parking structure.

## 5.2.11 Cash in Lieu

Explore the option of providing developers the opportunity to make cash in lieu payments for off-street parking reductions which could then be used as a financial contribution towards parking within the neighbourhood. A cash contribution may be considered instead of an amenity, as per policy 5.2.2.

### 5.2.12 Secure Agreements

The City and Abbotsford Centre should work with private property owners within approximately 800m of Abbotsford Centre to secure agreements to utilize private parking lots during large events.

### 5.2.13 Time Restrictions

On-street time restrictions should be considered during events at Abbotsford Centre to discourage event attendees from using parking stalls required for local businesses. Parking stalls on Gillis Avenue and McKenzie Road would be exempt from this restriction.

## 5.3 SERVICING

The servicing section of the plan outlines the water, wastewater, and stormwater systems to service the growth and development planned within the UDistrict. The servicing is based on the land use map (see Figure 13), which took into consideration land use analysis, population projections as well as input from the public and stakeholders. This information was then used to inform modeling exercises for the various infrastructure systems. In order to ensure that the servicing within the neighbourhood can be implemented, and allow the contemplated land use and density to be achieved, policies have been included within each servicing sub-section. The following subsections will provide more detail for each of the necessary infrastructure systems.

### 5.3.1 Servicing Re-Assessment

Any proposed land use or transportation network changes to what is shown in this Neighbourhood Plan may require re-evaluation or modification of servicing infrastructure.

### WATER ASSESSMENT

Water Servicing requirements for the UDistrict have been assessed through hydraulic modeling of the impacts of increased water demand on system capacity due to population growth projected in the neighbourhood. Modeling was carried out for average day, maximum day, peak hour demands and fire flow requirements for each parcel within the neighbourhood. The hydraulic capacity of the water distribution system for the pressure zone in this area of the City was evaluated to identify areas for upgrades and expansions to water distribution system infrastructure required to service the growth within the neighbourhood.

### Existing Water Infrastructure

The UDistrict is connected to the City's water distribution system and is made up of approximately 10 km of water mains and 73 hydrants. Drinking water in the neighbourhood is divided into two parts along McKenzie Road. Water service west of McKenzie Road is fed from the north at Salton Road, and from the west at Hawthorne Avenue and King Road. Water Service east of McKenzie Road is fed from a single pipe at King Road.

### Water Demand Analysis

Water demand analysis indicates that existing water infrastructure in the UDistrict is adequate to accommodate projected increases in average day and peak hour demands. Results from the water demand analysis are shown in Table 5.

| | Future Water Demand (per capital) | Water Demand Increase from Existing (per capita) | Average Pressure (psi) | Projected Pressure Deficiency |
|---|---|---|---|---|
| Average Day Demand | 300 L/day | +29.99 L/second | 85.2 | 0 |
| Maximum Day Demand | 700 L/day | +69.99 L/second | - | - |
| Peak Hour Demand | 1,050 L/day | +102.59 L/second | 76.2 | 0 |

**Table 7- Water Demand Analysis Summary**

### Water System Improvements

Water system improvements have been modeled and recommended base on hydraulic capacity assessment of the City water distribution system under future development conditions. Table 6 summarizes the recommendations for the system, based on the deficiencies identified for servicing the planned development and growth in the neighbourhood.

| Location | Existing Diameter (mm) | Upgrade Diameter (mm) | Length (m) |
|---|---|---|---|
| Jackson Street | 200 | 300 | 90 |
| Hawthorne Avenue | 150 | 300 | 215 |
| Hawthorne Avenue | 100 | 300 | 183 |
| McCallum Road | 200 | 300 | 345 |
| King Road | 200 | 250 | 302 |
| College Drive | 150 | 250 | 99 |
| College Drive | 150 | 200 | 97 |
| College Drive | N/A | 200 | 92 |
| Gillis Avenue | N/A | 200 | 245 |
| McKenzie Road | N/A | 200 | 149 |
| King Crescent | 100 | 200 | 268 |
| King Crescent | 150 | 200 | 26 |
| Salton Road | 200 | 300 | 247 |
| Salton Road | 250 | 300 | 7 |
| South of Highway No. 1 | 150 | 250 | 112 |
| King Connector Road | N/A | 250 | 121 |
| Proposed Duke Road between Salton Road and King Crescent | N/A | 200 | 260 |
| Proposed Duke Road between King Connector Road and Salton Road | N/A | 250 | 223 |
| Loop between King Connector Road and Highway No. 1 | N/A | 250 | 209 |
| Total | | | 3,290 |

**Table 8 - Recommended Water System Upgrades**

New pipe loops and pipe upgrades are recommended to satisfy increased demand under the proposed new land use designations, peak hour demands and fire flow requirements, in compliance with the City's Consolidated Waterworks Rates and Regulation Bylaw. There is approximately 1 km of water main reaching the end of its service life that the City plans to replace as part of UDistrict development. Furthermore, approximately 500 m of water mains that are part of a major feed into the UDistrict area (offsite) are undersized to meet projected demand.

The FUS fire flow requirements were not calculated as the development details (e.g. building structure type, exposure distances, fire protection, etc.) are not yet available. Once the FUS calculations are complete for the development buildings, the FUS required fire flows should be compared against the available fire flow results to make sure that there is adequate fire flow protection.

Although fire flow requirements are based upon design criteria, individual applicants for multi-family and ICI sites may find that Abbotsford's Building Division and Fire Department requirements for on-site fire protection exceed the capacity of the existing and/or proposed water main supply. Prior to the submission of a building permit, the applicant should confirm the on-site fire flow requirement that is triggered by the proposed building layout, material, and construction methods. In those cases when the grid system cannot provide sufficient flows and volumes to conform to the current version of the Fire Underwriters Survey Guide to Recommended Practice (Water Supply for Public Fire Protection, 1999), the applicant should demonstrate through construction techniques, material, or secondary on-site fire suppression system (i.e. building sprinklers) that the proposed development can be made to conform to these guidelines.

## 5.3.2 Water Main Upgrades

Approximate locations for future water main upgrades or replacements are identified on Figure 30 – Future Water Network, with ultimate servicing to be confirmed by the City of Abbotsford's Engineering Services.

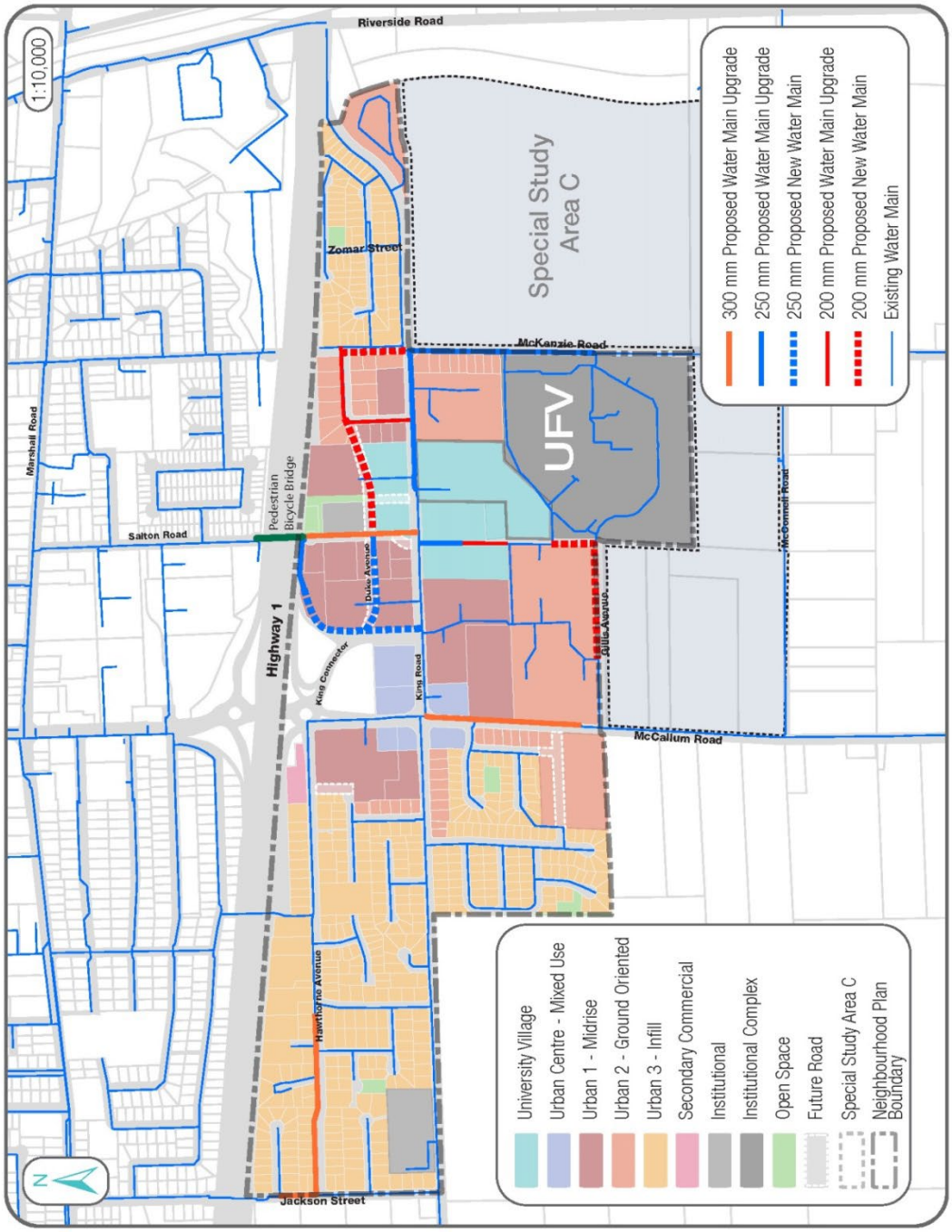



**Figure 30 - Future Water Network**

# WASTEWATER ASSESSMENT

The Wastewater Assessment was completed using an updated hydraulic model using InfoSewer. The model builds on the Abbotsford city-wide sanitary model, which was developed as part of the Wastewater System Master Plan update in 2015. The updated model was used to conduct a hydraulic capacity assessment of base sanitary load and diurnal patterns of system flows projected under the land use map shown in Figure 13. Existing system efficiency was measured through and inflow and infiltration analysis that logged flow data at the Hawthorne and King Pump stations. Recommendations were developed to uphold levels of service to accommodate growth and comply with the City's current design criteria for sizing new sanitary mains.

## Existing Wastewater Infrastructure

The UDistrict is part of Abbotsford's sanitary sewer collection system and covers an area of approximately 85 ha. The neighbourhood includes 7 km of sanitary mains, 129 sanitary manholes and 3 lift stations (two public and one private). UDistrict is split into three main sanitary catchments flowing to the Hawthorne Pump Station, King Road Pump Station and the Lonzo Pump Station, via the Riverside Drive trunk sewer main.

## Sanitary Sewer Catchments

Figure 31 displays the catchment boundaries for the City's Hawthorne, King and UFV's private pump stations, together with catchments via gravity mains tributary to the east to Riverside Road, and to the north across the Trans-Canada Highway. Based on building phasing information from the UFV Campus Master Plan, future servicing of the northern campus may be provided by gravity sewers on King Road north to the King Pump Station. Based on the contours and existing sewer inverts, conceptual catchment boundaries in Area C (Special Study Area 'C') and possible discharge locations were developed and also displayed in Figure 31.

### 5.3.3 Sanitary Sewer Flow Catchments

The UDistrict consists of eight sanitary catchments based on topography and proposed land use, as shown in Figure 31 – Sanitary Sewer Flow Catchments. The catchments will function as annotated within the legend.

## Wastewater Hydraulic Capacity Analysis

Hydraulic capacity analysis of gravity sewers in the UDistrict revealed a limited number of potential capacity bottlenecks in the system, which could be due to a significant population increase in the area. The majority of the deficiencies identified are along King Connector Road, directly downstream of the King Pump Station. Gravity sewer deficiencies are summarized in Table 10.

Capacity analysis of the King and Hawthorne Pump Stations revealed that, under the buildout conditions, the King Pump Station is not capable of meeting the flow rates projected under the Land Use Map (Figure 15). This is demonstrated by the fact that measured Peak Wet Weather flows (PWWF) are higher than both the modelled and reported capacity of the King Pump Station. Results from the pump station analysis are shown below in Table 9.

| Pump Station | Modelled Capacity | Reported Capacity by City | Peak Wet Weather Flow (PWWF) |
|---|---|---|---|
| Hawthorne | 35.6 | 39 | 34.4 |
| King | 26.6 | 26.8 | 28.2 |

**Table 9 - UDistrict Wastewater Analysis Summary for City of Abbotsford Pump Stations**

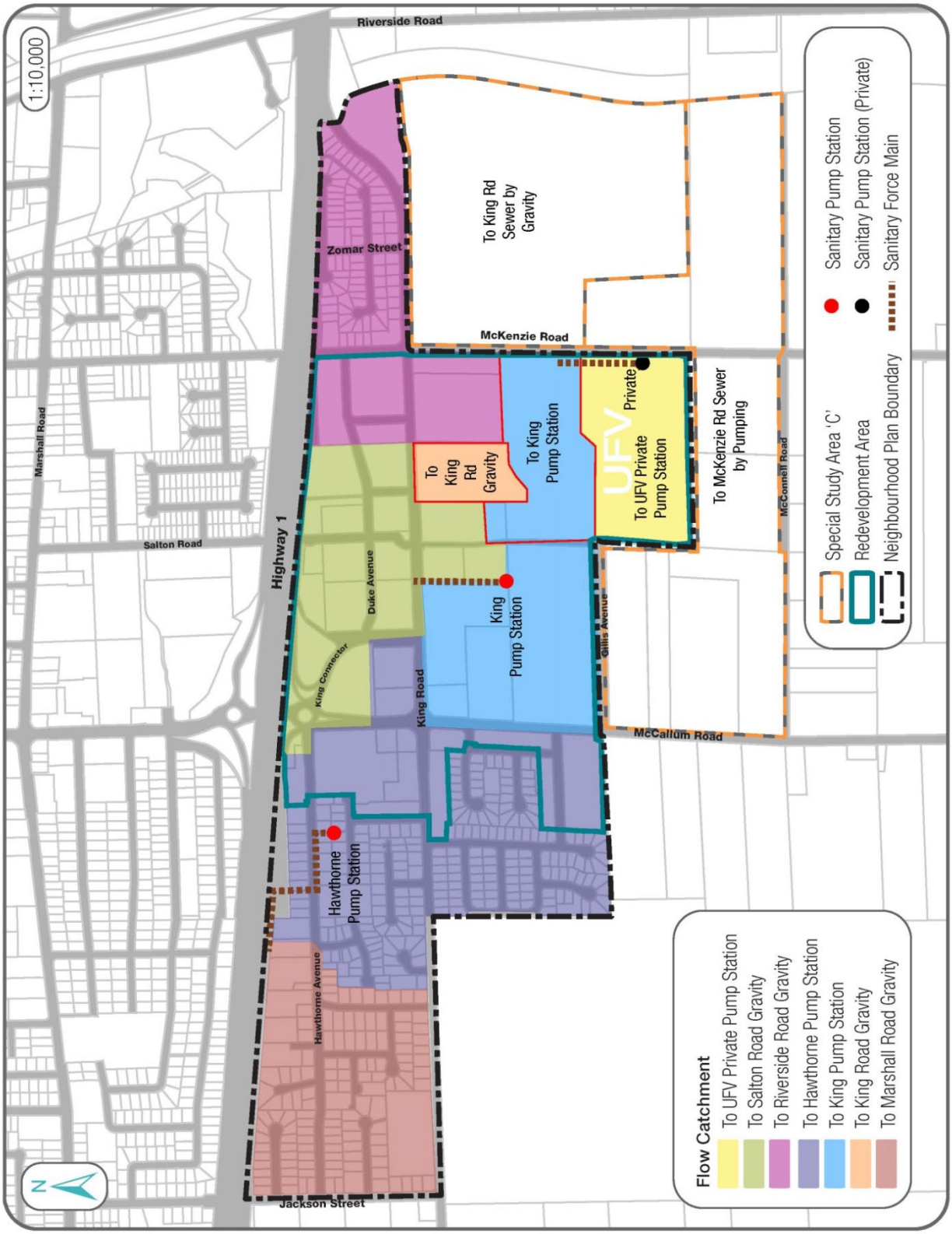



**Figure 31 - Sanitary Sewer Flow Catchments**

## Recommended Wastewater System Improvements

Wastewater system improvements have been modeled and recommended based on hydraulic assessment of system capacity. Table 10 summarizes the recommendations for the system, based on deficiencies identified for servicing planned development and growth within the neighbourhood. Proposed wastewater system upgrades and additions are shown in Table 10 and illustrated in Figure 32.

| Pipe Location | Existing Diameter (mm) | Upgrade Diameter (mm) | Length (m) |
|---|---|---|---|
| Gravity Sewer – Upgrades to Existing System (Upsize and Open Cut Replacement) | | | |
| Private property east of Salton Rd. near Gilmour Dr. | 300 | 375 | 71 |
| North of King Rd., East of Highway 1 on ramp | 250 | 300 | 69 |
| South of Highway 1, West of Salton Rd. | 250 | 300 | 55 |
| South of Highway 1, West of Salton Rd. | 250 | 300 | 59 |
| South of Highway 1, West of Salton Rd. | 250 | 300 | 50 |
| | | **Total** | 304 |
| **Pipe Location** | **Existing Diameter (mm)** | **Upgrade Diameter (mm)** | **Length (m)** |
| Gravity Sewer – New Construction (Open Cut) | | | |
| Kimberley St. South of Kinsale Pl. | N/A | 200 | 67 |
| King Cres. East of Salton Rd. | N/A | 200 | 151 |
| | | **Total** | 218 |
| **Pump** | **Existing Flow (L/s)** | **Upgrade Flow (L/s)** | **Total Dynamic Head (m)** |
| Pump Station – Upgrades to Existing System | | | |
| King Pump Station | 26.8 | 35 | 10 |

**Table 10 - Recommended Wastewater System Improvements**

### 5.3.4 Wastewater System Improvements

The general alignments of the new and upgraded sanitary trunks required to service the UDistrict neighbourhood are identified in Figure 32 – Recommended Wastewater System Improvements, with ultimate servicing to be confirmed by the City of Abbotsford's Engineering Services.

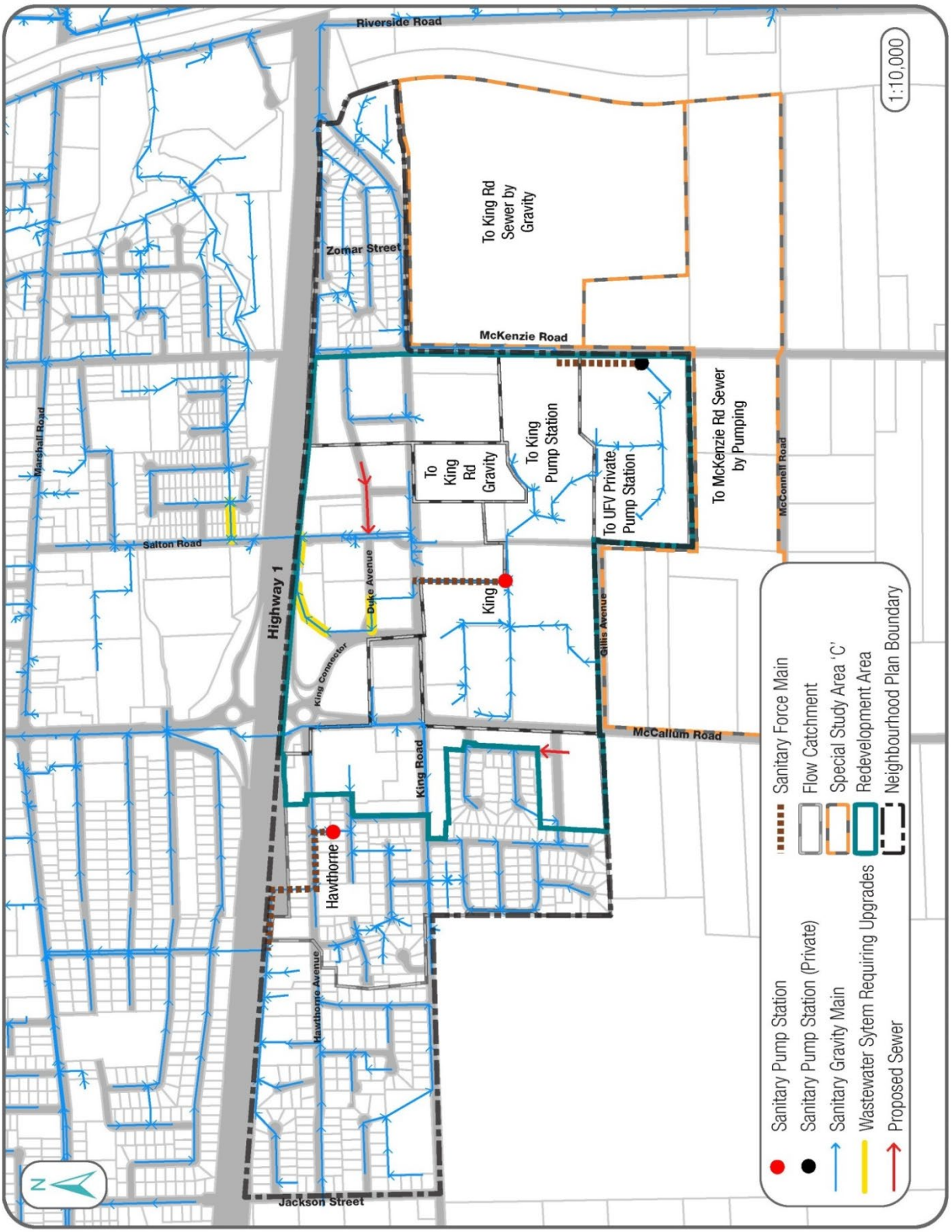



**Figure 32 - Recommended Wastewater System Improvements**

## STORMWATER CAPACITY ASSESSMENT

An assessment was completed of the existing stormwater capacity to accommodate land use changes illustrated on the Land Use Map (Figure 15), and summarized strategies to achieve no-net-loss under future development in the neighbourhood. This assessment was based on a comparison of the 2008 Marshall Creek ISMP to analyze impacts that proposed land use changes as shown on Figure 15 (Land Use Map) might impact stormwater capacity.

Stormwater assessment was shaped by the following management criteria, outlined by the City of Abbotsford and in alignment with the 2016 OCP:

- Maximize onsite source controls to capture/infiltrate/reuse 49 mm of rainfall (the 6-month 24-hour storm);
- Maximize onsite detention facilities to detain and control flows to match predevelopment levels up to the 10-year storm event; and
- If on-site volume reduction and detention cannot be met, investigate feasibility of regional facilities to achieve targets.

### Stormwater Capacity Analysis

A comparison of the proposed UDistrict Land Use Map and that used in the Marshall Creek ISMP Future Land Use Analysis shows that a large proportion of surfaces will become more impervious as re-development takes place. Two new roads (University Way North and Duke Avenue) are proposed and several roads are proposed to be widened.

With the increased imperviousness in the neighbourhood, additional pipes may become flagged as undersized to accommodate increased flows, if flows are not mitigated. Further assessment of existing stormwater infrastructure is required to determine which pipes may have been updated since the ISMP was completed in 2008.

Available soils mapping shows that a majority of the UDistrict area is in well-draining gravel and sandy soils. This means that pipe upgrades could be reduced or eliminated by utilizing on-site infiltration facilities to infiltrate up to the 100-year event flows. Similarly, runoff increases from new or more-impervious roadways can be mitigated with infiltrating source controls within the road right of ways (ROWs) in well-draining soils areas. Although not proposed in the ISMP, 100-year infiltration in well-draining soils has been recommended in areas of the City.

### Recommended Stormwater System Improvements

Stormwater system improvements are recommended based on the capacity assessment of proposed UDistrict re-development, in comparison with capacity assessment completed for the neighbourhood in the Marshall Creek ISMP. Recommended stormwater system improvements are shown in Figure 26.

### 5.3.5 Stormwater System Improvements

The general alignment of the new stormwater mains required to service the road right of ways within the UDistrict have been identified in Figure 33 – Recommended Stormwater System Improvements (If infiltration systems are appropriately designed, the storm sewers may be redundant. However, they are included as conventional back-up or alternate to the infiltration systems). Ultimate stormwater servicing will be confirmed by the City of Abbotsford's Engineering Services.

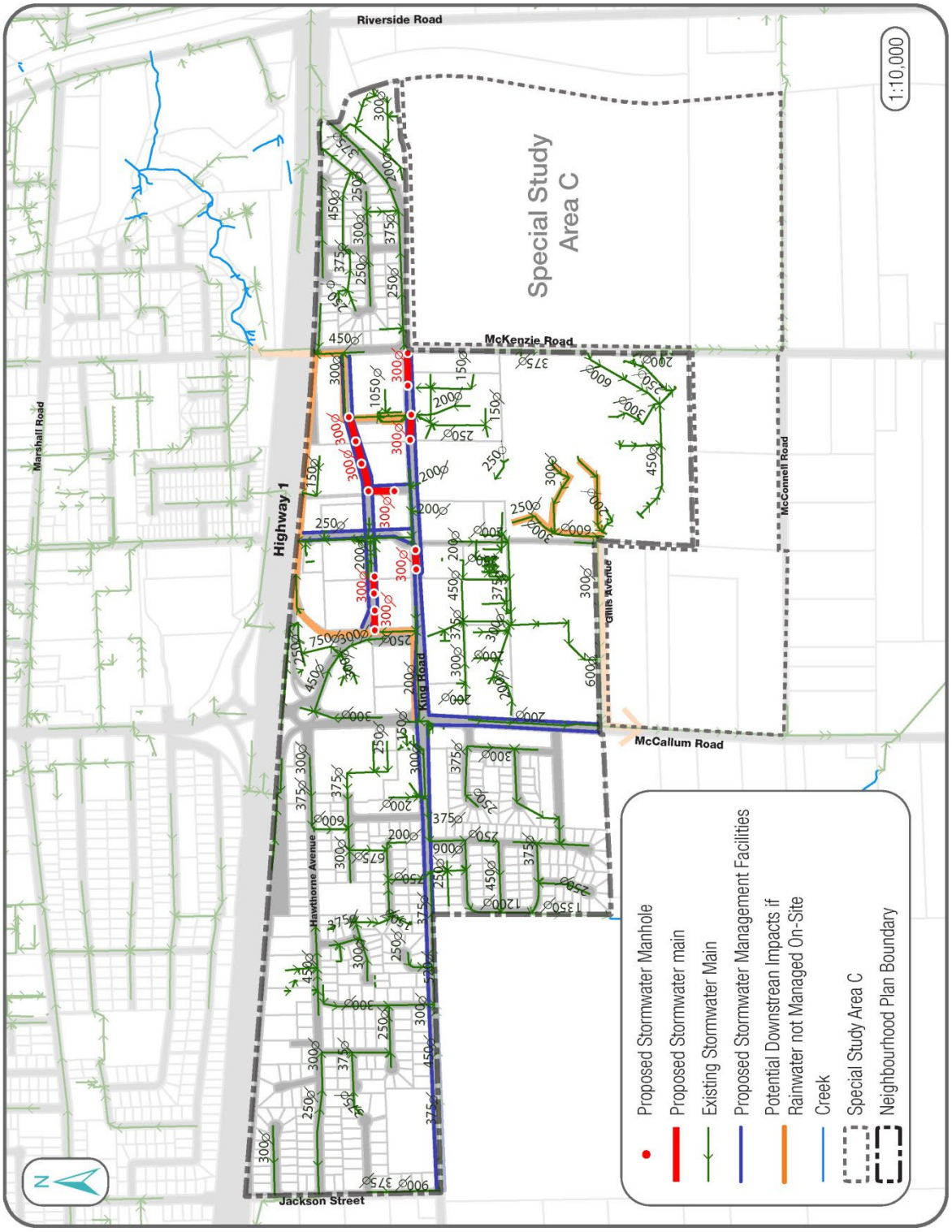



**Figure 33 - Recommended Stormwater System Improvements**

## On-Lot Stormwater Management

The flow contribution to downstream storm sewers can be reduced by leveraging the well-draining soils which underlie a majority of the UDistrict area. Infiltrating all runoff up to the 100 year runoff in the well-draining areas will offset the potential increased flow from additional impervious area and runoff from development in any poorly-draining soils areas. It is recommended that volumetric reduction in areas with poorly draining soils be achieved by infiltrating 6 month 24 hour storm runoff and conveying the higher flows in storm sewers (10 year) and overland flow paths (100-year).

Detention facilities could be used in poorly-draining soils areas if the 100 year infiltration in the well-draining areas is sufficient to offset the increased flows in the poorly draining area development. Detention may include on-site or regional detention ponds, underground tanks, rooftop detention and parking lot surface detention.

Low impact development measures or source controls include features that promote the infiltration of water, including rain gardens, grass swales, pervious paving and absorbent soils for lawns and gardens.

If on-site storage and infiltration strategies are not implemented, or only partially implemented, a detailed assessment of the resulting increased flows and storm sewer upgrades would be required. The highlighted sections of pipe on Figure 33 may require upgrading. The extent and size would depend on the implementation of on-site infiltration.

In addition to on-site detention and infiltration features, water quality treatment is recommended for both infiltrated water to protect the longevity of infiltration trenches/rain gardens and the aquifer water quality and water going into storm sewers to protect the water quality in receiving creeks.

## Road Right of Way Stormwater Management

As with the on-lot stormwater management, the excess runoff from road ROWs (roads, parking, sidewalks, etc.) should be managed at the source where possible using infiltration facilities. The 100 year runoff should be infiltrated in well-draining soils areas. This can be achieved using infiltration trenches, dry wells, or rain gardens. In poorly draining soils areas, the runoff should be safely conveyed in minor and major drainage systems and managed as follows:

a. 100 year infiltration in regional facilities located in well-draining soils: or

b. 100 year regional detention facilities (can be combined with the lot runoff detention requirements, if applicable); or

c. Connection to downstream drainage systems, if the 100 year infiltration in the well-draining areas is sufficient to offset the runoff increases in the poorly-draining soils areas.

Prior to infiltration or discharge systems leading to Marshall Creek, the road runoff should be treated to remove pollutants. This can be accomplished with:

a. rain gardens or swales in road ROWs that have sufficient width to accommodate this type of source control; or

b. street tree wells or planters in road ROWs that have insufficient width for rain gardens; or

c. manufactured treatment systems (oil/grit separators, cartridge filters) upstream of underground infiltration trenches.

The infiltration or detention facilities can be sized to mitigate only the increases in impervious area (portions of roads that were not impervious area prior to development), or sized larger to reduce the flows to the downstream drainage system to below predevelopment values. Sizing the facilities has the benefits of eliminating the need for storm sewers within the site and reducing existing downstream capacity issues.

### Stormwater System Sizing

The proposed infiltration systems were sized using a runoff/infiltration/storage spreadsheet that checked all storm duration intensities from 5-minute to 24-hour.

The following assumptions are made in developing the sizes:

1. a 100 mm/hr infiltration rate (300 mm/hr / 3 factor of safety) in the well-draining soils;
2. a 300 mm deep rain garden surface swale;
3. a 1000 mm deep rock trench (below rain garden or by itself);
4. along a roadway, a rain garden or rock trench would be discontinuous and would average a length of 500m per kilometer (i.e. half the length of the road) along one or both sides;
5. regional facilities are not needed for the development I poor soils areas as the reduction in flows from the well-draining soils will more than offset the increases in the poorly-draining soils; and
6. existing storm sewers would remain and only be used as emergency/backup drainage routes.

The unit rain garden area needed is 530 $m^2$ per hectare of tributary impervious area. The unit infiltration trench area needed is 730 $m^2$ per hectare of tributary impervious area.

Based on the above unit sizes, the required linear rain garden and underlying rock trench width along a roadway would be as follows:

a. King Road (25m ROW) – 2.7m width. This would take up the two 1.5 tree strips and 1.35 wide rain gardens in each.

b. McCallum Road South (22m ROW) – 2.4m width. This would take up the two 1.5m tree strips with 1.2m wide rain gardens in each.

c. Salton Road (20m ROW) – 2.2m width. This would take up the two 1.5m tree strips with 1.1m wide rain gardens in each.

d. University Way North (18m ROW) – 2.0m width. This would take up the one 1.5m tree strip with 1.5m wide rain gardens and the treed portions of the 2.4m tree/parking strip with 2.4m wide rain garden.

e. Duke Avenue (20m ROW) 2.2m width. This would take up the two 1.5m tree strips with 1.1m wide rain gardens in each.

Tree wells (or the City-approved Filterra product) could be used in place of the rain gardens. The tree well or Filterra footprint sizing should follow the above unit sizing.

Alternatively, along roadway, an infiltration trench with catch basins intercepting the road runoff and oil/grit separators treating the water quality prior to each infiltration trench could be utilized. The required linear infiltration trench width would be as follows:

a. King Road (25m ROW) – 3.7 width. This would be a single trench likely located under the parking/biking lanes.

b. McCallum Road South (22m ROW) – 3.2m width. This would be a single trench likely located under the parking/bike lanes.

c. Salton Road (20m ROW) – 3.0m width. This would be a single trench like located under the parking/bike lanes.

d. University Way North (18m ROW) – 2.7m width. This would be a single trench likely located under the road/parking lane or under the 2.8m sidewalk/furnishing zone.

e. Duke Avenue (20m ROW) 3.0 width. This would be a single trench likely located under the parking/biking lanes.

In poorly-draining soils areas (soils mapping shows that only the eastern-most 150m portion of the site is in till soils), King Road and Duke Avenue should incorporate WQ treatment rain gardens and a storm sewer system for minor flows. Major flows should continue along roads. The WQ rain garden sizing is governed by the maximum impervious to pervious rain garden area ratio (I/P ratio) that should not be exceeded for longevity of the rain garden and minimized maintenance due to sediment accumulation. The maximum I/P ratio collector road is 30:1 meaning that the width of rain garden required 1/15$^{th}$ of the ROW width (given the assumption of discontinuous rain gardens). King Road requires a 1.7m wide rain garden and Duke requires a 1.4m wide rain garden. Alternatively, a manufactured treatment system could be used for these two short pieces of road.

## Roadway Stormwater System Additions/Options

Recommended storm sewer additions and two options for stormwater infiltration improvements have been provided in Tables 11, 12 and 13. Storm sewers are included in currently un-serviced sections of road in the neighbourhood. If infiltration systems are appropriately designed, the storm sewers may be redundant. However, they are included as conventional back-up or alternate to the infiltration systems.

Note that the minimum storm sewer size with catch basin connections as per City design criteria is 300mm diameter. There are existing storm sewers smaller than this that may need to be upgraded to avoid 300 mm pipes draining to smaller downstream pipes.

| Location | Existing Diameter (mm) | Upgrade Diameter (mm) | Length (m) |
|---|---|---|---|
| Duke Avenue | N/A | 300 | 270 |
| University Way | N/A | 300 | 70 |
| King Road | N/A | 300 | 200 |

**Table 11 - Recommended Storm Sewer Additions**

| Location | Length of Road (m) | Length of Rain Garden (m) | Width of Rain Garden (m) | Area of Rain Garden ($m^2$) |
|---|---|---|---|---|
| King Road | 880 | 440 | 2.7 | 1188 |
| King Road (poor soils) | 150 | 75 | 1.7 | 128 |
| Duke Avenue | 500 | 250 | 2.2 | 550 |
| Duke Avenue (poor soils) | 150 | 75 | 1.4 | 105 |
| McCallum Road | 400 | 200 | 2.4 | 480 |
| Salton Road | 250 | 125 | 2.2 | 275 |
| University Way N. | 100 | 50 | 2.0 | 100 |

**Table 12 - Recommended Rain Garden Option**

| Location | Length of Road (M) | Length of Trench (m) | Width of Trench (m) | Area of Trench ($m^2$) |
|---|---|---|---|---|
| King Road | 880 | 440 | 3.7 | 1628 |
| King Road (poor soils) | 150 | N/A – Use WQ Rain Garden | | |
| Duke Avenue | 500 | 250 | 3.0 | 750 |
| Duke Avenue (poor soils) | 150 | N/A – Use WQ Rain Garden | | |
| McCallum Road | 400 | 200 | 3.2 | 640 |
| Salton Road | 250 | 125 | 3.0 | 375 |
| University Way N. | 100 | 50 | 2.7 | 135 |

**Table 13 - Recommended Infiltration Trench Option**

# 5.4 STREET AND PUBLIC REALM DESIGN GUIDELINES

## ABOUT THE GUIDELINES

The UDistrict Street and Public Realm Design Guidelines compliment, and build upon, the University Village Development Permit Guidelines, and are applicable to all UDistrict streets and public realm areas within the Primary Redevelopment Area identified in the figure below.

Illustrated within the figure, are three different classifications for street and public realm improvements. They are as follows:

- Site-Specific Guidelines
- Enhanced Street Guidelines
- Development Bylaw Standard Streets

Within this section details will be provided to help understand the necessary specifications and requirements needed in order to create the envisioned street or public realm. Requirements for Development Bylaw Standard Streets are not addressed within this section of the plan, and can be found within the Development Bylaw.

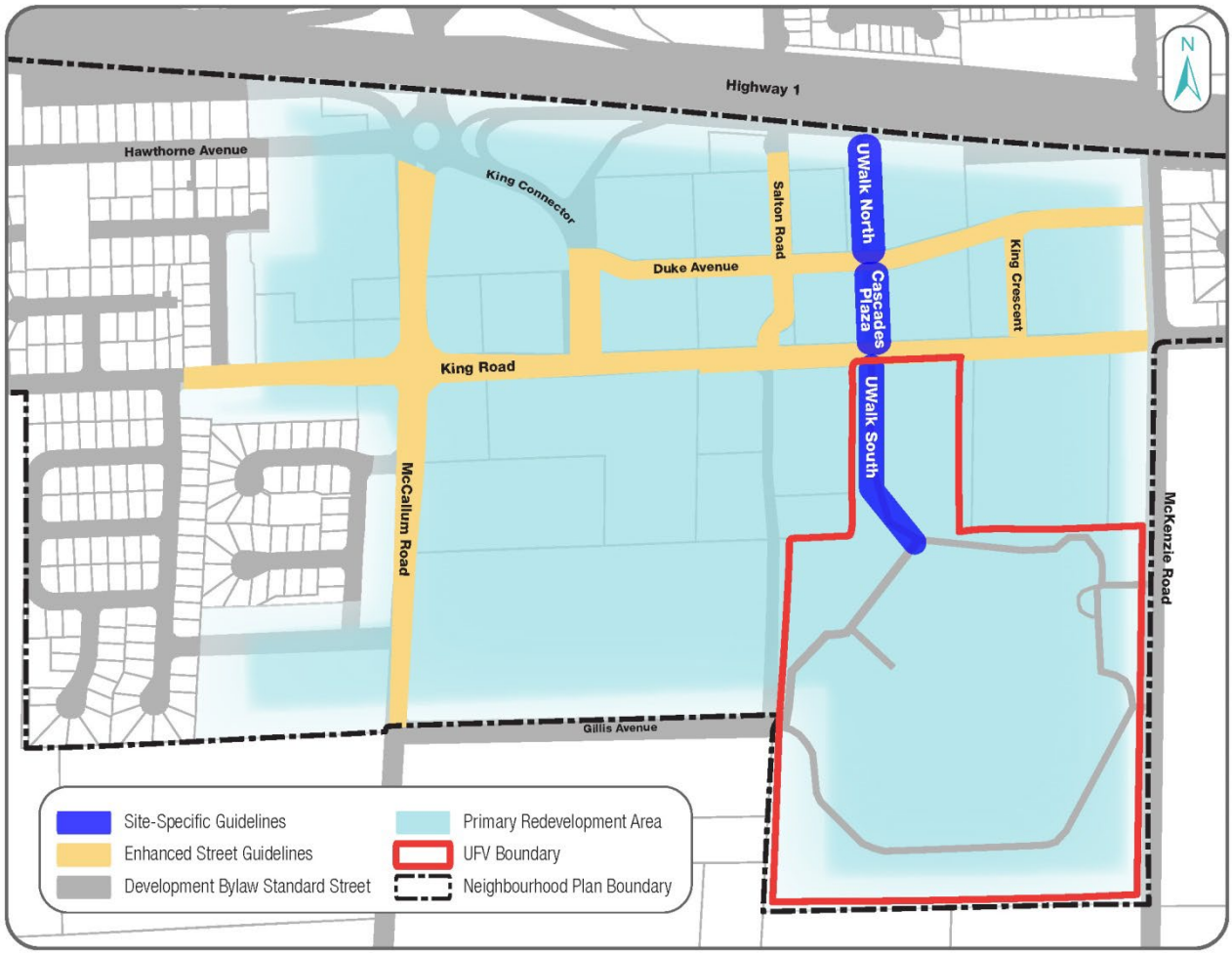



**Figure 34 - Street and Public Realm Classifications**

## STREETSCAPE ZONES

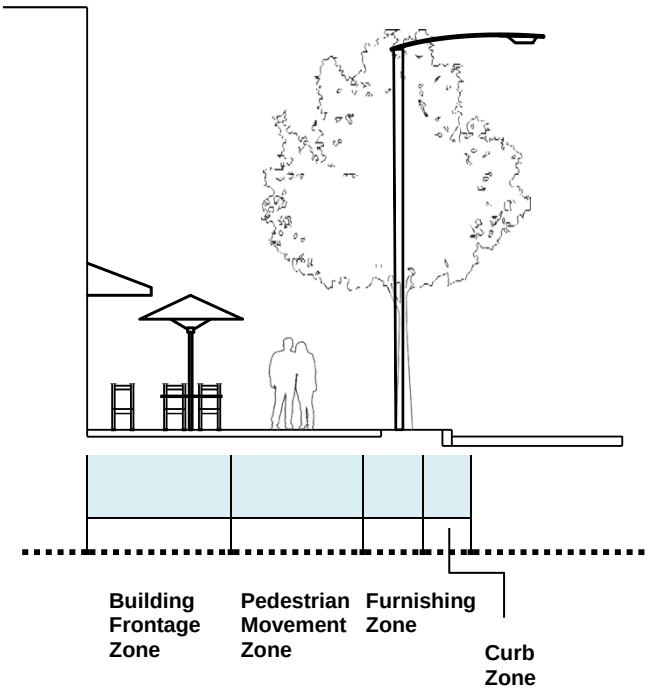
Complete Streets refers to a design approach for public streets which accommodate all street users. Under this approach, the design of the sidewalk is separated into four sections: the Curb Zone, the Furnishing Zone, the Pedestrian Movement Zone, and the Building Frontage Zone. Each section serves a distinct and unique purpose within the street. A diagram is provided on the following page that shows the four zones.

The **Curb Zone** is the area between the road and the Furnishing Zone. This zone may include parking pockets.

The **Furnishing Zone** is the area in between the Curb Zone and the Pedestrian Movement Zone. This is where street furniture such as benches, bike racks, garbage containers and trees are located. It is also acts as a buffer between walking on the sidewalk and the road.

The **Pedestrian Movement Zone** is the area between the Furnishing Zone and the Building Frontage Zone. It is the main path for people walking and should be free of obstacles. Elements from other street sections should not protrude into the Pedestrian Movement Zone. This zone considers universal access and helps make walking an enjoyable method of travel.

The **Building Frontage Zone** is defined as the space between the property line and the front of the building. The Building Frontage Zone is the location for sidewalk cafes or retail displays, and does not interfere with where people walk.





**Streetscape Zones Example**

## SITE- SPECIFIC GUIDELINES

These guidelines were developed to provide specific guidance along UWalk, which is the primary linear north-south connection connecting University of the Fraser Valley and the neighbourhoods north of the highway. UWalk is comprised of three sections: UWalk North, a treed multi-use pathway connecting the pedestrian bridge to the neighbourhood; Cascades Plaza, a central and bustling shared street that can be blocked off to be used as an urban plaza; and, UWalk South, the main connection from the neighbourhood into the UFV Campus.

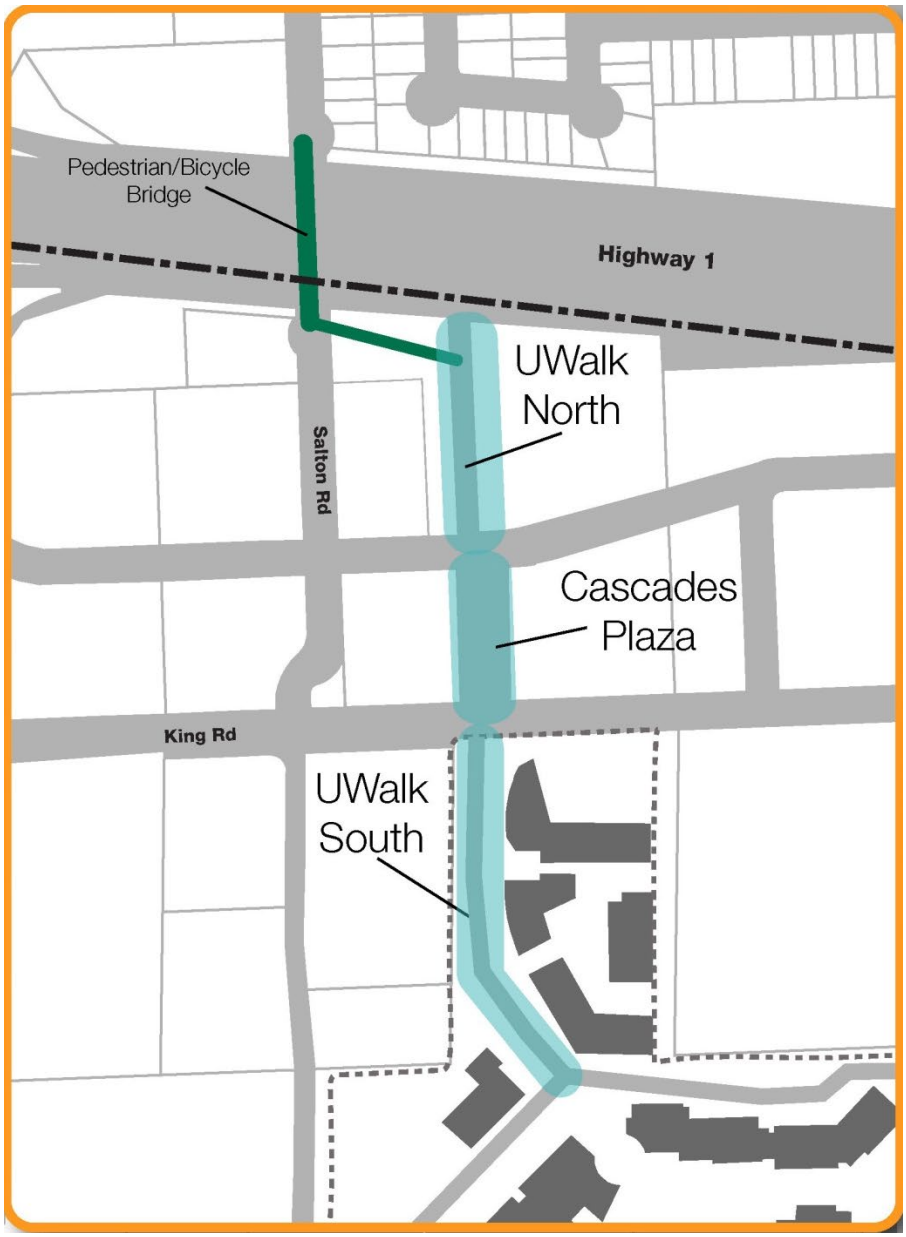



**Figure 35 – UWALK**

## UWALK NORTH

The intent of UWalk North is to create an urban greenway connecting the pedestrian/cycling overpass to the intersection of Duke Avenue and Cascades Plaza. The space is defined by large trees on either side of a multi-use pathway with interspersed benches.

## Surface Treatments

### Pathway

- The 4 m wide bidirectional multi-use pathway should be constructed of asphalt.

### Crosswalks

- Paving material such as stamped or saw cut concrete or other similar material should be considered.

**Example: Stamped Concrete**

### Curb Bulge

- Provide paver band to delineate end of pathway and approach towards crosswalk around the curb letdown.
- Curb letdown treatment will be consistent with the material used for the shared street (Cascades Plaza), to create a sense of arrival to the University Village and continuity of the pathway towards the University.

### Paving Band

- A concrete or basalt paving band should be utilized at both outside edges of the pathway to delineate the travel route from the furnishing zone.

## Street Furnishings

### Bollards

- Matte stainless steel or anodized aluminum bollards should be provided around the curb bulge to delineate the pathway from the road.

**Example of Stainless Steel Bollards**

## Lighting

- Utilize the same family of lighting fixtures throughout the UDistrict. The pole and overall light standards for the UWalk should be sized to respond primarily to pedestrian and bicycle user needs.
- Matte stainless steel, as well as anodized aluminum should be considered
- Utilize night-friendly, downward-facing luminaires and shorter mounting arms (i.e. smaller scale fixtures on shorter poles).

**Sample Light Standard**

## Public Art

- Provide space for a public art installation with an active transportation theme at the beginning of the multi- use pathway directly north of Duke Avenue to demarcate one of the gateways into the UDistrict.

**Active Transportation Themed Art**

## Seating

- Require seating to have a consistent appearance and use materials such as predominantly heavy timber members with concrete and/or metal structural frame. Benches should be lined on either side of the walkway to allow for adequate rest stops and provide areas for quiet contemplation.
- Curved benches should be installed at the intersection of Duke Road to allow for gathering places and to define the character area.

**Example of a curved bench**

## Street Trees and Landscaping

- Extend the street tree canopy from the university to the bridge deck; however, delineate this segment of the UWalk by utilizing distinct tree species. Deciduous, high-branching trees with wide, overarching canopies are encouraged for this section (Figure 23).
- Design the multi-use pathway as a tree-lined boulevard with trees lining the full length.
- Curb bulges should be landscaped with a combination of trees and low-lying plants such as flowers, shrubs, or bushes.

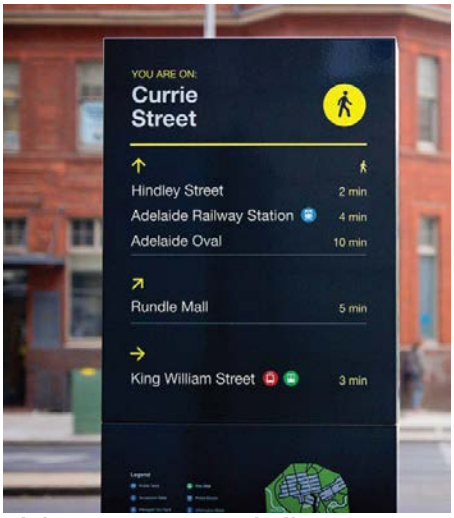
**Example: Ginko Autumn Gold Trees**

## Waste & Recycling

- Give preference to waste management and recycling receptacles that are contemporary in design and coordinate with other streetscape furnishings (lighting and seating).

## Wayfinding

- Directional signage at the end of the bridge deck should indicate travel routes and destinations within the neighbourhood, and incorporate nighttime illumination.
- Wayfinding signage with maps should be provided within the curb bulge showing directions to destinations within the greater UDistrict area.




**High Contrast - Way Finding**

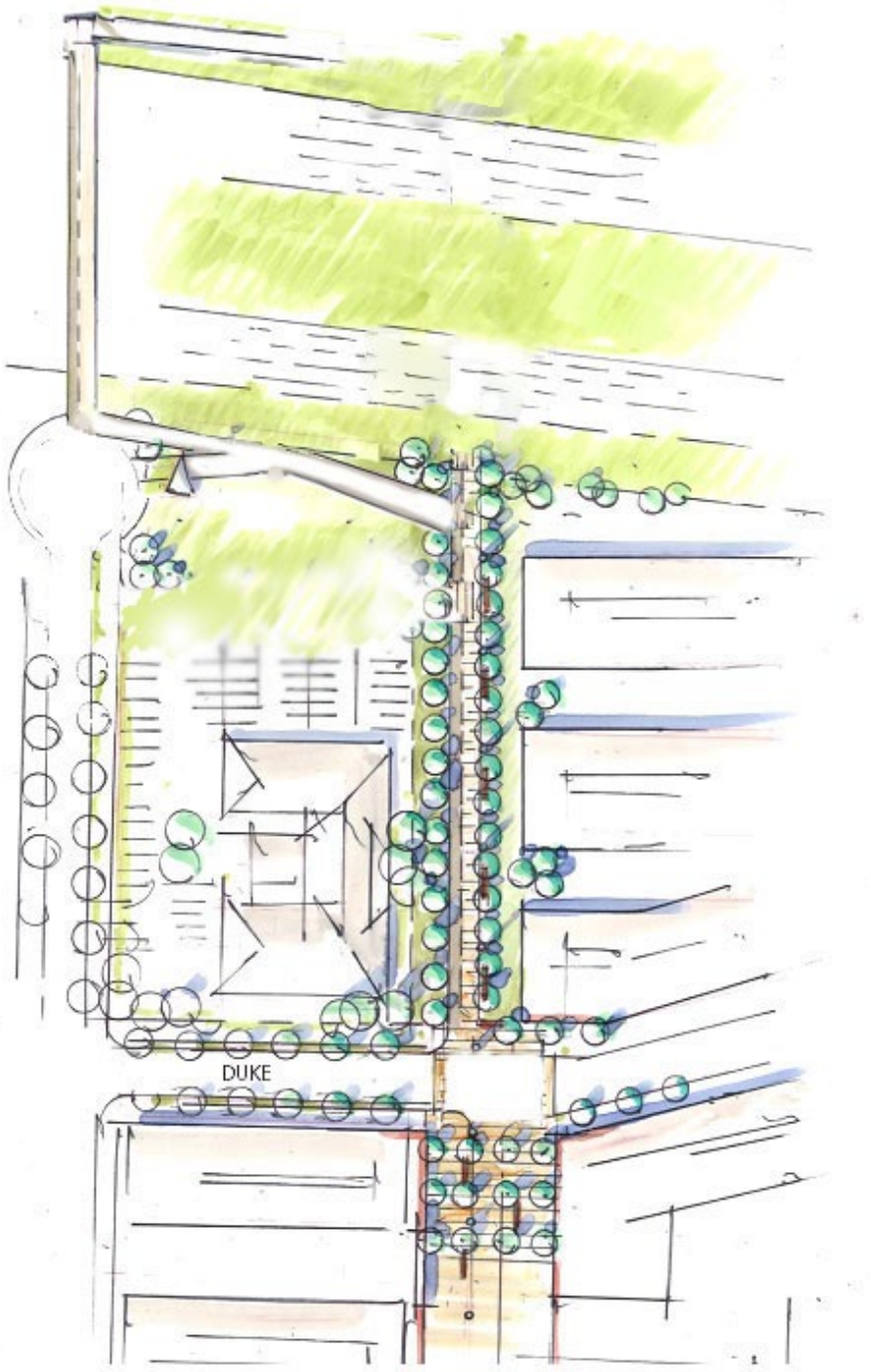



**Figure 36 - UWalk North**

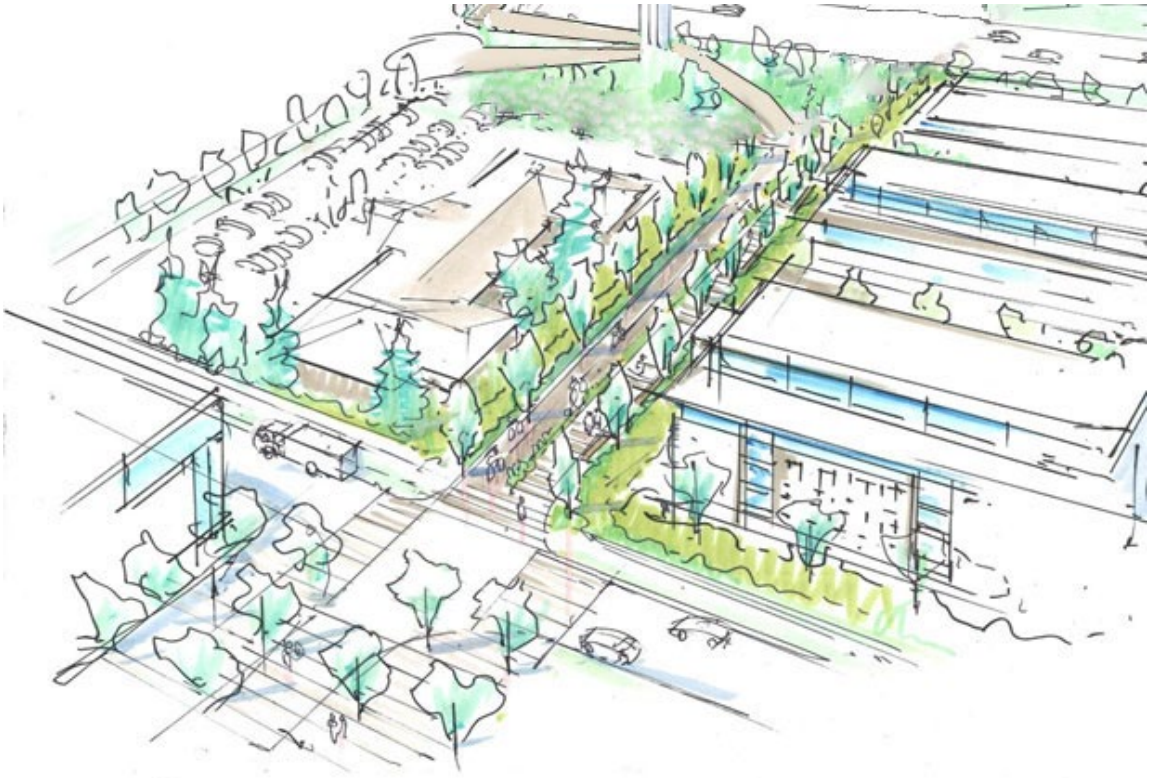
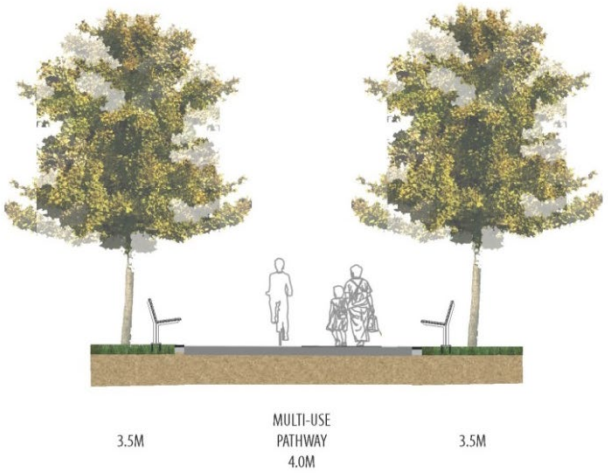


Figure 37 - UWalk North Greenway




Typical Section | UWalk North Greenway

Total ROW = 11.00M

Figure 38 - UWalk North Typical Cross-section

# CASCADES PLAZA

The intent of Cascades Plaza is to create a linear urban plaza that defines the space as a pedestrian-first realm that allows cars, taxis or service vehicles through, but in a controlled manner. To create this space, a continuous and consistent treatment of material such as stamped concrete, saw cut concrete or other similar treatment should extend uninterrupted from building face to building face, a bold and simple 'urban carpet' that successfully functions under pedestrian, bicycle, and vehicle use (including service trucks).

## Surface Treatments

### Paving Band

- A paving band should be utilized to delineate the edge between public and private spaces.

### Paving Material

- Paving material such as stamped or saw cut concrete or other similar material should be considered to reinforce the unique space.

### Curbs

- Along this predominantly retail-activated street, utilize a low cast-in-place or precast roll-curb to define the travel lanes while enabling vehicles to easily encroach up and over to the defined parking or loading spots.

### Curb Bulges

- Curb letdowns should be identified by a special treatment, which will match the shared street paving material to create a cohesive and unified streetscape.

### Intersections

- The University Way North and King Road intersection is the main intersection in the UDistrict and should create a sense of place and a unique identity. The intersection should be designed with distinct pavement material, signaling pedestrian and cyclist priority. This will help with left-turning movements into the shared street and will provide a visual cue to slow down.
- Concrete paving material should be used for the intersection, as well as for all four crosswalk areas which match the shared street paving material (or similar).
- The intersection at University Way North and Duke Avenue should use the same concrete paving treatment as the intersection at University Way North and King Road.

### Sidewalks

- Paving band at the interface of the sidewalk with the concrete curb letdown to provide an edge effect and a sense of arrival at an intersection.
- Utilize consistent paving material, such as stamped or saw cut concrete, or other similar material with simple paving patterns that reinforce the space.
- Ensure that the paving material in the public right-of-way extends onto adjacent private land, including into entries.

### Rainwater Management

- Utilize paved features in the middle of Cascades Plaza to capture and convey stormwater to the City's drainage system.
- High quality metal tree grates should be provided at the base of all street trees to enhance the design of the public realm, and to increase stormwater infiltration.

# Street Furnishings

## Accessibility

- To ensure universal accessibility, maintain and enhance connections, parking areas, building entrances, and open space access so that individuals of all physical abilities are able to move through the UDistrict without barriers or impediments.

## Bike Racks

- Give preference to bike racks with a simple single ring design, which has the advantage of being readily sized to match anticipated demand by siting a row of rings in a high demand area, and can accommodate additional rings being added over time as demand increases.
- Situate bike racks near entrances of the plaza.

**Simple ring bike racks**

## Bollards

- Consider using matte stainless steel or anodized aluminum bollards.
- Bollards to be provided around curb bulges to delineate the sidewalk from the road.
- Delineate on-street parking pockets with bollards to ensure separation and protection for pedestrians from traffic.
- Within the shared travel lanes, install removable bollards which can be utilized to create a plaza for public events and festivals when required.

## Event Infrastructure

- Provide infrastructure to support hosting of special events and use by food trucks, including electrical outlets, water connections, and furnishings to support temporary equipment such as speakers and programmable lighting.


**Power Pedestal for Food Trucks, New York**

**Event lighting**

## Lighting

- Utilize the same family of lighting fixtures throughout the UDistrict with enhanced form and design for Cascades Plaza. The overall light standards for the UWalk should be sized to respond primarily to pedestrian and bicycle user needs.
- Consider using matte stainless steel, as well as anodized aluminum.
- Light poles should have the ability to hold items beyond just lighting fixtures, i.e. wayfinding, signage, banners, minimizing the need to further accommodate additional poles in this area.
- Night friendly luminaires and light poles with two levels of lighting compared to elsewhere in the UDistrict should be considered.

## Parklets

- Utilize parklets to enhance gathering spaces on Cascades Plaza. These could be integrated into the furnishing zone between pockets of on-street parking.

## Public Art

- Treat the Plaza as the top priority within the UDistrict for major public art installations. Consideration should be given to gateways at intersections, and also within the furnishing zone (statutes, sculptures etc.).
- Incorporate innovative opportunities for public art into the public realm – mosaic tiles on sidewalks, customized manhole covers, etc.

**Public Art**

## Seating

- Provide a variety of seating opportunities, including single and groups, with and without backs, and in sun and shade areas.
- Seating should consist of predominantly heavy timber members with concrete and /or metal structural frame.

**Left: Group Seating, Right: LOOP Bench**

- Curved benches should be installed at the intersection of Duke Avenue to allow for gathering places and to define this character area.
- To minimize sidewalk clutter, benches can be combined with other streetscape elements such as bike racks and lighting.

**Curved bench examples**


## Street Trees and Landscaping Tree Canopy

- Provide street trees with close, regular spacing to create a continuous tree canopy. Large gaps in the street tree canopy should be avoided where possible (Figure 23).

## Tree Placement

- Extend the tree canopy from the university through Cascades Plaza, providing regularly spaced plantings in the furnishing zone. Street trees should serve as a visual and physical buffer for pedestrians, and provide a greater sense of street enclosure.
- Delineate this segment of the UWalk by utilizing trees such as October Glory Maple to create a distinct identity.

## Utilities

- Screen utility equipment, hydro meters, and similar in the public ROW with landscaping or high quality exterior cladding or wraps.

## Waste & Recycling

- Give preference to waste management and recycling receptacles that are contemporary in design and coordinate with other streetscape furnishings (lighting and seating).

## Wayfinding

- Provide wayfinding at north and south end of Cascades Plaza within the furnishing zone.

## Weather Protection

- Integrate weather protection on buildings or in public spaces to provide comfort for people throughout the year.
- Weather protection may include trees and landscaping, or architectural elements such as canopies, colonnades, overhangs or pergolas.
- Provide weather protection on key pedestrian routes and gathering spaces (e.g. seating areas and entrances).
- Integrate both sunny and shaded areas to provide a range of comfortable gathering spaces.

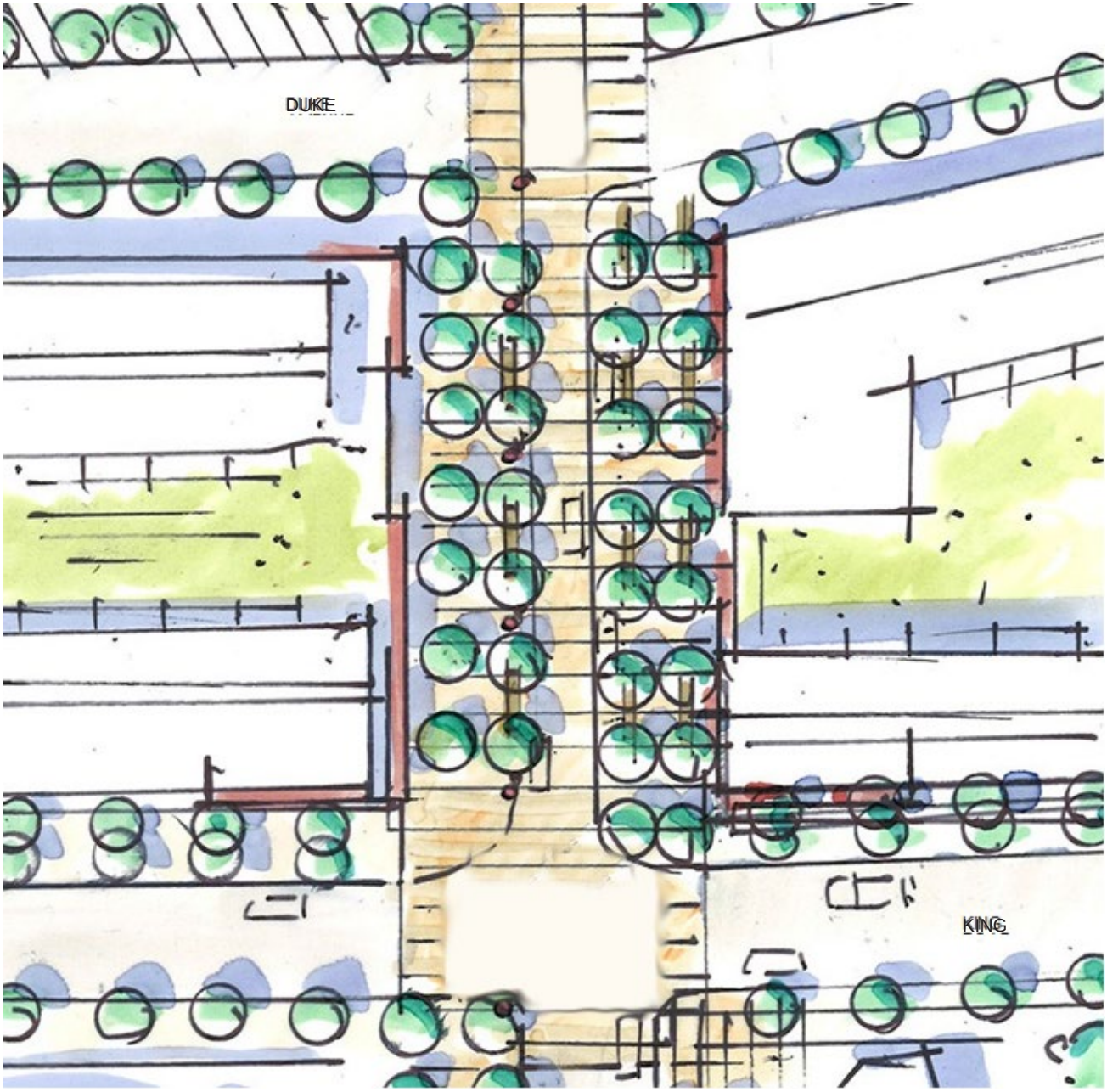
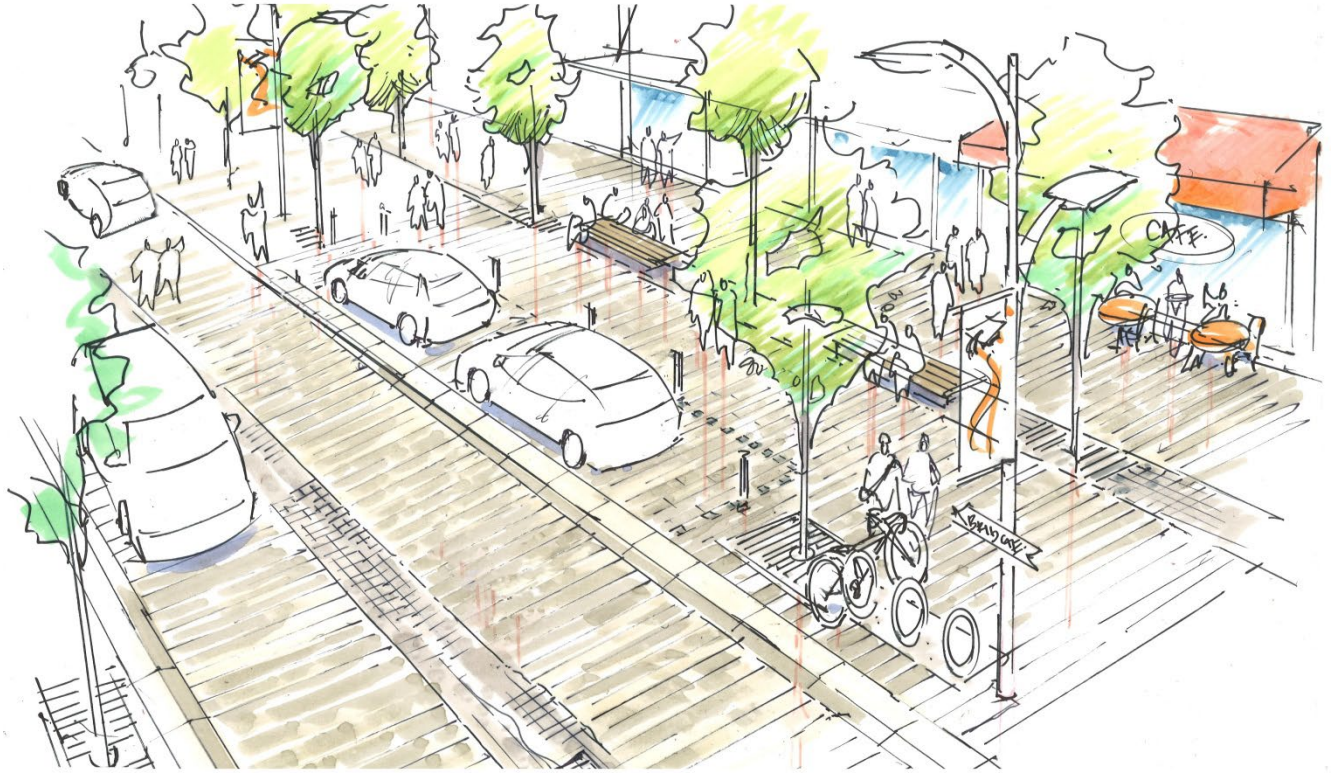



**Figure 39 - Cascades Plaza**



**Street view of UWalk referencing roll-over curb, continuous unit paving across street, parking, seating, double row of trees, active retail edges, and a central paved feature for rainwater collection.**

## UWALK SOUTH

(For detailed design guidelines, refer to the UFV 2016 Campus Master Plan)

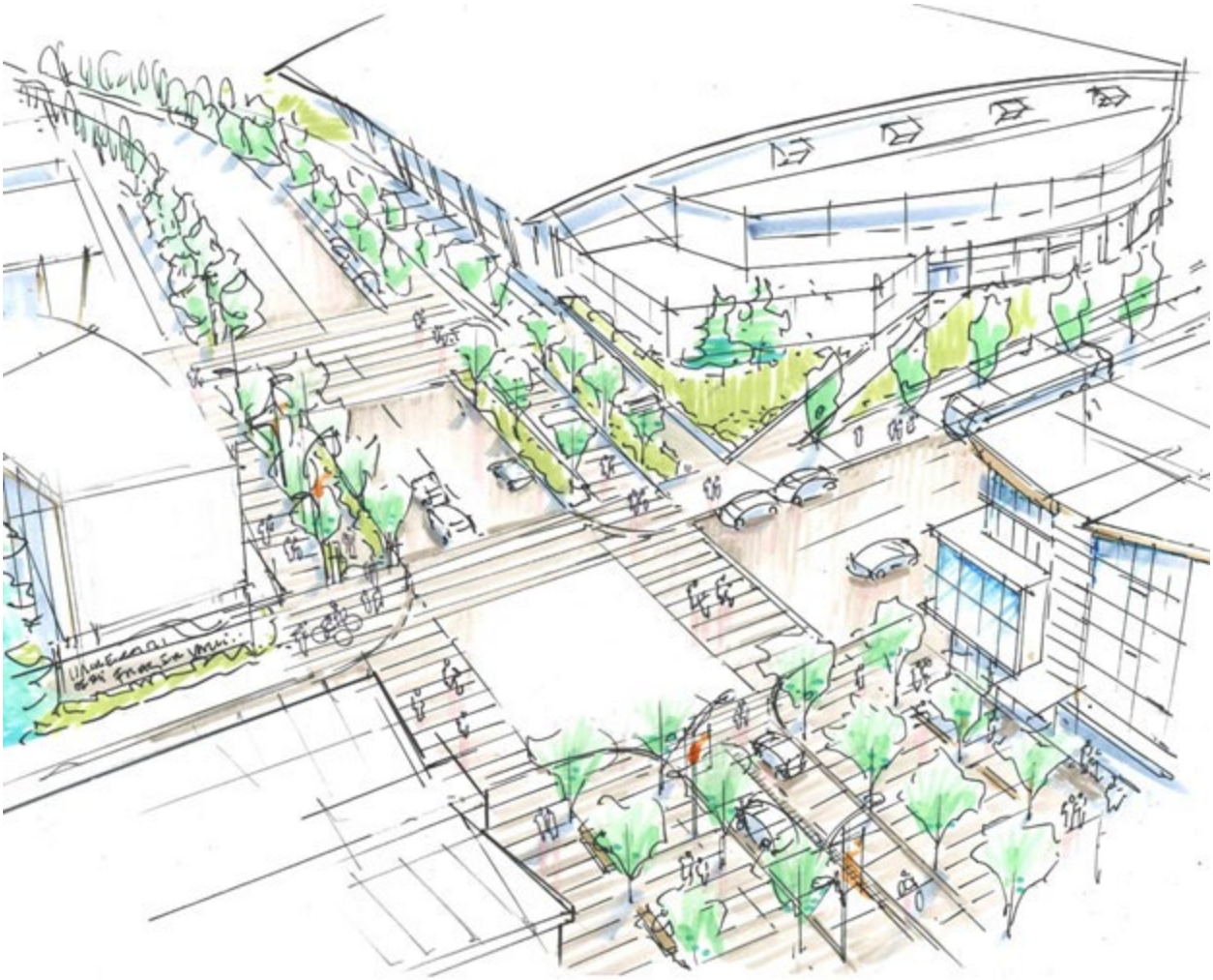


**Figure 40 - UWalk South**

# STREET CLASSIFICATIONS

## Cross-Sections

These Street Cross-Sections were created to describe the character and design intent for streets and plazas within the UDistrict. These sections are meant to complement the UDistrict Neighbourhood Development Permit Design Guidelines and the Streetscape Design Guidelines and serves as a guide for the construction, maintenance and improvement of the street network within the UDistrict.

## Applicable Streets

### Enhanced Street Guidelines

- Duke Avenue (20 M ROW)
- King Connector (28.7 M ROW)
- King Crescent (20 M ROW)
- King Road (26.5 M ROW)
- McCallum Road South (24 M ROW)
- Salton Road (20 M ROW)

### Site-Specific Guidelines

- University Way North/Cascades Plaza (18 M ROW)

## DUKE AVENUE (20 M ROW)

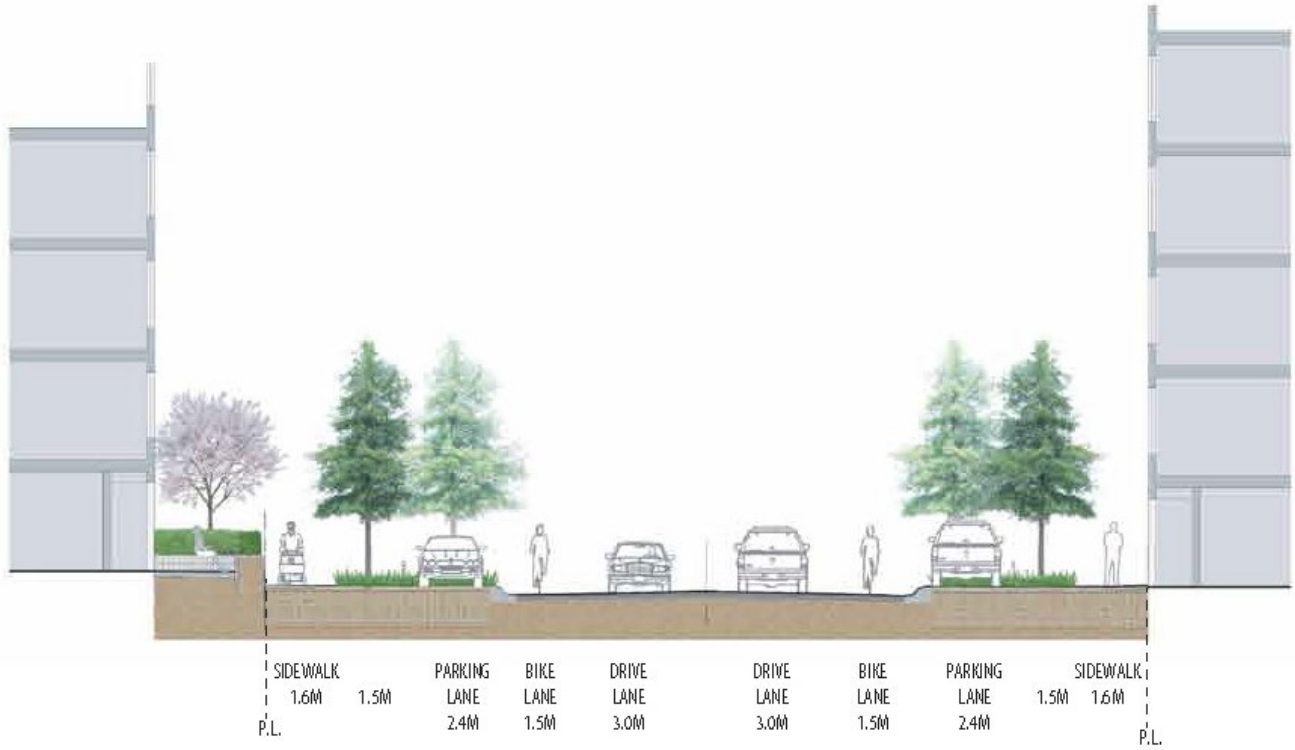



**Figure 41 - Duke Avenue cross-section**

### Specifications

Street Classification – Local (Speed limit 50 km/hour)

Lane Configuration – Two travel lanes and parking pockets on both sides of the street

Bike Lanes – Outboard of parking lanes on both sides of the street

Furnishing Zone – Street Trees (Persian Ironwood) / Standard Street lights / benches and waste/recycling

Pedestrian Movement Zone – Sidewalks on both sides of the street

## KING CONNECTOR (28.7 M ROW)

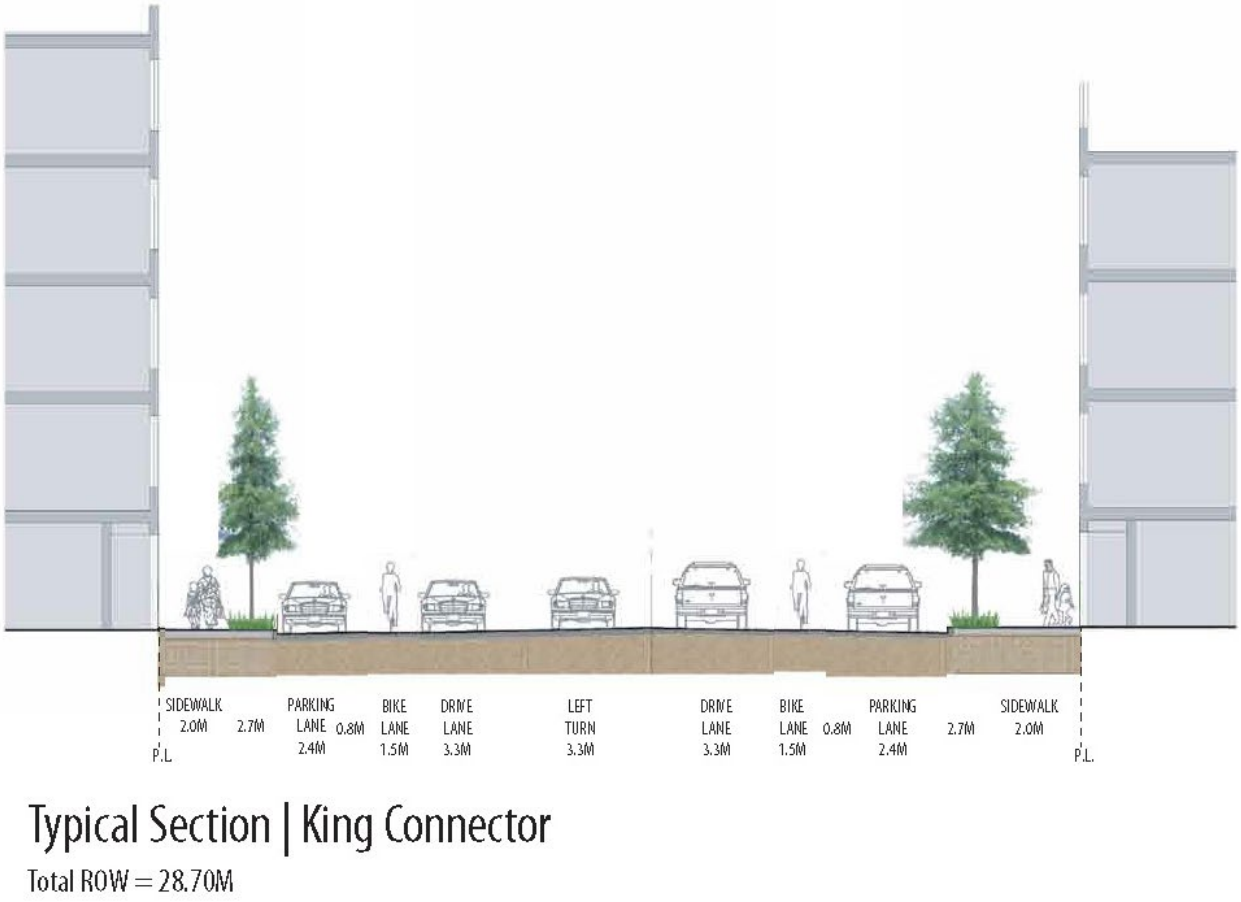



**Figure 42 - King Connector cross-section**

### Specifications

Street Classification – Collector (Speed limit 50 km/hour)

Lane Configuration – Two travel lanes, a turn lane, and parking lanes on both sides of the street

Bike Lanes – Outboard of parking lanes on both sides of the street

Furnishing Zone – Street Trees (Species Determined by PRC) / Standard Street lights / benches and waste/recycling

Pedestrian Movement Zone – Sidewalks on both sides of the street

## KING CRESCENT (20 M ROW)

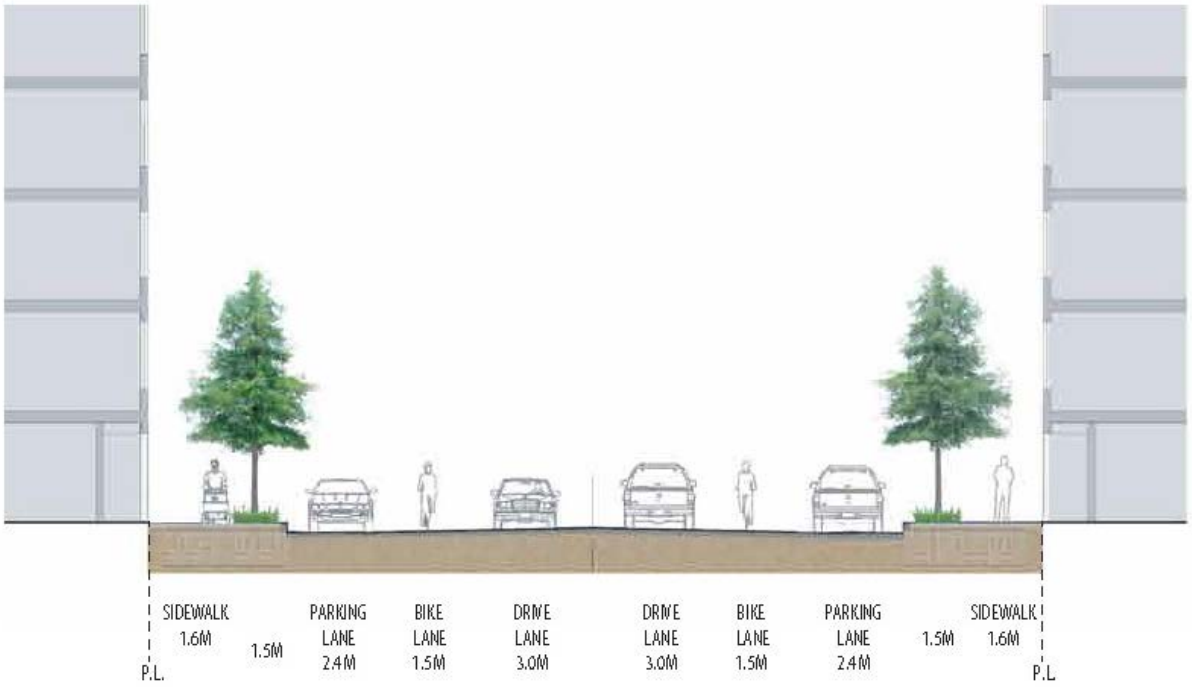



**Figure 43 - King Crescent cross-section**

### Specifications

Street Classification – Local (Speed limit 50 km/hour)

Lane Configuration – Two travel lanes and parking lanes on both sides of the street

Bike Lanes – Outboard of parking lanes on both sides of the street

Furnishing Zone – Street Trees (Species Determined by PRC) / Standard Street lights / benches and waste/recycling

Pedestrian Movement Zone – Sidewalks on both sides of the street

## KING ROAD (26.5 M ROW)


**Figure 44 - King Road McCallum Road to King Connector cross-section**

### Specifications

Street Classification – Collector (Speed limit 50 km/hour)

Lane Configuration – Four travel lanes and a turn lane

Bike Lanes – Inboard of travel lanes on both sides of the street

Furnishing Zone – Street Trees (Sunburst Honey Locust) / Standard Street lights / benches and waste/recycling / Bus shelters*****

Pedestrian Movement Zone – Sidewalks on both sides of the street

*****In collaboration with BC Transit bus shelters will be upgraded and will provide seating, lighting, bicycle racks, garbage/recycling receptacles, signage displaying transit schedules and route information and will provide covered protection from the elements. The shelter will be a slight modification of the following:

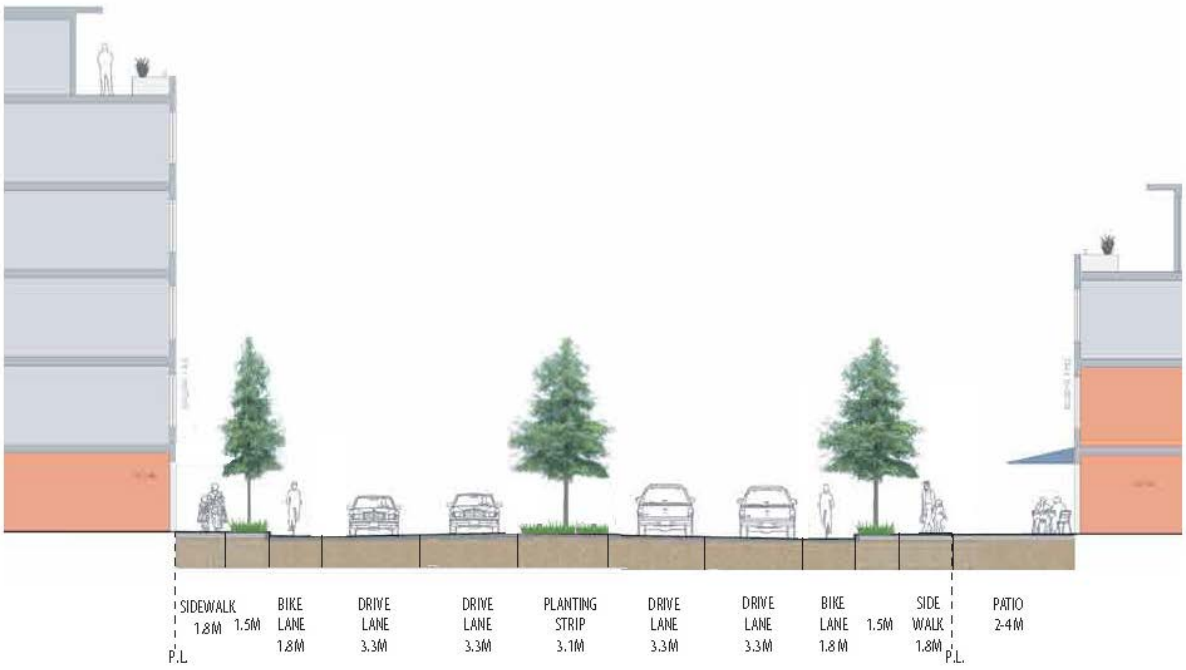



**Figure 45 - King Road King Connector to University Way cross-section**

## Specifications

Street Classification – Collector (Speed limit 50 km/hour)

Lane Configuration – Four travel lanes and planted median (Sunburst Honey Locust)

Bike Lanes – Inboard of travel lanes on both sides of the street

Furnishing Zone – Street Trees (Sunburst Honey Locust) / Standard Street lights / benches and waste/recycling / Bus shelters*****

Pedestrian Movement Zone – Sidewalks on both sides of the street

*****In collaboration with BC Transit bus shelters will be upgraded and will provide seating, lighting, bicycle racks, garbage/recycling receptacles, signage displaying transit schedules and route information and will provide covered protection from the elements. The shelter will be a slight modification of the following:

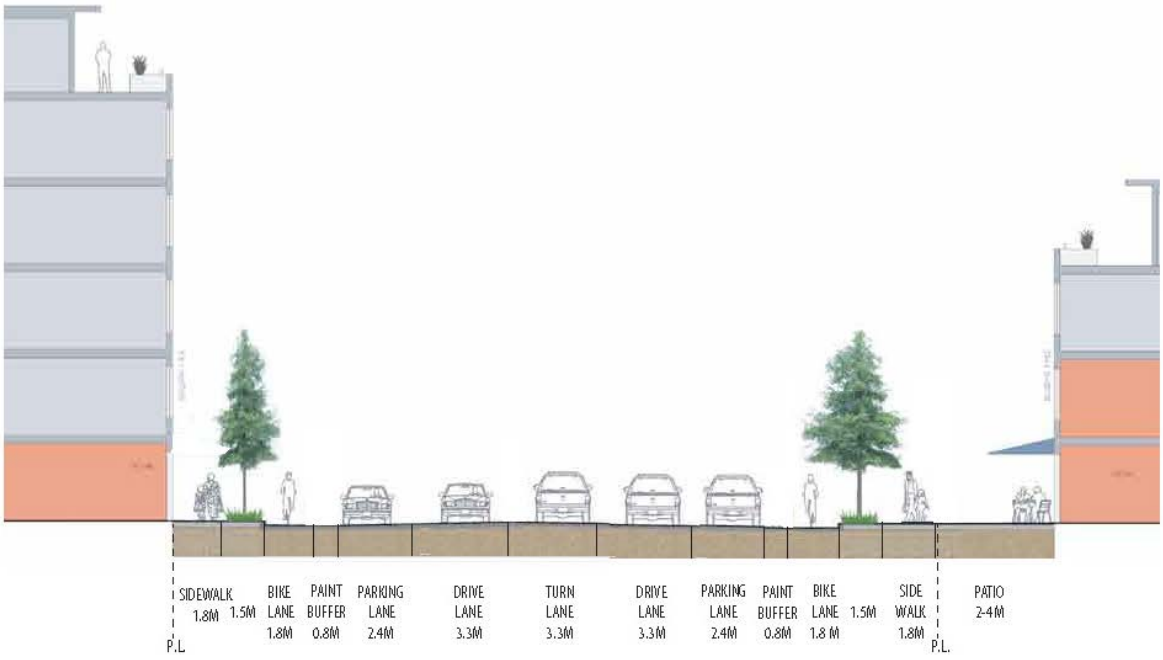



**Figure 46 - King Road University Way to McKenzie Road cross-section**

## Specifications

Street Classification – Collector (Speed limit 50 km/hour)

Lane Configuration – Two travel lanes, a turn lane, and parking lanes on both sides of the street

Bike Lanes – Inboard of parking lanes with painted buffers on both sides of the street

Furnishing Zone – Street Trees (Sunburst Honey Locust) / Standard Street lights / benches and waste/recycling

Pedestrian Movement Zone – Sidewalks on both sides of the street

## MCCALLUM ROAD SOUTH (24 M ROW)

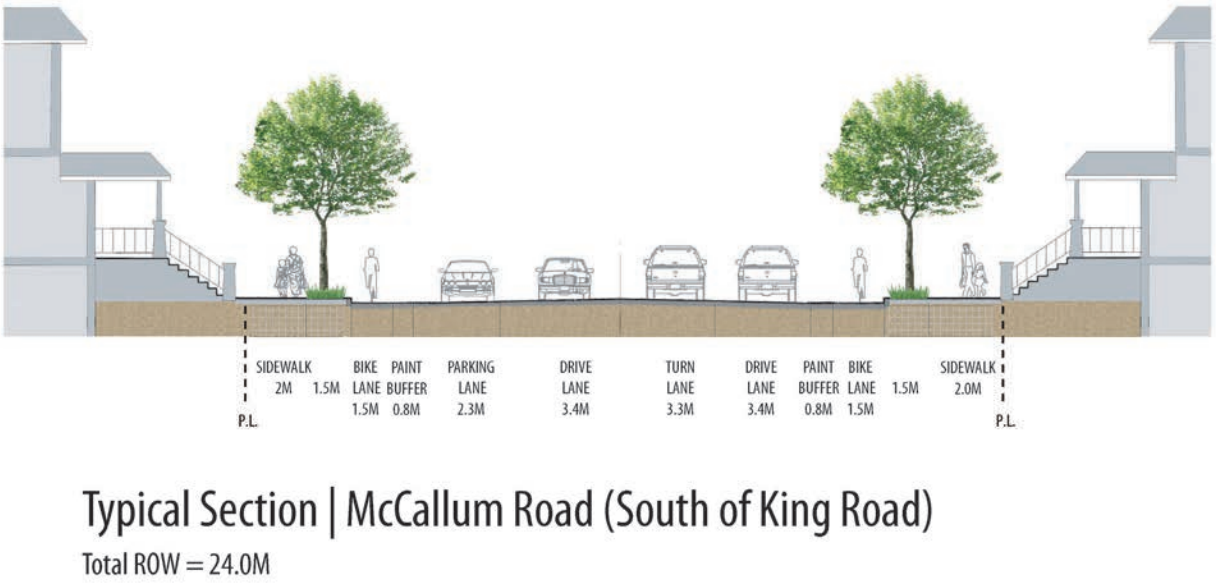



**Figure 47 - McCallum Road**

### Specifications

Street Classification – Collector (Speed limit 50 km/hour)

Lane Configuration – Two travel lanes, a turn lane, and a parking lane on the west side of the street

Bike Lanes – Inboard of west parking lane and inboard of east drive lane with painted buffers on both sides of the street

Furnishing Zone – Street Trees (Autumn Purple Ash) / Standard Street lights / benches and waste/recycling

Pedestrian Movement Zone – Sidewalks on both sides of the street

## SALTON ROAD (20 M ROW)

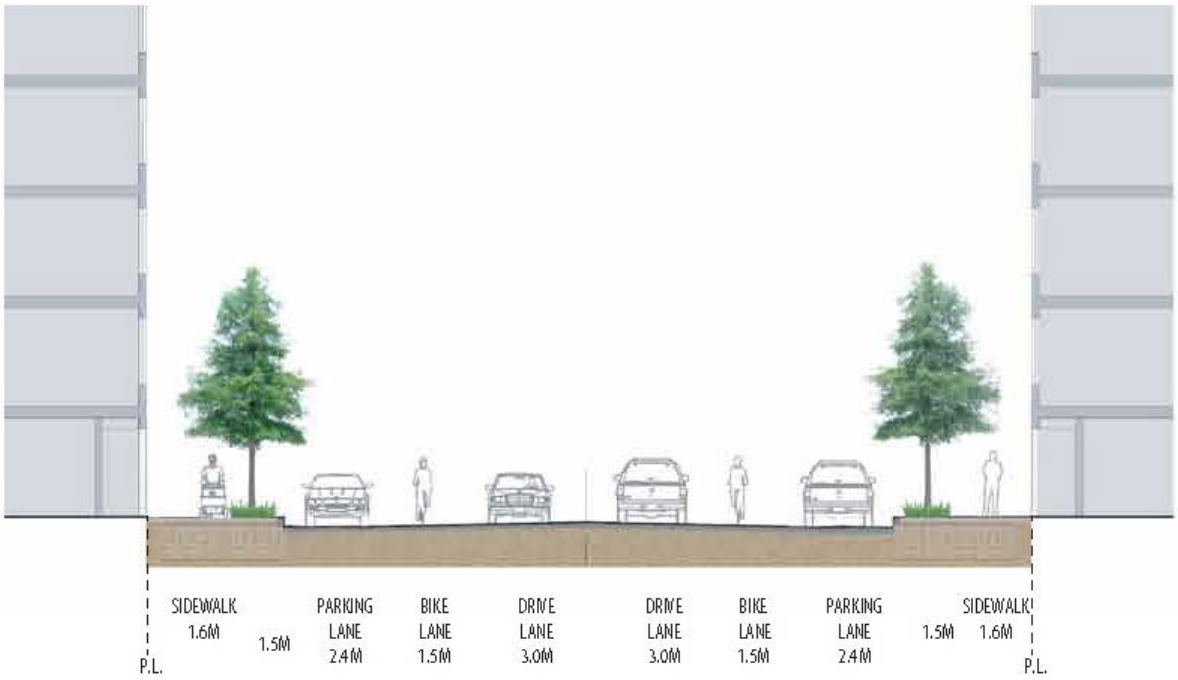



**Figure 48 - Salton Road**

### Specifications

Street Classification – Local (Speed limit 50 km/hour)

Lane Configuration – Two travel lanes and parking lanes on both sides of the street

Bike Lanes – Outboard of parking lanes on both sides of the street

Furnishing Zone – Street Trees (Species Determined by PRC) / Standard Street lights / benches and waste/recycling

Pedestrian Movement Zone – Sidewalks on both sides of the street

## UNIVERSITY WAY NORTH (18 M ROW)

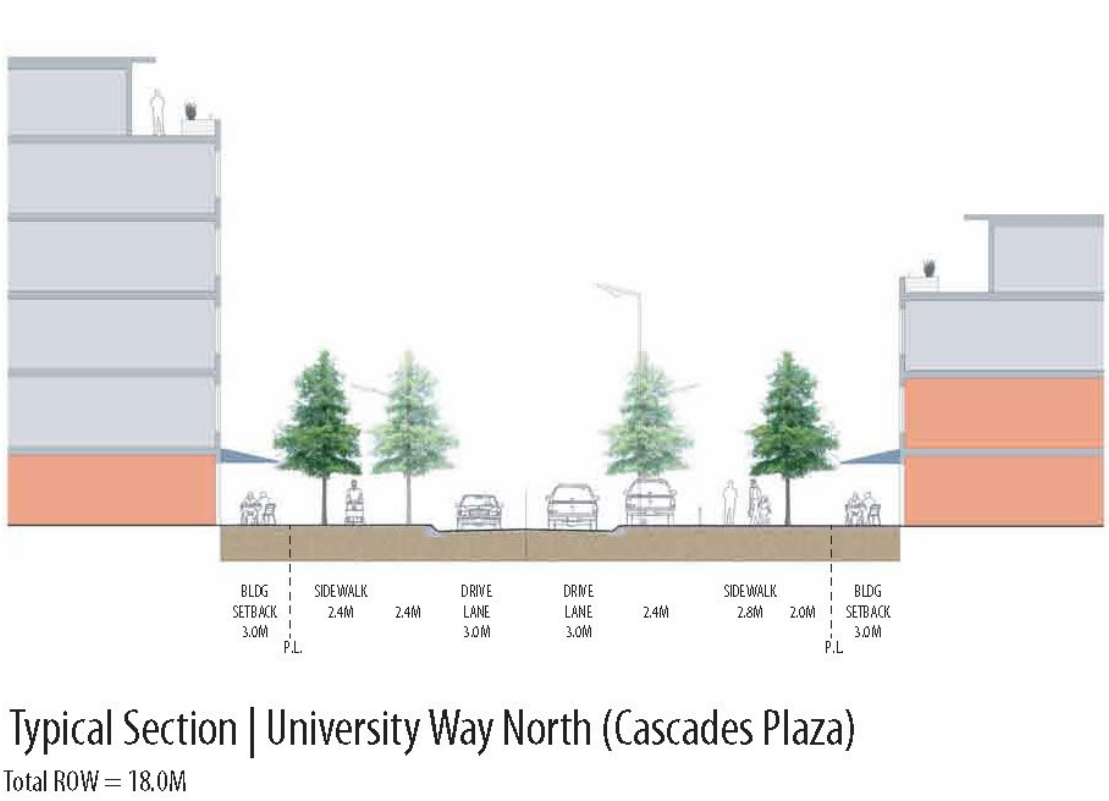



**Figure 49 - University Way North**

### Specifications

Street Classification – Local (Speed limit 30 km/hour)

Lane Configuration – Two travel lanes and parking pockets on east side of the street

Bike Lanes – No bike lanes

Furnishing Zone – See Site-Specific Guidelines (Cascades Plaza) for requirements

Pedestrian Movement Zone – See Site-Specific Guidelines (Cascades Plaza) for requirements

## Intersection Design

Intersection Design is an important consideration in creating a sense of place. Proper intersection design can activate and animate street crossings for all users, help to prioritize the pedestrian experience, enhance a sense of safety and create a coherent sense of design within the UDistrict.

This section outlines design guidelines for several different types of intersections. The intersections at King Road and University Way as well as the Intersection at University Way and Duke Road have been highlighted as they have increased design consideration due to their high visibility and defining role in the character of the UDistrict.

Intersections in the UDistrict will prioritize efficiency and safety, while also working to enhance a coherent sense of design.

Crosswalks will be featured, emphasizing the pedestrian pathway. Stripes or other high visibility patterns in intersections are preferred as they reinforce to vehicles that this is a pedestrian space.

Wayfinding will be included at all key intersections.

The paving band at the interface of the sidewalk with the concrete curb letdown should provide an edge effect and a sense of arrival.

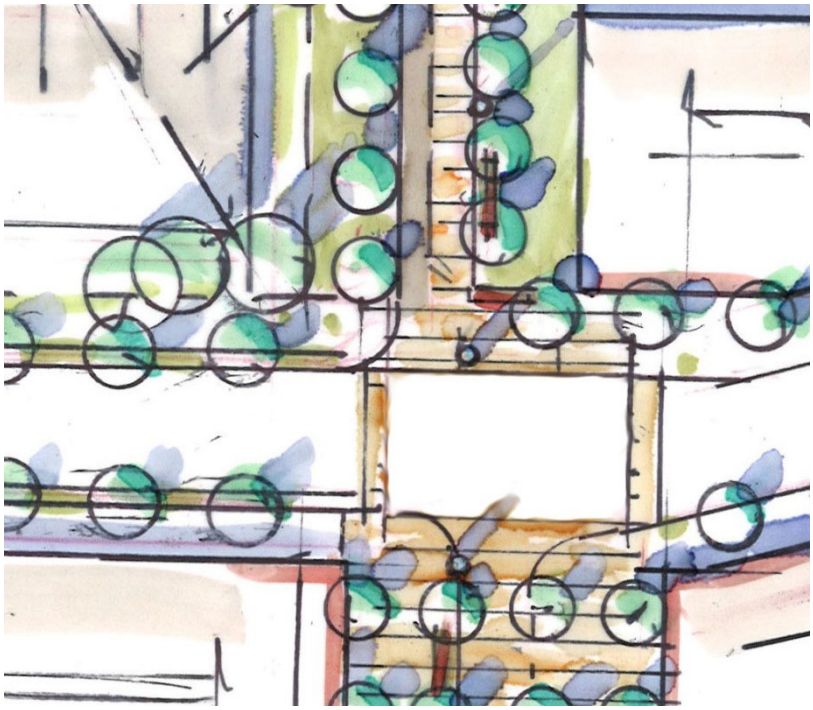


**Figure 50 - Plan View of Intersection at UWalk North and Duke Avenue**

**Figure 51 - Rendering of UWalk North and Duke Avenue Intersection**

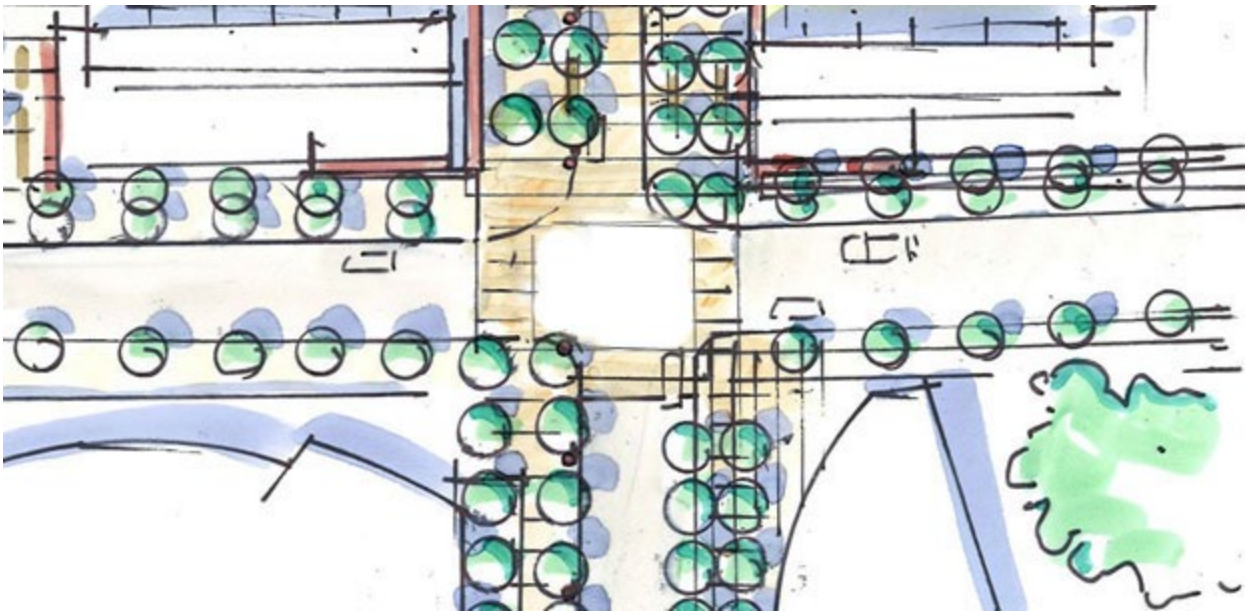


**Figure 52 - Plan View of Intersection at King Road and University Way North /Cascades Plaza**

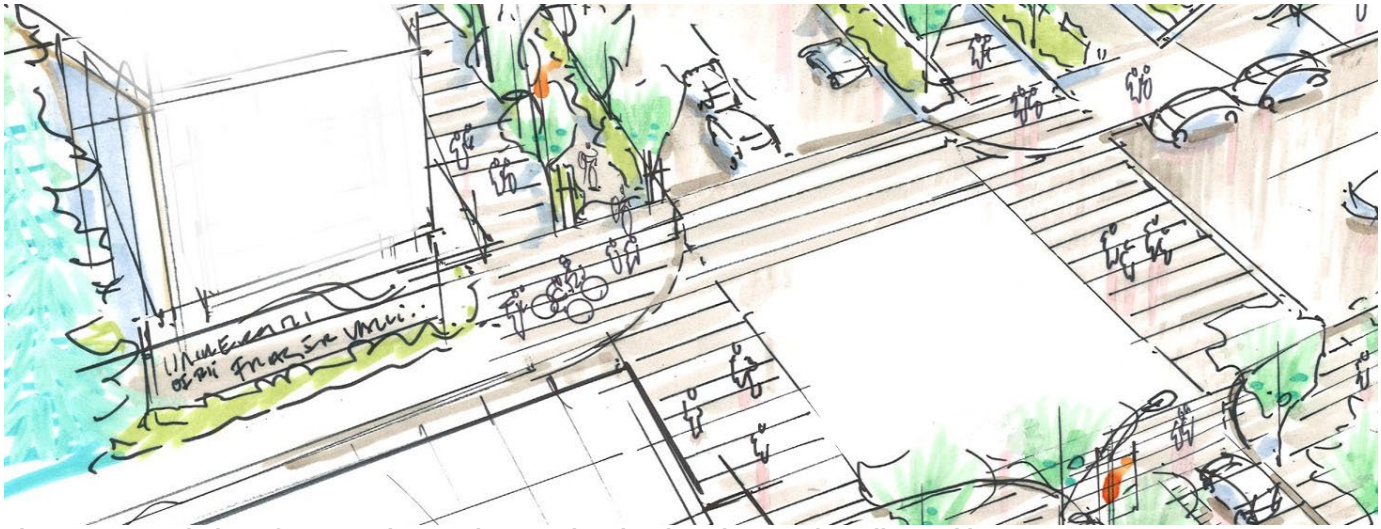


**Figure 53 - Rendering of Intersection at King Road and University Way (UWalk South)**

# PART 6: IMPLEMENTATION

## 6.1 Financial Strategy

## 6.1 FINANCIAL STRATEGY

The UDistrict Neighbourhood Plan Financial Strategy is intended to provide a general understanding of how infrastructure that is needed to support the neighbourhood plan may be funded. The timing and priority of the infrastructure improvements may also vary depending on prevailing economic conditions and subject to development activity.

There are a variety of means to fund the infrastructure which typically includes, but not limited to: the development frontage and offsite improvements; amenity contributions; capital programs; development cost charges; and may also include grants.

The implementation of the plan and infrastructure is expected to be over the long-term. As such, development of a longer term financial strategy will strategically allow for the plan implementation. Identifying priorities is important and will allow for the strategic investments to be made at the right time and right place.

The Land Use Plan also identifies different types of development and density within the UDistrict neighbourhood plan and the infrastructure servicing plan identifies the necessary infrastructure needed to support this land use.

The infrastructure, both city and regional, generally includes:

- Transportation, such as: roads, sidewalks, traffic signals, cross walks, etc.
- Water system, such as: pipes, pump stations, PRVs, reservoirs, etc.
- Wastewater system, such as: gravity mains, pump stations, forcemains, etc.
- Stormwater system, such as: gravity mains, bioswales, rain gardens, etc. and
- Parks, such as: fields, facilities, paths, structures, etc.

The UDistrict Neighbourhood Plan financial strategy is also intended to assist in the orderly, predictable, and equitable development of the neighbourhood. It is based on principles that those creating the demand and adding additional burden to the infrastructure pays for it. Generally in most local governments, development is required to provide and pay for the infrastructure needed to support their development. Local governments generally do not finance, nor assume all financial risk, to provide engineering infrastructure required for development. As such, the infrastructure servicing plan identifies general infrastructure needed to support the entire UDistrict Neighbourhood Plan area.

### Developer is Responsible for Paying for Infrastructure

As individual properties are developed within the UDistrict, the developer is responsible to provide the infrastructure needed to support their individual development proposal. This may include frontage infrastructure works as well as any applicable offsite infrastructure works. In other words, the developer constructs and pays for all infrastructure needed to support their development proposal.

Applicable latecomer agreements may be an option if “excess” or “extended” infrastructure is required which services other benefitting developable properties. This provides the developer a tool to collect from future benefitting developments for a maximum period of up to 15 years.

## Capital Programs

The City may decide to upgrade some of the infrastructure, within or around the UDistrict neighbourhood area, if there is a benefit to the broad community. For example, the City may decide to fund a specific transportation project, which provides better access to the Abbotsford Centre, if a major tenant is secured in the future. Another example may include improving the biking network, through the UDistrict area, which provides a vital connection to the broad community. It is unknown which infrastructure will be funded through the capital program at this time.

## Grants

Senior government grant programs are constantly changing and there may be future opportunities for some infrastructure to be funded through these programs. Generally, these government programs do not fund growth related projects; however, it is possible that there may be opportunities for projects which support green infrastructure or reduce the City's overall carbon footprint. For example, the City recently received a government grant for the Salton Road pedestrian/cycle bridge project which provides opportunities to get people out of their vehicles through walking and cycling opportunities.

## Development Cost Charges

The City has a Development Cost Charge (DCC) Bylaw which sets fees that are collected from developers to offset some infrastructure costs incurred, to service the needs of new development. From time to time, the City updates the Development Cost Charge Bylaw which sets rates for specific engineering infrastructure and parks which services the broad community.

The City is currently updating Master Plans for transportation, transit, City water and wastewater, drainage, Regional water and wastewater, and Parks, based on the new Official Community Plan. The Master Plans will identify the specific infrastructure projects and costs needed to support the growth of the new OCP, the projects will be prioritized, and identified in the City's Financial Plan. However, there is no commitment to implement the projects, nor to the priority of the projects given within the Financial Plan. There may be specific infrastructure, which benefits the broad community, which may be included in a future DCC Bylaw.

If any of the infrastructure works identified in the UDistrict servicing study are included in a future DCC Bylaw, there may be opportunities for DCC rebates/credits to be applied to these specific infrastructure works. It is unknown at this time which infrastructure will be included into any future DCC Bylaws.