

# Stave Heights Neighbourhood Plan





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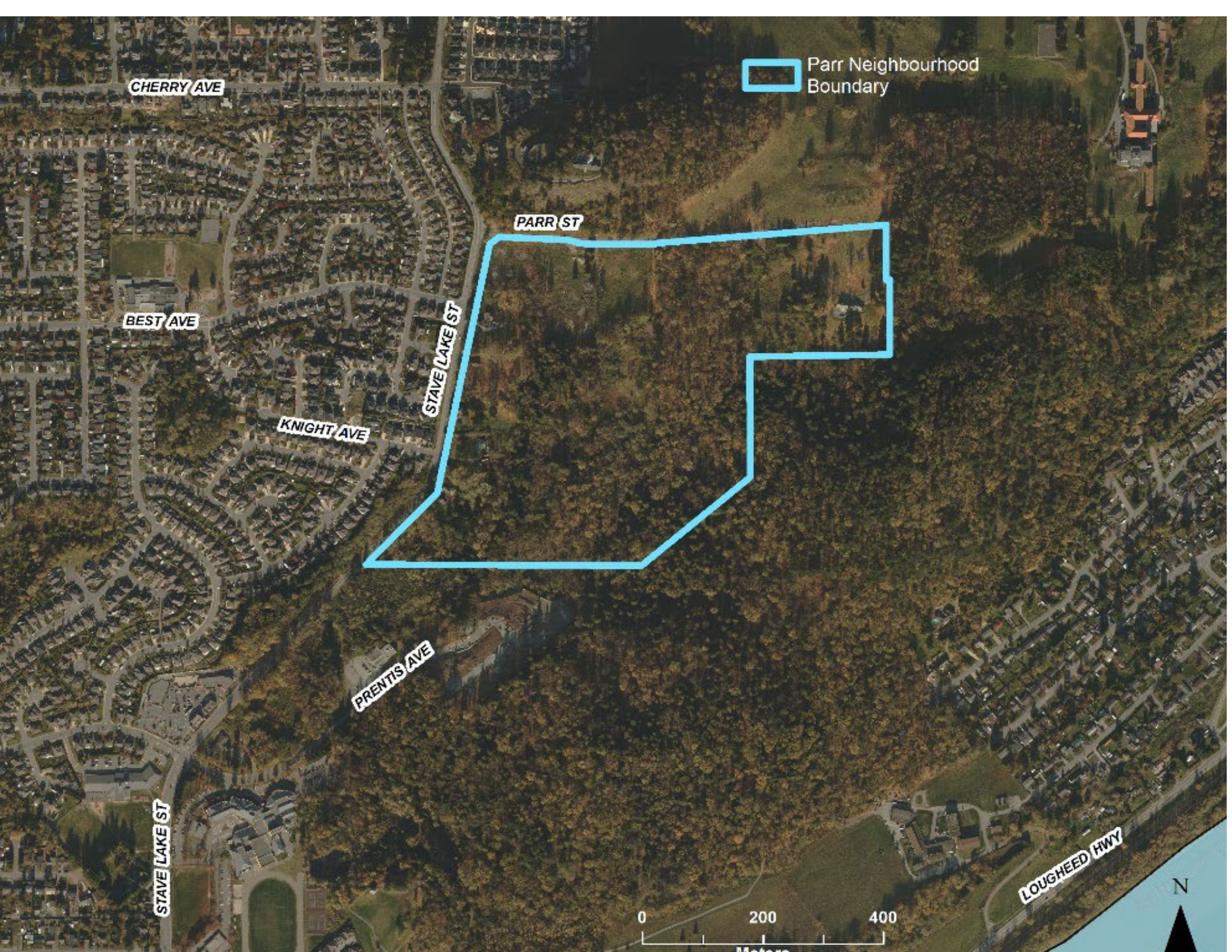
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The Stave Heights Neighbourhood Plan will act as a clear guide for new development, public investment, and positive change within this neighbourhood. It is an opportunity to create a compact neighbourhood that provides a diversity of housing within the environmentally sensitive hillside landscape with connecting trails, park, and protected natural lands that integrate with the surrounding community. It is an opportunity to plan for the success of our residents and our community now and into the future.







CHERRY AVE

Parr Neighbourhood  
Boundary

PARR ST

BEST AVE

STAVE LAKE ST

KNIGHT AVE

PRENTIS AVE

STAVE LAKE ST

LOUGHEED HWY

0 200 400

Meters

N



## 1.0 Introduction & Context

The City of Mission uses neighbourhood plans to provide clear and flexible direction to guide decisions on land use and development within the broader framework of Official Community Plan (OCP) goals. The Stave Heights Neighbourhood Plan (the “Plan”) was developed as a priority action item in Council’s 2018-2022 Strategic Plan.

The Plan provides guidance through detailed principles and policies for residential development, parks and open spaces, protection of environmentally sensitive areas, and for mobility and access. The aim of the Plan is to create a healthy, liveable, and active neighbourhood to meet the dynamic needs of current and future residents while also preserving and enhancing natural areas.

The Plan is a tool kit for City staff, Council, industry, and residents alike. Other City plans, bylaws and policies which inform decision making and the development of this Plan include:

- Official Community Plan Bylaw 5670-2017
- Zoning Bylaw 5949-2020
- Development and Subdivision Control Bylaw 5650-2017;
- Transportation Master Plan (TMP) 2016;
- Parks, Recreation, Arts and Culture Master Plan 2018;
- BC Transit’s Transit Future Plan 2013;
- Mission’s Environmental Charter; and
- Mission’s Housing Needs Assessment (2020) and Affordable Housing Strategy (2021).

The Plan considers and responds to the challenges that growth brings including more green house gas emissions, congestion, waste, and pressure on our local natural systems. We must create healthy, resilient, and liveable communities by greening our neighbourhoods, protecting sensitive ecosystems, and encouraging active transportation and transit.

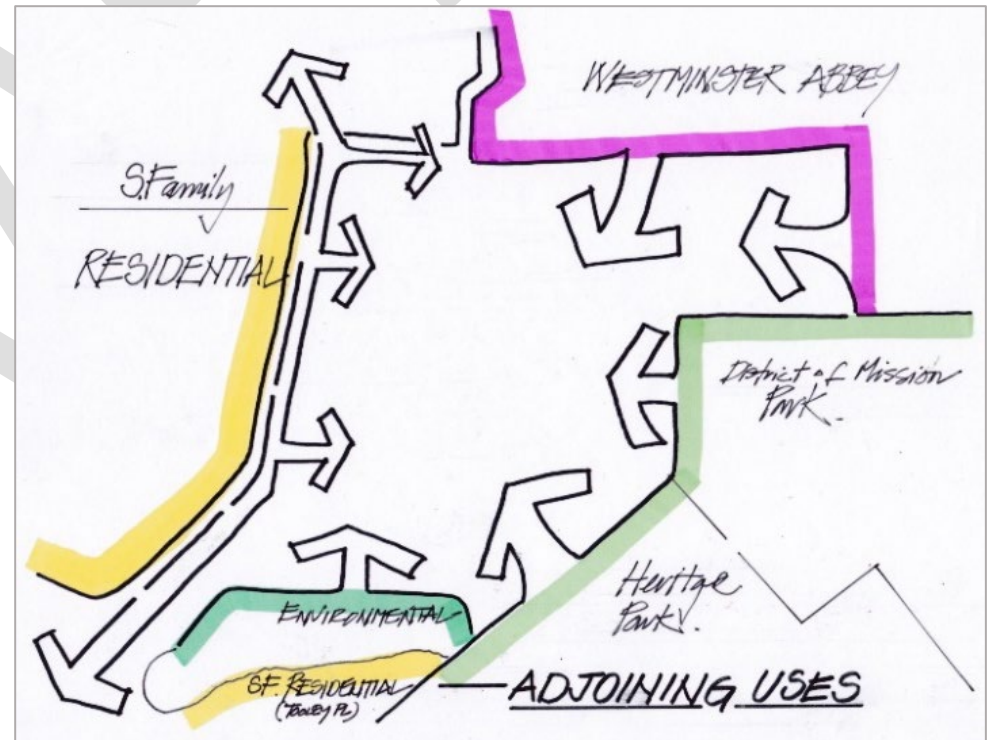
The Plan reflects a comprehensive planning process and is intended to be a living document whose implementation includes monitoring and amendments, as needed, over time to respond to emerging community needs and opportunities, through established public processes. The Plan will be monitored regularly to ensure that development and public investment will occur in a manner that is consistent with the vision and policies of this plan and the OCP.

The associated Parr Engineering Plan is a separate document that contains infrastructure servicing, transportation planning and development phasing requirements in coordination with the policies and strategies of this Plan.

### Context

The Stave Heights neighbourhood (Stave Heights) covers an area of approximately 30 ha (75 ac). It is located within Mission’s urban core, bounded generally by Stave Lake Street and the College Heights neighbourhood to the west, Parr Avenue and Westminster Abbey lands to the north, First Nations land and Fraser River Heritage Park to the east and south-east, and the Prentis Avenue neighbourhood to the south.

The following map illustrates the Parr neighbourhood’s relationship with surrounding areas where it will both receive influences from its surroundings, as well as create potential impacts upon these areas.





## Opportunities

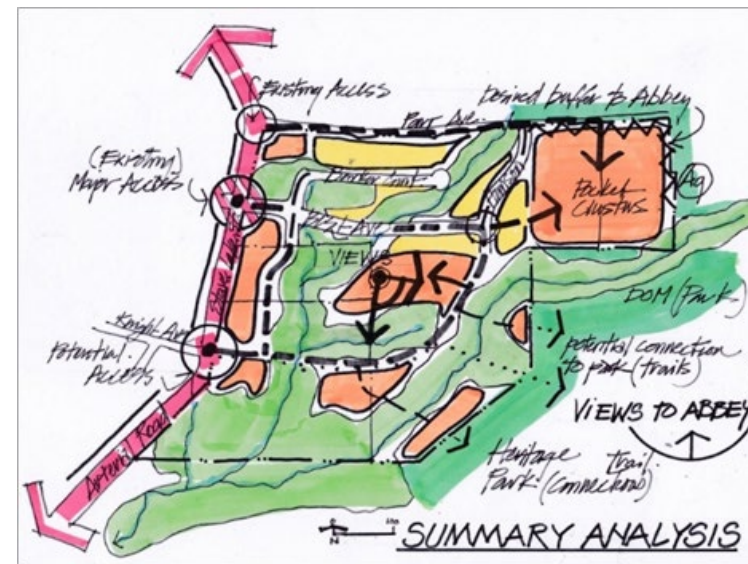
- The OCP Attached Multi-Unit Residential designation that applied to this area, allowed for the development of duplexes, townhouses, rowhomes and apartments with a wide density range from 20 to 80 units per hectare (49 to 198 units per acre) with a maximum Floor Space Ratio (FSR) ranging from 0.5 to 1.0 and a maximum height of 4 storeys. In its place, the Stave Heights Local Area Plan includes new, and more detailed residential designations that provide greater clarity in guiding land development to meet OCP objectives, congruent with the OCP's Attached Multi-Unit Residential designation.
- The site provides a unique opportunity to develop a variety of housing types and tenures that increase the choices and degree of affordability for existing and future Mission residents.
- The Stave Heights neighbourhood fronts onto Stave Lake Street, an arterial roadway that provides a strategic connection for the neighbourhood with schools and commercial services at Stave Lake Street and 11<sup>th</sup> Avenue.
- The Plan area can provide increased recreation and trails connectivity to the surrounding neighbourhoods, First Nations and City lands, and Fraser River Heritage Park.
- Conserve areas of the hillside landscape and associated environmentally sensitive areas for environmental protection and good community access to nature and trails.
- Recreation destinations within this plan area could provide meeting and social places for neighbourhood residents and the greater Mission community.

## Challenges

The relatively steep site creates development and cost challenges for access and construction.

- The significant environmentally sensitive areas associated with existing water courses, associated riparian areas, and wildlife habitat reduce the amount of land area for development.
- The views from above or beside the site could be challenged by the height, form, and character of development.

- Development will increase motor vehicle traffic with potential on-street parking challenges, traffic safety management, and congestion on Stave Lake Street.
- Additional stormwater management facilities, including detention ponds, may be required to manage run-off and water quality.
- Local wildlife corridors and habitat will be affected by development.
- Local schools will have to accommodate additional students.
- Integrating existing approved development within the Plan area. Land uses and the mobility framework will need to plan around existing development and road design.



*The above map demonstrates a sample of Plan area opportunities and challenges*



## 2.0 Plan Process

### Community & Stakeholder & Consultant Consultation

Resident and stakeholder input played a central role in the creation of this Plan. Public engagement was conducted to understand the current perspectives and values of residents within the greater surrounding area. This feedback provided critical direction on how to manage growth and support existing residents.

In addition to public engagement, City staff and representatives from neighbouring First Nations (Kwantlen First Nation, Leq'a:mel, Matsqui, Sumas (LMS) Society), School District #75, Westminster Abbey, and land owners were consulted for information and input. Also consulted were the Development Liaison Committee, the Mission Sustainable Housing Committee, and the Mission Traffic and Transit Committee.

A community survey was distributed online, and hard copies made available at City Hall, the Mission Library, and the Mission Leisure Centre. Close to 140 residents participated in the survey, providing insights into neighbourhood perspectives, values and priorities based on three conceptual land use options.

"As a teacher we have so many families who are not making it and a section of subsidized housing would be important."

"Nature and outdoors are key to Mission's community values."

"Having a common area would provide opportunities for neighbours to meet and connect."

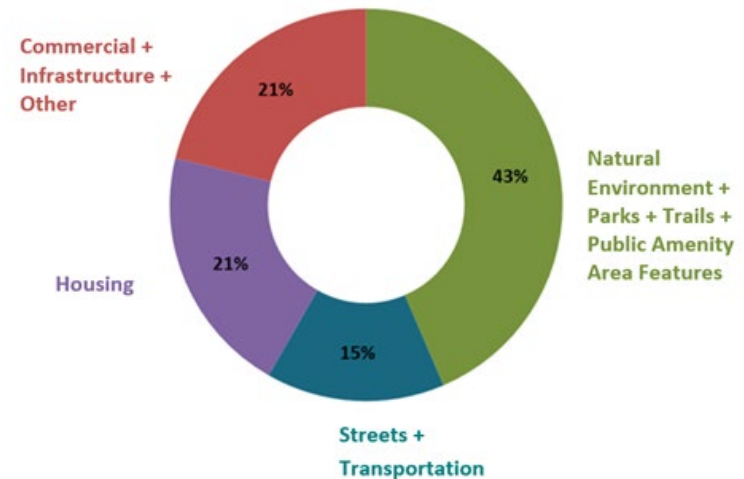
"I want a walkable community."

A sample of key survey findings indicate:

- Concern for the natural environment and desire to protect wildlife habitat, trees, riparian areas, access to natural areas;
- Desire for a new park and a connected network of trails;
- Good vehicle access & pedestrian safety on Stave Lake Street;
- Desire for a range of housing options to provide more affordable housing including rental options; and,

- Provide commercial space on Stave Lake Street within convenient walking distance.

Comments were grouped into themes of similar ideas. The 4 main categories and a breakdown of responses are shown below.



#### What we've heard – key themes:

- Natural Environment
- Parks
- Outdoor Amenity Area Features
- Trails + Paths
- Adjacent Trails
- Vehicle Access + Safety
- Traffic
- Walkability
- Parking
- Public Transit
- Opposition to Density
- Apartments in Select Locations
- Housing Diversity
- Affordable Housing
- Townhouses in Select Locations
- Commercial
- Infrastructure Capacity
- Other

The following consultants assisted in the preparation of the Plan:

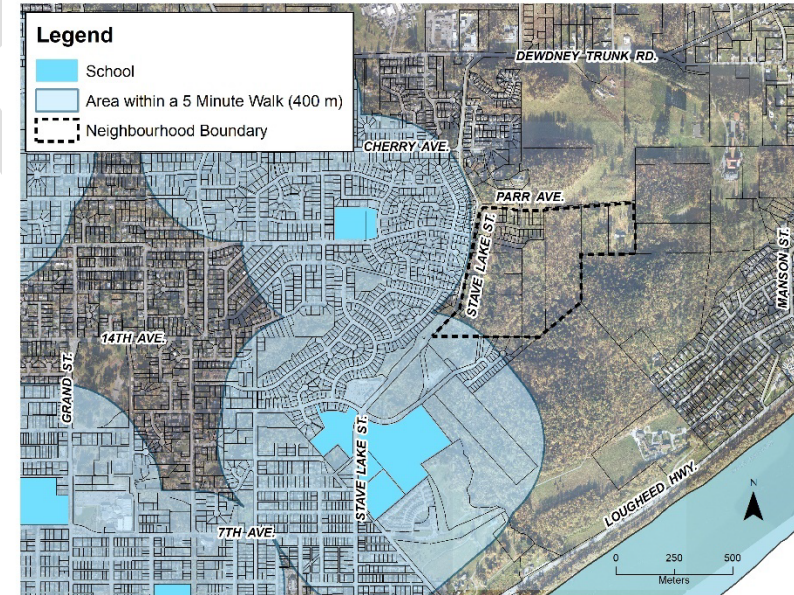
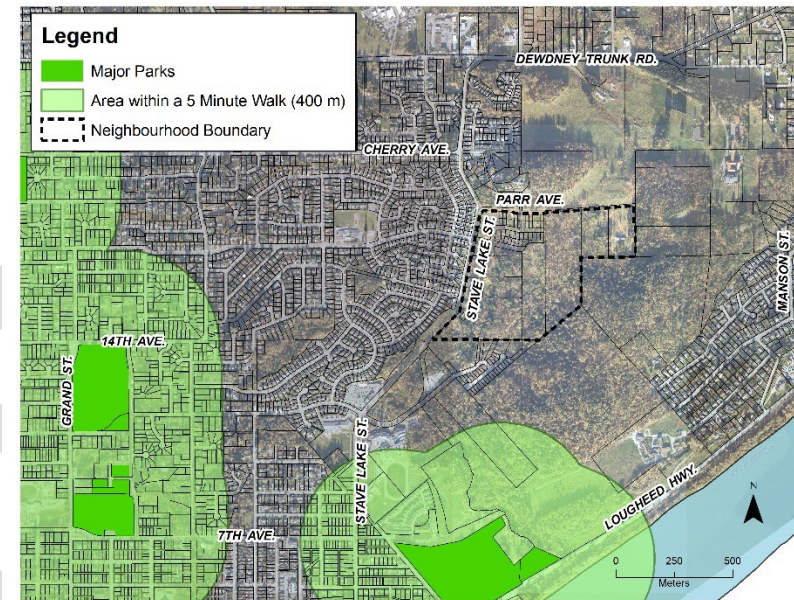
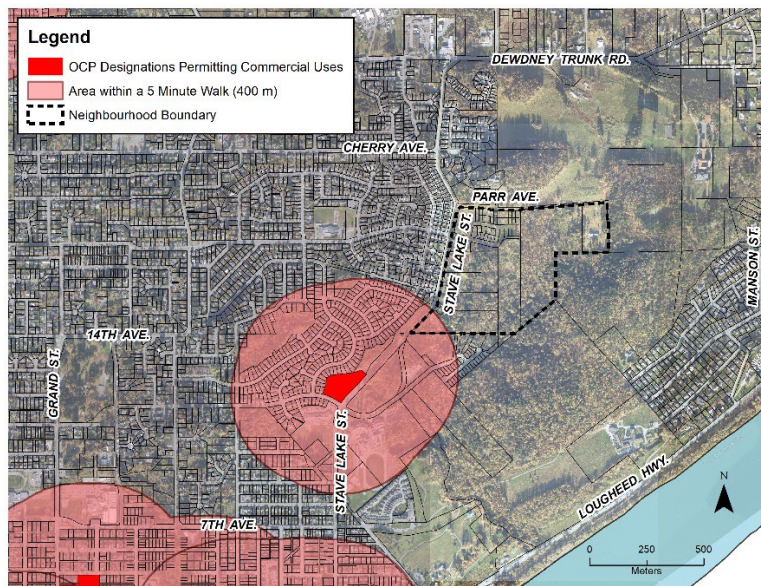
- **MVH Urban Planning & Design Inc.** facilitated workshops for staff and stakeholders and contributed to Plan content and drawings;
- **Aqua Silva Resource Management Ltd.** provided the Stream Inventory Assessment; and
- **GP Rollo & Associates** conducted a financial analysis to assist with amenity planning.



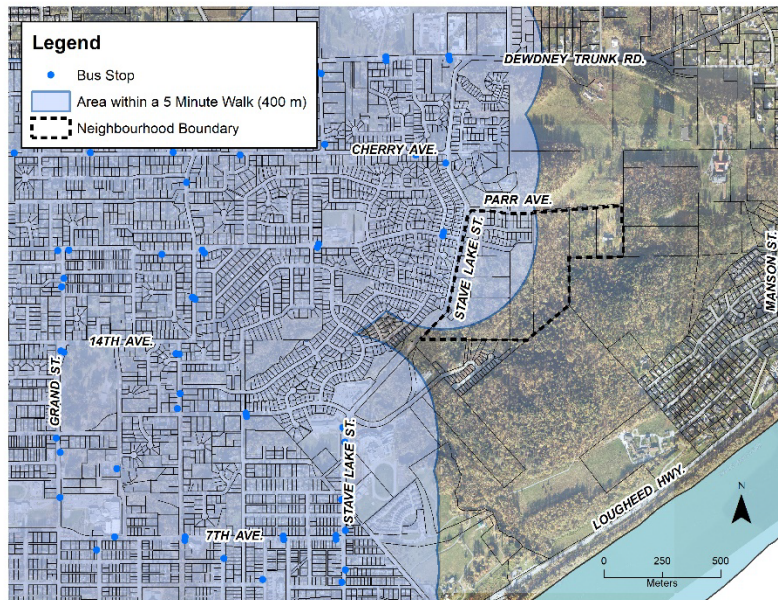
## Walkability Analysis

Building blocks that play a critical role in neighbourhood planning include land use, housing, transportation, services, natural areas, and amenities. How they come together and interact determines the look and feel of a community, and ultimately how a community functions. For example, if parks and commercial uses are located away from residential and fewer people live near amenities, vehicle dependency increases, and streets and buildings are designed to prioritize cars and parking over safe and connected places for people.

As development continues in the Stave Heights neighbourhood, the aim of this Plan is to ensure that new and diverse housing, parks, trails, and streets are planned for optimal location and design to encourage active transportation, connectivity, and quality public realm. A walkability analysis of a 5-minute (400 m) walk to schools, parks, commercial, and transit stops within the greater area was conducted in addition to an on the ground walking analysis where staff walked from sections of the Plan area to nearby amenities. Each analysis provides insight on the walkability of the neighbourhood to nearby amenities to inform land use and mobility planning.





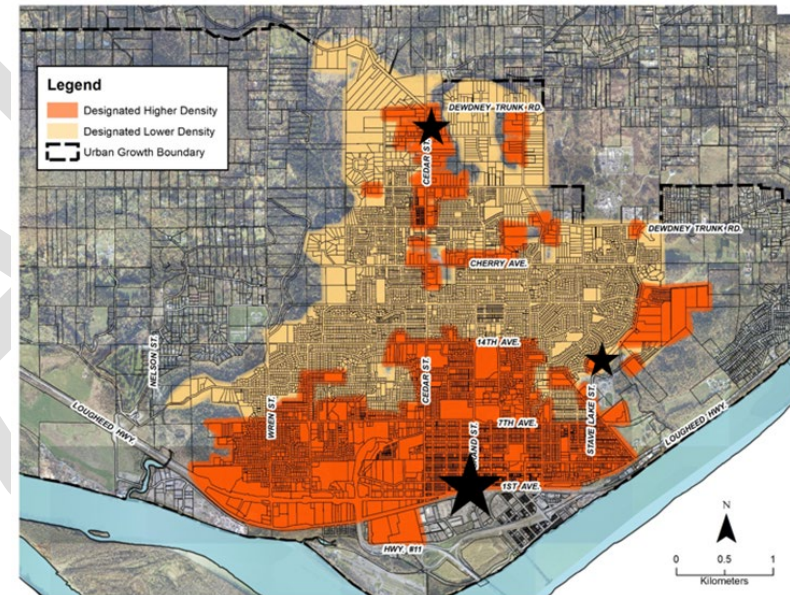


### Key Findings

- Sections of the Stave Heights neighbourhood along Stave Lake Street between Knight and Best Avenue are located within a 10-minute walk to Heritage Park Market Place commercial complex, Windebank Elementary, Heritage Park Middle School, and Hillside Traditional Academy.
- Stave Heights and the adjacent neighbourhoods are collectively a dead zone for parks with relatively little park area that provides space for active recreation.
- Stave Heights is located adjacent to a bus route and half of the neighbourhood is located within a 5-minute walk to a bus stop.
- Stave Lake Street is a strategic link between this neighbourhood and surrounding amenities. Its current condition is not safe or attractive for walking. Planning for future road improvements should prioritize a safe walking route in addition to facilitating safe motor vehicle movement.

## Growth Management

A clear and effective urban form and structure to guide development and growth is needed in Mission. Through existing OCP designations, multi-family development is envisioned throughout much of the City. Upcoming OCP growth management work will aim to direct multifamily development to appropriate commercial nodes. Stave Lake Street and 11<sup>th</sup> Avenue is an amenity rich area (commercial, schools, and park land uses), and locating apartment development in Stave Heights within walking distance to this commercial node is a step towards a walkable and connected community. Specifically, areas of Parr, along Stave Lake Street that are within a 10-minute walk to nearby amenities are appropriate for apartment development.



## Housing Needs

Mission faces severe challenges at all points on the housing continuum, with unprecedented gaps between incomes and housing costs. In 2016, 24% of all households in Mission were facing affordability issues and it's anticipated that levels have increased. Providing housing options for households of all income levels and family sizes is critical. This Plan plays a critical role in achieving the City's 2021 Affordable Housing Strategy focused on providing more diverse housing options that address housing gaps identified in the City's 2020 Housing Needs Assessment.



### 3.0 Principles

A set of eight overarching principles form the foundation of the Plan and inform policy direction, future decision-making, and investments. The principles reflect community values, OCP city-wide goals, Council priorities, and best practices.

#### Guiding Principles

##### 1. Protect Natural Areas

Protect watercourses and riparian areas and establish a series of protected green areas, including urban forests, parks, open spaces, an environmental protection buffer for conserving habitat for fish and wildlife, for outdoor recreation opportunities and a landscaped agricultural buffer to protect adjacent farming activities.



##### 2. Create a Park & Trails

Establish a new community park and an interconnected trail and path network that connects internally to development and the park and externally with the surrounding neighbourhood and adjacent trails.



##### 3. Encourage Diverse & Affordable Housing

Increase the diversity of the housing stock by providing a range of housing forms, unit types, sizes, and affordability to meet the needs of a diverse population. Allow for affordable housing units in apartment developments within the neighbourhood.



##### 4. Mitigate Impact on Adjacent Neighbours & Enhance Neighbourhood Character & Safety

Ensure new development reduces impact on adjacent neighbours, is aesthetically designed, integrates with the hillside landscape, and enhances the character and safety of the neighbourhood.



5. **Direct Apartment Residential to the Neighbourhood Commercial Core**

Locate apartment development within a ten-minute walk (approximately 800 m) to local services and amenities including schools, parks, transit, bus stops and shopping, to reduce car dependency and support a more walkable and active community.



6. **Enhance Pedestrian & Cyclist Movement**

Provide a walkable and connected community with connected road and pedestrian networks that prioritize safety. Ensure upgrades to Stave Lake Street provide safe and convenient pedestrian links between local services and amenities including schools, parks, transit, shopping, trails and surrounding residential areas.



7. **Efficient Servicing for a Hillside Community**

Design roads and services to provide safe and reliable service for the sloping terrain and hillside setting.



8. **Continue to Enhance Resident Participation in Planning Processes**

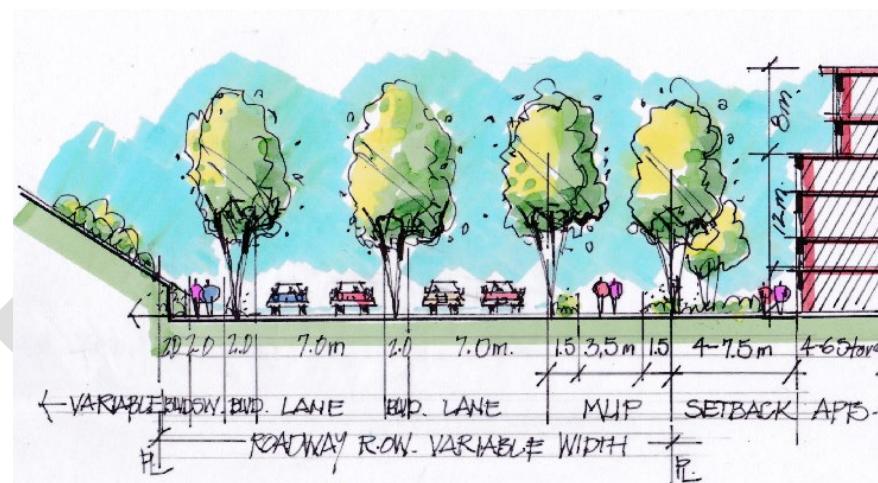
Ensure informative and collaborative engagement processes where residents have meaningful opportunities to build understanding and provide input into the continued evolution of the neighbourhood.



## 4.0 Land Use Plan

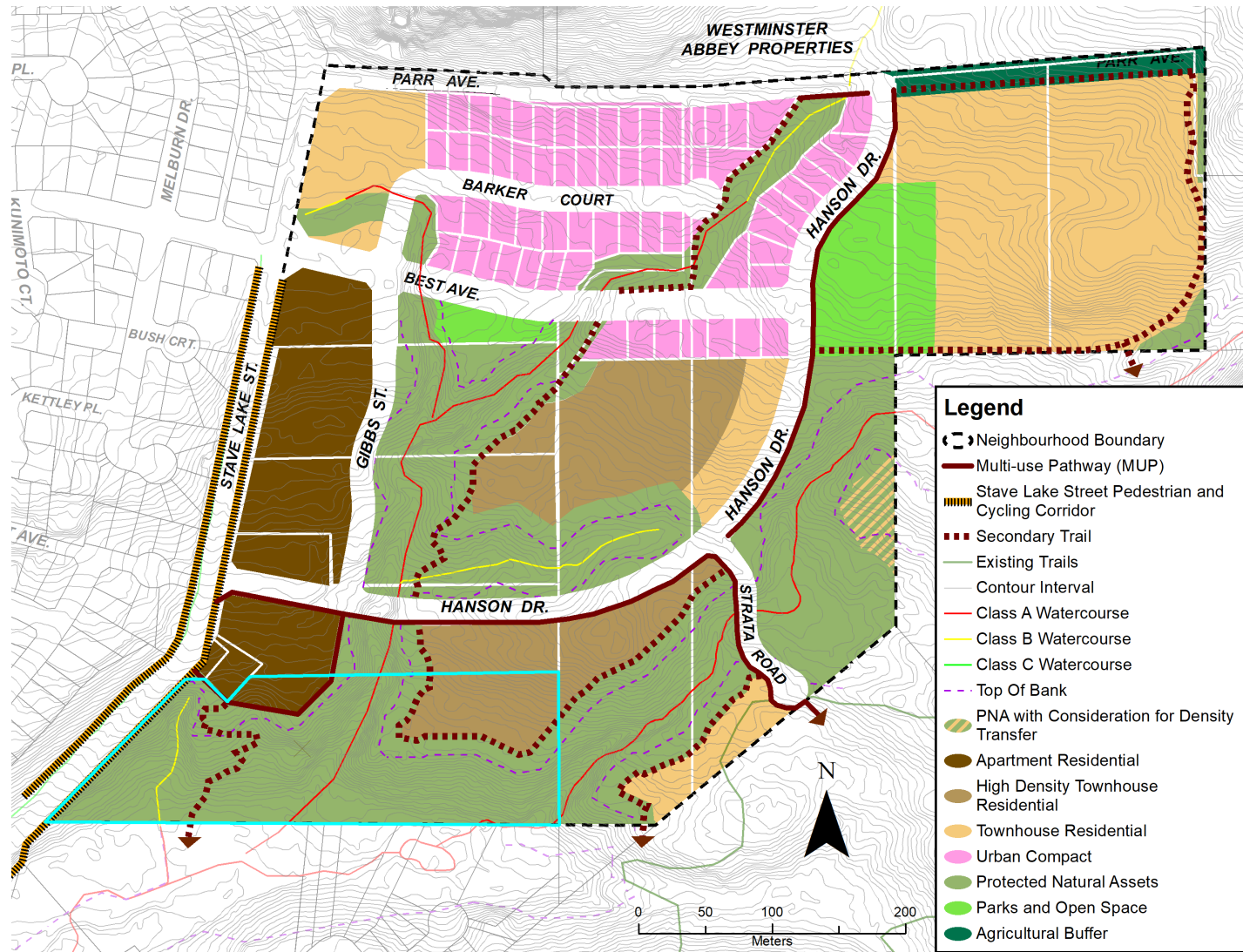
The land use plan is the result of extensive public, stakeholder, and staff consultation. Diversifying Mission's housing stock, walkability to nearby amenities, City-wide growth management, and environmental protection are key considerations that help shape the land uses provided in the Plan. The land use plan is the framework for a compact highly walkable neighbourhood that provides a diversity of housing and recreation options within a natural hillside setting. When combined with key Plan policies, the land use plan can achieve a look and feel aimed at encouraging active transportation, connectivity, and a quality public realm. To capture a snapshot of the essence of the Plan, key land use plan and policy directions are summarized below:

- 1.1 ha park for active community recreation;
- 11.86 ha of protected natural lands;
- approximately 2.3 km network of trails (multi-use paths and secondary trails) connecting to adjacent Fraser River Heritage Park trails;
- comprehensive environmental management strategy that includes policy options for concentrating development at higher densities in 'cluster' projects and transferring development density from less developable areas to locations where the addition of density can assist in providing more affordable types of housing.
- direct apartment development to Stave Lake Street for a 10-minute walk to nearby schools, parkland and commercial amenities;
- apartment design that mitigates impact on adjacent single family detached, and enhances the liveability and connectivity of Stave Lake Street;
- linear park setting along Stave Lake Street and apartment designated lands, generally between Knight Avenue and Best Avenue;
- enhance walkability on Stave Lake Street between the Parr neighbourhood and commercial and school node at 11<sup>th</sup> Avenue and Stave Lake Street, to improve access to nearby amenities;
- provide a range of housing options with apartment units, high density townhouse units (stacked and back-to-back), townhouse units, single family detached, duplex, rowhouse and coachhouse units, and potentially, secondary dwelling units in townhouses, rowhouses and duplexes;
- ensure individual housing units are oriented to face all trails/paths, streets and the park for safety, connectivity and a sense of neighbourhood;
- design internal road elements to focus on walkability and connectivity (e.g., curb bulges, raised crosswalks); and,
- an agricultural buffer that includes the Parr Avenue road allowance and portions of development properties east of Hanson Drive.



Concept plan of Stave Lake Street cross section with east side multi-use path, linear park setting, and a 4 to 6 story apartment.

## 4.1 Future Land Use Plan





## Apartment Residential



Apartment (with option for Lock-off units), Stacked and Back-to-Back Townhouse or a combination of the above. Consider neighbourhood servicing retail and commercial at ground floor with residential above.

### DENSITY RANGE

Up to 1.0 FSR or up to 1.5 with a combination of Gross Density and / or Density Transfer for PNA dedication and / or Density Bonus.  
50 to 100 units/acre approx.

### DENSITY BONUS

Pursuant to the *Local Government Act*, an increase to the maximum building height will be considered in exchange for affordable housing consistent with the policies of the Official Community Plan.

### TYPICAL HEIGHTS

13 m to 20 m (4 to 6 storeys)

### TYPICAL OWNERSHIP

Strata or Rental

### DESIGN

See Housing & Design section 5.0

### TYPICAL ZONES

Multi-unit Apartment One Zone (MA1); Multi-unit Apartment Two Zone (MA2); Comprehensive Development Zone (CD)

## High Density Townhouse Residential



Stacked and Back-to-Back Townhouse, Townhouse or combination of the above. Consider Secondary Suite in Townhouse.

### DENSITY RANGE

Up to 1.2 FSR Net Density as Gross Density development is required for PNA dedication.  
30 – 40 units/acre approx.

### TYPICAL HEIGHTS

12 m (3 to 4 storeys)

### TYPICAL OWNERSHIP

Strata or Rental

### DESIGN

See Housing & Design section 5.0

### TYPICAL ZONES

Multi-unit Townhouse One Zone (MT1); Comprehensive Development Zone (CD); Consider Zone for Back-to-Back Townhouse.

## Townhouse Residential



Townhouse, Rowhouse, Duplex or a combination of the above. Consider Secondary Suite in all the above.

### DENSITY RANGE

Up to 1.0 FSR  
12 to 20 units/acre approx.

### TYPICAL HEIGHTS

12 m (3 storeys)

### TYPICAL OWNERSHIP

Strata, Rental or Fee Simple (Free Hold)

### DESIGN

See Housing & Design section 5.0

### TYPICAL ZONES

Multi-unit Townhouse One Zone (MT1); Multi-unit Rowhouse One Zone (MR1); Multi-unit Duplex 465 Zone (MD465); Comprehensive Development Zone (CD)

## Urban Compact



Narrow / wide front loaded detached or Duplex. Consider Secondary Dwelling Unit (Secondary Suite, Coach House and Garden Suite).

### DENSITY RANGE

Up to 0.75 FSR; not including secondary suites and coach houses.  
5 to 12 units/acre approx.

### TYPICAL HEIGHTS

10.5 m

### TYPICAL OWNERSHIP

Fee Simple (Free Hold)

### DESIGN

See Housing & Design section 5.0

### TYPICAL ZONES

Urban Compact 465 Zone (UC465); Urban Compact 372 Zone (UC372); Urban Compact 465 Secondary Dwelling Zone (UC465s); Urban Compact 372 Secondary Dwelling Zone (UC372s); Comprehensive Development Zone (CD)

## Parks and Open Space



Park for recreation and protected areas.

### TOTAL AREA

1.1 ha

### AMENITIES PROVIDED

A wide range of recreation amenities to accommodate people of all ages, especially children and seniors.

### TYPICAL OWNERSHIP

City

### DESIGN

See Parks Section 7.0

## Protected Natural Assets



Protected natural lands which allow for passive recreation use (e.g., trails).

### TOTAL AREA

11.86 ha (includes SPEA Area)

### AMENITIES PROVIDED

Trails and other low impact recreation or community amenity features in strategic locations.

### TYPICAL OWNERSHIP

City

### DESIGN

See Environmental Management Section 6.0

### SPECIAL AREA

The triangular shaped area at the east edge of Stave Heights has low development potential and is identified on the land use plan with yellow cross hatching. This area could be considered for a density transfer to other areas within the boundaries of this Plan. The maximum transfer density is the same as the 'Townhouse Residential' designation at up to 1.0 FSR (12 – 20 units/acre approximately).

## 4.2 Land Use Designations

### Land Use Designations - Compliance with the OCP

This Plan replaces the previous Attached Multi-unit Residential OCP designation with a variety of distinct designations, including three new multi-unit residential designations (Apartment Residential, High Density Townhouse Residential and Townhouse Residential). These multi-unit residential designations conform with the intent and scope of the OCP's Attached Multi-Unit Residential designation that previously applied to this area to ensure consistency with the original intent while providing greater direction and clarity in terms of the type, design, character and density of buildings.

The Plan utilizes the Protected Natural Assets (PNA) designation throughout Stave Heights, a designation originating in the Cedar Valley Local Area Plan. The PNA designation will replace the former ESA designation within Stave Heights in the area where a first phase of development has been approved (east of Stave Lake Street, between Parr Avenue and Best Avenue). This Plan also utilizes other established OCP land use designations, including Urban Compact and Parks and Open Space.

The Plan utilizes the Urban Compact designation where single-family and duplex dwellings were pre-approved ahead of the Plan under the previous OCP Attached Multi-Unit Residential designation and policy 8.1.35 that states: "On larger parcels, complementary single family lots may be considered in conjunction with the attached multi-unit residential buildings when the site is comprehensively planned." Should higher density residential formats be proposed in the future in the Urban Compact designated areas of the Stave Heights neighbourhood, amendments to the OCP and Zoning bylaws could be required.

### Land Use Policies - General Development and Apartment/Commercial Uses

All policies in this Plan will be in addition to policies in the Official Community Plan.

#### *General Development-related Policies*

1. All developments shall be comprehensively planned to avoid parcel alienation and shall consist of more than one adjacent property thereby providing connected roadways, sidewalks and trails for community connectivity; and
2. Developers shall create 'service lots' that shall be transferred to the City to provide for comprehensive block development in the future, in cases where neighbouring properties may be 'hold-outs', thereby hindering planned future development.

#### *Apartment/Commercial Uses Policies*

The Plan provides for a limited amount of commercial space intended to serve residents of the Stave Heights neighbourhood and the adjacent areas. The intent of permitting small-scale, local commercial businesses within this area is to provide the immediate community with opportunities for neighbourhood services such as a daycare facility, corner store, coffee shop, medical offices, and health care services. Commercial uses are included exclusively within the scope of the Apartment Residential designation, located adjacent to Stave Lake Street. Similarly, additional density for the option of Density Bonus is also exclusive to the Apartment Residential designation, located adjacent to Stave Lake Street. The Policies are as follows:

1. Any commercial uses shall be located on the first floor at ground level, be pedestrian oriented, and face onto Stave Lake Street;
2. Respecting the small scale and pedestrian focus of the Stave Heights neighbourhood, drive-through land uses are not permitted; and,
3. Sufficient parking, in compliance with the Zoning Bylaw, shall be underground and accessed off local roads.



## Growth Management

The Plan provides for approximately 810 to 1,266 dwelling units with an estimated population of 2,075 to 3,240 (low to high projections).

### Draft Stave Heights Neighbourhood Plan (High Growth Projection) - Estimated Units and Population

Development Criteria	Proposed Land Uses				
	Apartment Residential	High Density Townhouse Residential	Townhouse Residential	Urban Compact	Estimated Totals
Land Use Area (ha)	3.7	4.4	3.1	3.6	14.8
Max Density upha	197.6	74.1	44.5	19.8	
Estimated Units	733.1	323.1	139.2	70.5	1,265.9
Estimated Population	1,876.7	827.1	356.2	180.6	3,240.6

*Densities based on CoM OCP per square metre of DEVELOPABLE AREA (excluding ESA/SPEA, adjacent road dedication, park dedication, indoor amenity floor space)*

### Draft Stave Heights Neighbourhood Plan (Low Growth Projection) - Estimated Units and Population

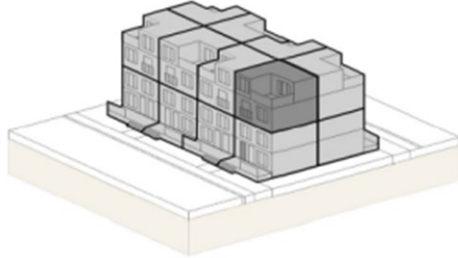
Development Criteria	Proposed Land Uses				
	Apartment Residential	High Density Townhouse Residential	Townhouse Residential	Urban Compact	Estimated Totals
Land Use Area (ha)	3.7	4.4	3.1	3.6	14.8
Max Density upha	123.5	49.4	29.6	12.4	
Estimated Units	458.2	215.4	92.8	44.1	810.4
Estimated Population	1,173.0	551.4	237.5	112.9	2,074.7

*Densities based on CoM OCP per square metre of DEVELOPABLE AREA (excluding ESA/SPEA, adjacent road dedication, park dedication, indoor amenity floor space)*

*Growth projections do not consider potential coachhouses, secondary suites, or lock-off units.*

## Land Use Definitions and Implementation Strategies

**Stacked and Back-to-Back Townhouse** consist of separate townhouse units stacked vertically and/or horizontally with each unit having its own at-grade access and private amenity space.



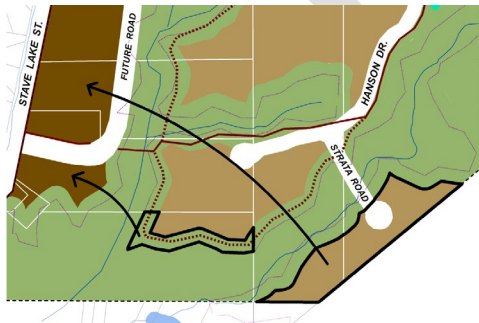
*Image shows stacked back-to-back townhouse units.*

**Gross Density** is where density is transferred from the portion of the required PNA area located between the top of bank to the edge of the PNA boundary (in most cases, 15 m from the top of bank) to the remainder of the development site.



*Image shows density transferred from the required PNA to the remainder of the site.*

**Density Transfer** is like gross density except density is transferred to another property. The sites are referred to as the 'donor site' and the 'receiver site'. In such cases, a portion of the gross (total) density is transferred from the 'donor' site to the 'receiver site'. The 'donor' site is the designated PNA and dedicated to the municipality. Density can be transferred beyond the designated PNA area of the 'donor site' to the 'receiver site'.



*Image shows density transferred from one property to another.*



### 4.3 Agricultural Buffer

An established farming operation exists on the Westminster Abbey lands located on the north side of Parr Avenue opposite the Parr neighbourhood. In locations like this, the BC Ministry of Agriculture recommends that a landscaped agricultural buffer be developed to reduce urban-agricultural interface conflicts as illustrated in the 'Guide to Edge Planning' document.

The Stave Heights Neighbourhood Plan includes policy for a landscaped agricultural buffer that includes property within the Parr Avenue road allowance and on the north portion of development properties located east of Hanson Drive. This section of Parr Avenue east of Hanson Drive will be closed to motor vehicles, with the exception of municipal and strata service vehicles for City engineering services, strata landscaping/maintenance, emergency vehicles and farm vehicles used by Westminster Abbey.

The BC Agricultural Land Commission, recommends a 30 m separation distance/buffer. However, based on buffer options in The BC Ministry of Agriculture publication 'Guide to Edge Planning, Promoting Compatibility Along Agricultural - Urban Edges,' also considering that Parr Avenue will be closed to traffic in this area, and that townhouses will be situated downhill, at a lower elevation from adjacent farmland due to the sloping topography of this area, the following objectives and policies apply.

- limit the effects of urban development on farming by managing water, pedestrians and traffic;
- minimize the effects of farm activities on urban development through visual and spatial separation, reduction of risks and public awareness of normal farm practices;
- ensure the edge location is stable over time.

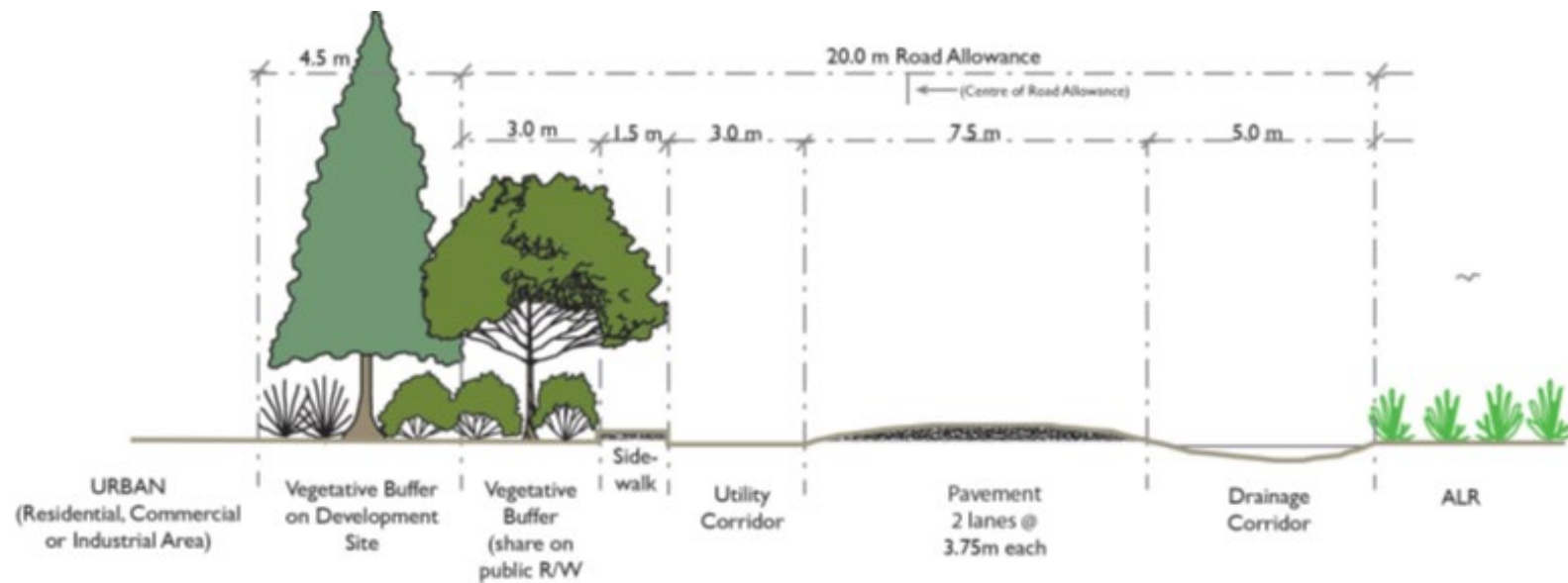
#### *Policies:*

1. A minimum separation distance of 20 m is recommended between the proposed townhouses and the agricultural area of the Westminster Abbey land as it is in compliance with the City's Zoning Bylaw requirements and the recommendations of the BC Agricultural Land Commission and BC Ministry of Agriculture buffer guidelines. This buffer area is generally identified on the land use map.
2. The minimum 20-m separation distance between proposed townhouses and the agricultural area shall include a variable townhouse setback from the landscaped agricultural buffer. The landscaped agricultural buffer shall have a minimum width of 5 m, located on private (strata) property as part of the development's landscaping. The third component is the 9 m-wide Parr Avenue road allowance that in combination with the landscaped area and building setback provides a 30metre separation distance between developed buildings and the farm property boundary.
3. Parr Avenue is proposed to be closed to traffic east of Hanson Drive, and will contribute to buffering between the townhouses and farmed area. The road will be closed with a locked gate at Hanson Drive. Vehicular access on this east portion of Parr Avenue will be restricted to townhouse strata maintenance/landscaping vehicles, emergency vehicles, City engineering service vehicles and Westminster Abbey farm vehicles.
4. The finished height of landscaping in the agricultural buffer shall be at least 6 m to effectively screen the farm operation from its urban neighbours. A mixed deciduous and coniferous planting with foliage from base to crown is recommended.
5. The Multi-unit Residential Development Permit plans for the proposed townhouses shall include form and character that promote compatibility with this location along the urban edge (e.g., location of patios, townhouse fence details, building setbacks from agricultural landscaped buffer, rainwater management, trail location between the townhouses and landscaped buffer, paths connecting the townhouses with the trail,).



*Photo of cattle on Westminster Abbey lands  
on the north side of Parr Avenue*

6. Development applications should include in its Development Permit submission a landscaped buffer design prepared by a registered BC Landscape Architect that shows existing and proposed grades, the extent of the landscaped buffer, construction barriers (fences), location, spacing, size and quantity of proposed and existing trees and shrubs, a list of the tree and shrub species to be planted, and a landscaping cost estimate.
7. The landscaped agricultural buffer shall be installed at the north limit of the proposed townhouse property as townhouse construction occurs and be protected from construction activity with protective fencing during residential construction. The diagram below provides a general depiction of a landscaped buffer, where a roadway exists between development and farmland. In the case of the Stave Heights neighbourhood, the sidewalk or pathway is proposed for the south side of the landscaped buffer, to allow for direct pedestrian access to townhouses, and to afford additional separation distance between pedestrian traffic and farming activity on the adjacent Westminster Abbey lands.
8. The DP landscaping security shall be held for a minimum of 2 years and returned if the buffer vegetation is deemed to be healthy by City staff or a qualified professional. If the buffer does not pass City staff inspection, the security can be renewed until the buffer vegetation is approved, or the security deposit can be used by the City to undertake work to complete the landscaping.
9. A restrictive covenant is required for the buffer area to ensure on-going preservation of the buffer by the property owners and prohibiting the construction of any buildings or structures within the buffer area. A maintenance plan is required and shall be prepared and signed off by a registered BC Landscape Architect as part of a Development Permit plan and document submission.



*Example of an agricultural buffer from BC Ministry of Agriculture 'Guide to Edge Planning'*



## 5.0 Housing & Design

Central to the Plan is addressing “missing middle” housing forms, such as duplexes, townhouses, apartment buildings and opportunities for secondary dwelling units as well as design direction for new development to support a walkable neighbourhood. Attractive pedestrian oriented building design encourages walking and cycling and helps to make effective connections. The look and feel of residential development along Stave Lake Street, the park and along trails is critical to achieving a safe and attractive public realm. The policies support the land use vision for a well-designed, inclusive, connected, and safe neighbourhood and provides clear intent and development parameters.

Mitigating impact of apartment buildings on existing single family detached dwellings along Stave Lake Street is a key priority of the Plan. Mitigation will be achieved through urban design guidelines including ensuring a significant building setback and landscaped buffer is established and requiring a substantial step back after the fourth storey, as well as using a variety of building colours and materials and architectural detail to reduce massing. The Plan aims to ensure that buildings along Stave Lake Street and near the park include special attention and detail for a well designed public interface.

Implementation of the Plan is intended to take place through applications for rezoning and development permits. Images and written design guidelines in the Plan will guide new development. Other City design guidelines apply. Where there is a conflict between the Plan and other guidelines, the Plan’s guidelines take precedence.



*To reduce visual bulk, the apartment building is stepped back after the fourth storey and lighter colours and architectural detailing (e.g., recessed building walls, varied roof line, extensive windows, brick projections) is used to differential upper and lower stories. Ground level individual unit entryways connected directly to the sidewalk, a prominent front entrance facing the street, and quality building materials such as brick, timber, and wrought iron for fencing, help to make an attractive building design and streetscape.*



*The apartment building is stepped back after the fourth storey and lighter colours, reduced building length, and architectural detailing (e.g., recessed balconies, extensive windows, window projections, building wall pattern), is used to differential upper and lower stories and reduce visual bulk.*

*Ground level individual unit entryways with landscaping connected directly to the sidewalk with wrought iron fencing and an extensive landscaped buffer help to make an attractive building design and streetscape within a linear park setting.*

## Principle 1

Proposals for Stave Heights should strive to develop a diverse range of housing types in strategic locations that serve a range of residents' housing needs.

### Policies:

#### Connectivity and Building Design

1. **Support the strategic importance of Stave Lake Street and 11<sup>th</sup> Avenue** commercial core and school hub as a strategic area where apartment and rental development should be directed for safe and convenient access to public transit, shopping, and schools.
2. **Strategically locate highest residential density** closest to Stave Lake Street as this is within a 10-minute walking distance to the commercial centre and schools at Stave Lake Street and 11<sup>th</sup> Avenue.

#### Density

1. **Density bonusing** will be considered to secure affordable housing units, in accordance with this Plan's land use designations, OCP policies, the Zoning Bylaw and City policies.

#### New Zones

1. Work collaboratively with the local design and development industry to explore innovative new housing zones, to fill the "missing middle" by for example, creating the following new zones that allow:
  - a. a single-family detached home with a basement suite and a laneway house where lanes are provided;
  - b. secondary suites in rowhouses, townhouses and duplexes where additional parking stalls are provided;
  - c. for small lot single detached dwellings as small as 3,000 sq ft with a secondary suite; and,
  - d. new ground-oriented housing types with single level at-grade units, including the stacked townhouse and back-to-back typology.

- e. Potential for including lock-off units in apartments where a parking impact analysis is conducted, and additional parking stalls are provided.

#### Rental Housing

1. Increase the rental housing stock with various forms of rental housing, including encouraging apartment rental buildings.



## Principle 2

Mitigate impact of new development on adjacent lower density residential along Stave Lake Street and focus on the look and feel of the public realm to enhance safety and the visual experience of the neighbourhood.

### Design Guidelines:

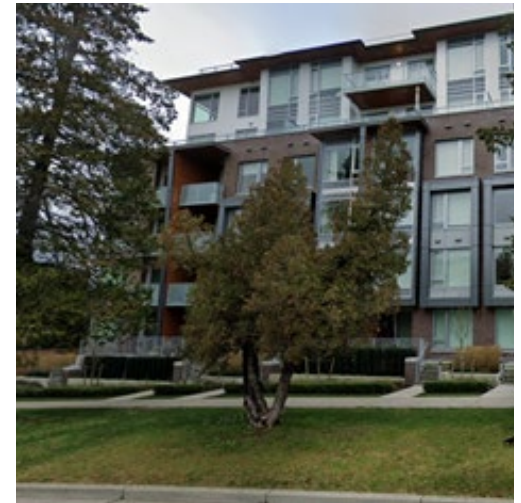
#### Apartment Residential



Apartment, Stacked and Back-to-Back Townhouse or a combination of the above.



*The apartment buildings are stepped back after the fourth storey and lighter colours, and architectural detailing is used to differential upper and lower stories and reduce visual bulk. Ground level individual unit entryways with landscaping connected directly to the sidewalk with wrought iron fencing, high quality building materials, and an extensive landscaped buffer help to make an attractive building design and streetscape within a linear park setting.*



### Form & Massing

1. Step back the top two storeys a minimum of 4m and within this area provide individual unit outdoor amenity areas.
2. Design upper storeys to reduce the impact of visual bulk, by for example, using different colour, materials and building articulation from lower stories.
3. Add scale and visual interest at street level by articulating the building facade or changing building cladding, as shown in the images of this Plan.
4. Buildings should be stepped up or down with the slope rather than be superimposed in one mass to minimize the need for retaining walls and reduce visual impacts on building massing.
5. Include construction details to mitigate noise such as triple-glazed windows and sound barrier insulation.



*Building stepped down the slope.*

6. Locate and design buildings to ensure sunlight and sky views and reduce overlook conditions between buildings and neighbouring properties. Buildings should be separated by at least 15 m (20 m for over 4 storeys) between front and rear-view faces and 8.0 m between side faces (10 m for over 4 storeys).
7. Non-active uses such as indoor amenity rooms and service spaces should be located away from street interfaces of any prominent frontage.
8. Indoor and outdoor amenity areas should be located together to ensure they can be used at the same time.

#### Setbacks and Landscaping

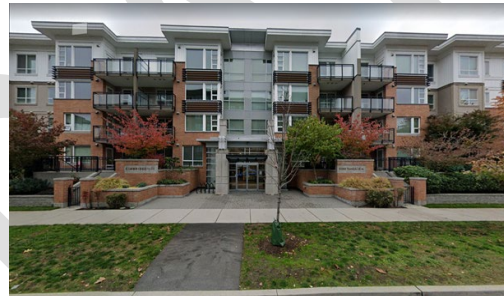
1. Provide a minimum street frontage setback of 7.5 m along Stave Lake Street, to incorporate landscaping, natural features, trees and ground level individual unit entryways connected directly to the sidewalk.
2. Variances for front setbacks are discouraged along Stave Lake street, to provide a significant landscaped buffer to separate new development from adjacent residential, and to separate individual units from vehicle traffic.
3. Along Stave Lake Street, a MUP is expected within the front setback to achieve a sufficient buffer from vehicle traffic and to achieve good public interface for safety and an attractive streetscape within a linear park setting. Where possible, mature trees shall be retained within the front setback and new significant tree planting be included within the landscaped buffer of the front setback or within the road right-of-way.

#### Building Interface

1. Building front entrances should face Stave Lake Street and be prominent.



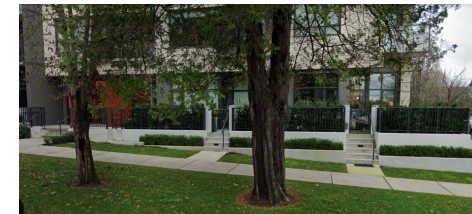
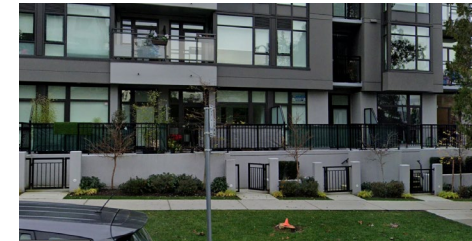
*The apartment building is setback from the road, resulting in a landscaped buffer with significant street trees to separate new development from adjacent lower density development and to ensure a landscaped buffer and linear park setting between units and the road.*



*Prominent front entrance.*

2. A separate entry to each unit should be expressed at the street level with weather protection over each entrance.
3. Front doors and porches should face the street with steps and paths leading straight to the street.
4. Individual unit entrances are expected to incorporate a landscaped area, garden gate and a pathway connecting to the public sidewalk or common walkway and built with quality materials, by for example wrought iron or equivalent, brick and concrete, as shown in the attached images.

5. Materials such as wood, brick, and stone are strongly encouraged, and high-quality material for fencing is also encouraged, such as wrought iron.



*Ground level individual unit entryways connected directly to the sidewalk create a safe and attractive building design and streetscape.*

#### Parking and Other Requirements

1. Underground parking is required, and any semi-submerged parkade must be completely hidden by individual street level unit façade elements such as front entryways, porches or patios, stairs, paths, and front yard landscaping.





*Apartment in Richmond raised above ground to hide a semi-submerged parkade. Front doors and porches face the street with steps and paths leading straight to the street as well as a landscaped area and garden gate.*

2. On each site, provide an internal public pathway between buildings to enhance pedestrian connectivity and movement through each site. Pathways should feature lighting, landscaping, and street



furniture to create a safe and comfortable walking environment with units facing and connected directly to the path, as shown in the image below.

3. Lighting should be low key including down-lighting or non-glare type lamination for functional purposes only.
4. A view impact analysis is required to reduce impact on views down road corridors, and to and from the Stave Heights neighbourhood.
5. Retaining walls should not exceed 1.2 m and be divided into stepped section walls with vegetated terraces if required.

6. Mechanical equipment should be screened from neighbouring properties and noise abatement may be required (for fans, compressors, etc.).

### Commercial

Where commercial space is proposed on the ground floor, the following guidelines and policies apply.

### Policy

1. Childcare space in the Stave Heights neighbourhood within apartment buildings located adjacent to Stave Lake Street is strongly encouraged. In the case where a commercial component is provided, a portion of the commercial space and an immediately connected outdoor designated area, shall be designed to accommodate a childcare facility in accordance with the Provincial Community Care and Assisted Living Act Child Care Licensing Regulation. The outdoor play space must be strategically located to maximize use and enjoyment and consider noise impact on residential units.



*Good child care outdoor space is critical to a successful day care facility.*

### Guidelines

1. Ensure commercial viability with a minimum commercial retail unit depth of 11 m, and convenient access to loading and garbage areas, separate from residential service areas.
2. Front primary commercial and retail businesses facing the street.
3. No back-of-house activity will be permitted to face Stave Lake Street, by for example, loading, garbage and recycling services.
4. Buildings should have entries close to the sidewalk for ease of access between the retail space and the street but allow enough space for entering and exiting the building as well as outdoor seating and etc.
5. Use contemporary architectural forms treated in traditional building materials (such as, brick, high quality masonry, wood and glass).
6. Feature fabric awnings (not vinyl) to create a less formal appearance. Awnings should have slope (approximately 30 degrees) generally consistent between properties.

#### High Density Townhouse Residential



Stacked and Back to Back Townhouse, Townhouse or combination of the above. Consider Secondary Suite in Townhouse.

#### Townhouse Residential



Townhouse, Rowhouse, Duplex or a combination of the above. Consider Secondary Suite in all the above.

### Form & Massing

1. Minimum 3 attached units; maximum of 6 units per building, to create a comfortable neighbourhood scale.

### Building Interface

6. Entrances are expected to incorporate a landscaped area, garden gate, and a pathway connecting to the public sidewalk or common walkway.
7. Buildings shall be designed to extend parallel to the street, park or trail with individual unit facades oriented to the street, park or trail, and unit front doors and porches/stoops oriented to and directly accessed from the public sidewalk or trail.
8. Design all building elevations that face all public streets, park and trails to appear and function as fronts, complete with porches/stoops, front doors and windows to activate the public realm.
9. Vertical expression and identification of individual units should be emphasized while reinforcing a unified character.
10. A separate entry porch to each unit should be expressed at the street level with weather protection over each entrance.

11. Provide a minimum street frontage setback of 5.0 m to incorporate landscaping, natural features, and trees.
12. Include construction details to mitigate noise such as triple-glazed windows and sound barrier insulation.
13. Maintain high visibility and direct access to front doors from the public sidewalk, park and trails.
14. Provide upgraded elevations when visible from streets, parks, and trails.
15. Materials such as wood, brick, and stone are strongly encouraged, and high-quality material for fencing is also encouraged, such as wrought iron.

### Parking and Other Requirements

1. Roof top decks are encouraged.
2. Back-to-back townhouses must have extensive front windows to maximize light filtration.
3. Provide individual unit landscaping with a minimum of one tree per unit.
4. Generally, provide breaks between buildings every 36 m where facing the park.
5. Addresses must be marked at the front of a house with each additional unit marked clearly.
6. Private outdoor space should be required for each unit, in the form of a front or rear yard, a balcony, porch, or open roof deck.
7. Each proposal will demonstrate noise mitigation measures in place where separate dwelling units are located on top of another.
8. Where appropriate, provide internal public pathways between buildings to enhance pedestrian connectivity and movement through each site. Pathways

should feature lighting, landscaping and street furniture to create a safe and comfortable walking environment.

9. Parking is at the rear for all townhouses, rowhouses, and small lots.



Stacked townhouses with extensive windows and individual front entrances oriented to the street.



Buildings designed parallel to the street with individual unit facades oriented to the street, and unit front doors and porches oriented to and directly accessed from the public sidewalk.



Buildings frame the edge of the park and fit harmoniously.



## Urban Compact



Narrow / wide front loaded detached or Duplex. Consider Secondary Dwelling Unit (Secondary Suite, Coach House and Garden Suite).

1. Addresses must be marked at the front of a house with each additional unit marked clearly.
2. Private outdoor space should be required for each unit, in the form of a front or rear yard, a balcony, porch, or open roof deck.



*Single-lot with 3 units and addresses shown for each unit at the front.*

3. Each proposal will demonstrate noise mitigation measures in place where separate dwelling units are located on top of another.
4. Where laneway houses are provided, include lighting toward the lane.



*Coach house with private outdoor amenity area.*

5. Lighting should be low key including down-lighting or non-glare type lamination.

## 6.0 Environmental Management Strategy

The Parr neighbourhood occupies a natural, scenic hillside setting with an extensive creek system and tree canopy, which provide habitat for wildlife and species-at-risk.

A guiding principle for the Plan is to protect watercourses, riparian areas, the forested hillside ecosystem by establishing protected green areas to ensure the protection of fish and wildlife habitat, protection of slope areas from landslides, and to provide for outdoor recreation opportunities.



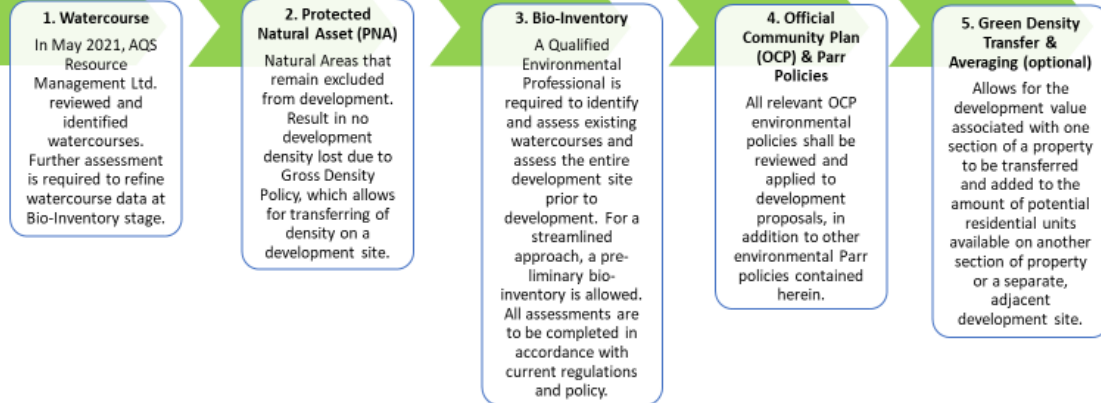
Protected Natural Asset (PNA) showing watercourses map

The Plan focuses on protecting these interrelated ecosystem assets with an environmental management strategy. The most significant environmental attributes are identified within the Protected Natural Asset areas shown in green in the map above. This approach encourages development that is clustered within distinct enclaves, allowing for densification and housing affordability within a protected natural setting.

Protection and enhancement of the area's natural features including the forest canopy

### Environmental Management Strategy

#### Policy Areas



will help to reduce ground temperatures and mitigate against the 'heat island' effect. In this way, the protection and enhancement of environmental assets will enhance livability and contribute to a healthier living environment for residents and wildlife.

### Environmental Management Strategy Framework

The Parr neighbourhood is identified by its significant environmental setting, composed of an interconnected network of streams, wetlands, steep slopes and forest canopy, which contribute to the uniqueness of this area. Collectively, these natural assets form the 'green infrastructure' that sustains clean water, recharges groundwater, maintains clean air and supports healthy plant, fish, and wildlife communities.

This plan incorporates five policy components that form the framework for the environmental management strategy as illustrated in the graphic above. The overarching goal of this strategy is to provide for the protection of the area's natural attributes in a coordinated and equitable manner that will support viable

development while protecting the area's ecosystem. Mission's OCP environmental protection policies and Environmental Charter objectives are reflected and expanded upon within this Plan's environmental management strategy.

These environmental protection components provide a framework for investigating the environmental assets of development sites, best practices for reviewing ecosystem/natural assets, and complimentary approaches for sound development that protects ecosystem assets. All developments within the Plan area are required to have a bio-inventory report prepared by a Qualified Environmental Professional (QEP) prior to site disturbance and development application.

This Plan provides clear direction and flexibility for sound and equitable development practice that both respects and protects the environmental integrity of this unique area while enabling economically viable development.



The environmental management framework components and corresponding policies are as follows.

## 1. Watercourse Protection

The neighbourhood is traversed by the east and west branches of D'Herbomez Creek that provide significant ecosystem contributions for this area. These watercourses, including ravines and headwater areas, provide a natural framework for guiding the development of this neighbourhood.

Respecting the significance of the local watercourses, a stream inventory assessment was conducted during the spring of 2021 to:

- verify the accuracy of City watercourse mapping;
- determine the distribution of fish habitation in the upper watershed; and
- understand what biophysical features were associated with stream and riparian areas around identified streams; and
- determine what putative setbacks that might be required around identified features.

General findings of this study indicated that:

- there is no anadromous fish access to the study area due to an existing rock cascade near the CPR culvert at Fraser River. While obstacles to fish passage were identified in the west and east D'Herbomez Creek sections, these obstacles were not definable barriers to fish passage;
- all stream reaches assessed were accessible to resident cutthroat trout, and cutthroat trout are present near the stormwater outfall

discharge location off Stave Lake Street (between Best Avenue and Parr Avenue).

- recent riparian forest area and vegetation had been cleared.



*East branch of D'Herbomez Creek.*

In addition to environmental protection policies contained in the OCP, the following policies shall apply to the Stave Heights neighbourhood:

### Policies

1. All watercourses are to be protected within areas designated Protected Natural Assets (PNA) which are to be dedicated to the City;
2. Environmental (watercourse) protection buffers shall form part of the Protected Natural Asset (PNA) areas and shall extend an average of 15 m from the top of bank as shown on the land use plan.
3. Watercourse and top of bank locations, building setbacks and PNA buffer areas shall be verified by a QEP in a preliminary or detailed bio-inventory

report and mapped on a survey prepared by a BC Land Surveyor which could involve updates to the City's GIS mapping.

4. Streamside Protection and Enhancement Areas (SPEAs) and other natural asset areas where vegetation and forests have been cleared shall be restored, rehabilitated and protected with guidance from best environmental practices identified in the Province's *Develop with Care 2014* guidelines, to ensure protection and rehabilitation of watercourses and SPEAs. Watercourse and riparian area rehabilitation strategies shall be addressed within bio-inventory reports prepared by a QEP as a condition of development application.
5. In cases where a development application seeks a change in the status of a watercourse, or requests a watercourse crossing, the applicant shall submit a detailed environmental report to Provincial agencies for approvals.
6. Permeable surfaces should be maximized for driveways, pathways and other locations to enhance rainwater infiltration and reduce overland rainwater flows, to reduce risks of erosion and to contribute to watercourse protection.

## 2. Protected Natural Asset (PNA) Areas

The PNA land use designation is a habitat protection tool used by the City and defined as parcels of land or portions thereof that have or could achieve attributes conducive to the retention or creation of terrestrial or aquatic habitat, including Critical Habitat, wetlands, headwaters, water retention or recharge areas, and other ecological, Natural Capital or connectivity functions.



*Photo of the west branch of D'Herbomez Creek*

Key features of PNAs include:

- Exclusion from development and conveyance to the City;
- Being an Official Community Plan (OCP) designation;
- 'Environmentally Sensitive Areas' (ESAs), such as SPEAs, and physically extend beyond ESA boundaries;
- An environmental protection buffer extending up to 15 m from the top of bank, assessed solely at the City's discretion for suitable low impact uses such as walking trails, MUPs, passive recreation facilities, and green infrastructure;
- No loss of development potential as development density is calculated

to include the land area within the 15 m wide environmental protection buffer portion of the PNA. This is facilitated in accordance with the Gross Density Policy (for further explanation see the Gross Density/Cluster Development Policy in this section);

- Potential protection through coordination with the 'Gross Density' development strategy.
- Requiring further study through bio-inventory assessments, as detailed in this section of the Plan, to refine watercourses and PNA boundaries. A coarse-level study to verify watercourse location was completed concurrently with this Plan and more detailed assessment is needed for each proposal; and

This land use designation and approach for ecosystem protection is similar to best practices, policies and bylaws used in nearby Fraser Valley and Metro Vancouver municipalities that will provide multiple benefits in the form of environmental protection, health and safety of residents and viable development.

#### Policies

1. Watercourses identified and confirmed through field investigation, shall be protected within areas designated Protected Natural Assets (PNA) on the Parr Neighbourhood Land Use Plan.
2. PNA areas, as identified on the Land Use Plan, shall be dedicated to the City of Mission. Maintenance costs for PNA areas dedicated to the City shall be included in a financial plan.
3. Watercourses and ravine banks are further protected by an environmental setback buffer that extends up to 15 m beyond the watercourse and ravine top

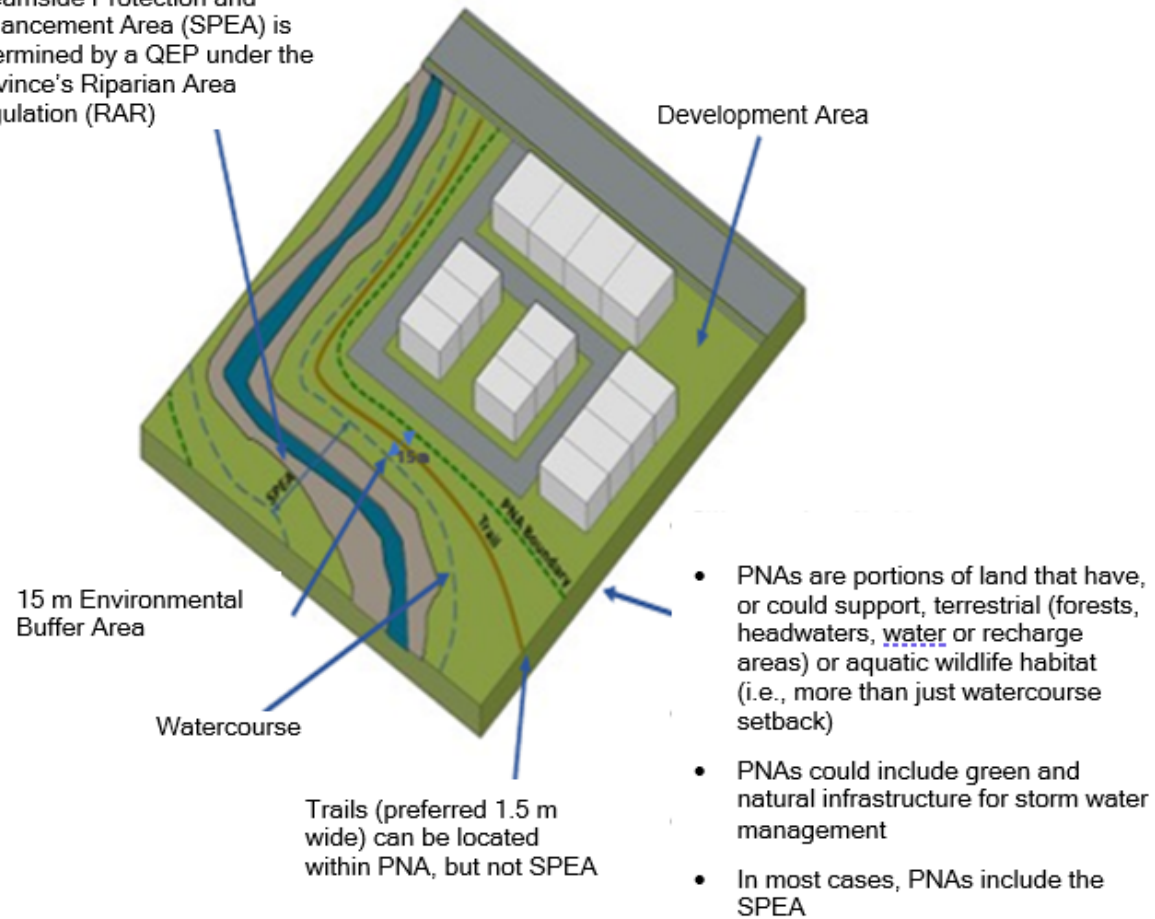
of bank to protect natural assets and accommodate passive recreation facilities, including trails and green infrastructure identified on the land use plan, and confirmed in bio-inventory and geo-hazard reports.

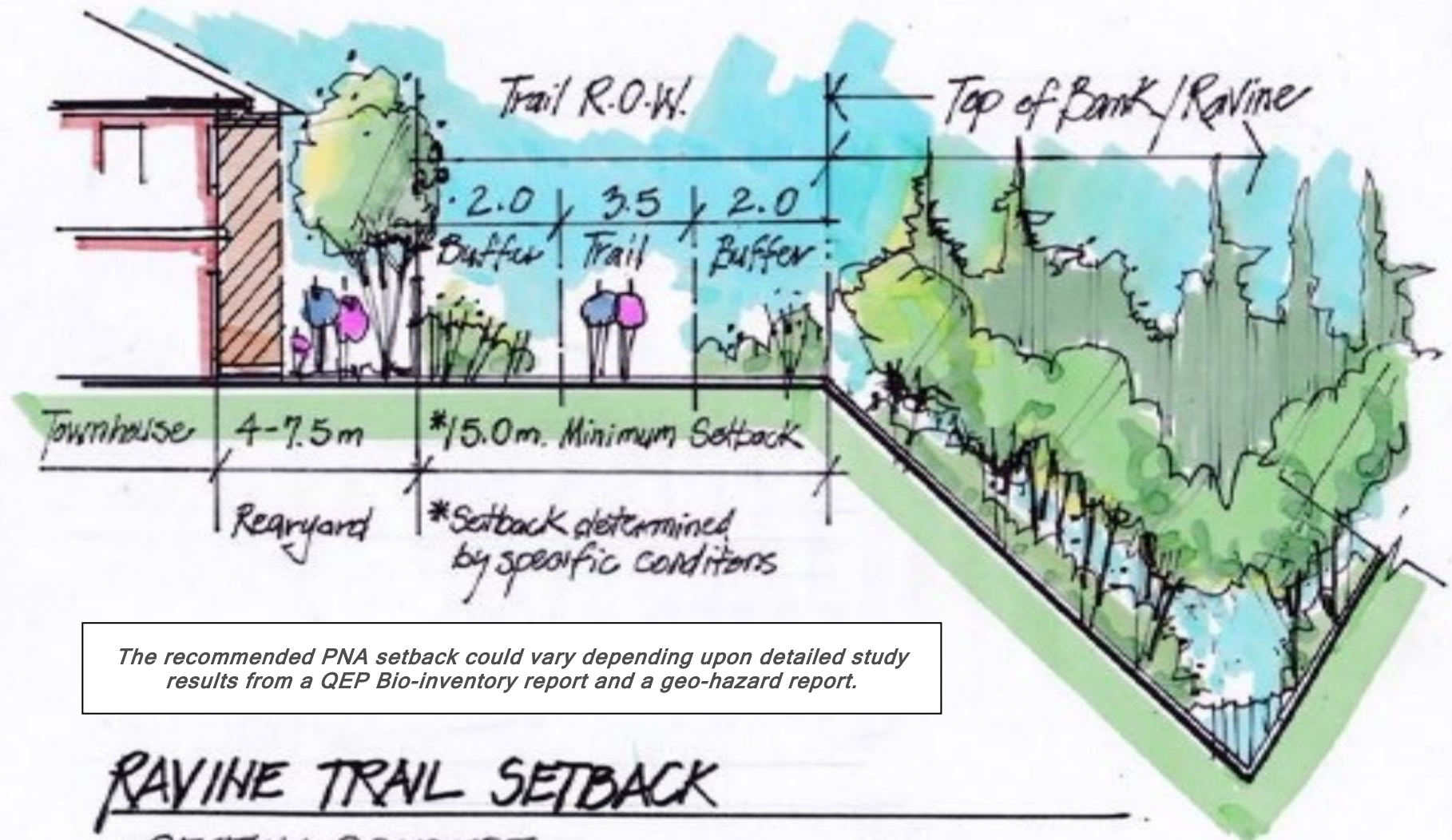
4. Pedestrian trails and MUPs shall be located within the buffer areas where deemed acceptable by City staff, to ensure the right of public passage, as these trails and pathways form strategic links in the pedestrian and cycling networks serving Stave Heights. Pedestrian trails and MUPs shall be designed and constructed in accordance with the trail design guidelines contained within the Development and Subdivision Control Bylaw.
5. No development shall occur within the PNA environmental buffer area, but buildings may be located a minimum of 3.0 m from this boundary within a development site. Development density of the site is not reduced by the PNA environmental setback buffer.
6. PNAs can also be protected within the scope of 'Gross Density Development' where density is transferred from the portion of the PNA area located between the top of bank to the edge of the PNA boundary (in most cases, 15 m from the top of bank) to the remainder of the development site. In such cases, the total or gross development density would not exceed the maximum permitted in the OCP and Zoning Bylaw.
7. The following illustrations show how the PNA environmental protection buffer area is intended to function. In some areas the buffer may need to be reduced or expanded based upon recommendations from bio-inventory and geo-technical reports and review by City staff.



## Protected Natural Assets

Streamside Protection and Enhancement Area (SPEA) is determined by a QEP under the Province's Riparian Area Regulation (RAR)





*The recommended PNA setback could vary depending upon detailed study results from a QEP Bio-inventory report and a geo-hazard report.*

## RAVINE TRAIL SETBACK

### SECTION: CONCEPT



### 3. Bio-Inventories

Bio-inventories shall be conducted by a QEP who will be recommended by the City, with funding provided by the developer. The QEP shall assess the entire development site, and evaluate existing PNAs for passive recreation potential, such as minor trail construction, in areas not designated ESA.

The QEP shall also evaluate each site for potential additional PNAs as may be required by RAR or other senior government legislation, as applicable. The QEP's assessment shall take into consideration the provincial *Develop with Care 2014* guidelines.

#### Policies

1. A QEP shall prepare a preliminary bio-inventory on the entire development site and on neighbouring parcels before a site is disturbed in any way. Following the preliminary bio-inventory, the QEP shall prepare a bio-inventory site plan showing the location and extent of all natural assets, including PNAs and ESAs.
2. A preliminary bio-inventory shall take into account such ecosystem services including, but not limited to: streams, headwater areas, riparian corridors, terrestrial wildlife corridors and habitat, Critical Habitat, trees and vegetation, invasive species presence, avian nesting locations, green infrastructure opportunities, GHG reduction and climate change adaptation opportunities, and aesthetic values.
3. A preliminary bio-inventory site survey can determine whether a detailed environmental site survey is required. If a developer is willing to work around environmentally valuable features of a site, and there is no impact from development, a detailed bio-inventory may not be required, as shown below.

#### Preliminary Bio-Inventory

A preliminary bio-inventory entails a literature review and high-level ground assessment to determine what species and environmentally valuable resources may be present on and within 100 m of the proposed development site. It includes the following components:

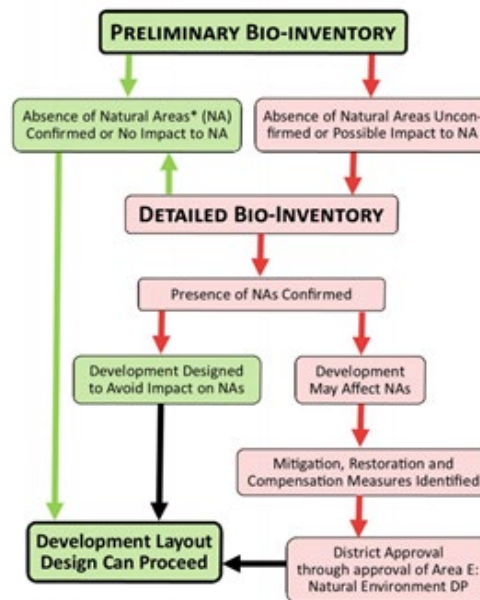
- review of existing studies, inventories, species distribution maps, status reports and recovery plans;
- search of the BC Conservation Data Centre and the Wildlife Species Inventory database for presence of red- and blue-listed species and ecosystems;

- consultation of local environmental groups for knowledge of species, ecosystems and habitats;
- examination of aerial photographs and satellite imagery (if available at a relevant scale) to identify ecological features on the proposed development site and within 100 m of the site's boundaries; and
- performance of a seasonally-relevant site inspection to determine presence or potential presence of species and habitat features, such as:
  - wildlife trees and raptor nest trees;
  - wildlife corridors and connections;
  - sensitive or rare ecosystems;
  - presence and potential presence of species at risk;
  - vernal pools; and
  - restoration potential, such as daylighting piped creeks and removing invasive plants.

A complete checklist for conducting preliminary and detailed bio-inventories can be accessed in the provincial *Develop with Care 2014* guidelines.

#### Detailed Bio-Inventory

If a preliminary bio-inventory determines that ecologically significant features are or may be present on a proposed development site or within 100 m of it, a detailed environmental site survey may be required. However, if a development is designed to avoid negative impacts on identified areas of environmental value, a detailed bio-inventory may not be required. Working around existing and potential environmentally valuable site features may facilitate the approval process, as it would likely be more readily supported by the public and by Council.



*\*Natural Areas are those portions of a site that have sustained no or only limited anthropogenic alteration, and that have potential to offer natural capital and biodiversity values, and/or provide habitat for wildlife and species at risk in the spirit of the Natural Environment Development Permit Guidelines.*

If the preliminary bio-inventory does not conclusively confirm the absence of environmentally valuable areas on or near a development site, or if there is potential that ecologically significant areas may be affected by a proposed development (or potentially affected by pre-development activity), a detailed bio-inventory is required. It involves more thorough on-site investigations (i.e., ground-truthing) at the appropriate time(s) of year, and the provision of a summary report, which includes:

- a description and mapping of existing and potential environmentally valuable features of a site;
- strategies for avoiding and/or mitigating impacts from development; and
- identification and description of restoration and enhancement opportunities.

#### 4. OCP & Stave Heights Local Area Plan Policies

All relevant OCP environmental policies shall be reviewed and applied to development proposals, in addition to other environmental policies in this Plan including:

- Tree Protection and Replacement;
- Invasive Species Management;
- Rainwater Management; and
- Bear Aware.

##### *Tree Protection and Replacement*

Trees shall be retained on properties before development occurs and shall be assessed by a QEP or Registered Professional Forester with wildlife and danger tree assessment credentials. The arborist report may be included within a preliminary or detailed bio-inventory report. Protection of trees within a development site can provide a more substantial urban forest canopy,

providing residents with aesthetic, health, and economic benefits. Through arborist reports, information will be provided to determine the maximum number of mature trees that can be protected and integrated within a development's landscape.

A guiding principle for development in the Parr neighborhood is to design development around mature tree clusters where practical. Where mature trees were removed prior to development, substantial replanting is required to contribute to a long-term objective of providing a 30% urban forest canopy coverage over the developed areas of the neighbourhood which include Apartment, High Density Townhouse and Townhouse designated areas.



*Mature trees can be protected and incorporated within multi-unit developments such as this example from Willoughby (Township of Langley).*

##### Policies

1. An arborist report prepared by a qualified professional arborist is required for all development sites to advise on the status of trees on a site,

protection measures for existing trees, and guidance for the location of replacement trees to be planted within the site.

2. When a preliminary and/or detailed bio-inventory report is prepared, tree protection shall be assessed by a QEP or Registered Professional Forester with wildlife and danger tree assessment credentials.
3. In cases where trees were removed prior to the submission of development applications, the terms and conditions of the City's Tree Retention/Replanting policy (LAN.32) shall be met at a minimum and augmented as follows:
  - a. an arborist report is to determine the approximate number of mature trees removed prior to site development and provide a determination regarding the number of replacement trees required in a development application;
  - b. planting larger 'up-sized' replacement trees at a ration of 3:1 for each tree identified in the arborist report as being removed prior to development;
  - c. planting a minimum of three trees per dwelling unit on the development site. In cases where development site space is not sufficient to accommodate such replacement trees, then a cash-in-lieu provision shall apply based on the requirements of the City's Tree Retention/Replanting policy LAN.32; Alternately, replacement trees can be planted on adjacent PNA areas, in the park or in the agriculture protection buffer.
  - d. planting of replacement trees where one of every three replacement trees shall be of a different native variety in order to ensure the long-



term health and survivability of replacement trees; and

- e. replacement trees shall be secured financially for 2 years. An annual review of replacement tree health shall be conducted by a professional arborist.

### *Invasive Species Management*

Due to their potential to cause harm to the environment, people, or infrastructure, the City has designated giant hogweed and the four knotweed species (Japanese, giant, bohemian, and Himalayan) as priority noxious weeds. The City reserves the right to require the management of other invasive species that may be identified during the mandatory site assessment (the Preliminary Bio-Inventory).

Early identification of knotweed (ideally 2 years prior to breaking ground) is imperative to allow for effective treatment before the site is disturbed. No vegetation shall be removed or altered, and no soil shall be disturbed or moved onto or off any development site until the noxious weed assessment has been completed, treatment has been completed, as applicable, and the site has been declared free of hogweed, knotweed, or other invasive species.

### *Policies*

1. A development application's bio-inventory report shall include an assessment of invasive species including noxious weeds, wherein the QEP shall prepare a noxious weed management plan.
2. The noxious weed management plan shall provide information on noxious weeds on a development site, a removal strategy and monitoring plan to observe any re-growth over a two-year period following initial treatment.

### *Rainwater Management*

Increasing the amount of impervious surfaces in a watershed will alter hydrology and water quality, which can negatively affect local watercourses and fish habitat.

Employing integrated rainwater management practices, including the use of natural capital, can help to prevent and reduce damage and often results in lower capital and maintenance costs. The overall goal of proper rainwater management is to mimic the predevelopment water balance, flow rate, and quality for both surface water and groundwater. Considering ecosystem services and employing progressive design standards in rainwater management can:

- increase land use efficiency;
- reduce per-unit utility costs;
- reduce energy use and greenhouse gas emissions;
- preserve headwaters, natural habitats and ecosystems; and
- make for more attractive developments and desirable living conditions.

Rainwater must be managed in accordance with the City of Mission's Development and Subdivision Control Bylaw, applicable provincial and federal legislation, and the Provincial *Develop with Care 2014* guidelines.

### *Slope Stability*

Areas within the Stave Heights neighbourhood, particularly south of Best Avenue, have steep slopes, including ravines and riparian areas. The PNA environmental Protection Buffer areas that extend an average of 15 m in from the top of bank provide greater assurance of protection for residential development from potential slope failure. According to the OCP, "Steep slopes are often associated with instability; however, factors such as

geological material, soils, moisture content and vegetation cover can also contribute to hazards.

The provisions of the OCP's Geotechnical Hazards Development Permit Area guidelines apply to Parr neighbourhood properties with slopes greater than 30%. Additionally, according to this DP section of the OCP: "this DPA is not limited to those areas where slopes are 30% or more, and also includes areas affected by steep slopes, signs of slope instability, watercourse or alluvial fan hazards, or any other potential hazards identified by a professional engineer, the Approving Officer or Building inspector."

### *Fire Interface*

Portions of the Stave Heights neighbourhood are located adjacent to forested areas in Fraser River Heritage Park, First Nation lands, City parkland, watercourses, ravines and steep slopes including areas designated Protected Natural Assets. Respecting that the Province is experiencing increased wildfire activity, it is recommended that properties located adjacent to forested areas be developed to minimize risk and to protect life and property from wildfire hazards.

Guidelines for wildfire protection shall generally follow the OCP Fire Interface Development Permit guidelines for buildings that are constructed immediately adjacent to forested areas that are adjacent to and within the this neighbourhood.

### *Policies*

1. Buildings shall be constructed a minimum of 10 m from forested areas on flat surfaces and additional setback distances may be required on sloping development sites.
2. Fire retardant roofing materials shall be used, with metal or clay roofing given preference;

3. Decks, porches and balconies shall be sheathed with fire resistive materials;
4. Exterior walls shall be sheathed with fire resistive materials such as stucco, metal siding, brick, cement shingles, concrete block, poured concrete, rock, logs or heavy timbers as defined in the BC Building Code;
5. Windows shall be tempered or double-glazed to reduce heat and protect against wind and debris that can break windows and allow fire to enter the building or structure;
6. Building design and construction should be generally consistent with the highest current wildfire protection standards published by the National Fire Protection Association or any similar, successor or replacement body that may exist from time to time.
7. A fire protection covenant shall be registered against the property and apply to buildings located adjacent to forested areas.

#### *Bear Aware*

The Stave Heights neighbourhood is an area where there is a high level of bear activity. All new development in this neighbourhood shall be designed to minimize dangerous wildlife attraction by providing wildlife resistant waste management compounds or containers in multi-family, commercial and mixed-use developments, as per *Solid Waste Management Bylaw 5526-2015*. Information including a brochure shall be available for Developers and realtors to assist them in advising new residents about bear and wildlife activity in the Parr neighbourhood

### 5. Environmental Development Processes

Recognizing the unique, environmentally sensitive hillside setting of the Stave

Heights neighbourhood requires development to protect the area's natural assets to the greatest extent possible based upon best environmental management practices. The local ecosystem provides both challenges and opportunities for development. To accommodate development while preserving the area's ecosystem requires the use of specific development tools. These include the use of Gross Density, and Density Transfer processes.

#### *Gross Density (Cluster Development) Process*

This development strategy involves the transfer of density within a development property from the PNA buffer area located between the top of bank to the edge of the PNA boundary (in most cases, 15 m from the top of bank) to the remainder of the development site.

The intent is to protect the PNA area of the property from development, and to allow the development density of this portion of the site to be utilized on the remaining/net developable area. This approach also requires that the PNA portion of the property is dedicated to the City with the intent to protect it from development and to preserve it for environmental protection and passive recreation activities.

The areas within the bounds of a PNA designation that are situated between the top of bank and the PNA boundary are planned for the development of the neighbourhood's trail and MUP networks that include, pedestrian or ped/cycle bridges, benches, tables, viewing areas, environmental/cultural signage, and other passive recreation features. The proposed MUPs require up to 10 m in width for development of the walking and riding surface and associated drainage features. In certain areas, the MUP will need to meander in its alignment to allow for protection of trees, shrubs and other features of the PNA buffer area.

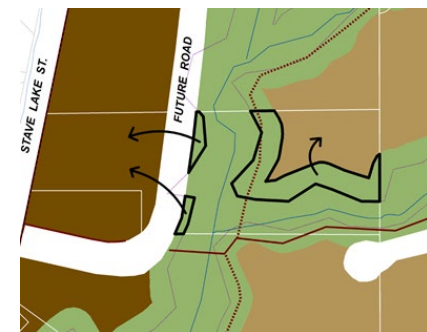
Additionally, the PNA buffer areas could facilitate green infrastructure devices such as rain gardens, bio-swales or rainwater management ponds. Green infrastructure located within the PNA environmental protection buffer area could provide a direct service to the development site, and/or serve a larger catchment area.

The environmental protection buffer is also planned to provide substantial protection for watercourses and for slope stability to ensure a high measure of protection for development sites against the risk of slope failure. This neighbourhood occupies a hillside setting where development could create or experience a geotechnical disturbance leading to unstable slope conditions.

Development generally located south of Best Avenue, can occur in a clustered and more compact format to protect areas with the highest ecosystem values while yielding the comparatively higher development density/unit count that could otherwise be achieved with more conventional forms of residential development.

#### *Policies*

1. The Gross Density development process is required for properties that are designated Apartment Residential and High Density Townhouse Residential.



*Gross Density example*



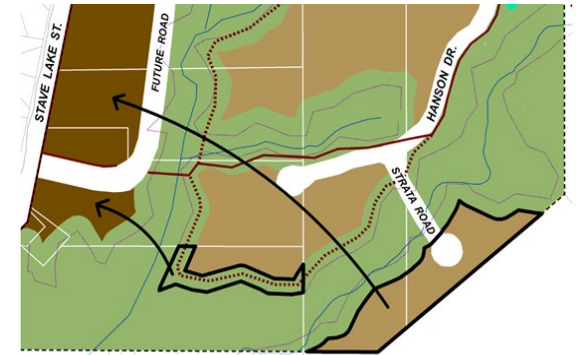
2. Lands designated PNA are dedicated to the municipality for environmental protection in perpetuity and shall be registered and designated as 'Park' on a plan of subdivision.
3. The portion of the PNA that extends an average of 15 m from the top of bank to the PNA boundary and other potential PNA areas contributes development density that is transferred to the remaining portion of the site at the same density level (FSR and/or unit/ha) proposed for development on the remaining net developable portion of the site. There is no loss of development potential through the transfer of density from the PNA area to the remaining developable portion of the property.
4. Pre-designated PNA areas that are located on a development property extend up to (or average of) 15 m of the top of bank. The portion of the PNA designated area that is not designated ESA or SPEA can be utilized for passive recreation activities including walking trails, a MUP, wildlife observation area, seating, environmental signage, watercourse bridge, green infrastructure (such as a rain garden, bio-swale, rainwater detention pond) or for other low-impact recreation and cultural facilities.
5. The PNA area dedicated by the developer to the City may contain rainwater management facilities or other green infrastructure required for development of the subject property.
6. Townhouse or apartment development occurring adjacent to the PNA area shall be designed so that the housing units with front doors face onto the PNA area. Paths or sidewalks will extend from the front doors to connect with trails or MUPs located within a PNA area to ensure safe and direct pedestrian connection.

7. Variances could be considered for possible reduction of building setbacks or open space within a development site, given that land is dedicated for public use within the PNA area for walking trails, MUPs and other passive recreation activities that could also be enjoyed by residents living in a development where the PNA area is dedicated to the municipality.
8. Development of properties that contain PNA areas shall be rezoned either with a Comprehensive Development (CD) zone, or a new 'Gross Density' zone. Additionally, the PNA portion of the site (being dedicated to the City) shall be rezoned to the Institutional Parks, Recreation and Civic Zone (IPRC).

#### *Density Transfer Process*

Density Transfer is an optional development process that provides for the transfer of development density (based on the gross residential unit density) from one property ('donor' property) to another property or development site ('receiver' property).

The Density Transfer development option covers areas of the Parr neighbourhood where significant environmental attributes exist (properties or portions of properties that are designated PNA in the Plan). In some cases, this development option provides opportunities to transfer development density from a PNA buffer area on one property to another adjacent or nearby property within the Parr neighbourhood. When a transfer of density occurs, either involving a whole donor property, portion of a donor property or density from a PNA area, the transfer will not eliminate the requirement to dedicate the PNA area. In most cases, the transfer of density will result in the creation of additional parkland/open space on the donor property.



*Density transfer example*

The owner of the donor property would be financially compensated by the owner of the receiver property for the development density being transferred from the donor property.

Areas of land uses that may not be counted as part of the designated property transfer areas include:

- areas designated PNA or Parks and Open Space in the Plan or OCP;
- areas covered by any structure or buildings;
- road rights-of-ways;
- strata lanes; and
- property setbacks and private front or backyard areas;

#### *Policies*

1. The density transfer process provides an option for transferring development density from a donor property to a receiver property, wherein the donor property's development potential is reduced to zero, to facilitate the transfer of density to a receiver property;
2. The donor parcel or portion of a donor parcel (e.g., PNA portion) shall be conveyed to the City for use as PNA

and/or for park space under the Parks and Open Space OCP designation. There is no loss of PNA through the process of a density transfer.

3. The location and amount of the donor area (parcel or portion of a parcel where density is being transferred) shall be shown as 'Park' on a plan of subdivision prepared by a BC Land Surveyor and would be registered on the title of the donor property, which would be conveyed to the City.

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## 7.0 Parks

Parks are highly valued by Mission residents as places that strengthen the neighbourhood and contribute to healthy and happy children, families, and people of all ages. They provide important public space for recreation and play, for gathering and socializing, and for connecting with one another and nature. Parks are becoming more important than ever with higher density housing and limited outdoor space.

Parks are planned, developed, and designed through the Parks, Recreation and Culture Department and guided by various plans, strategies and policies including the City's Parks, Recreation and Culture Department, Fraser River Heritage Park, and Centennial Park Master Plans. Building on existing plans and what we heard from the community about the need for a park in Stave Heights to service existing nearby residents, the following four principles and guidelines guide park development in this neighbourhood.

### Principle 1

**Provide a sufficient sized park to accommodate new and existing residents.**

Given there are limited parks outside of the study area within a 10-minute walking distance and the City's goal to ensure that people live within a 5 or 10-minute walk, combined with an anticipated Parr neighbourhood population of between 2,000 and 2,300 residents, the Plan prioritizes the establishment of a 1.1 ha park. This proposed park is 0.2 ha smaller than Silverdale Park (1.3 ha) and while larger than some of Mission's existing neighbourhood parks, it is a similarly-sized park compared to parks in neighbouring municipalities.

Examples of highly valued neighbourhood parks in Mission are Kinsmen West Park at 7<sup>th</sup> Avenue and Hurd Street (0.82 ha), which

services approximately 1,750 residents within a 5-minute walk, and Lightburn Park at Phelps Avenue and Christie Street (0.47 ha), which services approximately 1,550 residents within a 5-minute walk.

The standard size for a neighbourhood park in Abbotsford, Surrey, Coquitlam, and Chilliwack ranges between 1 to 1.4 ha per 1,000 residents. Mission currently does not have a similar set standard. The park location is adjacent to City owned natural lands within Fraser River Heritage Park, allowing for potential long term park expansion opportunities.

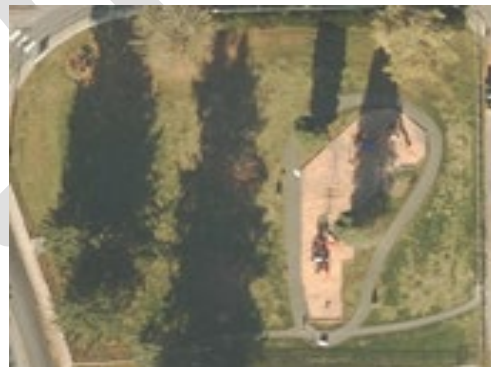
### Policy

1. Provide a 1.1 ha neighbourhood park within Stave Heights that meets the Plan objectives.
2. New parkland and trails shall be developed in sequence with development.

Where neighbourhood parks are developed jointly for engineering infrastructure such as stormwater detention ponds, infrastructure shall not occupy a majority of the neighbourhood park area.

### Principle 2

**Prioritize functional amenities to accommodate people of all ages, especially children and seniors**



Good amenities responsive to the neighbourhood demographic helps to make a park attractive and fun. Mission residents desire park amenities geared towards children and seniors for meeting the local need for children's active recreation and adult passive green space. Staff meet with residents to determine park amenity needs which can include a range of options.

### Park Amenity Options

- accessible paths;
- social area / picnic tables / seating;
- play area - children and/or youth;
- green space with trees, shrubs, or landscaping
- additional play element(s) (e.g., sport court for games and play activities).
- A fenced off-leash dog park area with carefully designed park features to encourage active and healthy dog development (e.g. grassed area, shade trees, rocks etc.).

### Policy

1. Ensure a wide range of amenities are provided that are geared towards children and seniors.



Source: Abbotsford Parks, Recreation and Culture Master Plan



## Principle 3

**Prioritize Park Accessibility & Safety by ensuring the park is centrally located within a 5-to-10-minute walk for residents inside and outside of Stave Heights and provides for safe and equitable accessibility to visitors.**

### Policies

1. Ensure the park is connected to good walking and cycling routes to allow residents within and outside the immediate area to conveniently access the park.
2. Ensure the park is centrally located within the neighbourhood to minimize walking distance from residents outside of Stave Heights.
3. Ensure the park is bordered appropriately by public road frontage.
4. Located along a street that provides visitor parking.
5. Development should provide frontage pathway along the park interface located on private property with no fence between the path and parkland.



*Park at Cheam Centre, Garrison Crossing in Vedder neighbourhood of Chilliwack demonstrating residential units directly facing the park with .*



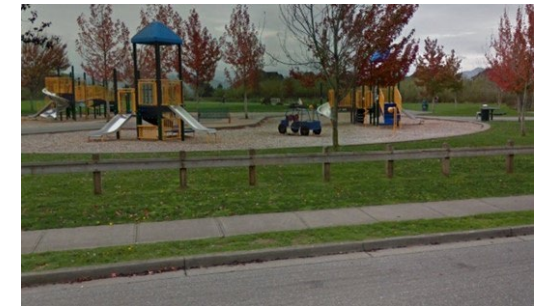
*Residential units directly facing the park with active path connecting residential and park lands.*

7. Park location should maximize hillside views and natural features.

8. Ensure wayfinding signage is provided and strategically located.



*Wayfinding signage*



*Eagle Mountain Park in Abbotsford with fencing.*

9. Any area with parking or road frontage be fenced from the park with attractive design.
10. Consider improving pedestrian crossings and walkability along Stave Lake Street by for example, adding signalized intersections and significant pedestrian improvements including street trees, wider sidewalks and separated cycling facilities.

## Principle 4

**Plan for the hillside context by minimizing impact of sloped topography on park functionality and maintain natural character and maximize views from within the park.**

Stave Heights is located on a hillside making parkland development challenging. Designing the park to provide flat play spaces and ensuring well drained surfaces is a park development priority.

### Policies

1. Development should meet the existing natural grade of parkland. If retaining walls are required adjacent to parkland, they must be entirely on private property including any underpinning with all necessary setbacks required for maintenance of private property, such as machinery access.
2. Any development adjacent to an existing or future park must submit an arborist report including the first 15 m of land within the park and report on all trees 8.0 cm diameter at Breast Height (DBH) or greater. Removal of any tree on parkland requires advanced written approval from the Parks Department.
3. Design to address natural hillside challenges of slopes and drainage.
4. Ensure the park location maximizes hillside views towards the Fraser River.
5. Ensure that horticultural elements are designed to deliver an enriched experience through the use of a diverse plant palette with four-season appeal through the use of colour, texture, fragrance, etc. and include plantings that attract and support pollinators such as bees, butterflies and birds.

## Trails

Trails in this neighbourhood contribute to residents' mobility as well as enhancing their health and wellbeing. They are an integral part of this area and function as open space elements as well as key mobility components. In most cases, trails will provide a passive recreation amenity for the neighbourhood and will connect parkland with the neighbourhood and adjacent areas, including Fraser River Heritage Park. They play a complementary role from a parks, recreation and cultural perspective, and the following policies are proposed for their implementation and long-term service to the community.

### Policies

#### Implementation

1. Where possible, land for pedestrian trails and MUPs should be secured and trails developed in advance of residential development, or in tandem with development within all phases of development within the Stave Heights neighbourhood.
2. Pedestrian trails and MUPs should be secured as public land.
3. Pedestrian trails are different from parkland dedication areas and are not part of the 5% parkland dedication.
4. In cases identified within the Plan, some trails and MUPs can be developed within the external edges of PNA areas, in alignments above the top of bank in most cases, except where the trail alignment involves a watercourse crossing. In all cases, a trail or MUP alignment shall be designed with professional input from a Parks, Recreation and Culture staff representative, a QEP and a geotechnical engineer to minimize or avoid impacts upon sensitive

ecosystems, and to ensure slope stability.

5. In most cases, property identified as PNA is contributed to the City of Mission by developers and identified on subdivision plans as 'Park' in recognition that the land is identified as being undevelopable and protected over the long term for its environmental value.
6. Trails shall be planned in conjunction with requirements applying to PNAs in appropriate locations within PNAs, and where feasible, connect with trails in Fraser River Heritage Park.
7. Trail alignments should be wide enough to protect mature trees and other natural features to allow trails to meander, thereby protecting trees and other features where possible.

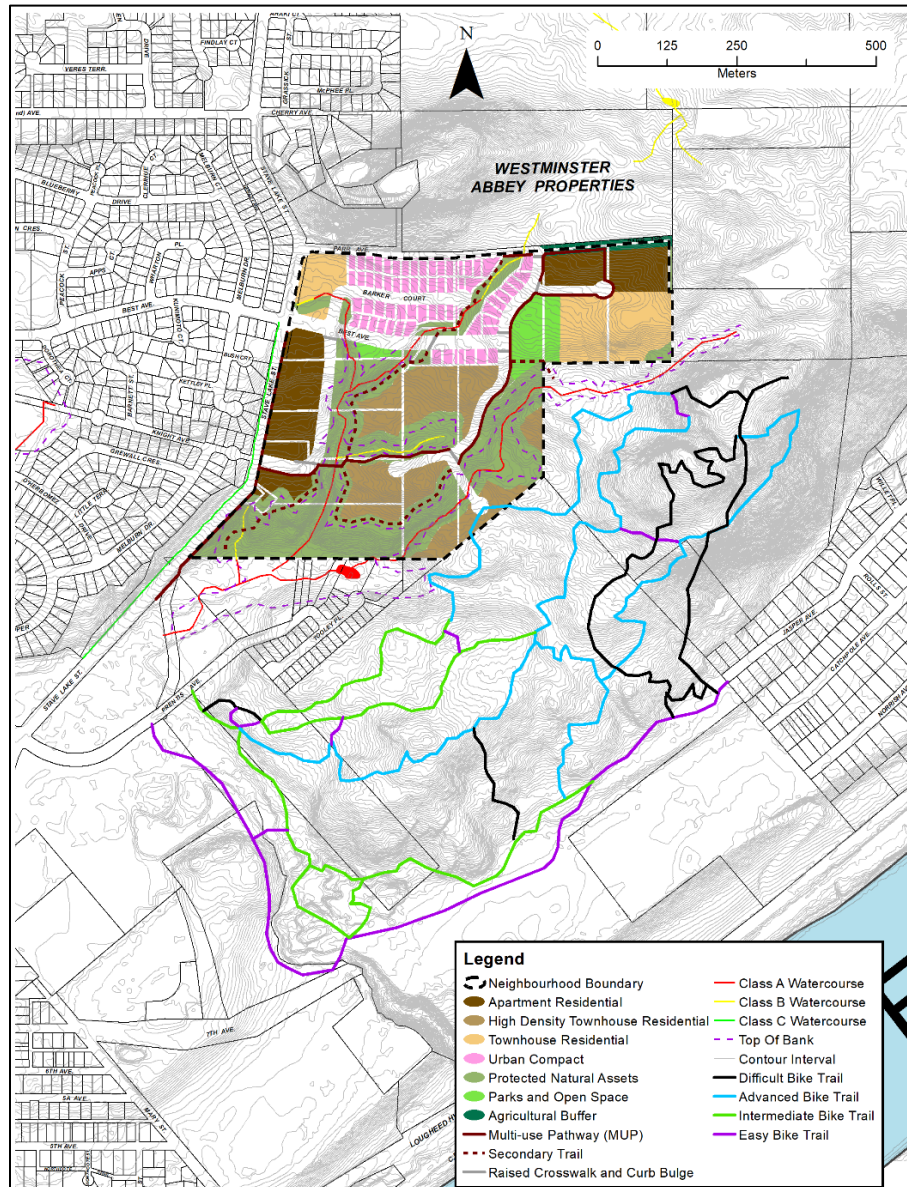
### Safety

8. Trail planning and design should incorporate CPTED principles to provide a high level of safety including visibility for pedestrians. In some cases, wider urban trails may be illuminated.
9. Recognizing that trails will also function as wildlife corridors, wildlife signage shall be placed at all trailheads and along trail routes to inform trail users about wildlife protocol.

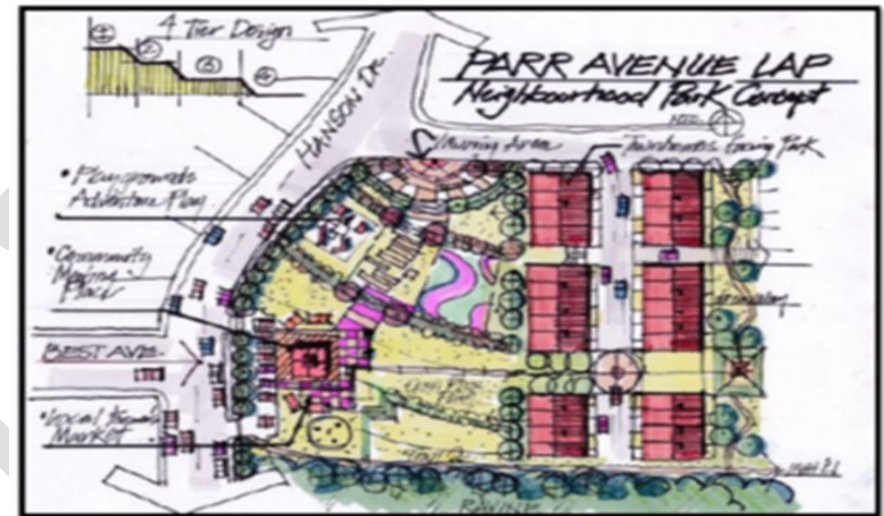
### Connectivity

10. Where possible, trails in the Stave Heights neighbourhood should be connected with existing or proposed trails within Fraser River Heritage Park and connect to the south to provide an alternate link with Prentis Avenue and the commercial/school node at Stave
11. Signage should be installed to advise where proposed trails are planned to be constructed.





This map illustrates existing trails in Fraser River Heritage Park and First Nations properties in relation to proposed trails in the Parr neighbourhood. Where practical, neighbourhood trails should connect with trails in adjacent areas including Heritage Park and in First Nations properties.



Townhouses and apartments should be oriented to face onto trails and parks.



This diagram illustrates how townhouses can be designed to face onto a park.





*The photo illustrates the proposed park location which provides panoramic views of the Fraser Valley beyond.*

*The illustration shows possible park features including a covered seating area (community gathering structure), trails with a connection to Fraser River Heritage Park and a play area (flex-play open space).*

## 8.0 Mobility

The Stave Heights neighbourhood is planned to be a well-connected community, designed to prioritize safe access for pedestrians, cyclists and people with mobility challenges.

To leverage the strategic connection with nearby amenities, the future design of Stave Lake Street should incorporate and prioritize safe and inclusive connections for pedestrians, cyclists, transit users and residents who have mobility challenges.

The mobility strategy focuses on two key principles related to connectivity and accessibility and emphasizes access and convenience for walking within the neighbourhood and connecting with adjacent areas:

1. The Plan aims to achieve a walkable neighbourhood, where pedestrian trails and MUPs provide convenient links throughout the neighbourhood and to adjacent trails, intersecting with roadways and sidewalks at safe locations, and where roads are safely designed to accommodate multi-modal users (walking, cycling, electric scooters).
2. Improve walking and cycling connectivity between the Stave Heights neighbourhood and Stave Lake Street and 11<sup>th</sup> Avenue — a unique amenity hub with a commercial core and multiple schools, to help reduce residents' reliance on private motor vehicles for shopping and school trips and to encourage healthy and active lifestyles while providing for more affordable housing.

The street network builds upon an established street structure that includes Parr Avenue, Best Avenue, Barker Court, and Hanson Drive. Hanson Drive will extend south from Best Avenue and is planned to cross D'Herbomez Creek and

intersect with Stave Lake Street at Knight Avenue. New local roadways are proposed in the northeast and southwest quadrants of the neighbourhood. Stave Lake Street, located on the western edge of the site, is the arterial road that provides direct access into and out of the neighbourhood. Private roads in strata complexes can provide for access within these developments.

Stave Lake Street is the western boundary of the Stave Heights neighbourhood and acts as a 'backbone' for mobility in this area of Mission. It is an arterial road where future road improvements are anticipated in accordance with the Transportation Master Plan. Road improvements could effectively link the neighbourhood with the nearby commercial plaza and schools at the intersection of Stave Lake Street and 11<sup>th</sup> Avenue. Stave Lake Street is identified on the land use plan as a 'Pedestrian Corridor.' The design of this arterial roadway should prioritize comfortable, inclusive access for people who are walking, cycling, taking transit, and provide for the mobility needs of all ages and abilities.

The Stave Heights neighbourhood is designed to be a walkable, accessible community for its residents and visitors.

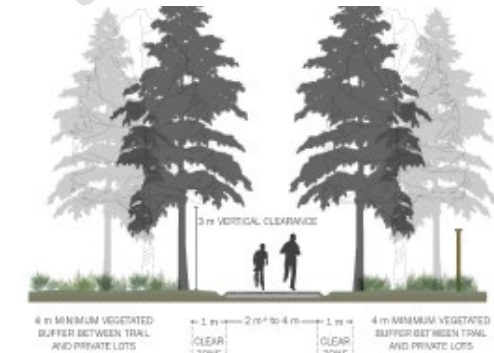
Key elements of the mobility plan for the neighbourhood support safety for pedestrians and cyclists include:

- a 'Complete Streets' approach to road design that prioritizes pedestrians and cyclists;
- a continuous, integrated network of cycling and MUP infrastructure;
- a comprehensive network of MUPs and walking trails in parks and PNA areas providing direct connections to community amenities and nature;
- enhanced sidewalks and building setbacks in high priority pedestrian areas;

- A MUP that extends across the neighbourhood connecting Parr Avenue, with a MUP along Stave Lake Street to link with Heritage Plaza at 11<sup>th</sup> Avenue and Stave Lake Street; and
- Consider accessible design features such as protected cycling and pedestrian intersections (e.g., with pedestrian bulges, raised and marked crosswalks).

### Trails & Paths

The Plan proposes approximately 2.27 km of walking trails and MUPs. Path and trail design are guided by the Parks Master Plan and the Development and Subdivision Control Bylaw.

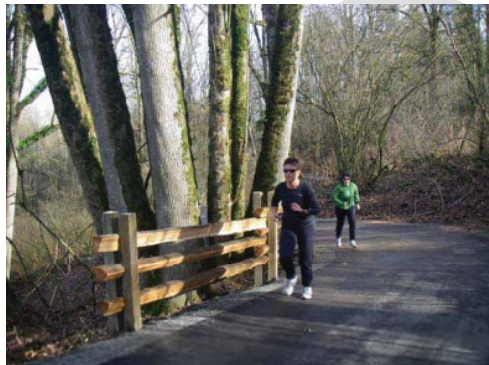


### Policies

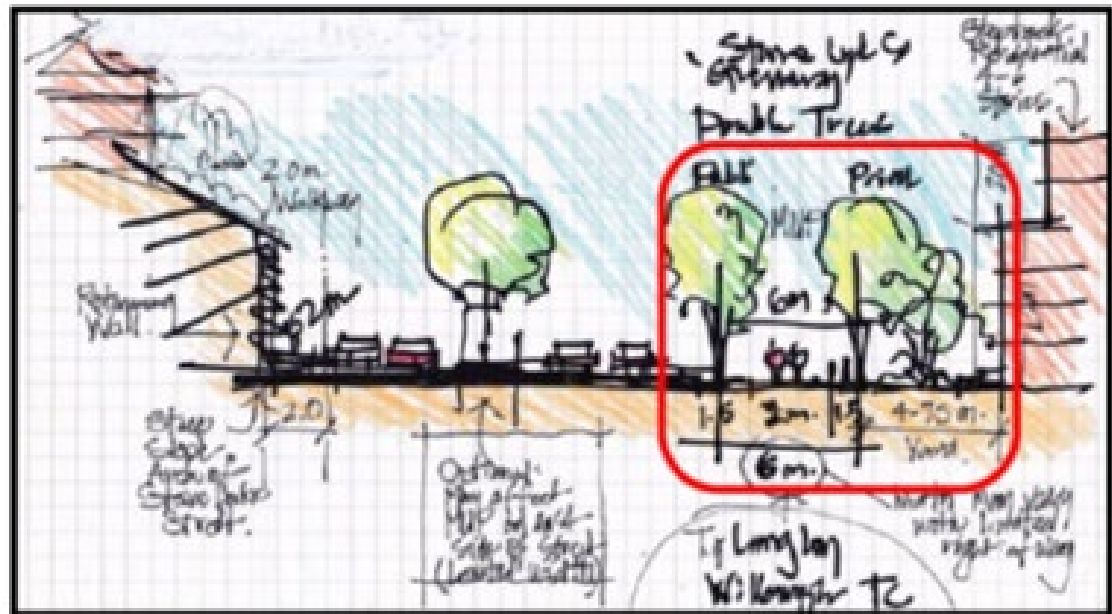
1. Trails and MUPs will be the Stave Heights neighbourhood's connecting routes for pedestrians and cyclists. In select locations, they will run along the outer edge of PNA areas between the top of ravine banks/steep slopes and developed areas.
2. Trails and pathways will connect destinations within and next to the plan area. The network will provide connectivity between the neighbourhood park and Fraser River Heritage Park, Mission City Park, and

the Stave Lake Street MUP. Trails within the neighbourhood will link with Fraser River Heritage Park trails, providing the ability to walk or cycle directly from the Parr neighbourhood through Heritage Park to the Fraser River ("Experience the Fraser") trail.

3. Ensure that new development provides a mobility network of roads, MUPs and trails that enable people of all ages and abilities to move around the neighbourhood conveniently and safely.
  - a. Provide a paved MUP that runs from the north-east quadrant of the neighbourhood from Parr Avenue along Hanson Drive where it will connect with Stave Lake Street.
  - b. It includes a pedestrian trail loop around townhouse development in the northeast corner along the scenic pastoral and forested landscapes of the Westminster Abby properties. This provides an opportunity for residents to explore a range of natural landscapes and provides for a connection for any future development on adjacent lands. The trail will also connect with the neighbourhood park



Source: Abbotsford Parks Recreation and Culture Master Plan



- c. Provide a walking trail that runs diagonally through the neighbourhood and connects to the MUP at Hanson Drive.
4. The road system integrates with the trail network providing direct pedestrian access within the neighbourhood, to local schools, parks and the Heritage Park commercial area, approximately 800 m from the Parr neighbourhood.

#### *Trails in Fraser River Heritage Park - Connectivity with Schools and Shopping*

This Plan provides opportunities for connecting trails within the Parr neighbourhood and adjoining lands in Fraser River Heritage Park and First Nations Lands. Such connectivity provides residents with direct trail access to the adjoining area to the south where schools and shopping are located at Stave Lake Street and Prentis Avenue/11<sup>th</sup> Avenue.

This trail connection shall provide a safe and direct access to the school and shopping destinations.

1. Trails that link the Stave Heights neighbourhood through Fraser River Heritage Park and First Nations land shall have a minimum width of 4 m and shall be developed with relatively straight alignments to provide clear visibility during the day and night.
2. Trail safety shall be enhanced with lighting at regular intervals.



## Streets

This Plan emphasizes the need to provide successful connectivity for all transportation modes. In particular, the emphasis is on providing a high level of safety and convenience for people of all ages (pedestrians, cyclists and people with mobility challenges) for all roadways within the Stave Heights neighbourhood.

Significantly, the interest of ensuring safety for pedestrians, cyclists and people using other non-motorized vehicles is paramount on Stave Lake Street.

Stave Lake Street is the major linkage or 'backbone' that connects the Stave Heights neighbourhood with schools and commercial uses located to the south at 11<sup>th</sup> Avenue. A section of the Plan area that fronts onto Stave Lake Street between Best and Knight Avenue is within a 10-minute walk to the Westminster Heights Plaza commercial area and nearby schools (Windebank Elementary, Heritage Park Middle School, and Hillside Traditional Academy).

Although this area of Stave Heights is located close to amenities, Stave Lake Street which is the strategic link between amenities and Stave Heights, is currently not a safe and comfortable walking connection. Successfully connecting to amenities via Stave Lake Street is critical to the proposed land use plan. A successful connection includes significant separation between pedestrian and vehicle traffic with a landscaped boulevard, significant street trees and wide sidewalks to accommodate walking and cycling

## Policies

### Stave Lake Street

1. Include linear park and continued landscaped buffer and MUP down Stave Lake Street.



2. Future Stave Lake Street upgrades from Parr Avenue to 11<sup>th</sup> Avenue will be designed as a 'Pedestrian Corridor' to provide for the safety, comfort and convenience of multiple modes, prioritizing pedestrians, cyclists and people with mobility challenges, and shall be designed with such features as the following:

- a MUP, protected from motor vehicle traffic on one side of Stave Lake Street adjacent to the higher density development proposed in this Plan. A recommended location for the MUP is on the east side adjacent to proposed apartment development (highest resident concentration);
- universal design features (curb cuts and ramps);
- raised crosswalks with curb extensions;
- substantial boulevard trees and landscaping (that could incorporate green infrastructure for rainwater management);

- protecting of existing mature trees within the boulevard and front yard areas to provide a measure of visual and sound protection for residents living in adjacent buildings;
  - incorporate trees within the boulevard and trees on adjacent private properties to create a double row of trees that will contribute to a greenway; and
  - where traffic signals are planned, 'leading pedestrian intervals' (LPI) allowing pedestrians to walk before motor vehicle traffic gets a green light.
3. Pedestrian-activated crossing signals (leading pedestrian intervals) are required for Stave Lake Street at Best Avenue and Knight Avenue to enhance pedestrian safety when crossing at these locations.
  4. The road system will coordinate with pedestrian and cycling trail networks that will include creek crossings in limited locations to provide connectivity with minimal environmental impact. Where possible, existing trees and other vegetation will be protected within road allowances and throughout the trail network.
  5. Roads and trails will be designed to fit appropriately into the sloping hillside terrain having grades that are less than 12%. Preservation of the area's streamcourses is an environmental priority for the Stave Heights neighbourhood and with this objective, Hanson Drive will be designed to include a bridge or culvert for crossing D'Herbomez Creek that provides for uninterrupted wildlife passage.



*Raised crosswalks provide a greater measure of safety for pedestrians*

6. Curb bulges and raised crosswalks shall be installed at intersections to enhance pedestrian safety with narrower crossing distances. This design feature will be particularly important for road crossings that connect with the park.
7. All roads will have either concrete sidewalks on both sides of each road and/or asphalt multi-use pathways.
8. Street typologies will generally be in accordance with the Development and Subdivision Control Bylaw with the possible exception where municipal roads are required to traverse moderately steep terrain. In these cases, road design guidelines can be utilized that are similar to those proposed for hilly areas such as Southwest Mission. Road design details are included within the associated Stave Heights Engineering Plan.
9. To ensure connectivity for developable areas located just to the east of D'Herbomez Creek (west branch) shall be accessed directly by Hanson Drive and in other cases by shared access easements across parcels that front

onto Hanson Drive. This will enable direct multi-modal access and will prevent parcel alienation.



*This graphic illustrates 'Complete Street' elements such as curb extensions and parking pockets.*

#### *Public Transit*

Planning for higher density within this area will support more frequent transit service to provide enhanced connectivity to Mission's downtown and the West Coast Express.

1. Given a substantial portion of the Stave Heights neighbourhood is situated within 400 m of transit service (approximately a 5-minute walk), the City will continue to work with BC Transit to ensure the area is appropriately serviced.
2. Future bus transit service and routes will be reviewed with BC Transit to consider direct service along Stave Lake Street between 11<sup>th</sup> Avenue and the Stave Heights neighbourhood.

#### *EV Infrastructure*

Electric Vehicles (EVs) are becoming a more economically viable mobility option for private and public transportation and goods movement. EVs are accommodated in new residential, commercial, industrial, and institutional buildings in Mission through Zoning and OCP Bylaw provisions and

policies in Local Area Plans such as Cedar Valley. In new buildings, EV charging is facilitated with roughed-in wiring and electrical systems.

To expand the provision of EV charging stations, this plan recommends that EV charging infrastructure and stations also be provided at key locations on municipal roadways. Potential locations for on-road EV charging stations could include spaces near the neighbourhood park, and on local roads that serve apartment development and potential commercial businesses that would front onto Stave Lake Street. This objective could be achieved through the preparation of an Electric Vehicle Curbside Charging Station Design Standard, incorporated into the Development and Subdivision Control Bylaw, the Transportation Master Plan and other municipal documents. The Design Standard is recommended to include:

- charging station location criteria;
- concrete bases for attaching the charging station and metered electrical kiosk;
- conduit and wiring to a suitable power source; and
- protective bollards to prevent damage to charging stations.

## 9.0 Implementation Strategy

The Stave Heights Neighbourhood Plan was adopted by Council as an amendment to OCP Bylaw 5670-2017. The majority of this neighbourhood was designated Attached Multi-unit Residential in the OCP. To implement this Plan, new and more detailed land use designations are introduced along with the use of established OCP designations, that in combination, required an amendment to the OCP Bylaw. In coordination with this OCP Amending Bylaw, other initiatives are included in the Plan's implementation strategy, including:

- a financial analysis that informs this Plan.
- the associated Stave Heights Engineering Plan, adopted by Council resolution when the Stave Heights Neighbourhood Plan received final adoption of the OCP Amending Bylaw and
- possible updating of other City bylaws and policies.

Implementing the Stave Heights Neighbourhood Plan provides clarity and certainty for equitable development along with flexibility to ensure completion of a complete and connected community.

### 9.1 Phasing Strategy

The Plan provides clear guidance for development within this neighbourhood through the Plan's policies, financial analysis, implementation phasing strategy, and the Engineering Plan. An important aspect of managing growth proposed in this Plan is to ensure the orderly progression and coordination of development with engineering infrastructure and the dedication and acquisition of land for public parkland, PNAs, trails, MUPs, and other community amenities along with the construction of parkland, trails, MUPs, and other community amenities.

Recognizing that the Plan occupies a relatively compact area of approximately 30 ha (75 ac), a detailed multi-phase servicing strategy such as the one applying to Cedar Valley is not required. Instead, the phasing strategy for the Stave Heights neighbourhood provides criteria for development in an orderly but flexible manner, with the objective of providing community services and amenities as development occurs and is not deferred for the long-term future. Engineering criteria for reviewing and re-assigning servicing areas include sanitary sewer capacity, road alignments, drainage catchment areas, natural boundaries such as streamcourse locations, and property boundaries.

As development applications are submitted, staff will review them for compliance with the Stave Heights Neighbourhood Plan, the OCP, Master Plans and other City bylaws and policies. Council will be advised of development progress within the Stave Heights neighbourhood on a regular basis, including annual reports that provide a 'snapshot' of development progress along with implementation of the plan objectives for parkland, trails and servicing.

It is expected that the Stave Heights neighbourhood will accommodate between 800 and 1200 dwelling units accommodating a population of approximately 2,000 to 3,000 residents, depending upon the forms of housing that are built per the Plan. Community services and amenities are provided for the approved and existing dwellings at the time of this plan's approval and are not included in the financial and phasing strategies for the remaining area to be developed. To ensure that community amenities and services are provided in an orderly sequence, while allowing for development flexibility, the following phasing strategy is recommended:



## Stage 1

**Prior to completion of the first 300 dwelling units, the following community amenities shown on the land use plan shall be secured and/or constructed:**

- Dedicate a 1.1 ha neighbourhood park on the east side of Hanson Drive at Best Avenue and construct initial components of the park to include play apparatus and a fenced dog off-leash area.
- Construct a path linking Hanson Drive through the neighbourhood park into the adjoining Fraser River Heritage Park to connect with trails in this park and the First Nations lands to the east.
- Construct a MUP on Stave Lake Street between Best Avenue and Prentis Avenue/11<sup>th</sup> Avenue, in conjunction with the Stave Lake Street upgrade project and financing strategy.

## Stage 2

**Prior to completion of the next 300 dwelling units, the following community amenities shall be secured and/or constructed:**

- Construct a MUP on Hanson Drive between Parr Avenue and Stave Lake Street, allowing all mobility modes to cross D'Herbomez Creek safely and in an environmentally responsible manner.
- Construct a pedestrian path adjacent to D'Herbomez Creek, linking Best Avenue with the Hanson Drive MUP.
- Construct a pedestrian path linking the south side of the Parr neighbourhood with the schools and commercial node at Stave Lake Street and 11<sup>th</sup> Avenue.

## Stage 3

**Prior to completion of the remaining dwelling units in the neighbourhood, the following community amenities shall be secured and/or constructed:**

- Completion of neighbourhood park construction with playground apparatus, fitness circuit, and other features recommended by the Parks, Recreation and Culture Department.
- Construct a MUP along Parr Avenue, west of Hanson Drive linking with the established pedestrian trail.
- Construct a trail east of Hanson Drive, within the agricultural buffer area as shown on the land use plan.
- Construct a pedestrian path within the PNA area south of Hanson Drive, where the path encircles the high density townhouse area.
- Construct a pedestrian path within the PNA area on the west side of D'Herbomez Creek linking Hanson Drive with the schools and commercial centre at Prentis Avenue and Stave Lake Street.

## 9.2 Development Strategy

The Plan introduces new policies and development options for properties that include the Protected Natural Asset (PNA) designation. For properties that include the PNA land use designation where watercourses, steep ravine slopes, wildlife habitat and other environmental assets are identified, development shall be clustered on the portion of the property where the PNA designation is not present. This type of development is categorized as 'Gross Density' or 'cluster' development. In these areas, development density shall be calculated to include the area located within the environmental buffer portion of the PNA designation that extends (approximately 15m) in from the top of bank.

Gross Density (cluster) development shall be achieved through the rezoning process by utilizing either a Comprehensive Development Zone or through the creation of a 'Gross Density' zone in the Zoning Bylaw. In areas south of Best Avenue, another development option available is the density transfer mechanism. In such cases, development density is transferred from one property to another. This option is included for areas where there is no or very marginal development potential, due to a combination of factors such as environmental protection and development servicing challenges. The density transfer option is intended to provide for equitable development and encourage the provision of affordable housing units clustered adjacent to an environmentally protected location. The Zoning Bylaw and Subdivision and Development Control Bylaw would need to be amended to facilitate Gross Density development, transfer of density option, new zones, definitions, and development requirements to facilitate these optional approaches for land development.

## 9.3 Financial Context

An OCP or LAP does not commit a municipality to spending; however, as growth occurs there will be capital costs of infrastructure, parks, services, and the financial impacts will depend on how these improvements and services are funded.

### Community Amenity Contributions

To address the amenity needs of the proposed new development in the Stave Heights neighbourhood, all development proposals at the time of rezoning or building permit issuance shall make a monetary contribution toward the City-wide Community Amenity Contributions (CACs) for the development of parkland, trails, MUPs and other amenities within the Plan area. The parkland required for the Stave Heights neighbourhood that is not dedicated at the time of plan adoption, shall be secured through other contributions such as Development Cost Charges.

The total payment for the community amenity contribution is determined through the financial analysis for this Plan. Community Amenity Contributions are not volunteered for secondary dwellings including secondary suites, coach houses or lock-off apartment units.

If the number of dwelling units in a proposed development is lower than that anticipated by the Plan, the applicant will be expected to 'top up' the amenity fees based on the number of dwelling units used to calculate the amenity charge to ensure there is no shortfall in funding for the proposed amenities.

### Estimated Cost of Parkland, Trails and MUPs

The financial strategy for this plan will provide the background rationale and technical approach needed for securing funding for the parkland acquisition and community amenities. One approach is to acquire parkland with DCCs and to construct amenities with Community Amenity Contribution (CAC) funds for such features as a playground, off-leash dog park, sports court, tree and horticultural plantings, pedestrian paths, Multi-use Pathways (MUPs), seating areas, pedestrian bridges and viewing platforms. However, it is understood that the parkland and trails will not only be used exclusively by Stave Heights residents, but will also become a destination for residents from other areas of Mission, particularly to enjoy use of the trails.

Amenity calculations do not include riparian area works on land conveyed to the City through the development process, such as invasive species removals, fence construction, replanting and naturalization, in-stream works or other related riparian area costs which are to be accounted for as part of the development process and subject to the Development and Subdivision Control Bylaw.

A number of plans, bylaws, and policies and financial strategies should be reviewed to implement the plan, these include:

- a review of the CAC policy, with the possibility that a separate CAC may be required for development in the Parr neighbourhood;

- a review of the DCC Bylaw, wherein a separate DCC may be required for development in the Parr neighbourhood;
- potential acquisition of land for parks purposes; and
- new or improvement transit service recommendation by BC Transit.

## 9.4 Action Plan

### Bylaws

Through the adoption of the Plan as an amendment to the OCP Bylaw, the City must ensure that its recommendations are compatible with existing regulations or that the potential impacts to the regulations are well understood. The following are implementation actions for the policies contained within this Plan.

- require any changes proposed for development servicing areas be conducted by way of amendment to the OCP and DCC Bylaws;
- revise outdated bylaws that are incompatible with the OCP and the Plan, including the Zoning Bylaw and DCC Bylaw;
- update the Zoning Bylaw to incorporate density transfer, gross density ('cluster') development and other provisions;
- amend the DCC Bylaw to provide equitable development costs for the Stave Heights neighbourhood in comparison with other areas of Mission;
- revise the Development and Subdivision Control Bylaw, as needed, to provide updated guidance for servicing the Stave Heights neighbourhood;
- revise the Sign Bylaw to provide for pedestrian-scale trail and MUP signage; and
- revise the Building Bylaw to require development of energy efficient buildings as required in the Provincial *BC Energy Step Code* in a phased and orderly process to meet Step Code goals for net-zero development.

### Policies and Processes

Review and amend the "Financial Contributions for Community Amenities Policy LAN.40" for residential development applications to enable the construction of community amenities in the Parr neighbourhood.

Also, this policy will reflect contributions when gross density development and density transfer occurs and when a density bonus is requested. Within the scope of assessing density bonusing would be conditions for providing CAC funds that would be directed towards the development of parkland, trails and MUPs within the Parr neighbourhood for all residential units excepting those units that are identified as 'affordable rental units.'

Amend the "Financial Contributions for Community Amenities Policy LAN.40" to provide for financial contributions in cases where revisions to the PNA boundaries are considered in the best interest of the City.





# APPENDICES