

NORTHWEST BURKE VISION - PHASE 2 REPORT
LAND USE, ACCESS & SERVICING

Phase 2 Report: NORTHWEST BURKE VISION

SYNOPSIS

The Northwest Burke Vision (NBV) is being prepared in a three-phase planning process. The project is currently in Phase 2.

The Phase 2 Report provides important direction to guide the long-term development of the Northwest Burke Vision area.

Linking the findings of the *Phase 1 NBV Constraints & Opportunities Report* with additional technical analyses, the Phase 2 Report:

- Considers site, land use, and local/regional policy context;
- Outlines the findings of the constraints and opportunities work;
- Identifies a range of potentially developable land;
- Explores several land use scenarios to estimate future potential dwelling unit and population levels; and,
- Determines conceptual transportation and utility networks to provide access and service to developable areas.

The Phase 2 findings were identified through an iterative process that included gathering and analyzing data for each of the planning considerations addressed (e.g. land use, access, utilities). These planning considerations are interrelated; this report is structured to show these relationships.

The next step for the Northwest Burke Vision is to hold additional consultation with property owners, community and external agency stakeholders, and the general public. Further analyses will also be completed. The final Vision document and Phasing Plan will be prepared as part of Phase 3.

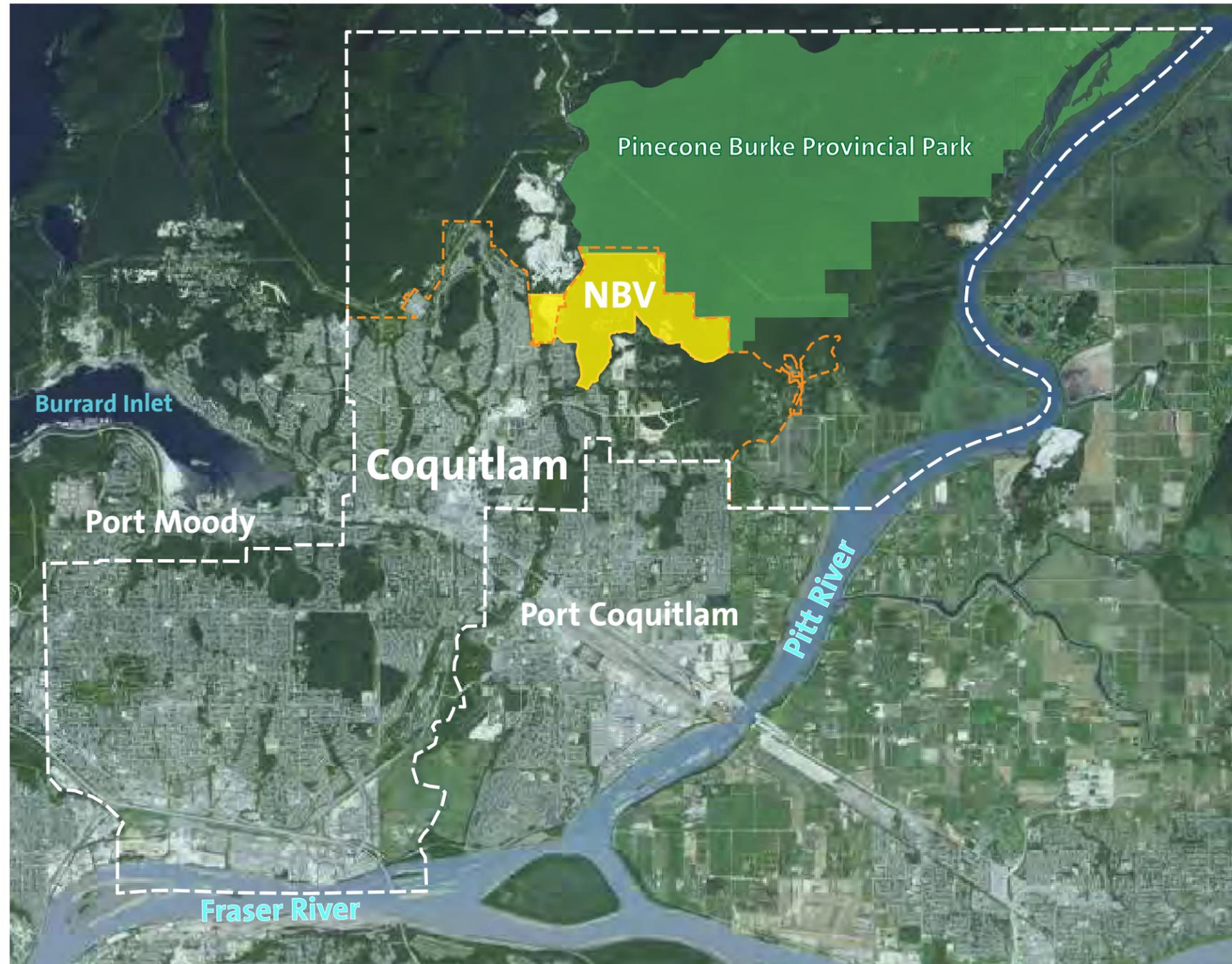


FIGURE 1: COQUITLAM CONTEXT

KEY	 Northwest Burke Vision Area	 Pinecone Burke Provincial Park	 City Boundary	 Urban Containment Boundary
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1.0 INTRODUCTION

1.1 Introduction

Coquitlam is one of the fastest growing cities in the Lower Mainland and is expected to grow by an additional 90,000 to 95,000 new residents over the next 30 years. The majority of this growth is planned for two major areas: the Evergreen Line rapid transit corridor (where an expected two-thirds of new residents will live in the Lougheed, Burquitlam, and City Centre neighbourhoods) and secondly in Burke Mountain, where an estimated one-third of new residents will reside.

Burke Mountain has been identified as an area for population growth since the 1990s. To date, four neighbourhood plans have been adopted: Upper Hyde Creek, Lower Hyde Creek, Smiling Creek, and Partington Creek.

Building on these existing neighbourhood plans, the City is now creating the Northwest Burke Vision (NBV) as a comprehensive approach to land use and infrastructure planning to guide growth in this area over the coming 30-years. The NBV area (Figure 3) is located in northeast Coquitlam adjacent to Pinecone Burke Provincial Park.

1.2 Vision Purpose

The Northwest Burke Vision will:

- Establish guidelines and a policy context for subsequent planning initiatives (e.g. neighbourhood plans) that will define the land use pattern and details of how development occurs;
- Provide a framework within which adjacent landowners can work cooperatively towards implementation of the NBV; and,
- Provide a phasing plan and financial feasibility assessment outlining the timing and infrastructure funding requirements for the successful implementation of the Vision.

1.3 Visioning Process

The Northwest Burke Vision is being prepared in a three-phase planning process. Phase 1 of the Vision process focused on developing a high-level understanding of the Vision area's topographical, bio-physical and environmental constraints and opportunities. The current phase, Phase 2, explores and identifies potential land use, access, and servicing ideas. Phase 3 will synthesize the technical outcomes and feedback gathered during Phases 1 and 2 into the complete Vision policy document. Opportunities for public and stakeholder input are incorporated throughout.

1.4 About the Phase 2 Report

The Phase 2 report links the findings of the constraints and opportunities review (Phase 1) and landowner input with additional technical analyses. Its purpose is to consider major land uses, define transportation corridors, outline preliminary utility networks and infrastructure needs, and identify major natural areas.

As in Phase 1, Phase 2 analyses are high-level due to the large size of the NBV area. Further work will be required at the neighbourhood plan stage and through future City-Wide Official Community Plan (CWOCP) amendments to define the local land use patterns and infrastructure networks.

The major land use types and infrastructure network analyses contained in this report were developed through an iterative process taking into account technical findings, adjacent land uses and existing transportation and infrastructure networks. As in the Phase 1 report, eleven Sub Areas defined by topography and land characteristics, were used to frame the discussion (see Figure 2).

Preparation of this report also included a number of discussion papers that provide guidance and direction to how future urban development may be accommodated in the NBV area.

These technical reports are available as a separate technical binder titled "Northwest Burke Vision Discussion Papers & Technical Memos" and include:

- *Northwest Burke Vision Housing Market Analysis Technical Memo;*
- *Slope Analysis of Selected Existing City Streets to Support Northwest Visioning Memo;*
- *Northwest Burke Vision Planning Study: Transportation Discussion Paper; and*
- *Northwest Burke Vision Planning Study: Utilities Discussion Paper.*

1.5 Report Organization

The Phase 2 analytical process is reflected in the organization of this report with each section serving as an input for subsequent sections.

- **Section 2.0** and **Section 3.0** provide site, land use, and policy context. This context informs decisions around land use allocation, transportation, and utility planning.
- **Section 4.0** outlines the findings of the constraints and opportunities analysis. Lower-, mid-, and upper-ranges for developable land are identified based on these findings.
- **Section 5.0** connects the outcomes of sections 2.0 - 4.0 through the land use allocation

analysis. Estimated dwelling unit and population levels are created as part of this process.

- In **Section 6.0** and **Section 7.0** these estimated dwelling unit and population levels inform the conceptual transportation and utility networks which provide access and service to the developable areas. Transportation is considered first in Section 6.0 while utilities, which generally follow transportation corridors, are discussed in Section 7.0. Utilities included are water, sanitary sewer, and drainage/ stormwater.
- To conclude, **Section 8.0** provides an overview on next steps, including consultation and future Phase 3 work.

1.6 How this Report will be Used

The Phase 2 report will provide a basis for Phase 2 public and stakeholder consultation and discussion. The feedback received through this consultation will be integrated with the Phase 1 and Phase 2 technical analyses to create the final Vision document in Phase 3.

The final Vision document will provide a policy context and implementation plan, including a financial feasibility analysis and development phasing plan, to guide future CWOCP amendments and neighbourhood plans in the NBV area.

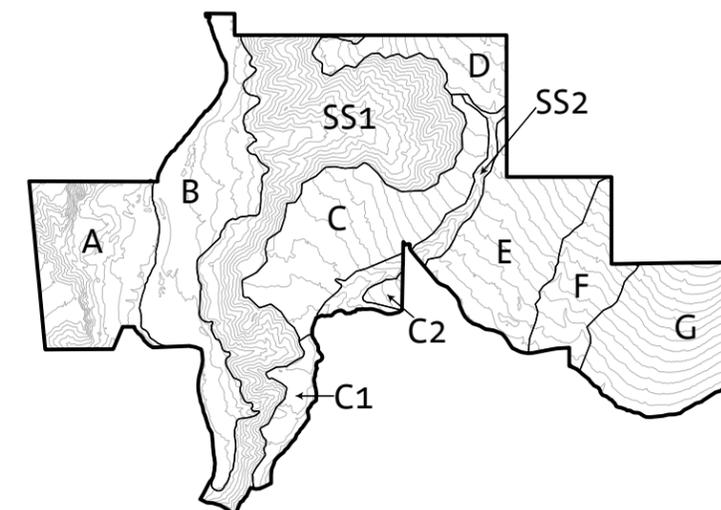


FIGURE 2: NORTHWEST BURKE VISION SUB AREAS



FIGURE 3: NORTHWEST BURKE VISION AREA

2.0 AREA CONTEXT

2.1 Overview

This section provides a general overview of the NBV lands in relation to site location and natural features. It also includes an overview of the NBV area and adjacent area context as well as property ownership.

2.2 Site Location

The NBV lands are located on the southwestern slopes of Burke Mountain in Northeast Coquitlam. The NBV area is about 400-hectares (990-acres) in size and bordered by the Upper Hyde Creek, Smiling Creek, and Partington Creek neighbourhoods to the south, Westwood Plateau to the west and Pinecone Burke Provincial Park to the north-east (Figure 4).

2.3 Natural Features

The NBV area includes large tracts of undeveloped land covered by mature forests, wetlands and creeks. The terrain varies from floodplains adjacent to the Coquitlam River to the steeper topography of Burke Mountain. A variety of vegetation, wildlife, geologic, and natural hydrological features are present across the Vision area, most notably the Coquitlam River, Hyde Creek, Smiling Creek, and Burke Mountain Creek. The 3D visualization in Figure 5 (p.5) shows the area's steep and mountainous topography.

2.4 NBV Area Context

The NBV area context includes (see Figure 4):

- **Residential neighbourhoods** located east of Pipeline Road in Sub Area A and along Hazel Avenue, Coy Avenue, and Martin Street in Sub Area C;
- An active **gravel quarry** located on private land west of Pipeline Road in Sub Area A;
- The **Port Coquitlam & District Hunting & Fishing Club** located off of Harper Road and adjacent to Pinecone Burke Provincial Park in Sub Area D. Located on Crown land, the club currently operates under a lease agreement with the Province;

- An active **fill storage site** operated by a private residential developer located south of the Port Coquitlam & District Hunting & Fishing Club in Sub Area E; and,
- A **communication tower** located off of Conifer Drive, south of Pinecone Burke Provincial Park in Sub Area E.

2.5 Adjacent Area Context

The adjacent area context will influence the type and density of future land use within the NBV area. As a result, a summary of the development patterns and an overview of major land uses are provided in Figure 4.

Community and Commercial Amenities

The *Partington Creek Neighbourhood Plan* identifies a Neighbourhood Centre, which is planned to become the commercial, civic, and recreational hub for Northeast Coquitlam. To date, a draft concept plan has been prepared for the Partington Creek Neighbourhood Centre, which features a village layout with a central grocery store, a retail main street, and multi-family developments. A Civic Centre is also planned to accommodate community recreational uses and park space.

Two smaller neighbourhood commercial centres are located near the NBV area. Meridian Crossing and Meridian Corner are located to the south at the intersection of David Avenue and Coast Meridian Road. Both offer a mix of professional services (e.g. medical, financial), restaurants, and convenience stores. Coquitlam City Centre, a major shopping centre in the region is approximately a 10-minute drive from the western portion of the NBV area.

Housing and Residential Neighbourhoods

The residential neighbourhood of Westwood Plateau is located west of the Vision area while the neighbourhoods of Upper and Lower Hyde Creek and Smiling Creek are located to the south. The newer Partington Creek neighbourhood is in the early stages of development southeast of the NBV area. The four neighbourhoods to the south

and east of the Vision area are predominately a mix of single family housing types and townhouses. Since 2010, development trends have averaged a housing split of 55% single family and 45% townhouse. Additional townhouses and mid-rise development is planned for Partington Creek Neighbourhood Centre.

Industrial Activities

The area immediately north of the active gravel quarry in Sub Area A is also under active quarrying and processing use. A regional BC Hydro transmission corridor runs north and west of the NBV area.

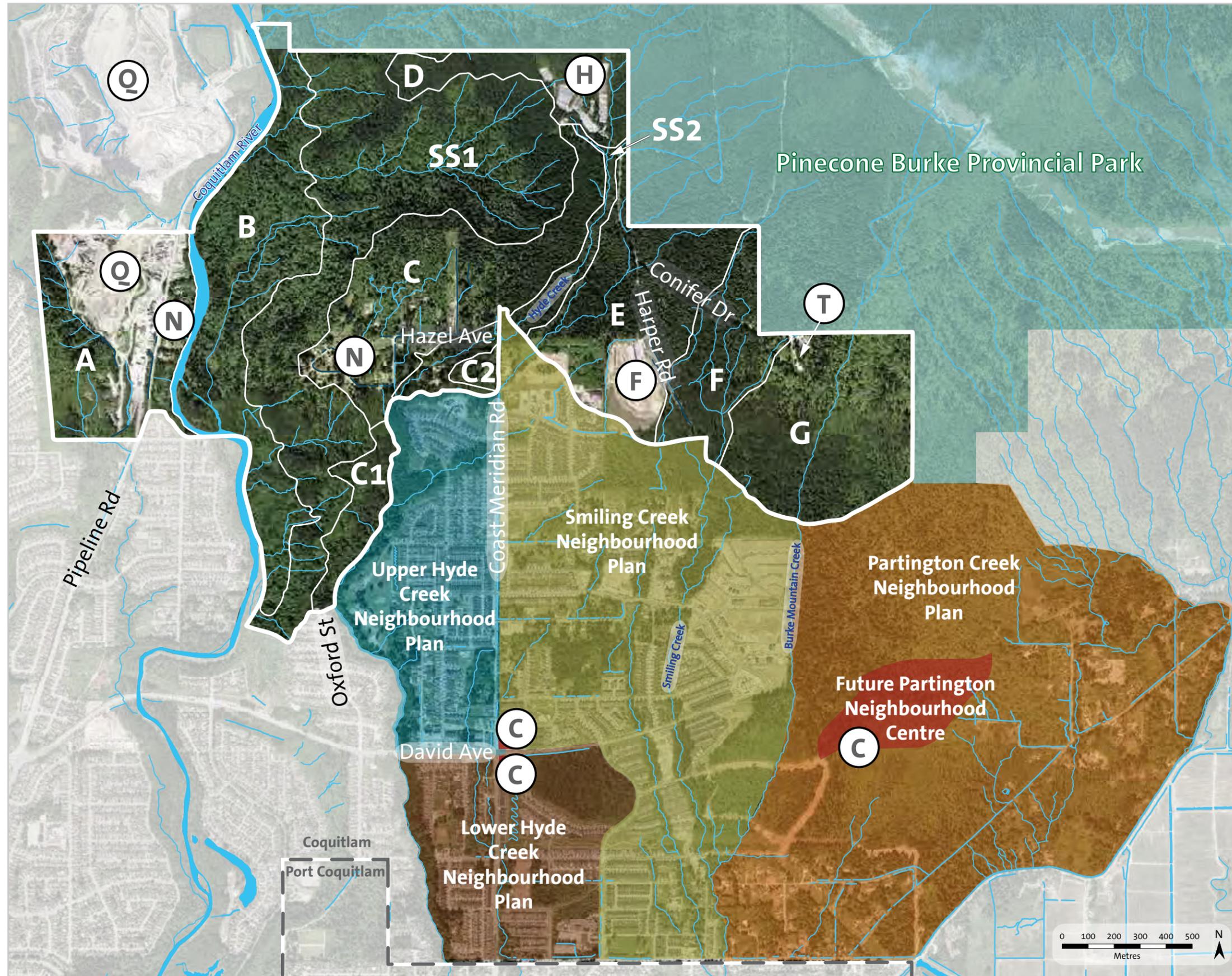
Parks and Open Space

The 38,000-hectare Pinecone Burke Provincial Park is located immediately northeast of the NBV area. Just under 2,600-hectares of this park area is located within City boundaries. Primary access to the park is through the NBV area off of Harper Road, Coast Meridian Road, Apel Drive (turns into Victoria Road), and Quarry Road. The Provincial government is currently preparing a Management Plan for Pinecone Burke Provincial Park.

2.6 Property Ownership

There are currently 58-property owners in the NBV area. The majority are private land holders (320-hectares). As well, there is clustered ownership of suburban residences in the form of large lot single-family homes located east of Pipeline Road and along Hazel Avenue, Coy Avenue, and Martin Street (Sub Areas A & C). The remainder of the land is owned by the Province (43-hectares | Sub Area D) and the City of Coquitlam (16-hectares | Sub Area G). Figure 6 (p.6) illustrates the breakdown of private, Provincial, and City ownership.

FIGURE 4: NORTHEAST CONTEXT



KEY

-  Northwest Burke Vision Area
-  Sub Area Boundaries
-  Coquitlam River
-  Watercourses
-  Ditches
-  City Boundary
-  Quarry
-  Existing Residential Neighbourhood
-  Port Coquitlam & District Hunting & Fishing Club
-  Fill Site
-  Communication Tower
-  Commercial Node

DISCLAIMER / NOTE:
 • The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

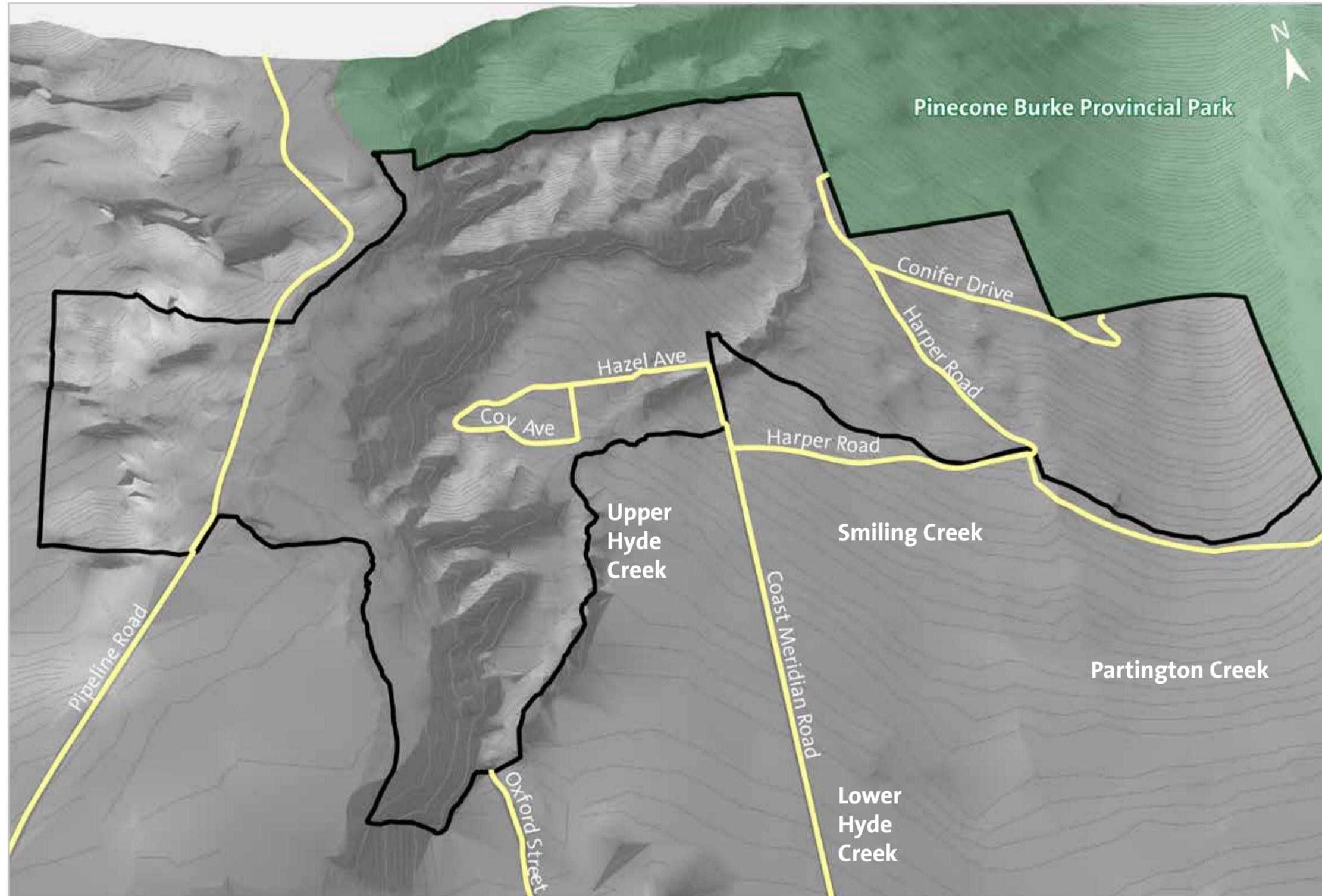
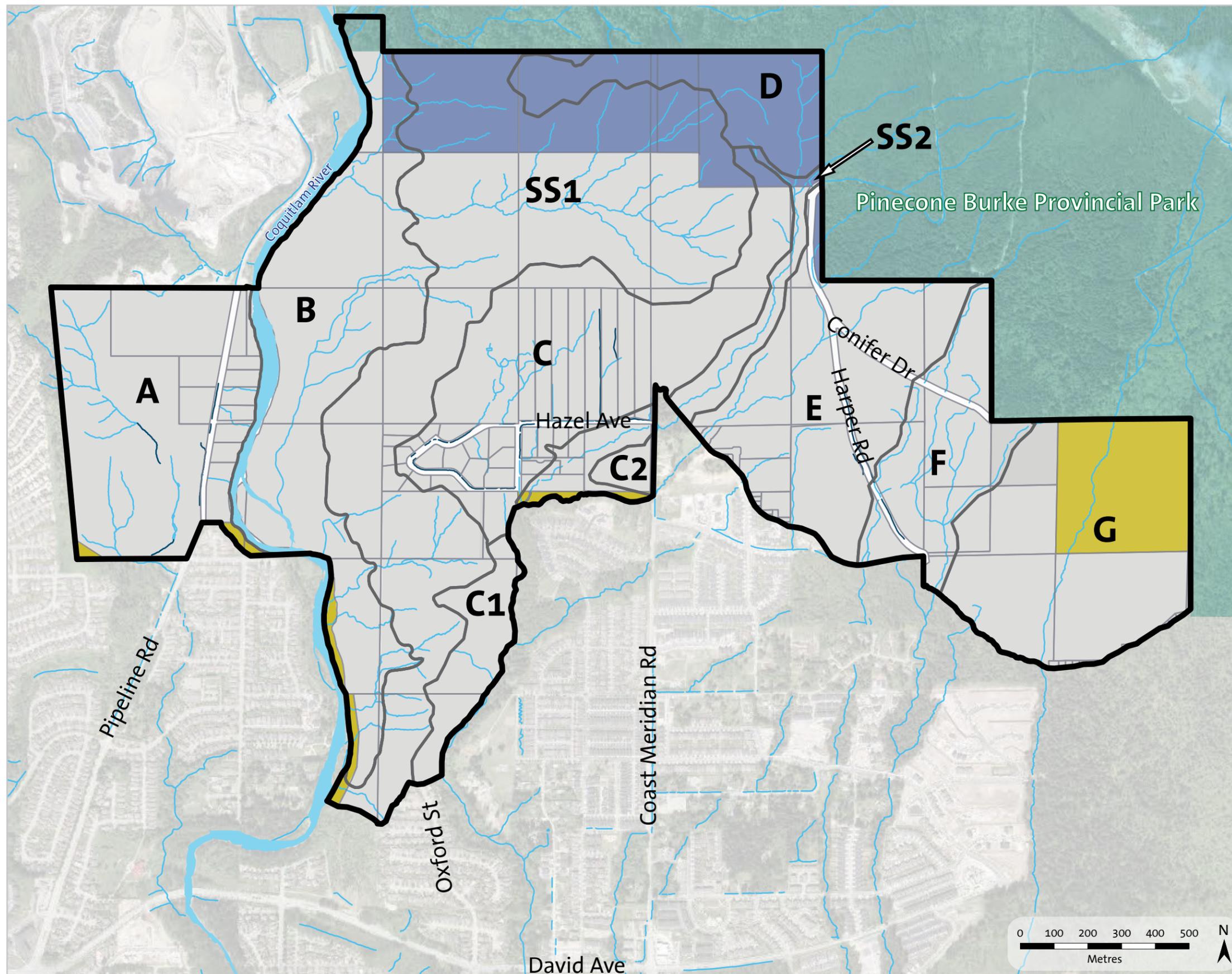


FIGURE 5: 3D VISUALIZATION OF THE NBV TOPOGRAPHY

KEY

- Northwest Burke Vision Area
- Existing Roads

FIGURE 6: PROPERTY OWNERSHIP



KEY

-  Northwest Burke Vision Area
-  Sub Area Boundaries
-  Property Lines
-  Watercourses
-  Ditches
-  Coquitlam River
-  Private Landowners
-  Province of British Columbia
-  City of Coquitlam

DISCLAIMER / NOTE:
 • The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

3.0 POLICY CONTEXT

3.1 Overview

This section provides an overview of the regional and local policy context. At a regional scale, the Metro Vancouver Urban Containment Boundary (UCB) and the Regional Fraser Sewerage Boundary are highlighted. At the local scale, existing land use designations for the NBV area are summarized as per the Northeast and the Northwest area plans.

3.2 Regional Considerations

The Metro Vancouver Regional Growth Strategy identifies the majority of the NBV lands within the UCB (Figure 8). The lands west of the Coquitlam River (Sub Area A) are currently outside the UCB boundary; however, as noted in Coquitlam's Regional Context Statement, as the quarry resources are exhausted, an amendment process to the UCB could be pursued following a land use study. The NBV is a first step in this process.

Lands contained within the UCB are identified for future urban development. The NBV area represents a significant opportunity to support and accommodate regional growth and housing demand within a large greenfield site.

In addition, as identified in Figure 8, the Regional Fraser Sewerage Area (FSA) boundary cuts across the NBV area. As a result, portions of the NBV lands are currently outside the sewerage boundary.

The City of Coquitlam recently requested that the FSA boundary be amended. At time of writing, this amendment request is under consideration by the Metro Vancouver Board and the Greater Vancouver Sewerage and Drainage District Board. Figure 8 identifies the existing/proposed FSA boundaries.

3.3 CWOCP Land Use Policy Context

Northeast Coquitlam Area Plan (NECAP)

As shown in Figure 9 (p.9), the majority of the NBV lands are currently designated as 'Development Reserve' and 'Environmentally Sensitive Areas' in the *Northeast Coquitlam Area Plan* (NECAP). 'Development Reserve' is defined

as land intended for future urban development while 'Environmentally Sensitive Areas' are lands reserved for the protection of critical natural environments such as fisheries and wildlife habitat.

Portions of Sub Area B, known as the 'Riverwalk Lands', include three residential designations:

- 'Low Density' - 10 to 20 units/hectare;
- 'Medium Density' - 25 to 30 units/hectare; and,
- 'High Density' - 50 to 60 units/hectare.

The Riverwalk Lands also include a site designated 'School' and a planned greenway ('Parks and Recreation' designation) which runs along the eastern side of the Coquitlam River. These land use designations are based on an CWOCP amendment application made in 1998.

The area north of Hyde Creek, along Hazel Avenue, Coy Avenue and Martin Street in Sub Area C, is designated as 'Suburban Residential'. The designation allows for single family homes on individual lots larger than one acre (0.4-hectares). The 'Port Coquitlam & District Hunting & Fishing Club' located adjacent to Pinecone Burke Provincial Park is designated as 'Extensive Recreation' which accommodates private, outdoor recreational uses.

Northwest Coquitlam Area Plan (NWCAP)

The area west of the Coquitlam River (Sub Area A) falls within the *Northwest Coquitlam Area Plan* (NWCAP) boundary. The lands to the east of Pipeline Road are designated 'Suburban Residential' and the lands to the west are designated 'Rural Resource' (Figure 9, p.9). A gravel extraction facility currently operates under the 'Rural Resource' designation. Under Provincial legislation, the use is classified as a mine and subject to Provincial reclamation requirements. The NWCAP anticipates phasing out this industrial use as resources are exhausted and reclaiming all excavation areas. Lands abutting the gravel quarry to the east are designated as 'Open Space', providing green space and an outdoor recreation area for residents of the Westwood Plateau.

3.4 Riparian Assessment Areas

Watercourses and land within a certain distance of watercourses are protected by federal and provincial legislation through the Fish Protection Act and the Riparian Areas Regulation (RAR). It calls on local governments to protect riparian areas during development by ensuring that either a Qualified Environmental Professional (QEP) conducts a science-based assessment of proposed activities and determines appropriate site specific setbacks (Detailed Assessment Method) or alternatively, that a standard setback is applied (Simple Assessment Method).

The RAR protects the features, functions and conditions that are vital for maintaining stream health and productivity, including:

- Sources of large organic debris, such as fallen trees and tree roots;
- Areas for stream channel migration;
- Vegetative cover to help moderate water temperature;
- Provision of food, nutrients and organic matter to the stream;
- Stream bank stabilization; and,
- Buffers for streams for excessive silt and surface run-off pollution.

All watercourses in Coquitlam are subject to a 30-metre Riparian Assessment Area (RAA) measured according to Coquitlam's Zoning Bylaw (Sect. 523) and the Provincial RAR (B.C. Reg 376/2004 as amended or superceded).

The Simple Assessment Method sets a standard SPEA setback at 30-metres as measured from the top of bank (Figure 7a). In contrast, the Detailed Assessment Method uses a QEP and field assessments to identify a site-specific SPEA setback from within the RAA as measured from the high water mark (Figure 7b). The final SPEA setback will vary based on the QEP findings and additional setbacks for windfirm tree and/or geotechnical consideration may also apply.

Choice of Assessment Method

If a proposed new development is either wholly, or partially within the RAA, the development applicant has a choice of applying the Simple or the Detailed Assessment Method to determine the size of the watercourse Streamside Protection and Enhancement Area (SPEA) setback. A SPEA setback is an area adjacent to the watercourse that links aquatic to terrestrial ecosystems and where development is not permitted.

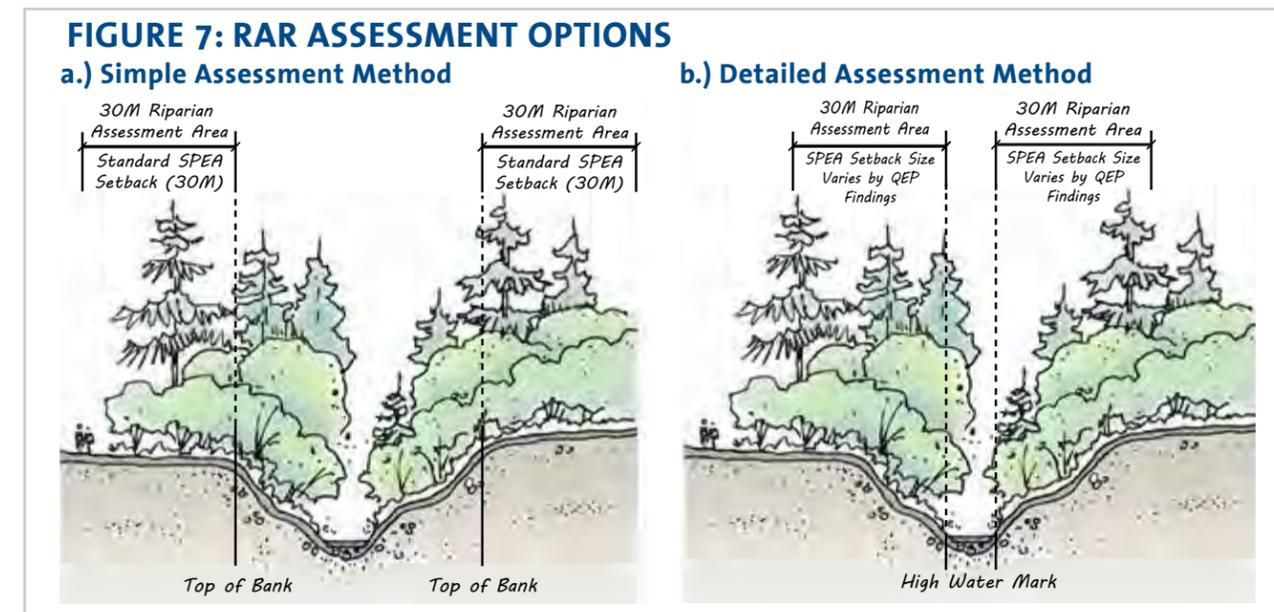
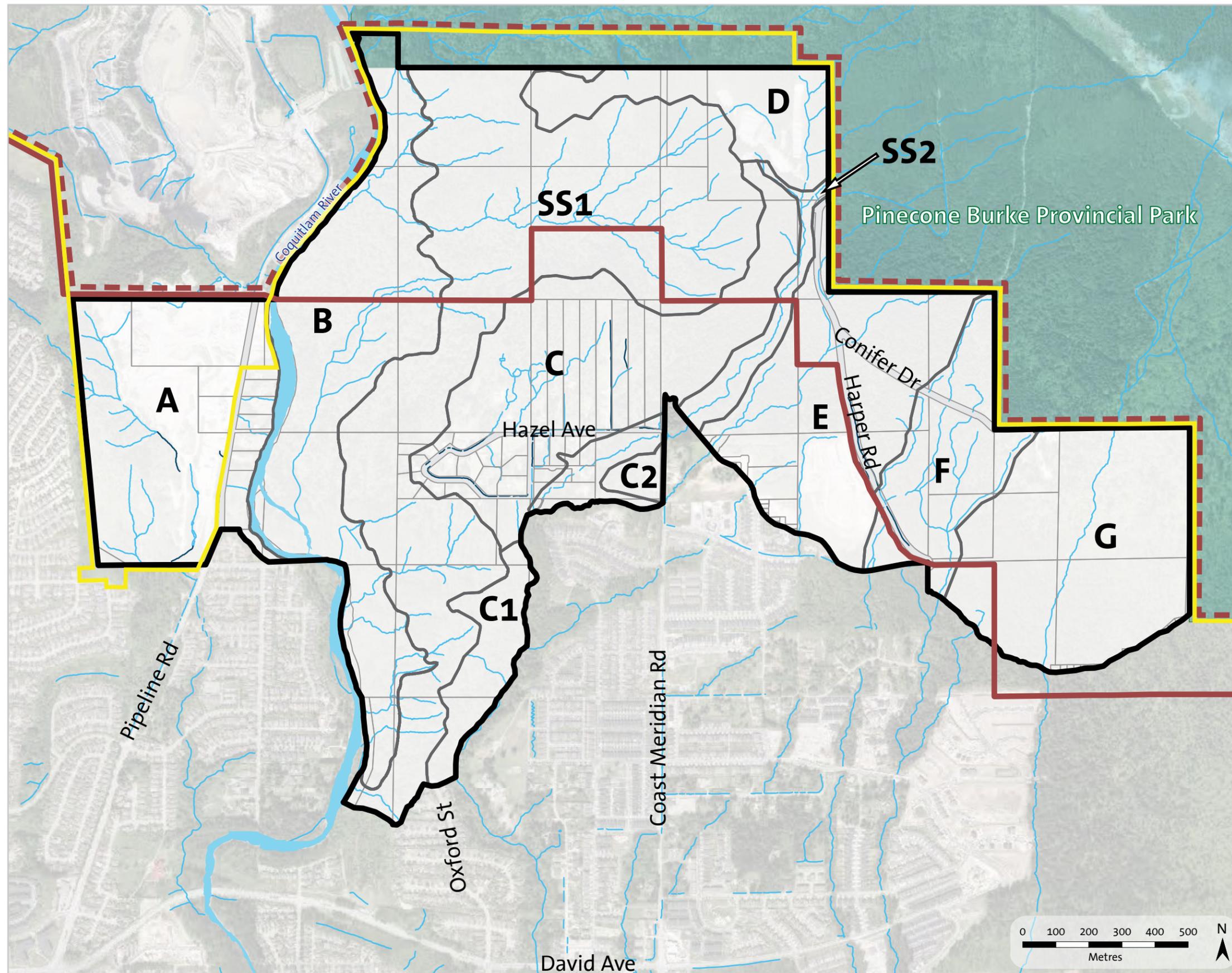


FIGURE 8: REGIONAL URBAN GROWTH & SEWERAGE BOUNDARIES



KEY

-  Northwest Burke Vision Area
-  Sub Area Boundaries
-  Watercourses
-  Ditches
-  Coquitlam River
-  Urban Containment Boundary
-  Existing Regional Fraser Sewerage Area Boundary
-  Proposed Amendment to Regional Fraser Sewerage Area Boundary

DISCLAIMERS / NOTES:

- The northern boundaries of the Urban Containment Boundary and the proposed amendment to the Regional Fraser Sewerage Area Boundary currently fall within Pinecone Burke Provincial Park. The City will explore an amendment of these boundaries with Metro Vancouver at a future date as part of a scheduled update to the Regional Growth Strategy.
- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

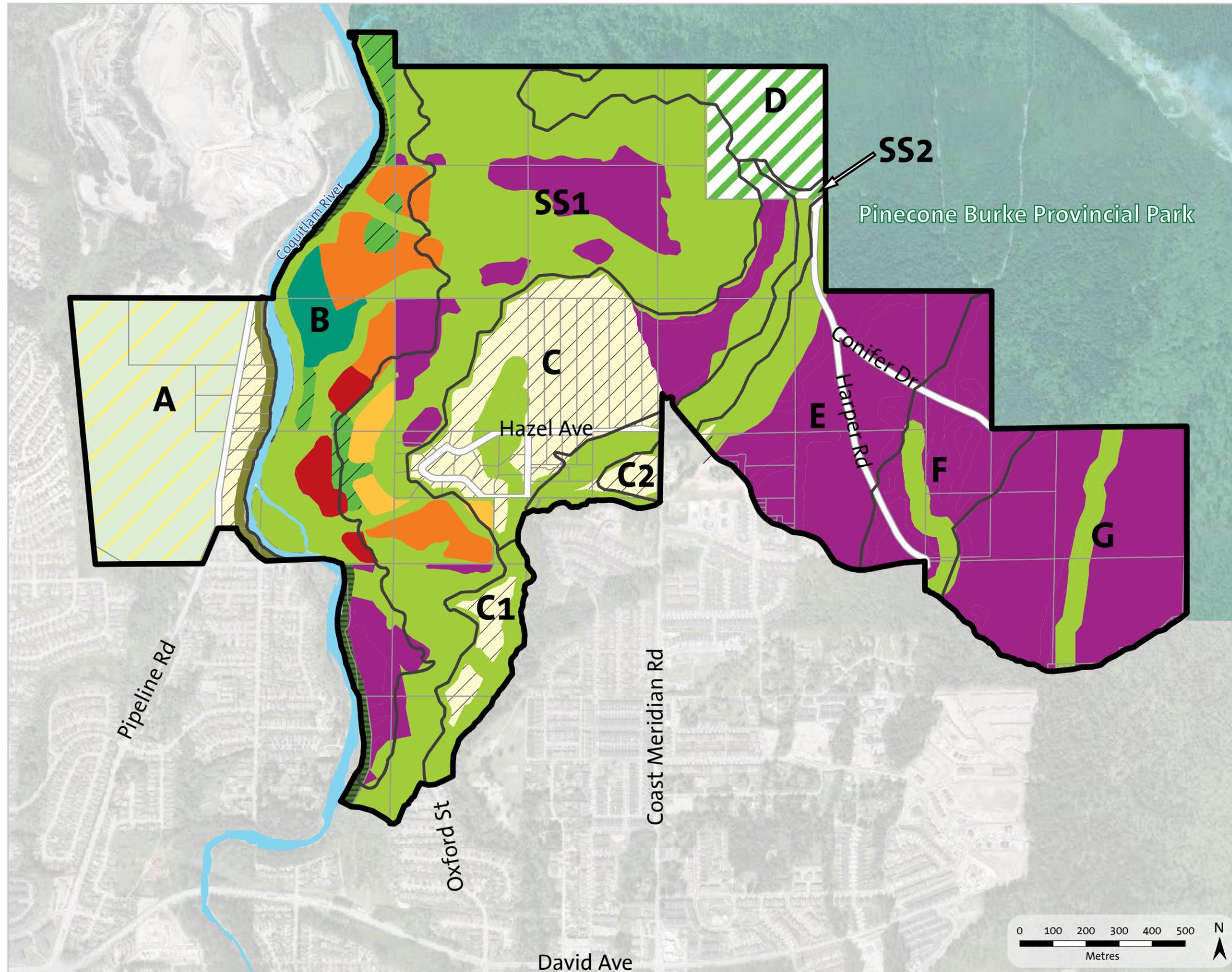


FIGURE 9: EXISTING CWOCPLAND USE DESIGNATIONS

KEY

-  Northwest Burke Vision Area
-  Sub Area Boundaries
-  Coquitlam River
-  Development Reserve
-  Environmentally Sensitive Area
-  Extensive Recreation
-  Linear Park
-  Open Space
-  Parks and Recreation
-  Rural Resource and Residential
-  School
-  Suburban Residential
-  Village - High Density Residential
-  Village - Medium Density Residential
-  Village - Low Density Residential

DISCLAIMER / NOTE:
 • Map represents existing CWOCPLand use designations as adopted.

4.0 DEVELOPMENT POTENTIAL

4.1 Overview

This section begins to provide a high-level overview of lands potentially suitable for neighbourhood development and those that may remain in their natural state. The physical and environmental constraints and opportunities as identified in Phase 1 of the NBV process are used to begin to determine developable land in the NBV area. The results of this developable land area analysis provides direction for land use, transportation, and utility infrastructure planning. This includes assessment of the potential number of residential units and population levels that could be accommodated in the NBV area (see Sections 5 -7).

4.2 Physical & Environmental Constraints & Opportunities

To gain an understanding of the area's physical and environmental constraints for potential future neighbourhood development and to identify key opportunities provided by the landscape, a constraints and opportunities assessment was completed as part of Phase 1. This section outlines key findings; further information is available in the *Northwest Burke Vision Constraints & Opportunities Report* (February 17, 2015).

The assessment involved a desk-top analysis, relying on existing data sources, and advanced geographical information systems (GIS) analysis/mapping. Detailed geotechnical and hydrological investigations were not part of the scope of the analysis, but will be required with future Official Community Plan amendments, neighbourhood planning, and site development. As a result, figures throughout the report may not reflect the exact location of all watercourses, including unknown watercourses.

Based on the analysis, physical and environmental constraints and conditions identified in the Phase 1 *Constraints and Opportunities Report* include but are not limited to:

- Steep and unstable slopes;

- Crest of slopes;
- Debris runout areas;
- Watercourses with SPEA;
- Coquitlam River with SPEA;
- Coquitlam River floodplain; and,
- Ditches (as per Coquitlam's Zoning Bylaw Sect. 523 Riparian Areas Regulation).

The remainder of the lands in the NBV area are identified as 'potentially non-constrained' as they have development potential. Figure 10 (p.11) shows the location of constraints and opportunities as identified across the NBV area. For a further description of the analysis and terminology, see the *Northwest Burke Vision - Constraints & Opportunities Report* (February 17, 2015).

4.3 Water Service Constraint

As part of Phase 2, an additional potential constraint was identified through technical analysis. The current citywide servicing strategy does not provide for water service above the 320-metre elevation line (discussed in Section 7.2, p.35). These 'water service constrained lands' include a large section of Sub Area D and portions of Sub Areas E, F, and G, totaling approximately 30-hectares (see Figure 10, p.11). Further analysis is underway to determine the feasibility of servicing lands subject to this constraint.



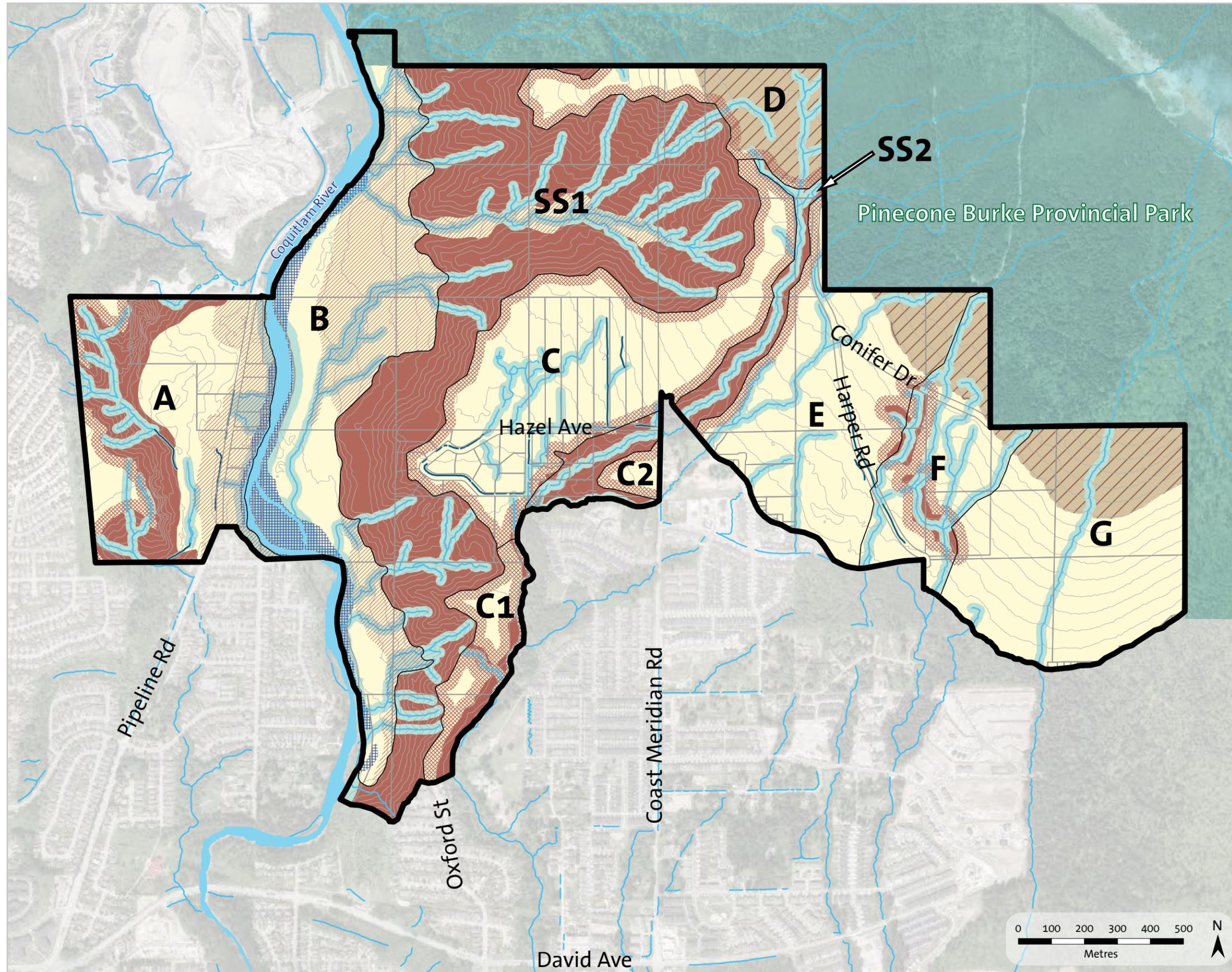
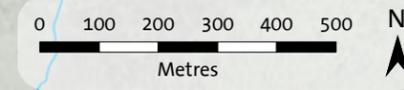


FIGURE 10: CONSTRAINTS & OPPORTUNITIES

- KEY**
- Northwest Burke Vision Area
 - Sub Area Boundaries
 - Coquitlam River with SPEA
 - Watercourses with SPEA
 - Ditches
 - Coquitlam River Floodplain
 - Steep and Unstable Slopes
 - 30-Metre Setback from Crest of Slope
 - Debris Runout Area
 - Potential Non-Constrained Lands - Lands having development potential
 - Water Service Constrained Lands - Areas above the 320-metre elevation line currently constrained by water service
 - 10-Metre Interval Contours



DISCLAIMERS / NOTES:

- Constraints & Opportunities Map has been updated from the Phase 1 Report to include the 'Water Service Constrained Lands' and new watercourse information.
- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

4.4 Developable Land Area

As there are a number of physical and environmental constraints and conditions that define the ultimate development potential of the NBV area, a high-level analysis has been undertaken. This is a continuation of the constraints and opportunities work completed as part of Phase 1 and summarized in Sections 4.2 and 4.3 of this report. The analysis defines a theoretical continuum of the NBV lands development potential as well as lands that may remain in their natural state.

This approach has been taken as there are a number of variables that determine the lands' development potential. These include setbacks related to slopes, watercourses, debris run out areas, Coquitlam River floodplain and utility services. As a result of these variables, lower-, mid- and upper- ranges of development potential have been calculated.

Following the City of Coquitlam's development-related bylaws, processes and procedures, the actual development potential of a given parcel of land will need to be determined through detailed geotechnical, hydrological and interface wildfire analyses. These will be conducted by qualified environmental, geotechnical and wildfire professionals as part of future implementation steps including CWOCP amendments, neighbourhood planning processes and site development. Due to the large size of land area covered by the NBV (ca. 400-hectares), this detailed fieldwork is not feasible at this scale. As a result, a 'continuum of development potential' was established. This continuum reflects a lower-, mid- and upper-range of developable land area within the NBV area.

Overall Considerations | Development Potential

The following development regulations and environmental considerations were applied to the lower-, mid- and upper-ranges of development land area:

- All lands identified as steep and unstable slopes are not developable as they are prone to active or inherent instability (Sub Areas SS1, SS2 & portions of Sub Areas A, E, F & G);

- All lands within 30-metres of the Coquitlam River are not developable as per Coquitlam's Zoning Bylaw. These lands include the floodplain setbacks up to 30-metres and the 30-metre SPEA for the Coquitlam River;
- Setbacks for all other watercourses have been calculated from the centre line. Actual setbacks will be assessed according to Coquitlam's Zoning Bylaw (Sections. 519 Flood Control and 523 Riparian Areas Regulation). Windfirm tree and geotechnical considerations may also contribute in determining actual setbacks; and,
- A 2-metre setback from the centre line was calculated for all ditches. Actual setbacks will be assessed according to Coquitlam's Zoning Bylaw (Sections. 519 Flood Control and 523 Riparian Areas Regulation).

Development Potential: Lower Range

Figure 11 (p.13) illustrates the lower range of land area with development potential. This is the most limited land area estimate and excludes lands identified as having physical or environmental constraints. Only lands defined as 'Potential Non-Constrained' in Figure 10 (p.11) are shown as having development potential under the lower range calculation. The lower range calculation is based on the following assumptions:

- SPEA setback of 30-metres for all watercourses applied as per the 'Simple Assessment Methodology'. All watercourses under the 'Simple Assessment Methodology' are subject to a 30-metre Riparian Assessment Area measured from the top of bank as outlined in Coquitlam's Zoning Bylaw (Sections 519 and 523). Applicants must retain a BC Land Surveyor to survey the location of the top of bank;
- 30-metre setback for buildings/structures from the crest of slope;
- Debris runout areas are assumed not to be developable (Sub Areas A & B);
- Floodplain lands beyond the 30-metre Coquitlam River setback are assumed not to be developable; and,
- Lands constrained by water service above 320-metres are assumed not be developable.

Based on these assumptions, the lower range of developable land area is approximately 95-hectares.

Development Potential: Mid-Range

Figure 12 (p.14) illustrates the mid-range of lands with development potential. The mid-range represents a developable land area that falls in-between the lower and upper range, and is based on the following assumptions:

- SPEA setback of 15-metres for all watercourses as per the 'Detailed Assessment Methodology';
- 15-metre setback for buildings/structures from the crest of slope;
- Floodplain lands beyond the 30-metre Coquitlam River setback are assumed to be developable;
- 50% of debris runout areas are assumed to be developable (Sub Areas A & B).
- Lands above 320-metre water servicing constraint are assumed to be developable.

Based on these assumptions, the mid-range developable land area is approximate 165-hectares.

Development Potential: Upper Range

Figure 13 (p.15) illustrates the upper range of developable land potential. This approach was taken to gain an understanding of the maximum land area that could theoretically be developed. The upper range calculation is based on the following assumptions:

- SPEA setback of 10-metres for all watercourses as per the 'Detailed Assessment Methodology'.
- 8-metre setback for buildings/structures from the crest of slope;
- Floodplain lands beyond the 30-metre Coquitlam River setback are assumed to be developable;
- Debris runout areas are assumed to be developable (Sub Areas A & B).
- Lands above 320-metres water servicing constraint are assumed to be developable.

Based on these assumptions, the upper range of developable land area is approximately 200-hectares.

Synopsis

The lower-, mid- and upper- ranges represent a continuum of the NBV area's development potential. The difference in developable land area between the lower (95-hectares) and upper range (200-hectares) is some 105-hectares, which can be attributed to a number of variables including:

- Development potential of lands identified as having a physical or environmental constraint;
- Feasibility of servicing water service constrained lands; and,
- Large size of the study area (i.e. 400-hectares).

As a result of these variables, further work will be required by environmental, geotechnical and wildfire professionals at the neighbourhood plan and site development stage to determine the exact developable land area. This will include defining development setbacks and other constraints.

Based on historical development patterns to the south of the NBV area, and the environmental considerations and associated setbacks that are being applied, it is anticipated that as the Vision is implemented, the actual developable land area will be closer to the mid-range of approximately 165-hectares.

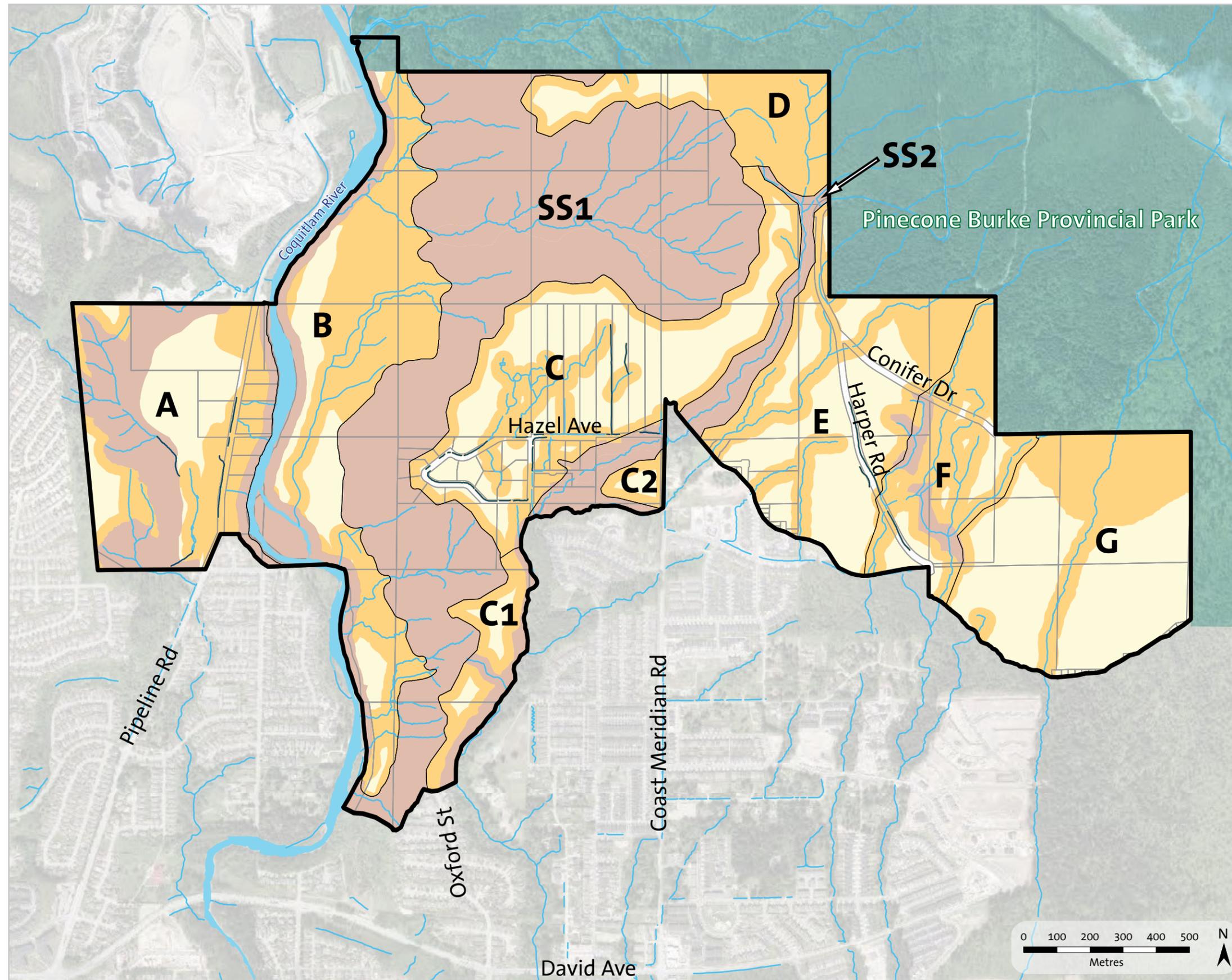


FIGURE 11: DEVELOPMENT POTENTIAL | LOWER RANGE

Developable Area Range | Approximately 95-ha

KEY

-  Northwest Burke Vision Area
-  Sub Area Boundaries
-  Watercourses
-  Ditches
-  Coquitlam River
-  Lands with Development Potential
-  Assumed Constraints - Includes '30-metre SPEA setback for watercourses', '30-metre setback from crest of slopes', '2-metre setback for ditches', 'debris runout areas', 'floodplain lands beyond 30-metres' and 'lands constrained by water service above 320-metres'.
-  Non-Developable Lands - Includes 'steep and unstable slopes' and all lands within '30-metres of the Coquitlam River'.

NOTE ON SPEA SETBACKS

Streamside Protection and Enhancement Area (SPEA) setbacks of 30-metres for all watercourses were applied as per the 'Simple Assessment Methodology'. All watercourses under the 'Simple Assessment Methodology' are subject to a 30-metre Riparian Assessment Area measured from the top of bank as outlined in Coquitlam's Zoning Bylaw (Sections 519 and 523). Applicants must retain a BC Land Surveyor to survey the location of the top of bank.

DISCLAIMERS / NOTES:

- Specific constraints and opportunities are shown on Figure 10 (p.11).
- The ultimate development potential of the NBV area will be contingent on completing further assessments by (1) qualified environmental professionals to assess setbacks in accordance to the Riparian Area Regulation for all watercourses, and (2) qualified engineering professionals to assess debris runout areas, crest of slope setbacks, the Coquitlam River Floodplain, and ditches.
- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

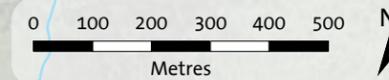
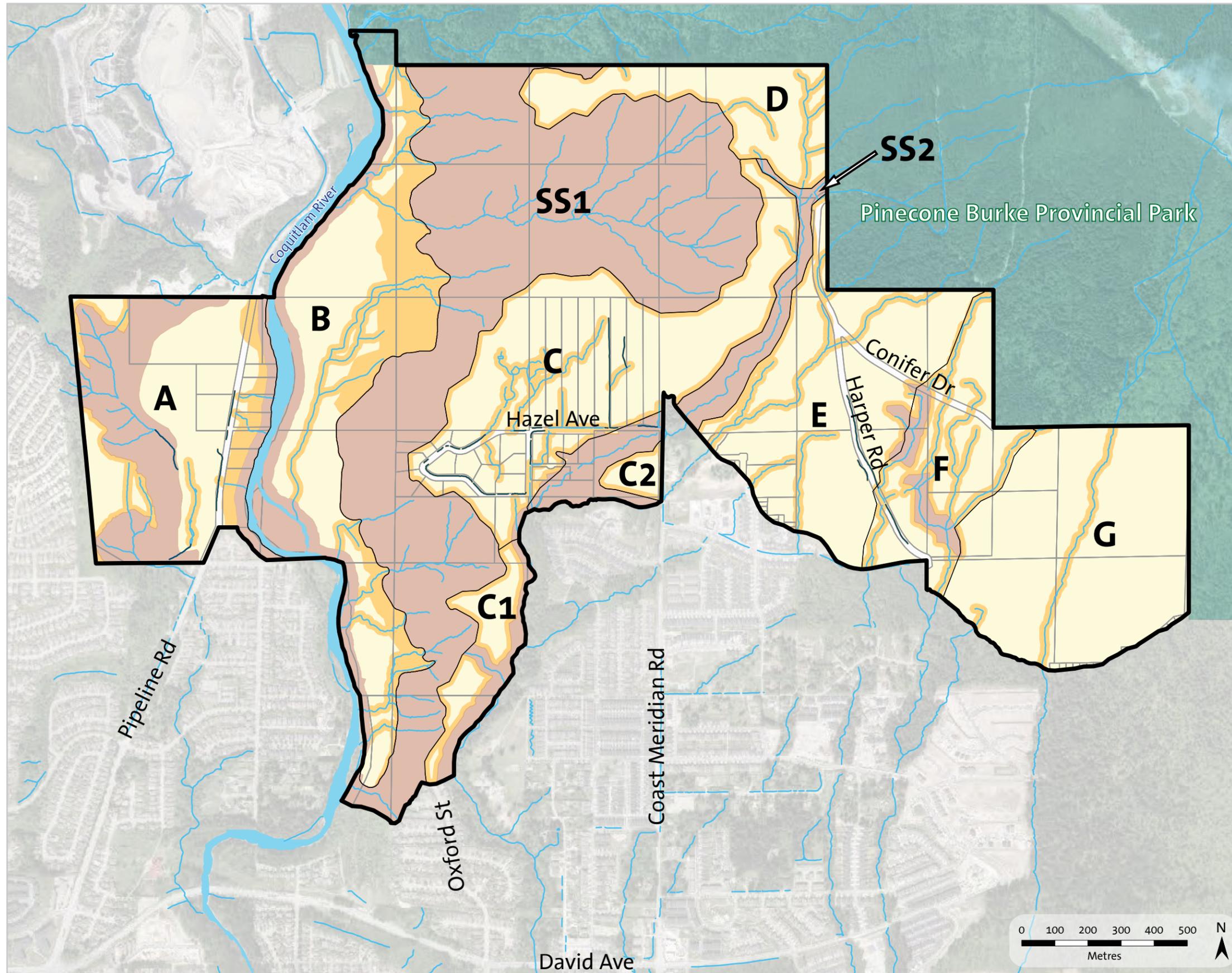


FIGURE 12: DEVELOPMENT POTENTIAL | MID-RANGE

Developable Area Range | Approximately 165-ha



KEY

-  Northwest Burke Vision Area
-  Sub Area Boundaries
-  Watercourses
-  Ditches
-  Coquitlam River
-  Lands with Development Potential - Includes 'floodplain lands beyond 30-metres', and 'lands constrained by water service above 320-metres'.
-  Assumed Constraints - Includes '15-metre SPEA setback for watercourses', '15-metre setback from crest of slopes', '2-metre setback for ditches', '50% of the debris runoff areas'.
-  Non-Developable Lands - Includes 'steep and unstable slopes' and all lands within '30-metres of the Coquitlam River'.

NOTE ON SPEA SETBACKS
 Streamside Protection and Enhancement Area (SPEA) setbacks of 15-metres from all watercourses were applied using the 'Detailed Assessment Methodology'. Actual setbacks will be assessed according to Coquitlam's Zoning Bylaw (Sect. 519 Flood Control and Sect. 523 Riparian Areas Regulation).

- DISCLAIMERS / NOTES:**
- Specific constraints and opportunities are shown on Figure 10 (p.11).
 - The ultimate development potential of the NBV area will be contingent on completing further assessments by (1) qualified environmental professionals to assess setbacks in accordance to the Riparian Area Regulation for all watercourses, and (2) qualified engineering professionals to assess debris runoff areas, crest of slope setbacks, the Coquitlam River Floodplain, and ditches.
 - The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

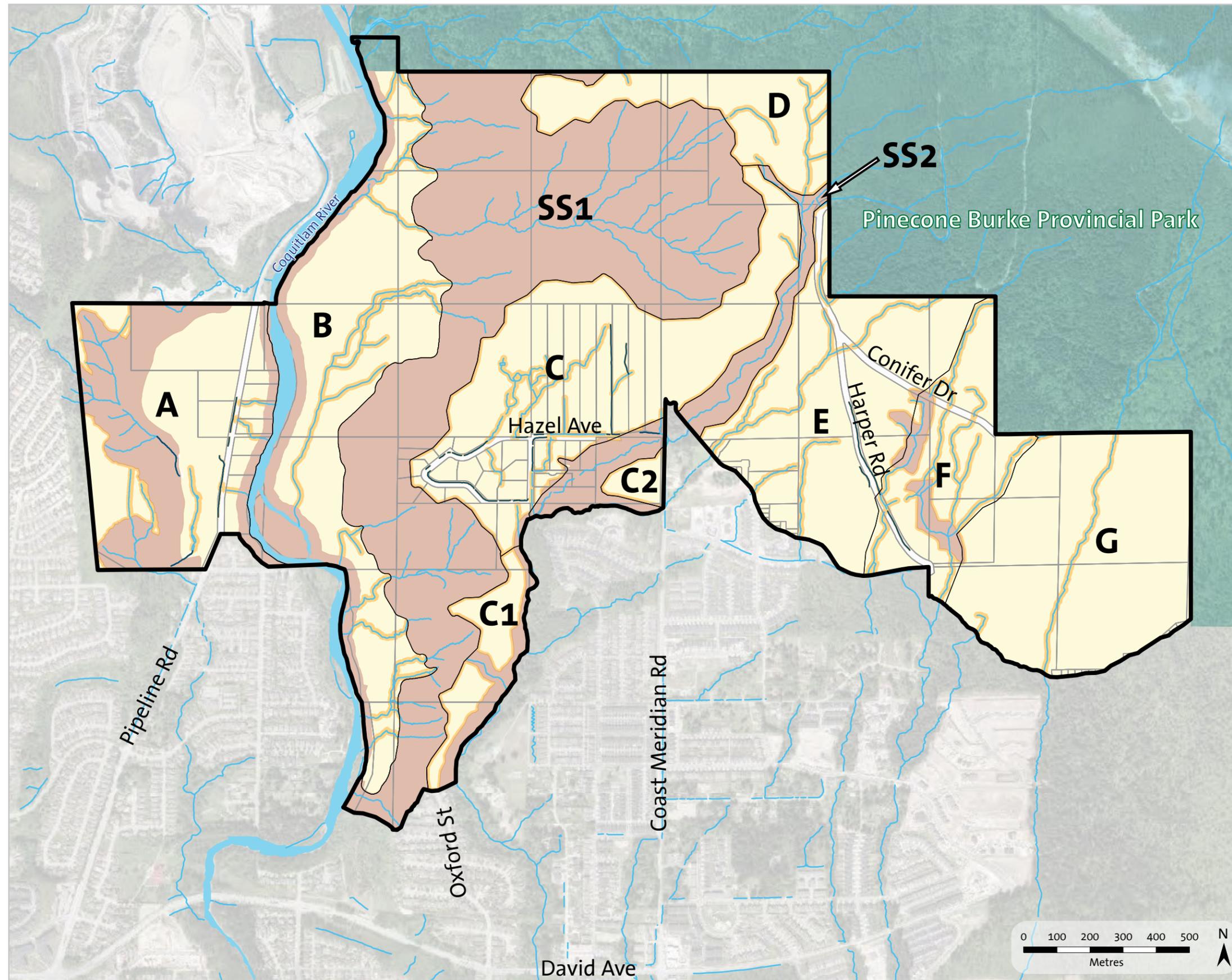


FIGURE 13: DEVELOPMENT POTENTIAL | UPPER RANGE

Developable Area Range | Approximately 200-ha

KEY

-  Northwest Burke Vision Area
-  Sub Area Boundaries
-  Watercourses
-  Ditches
-  Coquitlam River
-  Lands with Development Potential - Includes 'debris runout areas', 'floodplain lands beyond 30-metres' and 'lands constrained by water service above 320-metres'.
-  Assumed Constraints - Includes '10-metre setback for watercourses', '8-metre setback from crest of slopes' and '2-metre setback for ditches'.
-  Non-Developable Lands - Includes 'steep and unstable slopes' and all lands within '30-metres of the Coquitlam River'.

NOTE ON SPEA SETBACKS

Streamside Protection and Enhancement Area (SPEA) setbacks of 10-metres from all watercourses were applied using the 'Detailed Assessment Methodology'. Actual setbacks will be assessed according to Coquitlam's Zoning Bylaw (Sect. 519 Flood Control and Sect. 523 Riparian Areas Regulation).

DISCLAIMERS / NOTES:

- Specific constraints and opportunities are shown on Figure 10 (p.11).
- The ultimate development potential of the NBV area will be contingent on completing further assessments by (1) qualified environmental professionals to assess setbacks in accordance to the Riparian Area Regulation for all watercourses, and (2) qualified engineering professionals to assess debris runout areas, crest of slope setbacks, the Coquitlam River Floodplain, and ditches.
- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

5.0 LAND USE ALLOCATION & SCENARIOS

5.1 Overview

Using the ranges for land development potential (Section 4.4, p.12-15), this section applies a land use allocation analysis to begin to understand how land use types may influence future neighbourhood growth in the NBV area. Based on historical development activity, Citywide policy direction, and land development suitability, the land use allocation analysis:

- Explores how existing and planned developments may influence the land use types in the NBV area;
- Highlights a market trend towards townhouse forms of development;
- Reviews locational and siting considerations for commercial development; and,
- Outlines school, civic facility, park, recreation, and open space considerations.

The results of the land use allocation analysis are applied to two potential scenarios to explore how different land uses might impact estimated population levels in the NBV area.

5.2 Land Use Allocation

The land use allocation analysis takes into consideration a variety of land uses including residential, commercial, schools, civic, parks and recreation facilities.

Residential

Based on historical development activity in the Northeast, the vast majority of the housing built to date has been single family homes, fee simple row houses and strata townhouses (see Section 2.5). As noted in a recently completed *Northwest Burke Mountain Housing Market Analysis Technical Memo*, the Northeast will continue to display high demand for single family and townhouse dwelling units over the next 30-years. In fact, the demand for townhouses is expected to increase over this time-frame partly due to townhouses being a more affordable alternative to single family houses.

It is also noted in the housing market analysis, that over the long-term, there is emerging demand for low-rise apartments. Again, this can be, in part attributed to issues of affordability. The challenge will be in identifying sites that are suitable for apartment buildings that are in proximity to transit, commercial and civic amenities.

Based on the findings of the housing market analysis, up to 70% percent of the housing is forecast to be in the form of townhouses, and to a lesser degree, low-rise apartments. Sub Areas A & B are potential locations for low-rise apartments due to their closer connection to the Evergreen Line SkyTrain stations. This demand for townhouses and low-rise apartments aligns with the housing types recently approved in the *Partington Creek Neighbourhood Plan*.

Further details are available in the *Northwest Burke Mountain Housing Market Analysis Technical Memo*.

Commercial

The predominant form of retail use that currently services the retail needs of residents of the Northeast is small scale commercial located at major intersections. Meridian Crossing and Meridian Corner serve as neighbourhood-scale commercial centres in the Northeast. In addition to these centres, planning is currently underway for a Neighbourhood Centre in Partington Creek. The centre is to become a primary commercial hub to serve the day-to-day shopping needs of residents living in the entire Burke Mountain Community.

This existing commercial land use context coupled with key retail development principles, including site characteristics, shopping patterns, location and trade area provides important direction to determining the NBV area's suitability for supporting major commercial land uses. Several key retail development principles need to be considered.

- **Site Configuration:** As a large proportion of the land in the NBV area is undeveloped, there is a good opportunity to identify commercial sites that meet area needs in terms of size and configuration. One challenge is that retailers tend to favour flat sites offering efficient retail layouts, high visibility, and easy access. Sloping sites, such as those in the NBV area, often contain unique topography and natural features requiring site-specific design responses. As a result, retailers looking to develop in the NBV area may face higher costs to mitigate environmental and geotechnical concerns.
- **Shopping Patterns:** As the dominant natural shopping pattern in Coquitlam focuses downhill towards City Centre and the Lougheed Highway corridor, NBV's location on the upper slopes of Burke Mountain will be a challenging location for retail development. As consumers are more likely to travel downhill to meet their shopping needs (i.e. as part of their daily trips and commuting), the NBV area may experience challenges in establishing successful retail uses.
- **Location:** With the major road network yet to be finalized, the quality of the access for a commercial development will vary significantly depending on location within the NBV area. Retailers typically prefer to locate along high exposure locations at major road intersections, to establish a strong retail presence and identity. As the NBV area is considered 'end of the road', the critical mass required to support major retail uses will likely not be present. Although Coast Meridian Road will provide the most direct access to the NBV area and Pinecone Burke Provincial Park, it will lack the local and regional traffic volumes required to support major retailers.
- **Trade Area:** The scale and type of retail that could be supported in the NBV area will depend to a large degree upon the size of the trade area from which it can draw regular shoppers. With the planned Partington Creek Neighbourhood Centre offering retail and commercial services to residents across Burke Mountain, the trade area for the NBV will be modest. With Partington Creek envisioned to

become a commercial, civic, and recreational hub for Northeast Coquitlam, the success of the retail development will be based on limited existing and planned retail competition. However, any small scale retail and other commercial services as seen on the corner of David Avenue and Coast Meridian Road, is not expected to have a large impact on retail opportunities in Partington Creek.

Based on this, emphasis needs to be placed on balancing fundamental principles to realize a successful commercial development. Although there are a number of challenges in supporting a commercial development in the NBV area, further analysis through a market assessment needs to be undertaken through neighbourhood planning to determine the long-term demand for retail and other commercial services (e.g. daycares).

Schools

The future demand for public school sites in the NBV area will depend on the NBV area population and the associated needs of School District 43 (SD 43). The CWOCP currently designates land for the Riverwalk school site in Sub Area B. The estimated population levels identified in Section 5.3 of this report serve as a starting point in determining future school site needs. Interest has also been expressed by a Christian Academy to locate a school in Sub Area C. Further discussions on future school site requirements will be held with both SD 43 and the Christian Academy as part of Phase 3.

Civic Facilities

In order to assess the need for civic facilities in the NBV area, the Parks, Recreation and Culture Department will be undertaking a Northeast Recreation Services Strategy. The strategy will look at the recreation service needs for all of Northeast Coquitlam. Guiding the creation of the strategy will be the population level estimates identified in this report. Further, policy direction in the *Draft Parks, Recreation and Culture Master Plan* provides an opportunity for the City and SD 43 to work together to identify indoor community space, as part of the initial planning of any future school/

park sites in the NBV area. In addition, the City of Coquitlam is working towards identifying a site for a works yard in Northeast Coquitlam, potentially in the NBV area.

Places of Worship

The CWOCP outlines general location criteria and development guidelines for Places of Worship. Future locations of Places of Worship across the NBV area will be considered as per the CWOCP policies for general location and development guidelines.

Parks & Recreation Facilities

Natural Green Space: The NBV area with its wetlands, creeks and riparian corridors, forests, steep slopes, flood plains, utility corridors and greenways present many opportunities for preservation of natural green spaces for humans and wildlife.

Natural green space contributes both recreational and environmental benefits to the community. Exposure to nature, through trails and preservation of pockets of such natural spaces, can provide individual and societal benefits and is considered a requirement for optimum human health.

Outdoor recreation that focuses on the enjoyment of nature is increasingly popular across age, economic, and ethnic demographics. The availability of such natural green spaces within the NBV area can be one of the defining features of future neighbourhoods.

Furthermore, trail greenways can assist in providing important recreation and transportation links to adjacent neighbourhoods as well as the Pinecone Burke Mountain Provincial Park (possible trail connections outlined in Figure 22, p.34).

Neighbourhood Parks: Generally the park provision standards in Coquitlam aim to ensure that every resident has an opportunity to access a park amenity within a 10-minute walking distance from their home. Ideally, neighbourhood parks should be within 1/2 km of all residents and unobstructed by major roads.

The availability and the distribution of neighbourhood parks is dependent on the population projections and the accompanying densities as the park system needs to be planned, developed, and managed in a manner that is fiscally sustainable. The park system vision for the NBV area must integrate various public spaces on both public and private lands to maximize opportunities for recreation, social interaction, connectivity, mobility and education.

Given the topographic and landscape constraints, the planning and the implementation of the park system vision for the NBV area may require creative approaches and strategies aimed at being more efficient such as:

- Utilizing previously unused spaces and lands;
- Sharing lands with other users/uses;
- Having developers contribute to the development of public park spaces and street-level public recreation amenities; and,
- Otherwise creatively embedding park and recreational elements within the neighbourhood fabric.

The policy directions for neighbourhood parks will be further refined in Phase 3.



5.3 Scenarios

To understand how residential land use may influence future neighbourhood growth in the NBV area, several scenarios have been prepared. These scenarios apply the findings of the land use allocation analysis, which finds the primary land use for the NBV area will be single family and townhouse. The scenarios provide an opportunity to explore and elicit discussions on how a different mix of housing types can influence the range of estimated dwelling units and population levels that could be accommodated in the NBV area.

To guide scenario preparation, a number of overall assumptions regarding land use and developable land area were made. The overall assumptions which apply to the scenarios are informed by previous sections of this report, including historical development activity (Section 2), Citywide and regional policy direction (Section 3), land development suitability (Section 4), and future land use allocation (Section 5).

Overall Assumptions | Development Potential

In Section 4, lower-, mid- and upper-ranges of developable land were prepared for the NBV area. The lower range identified approximately 95-hectares of developable area, 165-hectares for the mid-range, and 200-hectares for the upper range. As the range of developable area will impact the number of estimated dwelling units and population levels that could be accommodated, both the lower-, mid- and upper-ranges of developable area were applied to the scenarios.

Overall Assumptions | Land Use

- Developable land area takes into consideration local and collector roads and the Riverwalk school site. Demand/area for additional school sites and park space will be assessed in Phase 3.
- The Partington Creek Neighbourhood Centre is assumed to be the commercial and civic hub for the Northeast.
- Based on historical development activity of the four neighbourhoods to the south of the NBV area, an average gross unit per hectare (uph) of 12-uph for single family and 34-uph for townhouse were assumed.

- As per the 2014 census, an average persons per household (pph) of 3.2-pph for single family and 2.9-pph for townhouse were assumed.

These overall assumptions were applied to the following scenarios.

Scenario '70/30 Lower-, Mid- & Upper-Ranges'

The first scenario '70/30 Lower-, Mid- & Upper-Ranges' assumes a mix of 70% townhouse and 30% single family (see Figures 14-16, p.20-22). The '70/30 Lower-, Mid- & Upper-Ranges' scenario assumes that the long-term demand for townhouse type development will increase, based on the findings of the housing market analysis.

Scenario '50/50 Lower-, Mid- & Upper-Ranges'

The second scenario '50/50 Lower-, Mid- & Upper-Ranges' assumes a housing mix of 50% townhouse and 50% single family (see Figures 14-16, p.20-22). The '50/50 Lower-, Mid- & Upper-Ranges' scenario assumes the historic development patterns of 50/50 single family/townhouse residential housing split evident to date in the four neighbourhoods south of the NBV area.

Summary

The scenarios outline estimated dwelling unit and population levels through an analysis based on residential housing mix determined by historical development activity and the findings of a housing market analysis. As shown, the 105-hectare difference in developable land area between the lower (95-hectare) and upper (200-hectare) ranges dramatically impacts both dwelling unit and population estimates for both scenarios.

When comparing potential dwelling unit numbers and population levels between the lower and upper range of development scenarios, there is a difference of some 3,000 dwelling units. As expected, this result represents the difference in units per hectare between single family and townhouse forms of development.

The scenarios are intended for discussion purposes and to assist with high-level utility and transportation planning. As the NBV planning process enters Phase 3, and into the implementation phase, it is estimated that the

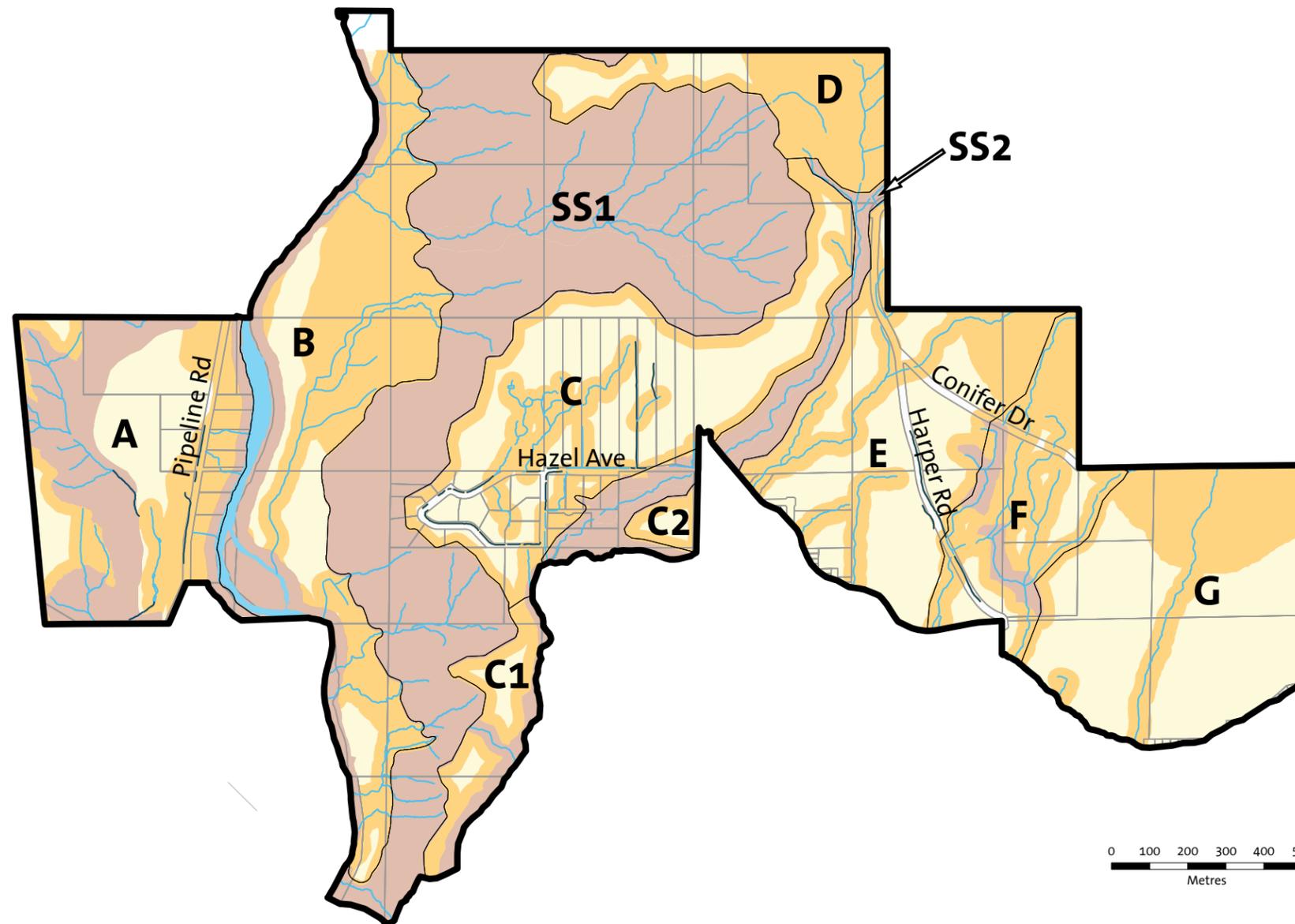
resulting potential dwelling unit and population levels will fall near the mid-range identified in this report, as more detailed information becomes available.

In Phase 3, the land use assumptions outlined within this section will be refined into land use overlays that will provide direction as to the type and density of future land use in the NBV area. Overlay development will be informed by discussions with Council, land owners and the broader community.





FIGURE 14: SCENARIO | LOWER RANGE



**70 % Townhouse
30 % Single Family**

**50 % Townhouse
50 % Single Family**

KEY

- Northwest Burke Vision Area
- Sub Area Boundaries
- Watercourses
- Ditches
- Coquitlam River
- Lands with Development Potential
- Assumed Constraints - Includes '30-metre SPEA setback for watercourses', '30-metre setback from crest of slopes', '2-metre setback for ditches', 'debris runoff areas', 'floodplain lands beyond 30-metres' and 'lands constrained by water service above 320-metres'.
- Non-Developable Lands - Includes 'steep and unstable slopes' and all lands within '30-metres of the Coquitlam River'.
- Dwelling Unit Forecast - Lower to upper range of dwelling units that could potentially be accommodated within the NBV area.

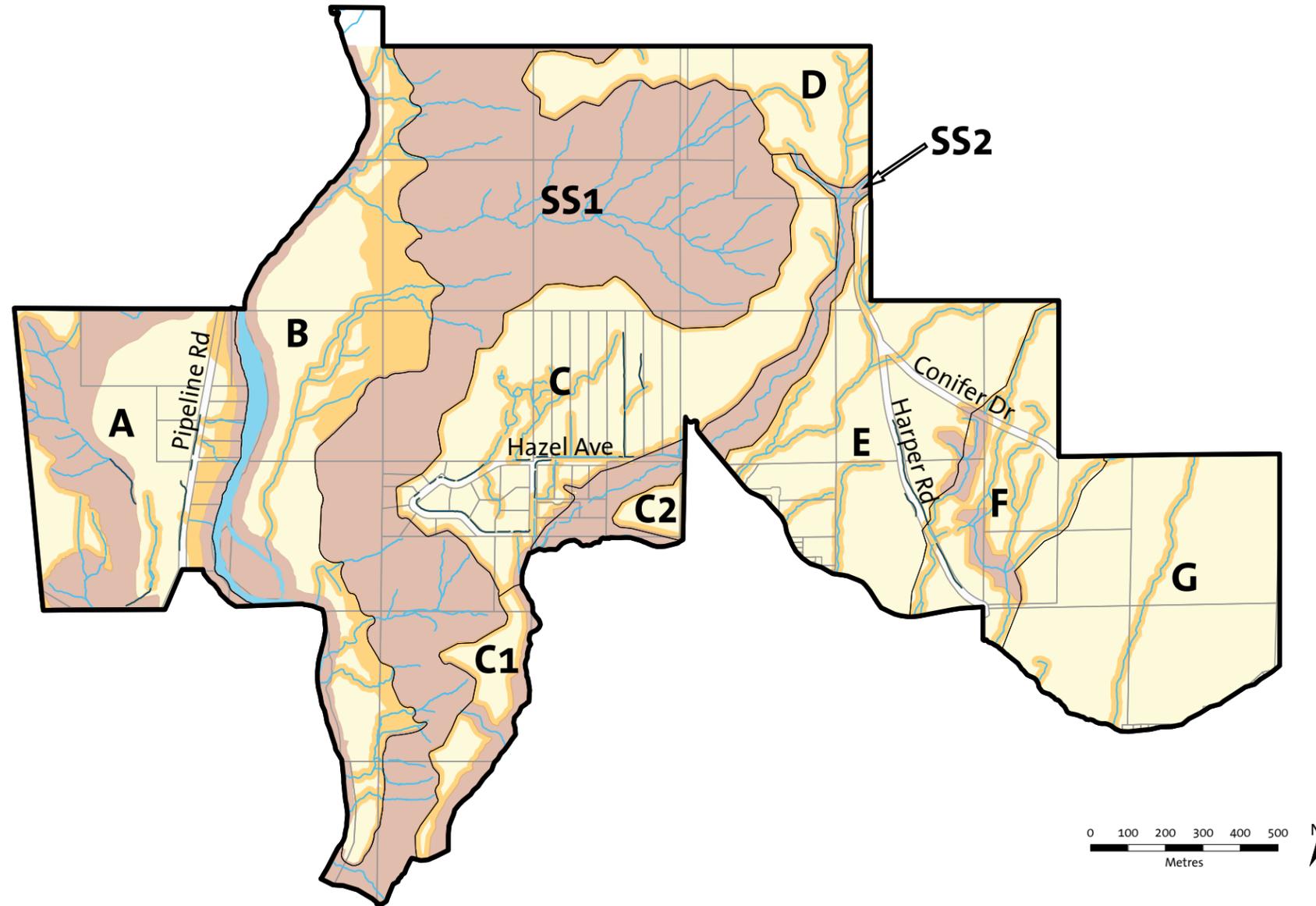
Population Forecast - Population that could potentially be accommodated within the NBV area.

	SUB AREA	A	B	C	C1	C2	D	E	F	G	ROUNDED TOTAL
	70/30 LOWER	300	200	600	40	20	100	500	100	800	2,700 units
	50/50 LOWER	200	100	500	30	20	100	500	100	600	2,200 units
	SUB AREA	A	B	C	C1	C2	D	E	F	G	ROUNDED TOTAL
	70/30 LOWER	900	500	1,900	100	100	200	1,600	300	2,200	7,800 population
	50/50 LOWER	700	400	1,600	100	40	200	1,400	200	1,900	6,500 population

DISCLAIMERS / NOTES:

- Dwelling unit and population numbers have been rounded.
- Specific constraints and opportunities are shown on Figure 10 (p.11).
- The ultimate development potential of the NBV area will be contingent on completing further assessments by (1) qualified environmental professionals to assess setbacks in accordance to the Riparian Area Regulation for all watercourses, and (2) qualified engineering professionals to assess debris runoff areas, crest of slope setbacks, the Coquitlam River Floodplain, and ditches.
- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

FIGURE 15: SCENARIO | MID-RANGE



**70 % Townhouse
30 % Single Family**

**50 % Townhouse
50 % Single Family**

KEY

- Northwest Burke Vision Area
- Sub Area Boundaries
- Watercourses
- Ditches
- Coquitlam River
- Lands with Development Potential - Includes 'floodplain lands beyond 30-metres', and 'lands constrained by water service above 320-metres'.
- Assumed Constraints - Includes '15-metre SPEA setback for watercourses', '15-metre setback from crest of slopes', '2-metre setback for ditches', '50% of the debris runoff areas'.
- Non-Developable Lands - Includes 'steep and unstable slopes' and all lands within '30-metres of the Coquitlam River'.
- Dwelling Unit Forecast - Average dwelling units that could potentially be accommodated within the NBV area.

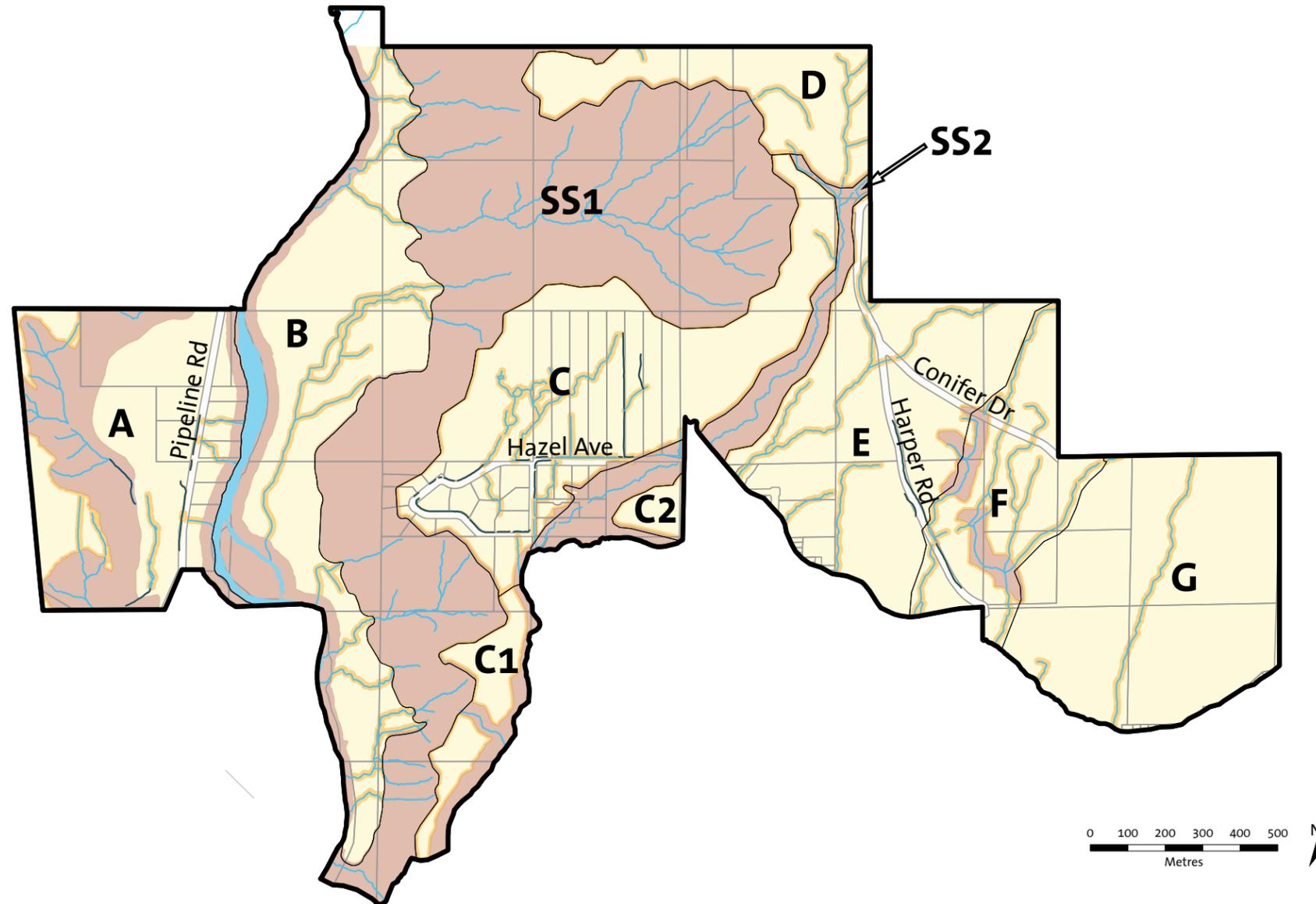
Population Forecast - Population that could potentially be accommodated within the NBV area.

	SUB AREA	A	B	C	C1	C2	D	E	F	G	ROUNDED TOTAL
	70/30 MID	500	500	900	100	40	300	800	300	1100	4,500 units
	50/50 MID	400	400	800	100	30	300	700	200	900	3,800 units
	SUB AREA	A	B	C	C1	C2	D	E	F	G	ROUNDED TOTAL
	70/30 MID	1,400	1,500	2,700	300	100	900	2,400	800	3,200	13,300 population
	50/50 MID	1,200	1,300	2,300	200	100	800	2,100	700	2,800	11,500 population

DISCLAIMERS / NOTES:

- Dwelling unit and population numbers have been rounded.
- Specific constraints and opportunities are shown on Figure 10 (p.11).
- The ultimate development potential of the NBV area will be contingent on completing further assessments by (1) qualified environmental professionals to assess setbacks in accordance to the Riparian Area Regulation for all watercourses, and (2) qualified engineering professionals to assess debris runoff areas, crest of slope setbacks, the Coquitlam River Floodplain, and ditches.
- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

FIGURE 16: SCENARIO | UPPER RANGE



**70 % Townhouse
30 % Single Family**

**50 % Townhouse
50 % Single Family**

KEY

- Northwest Burke Vision Area
- Sub Area Boundaries
- Watercourses
- Ditches
- Coquitlam River
- Lands with Development Potential - Includes 'debris runout areas', 'floodplain lands beyond 30-metres' and 'lands constrained by water service above 320-metres'.
- Assumed Constraints - Includes '10-metre setback for watercourses', '8-metre setback from crest of slopes' and '2-metre setback for ditches'.
- Non-Developable Lands - Includes 'steep and unstable slopes' and all lands within '30-metres of the Coquitlam River'.
- Dwelling Unit Forecast - Lower to upper range of dwelling units that could potentially be accommodated within the NBV area.

	SUB AREA	A	B	C	C1	C2	D	E	F	G	ROUNDED TOTAL
	70/30 UPPER	600	800	1,000	100	50	400	900	300	1,100	5,300 units
	50/50 UPPER	500	700	900	100	40	300	800	300	900	4,500 units
	SUB AREA	A	B	C	C1	C2	D	E	F	G	ROUNDED TOTAL
	70/30 UPPER	1,700	2,500	3,100	400	100	1,100	2,700	1,000	3,300	15,900 population
	50/50 UPPER	1,500	2,100	2,600	300	100	900	2,300	900	2,800	13,500 population

DISCLAIMERS / NOTES:

- Dwelling unit and population numbers have been rounded.
- Specific constraints and opportunities are shown on Figure 10 (p.11).
- The ultimate development potential of the NBV area will be contingent on completing further assessments by (1) qualified environmental professionals to assess setbacks in accordance to the Riparian Area Regulation for all watercourses, and (2) qualified engineering professionals to assess debris runout areas, crest of slope setbacks, the Coquitlam River Floodplain, and ditches.
- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

6.0 TRANSPORTATION

6.1 Overview

This section provides an overview of the outcomes of the NBV transportation network analysis. Detailed results are available in the *NBV Planning Study: Transportation Discussion Paper*.

The proposed conceptual road network is based on the overall goal of developing a network of collector streets integrated with pedestrian, cycling pathways, and trails which together support mobility within and external to the NBV area. Recognizing that the area represents some of the most challenging terrain in Coquitlam, access feasibility is a critical component.

As part of this analysis, an iterative process was used to test different road alignments and concepts. A set of network design principles guided this process (see Section 6.3). This work builds on the existing transportation network. Also, the land use assumptions from Section 5 were integrated into this analysis. The proposed network is consistent with the multi-modal street design guidelines adopted in the City's *Strategic Transportation Plan (STP, 2012)* and reflected in the *Subdivision and Development Services Bylaw (No.3558, 2003, amended in 2012)*.

6.2 Context & Existing Road Network

Citywide Context

The STP outlines a hierarchy of street classifications based on how different types of streets function as part of the overall road network. This classification system includes a focus on multi-modal options (e.g. biking/walking, public transit, and driving). Table 1 provides an overview of major road types in Coquitlam.

The STP and the *Subdivision and Development Servicing Bylaw* provide the basis for developing and assessing the proposed road network for the NBV area. Further details on how the street classification system in the STP relates to the proposed NBV road network can be found in the *NBV Planning Study: Transportation Discussion Paper*. The Subdivision and Development Servicing Bylaw provides the development standards to implement the multi-modal street design guidelines in the STP.

The STP also included a comprehensive review of long-term network improvements required to support local and regional growth patterns over the next 20-years.



TABLE 1: ROAD CLASSIFICATIONS

Road Type	Key Features
Arterial*	<ul style="list-style-type: none"> Primarily intended for through traffic with restricted access Usually no on-street parking Key route for emergency access Typically higher traffic volume and accommodates transit
Collector	<ul style="list-style-type: none"> Distributes traffic between local roads and arterial roads Usually has on-street parking Key route for emergency access Typically moderate traffic volume and accommodates transit
Local	<ul style="list-style-type: none"> Primarily serves local traffic A high number of vehicle access points May accommodate transit

* No arterials are anticipated in the NBV area (discussed in Section 6.3)

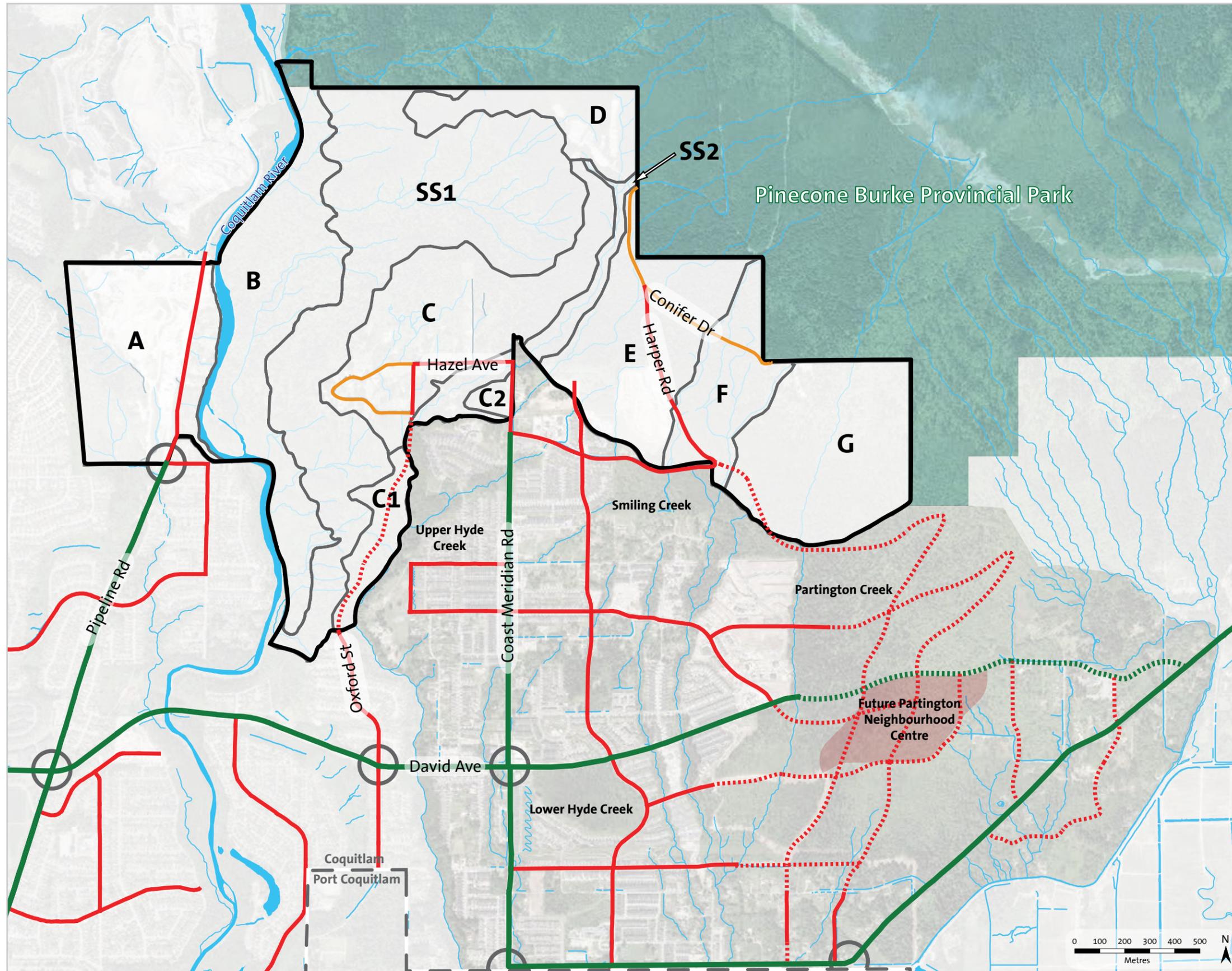
Existing Road Network in the Northeast and NBV Area

The NBV area is currently accessible from Coast Meridian Road (primary access), Pipeline Road, and Harper Road. Coast Median Road and Pipeline Road transition from arterial roads into collector roads just south of the NBV area while Harper Road is a collector road. As shown in the CWOCP and the STP, the existing portion of Oxford Street is planned to be extended through to Hazel Avenue, creating an additional access point to the NBV area.

Figure 17 shows the existing and approved (i.e. not built yet) roads in Northeast Coquitlam. This network provides connectivity within the NBV area and to important destinations beyond.

With the exception of the Partington Creek neighbourhood located to the southeast, the adjacent road network in Northeast Coquitlam has largely been developed. In addition to Coast Meridian Road and Pipeline Road, David Avenue and Victoria Drive provide important east-west arterial linkages in Northeast Coquitlam. Key adjacent intersections include David Avenue/Coast Meridian Road, David Avenue/Oxford Street, Pipeline Road/Galette Avenue, Pipeline Road/David Avenue, Coast Meridian Road/Victoria Drive, and where Lower Victoria Drive meets Victoria Drive.

**FIGURE 17: NORTHEAST COQUITLAM
CURRENT ROAD NETWORK**



KEY

- Northwest Burke Vision Area
- Sub Area Boundaries
- Municipal Boundary
- Watercourses
- Ditches
- Coquitlam River
- ROAD CLASSIFICATIONS**
- Existing Arterial
- Approved Arterial (as per CWOCP)
- Existing Collector
- Approved Collector (as per CWOCP)
- Existing Local (in NBV area)
- Key Intersections

DISCLAIMER / NOTES:

- Existing local roads are provided for context only. These roads and their alignments may change depending on redevelopment proposals.

6.3 Proposed Conceptual Road Network

Network Design Principles

The NBV conceptual road network was developed based on an overall goal of creating a network of collector streets complemented by pedestrian and cycling pathways and trails. Access to and between potential developable areas is an important factor given the topographic constraints in the area. Several factors were taken into consideration in planning the conceptual network:

- Multiple route options where possible supporting different travel modes and emergency response access;
- Direct and convenient multi-modal access to the Partington Creek Neighbourhood Centre; and,
- Access to Pinecone Burke Provincial Park for both residents and tourists that minimizes intrusion into future neighbourhoods and facilitates different modes of travel.

In addition, the conceptual network reconciles the need for convenient connections to key destinations (e.g. Pinecone Burke Provincial Park, Coquitlam River, and the Partington Creek Neighbourhood) while meeting the following technical and environmental objectives:

- Minimizing the number of creek crossings;
- Avoiding disruptive alignments (e.g. large 'cut & fill' visual impacts);
- Providing manageable grades for walking and cycling; and,
- Developing roadway grades and alignments consistent with City design criteria and bylaws.

NBV Area Network Overview & Upgrades

The conceptual road network (Figure 19) utilizes collector roads to provide access to and around the NBV area with future local road connections providing access into developable areas. Two options for one potential bridge crossing over the Coquitlam River are included. The final location for this bridge will be determined as part of neighbourhood planning.

Two optional roads were included (Sub Area B) to increase overall network connectivity and provide access into additional development areas. Of note, the conceptual alignment of local roads was not part of the analysis.

Where feasible, the conceptual network follows existing topography and road alignments. Also, two access routes for the development areas are provided where feasible to enhance overall mobility and improve access for emergency vehicles. Findings from the transportation analysis within the NBV area concluded:

- No arterial roads in the NBV area are warranted based on expected traffic volumes; and,
- The Oxford Street extension and the east-west connection of Harper Avenue provide additional connections and reduce traffic volumes on Coast Meridian Road.

As noted, all conceptual roadways and bridges within the NBV area are currently identified as collectors with a few key local roads also shown. These road classifications in the NBV area will be constructed by developers as part of future development/subdivision application processes.

Further network details by Sub Area are discussed in Section 6.4 while access to Pinecone Burke Provincial Park is discussed in Section 6.6.

External Network Factors

The adjacent arterial networks have the capacity to accommodate the growth anticipated in the NBV area. David Avenue in particular is important as it functions as the primary east-west connection in the northeast.

Identified in the STP, the Lincoln Avenue Crossing of the Coquitlam River ('Lincoln Bridge' shown on Figure 18) is a major network improvement required to provide another east-west alternative. This project is significant for supporting overall

network capacity and providing east-west connectivity in northeast Coquitlam, including for the NBV area. As the NBV area and other northeast neighbourhoods develop, the timing of the Lincoln Bridge project may need to be reviewed.

The STP also identifies the Fremont Connector (Figure 18) as a major external project impacting northeast Coquitlam, including the NBV area. This planned project, located in Port Coquitlam, will provide a direct north-south connection between the Pitt River Bridge and northeast Coquitlam.

FIGURE 18: MAJOR NORTHEAST COQUITLAM TRANSPORTATION PROJECTS

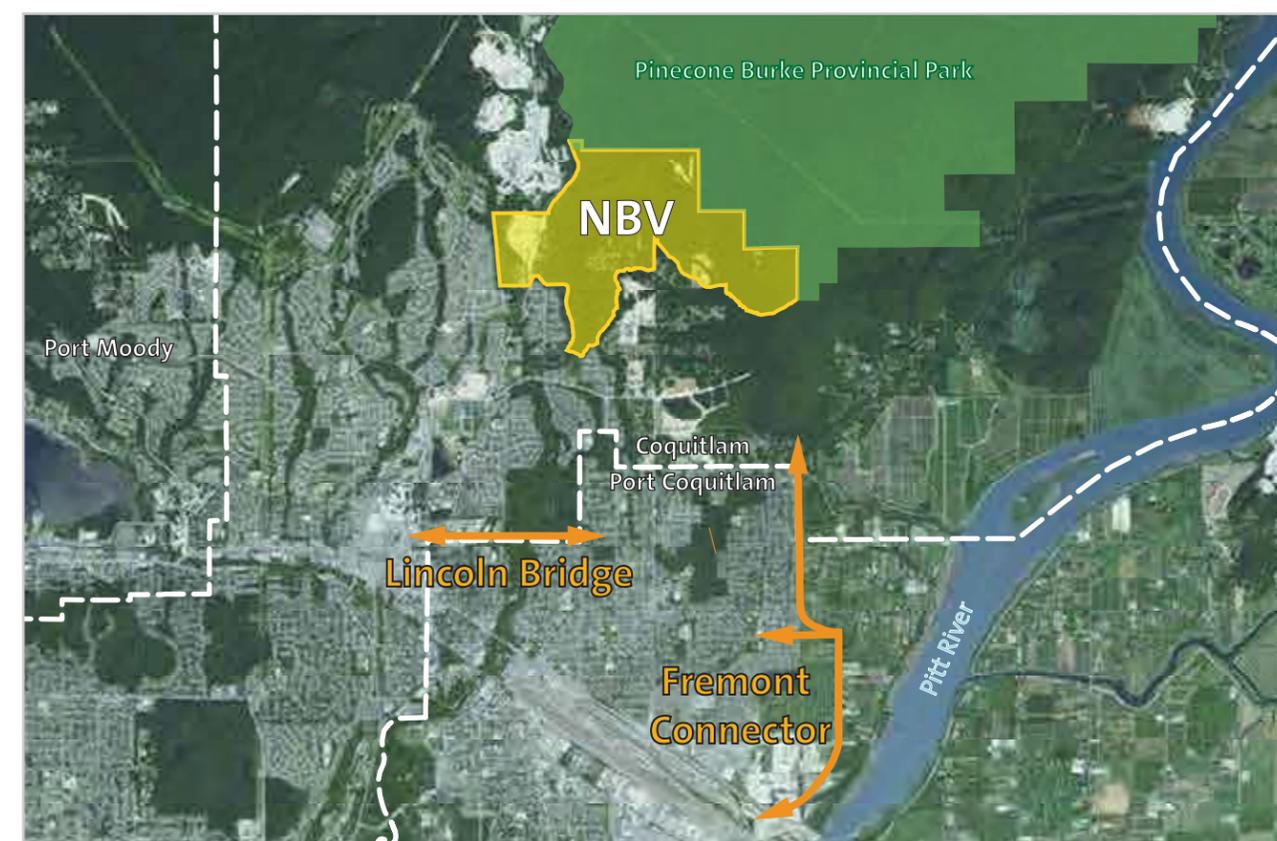
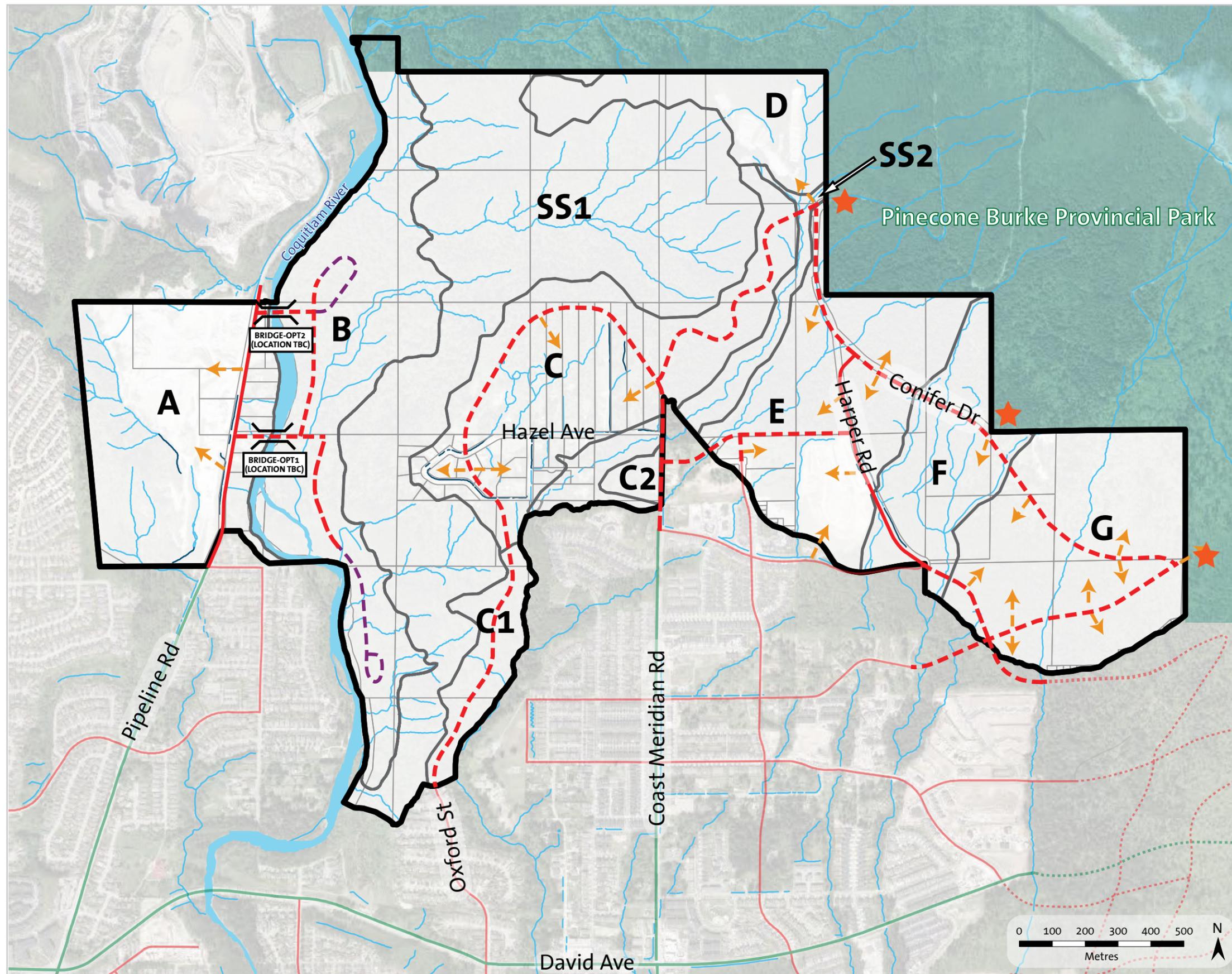


FIGURE 19: CONCEPTUAL ROAD NETWORK



KEY

- Northwest Burke Vision Area
- Sub Area Boundaries
- Watercourses
- Ditches
- Coquitlam River
- Potential Primary Park Entry - Pedestrian and Potential Vehicle Access

ROAD CLASSIFICATIONS

Inside the NBV Area

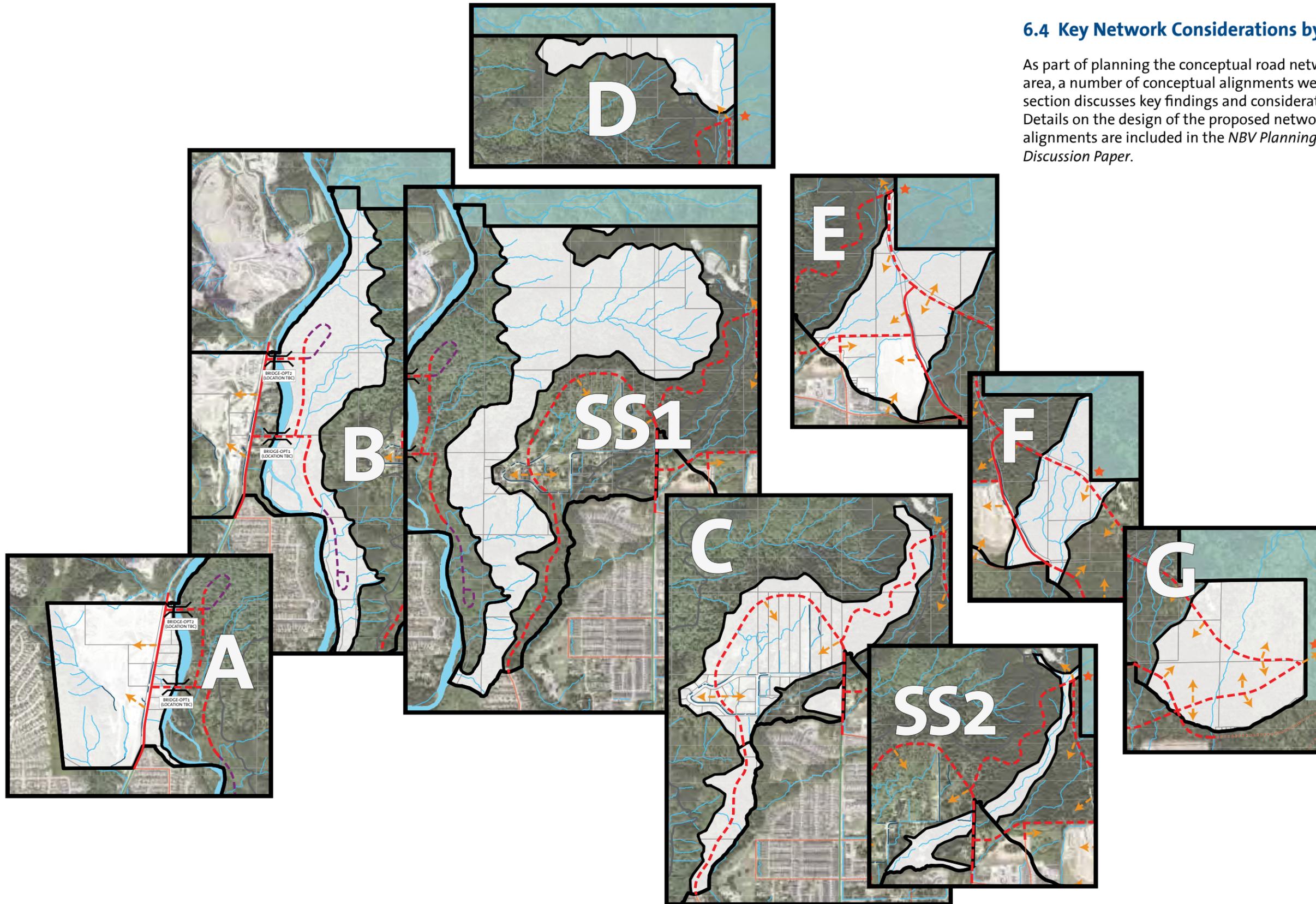
- Existing Collector
- Conceptual Collector
- Optional Conceptual Connection
- Conceptual Local Connections
- Potential Bridge Option

Outside the NBV Area

- Existing Arterial
- Approved Arterial (as per CWOCP)
- Existing Collector
- Approved Collector (as per CWOCP)

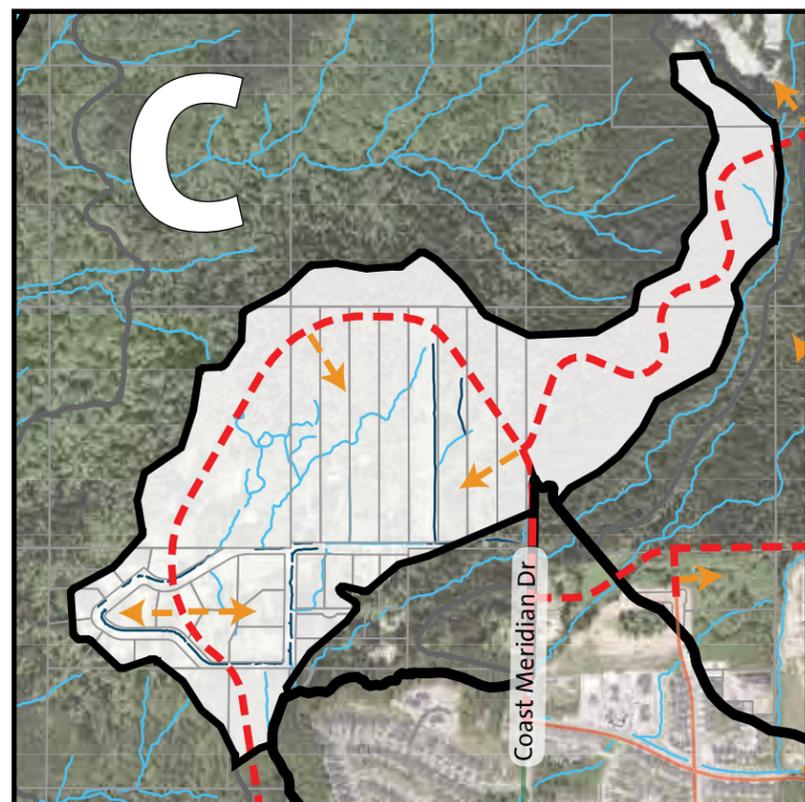
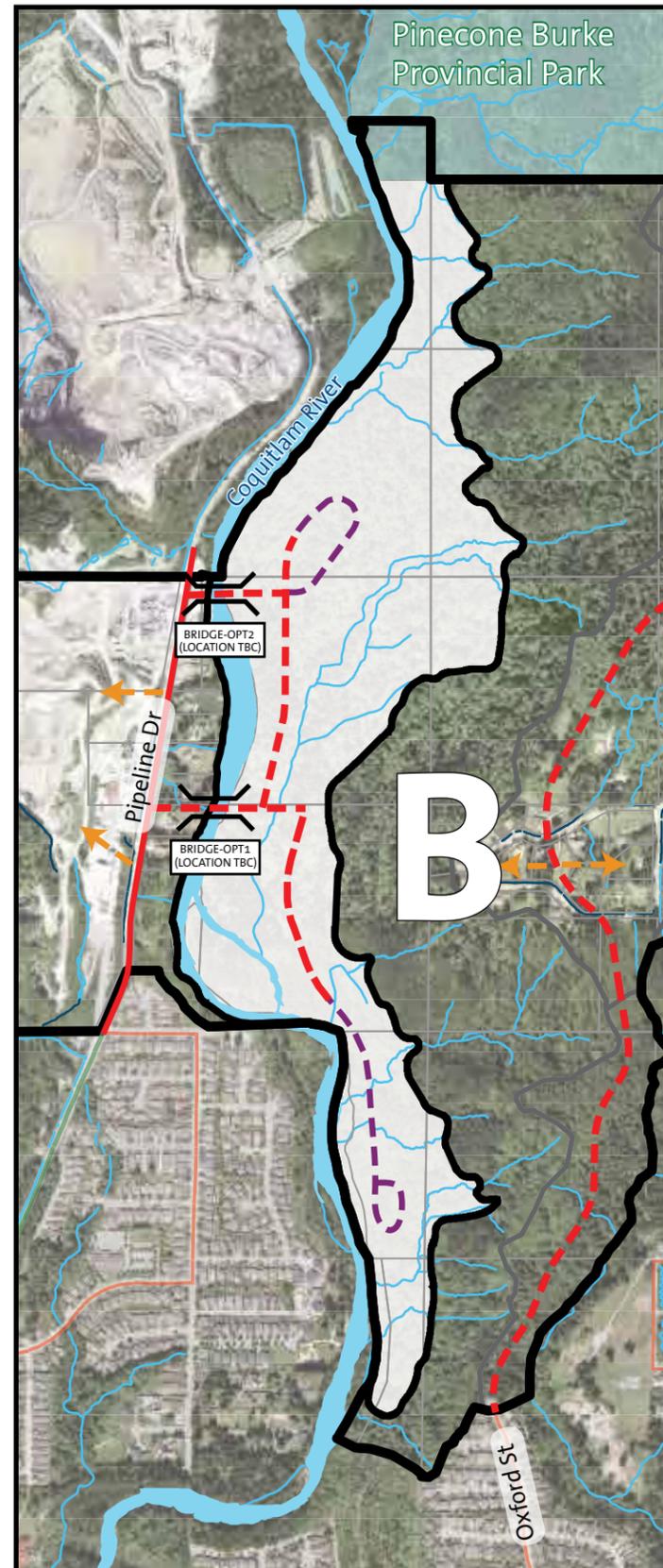
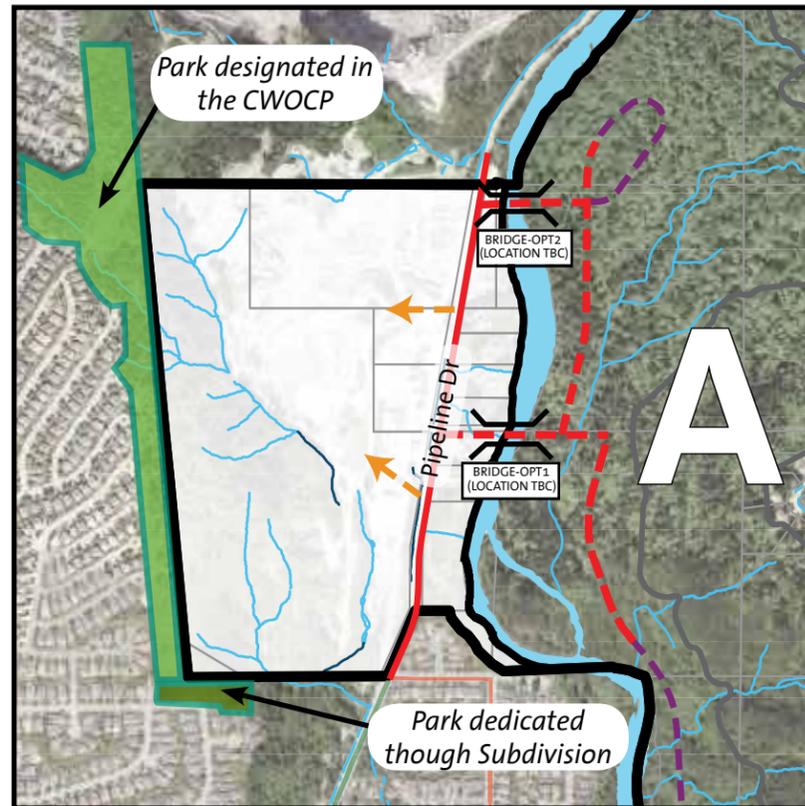
DISCLAIMERS / NOTES:

- The classification for Highland Drive east of Coast Meridian Road is currently under review.
- The process to determine the ultimate location of the Coquitlam River crossing connecting Pipeline Road to Sub Area B will be completed at the neighbourhood plan stage. This process will include a multidisciplinary approach (e.g. network connectivity, environmental impacts, financial costs, utility connections, achieving agency approvals).
- The actual location of conceptual local access roads and connections in the NBV area will be determined through the land development process.
- Existing local roads are provided for context only. These roads and their alignments may change depending on redevelopment proposals.
- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.



6.4 Key Network Considerations by Sub Area

As part of planning the conceptual road network to serve the NBV area, a number of conceptual alignments were considered. This section discusses key findings and considerations by Sub Area. Details on the design of the proposed network as well as vertical alignments are included in the *NBV Planning Study: Transportation Discussion Paper*.



Sub Area A

- Accessed by Pipeline Road. The portion of this road within the NBV area will need to be upgraded to a collector standard.
- Lands adjacent to the Westwood Plateau neighbourhood are designated and/or dedicated for park uses thus limiting access to the southwest corner of Sub Area A from the existing Westwood Plateau road network.
- As the lifespan of the quarry comes to an end and undergoes remediation, the feasibility of accessing the developable area in the southwest from the east will be assessed through the neighbourhood planning process.

Sub Area B

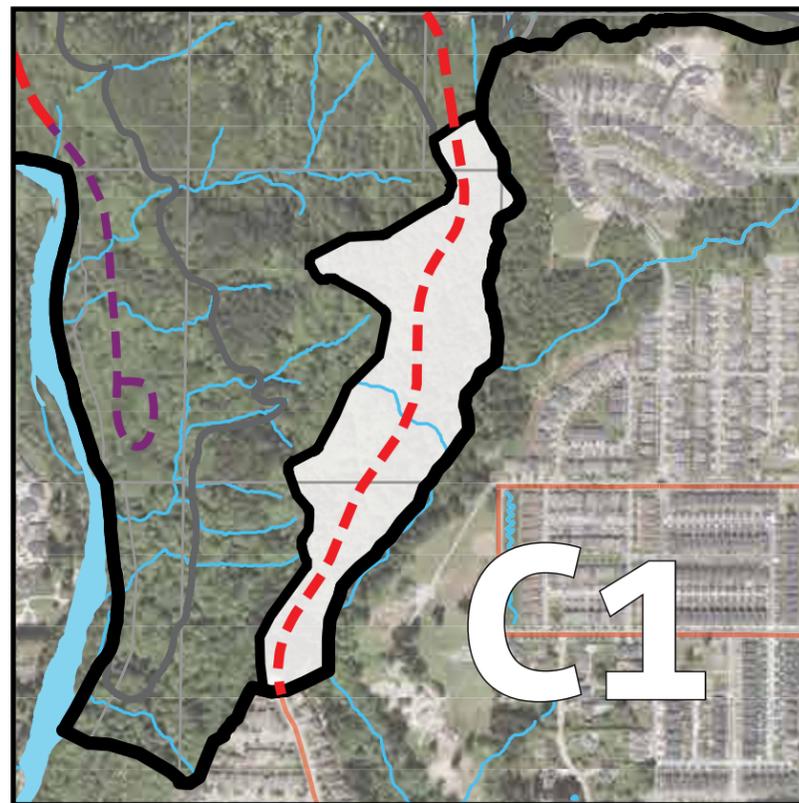
- Access is envisioned to be provided through **one** of two potential bridge locations across the Coquitlam River from Pipeline Road.
- The bridge options will be evaluated and a selection of one crossing location will need to be completed as part of the neighbourhood planning process.
- A secondary access between Sub Area B and Sub Area C through SS1 was evaluated but is not feasible because of the extremely steep gradients and potentially unstable slopes.
- The proposed southern extension of the north-south road in Sub Area B is unable to connect through to David Avenue because of the steep topography and unstable slopes at the south end of Sub Area B.
- The identified optional alignments will be further assessed as part of the neighbourhood planning process. The northern alignment option is related to the Bridge Option 2 while the southern alignment is constrained by topography and stream crossings.

Sub Area C

- Primary access is proposed to be provided by a northern extension of Coast Meridian Road.
- The northeastern portion is proposed to be accessed by a collector road which also provides access to Sub Area D to the northeast. This northeast access road will require switchbacks to limit the road gradient to a maximum of 12%.
- This northeast access road also will serve as a potential primary entry to Pinecone Burke Provincial Park.

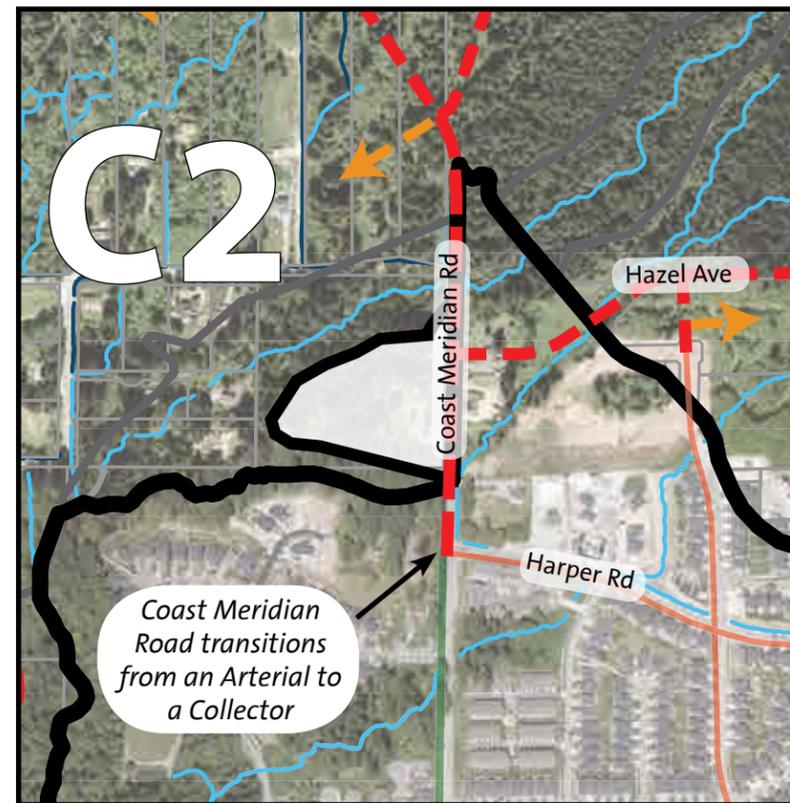
Sub Area C1

- The proposed Oxford Street extension (identified in the CWOCP and STP) runs along a ridge in C1.
- This proposed extension provides a second access point to Sub Area C which will reduce traffic congestion on Coast Meridian Road and the overall NBV area as well as provide an alternate emergency vehicle access route.



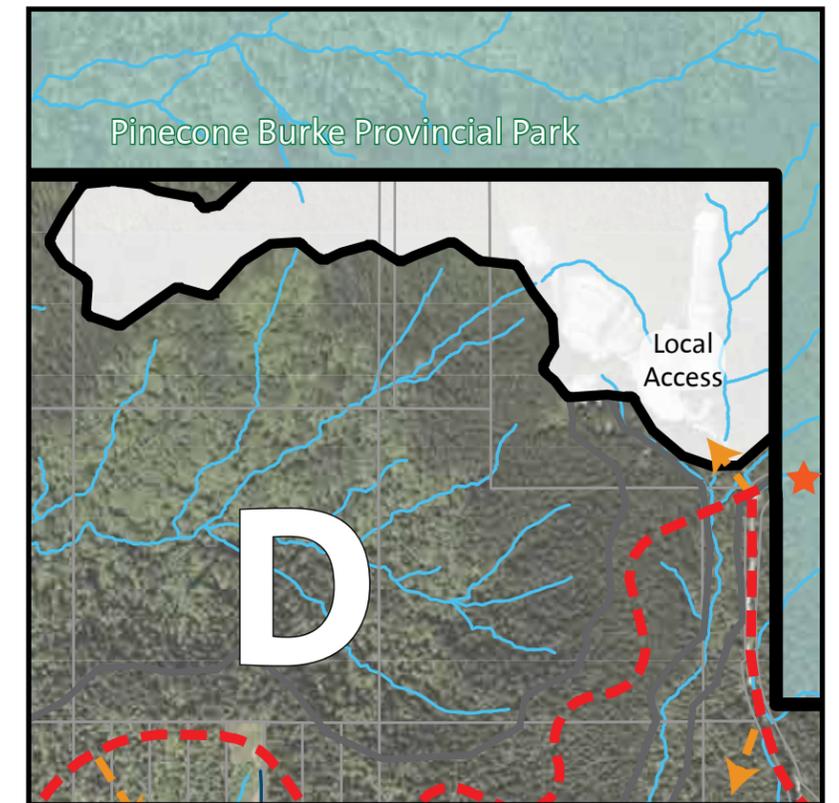
Sub Area C2

- Accessed by existing segments of Coast Meridian Road.
- Coast Meridian Road transitions from an arterial road to a collector road north of Harper Road.
- This extension of Coast Meridian Road will require a bridge or culvert structure to cross Hyde Creek and likely span across Sub Area SS2. Detailed design work will need to be undertaken to confirm the requirements of this crossing.
- The proposed Hazel Avenue extension east of Coast Meridian Road provides an important east-west connection across the NBV area.



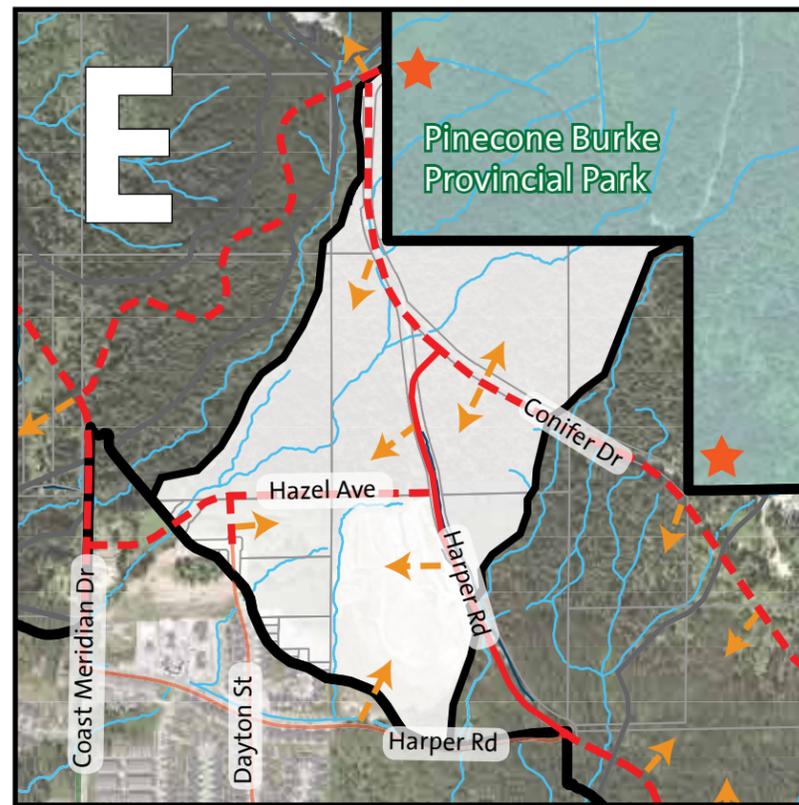
Sub Area D

- Accessed from Sub Area C and E from a northeast access road.
- The western portion of Sub Area D is challenged by steep slopes over 20% and access to/from this area was found unfeasible through the analysis.
- Local private/strata road access and development feasibility will need to be explored as part of the neighbourhood planning process.



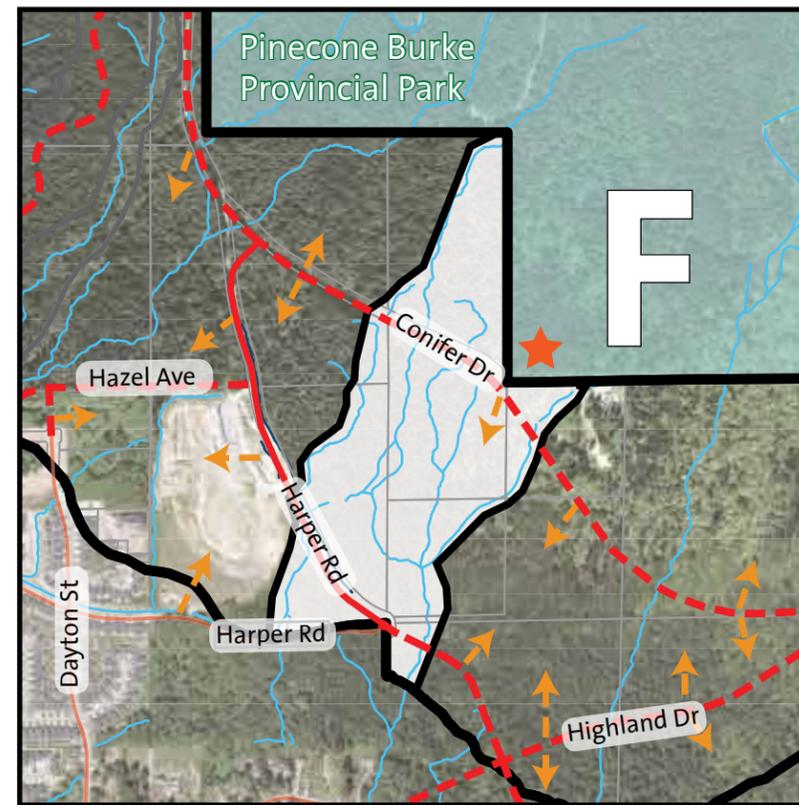
Sub Area E

- Accessed by Hazel Avenue, Dayton Street, Harper Road, and Conifer Drive.
- The existing segment of Harper Road within the NBV area will need to be upgraded to a collector standard.
- The extension of Hazel Avenue provides an important multi-modal, east-west link for this Sub Area.
- The south-east extension of Harper Road provides a secondary access to the Partington Creek Neighbourhood, and in particular the planned civic/commercial centre.
- The extension northward of Dayton Street provides an important second north-south connection into the NBV area.



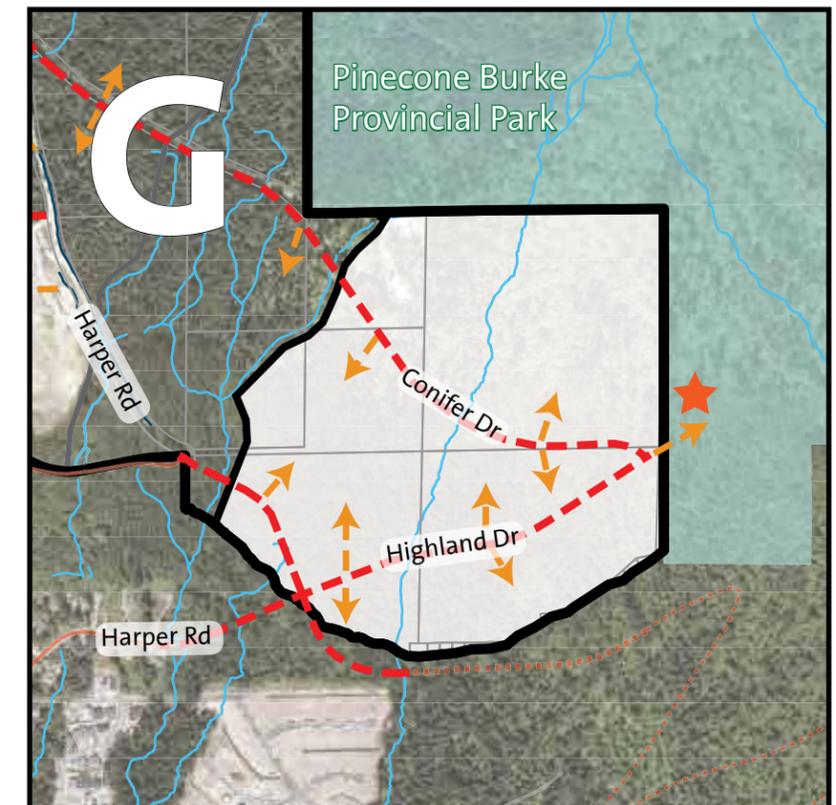
Sub Area F

- Accessed from Conifer Drive and Harper Road.
- Harper Road is planned to extend south-east to connect to Highland Drive. The existing segment of Harper Road within the NBV area will need to be upgraded to a collector standard.
- Includes a potential primary entry point to Pinecone Burke Provincial Park to the north.



Sub Area G

- Accessed by extensions of Highland Drive and Conifer Drive.
- Highland Drive provides an essential east-west link to the area and connects with the Harper Road south-east extension.
- The Highland Drive-Harper Road intersection is important for traffic flow and connectivity within the NBV area and to/from the Partington Creek Neighbourhood.
- Includes a proposed primary entry point to Pinecone Burke Provincial Park to the east.



6.5 Road Grades

The steep terrain of the NBV area is a significant constraint in planning the conceptual road network. The network was planned in accordance with the road grade standards outlined in the *Subdivision and Development Servicing Bylaw*. As noted in the bylaw, the maximum grade permitted for local and collector roads is 12%.

Recognizing the steep, challenging terrain of the NBV area, the benefits of lower road grades (less than 10%) should be noted:

- Reducing cut and fill of adjacent terrain;
- Facilitating easier property access;
- Lowering the costs of maintenance and operations;
- Minimizing vehicle accidents and improving traction during icy conditions; and,
- Enhancing accessibility for other modes of travel.

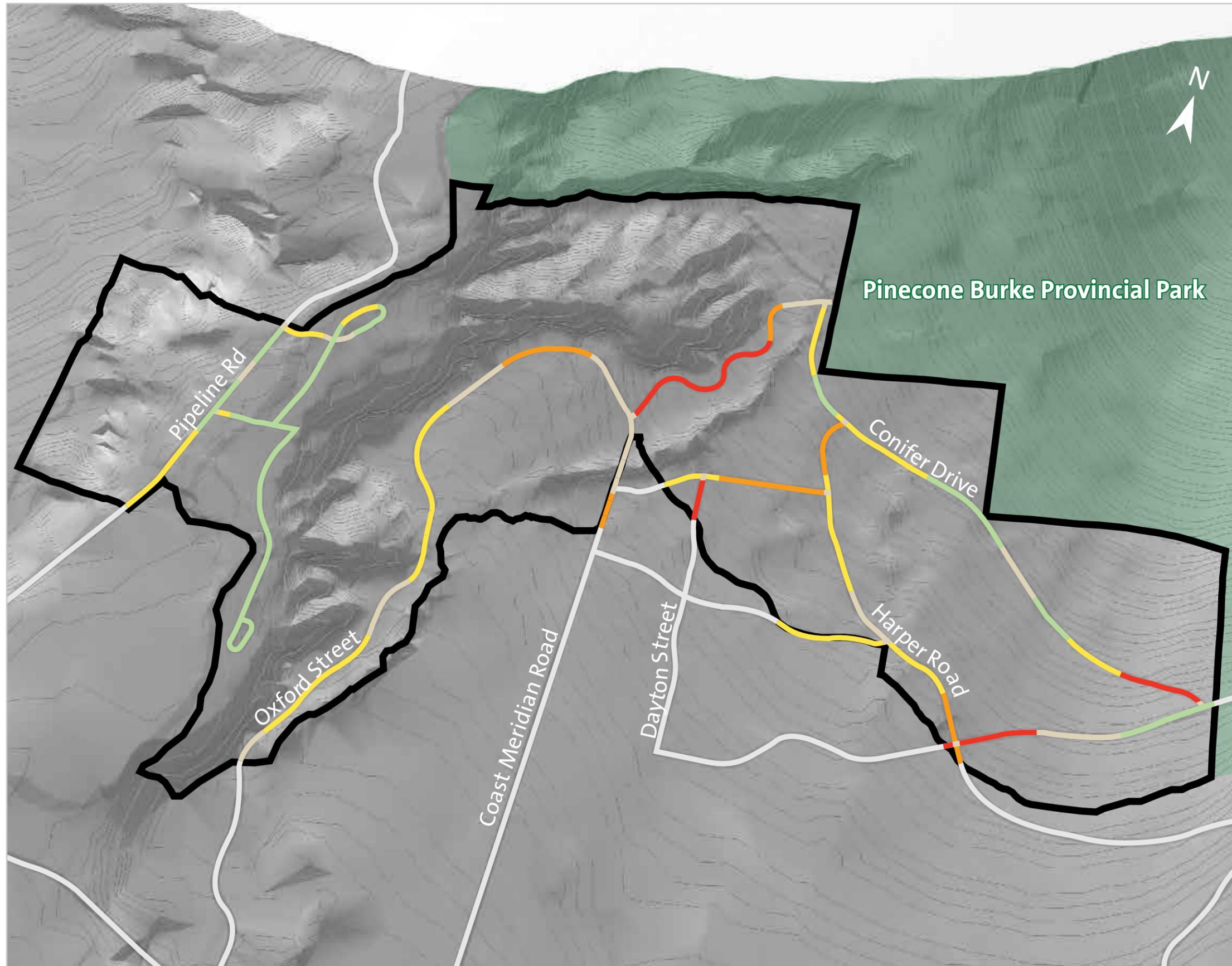
Figure 20 illustrates example road grades found in the NBV area. Complementing this is a 3-dimensional visualization of the Conceptual Road Network (Figure 21). This 3D visualization shows the relationship between the NBV area's terrain, the conceptual road network and the variation in road grades required by this topography to achieve road network connectivity.

Examples of existing sample road grades for existing Coquitlam streets are compiled in the planning memo *Slope Analysis of Selected Existing City Streets to Support Northwest Visioning*. This memo is included in the technical binder that accompanies this report.



FIGURE 20: ROADWAY GRADES IN THE NBV AREA

FIGURE 21: 3D VISUALIZATION WITH CONCEPTUAL ROAD GRADES



KEY

-  Northwest Burke Vision Area
-  External Road (no grade shown)

SLOPE

- 0 - 3% 
- 3 - 5% 
- 5 - 8% 
- 8 - 10% 
- 10 - 12% 

DISCLAIMER / NOTE:

- The slope value are modelled estimates. The actual slope of proposed road sections will be determined as part of the neighbourhood planning process.

6.6 Other Transportation Considerations

Pedestrian and Cycling Network within and Adjacent to the NBV Area

As the NBV area develops, pedestrian facilities (i.e. sidewalks, walkways, multi-use pathways, and trails) will ensure people can safely and conveniently move through and between neighbourhoods.

The *Master Trail Plan* and adjacent neighbourhood plans build on the STP by identifying bicycle routes, greenways, and recreational trails. Notable planned facilities and trails in proximity to the NBV area include:

- Coquitlam River Recreational Trail system (major north-south connection);
- Partington Creek neighbourhood network; and,
- Future trail connections into Pinecone Burke Provincial Park (Figure 22).

The proposed conceptual bicycle and trail network is illustrated in Figure 22. The network considers existing, approved (but not yet built), and conceptual trail and cycling connections as well as potential entry points into Pinecone Burke Provincial Park.

Connectivity between the NBV area and neighbourhoods to the south is essential to the overall concept. Important connections include:

- A trail connection north-south through Sub Area B adjacent the Coquitlam River;
- Trail connections between Sub Areas B and C;
- An extended trail along the Oxford alignment connecting to Pinecone Burke Provincial Park; and,
- An additional north-south connection to increase links through the NBV area to neighbourhoods located to the south.

Proposed Pinecone Burke Provincial Park Access

Future use of Pinecone Burke Provincial Park (e.g. camping, hiking, mountain biking, etc.) as well as access points to the park are being considered by the BC Ministry of the Environment, as part of its ongoing process to create a management plan for this park. At a conceptual level, two types of access points are being proposed by the City: (i) pedestrian/potential vehicle access, and (ii) pedestrian only access. Preliminary potential access points between the NBV area and the provincial park are identified in Figure 22. These are conceptual and require further analysis and discussion with the Province as its management plan for the park develops.

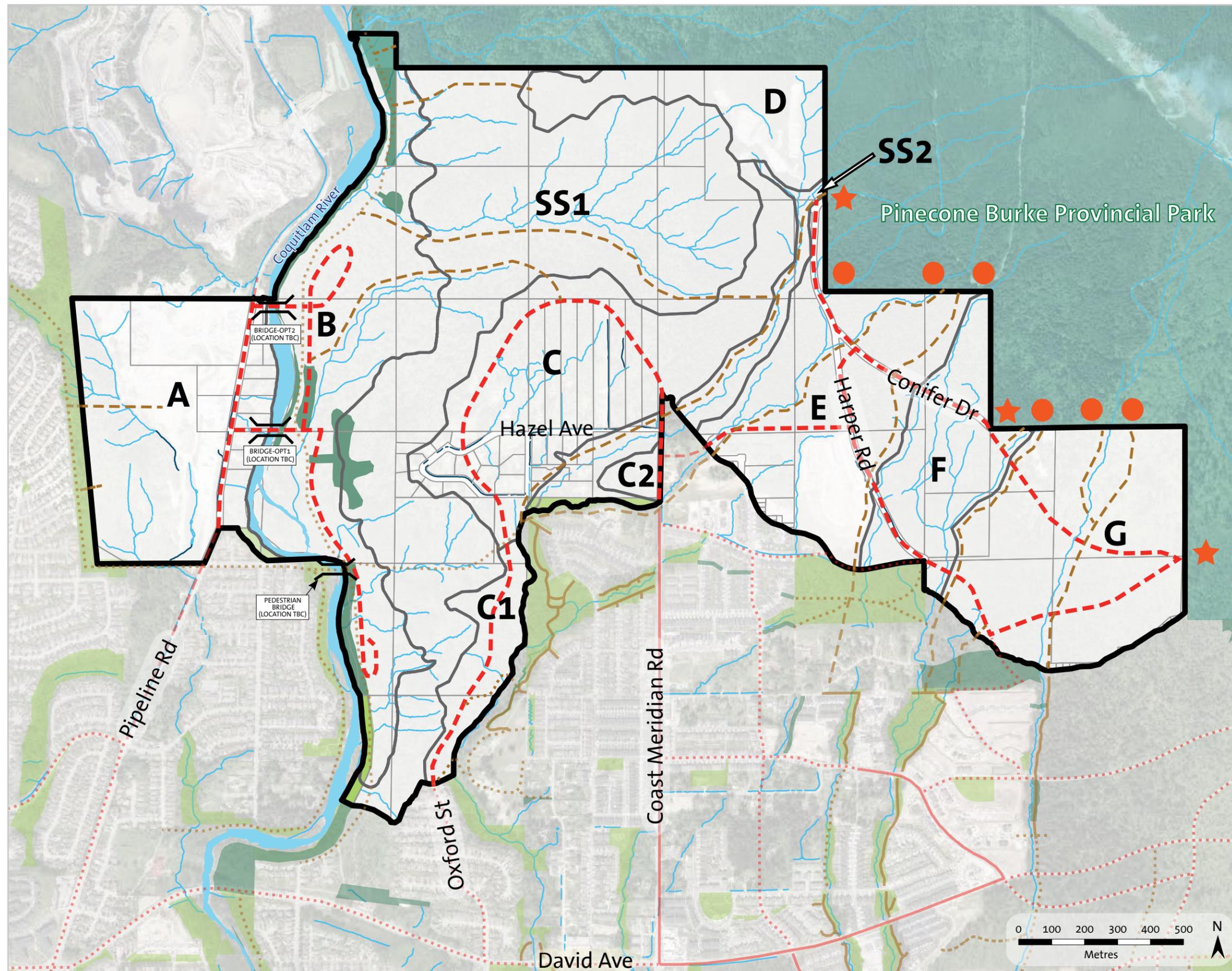
Additional connections and design features for proposed bike routes and trails will be explored as part of future neighbourhood planning processes.

Transit

As it is primarily undeveloped, the NBV area has no existing transit service. Based on TransLink's recent *Northeast Sector Area Transit Plan (NESATP)*, planned bus routing is limited within surrounding areas as well. Once additional funding is available, transit is planned to extend only as far north as Princeton Avenue, with the route primarily serving the future community/commercial centre located to the east in the Partington Creek Neighbourhood. As the NBV area develops, local service will need to be included as part of future TransLink planning processes. The conceptual road network has been designed to accommodate future transit service. Staff will continue discussions with TransLink through its membership on the NBV Planning Advisory Committee.



FIGURE 22: CONCEPTUAL BICYCLE & TRAIL NETWORK



KEY

- Northwest Burke Vision Area
- Sub Area Boundaries
- Watercourses
- Ditches
- Coquitlam River

Bicycle, trail & Park Features

INSIDE THE NBV AREA

- Existing Park
- Approved Parks (per CWOCP)
- Potential Bridge Option
- Conceptual Bicycle Routes
- Conceptual Trails
- Approved Trails (CWOCP/Master Trails Plan)

OUTSIDE THE NBV AREA

- Existing Park Outside the NBV Area
- Approved Parks (per CWOCP)
- Existing Bicycle Routes
- Conceptual Bicycle Routes
- Approved Bicycle Routes (per CWOCP)
- Existing Trails
- Conceptual Trails
- Approved Trails (CWOCP/Master Trails Plan)
- Potential Primary Park Entry - Pedestrian and Potential Vehicle Access
- Potential Neighbourhood Park Entry - Pedestrian Access Only

DISCLAIMERS / NOTES:

- Trails and bicycle routes identified as proposed are conceptual and will require additional analysis at the Neighbourhood Plan and CWOCP amendment stage to determine their feasibility.
- The process to determine the ultimate location of the Coquitlam River crossings that connects Pipeline Road to Sub Area B will be conducted at the neighbourhood plan level and include a multidisciplinary approach (e.g. network connectivity, environmental impacts, financial costs, utility connections).
- The information presented may also not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

7.0 UTILITIES

7.1 Overview & Common Analysis Components

This section provides a high-level overview of existing and proposed conceptual servicing for water, sanitary sewer, and drainage utility networks. Further details on analysis criteria, assumptions for the NBV area, and infrastructure requirements are available in the *NBV Planning Study: Utilities Discussion Paper*. As with land use and transportation, the topographic and environmental constraints provide challenges for utility planning.

To complete the network analysis, land use assumptions as discussed in Section 5.0 were used. For the majority of the NBV area, utility corridors are proposed to align with the conceptual transportation network.

Infrastructure requirements and upgrades are identified at a high-level across the entire NBV area. As the overall neighbourhood and subdivision design is not yet defined, servicing concepts by Sub Area were not completed. Further refinement to infrastructure needs of these Sub Areas will be required when an Engineering Servicing Plan is developed at the neighbourhood planning stage.

The servicing concepts for all utilities are integrated into broader networks planned for northeast Coquitlam. Analyses across all utilities considered the impact of growth outside of the NBV area. Identified system upgrades support growth both within and outside the NBV area.

7.2 Water Servicing

Existing Infrastructure

Existing water servicing infrastructure within the NBV area is limited to two areas (Figure 23). The first serves residential development in Sub Areas C (Hazel/Coy neighbourhood) and C2 and is serviced by the existing watermain connection following Coast Meridian Road. The second serves the fill site in Sub Area E, using the existing watermain running along Harper Road through Sub Area F.

Proposed Conceptual Network Overview

The proposed water system in the NBV area will pump water to higher elevations and distribute it through a network of reservoirs, pressure reducing valves, and pipes. The overall concept is based on expanding the existing system at the most practical tie-in points and designing to meet peak hour and emergency fire flow demands. A number of connections to existing mains are included in the network concept to promote looping through the general water system.

As a result of the topography, four pressure zones (Figure 23) are required to provide adequate water pressure to developable areas below 320-metres in elevation:

- Zone 2;
- Zone 3;
- Zone 4; and,
- Zone 5.

An additional pressure zone is required to serve areas above the 320-metre elevation line (most of Sub Area D and portions of Sub Areas E, F, and G, approximately 30-hectares). The current City-wide servicing strategy does not provide for water service above 320-metres.

Servicing Strategy & Major Capital Upgrades

The majority of the NBV area is currently serviceable without major capital upgrades to the network. Sub Areas A and B (Zone 2) are serviceable with the addition of a second connection to the Metro Vancouver Regional Bulk Supply Main. Sub Area C1 (Zone 3) will be serviced by the Harper Reservoir which is currently undergoing expansion to accommodate growth in northeast Coquitlam.

Portions of Sub Areas C, C2, E, F and G that fall within Zone 4 (i.e. below 244-metres) are serviceable by the existing Zone 4 infrastructure. This infrastructure however does not have the capacity to accommodate all of the growth projected for these and other areas within Zone 4.

A new Zone 5 reservoir will be required to provide water service to parts of the NBV area.

- All areas identified as Zone 5 (Sub Areas D, E, F, and G) will be serviced by the Zone 5 reservoir. Zone 5 includes lands between 244-metres and 320-metres in elevation.
- Some portions of Zone 4 (Sub Areas C, C2, E, F and G) will also be serviced by the Zone 5 reservoir. While parts of Sub Areas C and C2 currently are served by Zone 4 infrastructure, including the Hazel/Coy neighbourhood, the system does not have adequate capacity to continue to provide water service from Zone 4, as the population density in this area increases over the long-term.

While the site for the Zone 5 reservoir is not yet determined, it will need to be located at an

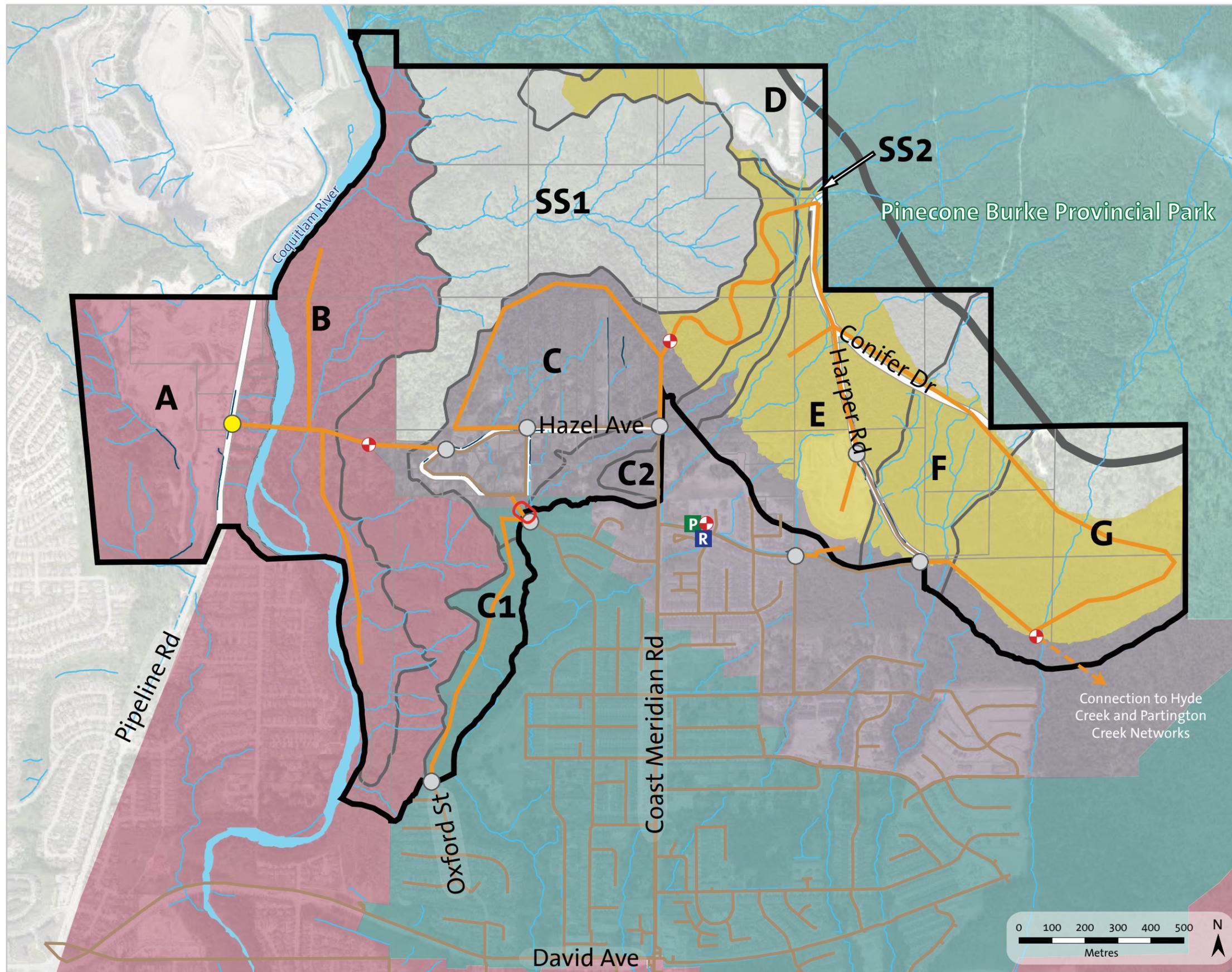
elevation of approximately 350-metres. The feasibility of providing water service above 320-metres will require further analysis and discussion. Part of this analysis will include assessing the approximate per capita infrastructure costs to service this area. Water service above 320-metres may require a pump station, water main, and reservoir located at around 415-metres elevation.

Several water mains are also proposed for the area; details on pipe length and diameter size by pressure zone are outlined in the *NBV Planning Study: Utilities Discussion Paper*.

Figure 23 illustrates the water system network, including pressure zones and proposed water system infrastructure.



FIGURE 23: CONCEPTUAL WATER SYSTEM NETWORK



KEY

- Northwest Burke Vision Area
- Sub Area Boundaries
- Watercourses
- Ditches
- Coquitlam River

FUTURE WATER SYSTEM PRESSURE ZONES

- Zone 2 / Lake Head
- Zone 3
- Zone 4
- Zone 5

WATER INFRASTRUCTURE

- Proposed Watermain
- Existing Watermain
- Potential Location of Zone 5 Reservoir (at approximately 350-m elevation)
- Harper Reservoir
- Harper Pump Station
- Future Supply Point
- Connection to Existing System
- Pressure Reducing Valve
- Utility Bridge Crossing

DISCLAIMER / NOTE:
 • The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

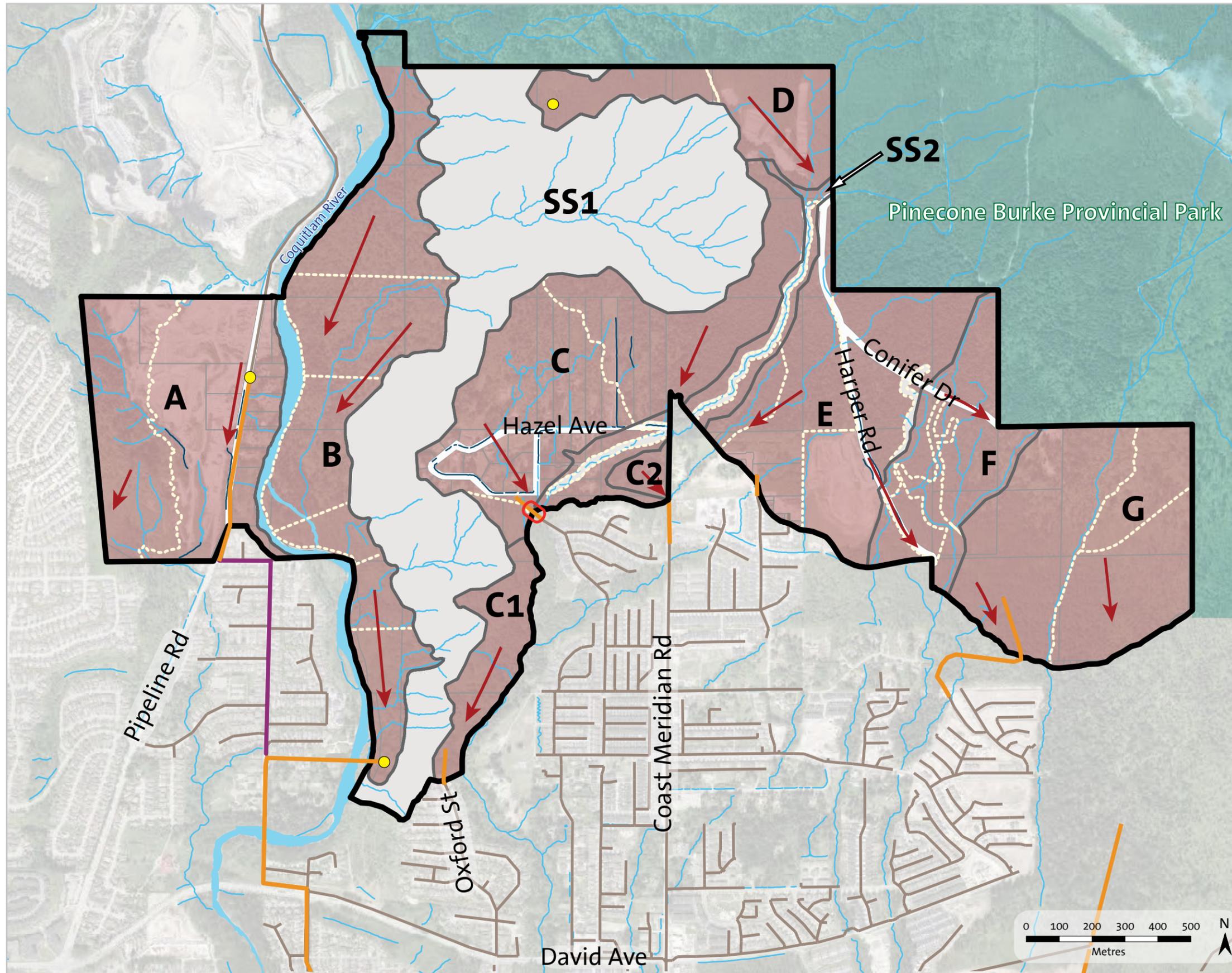


FIGURE 24: CONCEPTUAL SANITARY SEWER SYSTEM NETWORK

- KEY**
- Northwest Burke Vision Area
 - Sub Area Boundaries
 - Watercourses
 - Ditches
 - Coquitlam River
 - Sanitary Catchment Area
 - Sanitary Subcatchment
 - Future Sewer Main
 - Future Capacity Upgrade Required
 - Existing Sanitary Sewer
 - Trunk Sewer Alignment
 - Utility Bridge Crossing
 - Potential Local Pump

DISCLAIMER / NOTE:
 • The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

7.3 Sanitary Sewer Servicing

Existing Infrastructure

There is currently no existing sanitary sewer servicing infrastructure in the NBV area (Figure 24). The existing system extends to the southern NBV boundary near Pipeline Road and Coast Meridian Road. The closest connection to the eastern portion is location in the Smiling Creek neighbourhood north of David Avenue.

Servicing Strategy & Network Upgrades

The proposed sanitary sewer network in the NBV area is primarily based on gravity where sewage flows downhill in pipes from north to south. Pump stations may be required to service portions of Sub Areas A, B, and D, due to topography.

The majority of the flow will be accommodated in existing trunk sewers located outside the NBV area. These have the capacity to provide sanitary sewer service to the full NBV area, including above 320-metres elevation.

The *NBV Planning Study: Utilities Discussion Paper* details the size and length of the proposed sanitary trunk sewer infrastructure within and downstream of the NBV area. Further trunk infrastructure may be identified through an Engineering Servicing Plan completed at the neighbourhood planning stage.

Figure 24 illustrates the general servicing catchment areas and the conceptual proposed trunk connections and downstream improvement.

7.4 Drainage and Stormwater

Integrated Watershed Management

The NBV area is located within the Coquitlam River, Hyde Creek, and Partington Creek watersheds (Figure 25, p.39). Integrated Watershed Management Plans (IWMPs) were previously completed for the Hyde Creek Watershed (2004) and Partington Creek Watershed (2011). IWMPs will need to be prepared for the subwatersheds of the Coquitlam River at the implementation stage of the NBV process.

Existing Infrastructure

As shown in Figure 26 (p.40) there is limited drainage infrastructure within the NBV area. This limited infrastructure is concentrated in Sub Area C where it services existing rural development.

Proposed Conceptual Network and Future Infrastructure

General drainage catchments are required for Sub Areas A, B, and D. Drainage from these areas will be conveyed to the Coquitlam River. To be managed and meet legislated standards, a number of stormwater treatment facilities will be required through the Sub Areas to mitigate flow impacts (Figure 26, p.40).

Drainage from the other Sub Areas will be collected and conveyed to the existing downstream infrastructure within the Upper Hyde Creek, Smiling Creek, and Partington Creek drainage catchments. No downstream upgrades to existing trunk infrastructure from the NBV area are required with the exception of additional pipes to divert flow to the Partington Creek catchment.

The *NBV Planning Study: Utilities Discussion Paper* details the size and length of the proposed drainage trunk infrastructure downstream of the NBV area. Further trunk infrastructure may be identified when an Engineering Servicing Plan is completed at the neighbourhood planning stage.

7.5 Summary of Major Infrastructure Improvements

Table 2 summarizes the major infrastructure upgrades required to provide water, sanitary sewer, and drainage/stormwater service to the NBV area. This includes the construction of a utility bridge crossing Hyde Creek. The utility bridge will provide water service to Sub Area C1 and drainage and sanitary service to Sub Area C.

The financial feasibility analysis, to be completed as part of Phase 3, will provide cost estimates and a funding strategy to complete the required infrastructure improvements. This analysis will confirm projects to be accounted for in the Development Cost Charges (DCC) program as well as those projects that will be the responsibility of developers. Also, as noted in Section 4.0, further analysis will be completed to assess the feasibility of providing water service above 320-metres.

TABLE 2: MAJOR INFRASTRUCTURE IMPROVEMENTS

Utility	Improvement Description
Water	<ul style="list-style-type: none"> • Zone 5 Reservoir • Water supply mains • Connection to Metro Vancouver Regional Bulk Supply main • Utility bridge crossing Hyde Creek
Sanitary Sewer	<ul style="list-style-type: none"> • Sanitary pump stations • Trunk sewer pipes within and downstream of the NBV area • Utility bridge crossing Hyde Creek
Drainage/Stormwater	<ul style="list-style-type: none"> • Stormwater treatment facilities and drainage sewers • Utility bridge crossing Hyde Creek



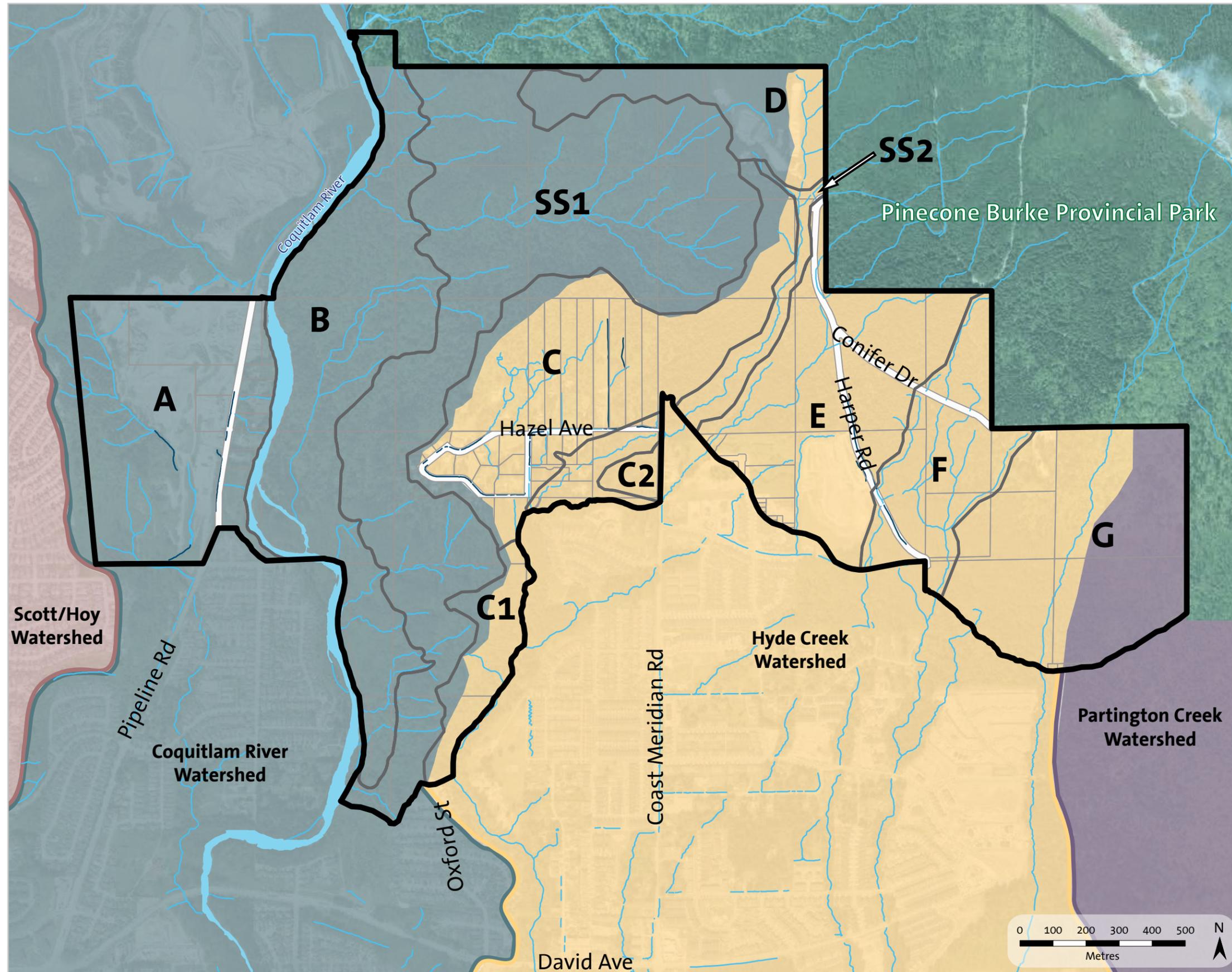


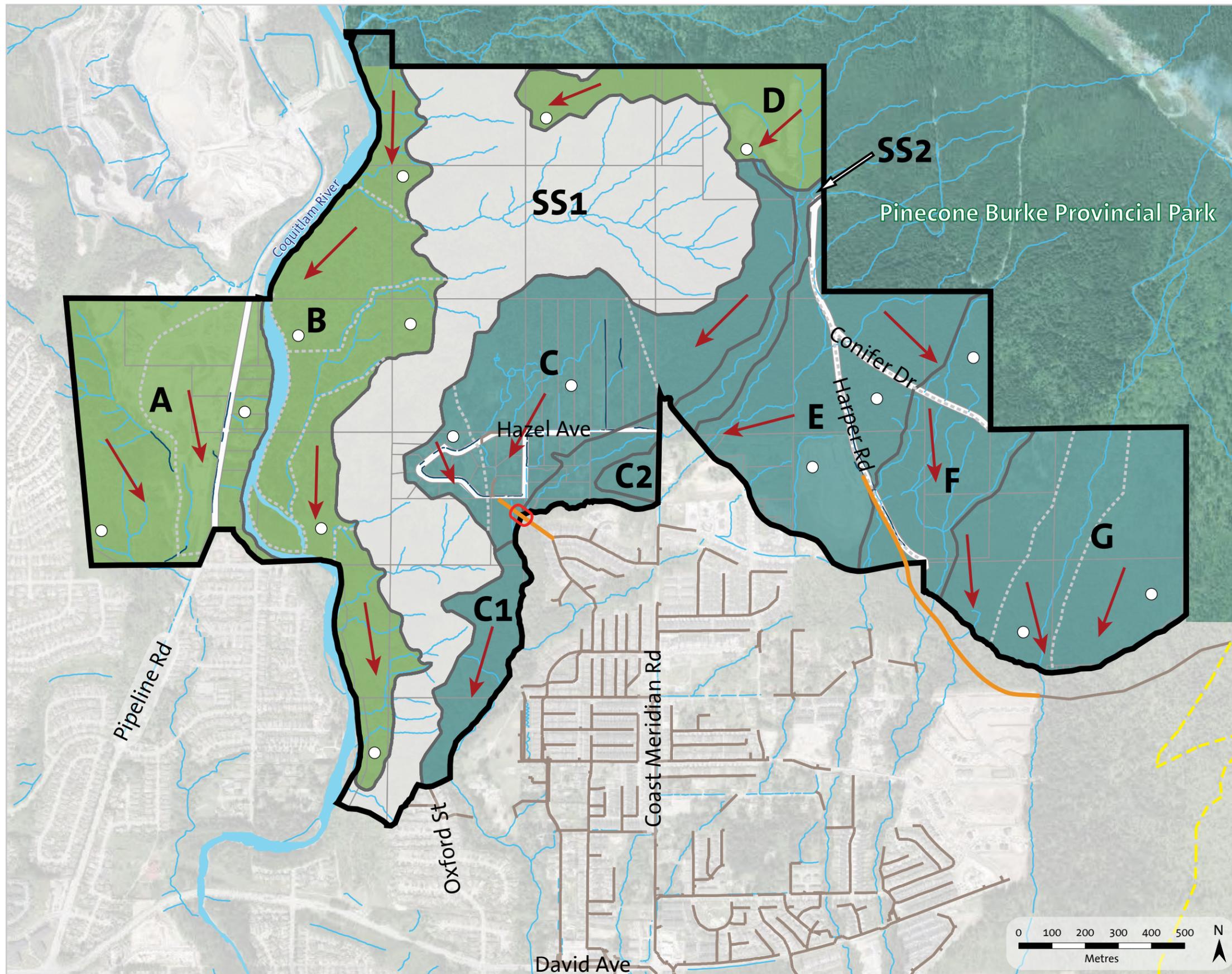
FIGURE 25: WATERSHEDS

- KEY**
-  Northwest Burke Vision Area
 -  Sub Area Boundaries
 -  Watercourses
 -  Ditches
 -  Coquitlam River
 -  Coquitlam River Watershed
 -  Hyde Creek Watershed
 -  Partington Creek Watershed
 -  Scott/Hoy Watershed

DISCLAIMER / NOTE:

- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

FIGURE 26: CONCEPTUAL DRAINAGE CATCHMENT PLAN



KEY

- Northwest Burke Vision Area
- Sub Area Boundaries
- Watercourses
- Ditches
- Coquitlam River
- Conveyed to Coquitlam River & Tributaries
- Conveyed to Existing Drainage System
- Drainage Subcatchment Boundary
- Existing Storm Sewer
- Future Diversion Main
- Future Partington Creek Diversion Main (Required to support NBV area growth)
- Drainage Flow
- Utility Bridge Crossing
- Potential Stormwater Treatment Facility*

DISCLAIMERS / NOTES:

- Requirements for stormwater treatment facilities will be determined with integrated stormwater management plans.
- The information presented may not reflect the exact location of all watercourses, and other unknown watercourses may not be identified.

8.0 NEXT STEPS

8.1 Consultation & Further Analyses

The next step in the NBV process after a project update presentation to Council, is to hold follow-up discussions with the NBV property owners, the NBV Public Advisory Committee, and stakeholders such as the School District 43, the BC Ministry of the Environment, and TransLink. Public consultation will also include sharing information with the broader community.

Additional analyses also will be completed to inform the final Vision document. This includes a financial feasibility analysis identifying capital infrastructure and long term life cycle costs (e.g. operation, maintenance, and replacement) and potential revenue sources. The feasibility of providing water service above the 320-metre elevation line will also be further evaluated through a separate analysis. In addition, wildfire risk and mitigation strategies will be explored.

FIGURE 27: PROGRESS & NEXT STEPS

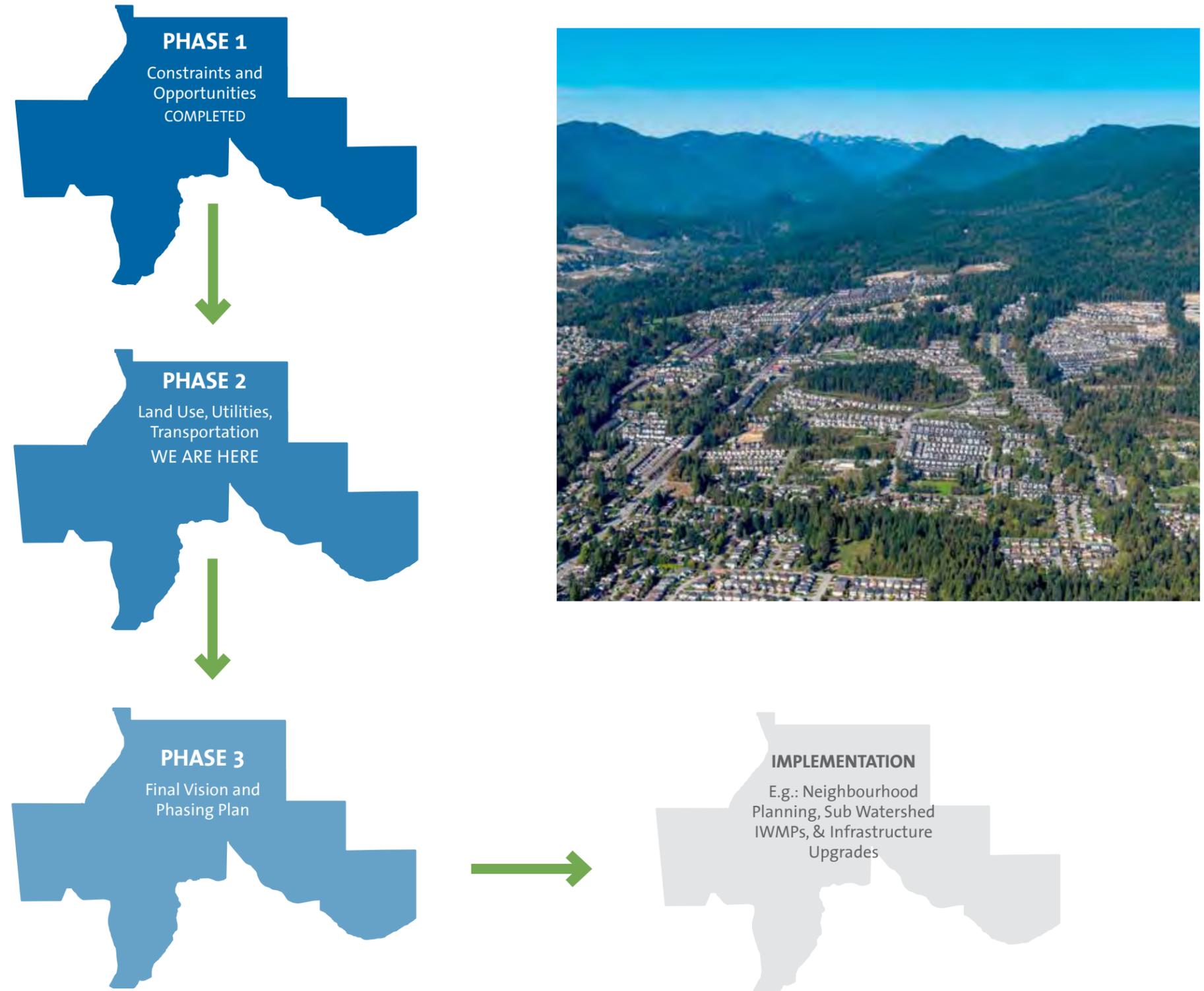


FIGURE 28: USING PHASE 1 & PHASE 2 OUTPUTS FOR PHASE 3

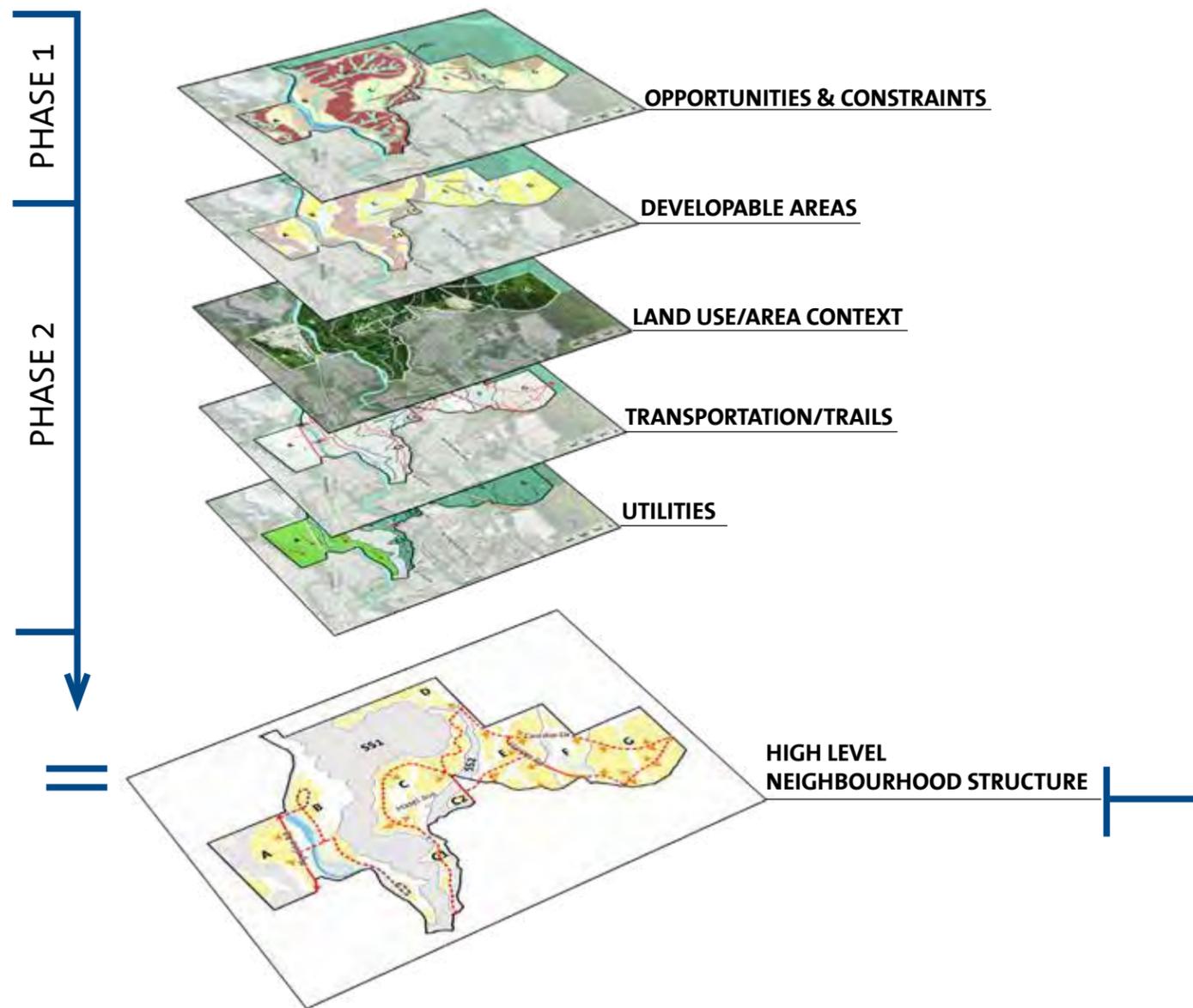
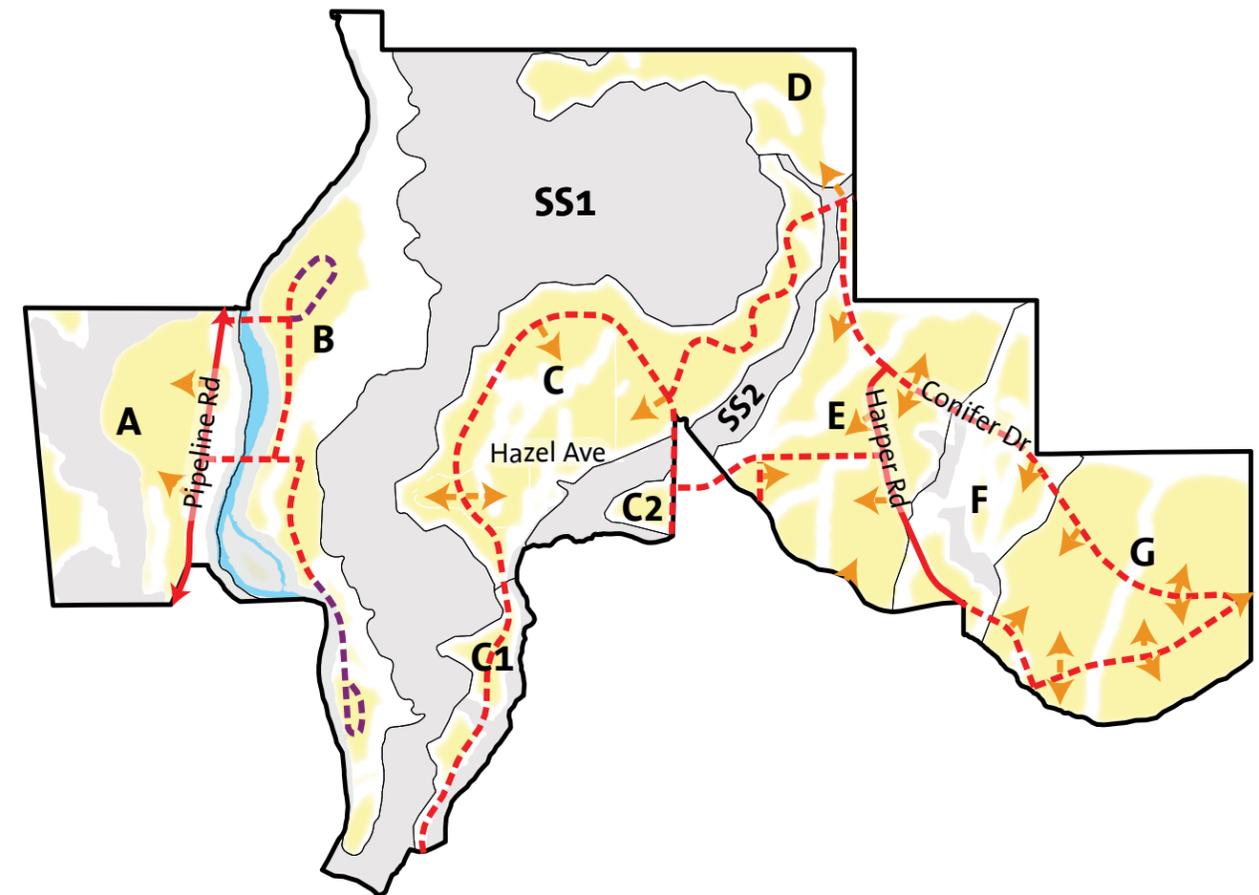


FIGURE 29: HIGH-LEVEL NEIGHBOURHOOD STRUCTURE



8.2 High Level Neighbourhood Structure

A key outcome of Phase 2 is a high level neighbourhood structure concept. The neighbourhood structure concept combines the Phase 2 work on developable areas, land use, transportation/trails, and utilities, with the constraints and opportunities analysis undertaken in Phase 1 serving as its foundation.

A central component of Phase 3 will be taking the outputs of Phase 1 and Phase 2 and using the high level neighbourhood structure as a basis for creating the Vision.

The Vision will:

- Establish general land use overlays and policy direction for considerations such as parks/natural areas, transportation, place-making, utilities, and pedestrian connectivity;
- Provide a framework to facilitate landowner cooperation to implement the NBV; and,
- Prepare a phasing plan to guide the preparation and timing of future neighbourhood plans, stormwater management, and development.