



Austin Heights Servicing Assessment

City of Coquitlam

December 24, 2018

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1.0 INTRODUCTION

1.1 Context

The Austin Heights Servicing Assessment is a high-level summary of estimated costs (both DCC and non-DCC) and proposed funding sources for servicing requirements (infrastructure works including transportation and utility improvements, and parks) that are needed to support the build-out of the Austin Heights Neighbourhood Plan ('AHNP' or the 'Plan').

These servicing requirements are based on the projected increase of 2,500 dwelling units (approximately 5,000 people) anticipated to be developed within the AHNP area to 2031. Some of these servicing elements also support the wider Southwest Coquitlam community.

As a companion document to the AHNP, this Assessment is based on the key outcomes of detailed servicing, phasing and financial plans that aim to facilitate redevelopment in Austin Heights. While much of the servicing and infrastructure in Southwest Coquitlam is interlinked and improvements in one area help to support adjacent neighbourhoods, this Assessment only includes capital costs for improvements within the AHNP boundary and does not include the operating and maintenance costs associated with these projects.

More specifically, the Development Cost Charge (DCC) eligible capital costs noted in this Assessment are incorporated into the Citywide DCC program through periodic DCC bylaw updates. Non-DCC eligible capital improvements will be funded through a combination of sources, including private sector development, the City's capital budget, utility fees and contributions from other levels of governments. Project specific details are provided in Sections 2.0 – 4.0. The needs identified in this Servicing Assessment are used by the Finance Department to prepare future Five Year Financial Plans and assist in the determination of the Citywide DCC program, for approval by Council in the future to support the AHNP and the City as a whole.

This Servicing Assessment was jointly prepared by Engineering and Public Works, Parks, Recreation and Culture, Planning and Development, and Strategic Initiatives staff. This Assessment should be used in conjunction with the City's Five Year Financial Plan, *Official Community Plan*, *Austin Heights Neighbourhood Plan*, *Subdivision and Development Servicing Bylaw*, *Development Cost Charge (DCC) Bylaw*, *Community Amenity Contribution (CAC) Policy*, and the *Parks Prioritization Plan* in setting capital funding priorities.

1.2 Funding and Costs Summary

Transportation, utility, and park improvements in the AHNP area will be implemented through a combination of funding sources, including private sector development, the City's capital and DCC reserves, density bonus funds, utility fees and potential contributions from other levels of governments. The City will determine the optimal funding source in balance with other City funding priorities in order to support future growth.

1.2 Funding and Costs Summary cont'd/

The majority of DCC-eligible infrastructure works required to support full build-out of the Plan are already included in the City's DCC program. Works that are not currently included will be reviewed and are anticipated to be added to the DCC program during the next DCC bylaw review.

1.2.1 Estimated DCC Revenue

The City uses a Citywide DCC program, which applies the same DCC rates to developments across the City to fund the cost of all DCC-eligible capital projects in Coquitlam. Based on the development projections for the AHNP area, it is estimated that up to approximately \$30.65 million of DCCs (Table 1) will be collected from development within the AHNP area to 2031, depending on actual development activity and market cycles.

1.2.2 Estimated Costs

The total estimated cost of DCC projects listed in the AHNP Servicing Assessment is \$21 million (Table 1) and non-DCC eligible costs are approximately \$5.8 million (Table 2).

Table 1 – Estimated DCC revenues and costs generated from AHNP by 2031¹

	Transportation DCCs	Water DCCs	Sanitary DCCs	Drainage DCCs	Parkland Acquisition DCCs	Parkland Improvement DCCs	Total
Estimated DCC Revenue ²	\$7.3 M	\$2.2 M	\$0.75 M	\$2.8 M	\$13 M	\$4.6 M	\$30.65 M
Estimated DCC Costs ³	\$4.61 M	\$13.92 M	\$0.92 M	\$3.6 M	To be determined	To be determined	\$21.17 M⁴

Coquitlam's DCC program is citywide and revenue and spending is not tracked on a neighbourhood level basis. DCC revenue generated from development within Austin Heights will go towards funding DCC-eligible infrastructure improvements across Coquitlam as prioritized by Council. Given the interconnected nature of infrastructure, some of the improvements in Austin Heights will directly or indirectly benefit other areas of Southwest Coquitlam and vice versa.

¹ The DCC revenue is based on an estimated 2,500 new dwelling units and 17,000m² (183,000 sq. ft.) of new commercial floor space.

² All revenue estimates are based on the City's 2015 DCC Bylaw (Bylaw No. 4607, 2015)

³ All cost estimates are based on 2015 capital cost estimates (except for Transportation which is based on 2017 capital cost estimates) and are based on conceptual design concepts which are subject to change at the time of functional design, site development, and land acquisition.

⁴ The estimated total DCC costs excludes parkland acquisition and parkland improvement DCCs as any parks acquisition and improvement projects to serve the neighbourhood will be identified by the Parks, Recreational and Culture Strategic Plan at a later date (Section 4.0).

The proposed land uses in Austin Heights have a long-term infrastructure benefit in that less new infrastructure is required to support redevelopment (i.e., greater number of dwelling units in the same service area). Operating and maintenance will increase but the Assessment does not include estimates for these cost estimates.

In addition, there are a number of identified infrastructure upgrades and new facilities in the AHNP area that cannot be funded through DCCs and will require a separate funding source of approximately \$5.8 million, bringing the total DCC eligible and non-eligible servicing costs for the AHNP to approximately \$27 million (Table 2). Further details on these costs are contained in the following sections. Non DCC-eligible items will be funded through a variety of means, including private sector development, capital funding, capital borrowing, utility fees, CACs, density bonus funding, and contributions from other levels of government.

Table 2 –Estimated Cost Breakdown

DCC Eligible Project Categories	Estimated Cost	Currently Funded in DCC Program	Unfunded in DCC Program
Transportation DCC Eligible	\$4.61 M	\$4.61 M	-
Water DCC Eligible	\$13.92 M	\$12.04 M	\$1.88 M
Sanitary DCC Eligible	\$0.92 M	\$0.92 M	-
Drainage DCC Eligible	\$3.6 M	\$3.6 M	-
Total Cost DCC Eligible Projects	\$21.17 M	\$21.17 M	\$1.88 M
Non-DCC Eligible Project Categories	Estimated Cost		
Sanitary Non-DCC Eligible	\$1.16 M	-	-
Drainage Non-DCC Eligible	\$4.6 M	-	-
Total Cost Non-DCC Eligible Projects	\$5.76 M	-	-
TOTAL ESTIMATED COSTS	\$26.93 M	\$21.17 M	\$1.88 M

1.3 Infrastructure Development Timing and Coordination

This Assessment summarizes infrastructure improvements to be completed to support the build-out of the neighbourhood to 2031, but it is important to note the timing of specific capital infrastructure improvements is variable. It is recognized that this Assessment will need to be coordinated with citywide capital planning and funding.

1.3 Infrastructure Development Timing and Coordination cont'd/

The estimated timing of capital projects over the short term are identified in the City’s Five Year Financial Plan. The exact timing of these projects will be based on Council’s capital project priorities (i.e., capital projects in the AHNP area relative to projects elsewhere in the City), DCC revenue collection, the housing market, the actual pace of development within the AHNP area and the utilization of developer-funding revenue tools.

Where appropriate, the City will coordinate infrastructure improvements in the AHNP area with other infrastructure upgrade requirements in adjacent neighbourhoods and throughout Southwest Coquitlam.

2.0 TRANSPORTATION

There are two types of transportation improvements included in the neighbourhood plan:

- » Mobility and Circulation Improvements; and
- » Streetscape and Public Realm Improvements.

Mobility and Circulation Improvements are required to address increased vehicular, pedestrian and cyclist traffic volumes resulting from growth in the neighbourhood. Streetscape and Public Realm Improvements are development driven projects and are related to improvements of the street frontage and functional changes required to accommodate the redeveloped areas. The transportation improvements are illustrated in Appendix A.

2.1 Mobility and Circulation Improvements

The various mobility and circulation improvement projects will be funded through a number of sources including DCC reserves. These improvements along with order-of-magnitude cost estimates are presented in Table 2. Phasing of the improvements will depend on the pace of development and will be referred to the Capital budgeting process

Table 2 – Mobility and Circulation Improvement Projects

	Project Description	Order-of-magnitude construction costs ⁵		Estimated Cost Non-DCC Eligible (xx%)	Total Estimated Cost
		Funded	Unfunded		
A.	Austin Avenue / Blue Mountain Street intersection <i>Add north bound left turn lane on Blue Mtn St, reconfigure approaches, sidewalk improvements, trees in grates, street lighting and accessible features, signal upgrade</i>	\$559,000			
B.	Austin Avenue / Nelson Street intersection <i>Reconfigure approaches, sidewalk improvements, trees in grates, street lighting and accessible features, signal upgrade</i>	\$559,000			
C.	Austin Avenue / Marmont Street intersection <i>Provide northbound right turn lane on Marmont, provide northbound and southbound left turn lane on Marmont, extend westbound left turn</i>	\$559,000			

⁵ These costs estimates are based on preliminary design concepts and are subject to change. Any utility network upgrades or repairs (storm/sanitary sewers, water, hydro, telephones and cable), property requirements for road widening, ornamental furniture or sculptures and structural soils are not included in the costs estimates.

	Project Description	Order-of-magnitude construction costs ⁵		Estimated Cost Non-DCC Eligible (xx%)	Total Estimated Cost
		Funded	Unfunded		
	<i>lane on Austin Ave, reconfigure approaches, sidewalk improvements, trees in grates, street lighting and accessible features, signal upgrade</i>				
D.	Ridgeway Avenue / Marmont Street intersection <i>Safety improvements, reconfigure approaches, sidewalk improvements, trees in grates, street lighting and accessible features</i>	\$180,000			
E.	Ridgeway Avenue/ Nelson Street intersection <i>Safety improvements, raise intersection, reconfigure approaches, sidewalk improvements, trees in grates, street lighting and accessible features</i>	\$170,000			
F.	King Albert Street overpass at Como Creek <i>Install new pedestrian / bicycle overpass over Como Creek, sidewalk approaches, street lighting and accessible features</i>	\$1,000,000			
G.	Nelson Street Bicycle Route <i>Install signage and enhance cycling infrastructure</i>	\$316,000			
H.	Proposed Lane Connection at Austin Avenue and Gatensbury <i>Open new lane for neighbour traffic at south end of Austin/Gatensbury intersection (full movements with curb returns), signal upgrade</i>	\$559,000			
I.	Proposed New Pedestrian Crossing at Austin Avenue and East Walk <i>Install new pedestrian crossing at Austin Avenue and accessible features</i>	\$150,000			
J.	Austin Avenue / Schoolhouse Street intersection <i>Reconfigure approaches, sidewalk improvements, trees & boulevard, street lighting and accessible features, signal upgrade</i>	\$559,000			
	TOTAL ESTIMATED COST MOBILITY AND CIRCULATION PROJECTS - CITY FUNDED	\$4.61 million			

2.2 Streetscape and Public Realm Improvements

Streetscape and Public Realm improvements will be implemented as new developments proceed in Austin Heights as part of rezoning or development permits approvals. These improvements will be funded by private development as part of the frontage improvements at the time of development. A summary of the proposed Streetscape and Public Realm Improvements is presented in Table 3. These improvements will be coordinated through servicing and road projects specified during subdivisions and/or rezoning applications in servicing agreements.

For any street improvements resulting from redevelopment that are not covered by the City's Subdivision Bylaw, the City has developed Streetscape Guidelines to include special designs and construction materials for street improvements identified in the AHNP. For instance, Ridgeway Avenue Walk has incorporated design principles that have reallocated road right of way space to better accommodate various users of the public realm. These principles will be encompassed in the design guidelines for the street.

A breakdown of streetscape improvement costs borne by private developers is provided in Appendix C. A level "C/D" cost estimate for the entire streetscape improvement is provided in Appendix "A" in the *Austin Heights Streetscape Standards*.

Table 3 - Streetscape and Public Realm Improvement Projects (as part of private development proposals)

	Project Description
K.	Austin Avenue – Blue Mountain Street to Nelson Street <i>Retrofit central median on Austin, widen sidewalk and install new C&G, realign wheelchair letdowns with new pedestrian x-walk at Lebleu Avenue, provide on-street parallel parking, install on-street bus bay</i>
L.	Austin Avenue –Nelson Street to Marmont Street <i>Widen sidewalk and install new C&G, provide on-street parallel parking, install on-street bus bay</i>
M.	Austin Avenue - Marmont Street to Gatensbury Street <i>Install raised central median, widen sidewalk and install new C&G, provide on-street parallel parking, · install on-street bus bay</i>
N.	Austin Avenue - Gatensbury Street to Schoolhouse Street <i>Widen sidewalk/boulevard and install new C&G, extend culvert at Como Creek</i>
O.	Ridgeway Avenue Walk <i>Convert existing street into shared street, new rollover C&G and sidewalks (color stamped concrete), new parking zone</i>
P.	Central Vista Walk <i>Streetscape and mid-block walkway improvements in line with existing pedestrian crossing north and south of Austin</i>
Q.	East Pedestrian Walk <i>Streetscape and mid-block walkway improvements along new pedestrian areas</i>
R.	West Pedestrian Walk <i>Streetscape and mid-block walkway improvements along new pedestrian areas</i>

2.3 Other contributing capital projects

There are a number of “in the works” projects that will provide significant support to the vision and goals of AHNP by improving access to community facilities. These are briefly described below:

King Albert Avenue Improvements – Blue Mountain Street to Gatensbury Street. This project involves repaving King Albert as well as improving road allocation for pedestrian and cycling travel, installing an improved multiuse pathway at Blue Mountain Park, a new pedestrian signal at Blue Mountain Street and reconfiguring intersections at Nelson, Porter and Marmont. In addition, custom street name signs and hanging flower baskets may be included in the commercial core area to enhance the Austin Height’s unique character.

Poirier Street – Regan Avenue to Foster Avenue. This project entails reallocating the street space for better accommodation of pedestrians and cyclists by installing a multiuse pathway on the west side of the road to connect the Foster and Reagan bike routes.

3.0 UTILITIES

The Austin Heights Neighbourhood is currently well served by the City’s water, sewer and drainage systems. However, the planned growth will have an impact on the capacity of the utilities. Future servicing must satisfy the demand created by new development while considering potential environmental impacts and the storm water management requirements of the *Como Creek Integrated Watershed Management Plan* and the *Nelson Creek Integrated Watershed Management Plan (IWMP)*.

A hydraulic analysis of the water, sewer and drainage system was completed using the AHNP population projections to determine required system upgrades. Specific improvements are presented in the following sections and Appendix B shows the location of Austin Height specific improvements relative to planned improvements in the rest of Southwest Coquitlam. In addition to the hydraulic analysis, the Nelson Creek IWMP and Como Creek IWMP have been developed to protect fish and aquatic habitat.

Funding for utility improvements will come from a variety of sources including:

- » frontage improvements as part of site servicing requirements of individual developments;
- » DCC funded capital works to support growth; and
- » utility funded replacement of aging infrastructure.

Other government agencies and organizations like the Pacific Salmon Foundation may contribute grants to improve aquatic habitat.

As some of these infrastructure improvements provide benefits within adjacent neighbourhoods and upstream or downstream areas, not all improvements will be 100% funded from development within a particular neighbourhood. Non-DCC eligible costs will be recovered from the Sewer and Drainage Utility and will be determined through the annual capital budget process and reflected in future Five Year Financial Plans.

3.1 Water System Improvements

The water system in Southwest Coquitlam is supplied by the GVWD Burnaby Mountain tank and Cape Horn reservoir, and distributed through a robust grid of City feeder mains and pump stations. To support the anticipated growth, a water servicing strategy was developed with planned improvements as described in Table 4 and Appendix B. These upgrades will be partially funded from water DCC’s.

Table 4 – Water System Improvements

	Project Description	Estimated Cost DCC Eligible		Estimated Cost Non-DCC Eligible	Total Estimated Cost
		Funded	Unfunded		
A	Foster pump station zone 3A expansion	\$4.85M	-	-	\$4.85M
B	Foster reservoir expansion	\$7.19M	-	-	\$7.19M
C	Foster pump station upgrade	-	\$1.88M	-	\$1.88 M
	TOTAL ESTIMATED COST	\$12.04 M	\$1.88 M	-	\$13.92 M

Phasing of water system improvements will depend on the pace of development and will be determined through the annual capital project priority- setting and budgeting process.

Watermains fronting individual developments, mainly in commercial and high density areas, may also need to be upsized to ensure fire flows can be delivered to the site. Costs for these improvements will be the responsibility of developers as part of their site servicing requirements.

3.2 Sanitary Sewer System Improvements

Sewage from the Austin Heights area flows south to the GVS&DD’s Maillardville Trunk Sewer, which runs along Brunette Avenue.

An analysis of the City’s sewage collection system identified additional improvements needed to accommodate the future planned development in the Austin Heights Neighbourhood. Table 5 and Appendix B show the required pipe upsizing that will be partially funded from sewer DCC’s. Approximately 44% of the pipe upsizing cost is attributed to new development and funded by DCC’s while the remaining 56% is funded from the sewer utility revenue as part of its program to replace aging infrastructure. Phasing of the improvements will depend on the pace of development and will be determined through the annual capital priority-setting and budgeting process.

Sewers fronting individual developments may also need to be upsized as part of the site servicing requirements.

Table 5 – Sanitary Sewer System Improvements

	Project Description	Estimated Cost DCC Eligible (44%)		Estimated Cost Non-DCC Eligible (56%)	Total Estimated Cost
		Funded	Unfunded		
D	Sanitary sewer upgrade – Casey Street from Austin Avenue to Brunette Avenue	\$0.83M	-	\$1.05M	\$1.88M
E	Sanitary Sewer upgrade – Blue Mountain Street at various locations	\$0.09M	-	\$0.11M	\$0.20M
	TOTAL ESTIMATED COST	\$0.92M	-	\$1.16M	\$2.08M

3.3 Drainage System Improvements

Austin Heights is located within both the Nelson Creek and Como Creek watersheds in Southwest Coquitlam. These creeks are the main drainage paths to safely convey rainwater runoff to the Fraser River.

An analysis of the drainage system shows that the storm sewers along Marmont Street are undersized for the future planned development in the Austin Heights Neighbourhood. The storm sewers on Marmont Street should be upsized to accommodate both the projected flows and diversion of high flows from Nelson Creek. Diverting high flows away from Nelson Creek will prevent channel erosion and improve aquatic habitat.

Table 6 and Appendix B show the proposed pipe upsizing that will be partially funded from drainage DCC's; 44% of costs are attributed to new development and funded by DCC's while the remaining 56% are funded from the drainage utility as part of its capital program to replace aging infrastructure.

Table 6 – Drainage System Improvements

	Project Description	Estimated Cost DCC Eligible (44%)		Estimated Cost Non-DCC Eligible (56%)	Total Estimated Cost
		Funded	Unfunded		
F	Storm sewer upgrade/diversion – Marmont Street from Austin Avenue to Lougheed Highway	\$3.6M	-	\$4.6M	\$8.2M
	TOTAL ESTIMATED COST	\$3.6M	-	\$4.6M	\$8.2M

Phasing of the improvements will depend on the pace of development and will be determined through the annual capital project priority-setting and budgeting process.

Drainage mains fronting individual developments may also need to be upsized as part of the site servicing requirements.

3.4 Integrated Watershed Management Plans

The Austin Heights Neighbourhood is located within Nelson and Como Creek watersheds. Integrated watershed management plans completed for Nelson and Como creeks in 2012 and 2014 respectively indicate that rainwater needs to be managed in a manner that protects aquatic habitat.

Historically, urban development has tended to degrade stream water quality, reducing summer base flows and increase the intensity of runoff, which can result in eroding stream channels and impacting environmental health. The IWMP's set out policies and guidelines to manage rainwater in a way that protects aquatic habitat and provides flood protection. Specific strategies identified to mitigate these impacts and prevent further degradation, include:

- » repair channel erosion
- » detention or diversion of high flows to protect stream channels
- » infiltration of runoff into the ground to mimic the natural watershed hydrology and preserve stream base flows (using City's Rainwater Management guidelines)
- » treatment of runoff with hydrodynamic separators
- » restoration of natural ecosystems

4.0 PARKS

The Austin Heights Neighbourhood is currently served by 9 hectares of parkland plus the Poirier Leisure Precinct. Any parks acquisition and improvement projects to serve the neighbourhood will be identified by the Parks, Recreation and Culture Strategic Plan at a later date.

5.0 DWELLING UNIT PROJECTION

Table 7 – Projected Increase in new Dwelling Units in the AHNP Area to 2031

	Apartment	Townhouse	Single Family & Housing Choices	Total
Units:	2,162	225	123	2,510

Assumptions:

- Unit projection are gross figures and do not include existing units lost to redevelopment
- Average unit size:
 - Apartment: 87 m² (935 sq. ft.)
 - Townhouse: 150m² (1,615 sq. ft.)
 - Single Family & Housing Choices: 190m² (2,045 sq. ft.)
- The DCC projections in Table 1 include an estimated 17,000 m² (183,000 sq. ft.) of new commercial floorspace.

**APPENDIX A
AUSTIN HEIGHTS
SERVICING ASSESSMENT**

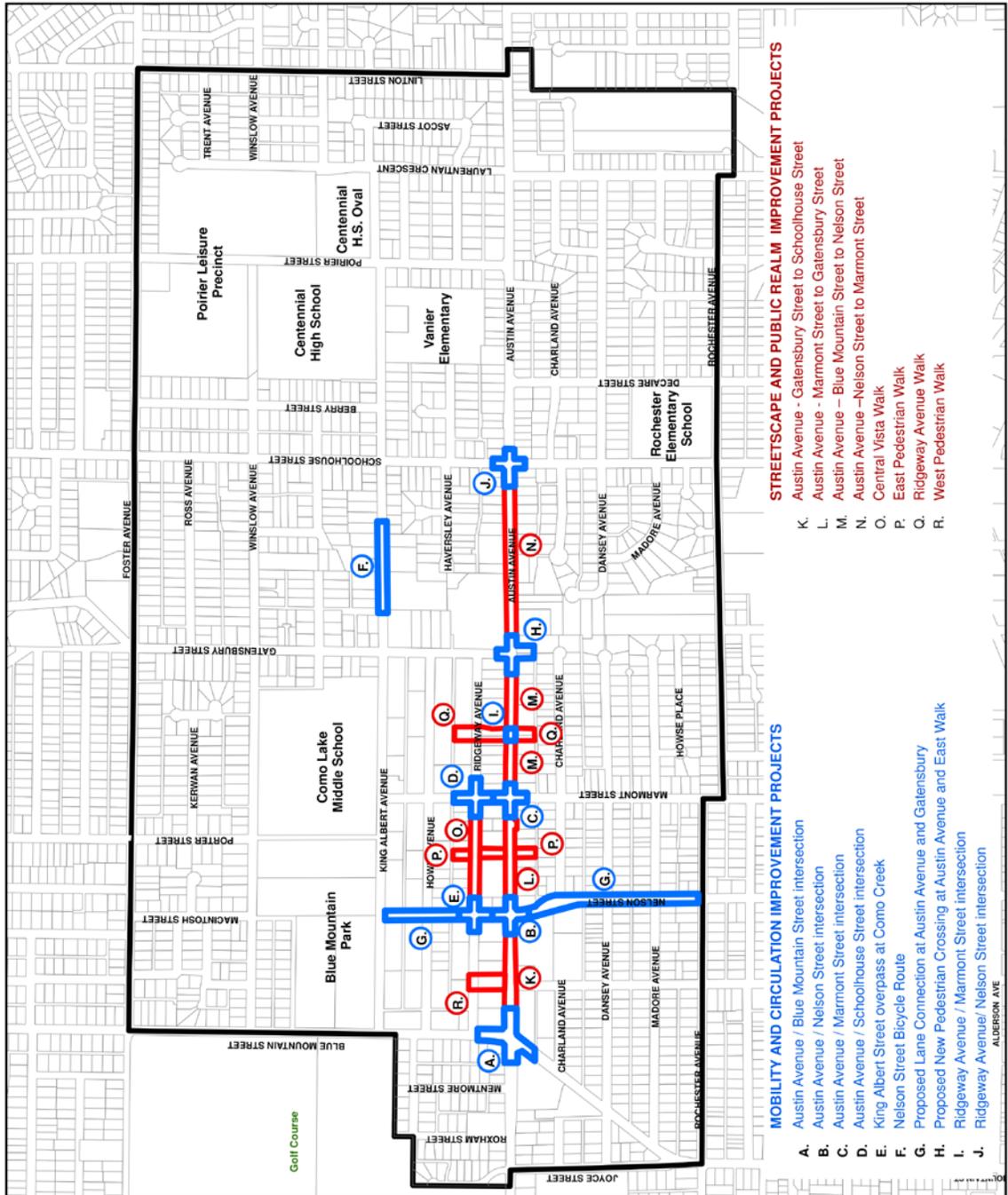
**TRANSPORTATION
IMPROVEMENT PROJECTS**

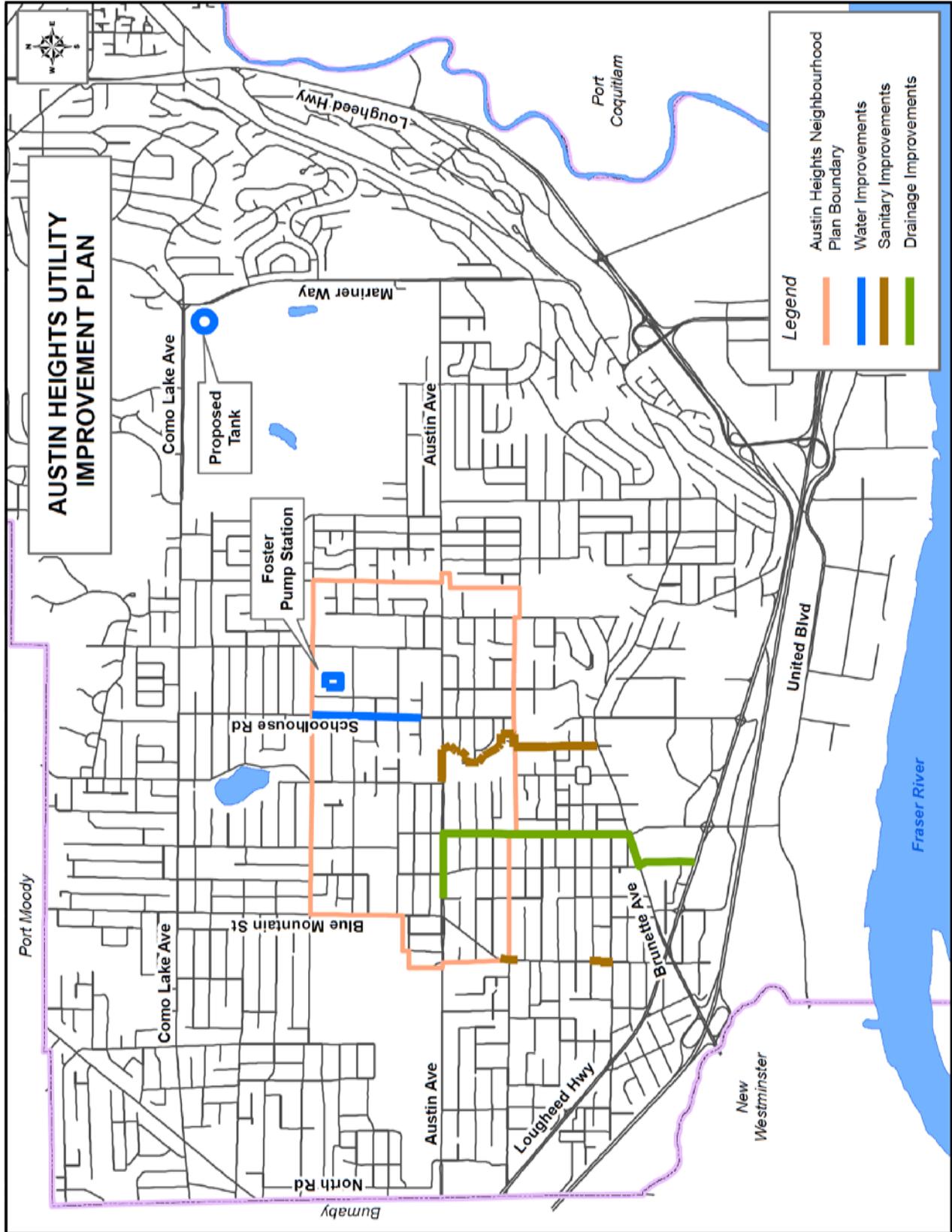
- ▬ Street Scope Improvement
- ▬ Mobility Projects
- Parcels
- Austin Heights NP Boundary

DRAFT

0 100 200 300 400
Metres

Map Date: March 16, 2018
 Prepared By: Planning & Development
 Source: City of Coquitlam - OCP GIS layer





APPENDIX C

Developer Funded Streetscape Improvement Cost Estimates

	Project Description	Order-of-magnitude construction costs⁶
K.	Austin Avenue – Blue Mountain Street to Nelson Street <i>Retrofit central median on Austin, widen sidewalk and install new C&G, realign wheelchair letdowns with new pedestrian x-walk at Lebleu Avenue, provide on-street parallel parking, install on-street bus bay</i>	\$2,045,000
L.	Austin Avenue –Nelson Street to Marmont Street <i>Widen sidewalk and install new C&G, provide on-street parallel parking, install on-street bus bay</i>	\$1,917,000
M.	Austin Avenue - Marmont Street to Gatensbury Street <i>Install raised central median, widen sidewalk and install new C&G, provide on-street parallel parking, · install on-street bus bay</i>	\$2,303,000
N.	Austin Avenue - Gatensbury Street to Schoolhouse Street <i>Widen sidewalk/boulevard and install new C&G, extend culvert crossing Como Creek</i>	\$2,020,000
O.	Ridgeway Avenue Walk <i>Convert existing street into shared street, new rollover C&G and sidewalks (color stamped concrete), new parking zone</i>	\$740,000
P.	Central Vista Walk <i>Streetscape and mid-block walkway improvements in line with existing pedestrian crossing north and south of Austin</i>	\$100,000
Q.	East Pedestrian Walk <i>Streetscape and mid-block walkway improvements along new pedestrian areas</i>	\$75,000
R.	West Pedestrian Walk <i>Streetscape and mid-block walkway improvements along new pedestrian areas</i>	\$75,000
	TOTAL ESTIMATED COST STREETScape AND PUBLIC REALM PROJECTS – PRIVATE DEVELOPMENT FUNDED	\$9.275 million

⁶ These costs estimates are based on preliminary design concepts and are subject to change. Any utility network upgrades or repairs (storm/sanitary sewers, water, hydro, telephones and cable), property requirements for road widenings, ornamental furniture or sculptures and structural soils are not included in the costs estimates

