

COMMITTEE OF THE WHOLE MEETING – AGENDA

Agenda for the Committee of the Whole Meeting scheduled for
Tuesday, January 21, 2020 at 6:00 p.m. in Council Chambers at Village
Hall, 2697 Sunnyside Road, Anmore, BC



1. **Call to Order**

2. **Approval of the Agenda**

Recommendation: That the Agenda be approved as circulated.

3. **Public Input**

Note: The public is permitted to provide comments to Council on any item shown on this meeting agenda. A two-minute time limit applies to speakers.

4. **Delegations.**

None.

5. **Adoption of Minutes**

None

6. **Business Arising from Minutes**

7. **New Business**

Page 3 (a) **Burrard Commons – Servicing Options**

Report dated January 17, 2020 from the Manager of Development Services is attached.

Page 26 (b) **Anmore Ioco Lands – Public Engagement and Next Steps**

Report dated January 17, 2020 from the Manager of Development Services is attached.

8. **Public Question Period**

Note: The public is permitted to ask questions of Council regarding any item pertaining to Village business. A two-minute time limit applies to speakers.

9. Resolution to Close Meeting

Recommendation: That pursuant to section 90 1 (k) of the Community Charter as it refers negotiations, the Special (In Camera) meeting immediately following this meeting be closed to the public.

10. Adjournment



VILLAGE OF ANMORE

REPORT TO COUNCIL

Date: January 17, 2020 File Number: 6480-01
Submitted by: Jason Smith, Manager of Development Services
Chris Boit, Engineer, ISL Engineering
Subject: Burrard Commons – Servicing Options

Purpose / Introduction

The purpose of this report is to provide Council with staff analysis of the proposed servicing options with regards to regional water and sewer services for the Burrard Commons development proposal.

Recommended Options

That the Committee recommend that Council endorse Water Option 1 and Sanitary Sewer Option 1, as identified in the report dated January 17, 2020 titled “Burrard Commons – Servicing Options, as the preferred option should development proceed on the Anmore loco Lands and requiring Metro Vancouver water and sewer services.

Background

Council received the development application for Burrard Commons at its November 19, 2019 meeting. Accompanying the development application was a series of technical reports. As part of the process for considering the development application and its wide ranging implications, staff are preparing a series of reports to provide analysis and the opportunity for Council, and the public, to consider the specific implications of each technical report.

Burrard Commons is a mixed use development proposal that would see approximately 1400-1600 residential units and 500,000 square feet commercial development on a portion of what is commonly known as the Anmore loco Lands. To service this scale of development will require the provision of regional sewer and water service.

The Village currently receives water services, via a servicing agreement from Port Moody, from Metro Vancouver and the regional water system. The Village is currently not a member of the Greater Vancouver Sewerage and Drainage District (GVS&DD), membership would be required to receive sewer service.

Report/Recommendation to Council

Burrard Commons – Servicing Options

January 17, 2020

As part of the most recent Council Strategic Plan, Council set a goal of making the Village of Anmore self-sufficient. The strategic plan identifies the consideration of alternative methods for collecting sewage and connecting to the Greater Vancouver Water District (GVWD) system as a means to make the Village more self-sufficient.

Discussion

The applicant has provided the Village with a technical report prepared by their civil engineering consultant, Aplin and Martin, outlining the servicing options (**Attachment 1**). The report is based on two key assumptions, that the water and sewer services required for this development will be provided by Metro Vancouver and that Metro Vancouver services will be extended to the Village of Anmore.

Current Official Community Plan (OCP) Policies

The OCP does have policies that pertain to both water and sewer. With regards to water services, this application is consistent with the OCP policies pertaining directly with the provision of water services. Policy MS-4 states that the Village is committed to working with the Metro Vancouver Region, local health authority and neighbouring municipalities to ensure the protection of drinking water supply and the prevention of water contamination.

The proposal to provide regional sewer services would raise the issue of developing a municipal-wide sewer system, particularly in light of some of the proposed servicing scenarios. Policy MS-7 of the OCP states that during the time frame of the current OCP that the Village will not develop a municipal wide sewer system. If the development were to proceed this policy would need to be altered depending on which option is chosen to service the development as some of the options would open up the possibility of a municipal wide sewer system. At a minimum, changes will need to be made to this OCP policy.

Metro Vancouver Support Required

Any of these servicing options will require Metro Vancouver support for the changes to regional servicing areas and for the sewer services changes to the Regional Growth Strategy will be required for the areas intended to receive regional sewer services.

Report/Recommendation to Council

Burrard Commons – Servicing Options

January 17, 2020

Servicing Options

Water Option 1 – Guildford Way to loco Rd (Fig 1 – South Route)

The route proposes to draw Metro Vancouver water from their water main located at Guildford Way. The route would then follow Ungless Way, Alderside Road, loco Road and 1st Avenue where it would then enter the proposed development.

It is staff's opinion that this is the preferred route for the Village. It provides a direct route to the development, minimizes impact to existing residents of Port Moody and Anmore, minimizes the need for booster/pump stations and potentially allows for a second water feed to the Village. The second feed would require the Village to maintain the Port Moody connection.

There is also an added benefit that this route could provide water to any future development on the Port Moody lands. This would add to the business case for Metro Vancouver when considering the extension of the line.

Water Option 2 – Guildford Way to Heritage Mountain Boulevard (Fig 3 – Heritage Route)

The route proposes to draw Metro Vancouver water from their water main located at Guildford Way. The route would follow Ungless Way, Heritage Mountain Boulevard and enter the existing statutory right of way (SROW) through Bert Flinn Park.

Due to the current decisions by the Port Moody Council regarding the removal of the SROW through Bert Flinn Park, it's unlikely that this route will be feasible. In addition to this, it is staff's opinion that a significant pipe bridge would have to be constructed to cross Mossom Creek ravine within the park, which would add a substantial cost to the construction.

Water Option 3 – Guildford Way to Sunnyside Road (Fig 5 – North Route)

The route proposes to draw Metro Vancouver water from their water main located at Guildford Way. The route would follow Ungless Way, Heritage Mountain Boulevard, Turner Creek Drive, East Road to Sunnyside Road.

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Burrard Commons – Servicing Options

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It is staff's opinion that this route would be challenging for a number of reasons.

- 1) There would be a large disruption to the residents of Anmore and Port Moody during the construction;
- 2) A number of booster/pump stations are required which would add significant costs to ongoing operations and maintenance;
- 3) A reservoir needs to be constructed within the East Road SROW; and
- 4) It is likely that expropriation of lands for both the booster/pump stations and reservoir would be required.

Sanitary Sewer Option 1 – First Avenue to Barnet Highway (Fig 2 – South)

The route of the proposed sewer would leave Anmore from First Avenue, enter loco Road and discharge at Metro Vancouver's Barnet Highway sewer main.

It is staff's opinion that this is the preferred route for the Village. It provides a direct route to the development, minimizes impact to existing residents of Port Moody and Anmore, minimizes the need for pump stations and allows for sewer that could potentially service all of the loco Lands, including those in Port Moody.

There is potential with this option that Metro Vancouver could rebuild/commandeer the existing sewer siphon within loco's SROW. This could resolve the need for a pump station and save the City of Port Moody significant future capital expenditure, as they intend to rehabilitate/replace the siphon in 2021.

Sanitary Sewer Option 2 –Bert Flinn SROW to Barnet Highway (Fig 4 – Heritage Route)

The route of the proposed sewer would leave Burrard Commons via Sunnyside Road, enter Bert Flinn Park, to Heritage Mountain Boulevard and to connect to Metro Vancouver sewer at their main located at Guildford Way.

Due to the current decisions by the Port Moody Council regarding the removal of the R/W through Bert Flinn Park, it's unlikely that this route will be feasible. In addition to this, it is staff's opinion that a significant pipe bridge would have to be constructed to cross Mossom Creek ravine within the park, which would add a substantial cost to the construction and result in operational challenges.

Report/Recommendation to Council

Burrard Commons – Servicing Options

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Sanitary Sewer Option 3 – Sunnyside Road to Barnet Highway (Fig 6 – North Route)

The route of the proposed sewer would leave Burrard Commons to the North via Sunnyside Road, enter East Road, to Heritage Mountain Boulevard, loco Road and then discharge at Barnet Highway.

This scenario is feasible, however there are some drawbacks.

- 1) The Village would likely have to own and operate 2 pump stations. This would add a significant cost to operating budgets;
- 2) The construction of the sewer would disrupt the majority of the Village's residents; and
- 3) The sewer line would likely be seen as going against the current OCP zoning regarding sanitary sewer treatment.

Option Summary

At present, staff are supportive of servicing the development via loco Road (South Route) as the most direct, least disruptive and most cost effective route. As the route is within the neighbouring of the City of Port Moody, Metro Vancouver will have the ultimate say if and where servicing will be placed.

Other Options

The following options are provided for the committee's consideration:

1. That the Committee recommend that Council endorse Water Option 1 and Sanitary Sewer Option 1, as identified in the report dated January 17, 2020 titled "Burrard Commons – Servicing Options, as the preferred option should development proceed on the Anmore loco Lands and requiring Metro Vancouver water and sewer services.
2. That the Committee advise staff of their preferred option, if not loco Road (South Route).
3. That the Committee request additional information of staff.

Financial Implications

Detailed financial implications on the ongoing operational costs of Options 2 & 3 under both services have not been conducted at this time. Other financial implications are as outlined in

Report/Recommendation to Council

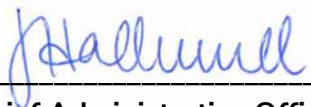
Burrard Commons – Servicing Options

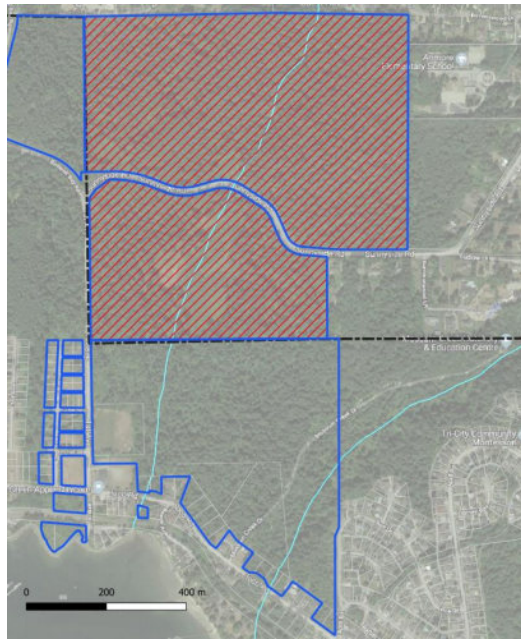
January 17, 2020

the report. Should development proceed on the loco Lands steps will be taken to ensure that the developer would pay all infrastructure costs.

Attachments:

1. Servicing Strategies Report prepared by Aplin and Martin dated September 24, 2019

Prepared by:
J.Smith _____
Jason Smith Manager of Development Services
Reviewed for Form and Content / Approved for Submission to Council:
Chief Administrative Officer's Comment/Concurrence <div style="text-align: right;"> _____ Chief Administrative Officer</div>



Gilic Developments

IOCO Development – Preliminary Concept Investigation of Potential Infrastructure Servicing Strategies – Executive Summary

Client Project: IOCO AM Development LP

Project No: 18-1102A

September 24, 2019

Aplin & Martin Consultants Ltd.

EXECUTIVE SUMMARY

A preliminary concept investigation explored multiple options to bring water and sanitary servicing to the IOCO development area, including on-site water and sanitary treatment plant options. The outcome from this investigation determined three potential water and sanitary servicing routes.

Stormwater drainage of the study area currently discharges to existing creeks that run through the site. Stormwater management objectives and design considerations are presented to meet local guidelines and environmental requirements.

Existing Water and Sanitary Systems

No existing water nor sanitary services are provided within the study area. Currently, water services to the existing Village of Anmore with approximately 2,300 residents are supplied from a single feedermain from the City of Port Moody's water system. The current system does not provide adequate fire flows nor system storage for the Anmore.

Developed lots in Anmore are currently serviced by on-site sewage treatment and disposal systems. The Ministry of Environment has indicated that the Anmore Green Estates properties should connect to a sewer system given their onsite treatment system is failing. Currently, Anmore and Metro Vancouver are undertaking approvals to change the GVS&DD boundary to connect the subdivision to a sewer system. This boundary change would affect Anmore Green Estate and Eagle Mountain Middle School.

Water and Sanitary Servicing Route Options Evaluation

Water and sanitary servicing to the IOCO lands are assumed to be provided via direct connections to the Metro Vancouver mains. Three feasible routes have been evaluated, as follows:

- Route 1 – South Route: The South Route generally follows the Burrard Inlet shoreline as shown in Figure 1 and Figure 2.
- Route 2 – Heritage Route: The Heritage Route connects through the Park Trail ROW as shown in Figures 3 and Figure 4.
- Route 3 – North Route: The North Route connects through the Village of Anmore as shown in Figure 5 and Figure 6.

Water and Sanitary Servicing Construction Cost Estimates

Construction cost estimates were determined based on an array of factors, including ROW conditions, total length of mains, number of culvert crossings, number of bridge crossings, and number of required facilities. The cost estimates have not accounted for property acquisition requirements the new facilities may need. The cost estimate also includes 30% contingency, 10% engineering, and 10% outside agency fee. The following table summarizes the construction cost estimates for each water and sanitary servicing route options.

Servicing Route Option	Cost Range (\$M)	
	Water Servicing	Sanitary Servicing
South Route	\$16M	\$11M
Heritage Route	\$12M	\$10M
North Route	\$19M	\$16M

Servicing Option Review

The South Route require shorter lengths of pipes and fewer facilities, however the ROWs are generally more difficult for construction due to narrow corridors, steep side slopes, and congestion of existing underground utilities. The cost estimate for the South Route was determined to be \$16M and \$11M for water and sanitary servicing, respectively.

The Heritage Route ROW is clear of existing utilities, making it an ideal corridor for new utilities. This route is also the most cost effective, since it requires the shortest length of mains and construction via the ROW in the park is estimated to cost less. The cost estimate for the Heritage Route was determined to be \$12M and \$10M for water and sanitary servicing, respectively.

The North Route provides potential opportunities to upgrade the Anmore's existing infrastructure to address existing system deficiencies. However, construction for this option would have an impact on the existing residence of Anmore, such as road closures and temporary loss of services. This route option requires the greatest construction cost due to the longer length of mains and the additional facilities required. The cost estimate for the North Route was determined to be \$19M and \$16M for water and sanitary servicing, respectively.

Both the South Route and Heritage Route have the potential of servicing the existing developed areas within Anmore, however additional trunk infrastructure would be required.

Existing Drainage Condition

The study area primarily consists of forested areas with elevations ranging from 25m to 160m and generally slopes from northeast to southwest at an average slope of about 10%. Runoff from the study area discharges to Doctor's Creek and Schoolhouse Creek North. Most of the tributary creeks in this area are identified as being fish sensitive.

Stormwater Management Objectives and Design Considerations

Key stormwater management objectives and design considerations for developing the conceptual stormwater servicing plan are proposed to include:

- **Maintain existing flow patterns** – Postdevelopment catchment areas to the local stream roughly match their predevelopment catchment configuration with no large scale diversion and disruption of flows.
- **Protect fish and fish habitat** – Apply onsite water quantity and quality source control features for both development areas and roads for small storm events.
- **Minimize potential stream erosion** – Apply onsite and offsite detention to control peak postdevelopment flows to predevelopment forested land use condition for small to mediums size rainfall events.
- **Safe conveyance of flows to minimize damage to life and property under extreme flood conditions** – Ensure major onsite and offsite conveyance systems including major road crossings, overland flow paths, and stream channels are capable of safely conveying the extreme rainfall events.

Conclusions and Recommendations

The purpose of this preliminary concept review is to identify route options to provide water and sanitary servicing to the IOCO Lands development study area and to set the stormwater management targets. The recommended next step would be to begin consultation with stakeholders such as Metro Vancouver, Village of Anmore, and the City of Port Moody to get a clear understanding of their planning goals and constraints, and determine how the IOCO Lands development project can be integrated to provide a synergistic approach to solving servicing challenges in the region. Upon which we will develop a clear servicing strategy that meets both the development objectives and satisfaction of the stakeholders.

TECHNICAL MEMORANDUM

To:	Michael Wei (Gilic Developments)	File No:	18-1102A
Cc:	Wendy Yao, P.Eng. (AM)	Client No:	IOCO AM Development LP
From:	Jonathan Hung, P.Eng. (AM)	Date:	July 12, 2019
Re:	Burrard Commons – IOCO Development Preliminary Concept Investigation of Potential Infrastructure Servicing Strategies (FINAL)		

This memo summarizes the findings of the preliminary concept investigation and evaluation of feasible route options for providing water, sanitary and drainage services to the IOCO development area within the Village of Anmore (Anmore). Note that this preliminary study has been completed without consultation with outside stakeholders. The purpose of this study is to derive the proposed infrastructure servicing concepts to aid in the engagement with the applicable municipalities, Metro Vancouver, Canadian Pacific Railway, and other regulatory authorities.

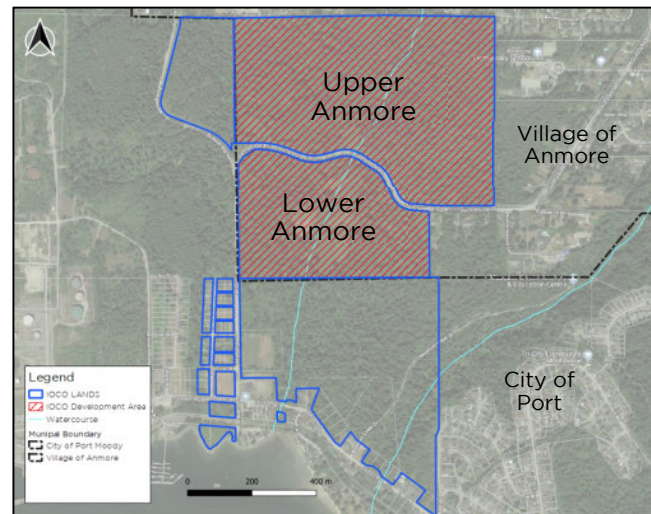
1.0 INTRODUCTION

Aplin Martin was retained by Gilic Developments (Gilic) to develop feasible water, sanitary and drainage servicing strategies for the IOCO development within Anmore. A preliminary concept investigation explored multiple options to bring water and sanitary servicing to the IOCO development area, including on-site water and sanitary treatment plant options. The outcome from this investigation determined three potential water and sanitary servicing routes which are further described in this technical memorandum.

Stormwater drainage of the study area currently discharges to existing creeks that run through the site. Stormwater management objectives and design considerations are presented to meet local guidelines and environmental requirements.

2.0 SITE DESCRIPTION

The IOCO Lands shown on the figure on the right consists of approximately 99 ha of lands that sits partially within Anmore and the City of Port Moody (Port Moody). Gilic's current development focus is on the lands within Lower Anmore.



3.0 EXISTING WATER AND SANITARY SYSTEMS

Water Servicing

No existing water services are provided within the study area. Currently, water services to the existing Village of Anmore with approximately 2,300 residents are supplied from Port Moody via a single 300mm diameter connection at East Road and Blackberry Drive. Anmore is billed by Port Moody in accordance with the 1998 Water Servicing Agreement between Port Moody and Anmore. The Village of Anmore 2016 Water Master Plan have indicated system deficiencies in providing adequate fire flows and system storage for emergencies and flow balancing.

Anmore currently does not own or operate any existing reservoirs and uses the storage from the Port Moody's Hickory Drive Reservoir. Moreover, the current system lacks any form of redundancy in case of a failure of the single water feed to the Village.

Sanitary Servicing

There is no existing municipal wide sanitary collection system in Anmore. Developed lots in Anmore are currently serviced by on-site sewage treatment and disposal systems. Presently, Anmore has no plans to develop a municipal wide sewer system within the OCP¹ timeframe. The study area currently has no sanitary services nor septic systems.

The Ministry of Environment has indicated that the Anmore Green Estates properties should connect to a sewer system given their on-site treatment system is failing. Currently, Anmore and Metro Vancouver are undertaking approvals to change the GVS&DD boundary to connect the subdivision to a sewer system. This boundary change would affect Anmore Green Estate and Eagle Mountain Middle School.

4.0 WATER AND SANITARY SERVICING ROUTE OPTION EVALUATION

Water and sanitary servicing to the IOCO lands are assumed to be provided via direct connections to the Metro Vancouver mains. Three feasible routes have been evaluated. For each route, three alternative options were explored and reviewed to determine construction challenges, reservoir and pump (lift) station requirements and high-level construction costs. The general descriptions of the servicing route options are described below.

4.1 ROUTE 1 - SOUTH ROUTE

The South Route generally follows the Burrard Inlet shoreline as shown in **Figure 1** and **Figure 2**. The preferred route option primarily follows loco Rd, Old Orchard/Mill Park ROW, Alderside Rd, and 1 Ave.

Alternative route options through loco Rd and the CP Rail rights-of-way (ROW) were also considered during the assessment and are shown on the map figure for reference. The option to route through Alderside Rd is preferred due to the wider corridor and less traffic interruption compared to routing through loco Rd which is narrow and congested with underground utilities. The CP Rail ROW option was not ideal since construction may be challenging due to the site slopes and railway operations, and the added design requirements and multiple level approval processes would incur greater costs and time constraints.

4.2 ROUTE 2 - HERITAGE ROUTE

The Heritage Route connects through the Park Trail ROW as shown in **Figure 3** and **Figure 4**. The preferred route option follows Guildford Way, Unglass Way, Heritage Mtn Blvd, and the Park Trail.

Alternative route options through Lansdowne Dr and David Ave were also considered during the assessment and are shown on the map figure for reference. The option to route through Heritage Mtn Blvd is preferred due to the wider corridor with fewer existing utilities. This option also presents the shortest length of required water mains and required the least number of facilities and creek crossings, resulting in the lowest cost. Moreover, the Heritage Mtn Blvd option only requires Anmore and Port Moody's involvement; whereas, for both Lansdowne Dr and David Ave options, coordination and ROW approvals from the City of Coquitlam are required. In addition, Lansdowne Dr and David Ave alternative routes have further challenges, including the requirement of additional facilities, creek crossings, and utility clearance investigations.

¹ Village of Anmore Official Community Plan, Bylaw No. 532, 2014

4.3 ROUTE 3 – NORTH ROUTE

The North Route connects through the Village of Anmore as shown in **Figure 5** and **Figure 6**. The preferred route option follows Guildford Way, Unglass Way, Heritage Mtn Blvd, Turner Creek Dr, East Rd, and Sunnyside Rd.

Alternative route options through Lansdowne Dr and David Ave were also considered during the assessment and are shown on the map figure for reference. The advantages and disadvantages of the alternative route options are explained in **Section 4.2**.

5.0 WATER AND SANITARY CONSTRUCTION COST ESTIMATES

Construction cost estimates were determined based on an array of factors, including ROW conditions, total length of mains, number of culvert crossings, number of bridge crossings, and number of required facilities. The cost estimates have not accounted for property acquisition requirements the new facilities may need.

Table 1 and **Table 2** provide summaries of the construction cost estimates for each water and sanitary servicing route option, respectively. The cost estimate includes 30% contingency, 10% engineering, 10% outside agency fee.

Table 1 Water Servicing Route Cost Estimate Summary

Water Servicing Route	Cost Range (\$M)	Feature	
South Route	\$16M (Preferred Route) - \$21M	Total Length (km)	6.7
		Number of Culvert Crossings	8
		Number of Bridge Crossings	1
		Number of Reservoirs	1
		Number of Pump Stations	1
Heritage Route	\$12M (Preferred Route) - \$22M	Total Length (km)	4.7
		Number of Culvert Crossings	6
		Number of Bridge Crossings	1
		Number of Reservoirs	1
		Number of Pump Stations	1
North Route	\$19M (Preferred Route) - \$28M	Total Length (km)	6.4
		Number of Culvert Crossings	3
		Number of Bridge Crossings	1
		Number of Reservoirs	1
		Number of Pump Stations	2

Table 2 Sanitary Servicing Route Cost Estimate Summary

Sanitary Servicing Route	Cost Range (\$M)	Feature	
South Route	\$11M (Preferred Route) - \$16M	Total Length (km)	5.3
		Number of Culvert Crossings	7
		Number of Bridge Crossings	1
		Number of Lift Stations	1
Heritage Route	\$10M (Preferred Route) - \$15M	Total Length (km)	5.0
		Number of Culvert Crossings	6
		Number of Bridge Crossings	1
		Number of Lift Stations	1
North Route	\$16M (Preferred Route) - \$21M	Total Length (km)	6.6
		Number of Culvert Crossings	3
		Number of Bridge Crossings	1
		Number of Lift Stations	2

6.0 WATER SERVICING OPTION REVIEW

All three water route options require that water originates from Metro Vancouver (MV) Port Moody Main No. 2 at Guildford Way and the Coquitlam/Port Moody municipal boundary. Alternative connections to the MV system may be possible following alternative route options mentioned in **Section 4.0**.

The South Route along the Burrard Inlet shoreline provides a secondary water servicing connection to Anmore and opportunities to strengthen Anmore's overall water system by creating a looped system. However, the available ROWs along this route is generally more difficult to construct due to narrow corridors, steep side slopes, and congestion of existing underground utilities. Based on the preliminary review, a pump station and reservoir is likely required and can be located within our study area.

The Heritage Route through the Park Trail ROW also provides a secondary water servicing connection to Anmore and the ROW is clear of existing utilities, making it an ideal corridor for new utilities. This route is also the most cost effective, since it requires the shortest length of mains and construction via the ROW in the park land is estimated to cost less. However, obtaining approval to run utility through the park may be challenging to gain political support. This route would require a water reservoir and a pump station which will likely require land acquisitions from Port Moody.

The North Route through the village provides potential opportunities to upgrade the Anmore's existing infrastructure to address existing system deficiencies. This route options requires the greatest construction cost compared to the other routes due to the longer length of mains and additional facilities required. Based on the preliminary review, two pump stations are required in Port Moody and one reservoir is required within Anmore.

The adjacent municipality, Village of Belcarra, currently faces challenges to provide sufficient fire flow to meet fire emergency demands. Consideration to expand the proposed water system to also service the Village of Belcarra may be further investigated and included in discussions with the stakeholders moving forward.

We have reviewed water supply from onsite sources such as groundwater and determined that it would not have sufficient capacity to service the development.

7.0 SANITARY SERVICING OPTION REVIEW

All three sanitary servicing route options are recommended to discharge into the Port Moody Interceptor No. 2 at St Johns Street. Alternative discharge points to the City of Coquitlam's system may be possible following alternative route options mentioned in **Section 4.0**.

The South Route along the Burrard Inlet shoreline would require a lift station within the study area to push the flows to the MV connection point and require the sanitary sewer to operate as an inverted siphon. This route faces the same challenges as mentioned in the water servicing review; such as, narrow corridors, steep slopes, and congestion of existing underground utilities.

The Heritage Route through the Park Trail ROW would require a lift station within the study area to push flows over the high point along this route. This route would incur the least cost as it requires the shortest length of mains and construction within the ROW in the park land is expected be less challenging.

The North Route through the village provides a sanitary trunk system with the potential of supporting a future sanitary collection system to service the existing and future Anmore residences and businesses. Although this route may provide the greatest benefit to the village, it also incurs the highest cost due to the longer length of mains and additional lift station.

Both the South Route and the Heritage Route have the potential of servicing the existing developed areas within Anmore, however additional trunk infrastructure would be required.

Some areas of Anmore can be serviced by gravity to the proposed lift station, while other areas would require lift stations and forcemains.

Water and sanitary utilities will likely follow the same route to take advantage of potential cost savings and to minimize disruption to traffic and the surrounding neighbourhoods. Therefore, preference would be to select a route that is optimal for both water and sanitary servicing.

We have reviewed the feasibility of an onsite wastewater treatment system and determined that ground disposal fields would not be feasible and discharge to the Burrard Inlet may be challenging to obtain approval due to its potential impacts to the receiving environment.

8.0 STORMWATER SERVICING

As details of the development plan are being developed, a conceptual stormwater servicing plan will follow in a future report. The following sections provide information on the existing drainage condition of the site and outlines the key stormwater management objectives and design considerations.

8.1 EXISTING DRAINAGE CONDITION

The study area primarily consists of forested areas with elevations ranging from 25m to 160m and generally slopes from northeast to southwest at an average slope of about 10%. Runoff from the study area discharges to several tributary creeks and eventually drains into Doctor's Creek and Schoolhouse Creek North. Most of the tributary creeks in this area are identified as fish bearing creeks.

The soil condition consists of moderately well drained silt loam (Whatcom) and well drained sandy loam (Capilano) soils, which are believed to promote infiltration in the site. However, infiltration potentials may be limited by high groundwater levels in some areas. An in-depth investigation of infiltration potentials within the Lower Anmore study area is currently underway.

8.2 STORMWATER MANAGEMENT OBJECTIVES AND DESIGN CONSIDERATIONS

Key stormwater management objectives and design considerations for developing the conceptual stormwater servicing plan are proposed to include:

- **Maintain existing hydrological regime** – Post-development catchment areas to the local stream roughly match their predevelopment catchment configuration with no large-scale diversions and disruption of flows.
- **Protect fish and fish habitat by maintaining baseflow and water quality** – Apply onsite infiltration and retention (for 6-month 24-hour event) and water quality source control BMPs for both the development areas and roads.
- **Minimize potential stream erosion** – Apply onsite and offsite detention to control peak post-development flows to pre-development forested land use condition to up to 1:5-year return period.
- **Safe conveyance of flows to minimize damage to life and property under extreme flood conditions** – Ensure major onsite and offsite conveyance systems including major road crossings, overland flow paths, and stream channels are capable of safely conveying up to the 1:100-year return period post-development flows

9.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this preliminary concept review is to identify route options to provide water and sanitary servicing to the IOCO Lands development study area and to set the stormwater management targets. The recommended next step would be to begin consultation with stakeholders such as Metro Vancouver, Village of Anmore, and City of Port Moody to get a clear understanding of their planning goals and constraints, and determine how the IOCO Lands development project can be integrated to provide a synergistic approach to solving servicing challenges in the region. Upon which we will develop a clear servicing strategy that meets both the development objectives and satisfaction of the stakeholders.

10.0 CLOSING

We trust that the information presented in this technical memorandum is sufficient for your current needs. Please contact the undersigned should you have any questions or require additional information.

Yours truly,

APLIN & MARTIN CONSULTANTS LTD.

Prepared by:



Jonathan Hung, P.Eng.
Infrastructure Planning Engineer

Reviewed by:

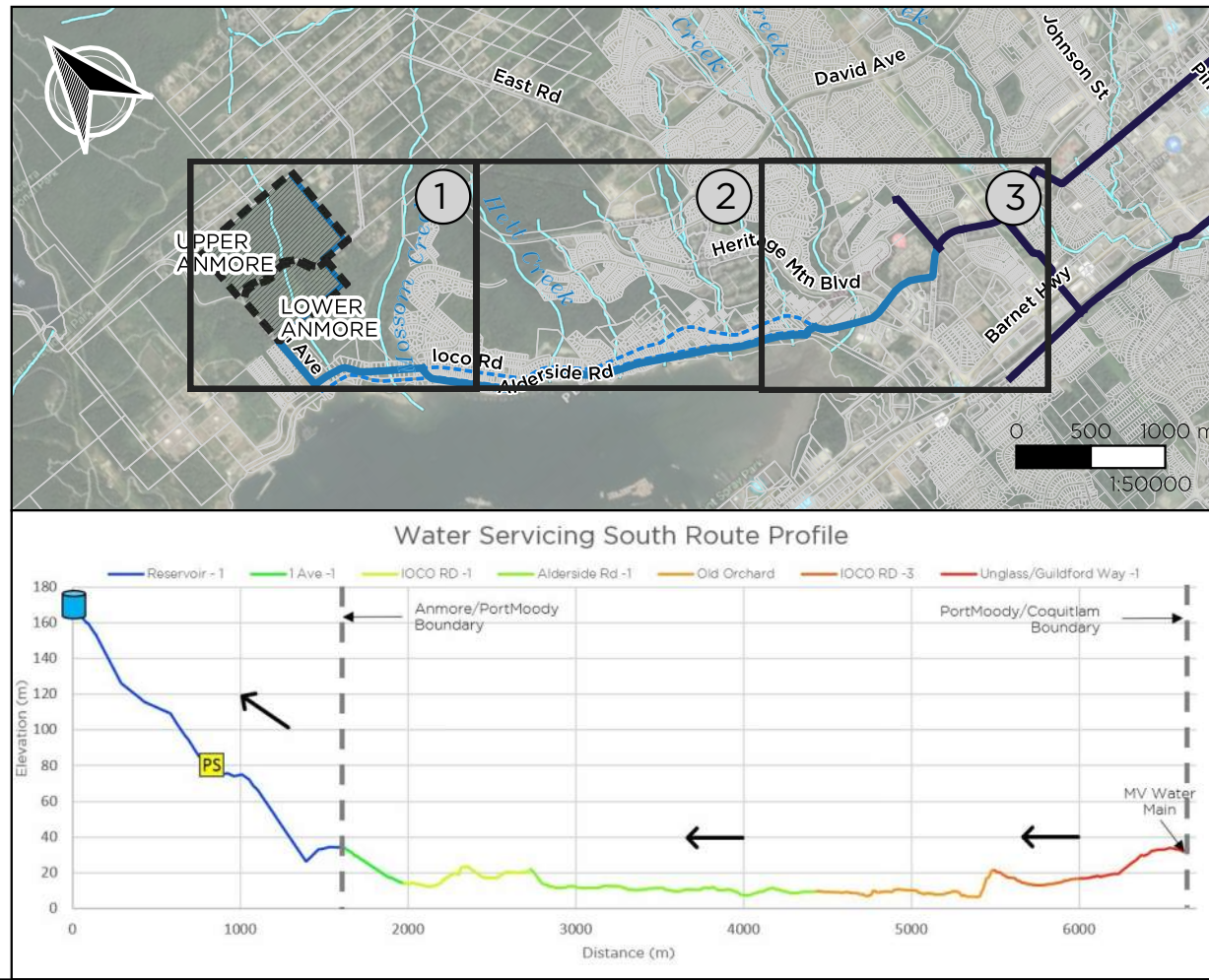
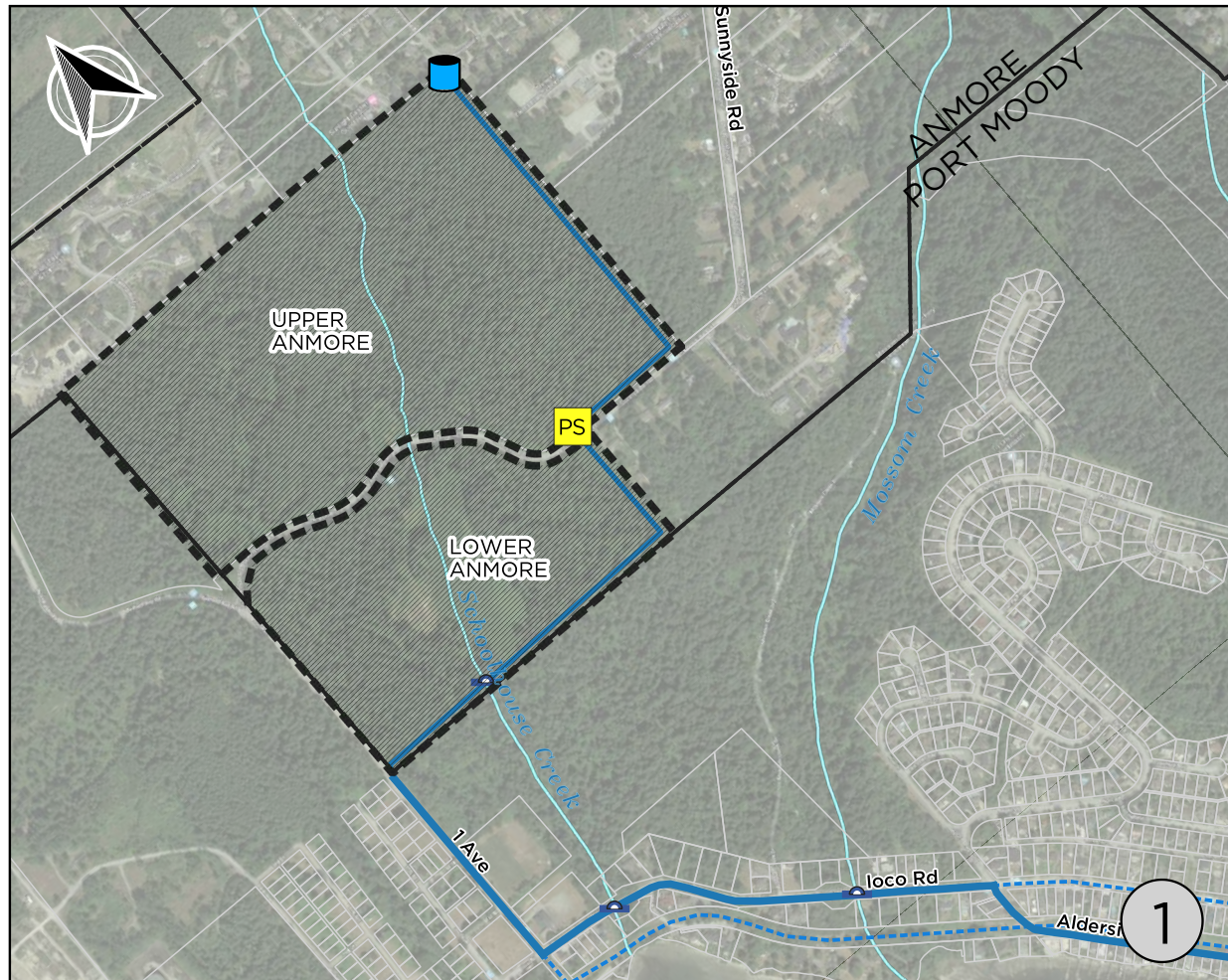


Wendy X. Yao, P.Eng., M.A.Sc.
Senior Water Resources Engineer

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APPENDICES: Utility Servicing Maps

M:\2018\18-1102\GIS\Map\18-1102A - IOCO Route Options Map_Jun 04 2019.cgs "18-1102A - IOCO Water Service Option - South Route" - ITao



Legend

- Study Area
- Watercourse
- Metro Vancouver Water Mains
- Parcels
- Water Utility**
 - Pump Station
 - Reservoir
- Creek Crossing**
 - Bridge
 - Culvert
- Water Servicing South Route**
 - Preferred Route
 - Alternative Route

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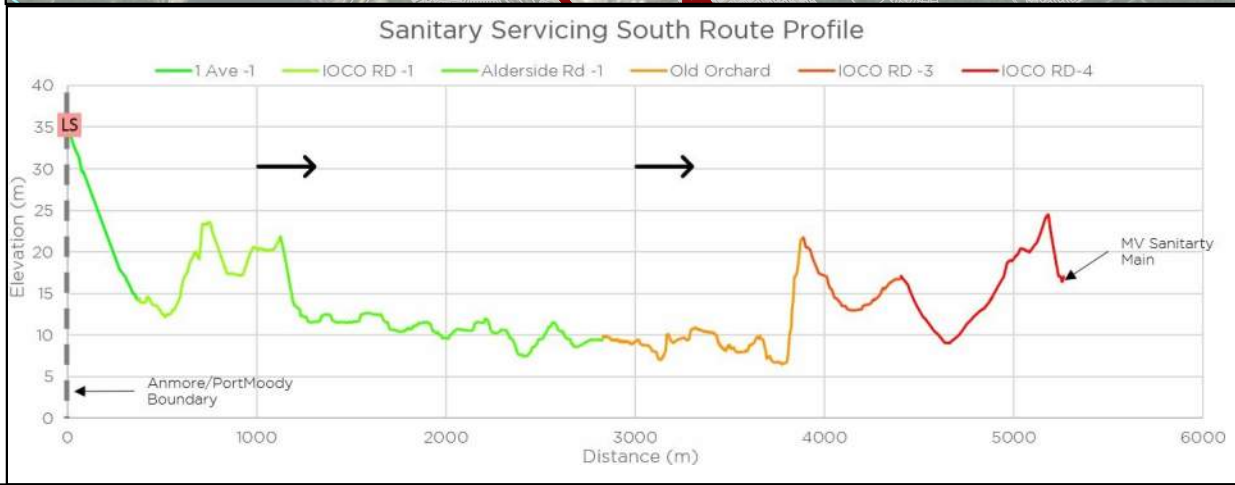
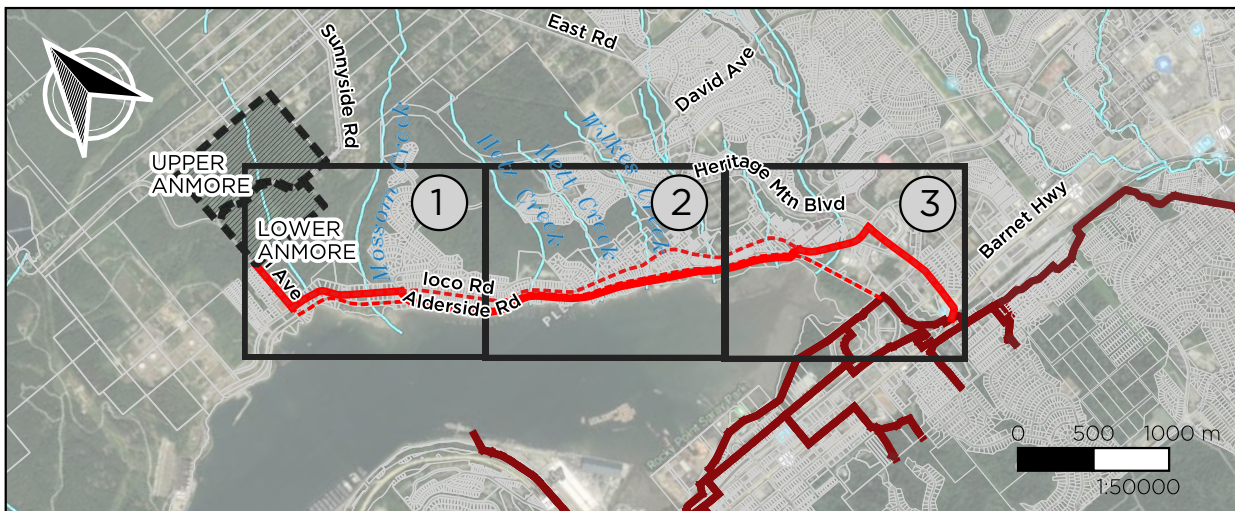
IOCO Lands Water Servicing Options - South Route

Project #: 18-1102A
Author: IT
Checked: JWH
Status: -FINAL-
Revision: A
Data: 2019/07/12



FIGURE 1

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Legend

- Study Area
- Watercourse
- Metro Vancouver Sanitary Mains
- Parcels
- Sanitary Utility
- LS Lift Station
- Creek Crossing
- Bridge
- Culvert
- Sanitary Servicing South Route
- Preferred Route
- Alternative Route

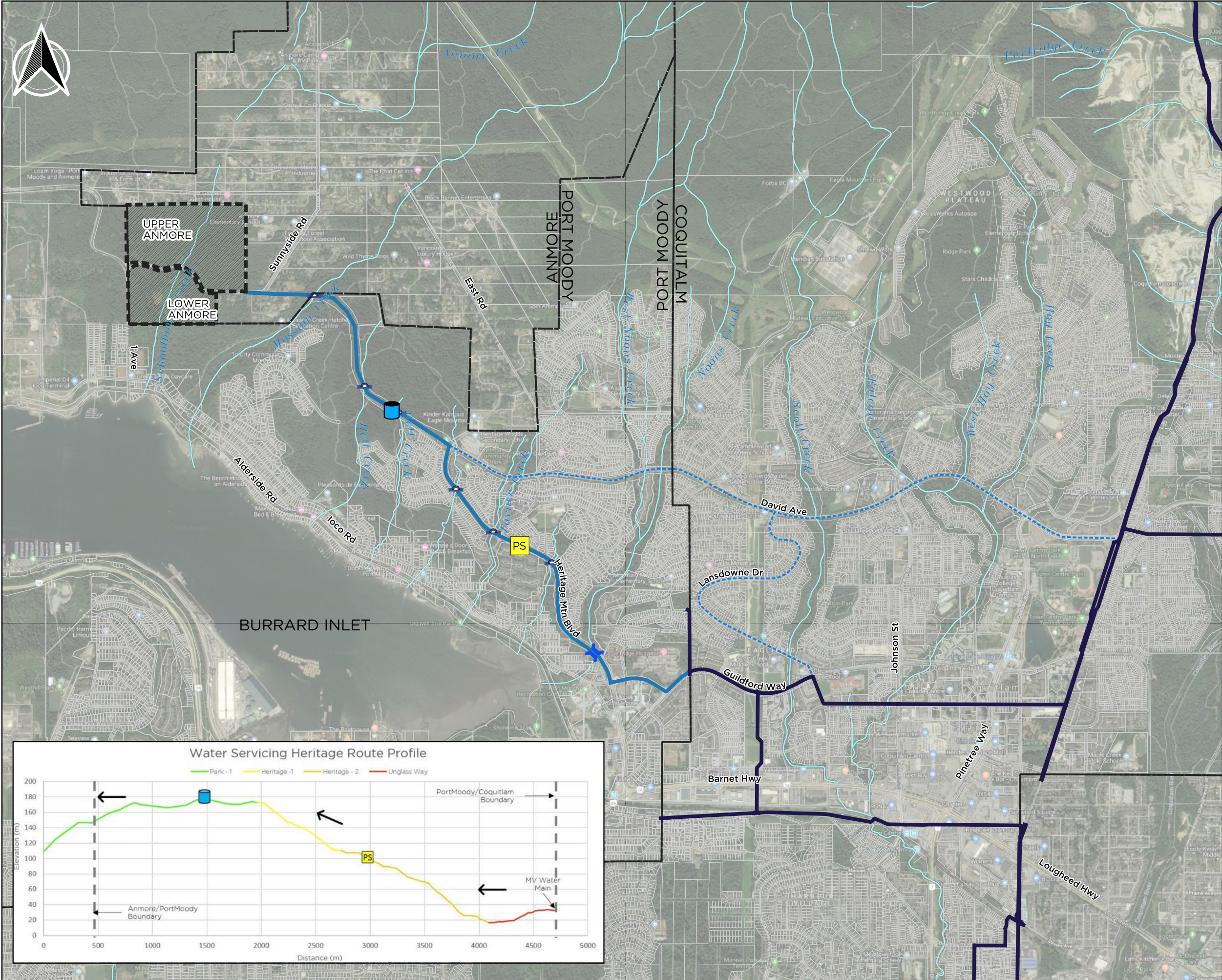
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IOCO Lands Sanitary Servicing Options - South Route

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Author: IT
Checked: JWH
Status: -DRAFT-
Revision: B
Data: 2019/10/23

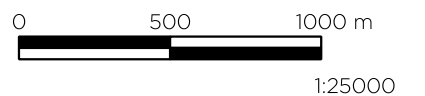


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Legend

- Study Area
- Watercourse
- Metro Vancouver Water Mains
- Parcels
- Water Utility**
 - PS Pump Station
 - Reservoir
- Creek Crossing**
 - Bridge
 - Culvert
- Water Servicing Heritage Route**
 - Preferred Route
 - Alternative Route



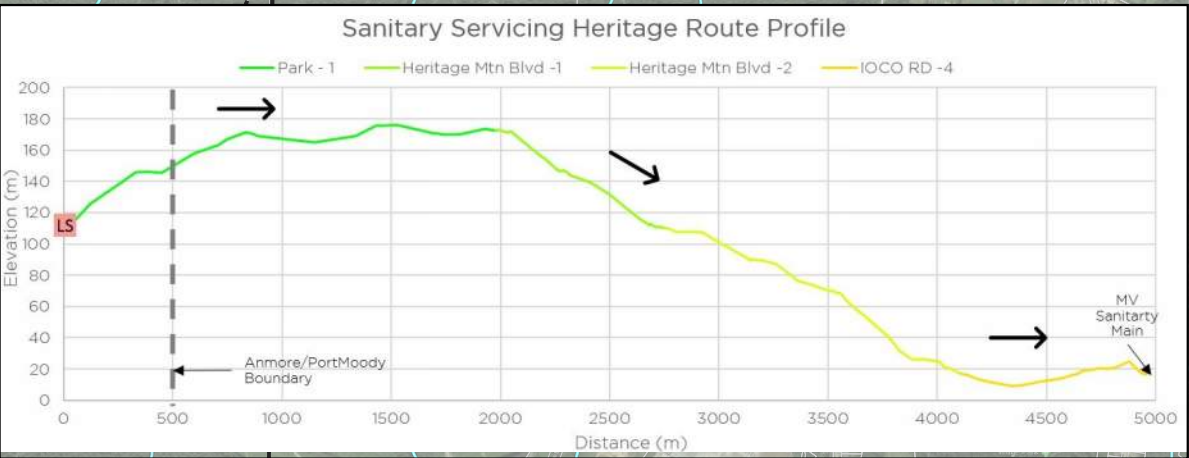
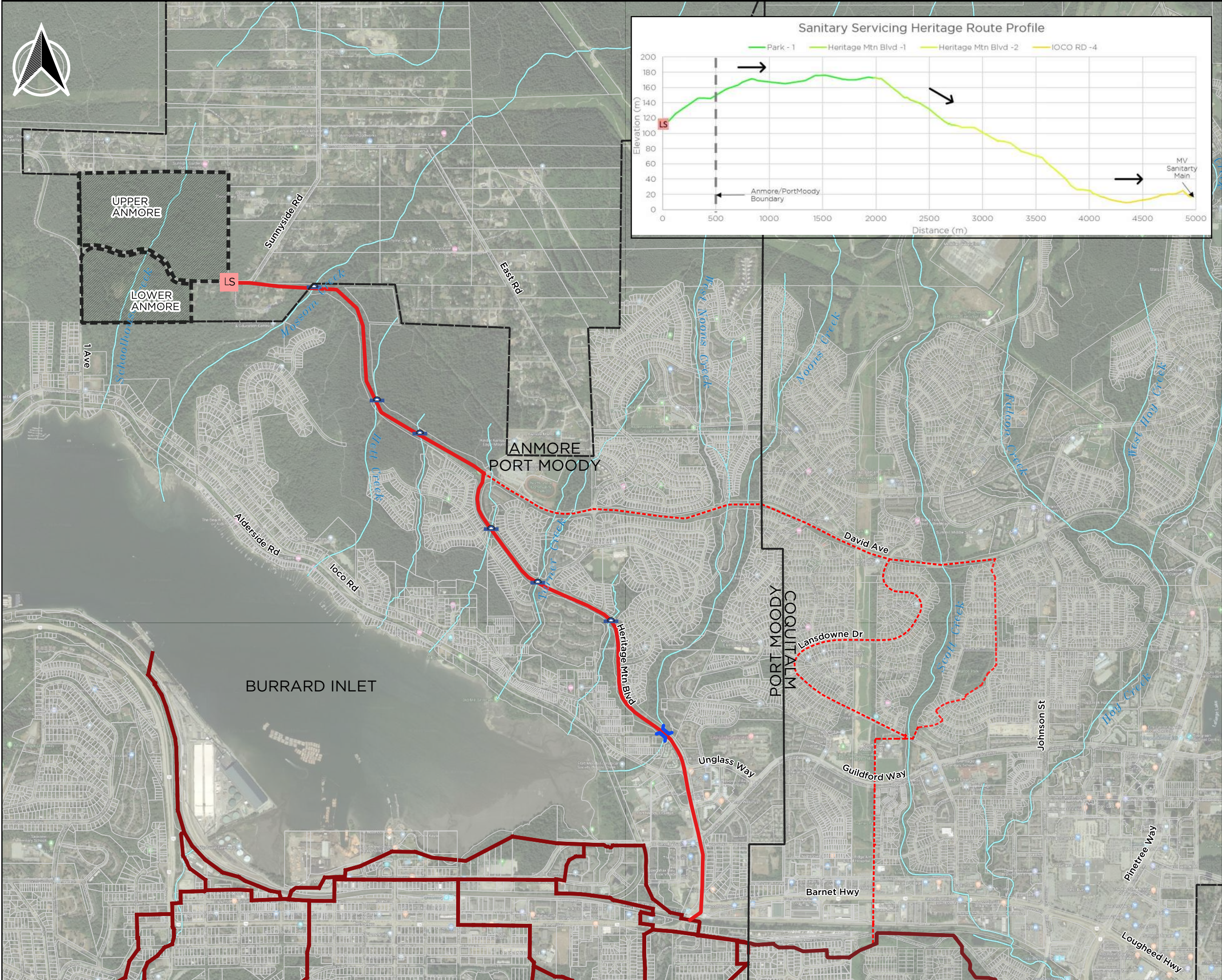
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IOCO Lands Water Servicing Options - Heritage Route

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Data: 2019/07/12



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Legend

- Study Area
- Watercourse
- Metro Vancouver Sanitary Mains
- Parcels

Sanitary Utility

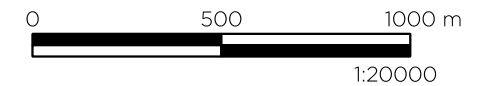
- Lift Station

Creek Crossing

- Bridge
- Culvert

Sanitary Servicing Option - Heritage Route

- Preferred Route
- Alternative Route



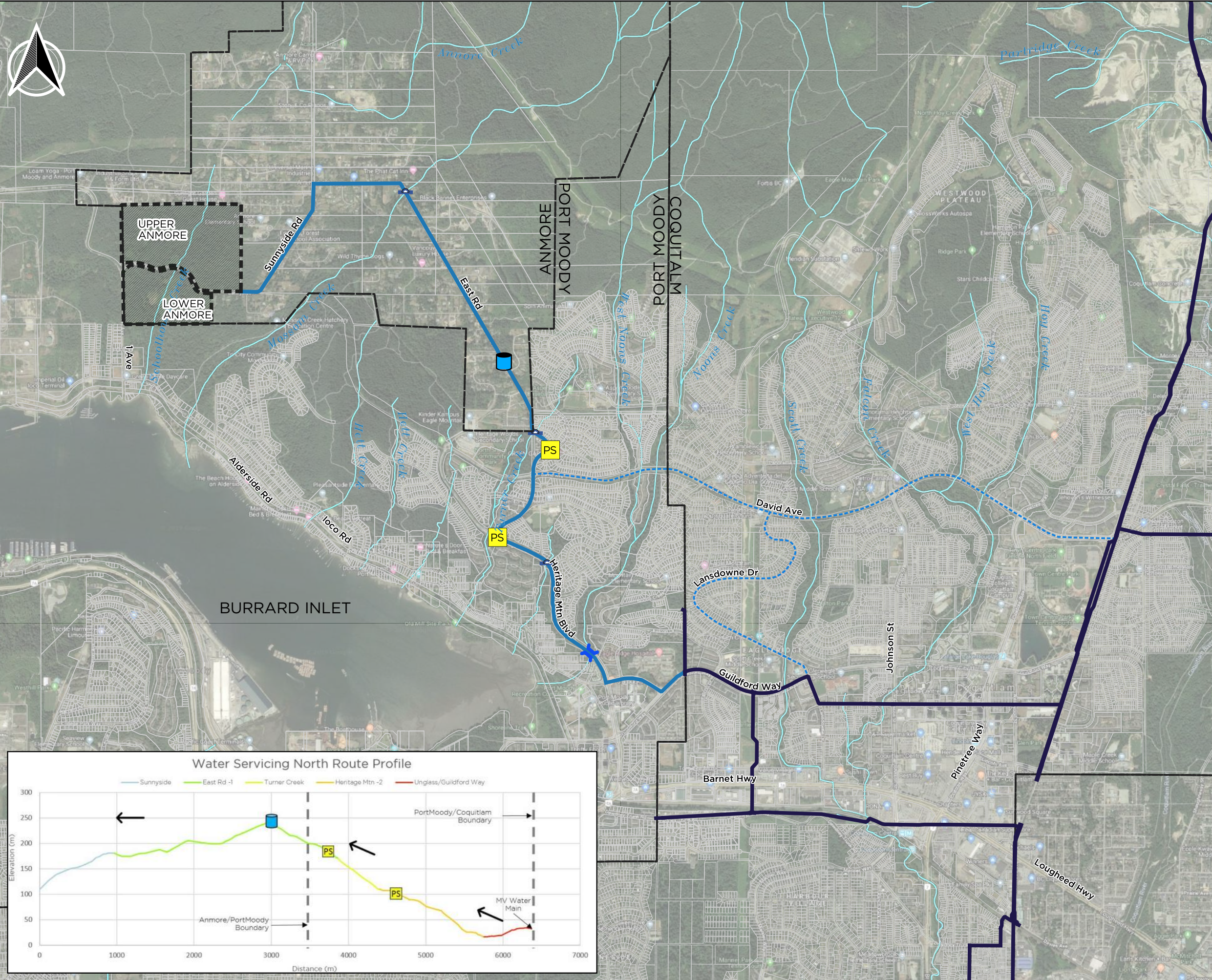
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IOCO Lands Sanitary Servicing Option - Heritage Route

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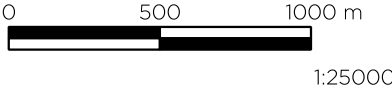


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Legend

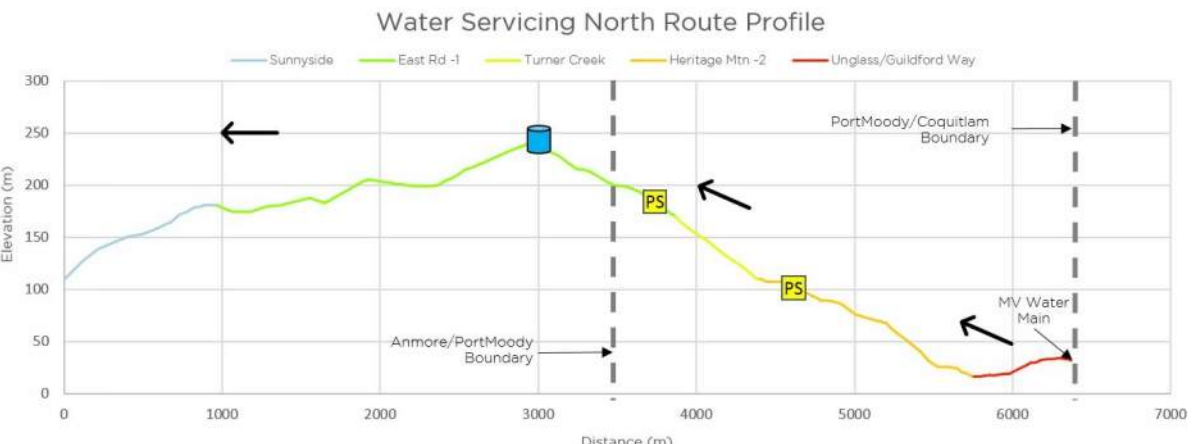
- Study Area
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 - Preferred Route
 - Alternative Route



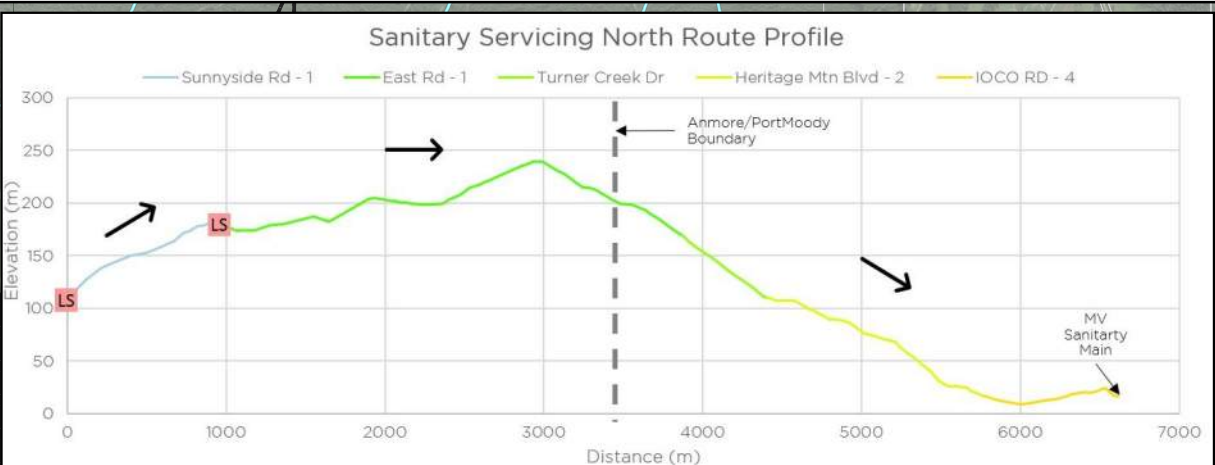
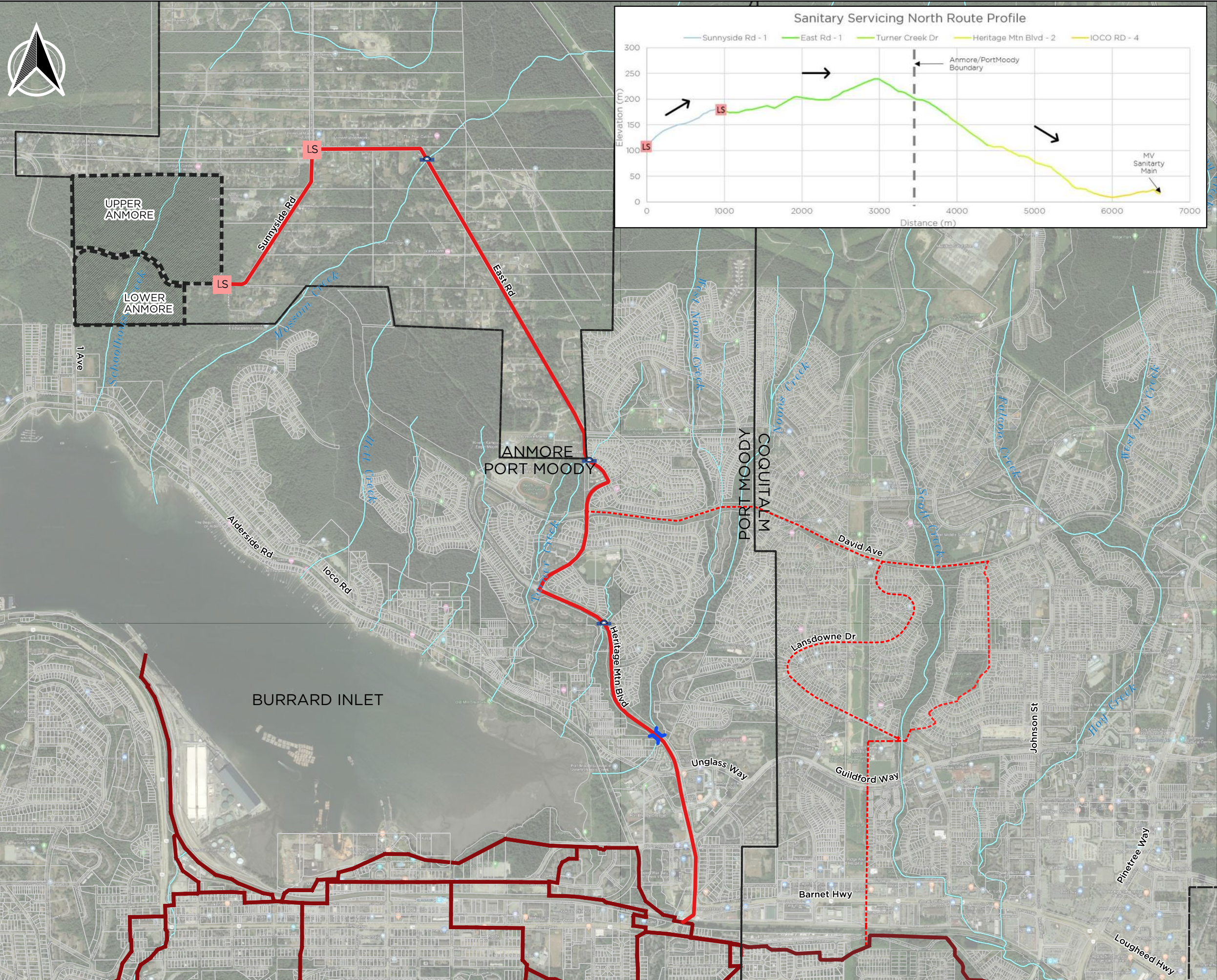
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IOCO Lands Water Servicing Options - North Route

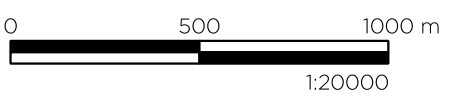
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- Legend**
- Study Area
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IOCO Lands Sanitary Servicing Option - North Route

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FIGURE 6



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VILLAGE OF ANMORE

STAFF REPORT

Date: January 17, 2020 File Number: 6480-01

Submitted by: Jason Smith, Manager of Development Services

Subject: Anmore loco Lands – Public Engagement and Next Steps

Purpose / Introduction

The purpose of this report is to update Council on the progress and proposed strategy for conducting the public engagement process for the Anmore loco Lands

Recommended Options

That the committee recommend that Council support the initial engagement plan and direct staff to begin implementation of the engagement plan as presented in the report dated January 17, 2020 and titled “Anmore loco Lands – Public Engagement and Next Steps”

Background

The Village received an Official Community Plan (OCP) amendment application from the owners of the loco Lands that proposes a significant new mixed use community on a portion of the loco Lands in Anmore. The development proposal is for 1400-1600 residential units in multi-family buildings up to 12 storeys in height. A 500,000 square foot commercial component, with a mix of retail and office, is also proposed.

Village staff presented a report to Council on November 19, 2019 that provided an overview of the development, presented the numerous technical studies that the applicant had prepared, outlined the key issues, and provided a summary of the most relevant OCP policies. At the regular Council meeting the following resolution was passed:

“That Council direct staff to refer the Burrard Commons development application to Advisory Planning Commission, the Environment Committee, the Finance Committee, the Parks and Recreation Committee, and the Sasamat Volunteer Fire Department for comment;

Report/Recommendation to Council

Anmore loco Lands – Public Engagement and Next Steps

January 17, 2020

That Council direct staff to engage the necessary resources to undertake the comprehensive development review and recommendations for Burrard Commons; and

That Council provides support for the proposed timeline and process.”

Discussion

Village Team

Since that November meeting, staff have worked to engage numerous consultants to assist the Village in reviewing the application. The following firms and consultants have been engaged by the Village to assist the Village in planning for the Anmore loco Lands and responding to the development application.

- Planning and Public Engagement – Modus
- Engineering, Transportation and Environmental Review – ISL Engineering
- Economic Review – G.P. Rollo and Associates
- Fiscal Impact Review – Urban Systems
- Communications – Therese Mickelson Consulting
- Strategic Advice – Innova Strategy Group

All the costs incurred by the Village are recoverable from the applicant, through a cost recovery agreement.

Initial Focus for Public Engagement

Now that the Village has a team in place, discussions have begun about how best to consider development for the Anmore loco Lands. The Village team, in keeping with the OCP policies for the Anmore loco Lands, are proposing that the initial phase of the public engagement look at all of the Anmore loco Lands, which is the entire 150 acre site and includes the lands to the north of Sunnyside Road.

This approach will help ensure that the community has input in how all of these lands should develop in an all-encompassing manner and ensure that all of the community’s intentions and values are incorporated in the plans for the entire site.

The Village is considering conducting a series of open houses and undertaking an online survey to inform the public and to seek their views. Some of the key issues that may be discussed are

Report/Recommendation to Council

Anmore loco Lands – Public Engagement and Next Steps

January 17, 2020

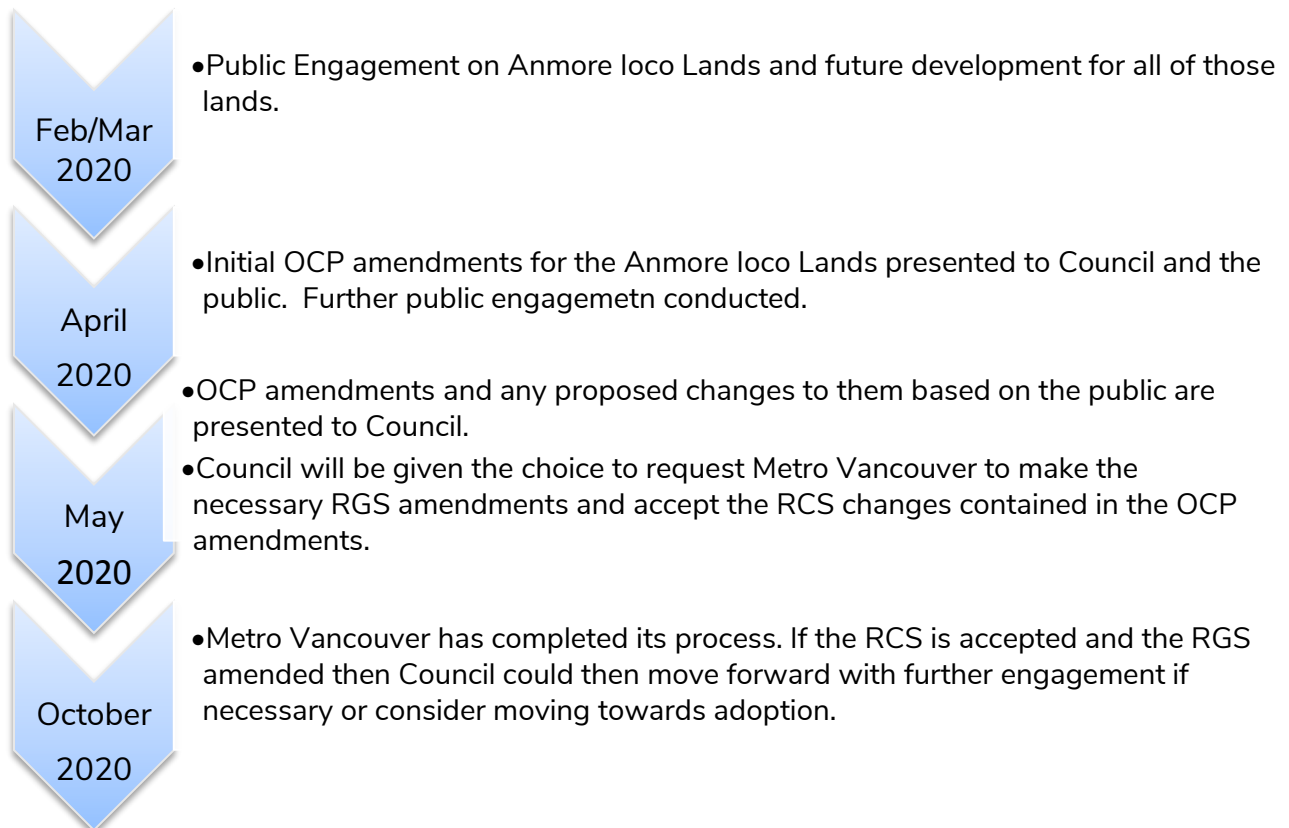
the scale and density of development that should be considered for the whole site, the appropriate land uses, amenities that Anmore residents would like to see realized, implications for Village services such as fire protection, and the fiscal impacts on the Village's annual budget of developing the Anmore loco Lands.

Second Phase of Public Engagement

The results of the initial engagement will be presented to Council and the applicant. Depending on what is heard in the initial phase of the public engagement and the Village's team review, the applicant may choose to amend their proposal.

These engagements will inform the initial OCP amendments that would be presented to Council for consideration. These OCP amendments will reflect what was heard during the initial public engagement and would likely include changes to the Regional Context Statement (RCS) within the Village's OCP and would also trigger the need to amend the Metro Vancouver Regional Growth Strategy (RGS) to accommodate any development of the Anmore loco Lands that requires regional sewer services.

Revised Timeline



Report/Recommendation to Council

Anmore loco Lands – Public Engagement and Next Steps

January 17, 2020

Conclusion

The consideration of the Anmore loco Lands and what form development should take on those lands has just begun and there is still a considerable amount of time, engagement and information that is still needed before any decisions are made.

The Village now has a capable team in place to assist Council and the community to consider all the issues at the Anmore loco Lands and to ensure that all members of the public will have an opportunity to become better informed and have their perspective heard.

Other Options

The following options are provided for the committee's consideration:

1. That the committee recommend that Council support the initial engagement plan and direct staff to begin implementation of the engagement plan as presented in the report dated January 17, 2020 and titled "Anmore loco Lands – Public Engagement and Next Steps".
2. That the committee advise staff of revised changes that they wish to have incorporated into the public engagement plan for the Anmore loco Lands.

Financial Implications

There are no financial implications for any of the options presented as the Village is recovering all expenses from the applicant.

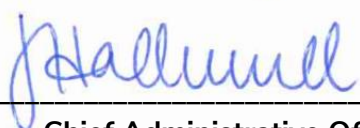
Attachments

1. Community Engagement Strategy – Modus (to be provided on table)

Report/Recommendation to Council

Anmore Ioco Lands – Public Engagement and Next Steps

January 17, 2020

Prepared by:
J. Smith _____ Jason Smith Manager of Development Services
Reviewed for Form and Content / Approved for Submission to Council:
Chief Administrative Officer's Comment/Concurrence <div style="text-align: right;"> _____ Chief Administrative Officer</div>