

File No.: 04-1000-20-2020-067

March 17, 2020

s.22(1)

Dear s.22(1)

Re: **Request for Access to Records under the Freedom of Information and Protection of Privacy Act (the "Act")**

I am responding to your request of January 27, 2020 for:

Copy of 'Potential Future Right of Way (ROW) dedication identified in City of Vancouver Fir Street Alignment Memo' from map on page 119 on Mott MacDonald "City of Vancouver Streetcar Feasibility Study" of May 3, 2019.

All responsive records are attached.

Under section 52 of the Act you may ask the Information & Privacy Commissioner to review any matter related to the City's response to your request. The Act allows you 30 business days from the date you receive this notice to request a review by writing to: Office of the Information & Privacy Commissioner, info@oipc.bc.ca or by phoning 250-387-5629.

If you request a review, please provide the Commissioner's office with: 1) the request number assigned to your request (#04-1000-20-2020-067); 2) a copy of this letter; 3) a copy of your original request for information sent to the City of Vancouver; and 4) detailed reasons or grounds on which you are seeking the review.

Please do not hesitate to contact the Freedom of Information Office at foi@vancouver.ca if you have any questions.

Yours truly,

Cobi Falconer, Acting Director, ATIP, for

A handwritten signature in dark ink, appearing to read 'Cobi', followed by a large, stylized loop and a trailing flourish.

Barbara J. Van Fraassen, BA
Director, Access to Information & Privacy

Barbara.vanfraassen@vancouver.ca
453 W. 12th Avenue Vancouver BC V5Y 1V4

*If you have any questions, please email us at foi@vancouver.ca and we will respond to you as soon as possible. Or you can call the FOI Case Manager at 604.871.6584.

Encl.

:kt

MEMORANDUM

October 3, 2017

TO: Dale Bracewell, Manager, Transportation Planning

FROM: Simon Mueller, Transit Planning Engineer

CC: Lon LaClaire, Director, Transportation
Jerry Dobrovolny, General Manager, Engineering Services
Gil Kelley, General Manager, Planning, Urban Design and Sustainability
Bill Aujla, General Manager, Real Estate and Facilities Management

SUBJECT: **Fir Street Streetcar Alignment Potential**

The purpose of this memo is to document potential right of way requirements to facilitate connections between the Arbutus Greenway corridor and other transportation facilities with respect to the Arbutus Railway Line Purchase Agreement. As the City continues to proactively plan for the future streetcar network, a key requirement will be to connect the Arbutus Greenway streetcar with the Downtown Phase 1 (Olympic Line) streetcar. This may require additional right-of-way or consideration of mixed-traffic streetcar operations if dedicated tracks are not possible. The memo also documents current understanding of the active transportation alignment to connect the Arbutus Greenway to the Seaside Greenway.

Background

The Arbutus Railway Line Purchase Agreement (the “Agreement”) between the City of Vancouver and Canadian Pacific Railway (CPR) for the Arbutus Railway Corridor (the “Corridor”) was finalized on March 4th, 2016. Since then, the City has implemented temporary greenway transportation facilities and initiated a planning and design process for the permanent design of the Arbutus Greenway. As part of Arbutus Greenway Project (AGP), and in line with the purchase agreement, provision for future streetcar infrastructure will be evaluated. The project will also explore alignment concepts for connecting the future Arbutus Streetcar to the broader future streetcar network, which was first established through the 1998 Vancouver Downtown Streetcar Study. A subsequent 2005 study updated and refined the 1998 study and provided additional details.

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Since 2005 the City has approved numerous citywide strategic plans, including the Greenest City 2020 Action Plan and Transportation 2040. As well, substantial transportation and land use developments have occurred or are underway in the Downtown and around False Creek. As such, there is a need to update and refine the 2005 study; Engineering Services will be soliciting consultant proposals to undertake this update. It is expected that this work will commence in Fall of 2017.

The Agreement between the City and CPR contains qualifications with regards to Option Lands. Article 11 from the purchase agreement provides the following details:

In light of engineering and safety constraints, the City acknowledges that it intends to design areas for a light rail line and walking or cycling use without using any part of the Lands set out in Schedule "F" (the "**Option Lands**"). If the Regulatory Authority approves enactment of a bylaw to amend the Arbutus Corridor Official Development Plan and approves subdivision and rezoning, as applicable, in respect of the Option Lands, CPR will have the right to re-purchase the Option Lands from the City for \$1.00 on the terms of the option attached as Schedule "G" (the "**CPR Option**") which the City shall grant to CPR on Closing.

The engineering and safety constraints as noted in the above were identified at the time of the agreement and included the following:

- Proximity of the Arbutus Corridor and cross street intersections to the Fir Street intersections between 2nd and 5th Avenues (includes the intersections of Fir Street & 5th Avenue, Fir Street & 4th Avenue, Fir Street & 3rd Avenue and Fir Street & 2nd Avenue).
 - Would likely have required tightly spaced signalized intersections both in terms of proximity to the Fir Street intersections and to the north-south intersections. This would have required highly complex signalization strategies and limited the opportunity for future transit or greenway signal priority. More frequent delays and stopping at intersections for a future streetcar and other corridor users would be additionally challenging due to the slope in the area.
- The Corridor in this area, particularly north of W 2nd Avenue does not align well with desire lines and likely origin-destination patterns, i.e. people desiring to go from the corridor to Granville Island.
- The land use in the area is generally light industrial with minimal opportunity to activate the corridor greenway space.
- Proximity of the Corridor in this area to the Granville Bridge off-ramp onto Fir Street, which was determined would impact the public realm as well as place the Corridor greenway in shade more often.

Although some other areas of the Corridor faced similar constraints, there was more opportunity to mitigate potential issues in those areas. As well, the area between W 6th Avenue and W 1st Avenue more readily provided feasible alternative alignments (to the Arbutus corridor) for the transportation connections:

- Fir Street is a lower volume street than Arbutus Street; a mixed traffic running streetcar within large portions of the Arbutus Street right-of-way would likely have created more vehicular congestion issues.
- The provision of greenway active transportation facilities within the street right-of-way fit in better with the character of the denser, more urban context of the Corridor between W 6th Avenue and W 1st Avenue.

- The light industrial nature of the area results in more goods vehicle movements. To maintain a more redundant street network which facilitates more efficient goods movement routing, any potential diversion or closure of streets which may have facilitated an Arbutus Corridor aligned streetcar was not considered desirable.

In light of these constraints, and given expectations around land use consolidation, the City duly noted that an additional right-of-way adjacent to the east side of Fir Street would facilitate and ensure that the most direct and connected route could be provided. The additional right-of-way was identified to accommodate a cross-section to facilitate the Greenway connection and accommodate a streetcar track.

It will take time for the City to achieve the required right-of-way along Fir Street and/or to determine potentially more suitable alternative solutions for walking, bicycling and streetcar routing. As such, it is appropriate to proactively identify additional right-of-way requirements for what is currently understood to be the preferred alignment and discuss operational impacts at a high level. This is discussed in the next section.

Right-of-way Allocation

Previously Identified Requirements

As noted above, the City has identified the need for additional right-of-way dedication along the east side of Fir Street from W 2nd Avenue to W 5th Avenue. The affected properties, existing and required right-of-ways are listed in the following table:

Table 1: Fir Street Right-of-Way Allocation

Block	Existing ROW (m)	Required Total ROW (m)	Additional ROW Required (m)	Properties Affected
Between W 5 th & W 4 th Ave	20.0	26.0	6.0	1590 W 4th Street 2024 Fir Street
Between W 4 th & W 3 rd Ave	23.5	25.0	1.5	1918 Fir Street* 1950 Fir Street (City owned) 1599 W 4th Street
Between W 3 rd & W 2 nd Ave	20.0	25.0	5.0	1820 Fir Street 1595 W 3rd Street

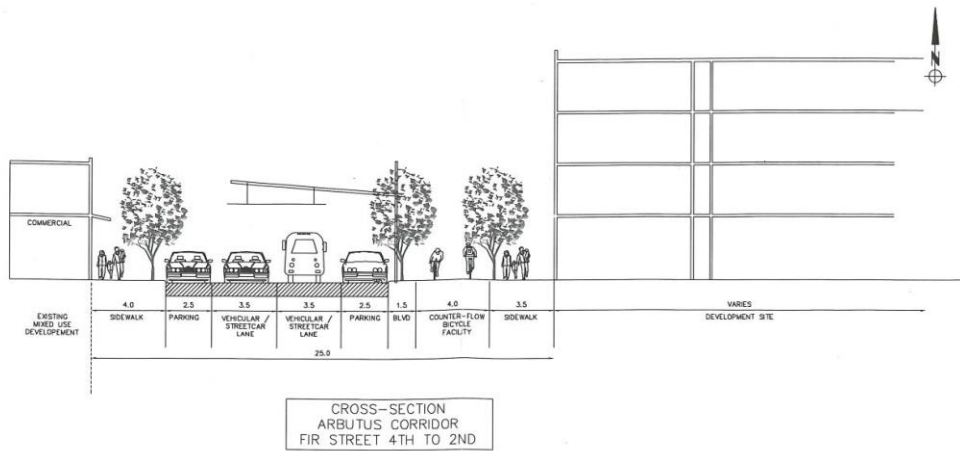
*This property is adjacent to the existing channelized right turn lane. If it is determined through future detailed design that the right turn lane is no longer required, this space may become developable.

The additional right-of-way along this portion of Fir Street would generally accommodate a street cross-section which would provide sidewalks, parking lanes, vehicular travel lanes shared with streetcar tracks and a separated bicycle facility. The cross-section between W 5th Avenue & W 4th Avenue would also provide a northbound right turn lane to accommodate right turn movements onto W 4th Avenue.

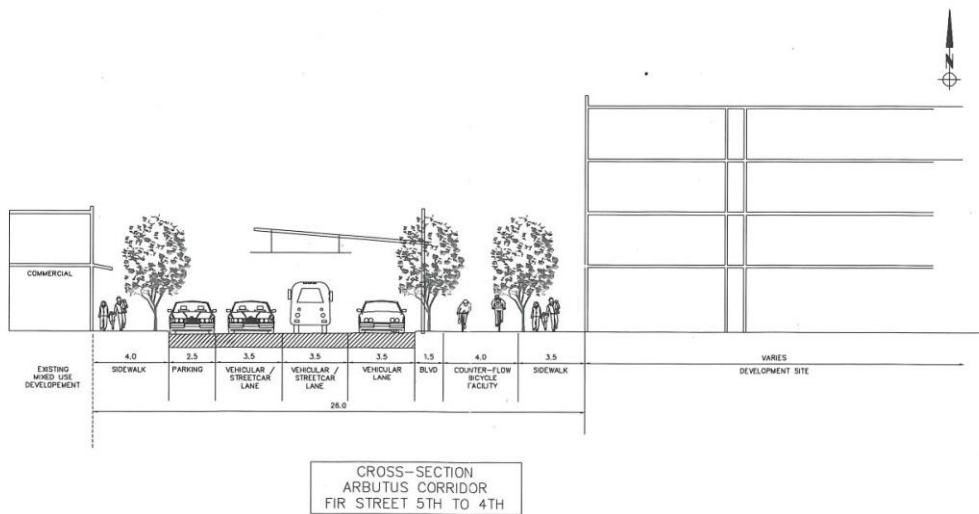
A revised version of the typical Fir Street cross-section was also developed which provides unidirectional separated bicycle lanes, as the original concept identified a bidirectional protected bicycle lane. This reflects evolving City experience developing separated bicycle facilities. These cross sections are shown in **Figure 1** below. These right-of-way requirements have been identified in the City's Red Books.

Figure 1: Fir Street Conceptual Cross-sections

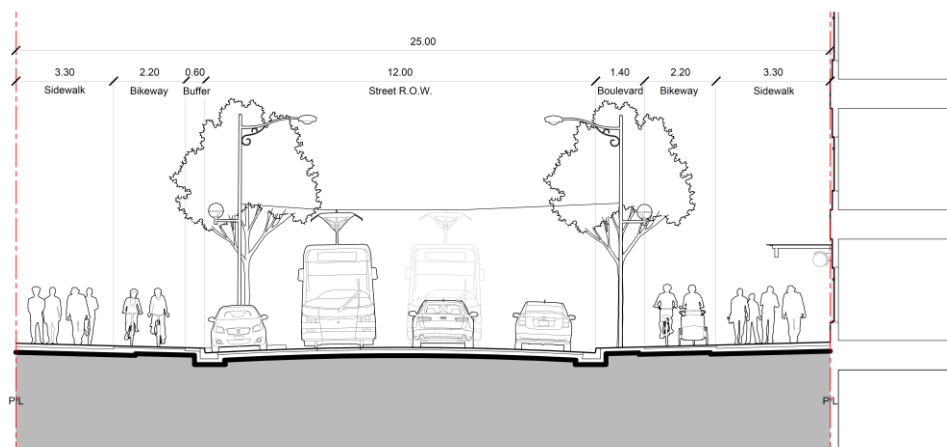
Bidirectional Protected Bicycle Facilities



Bidirectional Protected Bicycle Facilities including right turn lane



Revised Cross-section concept providing unidirectional protected bicycle lanes



As well, the property at 2120 Fir Street has also been identified for additional right-of-way dedication to support the transition of active transportation facilities from the Arbutus Greenway to Fir Street.

If the City is able to acquire the land along Fir Street or obtain a statutory right-of-way (S.R.W), Fir Street would likely remain the favourable candidate for continuing the streetcar alignment from the Arbutus Greenway corridor and connecting to the Olympic Line streetcar corridor. In this case, Fir Street would also provide the right-of-way for active transportation facilities from the Arbutus Greenway to W 1st Avenue.

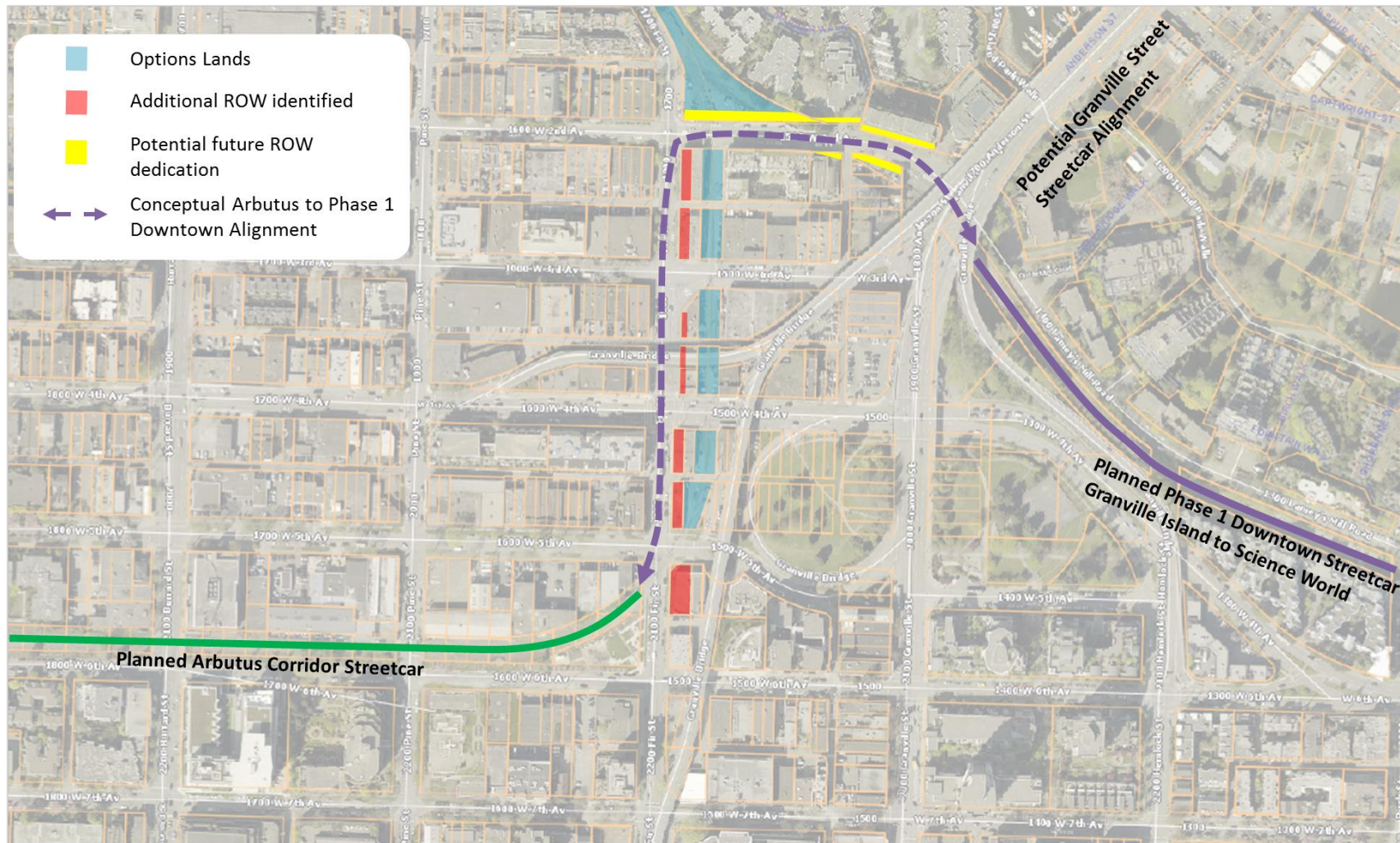
Proposed Additional Right-of-Way Requirements

The streetcar connection would potentially require additional right-of-way to accommodate a horizontal curve from Fir Street onto W 2nd Avenue; most of the adjacent properties at the location of the required horizontal curve are Options Lands - east of Fir Street and north of W 2nd Avenue. As well, one of the main properties on the south side of W 2nd Avenue is a relatively new development (Waterfall Building). There is limited opportunity to acquire additional right-of-way or to expect redevelopment within the streetcar connection project timelines on the south side of 2nd Avenue. However, if the Options Lands are to be redeveloped, the City could require additional dedication or an S.R.W. as part of development applications. As such, the City should duly identify this requirement in the Red Books.

The right-of-way on W 2nd Avenue is currently 20m. To maintain a similar cross-section as that proposed for Fir Street, 5m along W 2nd Avenue would also be required. On the north side of W 2nd Avenue the 5m would be required from the property at 1700 Fir Street. To maximize the functionality of the potential additional dedication on the Options Lands on the north side of Fir Street, additional dedication from the lots located at 1508 Mariner Walk and 1515 W 2nd Avenue would also be beneficial. It is considered unlikely that these lots will redevelop within project timelines. The W 2nd Avenue right-of-way at the west end of 1500 W 2nd Avenue is only about 15m. Even with an additional 5m right-of-way from the lot at 1515 W 2nd Avenue, the cross section at this point would be constrained. As such, additional land requirements from the properties at 1508 W 2nd Avenue and 1500 W 2nd Avenue have also been identified. This would include a triangular portion of 1508 W 2nd Avenue and most of 1500 W 2nd Avenue. More exact dimensioning would be required; however, it is important that these properties be identified now to maximize opportunities if redevelopment does occur.

Figure 2 below illustrates a conceptual connection between the Arbutus Greenway Corridor and the planned Phase 1 streetcar line. The figure also shows the Options Lands, highlights the properties along Fir Street previously mentioned and illustrates the new right-of-way dedication(s) discussed above.

Figure 2: Streetcar Connection Options



Alignment Considerations

The outcomes of the Arbutus Greenway Project and the 2017 update to the Downtown Streetcar Study will provide additional input and clarity into the considerations required to determine the preferred streetcar connections and alignments. At a high-level, the following lists some of the preliminary considerations as currently understood by the City:

- The Arbutus Streetcar will require an Operations and Maintenance (O&M) facility. The False Creek Flats area has been identified as a potential location for an O&M facility. This would require a physical track connection between the Arbutus Corridor and the existing track on the historical railway between Granville Island and Cambie Bridge
- Streetcar network design planning, implementation and phasing progress.
- Frequent Transit Network planning
- Interest from the private sector to implement a streetcar on the historical track between Cambie Bridge and Granville Island.
- Several larger-scale land use planning initiatives are currently underway in areas adjacent to alignments identified for the future Downtown Streetcar network, which may influence network design and future operations.

In light of the above considerations and subject to the outcomes of the Downtown Streetcar Study update and the Arbutus Greenway Project, numerous potential routing alignments may remain as options. However, the Fir Street and W 2nd Avenue alignment is presently understood to be the most favourable alignment.

Conclusions and Key Considerations

Conclusion

This memo has briefly summarized the current understanding of Arbutus Greenway Corridor connections and the associated right-of-way requirements. As the Options Lands cannot be utilized to provide transportation facilities in light of engineering and safety constraints, alternative streetcar right-of-ways will be required to complete connections to the broader streetcar network. There are numerous key considerations required for such a connection. The outcomes of several streetcar related studies and additional City evaluation will address these considerations.

Fir Street would appear to be an initial favourable candidate to facilitate the connection. The need for additional right-of-way dedication has previously been identified along Fir Street from W 5th Avenue to W 2nd Avenue. Additional analysis would be required to determine the most suitable east-west street (from Fir Street) to the Phase 1 line, although W 2nd Avenue appears to be the most likely candidate street at this time. As such, the need for additional right-of-way dedication has been identified in this memo. Given that it may take considerable time for the City to realize the required additional right-of-way, mixed-traffic streetcar operations may need to be considered through parts of this area to facilitate connections.

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Key Considerations

- Monitor other planning and transportation initiatives to further inform on-going active transportation and streetcar planning objectives in the area.
- Use outcomes of streetcar related studies to re-assess the Fir Street and/or other available alignments to facilitate connection(s). Develop summary memo.
- Identify in the Red Books the additional right-of-way dedication along W 2nd Avenue including 5m within the Options Lands (1700 Fir St) and various amounts within 1500 W 2nd Av, 1502 W 2nd Av, 1508 W 2nd Av and 1515 W 2nd Av. The exact land requirements within these lots are subject to further analysis, accounting for more complex lot geometry and roadway curvature.

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