



REVISED AGENDA - COMMITTEE OF THE WHOLE

Thursday, October 17, 2024, 9:00 A.M. - 2:00 P.M.

COUNCIL CHAMBERS, CITY HALL, 1 CENTENNIAL SQUARE

The City of Victoria is located on the homelands of the Songhees Nation and Xwsepsum Nation

Meeting will recess for a lunch break between 12:00 p.m. and 1:00 p.m.

Pages

A. TERRITORIAL ACKNOWLEDGEMENT

B. INTRODUCTION OF LATE ITEMS

C. APPROVAL OF AGENDA

*D. CONSENT AGENDA

Proposals for the Consent Agenda:

- E.1 - Minutes from the Committee of the Whole meeting held September 26, 2024

E. CONSIDERATION OF MINUTES

E.1 Minutes from the Committee of the Whole meeting held September 26, 2024

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F. LAND USE MATTERS

*F.1 2002 Richmond Road, 1903, 1909 Birch Street, and 1769 Pembroke Street:
Rezoning Application No. 00862 and Development Permit with Variances
Application No. 00252 (Jubilee)

7

Addendum: Presentation

A report regarding a Rezoning Application and Development Permit with Variances Application to rezone and consolidate the properties at 2002 Richmond Road, 1903/1909 Birch Street and 1769 Pembroke Street to increase the density and construct a six-storey rental residential building with commercial uses at grade, a rooftop amenity space, and a surface parking lot, and recommending that the application proceed to bylaw readings.

G. 10:17 AM "Shakeout" Exercise

315

H. NOTICE OF MOTIONS

I. NEW BUSINESS

I.1	<u>Mayor's Report</u>	321
I.2	<u>Council Member Motion: Advocacy to Province to Support Small Businesses and other Commercial Tenants</u>	322

A Council Member Motion regarding support for small businesses impacted in the City and requesting Council direction to write an advocacy letter to the Province.

- J. CLOSED MEETING, IF REQUIRED
- K. ADJOURNMENT OF COMMITTEE OF THE WHOLE



MINUTES - COMMITTEE OF THE WHOLE

September 26, 2024, 9:02 A.M.

COUNCIL CHAMBERS, CITY HALL, 1 CENTENNIAL SQUARE

The City of Victoria is located on the homelands of the Songhees Nation and Xwsepsum Nation

PRESENT: Mayor Alto in the Chair, Councillor Caradonna, Councillor Coleman, Councillor Dell, Councillor Gardiner, Councillor Loughton, Councillor Thompson

PRESENT ELECTRONICALLY: Councillor Hammond and Councillor Kim

STAFF PRESENT: J. Jenkyns - City Manager, S. Thompson - Deputy City Manager / Chief Financial Officer, C. Kingsley - City Clerk, S. Johnson - Director of Communications and Engagement, T. Zworski - City Solicitor, P. Rantucci - Director of Strategic Real Estate, T. Soulliere - Deputy City Manager, K. Hoese - Director of Sustainable Planning and Community Development, C. Mycroft - Manager of Intergovernmental & Media Relations, A. Johnston - Assistant Director of Development Services, B. Roder - Senior Legislative Coordinator, A. Klus - Legislative Coordinator

A. TERRITORIAL ACKNOWLEDGEMENT

Committee acknowledged that the City of Victoria is located on the homelands of the Songhees First Nation and Xwsepsum First Nation communities, and recognized the upcoming National Day for Truth and Reconciliation as an event that will host celebrations, remembrances, performances, and opportunities to learn.

B. INTRODUCTION OF LATE ITEMS

There were no late items.

C. APPROVAL OF AGENDA

Moved and Seconded:

That the agenda be approved.

CARRIED UNANIMOUSLY

D. CONSENT AGENDA

Moved and Seconded:

That the following Consent Agenda items be approved:

E. CONSIDERATION OF MINUTES

E.1 Minutes from the Committee of the Whole meeting held July 18, 2024

That the minutes from the Committee of the Whole meeting held July 18, 2024 be approved.

E.2 Minutes from the Committee of the Whole meeting held September 05, 2024

That the minutes from the Committee of the Whole meeting held September 05, 2024 be approved.

CARRIED UNANIMOUSLY

F. STAFF REPORTS

F.1 Endorsement of Funding Applications to Support Capital Projects

Committee received a report dated September 13, 2024 from the Deputy City Manager seeking endorsement on funding applications that support capital project delivery and further advance Council's strategic priorities.

Committee discussed the following:

- *Grant application deadlines*
- *Opportunities to apply for provincial grants*
- *Securing funding prior to the Crystal Pool referendum*

Moved and Seconded:

That Council:

1. Direct staff to prepare funding applications in support of projects under the following programs:
 - a. Up to \$5M from the UBCM Community Emergency Preparedness Fund: Disaster Risk Reduction – Climate Adaptation Program for the *Centennial Square Revitalization Project*;
 - b. Up to \$1M from the Province of B.C. Active Transportation Infrastructure Grant Program for the *Cook Street North* and *Blanshard Street North* projects;
 - c. Up to \$2.5M from the Federation of Canadian Municipalities' Growing Canada's Community Canopies Program for *Tree City Program*; and
 - d. Up to \$25M from the Government of Canada's Green & Inclusive Community Buildings Program for the *Crystal Pool and Wellness Centre Replacement Project*.

2. Direct staff to prepare up to three applications under the Province of BC's Disaster Reduction Innovation Fund:
 - a. Up to \$2M to support risk reduction from seismic activity with the use of *Innovative Chiller Technologies at the City's arena*;
 - b. Up to \$500,000 to support risk reduction through climate adaptation features in the *Cook Street North and Blanshard Street North* projects; and/or
 - c. Up to \$500,000 to support risk reduction by installing climate adaptation features as part of the *Underground Infrastructure Replacement Program*.
3. Forward these motions to the September 26, 2024 daytime Council meeting for consideration.

CARRIED UNANIMOUSLY

G. NOTICE OF MOTIONS

There were no notice of motions.

H. NEW BUSINESS

H.1 Council Member Motion: City Costs to host Touchdown Pacific

Committee received a Council Member Motion from Councillor Gardiner dated September 12, 2024 requesting staff to report on the full costs to the City for hosting Touchdown Pacific 2024.

Committee discussed the following:

- *Current staff efforts underway to report back on Touchdown Pacific*

Moved and Seconded:

That Council

1. Direct staff to report on the full costs to the City for hosting Touchdown Pacific 2024.
 - a. Costs to include but not be limited to any city resources associated with:
 - i. Grounds and facility preparation including turf, media connects for television etc
 - ii. All set-up not carried out by CFL (temporary stands) including security
 - iii. Staff administrative work regarding contracts
 - b. The report to be completed before discussion of the parks or special events portions of the 2025 budget.
2. Forward these recommendations to the September 26, 2024 daytime Council meeting.

Amendment:

Moved and Seconded:

That Council

1. Direct staff to report on the full costs to the City for hosting Touchdown Pacific 2024.
 - a. Costs to include but not be limited to any city resources associated with:
 - i. Grounds and facility preparation including turf, media connects for television etc
 - ii. All set-up not carried out by CFL (temporary stands) including security
 - iii. ~~Staff administrative work regarding contracts~~
 - b. The report to be completed before discussion of the parks or special events portions of the 2025 budget.
2. Forward these recommendations to the September 26, 2024 daytime Council meeting.

CARRIED UNANIMOUSLY

Amendment:

Moved and Seconded:

That Council

1. Direct staff to report on the full costs to the City for hosting Touchdown Pacific 2024.
 - a. Costs to include but not be limited to any city resources associated with:
 - i. Grounds and facility preparation including turf, media connects for television etc
 - ii. All set-up not carried out by CFL (temporary stands) including security
 - b. The report to be completed before discussion of the parks or special events portions of the 2025 budget.
2. ~~Forward these recommendations to the September 26, 2024 daytime Council meeting.~~

CARRIED UNANIMOUSLY

On the main motion as amended:

That Council

1. Direct staff to report on the full costs to the City for hosting Touchdown Pacific 2024.
 - a. Costs to include but not be limited to any city resources associated with:
 - i. Grounds and facility preparation including turf, media connects for television etc
 - ii. All set-up not carried out by CFL (temporary stands) including security

- b. The report to be completed before discussion of the parks or special events portions of the 2025 budget.

CARRIED UNANIMOUSLY

H.2 Council Member Motion: Minimum Residential Unit Size Citywide

Committee received a Council Member motion from Councillor Hammond dated September 18, 2024 regarding residential unit sizes and requesting that staff implement a minimum residential unit size of 33m² as part of zoning modernization work.

Committee discussed the following:

- *Aligning with BC Housing regulations*
- *Historical inconsistencies between housing within and outside of the downtown core*
- *Increasing minimum size of unit for improved quality of life*

Moved and Seconded:

That Council, as part of the zoning modernization work, direct staff to implement a minimum residential unit size of 33m² citywide, in alignment with the BC Housing minimum unit size and the current minimum unit size requirements that apply in parts of the City, and to consider exemptions for non-profit housing providers to support low-income tenants and supportive housing units.

Amendment:

Moved and Seconded:

~~That Council, as part of the zoning modernization work,~~ direct staff to **report back on the implications of** implementing a minimum residential unit size of 33m² citywide, in alignment with the BC Housing minimum unit size and the current minimum unit size requirements that apply in parts of the City, and to consider exemptions for non-profit housing providers to support low-income tenants and supportive housing units.

OPPOSED (2): Councillor Gardiner, and Councillor Hammond

CARRIED (7 to 2)

On the main motion as amended:

Direct staff to report back on the implications of implementing a minimum residential unit size of 33m² citywide, in alignment with the BC Housing minimum unit size and the current minimum unit size requirements that apply in parts of the City, and to consider exemptions for non-profit housing providers to support low-income tenants and supportive housing units.

OPPOSED (1): Councillor Thompson

CARRIED (8 to 1)

I. CLOSED MEETING, IF REQUIRED

No closed meeting required.

J. ADJOURNMENT OF COMMITTEE OF THE WHOLE

Moved and Seconded:

That the Committee of the Whole Meeting be adjourned at 10:40 a.m.

CARRIED UNANIMOUSLY

CITY CLERK

MAYOR



Committee of the Whole Report

For the Meeting of October 17, 2024

To: Committee of the Whole **Date:** October 3, 2024

From: Karen Hoesel, Director, Planning and Development

Subject: **Rezoning Application No. 00862 and Development Permit with Variance No. 00252 for 2002 Richmond Road, 1903/1909 Birch Street, and 1769 Pembroke Street**

RECOMMENDATION

Rezoning Application

1. That Council instruct the Director of Planning and Development to prepare the necessary Zoning Regulation Bylaw amendment that would authorize the proposed development outlined in the staff report dated October 3, 2024, for 2002 Richmond Road, 1903/1909 Birch Street, and 1769 Pembroke Street.
2. That after publication of notification in accordance with section 467 of the Local Government Act, first, second, and third reading of the zoning bylaw amendment be considered by Council once the following conditions are met:
 - a. The following revisions to the plans:
 - i. revise site and landscape plans to meet tree minimum, siting and soil volume requirements in accordance with the *Tree Protection Bylaw* No. 21-035, to the satisfaction of the Director of Parks, Recreation and Facilities
 - ii. revise parking layout to the satisfaction of the Director of Planning and Development to include:
 1. all accessible parking required under Schedule C for all on-site uses
 2. a landscaping buffer
 3. two on-site stalls dedicated to car share vehicles equipped with level two charging stations.
 - b. The following inclusions to the Transportation Demand Management program to the satisfaction of the Director of Planning and Development:

- i. provision of two on-site stalls dedicated to car share vehicles and equipped with level two charging stations installed by the applicant
 - ii. provision of two electric car share vehicles
 - iii. car share memberships and usage credits for all units
 - iv. provision of fifty percent of long-term bicycle parking spaces with access to an electrical outlet to enable E-bicycle charging
 - v. provision of a bicycle wash station with a functioning spigot and drain in a dedicated bicycle maintenance area.
 - c. Any revisions to the variances necessary as a result of plan changes outlined above.
- 3. That subject to third reading of the zoning amendment bylaw, the applicant prepare and execute the following legal agreements, with contents satisfactory to the Director of Planning and Development and form satisfactory to the City Solicitor prior to adoption of the bylaw:
 - a. A housing agreement securing rental in perpetuity and a unit mix consisting of a minimum of twenty-two two-bedroom units.
 - b. Transportation Demand Management agreement including:
 - i. provision of two on-site stalls dedicated to car share vehicles and equipped with level two charging stations
 - ii. a car share membership and usage credit for each residential unit
 - iii. purchase of two electric car share vehicles
 - iv. fifty percent of long-term bicycle parking spaces to have access to an electrical outlet to enable e-bicycle charging
 - v. provision of fifteen at grade on-site long-term oversized cargo bicycle sized stalls 2.4m long x 0.9m wide
 - vi. provision of a dedicated bicycle maintenance and wash station with a functioning spigot and drain
 - vii. a contribution of at least \$40,000 to the BC Transit EcoPASS program for use by residents and employees of the commercial units.
- 4. That subject to third reading of the zoning amendment bylaw, the applicant prepare and execute the following legal agreements, with contents satisfactory to the Director of Engineering and Public Works and form satisfactory to the City Solicitor prior to adoption of the bylaw:
 - a. A 2.50m wide volumetric statutory right of way along Richmond Road for highway purposes.
 - b. A 1.38 m wide volumetric statutory right of way along Birch Street Road for highway purposes.
 - c. A 1.98 m wide road dedication along Richmond Road for highway purposes to be deposited prior to building permit.

- d. A 1.78 m wide road dedication along Pembroke Street for highway purposes to be deposited prior to building permit.
- e. Provision of the following public realm improvements in accordance with plans dated May 2, 2024:
 - i. City of Victoria standard tree guards for all street trees in grates
 - ii. soil cells to achieve recommended soil volumes for all new street trees
 - iii. design and installation of a grade-raised protected bicycle lane on Richmond Road.
- 5. That adoption of the zoning bylaw amendment will not take place until all of the required legal agreements that are registrable in the Land Title Office have been so registered to the satisfaction of the City Solicitor.
- 6. That Council require a report with a detailed cost estimate showing that portion that is constructed by the developer and that portion that may require funding by the City for the construction of the Birch Street plaza, complete with funding options, prior to final adoption of the rezoning bylaw.
- 7. That the above Recommendations be adopted on the condition that they create no legal rights for the applicant or any other person, or obligation on the part of the City or its officials, and any expenditure of funds is at the risk of the person making the expenditure.

Development Permit with Variances Application

That Council, after giving notice, consider the following motion:

- 1. That subject to the adoption of the Zoning Regulation Bylaw amendment, Council authorize the issuance of Development Permit with Variances No. 00252 for 2002 Richmond Road, 1903/1909 Birch Street, and 1769 Pembroke Street, in accordance with revised plans submitted to the Planning and Development department subject to:
 - a. Proposed development meeting all City zoning bylaw requirements, except for the following variances:
 - i. reduce the front (Birch Street) setback from 3.0m for the first storey to 1.38m and from 6.0m above the first storey to 0.0m
 - ii. reduce the flanking street (Richmond Road) setback from 2.4m to 0.00m
 - iii. reduce the west side setback from 2.40m above the first storey to 0.59m
 - iv. reduce the east side setback from 2.40m above the first storey to 0.0m
 - v. reduce the internal north and west lot line setbacks from 2.40m above the first storey to 0.0m
 - vi. reduce the parking minimum from eighty-seven stalls to thirteen stalls
 - vii. increase maximum distance for bike parking from building entrance from 15m to 17.5m

2. That the Development Permit with Variances, if issued, lapses two years from the date of this resolution.

LEGISLATIVE AUTHORITY

This report discusses a Rezoning Application and a concurrent Development Permit with Variances (DPV) Application. The relevant rezoning consideration is the increase in density to a maximum of 2.89:1 Floor Space Ratio (FSR).

Relevant DPV considerations include the application's consistency with design guidelines and the impact of variances.

Enabling Legislation

In accordance with Section 479 of the *Local Government Act*, Council may regulate within a zone the use of land, buildings and other structures, the density of the use of the land, building and other structures, the siting, size and dimensions of buildings and other structures as well as the uses that are permitted on the land and the location of uses on the land and within buildings and other structures.

In accordance with Section 483 of the *Local Government Act*, Council may enter into a Housing Agreement which may include terms agreed to by the owner regarding the occupancy of the housing units and provided such agreement does not vary the use of the density of the land from that permitted under the zoning bylaw.

In accordance with Section 489 of the *Local Government Act*, Council may issue a Development Permit in accordance with the applicable guidelines specified in the *Official Community Plan*. A Development Permit may vary or supplement the Zoning Regulation Bylaw but may not vary the use or density of the land from that specified in the Bylaw.

Pursuant to Section 491 of the *Local Government Act*, where the purpose of the designation is the revitalization of an area in which a commercial use is permitted, a Development Permit may include requirements respecting the character of the development, including landscaping, and the siting, form, exterior design and finish of buildings and other structures.

EXECUTIVE SUMMARY

The purpose of this report is to present Council with information, analysis and recommendations for a Rezoning Application and Development Permit with Variances Application (DPV) for the property located at 2002 Richmond Road, 1903/1909 Birch Street and 1769 Pembroke Street. The proposal is to rezone from the C-1 Zone, Limited Commercial District (2002 Richmond Road), and the R1-B Zone, Single Family Dwelling District (1903/1909 Birch Street and 1769 Pembroke Street), to a site-specific zone to increase the density and allow a mixed-use building with commercial at the ground level and multi-unit residential rental above. The concurrent DPV Application pertains to the proposed form, character, exterior design, finishes and landscaping and variances related to setbacks and vehicle parking.

The following points were considered in assessing the Rezoning Application:

- The proposal is consistent with the use and built form in the applicable *Official Community Plan* (OCP) Urban Residential Urban Place Designation.
- The proposal exceeds density maximums envisioned in the Urban Residential designation (up to approximately 2:1); however, the project advances other strategic priorities to provide primarily market rental housing as well as advancing pedestrian prioritization policies. The subject properties are on the edge of a Large Urban Village urban place designation. As greater density is envisioned immediately adjacent to the site, this is a suitable transitional scale of development between two urban place designations.
- The proposal is generally consistent with the *Jubilee Neighbourhood Plan, 1996* (JNP) policies and approaches to new development. The proposal respects the character of the existing neighbourhood by maintaining the flat-iron building approach of the existing Turner Building that the proposal is replacing. The proposal does not satisfy the general direction of the JNP to reduce the allowable height of future apartment developments.
- The proposal contemplates the closure of Birch Street for the development of a public plaza. Construction of the plaza would be at the City's expense but is generally supported by policy. The exact cost to the City is not known at this time, but a recommendation to report back on cost and funding options has been included in the report.

The following points were considered in assessing the Development Permit with Variances application:

- The proposal is generally consistent with the *Multi-Unit Residential, Commercial and Industrial Guidelines* for Development Permit Area 5: Large Urban Village.
- The proposed setback variances are considered supportable given the constrained nature of the site and the objectives (secured rental housing) that are achieved by the proposal.
- The residential parking variance is considered supportable if all the required accessible parking and all the recommended Transportation Demand Management measures are provided. The TDM measures proposed by the applicant do not meet the recommended minimum to offset the significant parking variance that is requested.

Based on the assessment of these applications, it is recommended that they be advanced, subject to the conditions outlined in the recommendation. An alternate recommendation is provided at the end of this report should Council wish to advance the applications as presented by the applicant.

Description of Proposal

This proposal is to rezone and consolidate the properties at 2002 Richmond Road, 1903/1909 Birch Street and 1769 Pembroke Street to increase the density and construct a six-storey rental residential building with commercial uses at grade, a rooftop amenity space, and a surface parking lot. The applicant has also designed a plaza on Birch Street, with the City providing additional funding beyond the applicant's standard frontage cost. A density to 2.89:1 floor space ratio and would be accommodated in a new zone.

The associated DPV is for the form, character, and landscaping of the proposed redevelopment and includes the following variances:

- reduce the front (Birch Street) setback from 3.0m for the first storey to 1.38m and from 6.0m above the first storey to 0.0m

- reduce the flanking street (Richmond Road) setback from 2.4m to 0.00m
- reduce the west side setback from 2.40m above the first storey to 0.59m
- reduce the east side setback from 2.40m above the first storey to 0.0m
- reduce the internal north and west lot line setbacks from 2.40m above the first storey to 0.0m
- reduce the parking minimum from eighty-seven stalls to thirteen stalls
- increase maximum distance from entrance for bike parking from 15m to 17.5m.

BACKGROUND

Land Use Context and Existing Site Development Potential

The site area is shown in Figure 1. The area is characterized by a range of commercial and office uses, as well as public buildings (Royal Jubilee Hospital), and residential uses. The recently completed Amica Jubilee House assisted living facility is directly across Birch Street to the southwest.

The only existing structure on-site is the Turner Building, which is not in use (see Relevant History section below).

Under the current C-1 Zone, the property at 2002 Richmond Road could be developed for a range of commercial uses, as well as residential mixed-use buildings up to a maximum FSR of 1.4:1. Under the current R1-B Zone, the properties at 1903/1909 Birch Street and 1769 Pembroke Street could be developed with single family dwellings and associated accessory uses. The subject properties would also qualify as restricted lots under the provincial Small Scale Multi-Unit Housing regulations and could be developed with multi-family housing units.

Relevant History

While the building on the subject property is not heritage designated or registered, its distinctive flat-iron features made it a prominent building in the area. Dating from 1946, the combination of the Art Deco design and building shape of the rounded front on the Richmond Road façade created a distinctive form in a prominent location. Previous commercial services housed in the building functioned as a community hub. These past uses included a confectionary shop, a coffee shop, a barber shop and a shoe repair shop.

More recently the building has fallen into a state of disrepair. A 2015 application that would have retained the building with a heritage designation did not proceed. While the current state of the building requires demolition, some of the previous building uses and flat-iron character are proposed to be replaced in this application.



Figure 1. Site Area

Community Consultation

Consistent with the *Community Association Land Use Committee (CALUC) Procedures for Processing Rezoning and Variance Applications*, prior to submission of the application, it was posted on the Development Tracker along with an invitation to complete a comment form on August 28, 2023. Mailed notification was sent to owners and occupiers of property within 200m of the subject property advising that a consultation process was taking place and that information could be obtained and feedback provided through the Development Tracker. A sign was also posted on-site, to notify those passing by of this consultative phase. Additionally, the applicant participated in an in-person meeting with the CALUC on September 13, 2023. A letter dated October 9, 2023 along with the comment forms are attached to this report (see Attachments G and H).

Of the nine responses received from the comment forms, six were in support, one in opposition, and two in support with modifications. Reasons for support were based on the provision of additional housing and the redevelopment of the derelict building. The suggested revisions were the inclusion of three-bedroom apartments and more parking. The reason given for opposition was associated with the amount of density proposed for the site.

Section 464(3) of the *Local Government Act* prohibits a local government from holding a public hearing for a rezoning application that is consistent with the OCP and is intended to permit residential development. However, notice must still be sent to all owners and occupiers of adjacent properties prior to introductory readings of the zoning regulation bylaws.

The associated application proposes variances, therefore, in accordance with the City's *Land Use Procedures Bylaw*, it requires notice, sign posting and a meeting of Council to consider the variances.

ANALYSIS

Rezoning Application

Official Community Plan

The subject site is designated Urban Residential in the *Official Community Plan*, which envisions low and mid-rise buildings up to approximately six-storeys and an FSR of up to 1.2:1 (see Data Table in Attachment C). Increased densities up to approximately 2:1 FSR are considered in locations that support the growth management concept in the plan, such as in proximity to Urban Villages, Town Centres and Transit Priority Corridors, where public benefit is provided consistent with the objectives of the OCP and other City policies, including local area plans.

The properties are adjacent to the Jubilee Large Urban Village, which envisions four to six-storeys and an FSR of 1.5:1, and increased density when there is a public benefit of up to approximately 2.5:1 FSR. Fort Street and Richmond Road are Transit Priority Corridors in the OCP. Additionally, the proposed purpose-built rental units support the advancement of OCP housing objectives. Although the proposed density of 2.89:1 FSR (approximately 2.72:1 pre-road dedication) and seven stories (including rooftop amenity area) exceed the urban place designation height and density, given the advancement of other city housing objectives, including public realm improvements, the increased density is considered supportable at this location.

Jubilee Neighbourhood Plan

Policies in the *Jubilee Neighbourhood Plan* (JNP, 1996) encourage new developments to:

- respect the character of the existing neighbourhood and street variety through the scale and form of housing
- respect the balance between adequate parking and green space
- have sufficient parking to meet the project needs
- consider non-profit and rental housing
- fit with the form and character of established housing through the massing, scale, and architectural detailing of the new building

- be designed to build a sense of community, with community space, and outdoor space
- not create orphan lots.

The site is constrained due to the geometry of the lots. Land assembly with the remaining parcels to the west of the site (1761 Pembroke Street and 1911 Birch Street) would result in a much more efficient site plan and land use. However, the applicant has indicated that is not currently possible. The proposed parking area on the north side of the site fronting Pembroke Street allows for a more sensitive transition to the neighbouring single-family dwellings and retains the opportunity to develop this corner of the block in the future with a comprehensive plan if the adjacent properties are acquired.

The application is considered generally consistent with the neighborhood plan, as it fits the existing scale, form and character of the area. The development replaces the flat-iron built form that has defined the site for decades with a similar design approach. The secured rental housing is consistent with the intent of the JNP, as is the inclusion of commercial uses on the ground floor.

The proposal does not satisfy all aspects of the JNP, in particular the goal of reducing the overall scale of development. The proposal also does not provide an appropriate balance between green space and paved areas on-site; much of the open space is provided through a proposed plaza which is on the City right of way and would be constructed by the applicant at the City's expense.

In the absence of a more robust TDM package that aligns with the report recommendation, this proposal does not meet on-site parking demand and is therefore inconsistent with this aspect of the neighborhood plan.

Inclusionary Housing and Community Amenity Contribution Policy

As a purpose-built market rental project with secured rental tenure, the Inclusionary Housing and Community Amenity Contribution Policy does not require additional contribution.

Housing

The application, if approved, would add approximately 55 new residential market rental units, which would increase the overall supply of housing in the area and contribute to the targets set out in the *Victoria Housing Strategy*.

Housing Mix

For purpose built rental projects, the Family Housing Policy that came into effect on September 1, 2024, requires that a minimum of 25% of the total project dwelling units contain two or more bedrooms, with a minimum of 5% of total units containing three or more bedrooms. The application, which was submitted prior to the policy coming into effect, proposes ten studio, 25 one-bedroom and 20 two-bedroom units but does not include any three-bedroom units (one three-bedroom unit would be required under the Policy). As a rational, the applicant has indicated that due to the constrained floorplate and the placement of the shear walls, modifying the unit size from one floor to the next would be challenging. Further, the proposal exceeds the requirement for two-bedroom units, at 36% of the total units.

The applicant has indicated that they are willing to secure the number of two-bedroom units in a legal agreement.

Security of Tenure

A Housing Agreement is proposed which would secure all proposed residential units as rental in perpetuity.

Existing Tenants

There are no existing tenants; therefore, a Tenant Assistance Plan is not required.

Public Realm

The applicant is proposing the creation of a Birch Street Plaza, in partnership with the City of Victoria, which would require the closure of a portion of Birch Street at the intersection with Richmond Road east of the driveway access to 1900 Richmond Road (Amica Jubilee House). Access through the plaza would be restricted to emergency vehicles, bicycles, and pedestrians. The plaza would provide space for four of the six street trees (so they can be large canopy trees at maturity), as well as support active ground floor commercial uses with patios and an abundance of space for pedestrian circulation and seating areas.

The creation of the plaza in the specified location is supported by city policy. Common Place Characteristics in the OCP for commercial and mixed-use areas include public squares and open spaces. The Large Urban Village land use designation in the OCP envisions these areas will have public squares and greens. The design considerations for this land use designation also encourages the use of design and traffic calming techniques to reduce vehicle travel speed, provide safe access and passage for other road users, balance business and residential parking needs, and permit the temporary closure of streets for community activities or special events.

The OCP Neighbourhood Directions for Jubilee also supports the creation of the plaza, as it encourages improved integration of open spaces into Urban Villages and improved streetscape and pedestrian conditions throughout the neighbourhood.

The direction to develop a plaza is consistent with the [January 18, 2024](#), Council motion directing staff to explore opportunities to “...identify, accelerate, and pilot shared street or partial or complete road closures to create or enable new boulevards, community spaces, placemaking initiatives, and green spaces”. To support vehicle circulation in conjunction with restricting vehicle access on Birch Street at Richmond Road, two-way traffic is proposed to be reinstated on Ashgrove Street (currently restricted as one way north between Fort Street and Begbie Street) which has capacity (~200 vehicles per day) and suitable width to support this change.

This report brings forward two options for frontage design:

- Option A – No Plaza (not recommended): Applicant installs typical frontage requirements and two-way traffic on Birch Street continues to be permitted. A plaza at this location would be considered at a future date and implemented by the City subject to a future funding approval of unknown cost. Option A would see the installation of standard frontage

improvements. Option A is not recommended as it does not leverage an opportunity to achieve an improved public realm in support of OCP goals and objectives.

- Option B – Full Plaza (recommended): Birch Street frontage works are built in partnership with the City. Plaza improvements would extend beyond centreline and tie into the existing curb on the south side of Birch Street. Plaza improvements would be designed and constructed by the applicant to the satisfaction of the Director of Engineering, with funding provided by the City. Construction of the plaza would require the closure of that portion of Birch Street, as identified in plans dated May 2, 2024, to all traffic except emergency vehicle, bicycle, and pedestrian access.

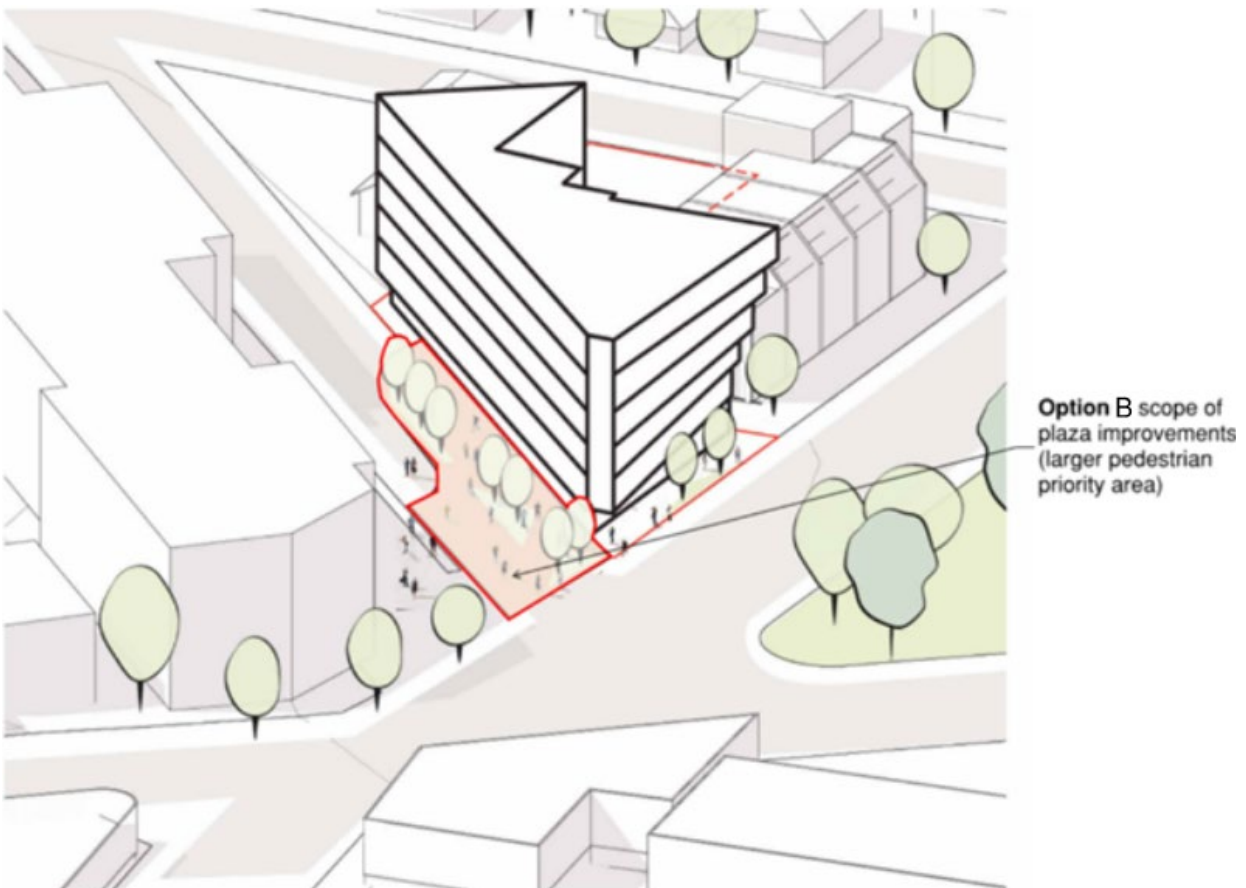


Figure 3: Option B – Plaza

Development Permit with Variance Application

Official Community Plan: Design Guidelines

The *Official Community Plan* (OCP) identifies this property within [DPA 5: Large Urban Villages – Jubilee Village](#) which envisions a mix of commercial and community services, and the revitalization of areas into complete large urban villages. The creation of complete villages is to be achieved through human scale design, streets, squares, and other spaces that increase vibrancy and strengthen commercial viability. The DPA also specifies that design should encourage cycling and pedestrian modes of transportation and ensure sensitive transitions between the Royal Jubilee Hospital and surrounding areas.

The proposal is subject to the *Design Guidelines for: Multi-Unit Residential, Commercial, and Industrial* (2012, revised 2019), as well as the *Guidelines for Fences, Gates and Shutters* (2010).

Context and Transition

The *Multi-Unit Residential, Commercial, and Industrial Guidelines* include specific guidelines to ensure that new development is compatible with the character of established areas. The proposed building is consistent with the envisioned OCP and built form in the Urban Place Designation, though it does exceed the envisioned density. The character of the building is sympathetic to the existing flat-iron built form of the Turner Building, and in doing so, respects the existing character of the neighbourhood. The proposal is also similar to the height of the recently completed Amica Jubilee House at six storeys. The north lot line setback leaves little space for transition to the commercial medical use building. However, given the office use in the adjacent building, and the window placement on the proposed building, there is little concern about privacy and overlook issues. The lot shape and setback of the adjacent single family residential building west on Birch Street provides an adequate transition area.

Relationship to the Street

The *Multi-Unit Residential, Commercial, and Industrial Guidelines* stress the importance of new development that contributes to the cohesion, identity, and quality of the adjacent streetscapes and create a strong relationship to the street. This can be accomplished in several ways, both through architectural expression (variations in building height, rooflines, and massing) and the uses that provide direct street access (commercial) at the ground level. The proposal generally satisfies these requirements by providing a strong street presence through the delivery of the ground floor commercial retail unit. The reestablishment of a ground floor commercial retail use is especially significant given the current derelict nature of the building and lack of any uses on-site.

If the Birch Street plaza is funded by the City, the streetscape will be significantly enhanced by providing areas for residents to gather and enjoy outdoor space.

The existing Turner Building sits at essentially a zero-metre lot line setback from Richmond Road. The proposed building will increase the setback of the ground floor and have the upper floors fan out to the new lot line, over top of a proposed statutory right of way (SRW). The 2.5m SRW and 1.98m dedication that is being secured along Richmond Road will allow for long-term improvements in both the pedestrian and multi-modal transportation realms.

Scale and Massing

The design guidelines encourage distinctive massing, building articulation, and architectural treatments for corner sites. Given the site's history as a representative flat-iron building in the city, it is appropriate that the proposed replacement continues this approach. The constrained nature of the site geometry also dictates the floorplate shape.

Upper floors of mid-rise building are encouraged to be stepped back, which is not achieved in the proposed application. Again, given the shape of the lot, as well as the impact on building placement due to SRWs and road dedication, incorporating a step back on the upper storeys is likely not feasible; however, the fanning out of the upper storeys does achieve a distinctive massing and

provides an articulated façade that helps to break up the building massing, consistent with the guidelines.

Open Space and Landscaping

Site landscaping is intended to be usable and well integrated into the design of the building, with features that help to distinguish between public and private space. Given the shape of the building site and the associated constraints, nearly all of the on-site open space is taken up by surface parking. There is limited opportunity to achieve additional landscaped open space without a further reduction in parking stalls. To help mitigate the lack of at-grade open space, the applicant is proposing a rooftop amenity space as the outdoor area for residents of the building. However, approximately only twenty-one of the proposed units (38%) have a functional (i.e. not a Juliette) balcony. The majority of the units will not have private outdoor space.

The closure of Birch Street, though off-site and City property, would greatly improve the open space area available to residents of the building as well as patrons of the commercial retail units. The build out of the plaza, as designed by the applicant, would allow the greatest utilization of the closure area by not only residents of the building but all pedestrians as a space to gather and socialize. The plaza area would also allow for greater tree planting area and achieve greater canopy cover and landscaping.

Parking

The guidelines recommend that parking is provided underground where possible. The guidelines also stress that pedestrian and vehicle conflicts should be minimized in site design, with minimal disruption to pedestrian circulation. Surface parking is discouraged in new developments. Where unavoidable, surface parking should be screened in some manner.

As a result of the lot shape, no underground parking is proposed – all 13 stalls will be provided at surface level with minimal screening. While this arrangement does not fully satisfy the design guidelines, there remains the possibility that future development of the block could result in the reuse of the surface parking space and the relocation of the proposed parking underground.

As noted below, tree minimums are not being met on-site. The likeliest place to make up the additional requirements are in the parking area; however, to meet minimum soil volume and setback requirements, some additional removal of parking stalls may be required.

Variances

Setbacks

The proposal requires variances to all lot line setbacks except for the rear lot line setback (Pembroke Street) which exceeds the requirement. The proposed setbacks require significant variance, down to 0.0m for at least some portion of the building on all elevations other than the rear.

The setbacks are proposed as a result of the constrained nature and the unique site geometry that is driving the building design. Not only is the applicant proposing significant reductions in lot line setbacks but is proposing that upper portions of the building extend into statutory rights of way on

Birch Street and Richmond Road. The applicant has indicated that without the projections into the SRWs the restricted floor plate would reduce the number and mix of units, making the project unviable (see Attachment E).

The impacts of the reduced setbacks are generally expected to be minimal due to the surrounding context. However, due to the irregular lot shape of the proposed building, it is situated approximately 0.35m away, at its closest point, from the medical service building at 2020 Richmond Road. This pinch point is mitigated through reduced building openings.

The closest setback to a residential property is at the western extent of the proposed development (what is currently addressed as 1903/1909 Birch Street) and the adjacent property at 1911 Birch Street. The requested west side setback is a significant reduction. This reduction does not exist for the entire length of the west lot line due to the shape of the proposed building. Much of the massing on the west lot line would conform to the required setback.

Parking

The applicant is seeking a residential vehicle parking reduction from 87 to 13 stalls. The reduction in vehicle parking stalls is considered supportable when offset by a comprehensive Transportation Demand Management (TDM) program. The TDM program that the applicant is proposing includes (see also Attachment F for the applicant's Traffic Impact Assessment):

- one dedicated on-site car share stall and car share vehicle
- two level two EV charging stations (one on-site and one on Birch Street)
- car share memberships and usage credit for each residential unit
- \$40,000 contribution to BC Transit's EcoPass program.
- enhanced bicycle parking (oversupply of stalls, improved access to bicycle parking, bicycle repair station)
- end of trip facilities (shower, changeroom, and lockers) for employees of commercial retail unit.

Although the TDM program offered includes several supportable components, the program lacks the effectiveness that is required to offset the significant parking variance that has been requested. The recommended TDM proposes the following additional measures which are consistent with other similar projects:

- two car share vehicles
- two on-site stalls reserved for the car share vehicles with level two charging stations
- fifty percent electrified bicycle stalls
- bike wash station with water spigot.

Car share vehicles and transit passes (e.g. BC Transit's EcoPass program) are some of the most effective TDM programs. As such, the applicant has been asked to strengthen the proposed TDM program by providing two car share vehicle stalls and the full purchase price of each vehicle. The measures recommended are equitable and consistent across other types of development applications including secured rental.

A revision to the TDM measures is recommended prior to advancing the application to introductory bylaw readings. The direction to secure the recommended TDM measures is also included in the main motion. The applicant has stated the rationale for the alternative measures in letters to Mayor and Council (see Attachments). If Council does not wish to require the recommended TDM, an alternate option to require only the applicant's proposed TDM is also provided.

The applicant is proposing to undersupply the required accessible parking by only providing one accessible stall and one van accessible stall instead of three accessible stalls, one van accessible stall and one visitor van accessible stall. The variance to the accessible parking requirement is not supportable; ensuring there is adequate accessible parking ensures that the residential and commercial uses are available to all users with different mobility needs. A revision to the accessible parking layout is recommended prior to advancing the application to introductory bylaw readings.

It is also recommended that any of the remaining parking stalls that are not designated as accessible or reserved for car sharing be reserved for visitor and commercial parking only. Given the low amount of parking proposed to be available on-site, residents should be aware that there is no likelihood of acquiring an on-site stall.

Advisory Design Panel

The application was reviewed by the Advisory Design Panel (ADP) on February 28, 2024. At that meeting, the following motion was passed:

That the Advisory Design Panel recommend to Council that Development Permit with Variances Application No. 00252 be approved as presented.

While no revisions were recommended by the ADP, the applicant has addressed concerns raised in the ADP report including revising the residential entry to be more distinctive.

Tree Preservation Bylaw and Urban Forest Master Plan

The proposal does not currently meet the minimum tree requirement of seven trees on-site. It is recommended that the proposal be revised to include the required trees. Given site constraints, these trees may need to be located in the parking area, which could further reduce the overall parking count.

The goals of the *Urban Forest Master Plan* include protecting, enhancing, and expanding Victoria's urban forest and optimizing community benefits from the urban forest in all neighbourhoods.

Eight trees have been inventoried. Of these, there are two bylaw protected trees on the subject lot that will require removal as they are immediately adjacent to an area where excavation will occur. Five trees on neighbouring lots will be retained throughout the development following mitigation measures outlined in the arborist report.

The landscape plan shows three replacement trees on level one and five replacement trees on the rooftop. Cash-in-lieu will be required for two replacement trees which have not been accommodated in the proposed site layout. The option to provide cash-in-lieu of two trees would be

more supportable if the shortfall resulted from meeting the accessible parking stall requirement, as recommended.

If the development of the plaza is not supported by Council, three new municipal trees in irrigated soil cells are proposed along the Richmond Road frontage and six new municipal trees are proposed along the Birch Street frontage in a narrow, irrigated boulevard with soil cells to enhance soil volumes.

Resource Impacts

Birch Street Plaza

As noted in the Public Realm section above, the applicant has designed a plaza on Birch Street in partnership with the City of Victoria. If approved by Council, the City will be required to contribute the cost of construction; this cost would equate to the amount beyond a typical frontage improvement that would normally be paid by the applicant.

The applicant has provided an initial Class D cost estimate (plus or minus 20% accuracy) dated April 26, 2024, indicating the cost of the plaza at \$325,639 above the cost of standard frontage replacement (which would be the applicant's cost). The estimate has not been independently verified; therefore, a recommendation is included to obtain a more accurate cost estimate prior to Council authorizing the funding for the plaza. This information will be included in an update report, as well as options for funding.

If Council approves the proposed plaza plan with City contributions, the funding would be allocated via the financial plan process in the year that construction is to occur.

If Council decides not to provide funding, either by not endorsing the proposed plan at time of this report, or by not approving the funding request at a future date, the applicant would be required to complete standard frontage works.

Parks Resource Impacts

Summarized in the table below are the annual maintenance costs that would be incurred with this application:

Increased Inventory	Annual Maintenance
Nine net new municipal trees in grates	\$540
Irrigation	\$600
Turf boulevard maintenance	\$300

CONCLUSIONS

The proposal is generally consistent with the applicable policy and design guidelines. The increase in density above that envisioned in the OCP is considered supportable given the furtherance of other City goals including secured rental housing and improved public realm and mobility corridor.

If the recommended revisions are incorporated into the proposal, all variances are recommended for support as appropriate for the scale of the project and constraints of the site.

ALTERNATE MOTIONS

Alternate – As proposed by the applicant (this alternate motion eliminates #2 of the staff recommendation, which is intended to address minimum tree requirements, minimum accessible parking requirements and more comprehensive TDM measures to mitigate the undersupply of parking).

1. That Council instruct the Director Planning and Development to prepare the necessary Zoning Regulation Bylaw amendment that would authorize the proposed development outlined in the staff report dated October 3, 2024 for 2002 Richmond Road, 1903/1909 Birch Street, and 1769 Pembroke Street
2. That after publication of notification in accordance with section 467 of the Local Government Act, first, second, and third reading of the zoning bylaw amendment be considered by Council.
3. That following the third reading of the zoning amendment bylaw, the applicant prepare and execute the following legal agreements, with contents satisfactory to the Director of Planning and Development and form satisfactory to the City Solicitor prior to adoption of the bylaw:
 - a. The property shall be rental in perpetuity and a unit mix consisting of a minimum of twenty-two two-bedroom units.
 - b. Transportation Demand Management agreement including:
 - i. provision of one on-site stall dedicated to a car share vehicle and equipped with a level two charging station to the satisfaction of the Director of Planning and the car share service provider
 - ii. one electric car share vehicle
 - iii. car share memberships for all residential units
 - iv. provision of a bicycle maintenance station
 - v. fifteen at grade on-site long-term oversized cargo bicycle sized stalls 2.4m long x 0.9m wide
 - vi. a contribution of at least \$40,000 to a BC Transit bus pass program for use by residents and employees of the commercial units.
4. That subject to third reading of the zoning amendment bylaw, the applicant prepare and execute the following legal agreements, with contents satisfactory to the Director of Engineering and Public Works and form satisfactory to the City Solicitor prior to adoption of the bylaw:
 - a. A 2.50m wide volumetric statutory right of way along Richmond Road for highway purposes.
 - b. A 1.38 m wide volumetric statutory right of way along Birch Street Road for highway purposes.

- c. A 1.98 m wide road dedication along Richmond Road for highway purposes to be deposited prior to building permit.
- d. A 1.78 m wide road dedication along Pembroke Street for highway purposes to be deposited prior to building permit.
- e. Provision of the following public realm improvements in accordance with plans dated May 2, 2024:
 - i. City of Victoria standard tree guards for all street trees in grates
 - ii. soil cells to achieve recommended soil volumes for all new street trees
 - iii. design and installation of a grade-raised protected bicycle lane on Richmond Road.
- 5. That adoption of the zoning bylaw amendment will not take place until all of the required legal agreements that are registrable in the Land Title Office have been so registered to the satisfaction of the City Solicitor.
- 6. That Council require a report with a detailed cost estimate showing that portion that is constructed by the developer and that portion that may require funding by the City for the construction of the Birch Street plaza, complete with funding options, prior to final adoption of the rezoning bylaw.
- 7. That the above Recommendations be adopted on the condition that they create no legal rights for the applicant or any other person, or obligation on the part of the City or its officials, and any expenditure of funds is at the risk of the person making the expenditure.

Development Permit with Variances Application

That Council, after giving notice, consider the following motion:

- 1. That subject to the adoption of the Zoning Regulation Bylaw amendment, Council authorize the issuance of Development Permit with Variances No. 00252 for 2002 Richmond Road, 1903/1909 Birch Street, and 1769 Pembroke Street, in accordance with revised plans submitted to the Planning and Development department subject to:
 - a. Proposed development meeting all City zoning bylaw requirements, except for the following variances:
 - i. reduce the front (Birch Street) setback from 3.0m for the first storey to 1.38m and from 6.0m above the first storey to 0.0m
 - ii. reduce the flanking street (Richmond Road) setback from 2.4m to 0.00m
 - iii. reduce the west side setback from 2.40m above the first storey to 0.59m
 - iv. reduce the east side setback from 2.40m above the first storey to 0.0m
 - v. reduce the internal north and west lot line setbacks from 2.40m above the first storey to 0.0m
 - vi. reduce the parking minimum from eighty-seven stalls to thirteen stalls

- vii. increase maximum distance for bike parking from building entrance from 15m to 17.5m
2. That the Development Permit with Variances, if issued, lapses two years from the date of this resolution.

Respectfully submitted,

Geordie Gordon
Senior Planner
Development Services Division

Karen Hoesel
Director
Planning and Development Department

Report accepted and recommended by the City Manager

List of Attachments

- Attachment A: Plans date stamped May 2, 2024
- Attachment B: Standard Frontage Plans date stamped June 21, 2024
- Attachment C: Zoning Data Table
- Attachment D: Letter from applicant to Mayor and Council dated October 18, 2023
- Attachment E: Letter from applicant to Mayor and Council dated July 10, 2024
- Attachment F: Traffic Impact Assessment dated April 5, 2024
- Attachment G: Community Association Land Use Committee Comments dated October 18, 2023
- Attachment H: Pre-Application Consultation Comments from Online Feedback Form
- Attachment I: Correspondence (Letters received from residents)
- Attachment J: Advisory Panel Minutes
- Attachment K: Arborist Report dated February 14, 2024



PROJECT LOCATION (NTS)

PROJECT CONTACTS		
OWNER Empresa Properties 204 - 655 Tyee Road Victoria, BC Contact Karl Robertson krobertson@empresaproperties.com	ARCHITECT Cascadia Architects 101-804 Broughton Street Victoria, BC 250.590.3223 Greg Damant, Architect AIBC, LEED® AP, MRAIC greg@cascadiaarchitects.ca	STRUCTURAL ENGINEER RJC Engineers 330-1515 Douglas Street, Victoria, BC 250.386.7794 Leon Plett, P.Eng., Struct. Eng., MIStructE, LEED® AP lplett@rjc.ca
ELECTRICAL ENGINEER E2 Engineering 530 Herald St Victoria, BC Contact: Ricky Duggal, P.Eng ricky.duggal@e2eng.ca	LANDSCAPE ARCHITECT Biophilia design collective 1608 Camosun St Contact: Bianca Bodley bianca@biophiliacollective.ca	CIVIL J.E. Anderson & Associates 4212 Glanford Avenue Victoria, BC 250.727.2214 Contact: Ross Tuck, P.Eng rtuck@jeanderson.com



PROJECT LOCATION (NTS)

SHEET LIST

Architectural

A000	Cover
A010	Renderings / 3D Drawings
A011	Renderings / 3D Drawings
A012	Street Elevation & Section
A013	Site Strategy
A014	Massing Diagram
A050	Code Data
A051	Spatial Separation
A100	Survey
A101	Site Plan & Project Data
A120	Basement Level
A121	Level 1
A122	Level 2
A123	Level 3
A124	Level 4
A125	Level 5
A126	Level 6
A127	Roof Level
A200	Elevations
A201	Elevations
A300	Building Sections
A900	Shadow Study

Landscape

L0.00	Cover Page
L0.01	Tree Management Plan
L0.02	Tree Management Plan
L1.01	Material Plan - Level 1
L1.02	Material Plan - Rooftop
L2.00	Planting Schedule - Level 1
L2.01	Tree Planting Plan - Level 1
L2.02	Planting Plan - Level 1
L2.03	Tree Planting Plan - Rooftop
L2.04	Planting Plan - Rooftop
L3.01	Soil Depth Plan - Level 1
L3.02	Soil Depth Plan - Rooftop
L4.01	Lighting Plan - Level 1
L4.02	Lighting Plan - Rooftop
L5.01	Sections
L6.01	Details

Civil

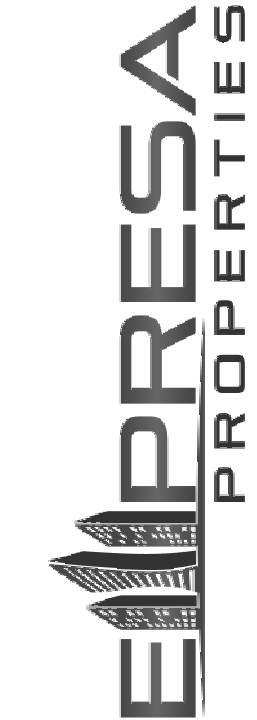
C01 Preliminary Servicing Plan

Revisions

Bubbled areas indicate revisions compared to the previously submitted plans

Received Date

May 02, 2024



EMPRESA PROPERTIES
2002 Richmond Rd, Victoria, BC
TURNER SITE
October 12, 2023

Project #	Date	Revision
2305	October 12, 2023	2024-05-01
Sheet #	A000	



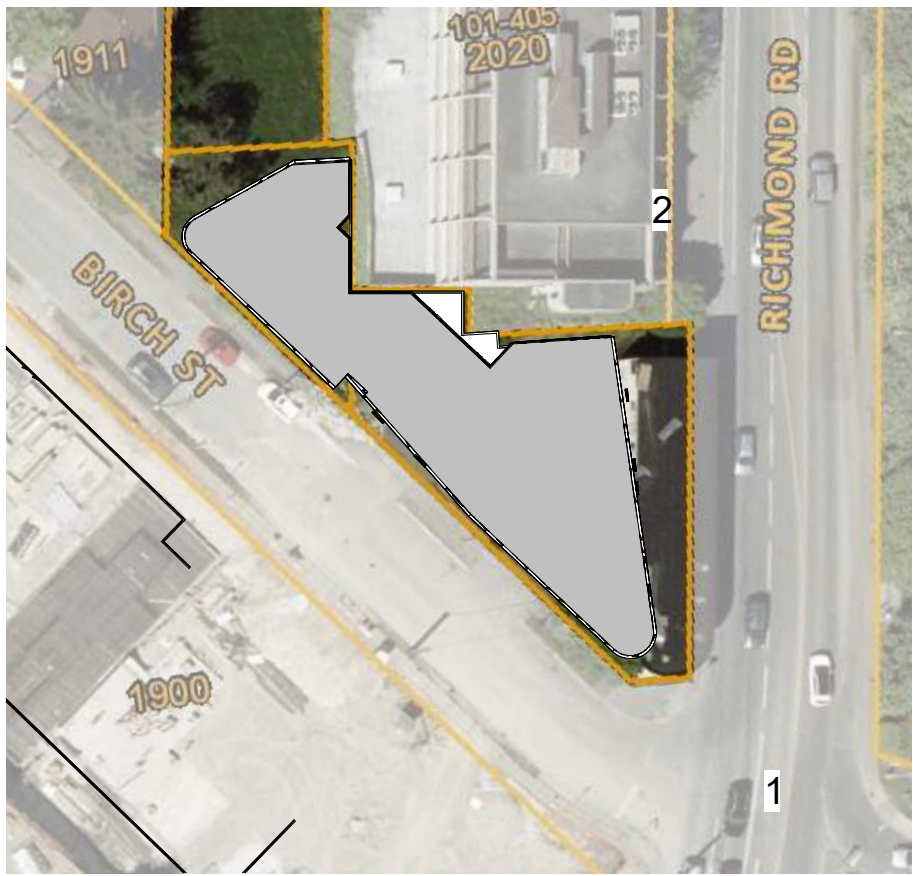
CASCADIA ARCHITECTS INC
101-804 Broughton Street
Victoria BC V8W 1E4 Canada
250.590.3223
cascadiaarchitects.ca



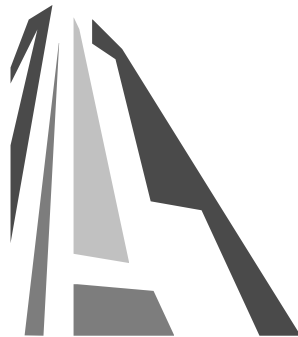
1 Street Level View from South on Richmond
SCALE = 1 : 1



2 Street Level View from North on Richmond
SCALE = 1 : 1



4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



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Project North

TURNER SITE

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2002 Richmond Rd, Victoria,
BC

Sheet Name
Renderings / 3D Drawings

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As indicated

Project #
2305

REGISTERED ARCHITECT
GREGORY L.F. DAWSON
2024-05-01
BRITISH COLUMBIA

Revision
2024.05.01

4

Sheet #
A010

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27

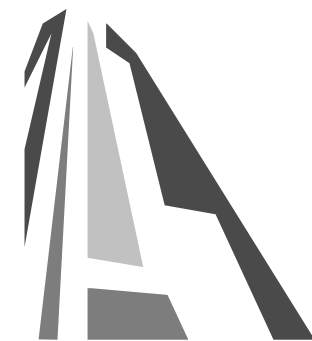


1 Birch-North Corner View
SCALE = 1 : 1



2 Birch Street Residential Entry
SCALE = 1 : 1

4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



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TURNER SITE

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Renderings / 3D Drawings

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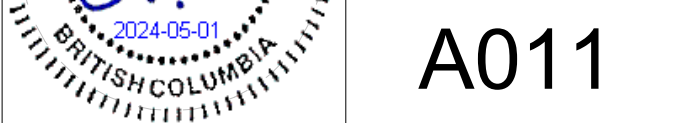
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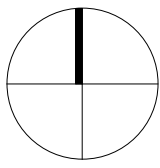
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Sheet #
A011





1 Birch Street Elevation - Context
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2 Richmond Context Building Elevations
SCALE = 1 : 200

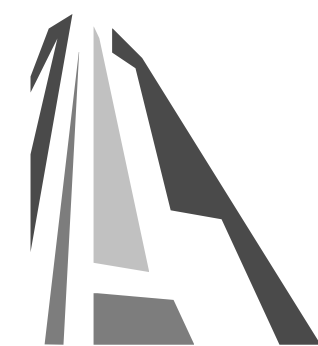
4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



3 Context Section through birch street
SCALE = 1 : 200



4 Context Section through richmond road
SCALE = 1 : 200



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TURNER SITE

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2002 Richmond Rd, Victoria,
BC

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Street Elevation & Section

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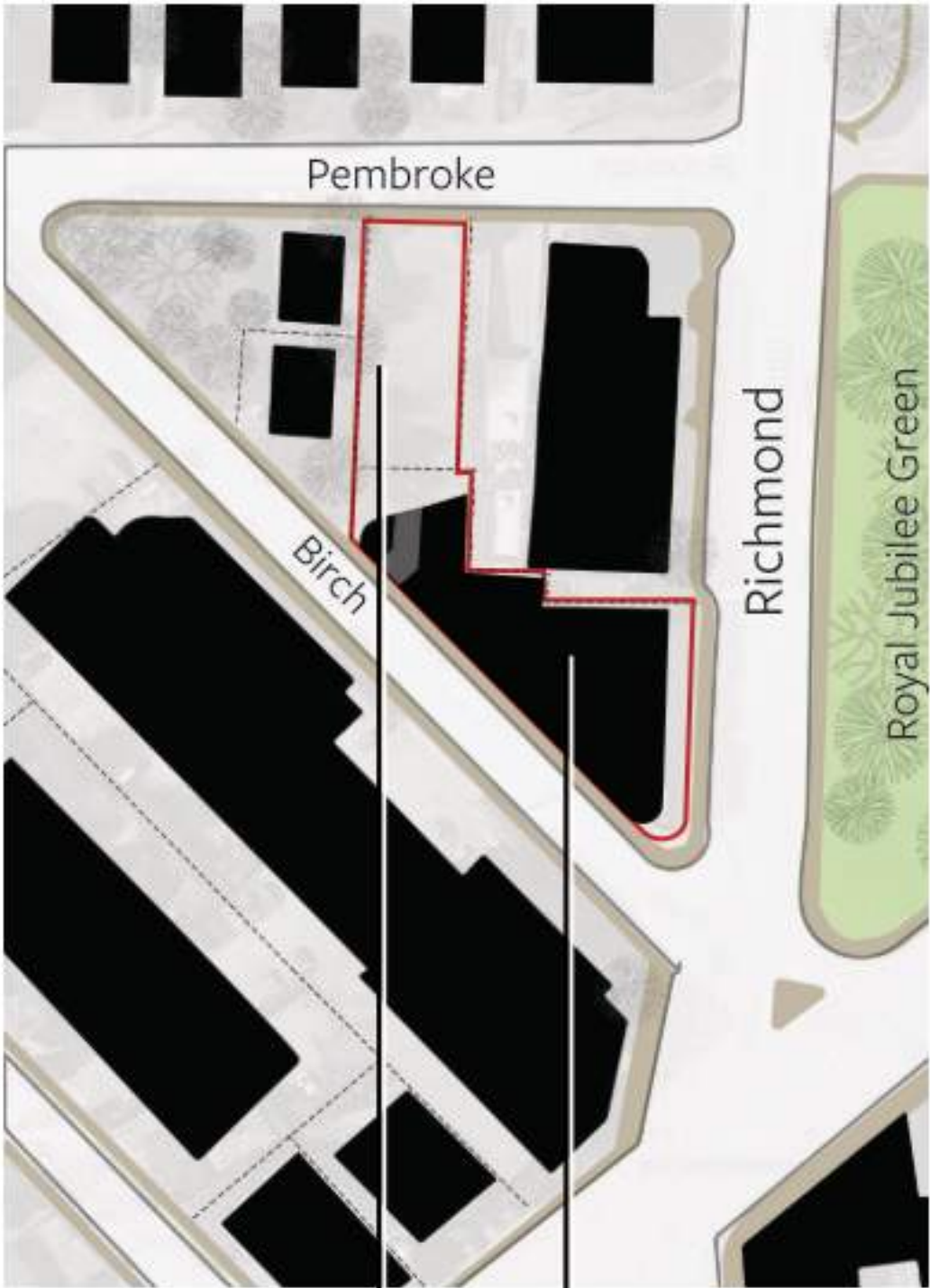
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Sheet #

A012



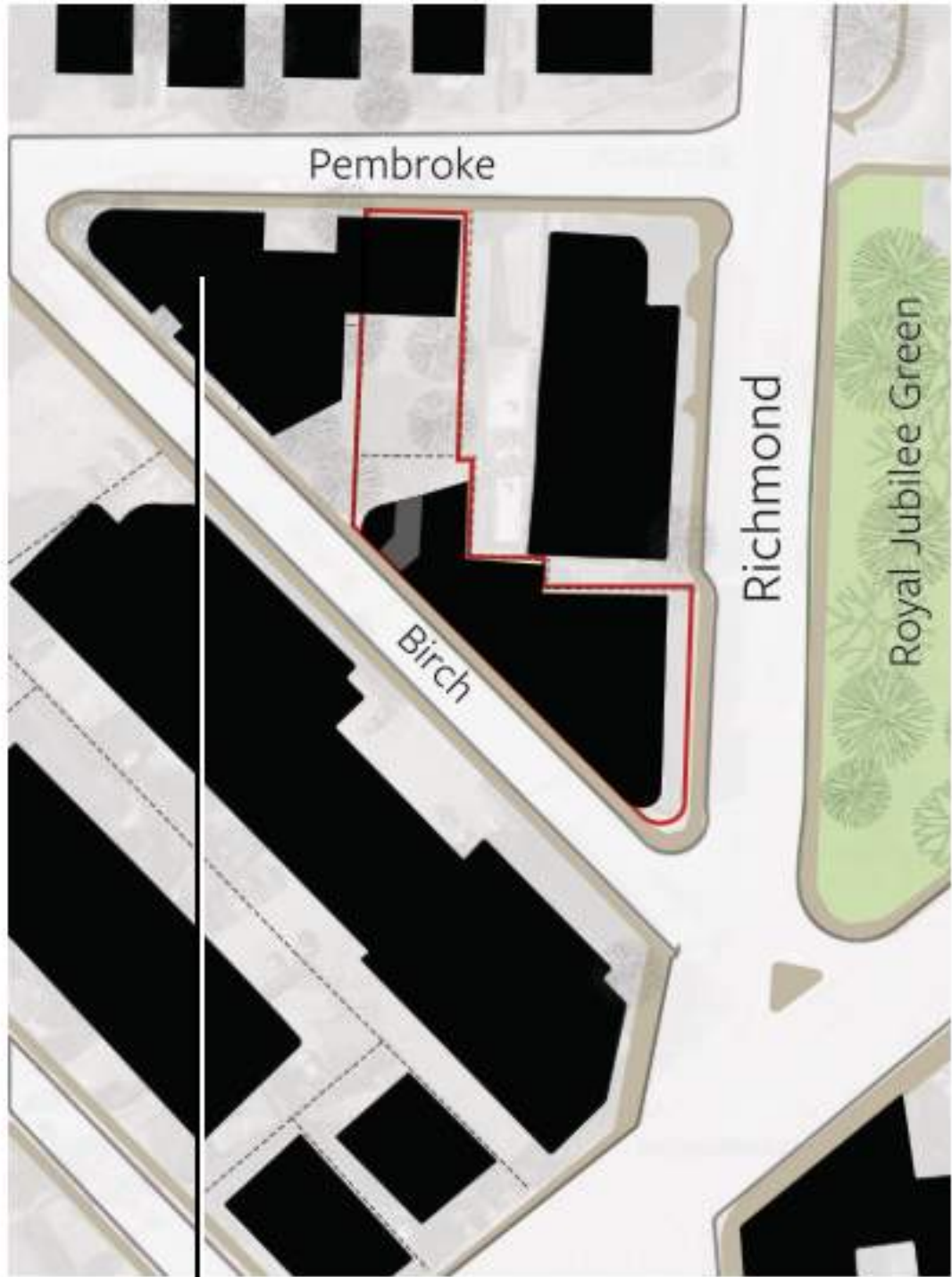
1 Layout of the Buildings



Transitional Condition - Preserve un-buildable north lot for future development, proposed to be used as a land bank in the interim.

Urban Condition - Concentrate the 6 storey building on the village side.

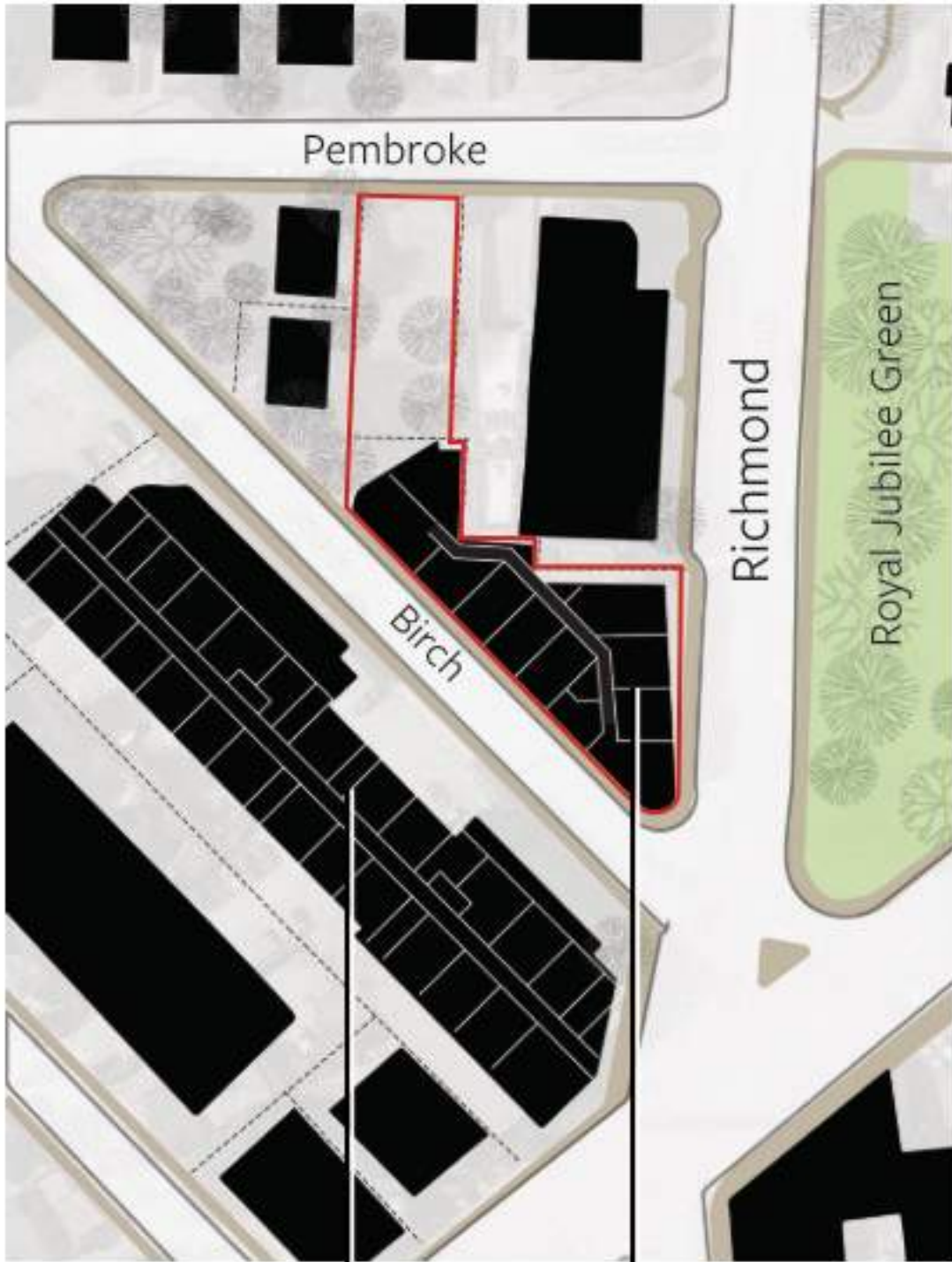
2 Future of the Neighbourhood



Transitional Condition - Future buildings could transition from the urban condition to the single family houses to the north across pembroke.

NOTE: West properties are under seperate ownership and the future of those sites is unknown.

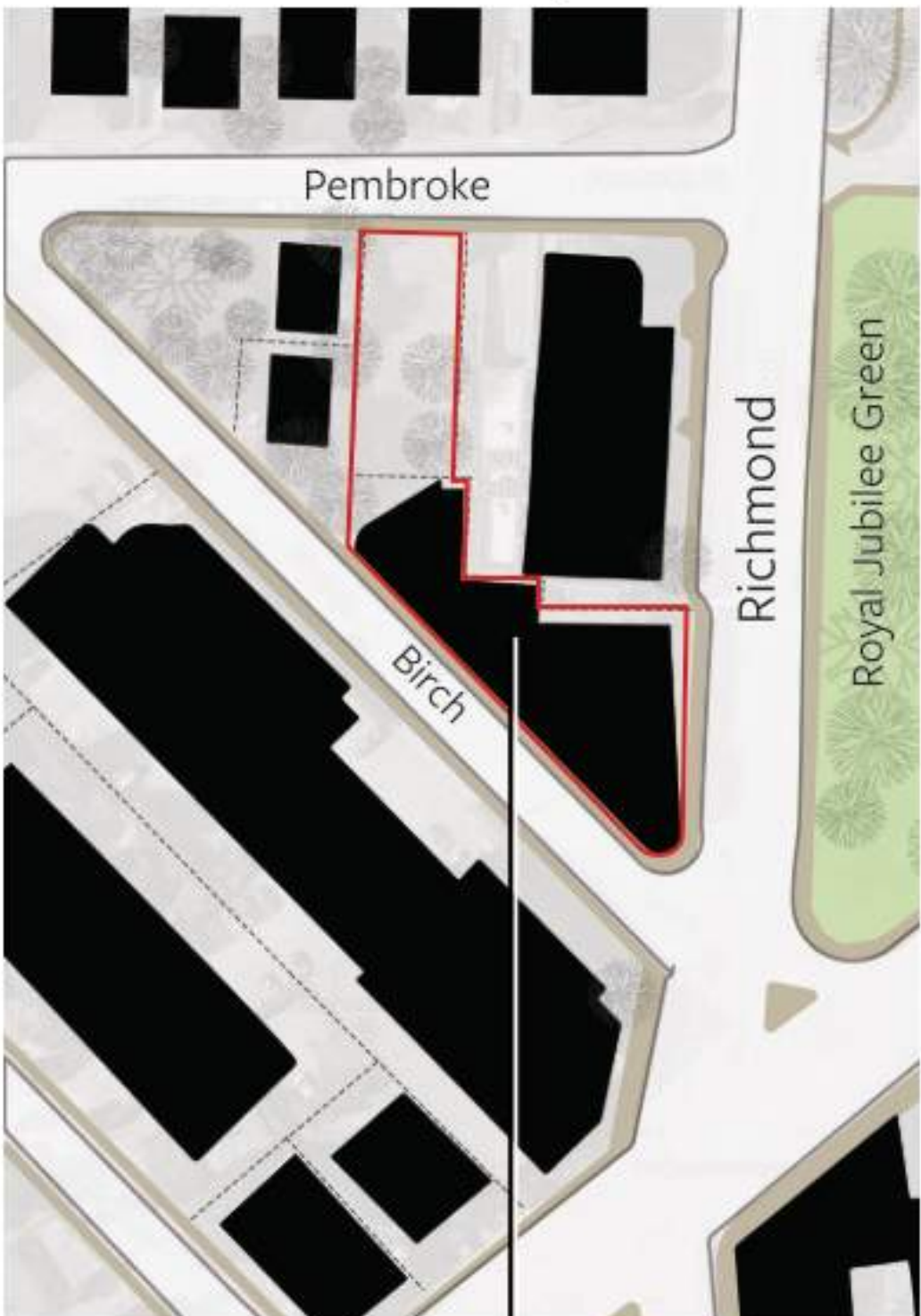
3 Viable floor plates



Conventional residential building layout on a typical city lot.
- Setbacks are possible

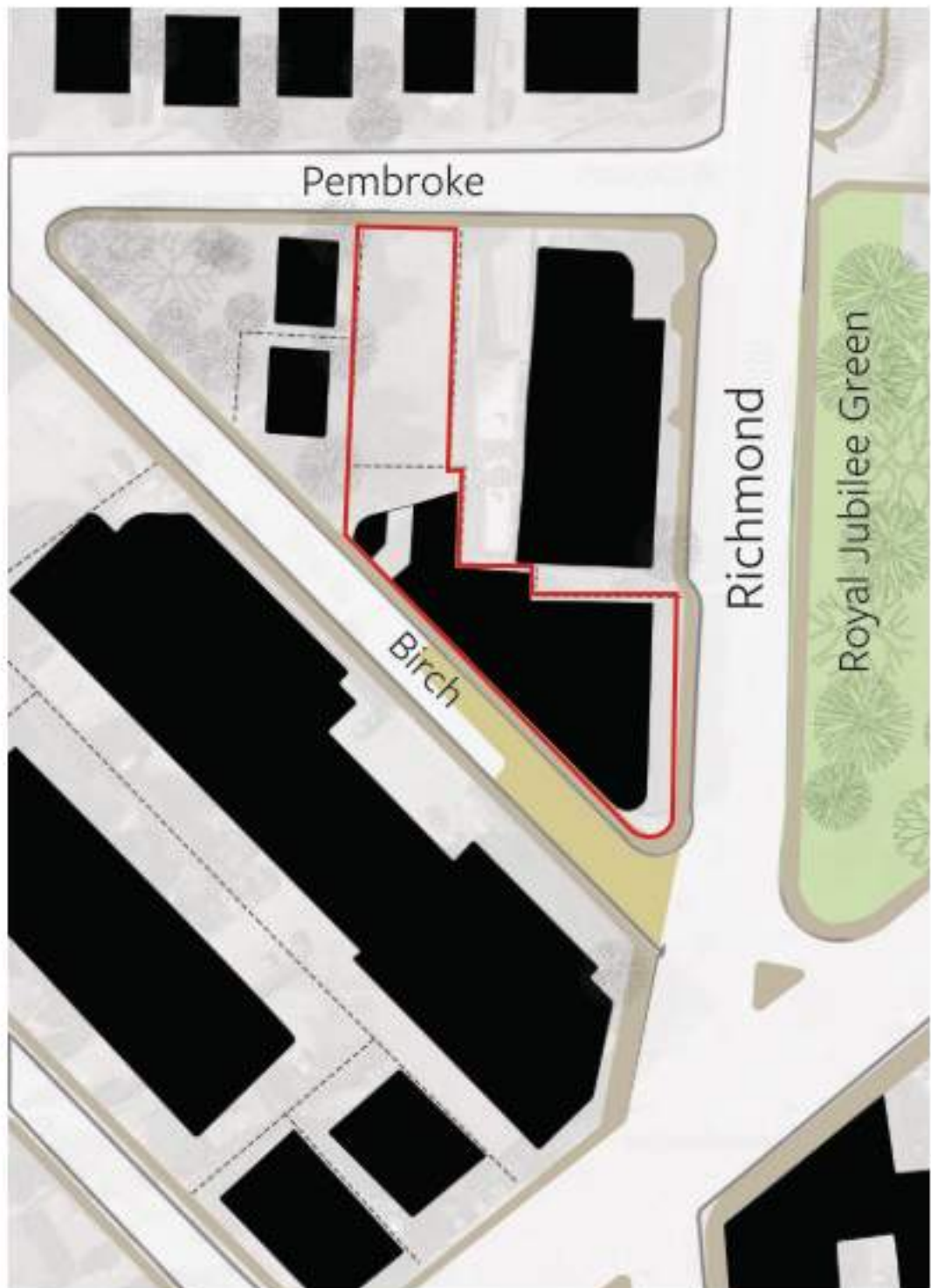
Constrained layout on compressed triangular site pushes the building to the property lines.

4 Density



Density is a product of site geometry and OCP height vision of 6 storeys for an urban residential site.

5 Project Priorities



Forming part of Jubilee village, the introduction of a pedestrian plaza at the southern end of Birch street will provide a destination public space for the neighbourhood. The Turner family has been associated with this site for over 100 years, and the plaza is proposed to carry their name.

4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE


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TURNER SITE

EMPRESA PROPERTIES
2002 Richmond Rd, Victoria, BC

Sheet Name
Site Strategy


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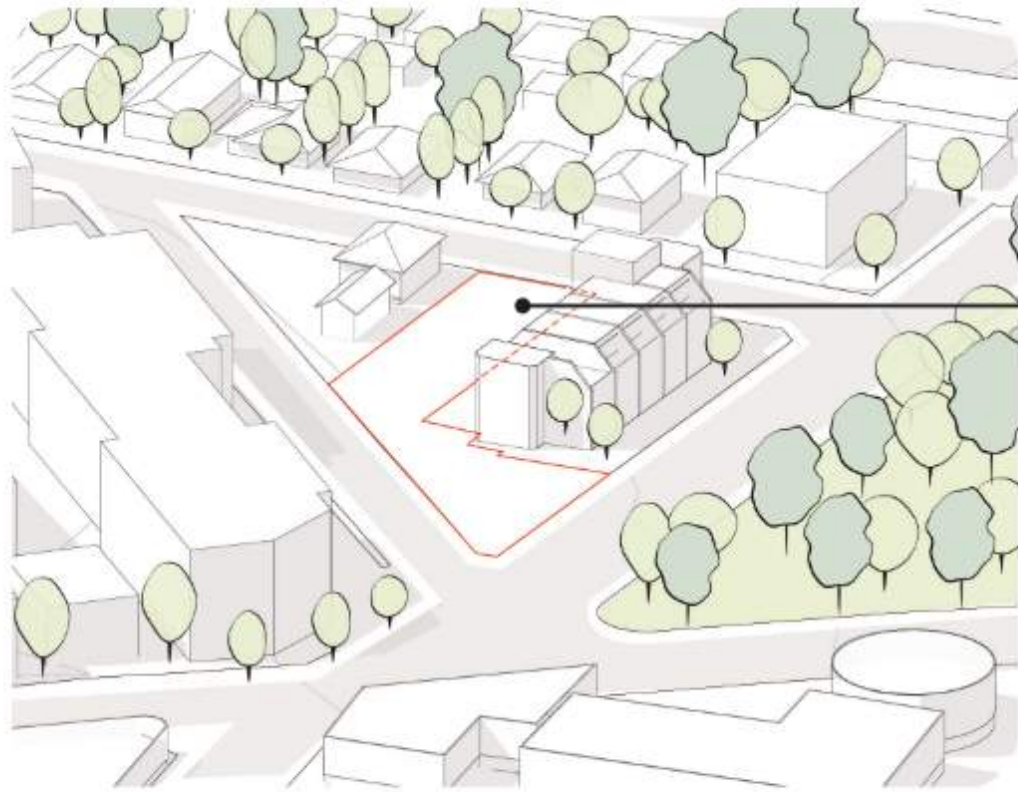
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Project #
2305

Revision
2024.05.01
4

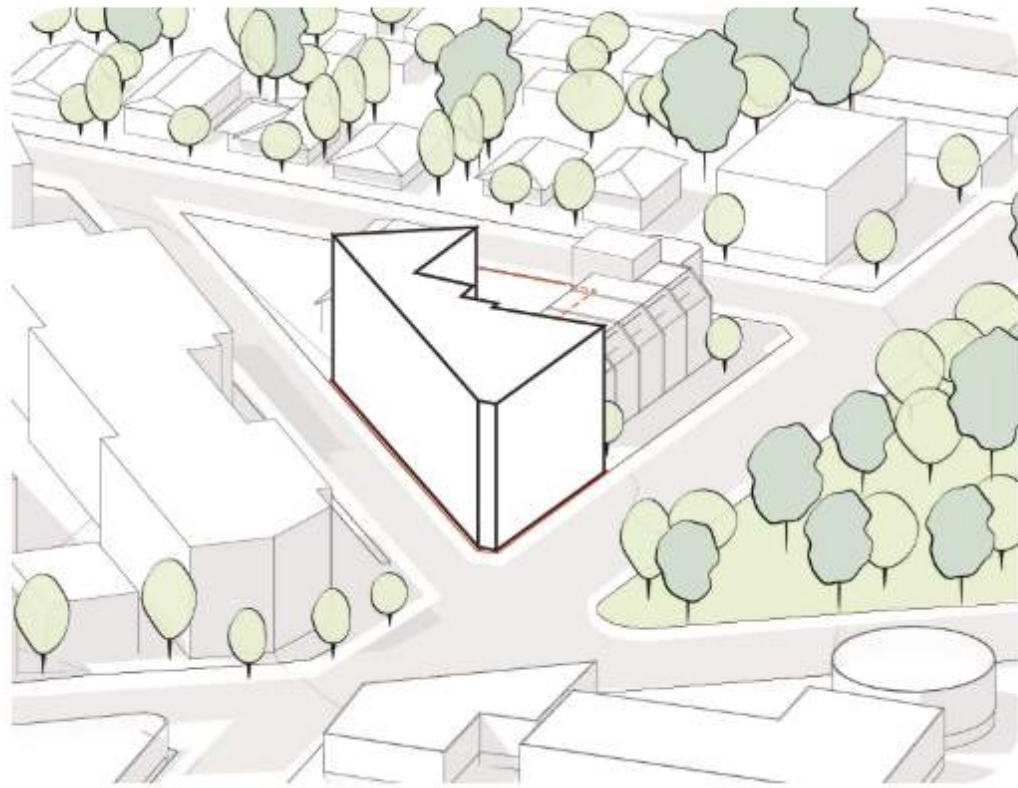
Sheet #
A013





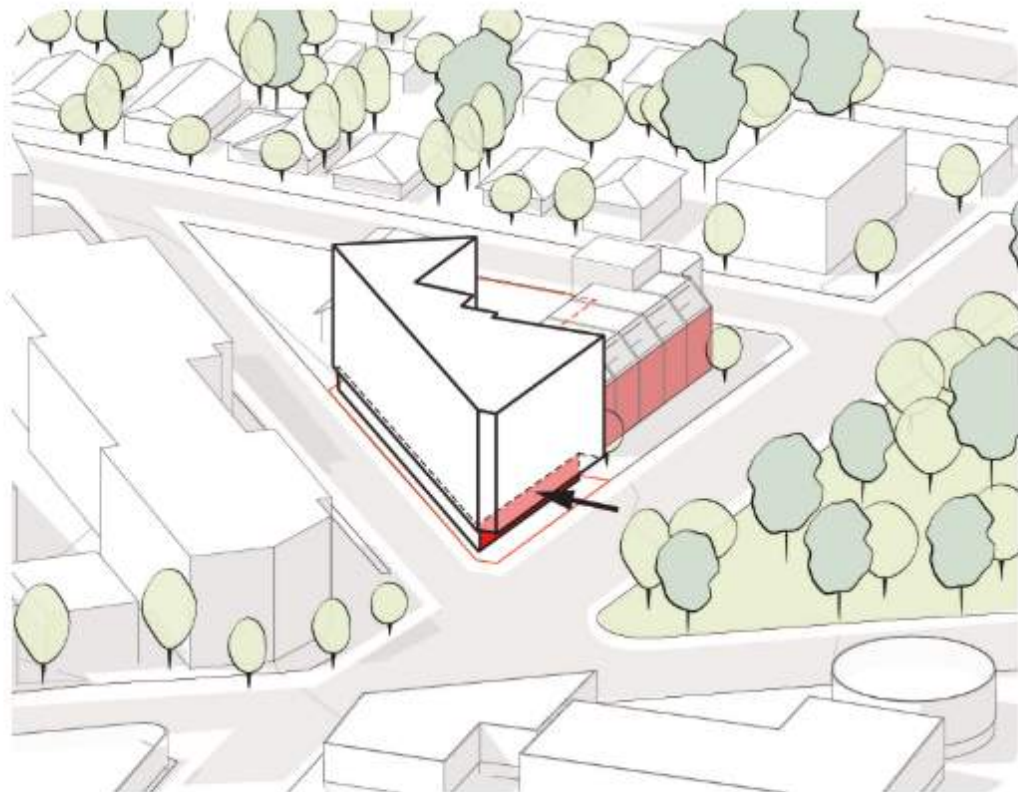
Massing Logic Step 1
Site Constraints

- Transitional Condition - Preserve un-buildable north lot for future development, proposed to be used as a land bank in the interim.
- FSR : OCP - 2:1
Proposed - 2.95:1



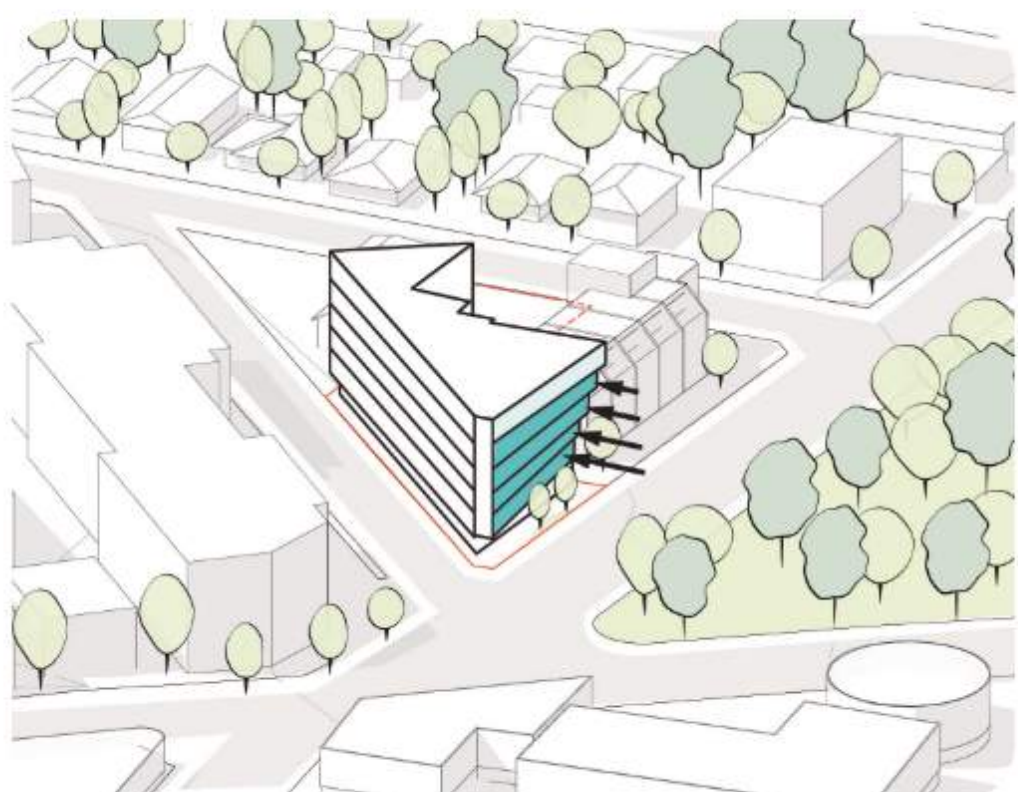
Massing Logic Step 2
Massing

- Urban Condition - Concentrate the 6 storey building on the village side.
- Constrained layout on compressed triangular site pushes the building to the property lines.



Massing Logic Step 3
Relief

- Align ground-floor setbacks with neighbouring buildings



Massing Logic Step 4
Extension

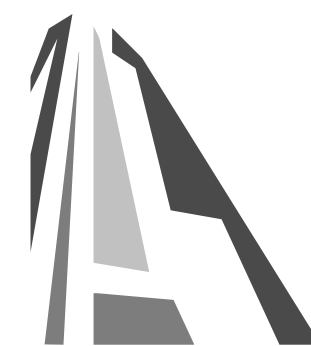
- The architectural design features floor plates that fan from adjacent street wall to street edge.



Massing Logic Step 5
Public space

- Introduce Public plaza

4	DP Rezoning Resubmission 2	2024.05.01
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2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



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TURNER SITE

EMPRESA PROPERTIES
2002 Richmond Rd, Victoria,
BC

Sheet Name
Massing Diagram

Date
2024-05-01 2:56:04 PM

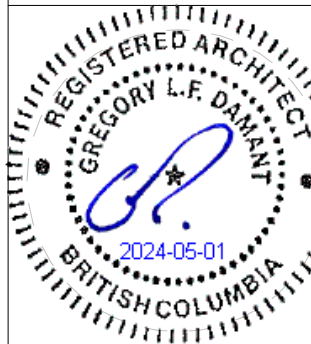
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Project #
2305

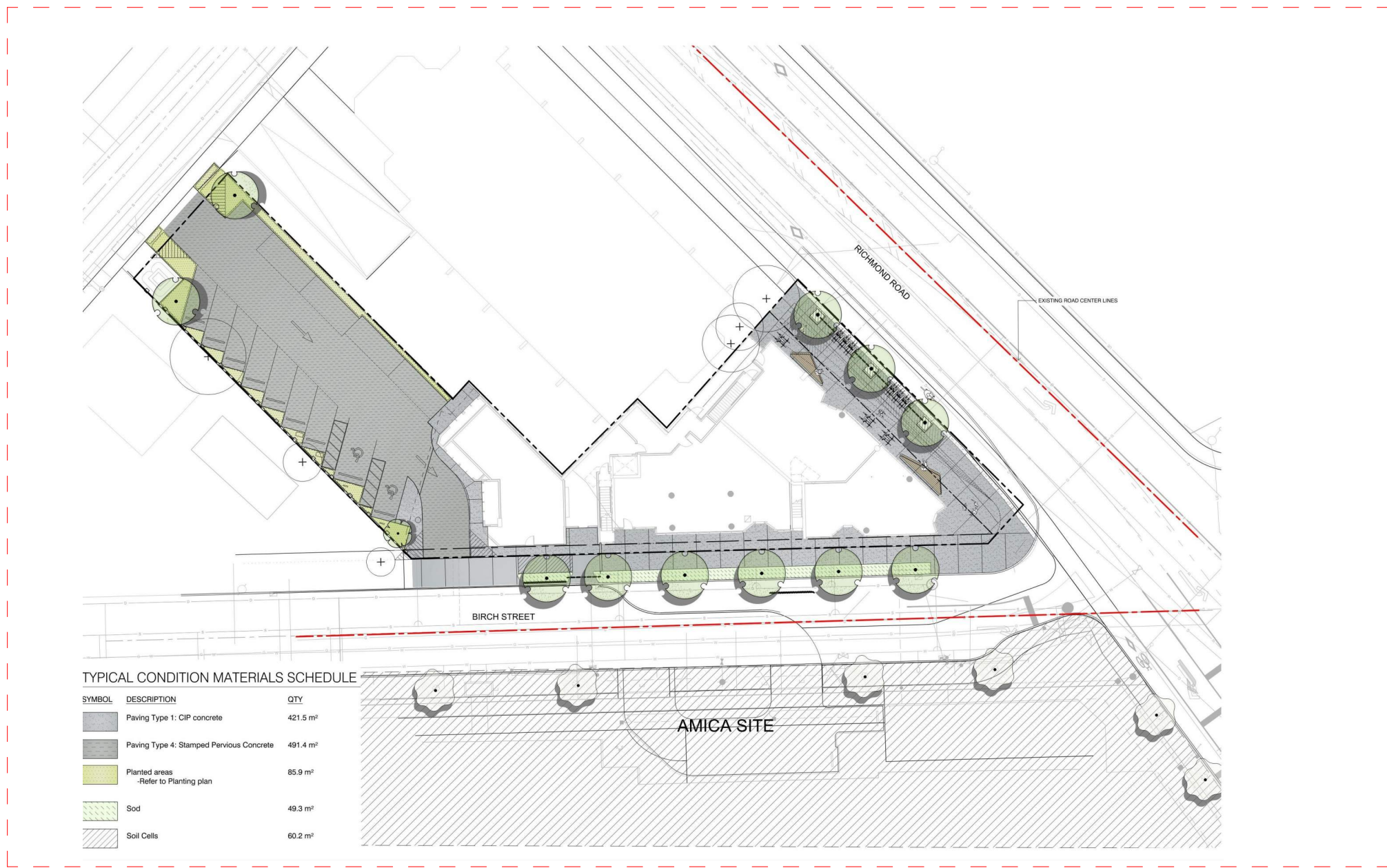
Revision
2024.05.01

Sheet #
4

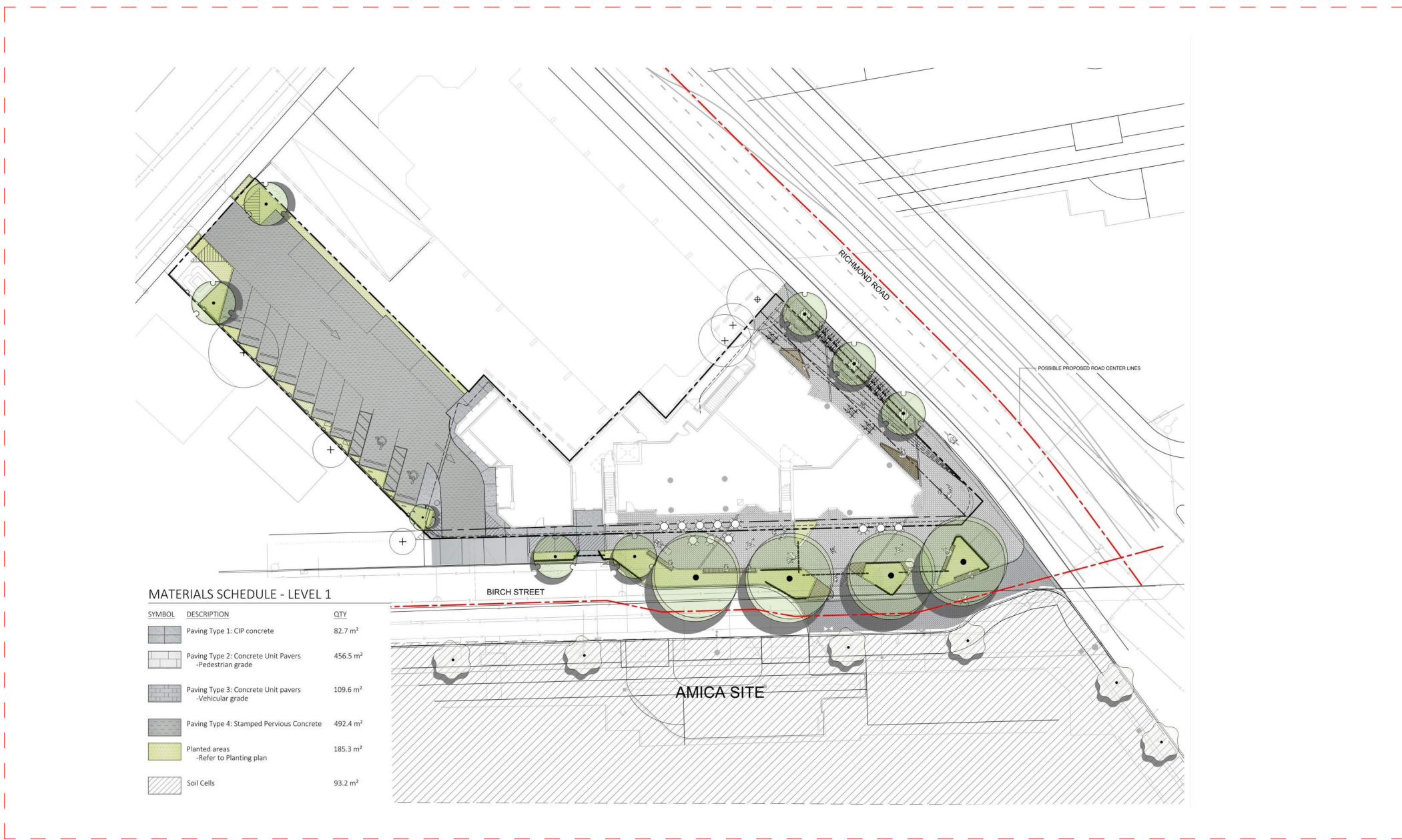
Sheet #
A014



Birch street pedestrian plaza is proposed as a joint effort between Empresa Properties and the City of Victoria. A conventional frontage improvement is shown on the left, and the public plaza is shown on the right. Refer to the cost sharing proposal in the Letter to the Mayor from Empresa properties, accompanying this application

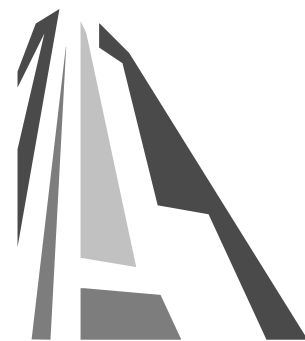


Conventional frontage improvements to centreline of R.O.W, per City of Victoria standards.



Birch street closure and conversion to public plaza. This design represents on-going collaboration between the applicant and the City of Victoria. Design is subject to change through the ongoing collaborative process.

NO.	DESCRIPTION	DATE
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TURNER SITE

30.00'

Project North

EMPRESA PROPERTIES
2002 Richmond Rd, Victoria,
BC

Sheet Name
Plaza Proposal

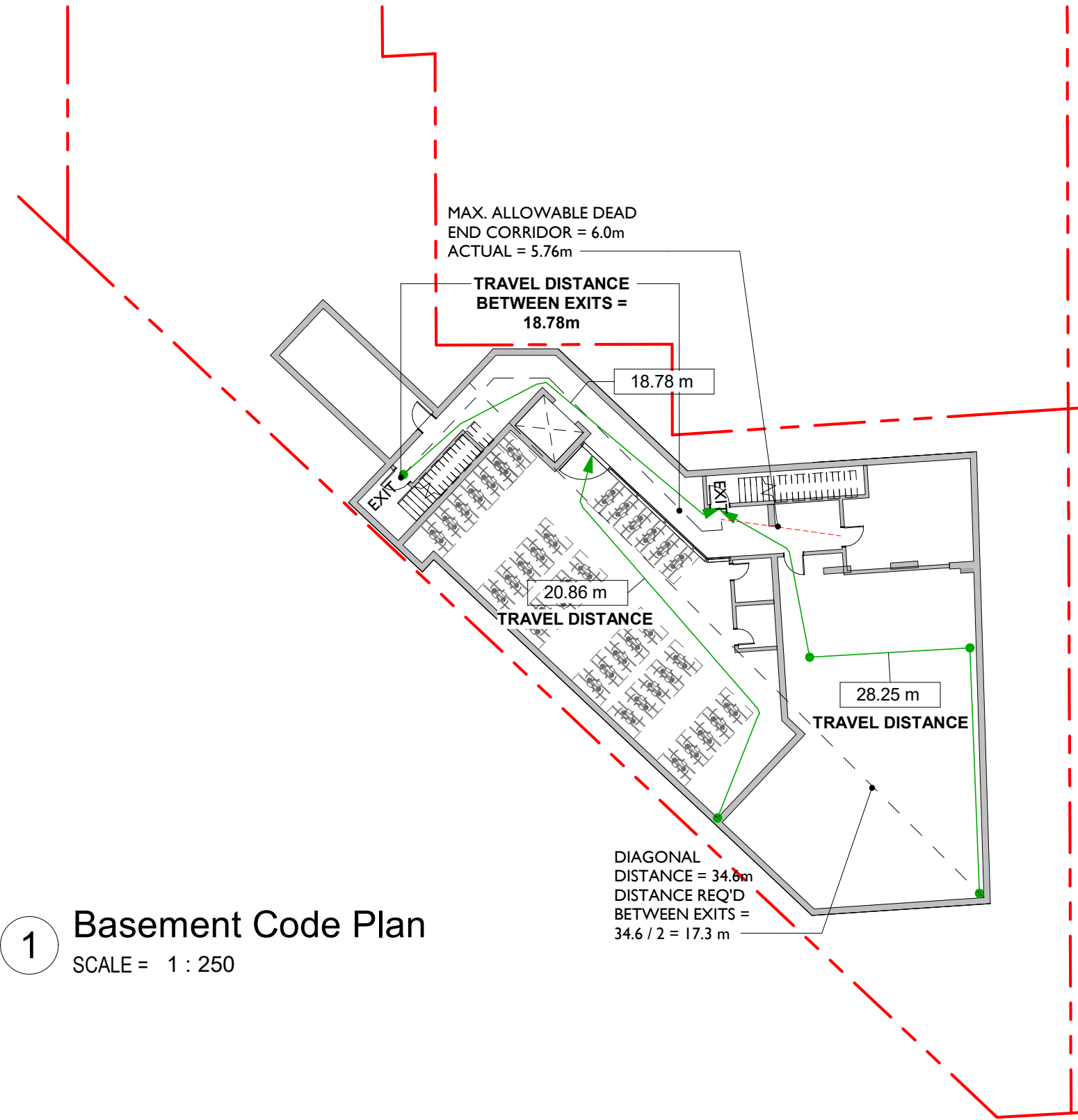
Date
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Scale
Project #
2305

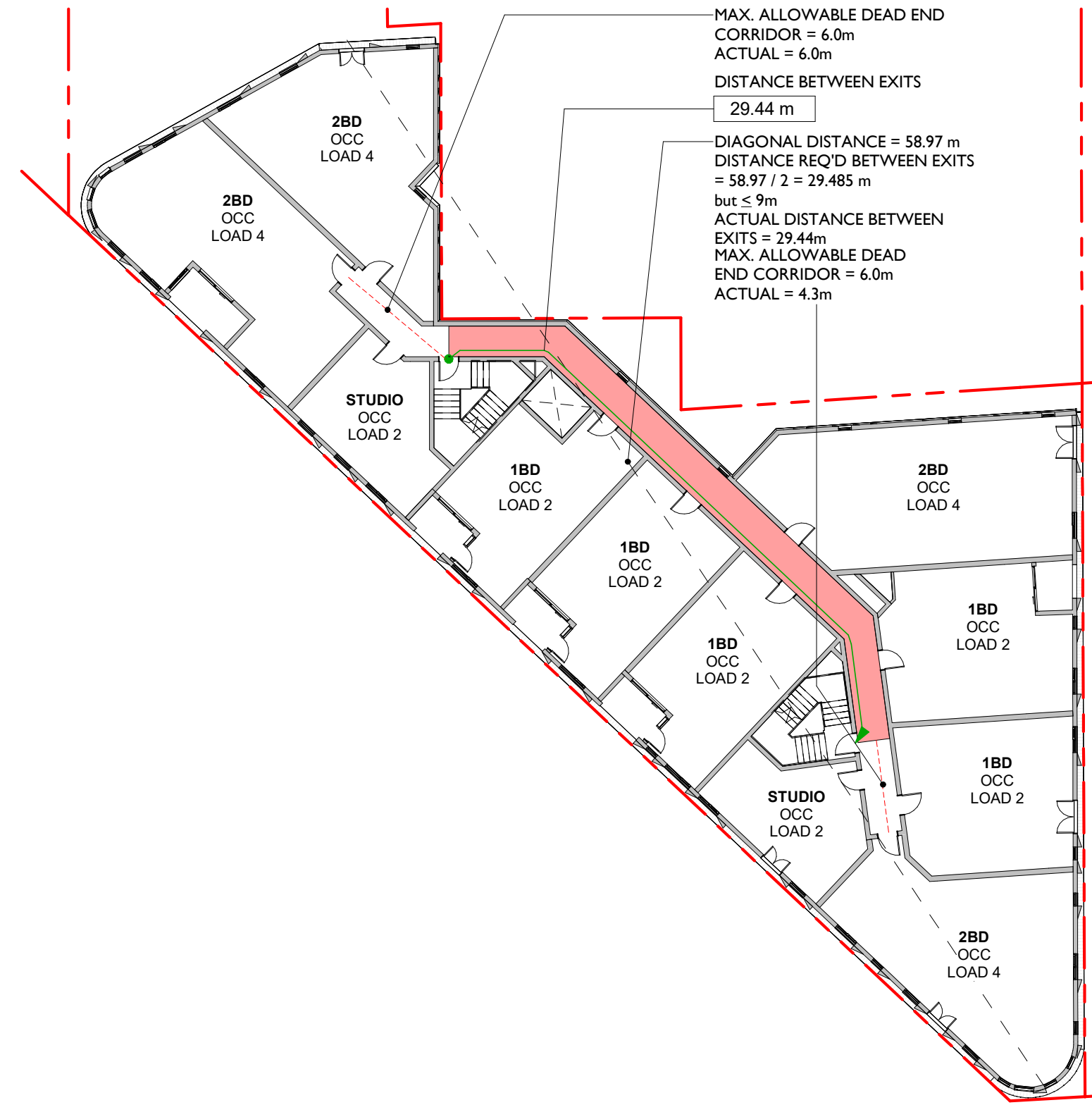
Revision
Sheet #
A015

REGISTERED ARCHITECT
GREGORY L.F. DAWSON
2024-05-01
BRITISH COLUMBIA

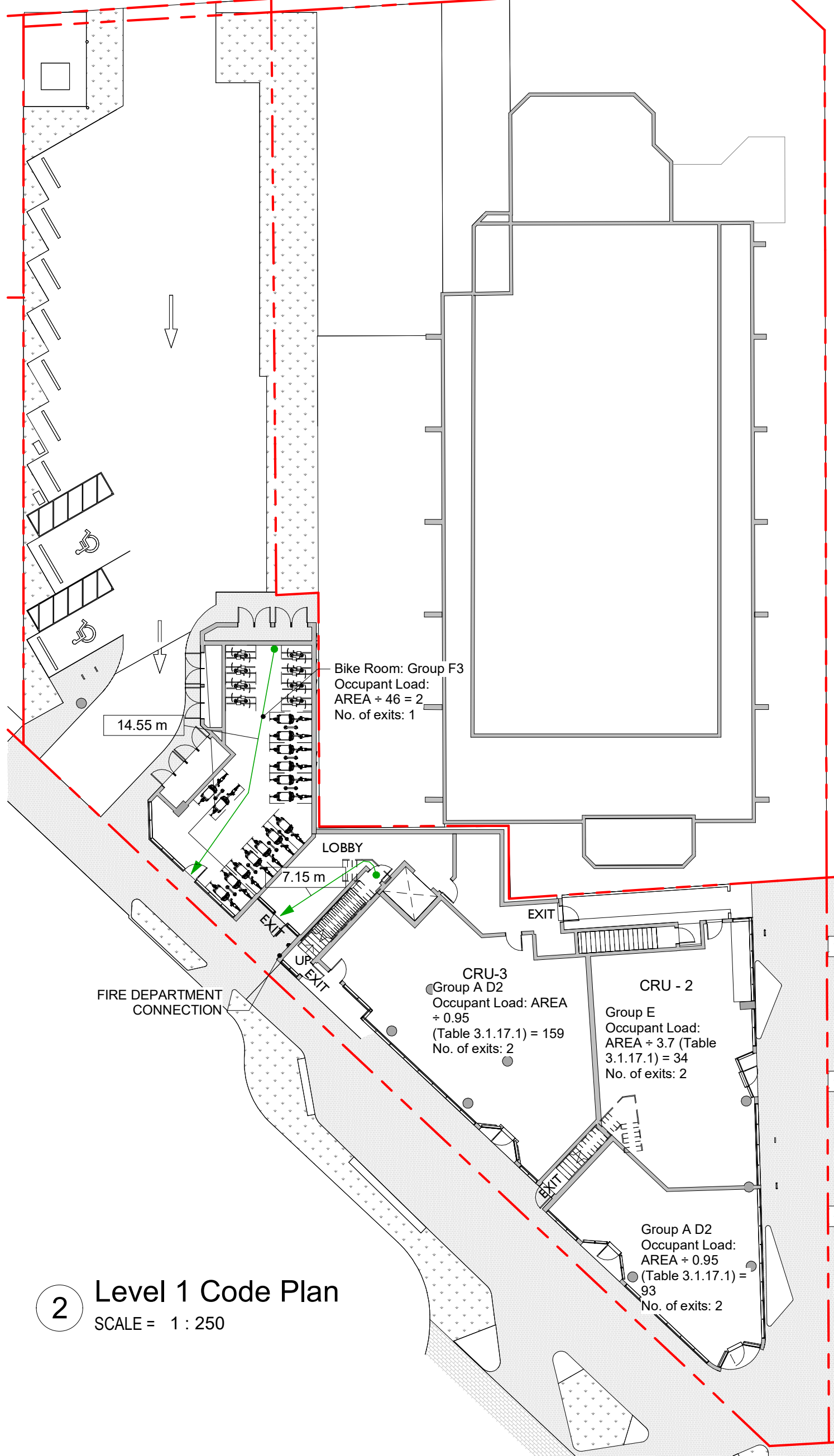
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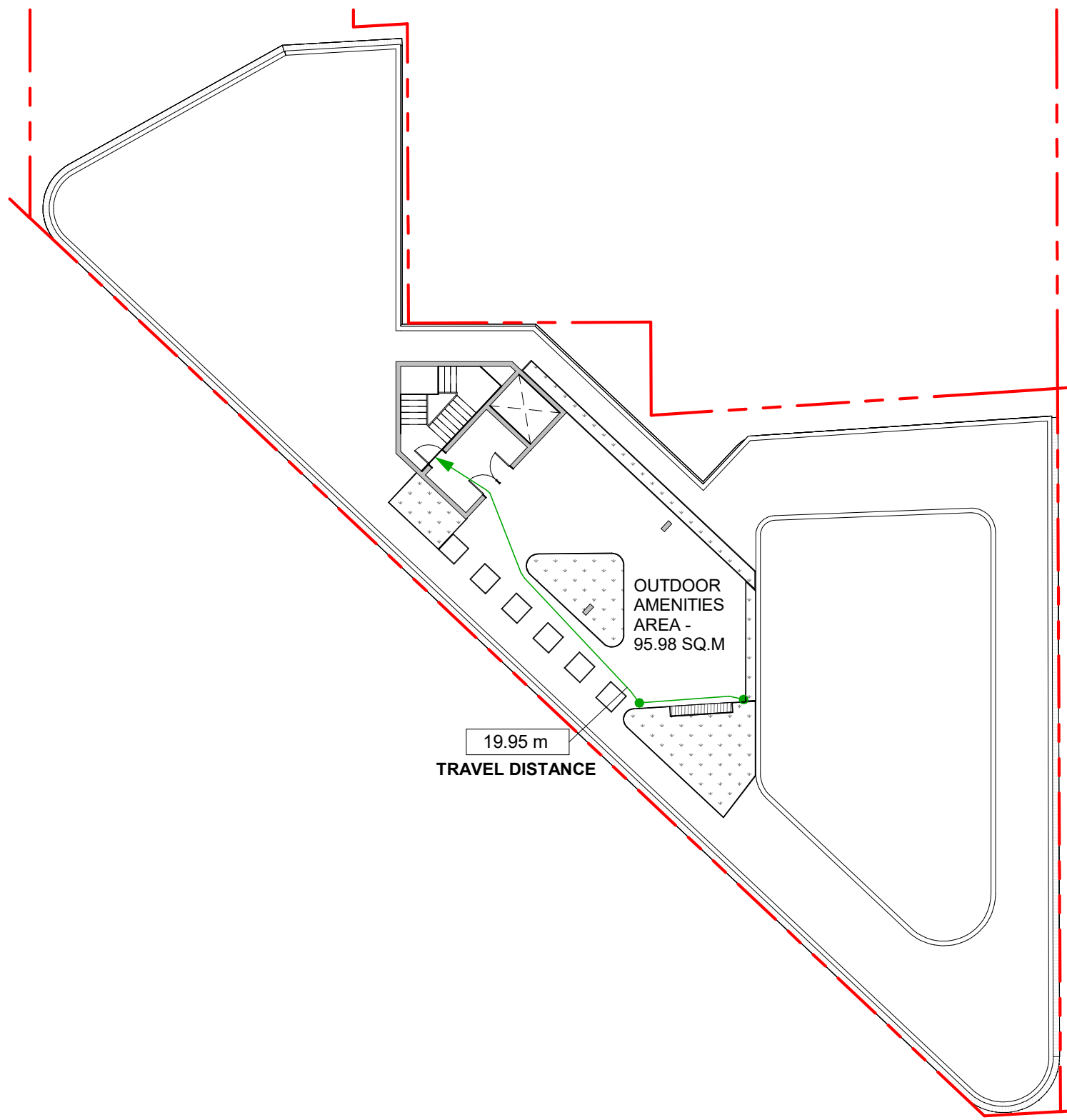
1 Basement Code Plan
SCALE = 1 : 250



3 Level 6 Code Plan (Typical Residential Floor)
SCALE = 1 : 250



2 Level 1 Code Plan
SCALE = 1 : 250



4 Roof Code Plan
SCALE = 1 : 250



BUILDING CODE ANALYSIS

PROJECT TYPE	NEW CONSTRUCTION <input checked="" type="checkbox"/> RENOVATION <input type="checkbox"/> ADDITION <input type="checkbox"/>	
GOVERNING BUILDING CODE	2018 BC BUILDING CODE PART <input type="text" value="3"/>	REFER TO NOTES *
MAJOR OCCUPANCIES	A1 <input type="checkbox"/> A2 <input checked="" type="checkbox"/> A3 <input type="checkbox"/> A4 <input type="checkbox"/> B1 <input type="checkbox"/> B2 <input type="checkbox"/> C <input checked="" type="checkbox"/> D <input type="checkbox"/> E <input checked="" type="checkbox"/> F1 <input type="checkbox"/> F2 <input type="checkbox"/> F3 <input type="checkbox"/>	3.1.2.1.
BUILDING AREA	<input type="text" value="920.81"/> m² (Outside face of Exterior Walls)	Div A 1.4.1.2.
GRADE	<input type="text" value="21.74"/> m	Div A 1.4.1.2.
BUILDING HEIGHT (STOREYS, m)	<input type="text" value="6"/> STOREYS ABOVE GRADE <input type="text" value="24.1"/> m <input type="text" value="1"/> STOREYS BELOW GRADE	Div A 1.4.1.2.

BUILDING FIRE SAFETY & CONSTRUCTION CLASSIFICATION

CLASSIFICATION	GROUP C, 6 STOREYS, SPRINKLERED	3.2.2.50
MAXIMUM BUILDING AREA	<input type="text" value="1500"/> m²	3.2.2.50
NUMBER OF STREETS FACING	<input type="text" value="3"/>	3.2.2.10
CONSTRUCTION TYPES PERMITTED	COMBUSTIBLE <input checked="" type="checkbox"/> NON - COMBUSTIBLE <input checked="" type="checkbox"/>	3.2.2.50.
INTERCONNECTED FLOOR SPACE	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	3.2.8.

EXITS FROM FLOOR AREAS

NUMBER OF EXITS REQUIRED	<input type="text" value="2"/>	3.4.2.1.
SEPERATION OF EXITS (MIN.)	ONE HALF MAXIMUM FLOOR AREA DIAGONAL, BUT NO MORE THAN 9 m	3.4.2.3
MAX. TRAVEL DISTANCE ALLOWED	GROUP C <input type="text" value="45"/> m	3.4.2.5
MEZZANINE	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	3.2.8.

FIRE RESISTANCE RATINGS

HORIZONTAL SEPARATIONS	<input type="text" value="1 hrs"/> FLOORS <input type="text" value="NA"/> MEZZANINE <input type="text" value="1 hrs"/> ROOF (OCCUPIED) <input type="text" value="2 hrs"/> BETWEEN GROUP E AND GROUP C	3.2.2.50.(2)
BETWEEN SUITES	<input type="text" value="1hrs"/> RESIDENTIAL SUITES <input type="text" value="2hrs"/> GROUP E AND GROUP A2/C	3.3.1.1. 3.4.4.1.
EXITS	<input type="text" value="1hrs"/> <input type="text" value="2hrs"/> UP TO LEVEL 2	3.4.4.1.

4	DP Rezoning Resubmission 2	2024.05.01
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TURNER SITE

	EMPRESA PROPERTIES 2002 Richmond Rd, Victoria, BC
Sheet Name	Code Data
Date	2024-05-01 2:56:06 PM
Scale	As indicated
Project #	2305
Revision	2024.05.01 <input type="text" value="4"/>
Sheet #	A050





TABLE 3.2.3.1.-D	LIMITING DISTANCE (m)	ALLOWABLE OPENINGS (%)	AREA OF EXPOSING BUILDING FACE (sq.m)	PROPOSED OPENINGS (sq.m)	PROPOSED OPENINGS (%)
	9 m	100	622.5	205.2	33.0%

TABLE 3.2.3.7	REQUIRED FRR	REQUIRED TYPE OF CONSTRUCTION	REQUIRED TYPE OF CLADDING
	45 min	COMBUSTIBLE / NON-COMBUSTIBLE	Noncombustible

1 RICHMOND RD (East) ELEVATION

SCALE = 1 : 250



TABLE 3.2.3.1.-D	LIMITING DISTANCE (m)	ALLOWABLE OPENINGS (%)	AREA OF EXPOSING BUILDING FACE (sq.m)	PROPOSED OPENINGS (sq.m)	PROPOSED OPENINGS (%)
	7.62m	75.92%	1223	442.9	36.2%

TABLE 3.2.3.7	REQUIRED FRR	REQUIRED TYPE OF CONSTRUCTION	REQUIRED TYPE OF CLADDING
	45 min	COMBUSTIBLE / NON-COMBUSTIBLE	Noncombustible

2 BIRCH ST ELEVATION

SCALE = 1 : 250



TABLE 3.2.3.1.-D (BCBC 2018)

BUILDING COMPARTMENT	LIMITING DISTANCE	AREA OF EXPOSING BUILDING FACE	ALLOWABLE OPENINGS (%)	PROPOSED OPENING (SQ.M)	PROPOSED OPENING (%)
1					
2	0.97 m	38.5 m²	11.32%	1.1	10.5%
3	0.97 m	38.5 m²	11.32%	1.1	10.5%
4	0.97 m	38.5 m²	11.32%	1.1	10.5%
5	0.97 m	38.5 m²	11.32%	1.1	10.5%
6	0.97 m	38.5 m²	11.32%	1.1	10.5%

TABLE 3.2.3.7 (BCBC 2018)

ALL COMPARTMENTS
MIN. FIRE RESISTANCE RATING: 45 MIN
TYPE OF CONSTRUCTION REQ'D: COMBUSTIBLE/ NONCOMBUSTIBLE
TYPE OF CLADDING REQ'D: NONCOMBUSTIBLE

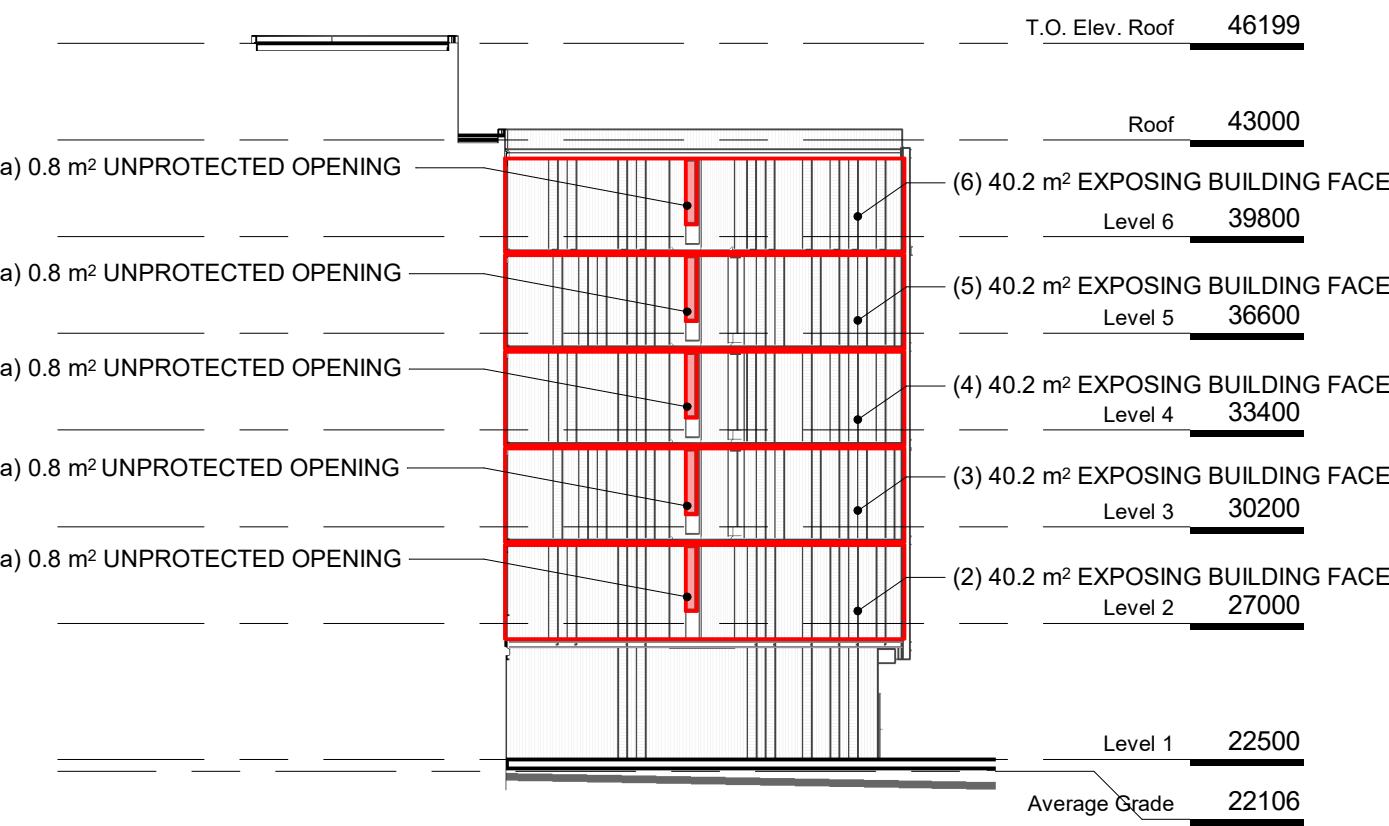


TABLE 3.2.3.1.-D (BCBC 2018)

BUILDING COMPARTMENT	LIMITING DISTANCE	AREA OF EXPOSING BUILDING FACE	ALLOWABLE OPENINGS (%)	PROPOSED OPENING (SQ.M)	PROPOSED OPENING (%)
2	0.68 m	40.2 m²	7.93%	0.8	2%
3	0.68 m	40.2 m²	7.93%	0.8	2%
4	0.68 m	40.2 m²	7.93%	0.8	2%
5	0.68 m	40.2 m²	7.93%	0.8	2%
6	0.68 m	40.2 m²	7.93%	0.8	2%

TABLE 3.2.3.7 (BCBC 2018)

ALL COMPARTMENTS
MIN. FIRE RESISTANCE RATING: 45 MIN
TYPE OF CONSTRUCTION REQ'D: COMBUSTIBLE/ NONCOMBUSTIBLE
TYPE OF CLADDING REQ'D: NONCOMBUSTIBLE

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3 NORTH FACING ELEVATION FROM PARKING LOT

SCALE = 1 : 250

4 EAST FACING ELEVATION FROM 2020 RICHMOND

SCALE = 1 : 250

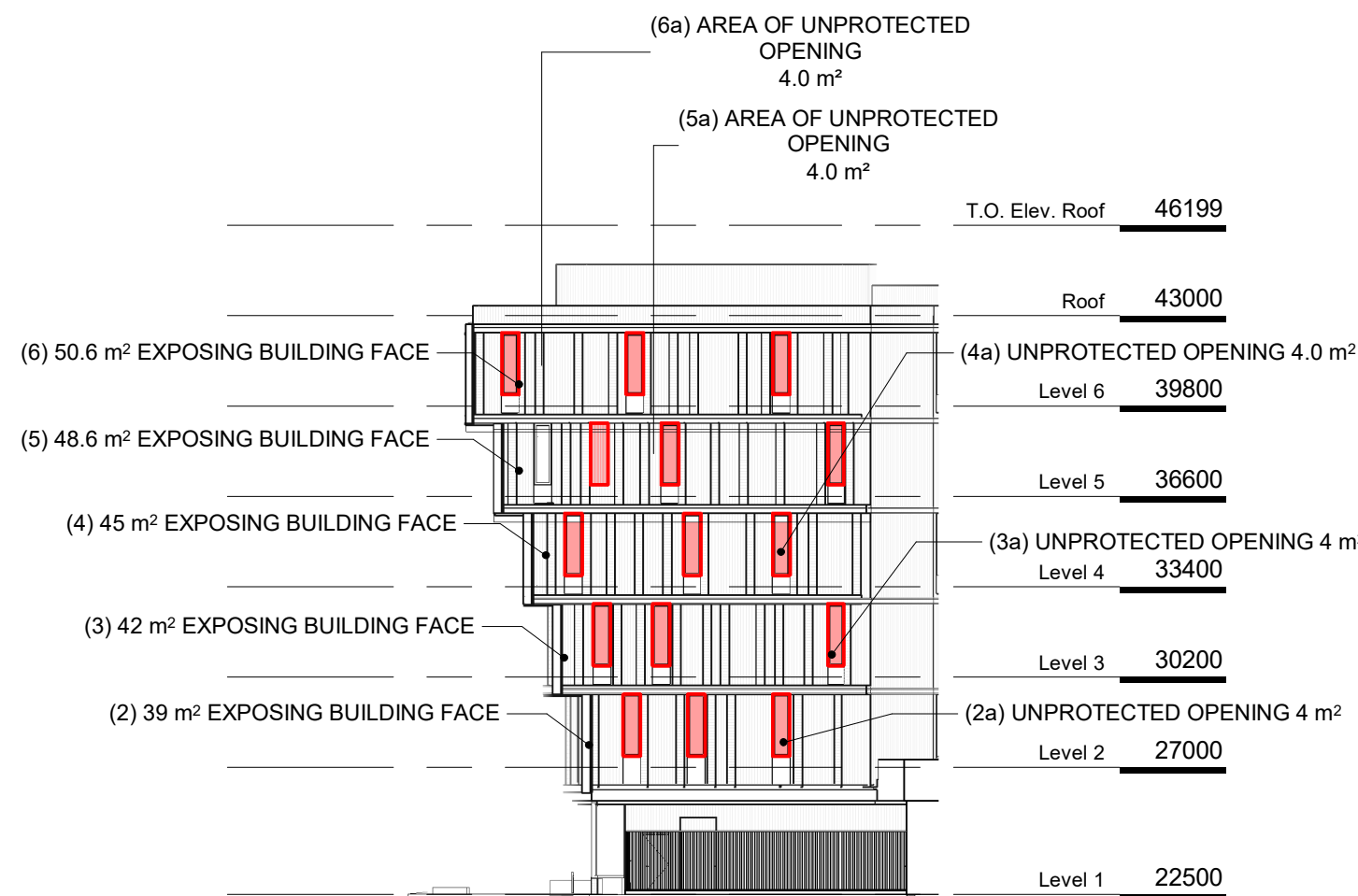


TABLE 3.2.3.1.-D (BCBC 2018)

BUILDING COMPARTMENT	LIMITING DISTANCE	AREA OF EXPOSING BUILDING FACE	ALLOWABLE OPENINGS (%)	PROPOSED OPENING (SQ.M)	PROPOSED OPENING (%)
2	1.26 m	39 m²	14.4%	4	10.3%
3	1.26 m	42 m²	14.4%	4	9.5%
4	1.26 m	45 m²	14.4%	4	8.9%
5	1.26 m	48.6 m²	14.4%	4	8.2%
6	1.26 m	50.6 m²	14.4%	4	7.9%

TABLE 3.2.3.7 (BCBC 2018)

ALL REMAINING COMPARTMENTS
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TYPE OF CONSTRUCTION REQ'D: COMBUSTIBLE/ NONCOMBUSTIBLE
TYPE OF CLADDING REQ'D: NONCOMBUSTIBLE

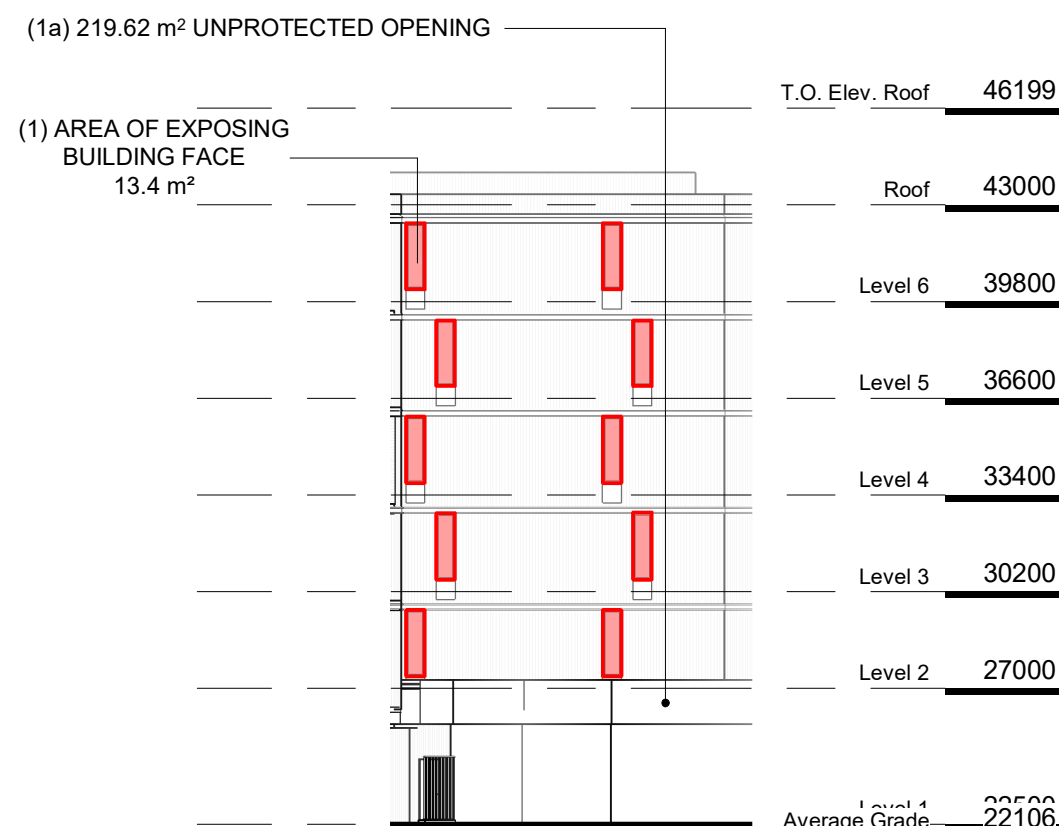


TABLE 3.2.3.1.-D

LIMITING DISTANCE (m)	ALLOWABLE OPENINGS (%)	AREA OF EXPOSING BUILDING FACE (sq.m)	PROPOSED OPENINGS (sq.m)	PROPOSED OPENINGS (%)
0.58m	6.77	219.62	13.72	6.25%

TABLE 3.2.3.7

REQUIRED FRR	REQUIRED TYPE OF CONSTRUCTION	REQUIRED TYPE OF CLADDING
45 min	COMBUSTIBLE / NON-COMBUSTIBLE	Noncombustible

5 NORTH FACING ELEVATION FROM 2020 RICHMOND

SCALE = 1 : 250

6 NORTH EAST ELEVATION

SCALE = 1 : 250



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TURNER SITE

EMPRESA PROPERTIES
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Sheet Name
Spatial Separation

Date
2024-05-01 2:56:13 PM

Scale
1 : 250

Project #
2305

Revision
2024.05.01

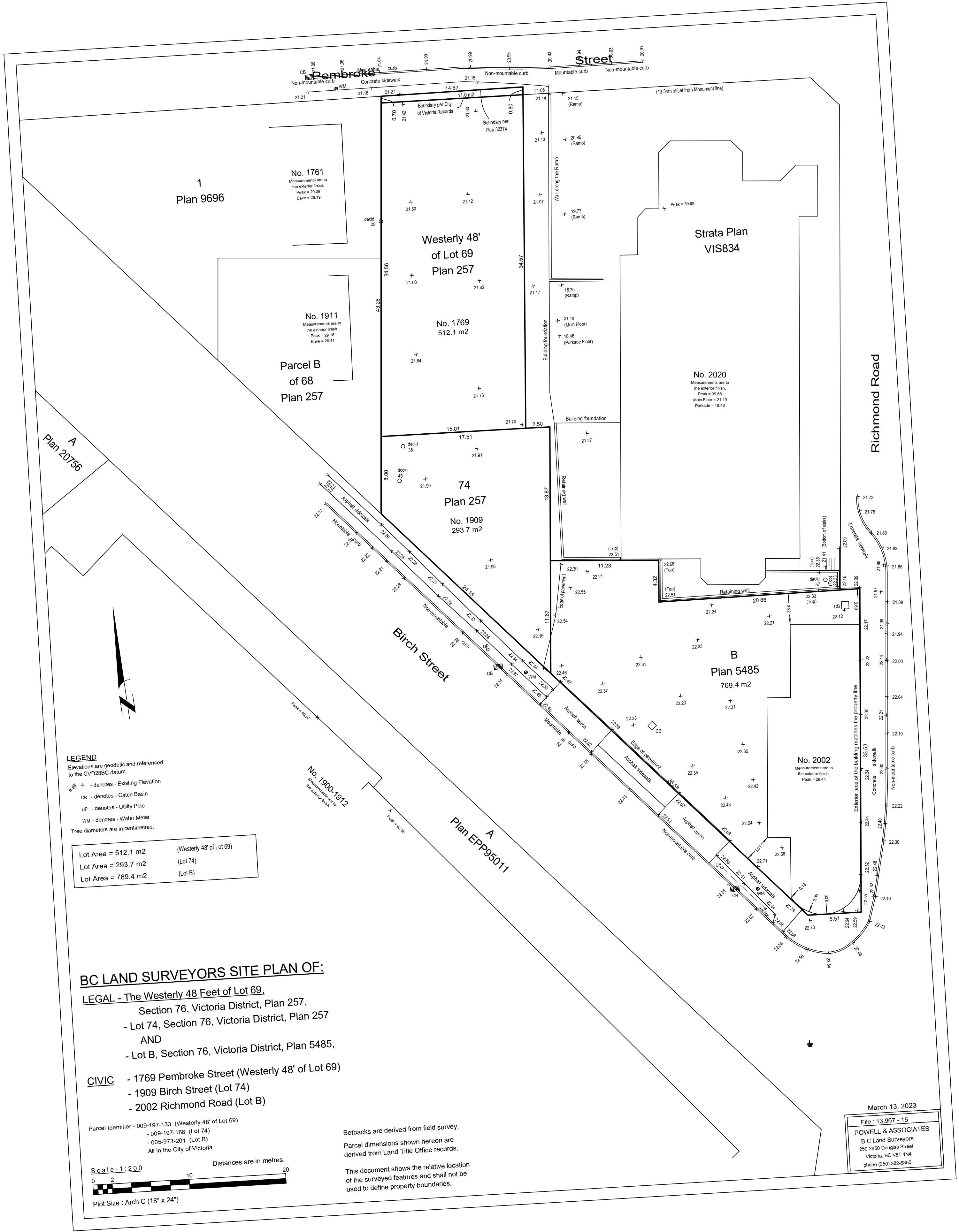
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Sheet #
A051

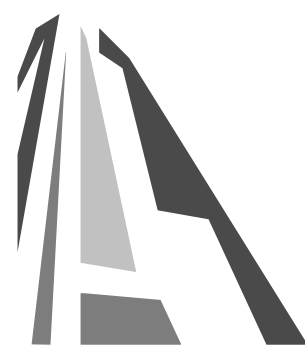


2024-05-01

BRITISH COLUMBIA



4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
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NO.	DESCRIPTION	DATE



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TURNER SITE

EMPRESA PROPERTIES
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Sheet Name
Survey

Date
2024-05-01 2:56:13 PM

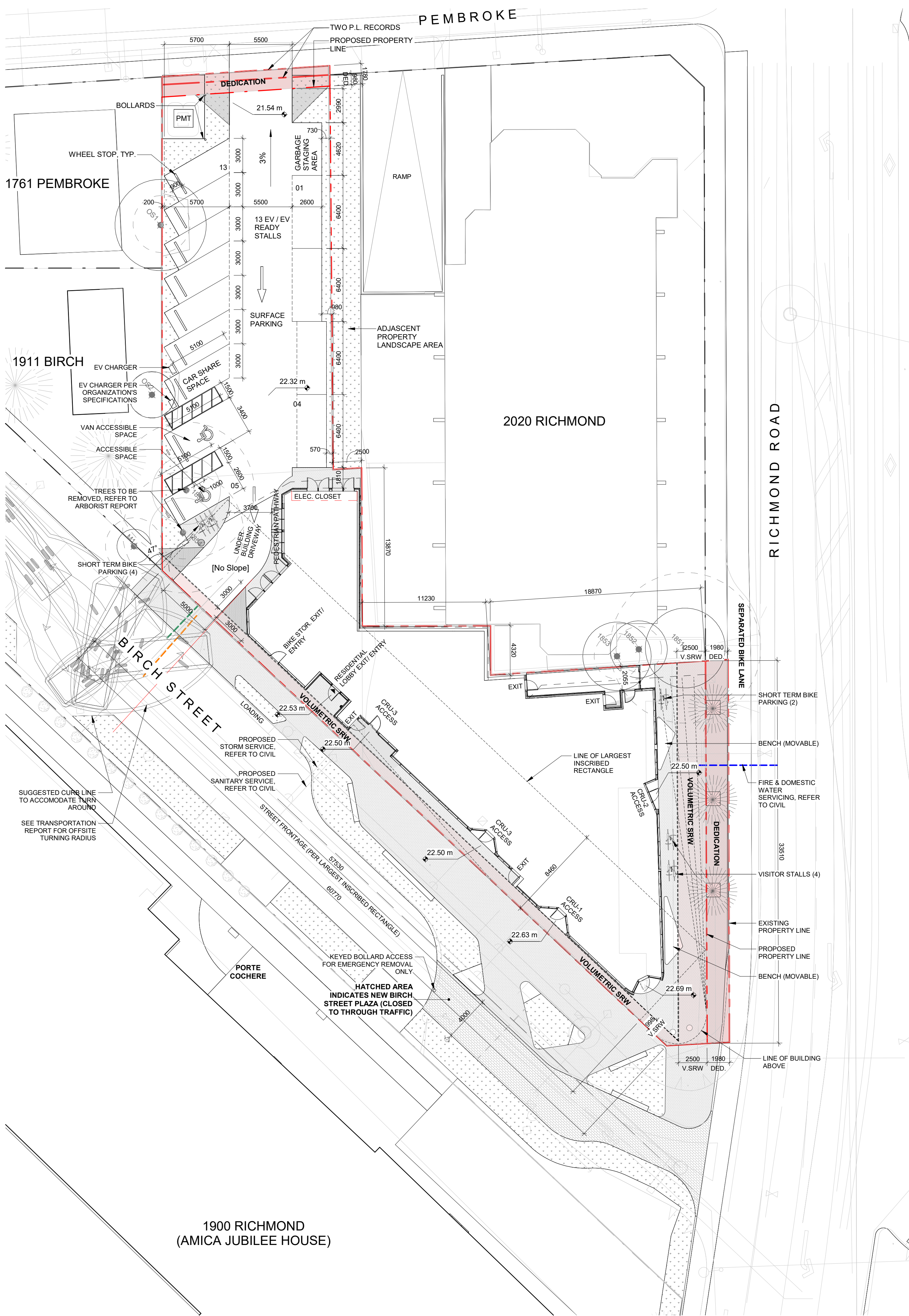
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Project #
2305

Revision
2024.05.01
4

Sheet #
A100



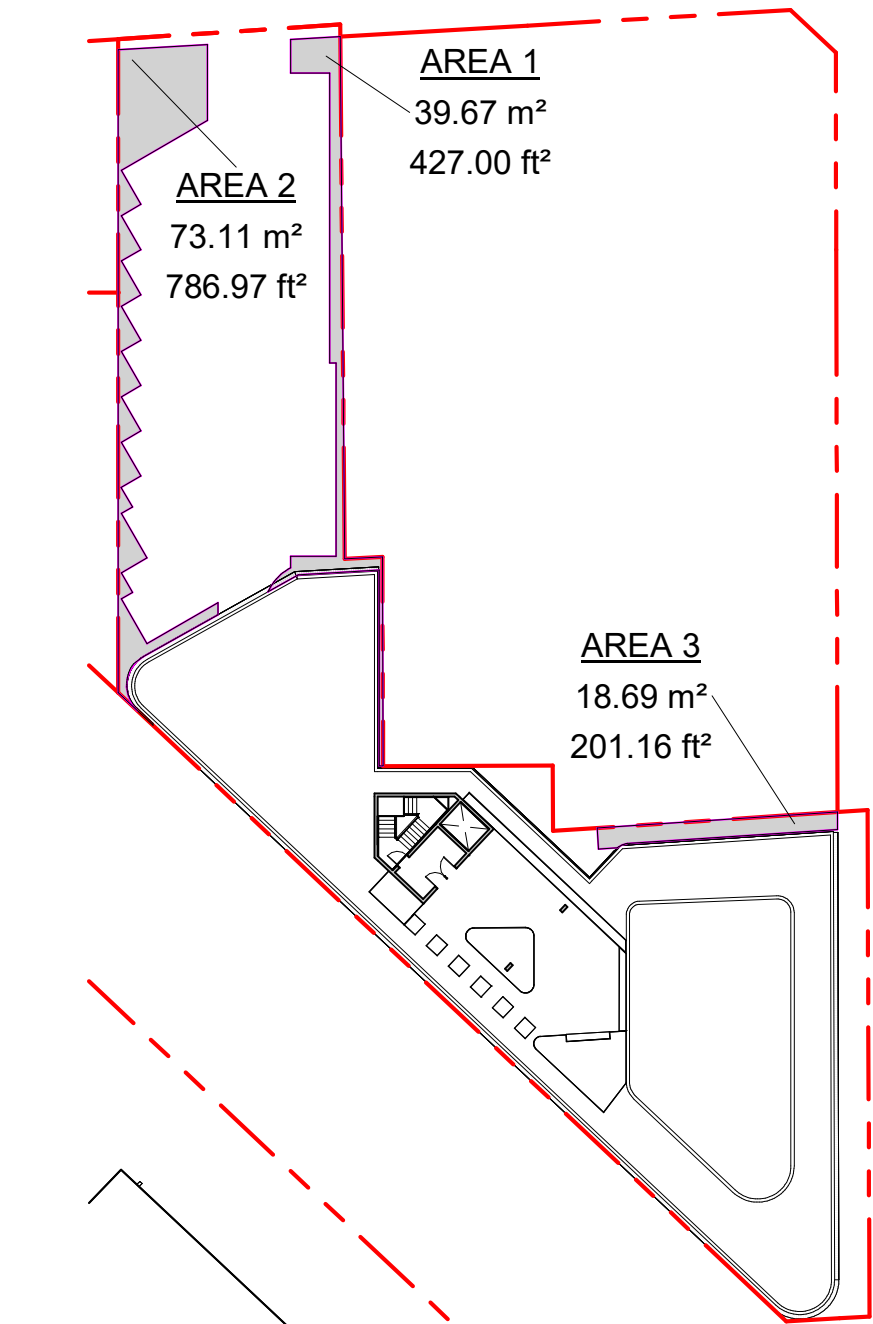
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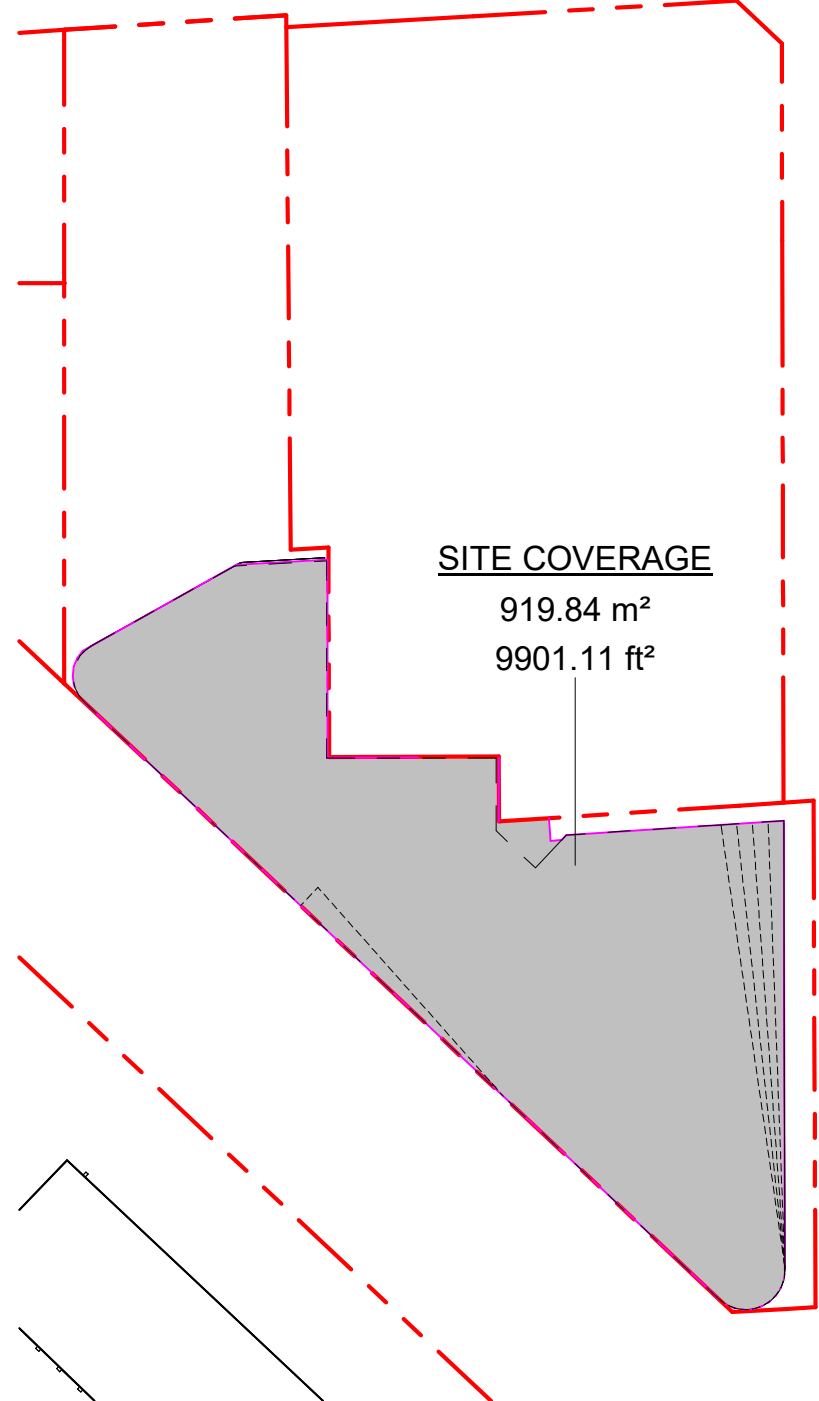
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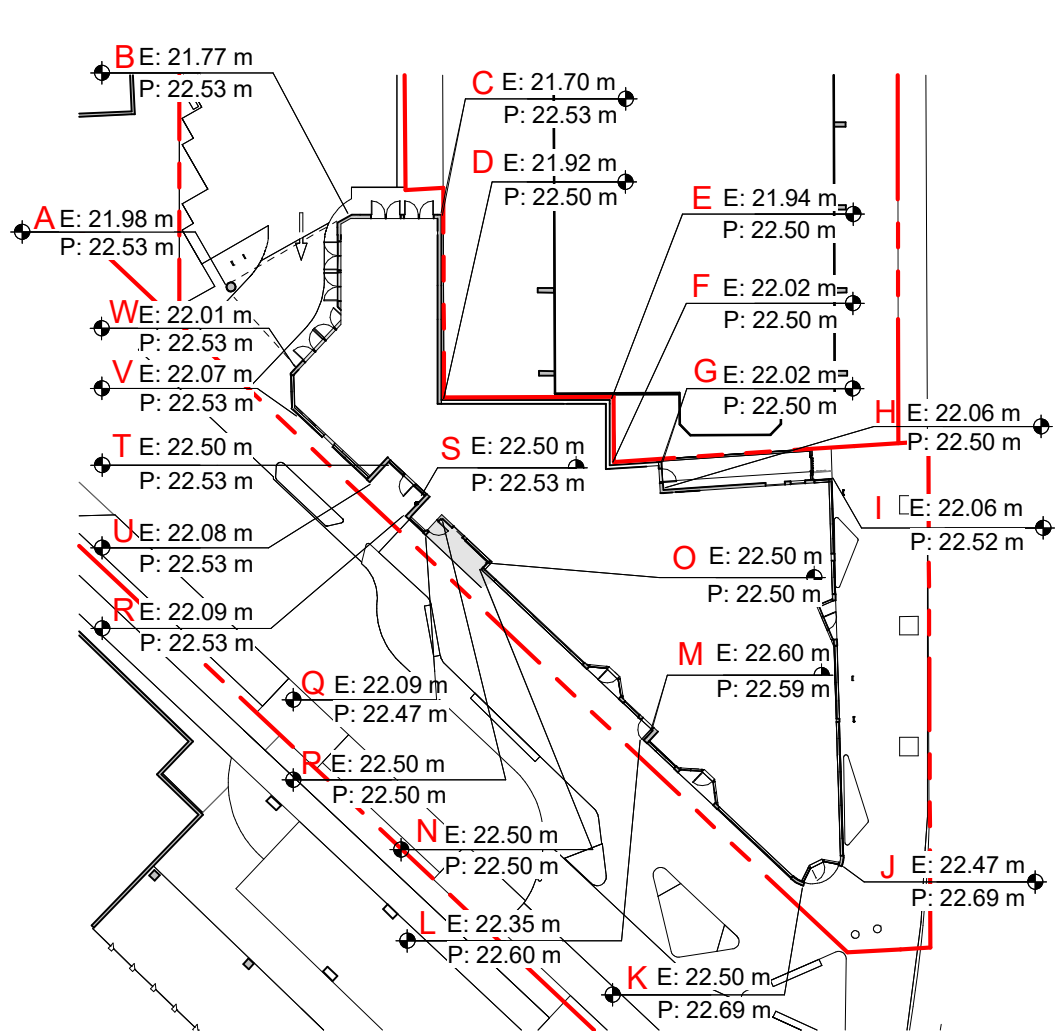
2 Distance Between Points
SCALE = 1 : 500



4 OPEN SITE SPACE
SCALE = 1 : 500



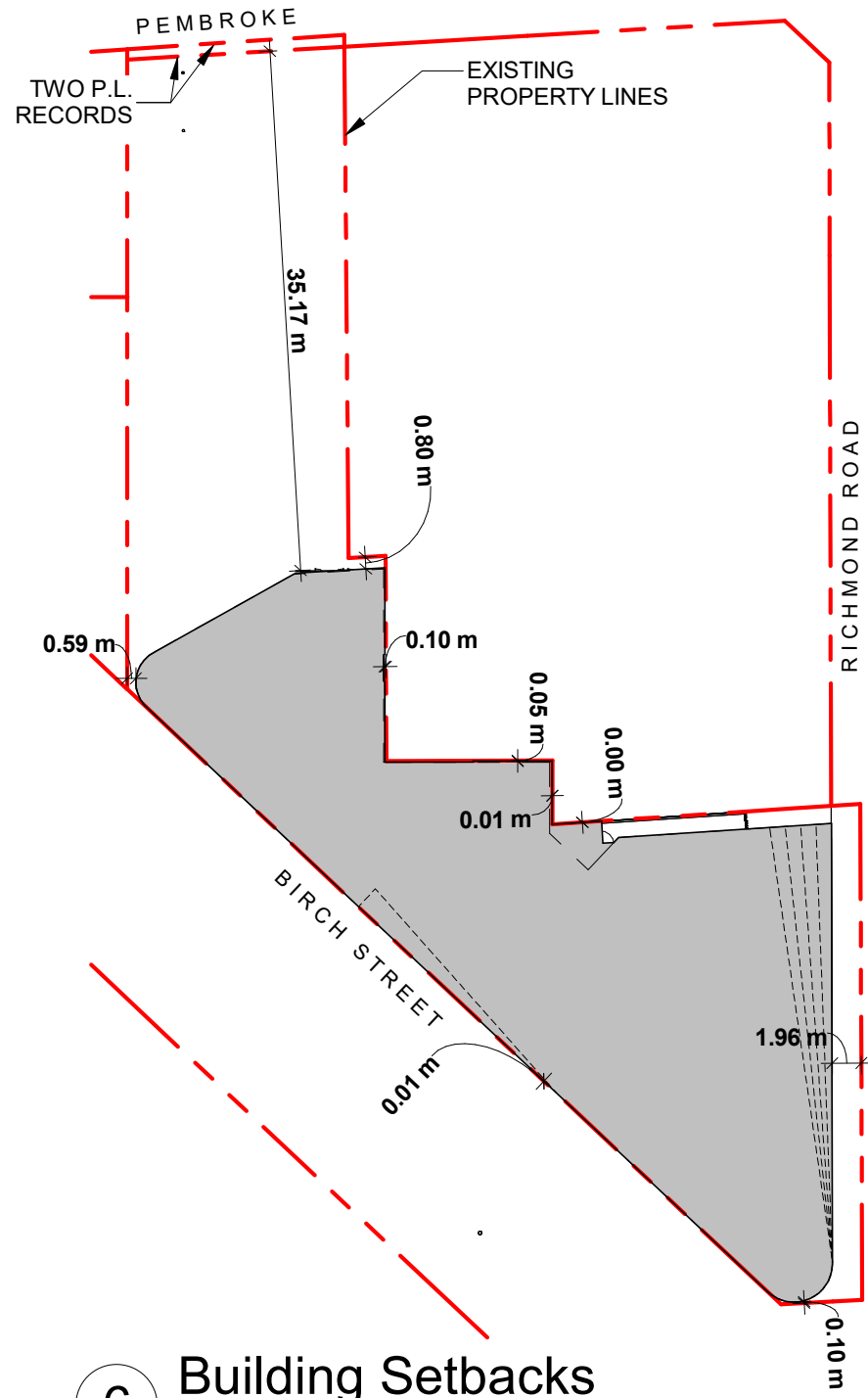
5 SITE COVERAGE
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3 Average Grade Calculation
SCALE = 1 : 500

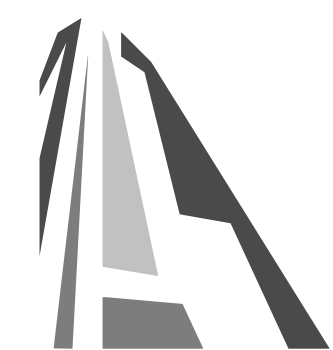


Point	Existing Grade (m)	Proposed Grade (m)	Distance to next point (m)	(Elev. 1 + Elev. 2)/2 *
A	21.98	22.53	9.5	207.81
B	21.77	22.53	6.1	132.58
C	21.70	22.53	12.3	268.26
D	21.92	22.50	11.1	243.42
E	21.94	22.50	4.3	94.51
F	22.02	22.50	3.4	74.87
G	22.02	22.50	1.9	41.88
H	22.06	22.50	11.2	247.07
I	22.06	22.50	25.7	572.21
J	22.47	22.69	2.8	62.96
K	22.50	22.69	14.3	320.68
L	22.35	22.60	0.9	20.22
M	22.60	22.59	15.6	351.70
N	22.50	22.50	0.6	13.50
O	22.50	22.50	4.1	92.25
P	22.50	22.50	1.5	33.44
Q	22.09	22.47	1.8	39.76
R	22.09	22.53	1.8	40.13
S	22.50	22.53	3.3	74.25
T	22.50	22.53	1.8	40.12
U	22.08	22.53	6.5	143.49
V	22.07	22.53	3.1	68.32
W	22.01	22.53	6.9	151.77
			Elevation	22.16



6 Building Setbacks
SCALE = 1 : 500

4	DP Rezoning Resubmission 2	2024.05.01
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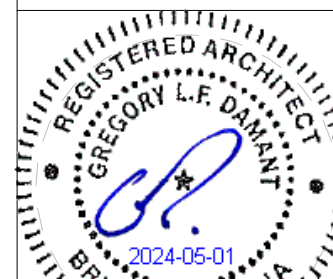
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TURNER SITE

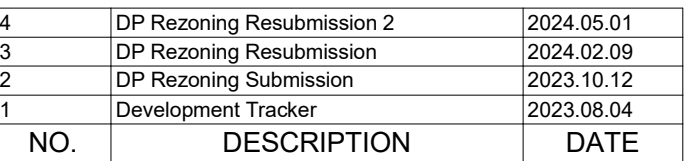
EMPRESA PROPERTIES
2002 Richmond Rd, Victoria, BC

Site Plan & Project Data

Date	2024-05-01 2:56:17 PM		
Scale	As indicated	Project #	2305
		Revision	4
		2024.05.01	
		Sheet #	A101



* MOST RESTRICTIVE CRU USE APPLIED FOR SCHEDULE-C CALCULATIONS



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EMPRESA PROPERTIES
02 Richmond Rd, Victoria,
BC

Sheet Name

Basement Level

Date 2024-05-01 2:56:20 PM

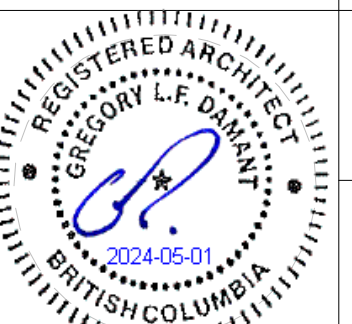
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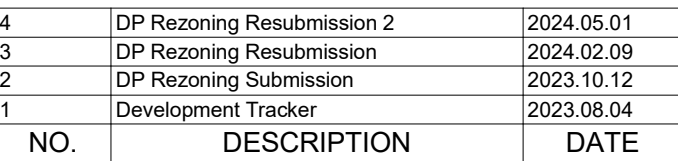
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Revision
2024.05.01

Sheet #

A120





TURNER SITE

Sheet Name Level 1

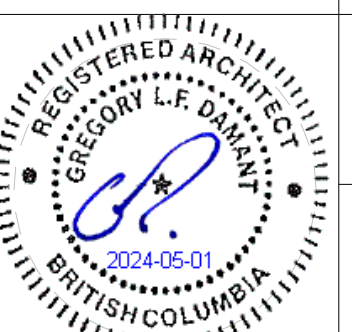
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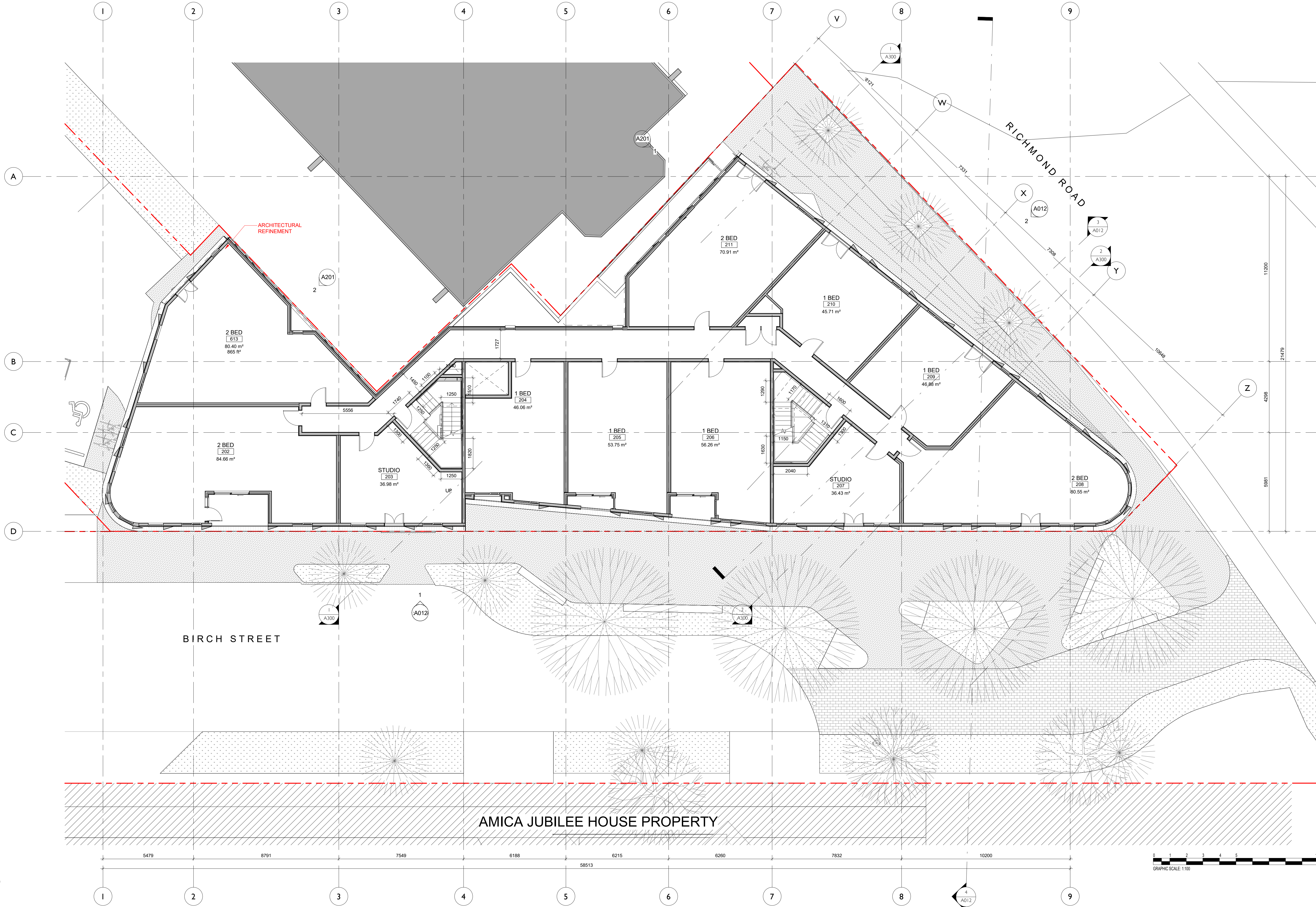
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2024.05.01 4

Sheet #

A121





4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



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TURNER SITE
EMPRESA PROPERTIES
2002 Richmond Rd, Victoria, BC

Sheet Name

Level 2

Date

2024-05-01 2:56:27 PM

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1 : 100

Project #

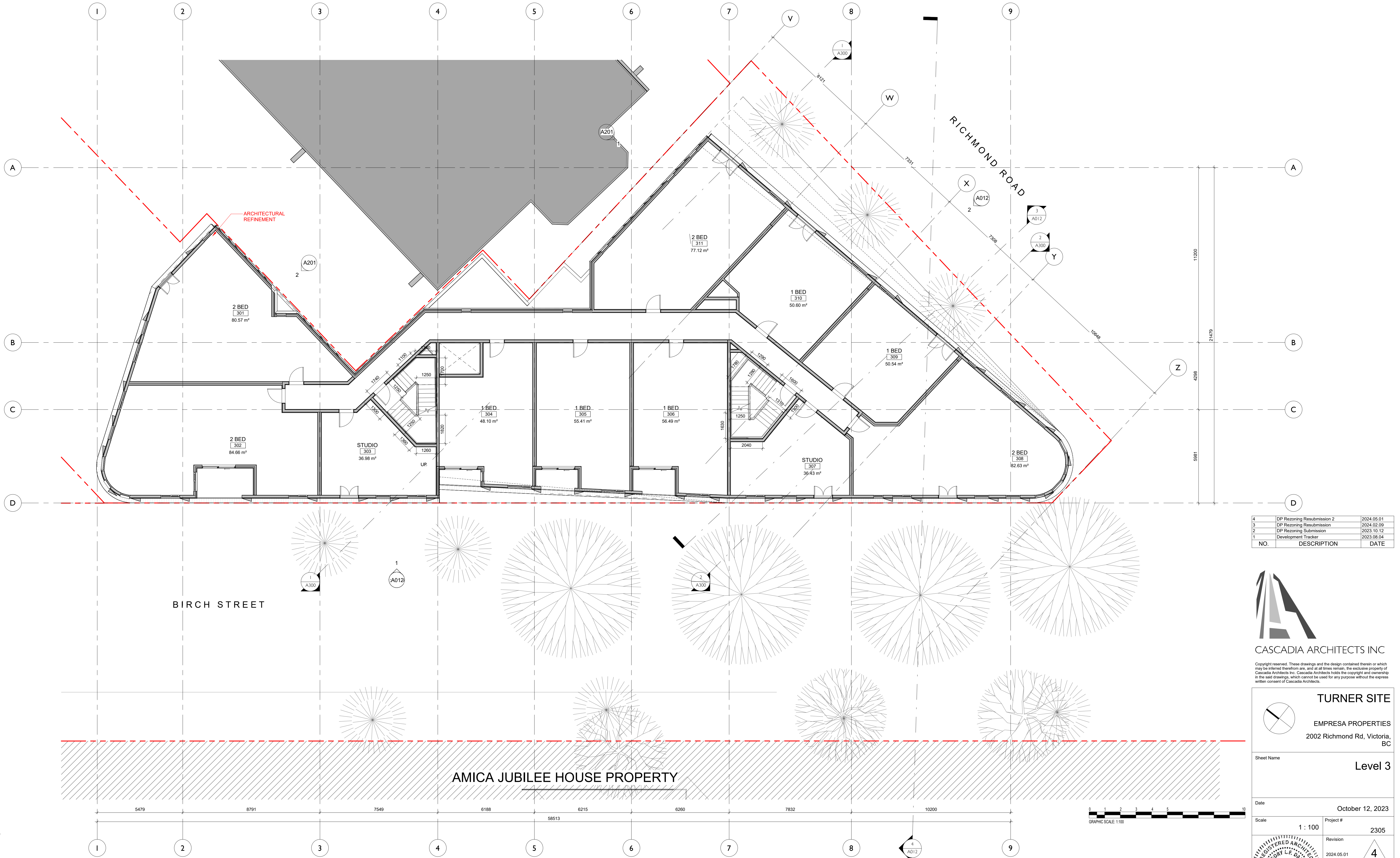
2305

Revision

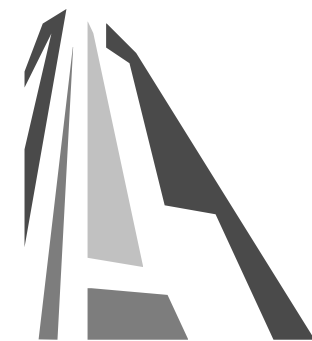
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Sheet #

A122



4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
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NO.	DESCRIPTION	DATE



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TURNER SITE

EMPRESA PROPERTIES
2002 Richmond Rd, Victoria, BC

Sheet Name
Level 3

Date
October 12, 2023

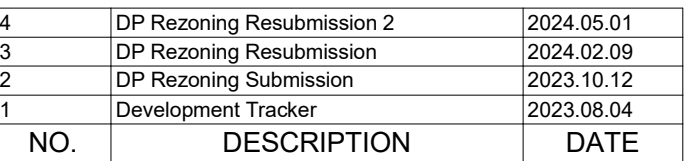
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2305

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2024.05.01

Sheet #
A123

2024-05-01 2:56:30 PM



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EMPRESA PROPERTIES
02 Richmond Rd, Victoria,
BC

Sheet Name Level 4

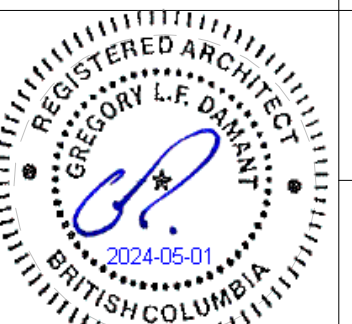
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Revision
2024.05.01

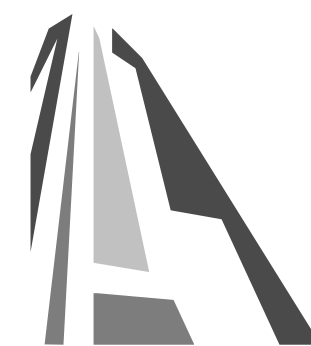
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A124





4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



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TURNER SITE

EMPRESA PROPERTIES
2002 Richmond Rd, Victoria,
BC

Sheet Name
Level 5

Date
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Project #
2305

Revision
2024.05.01

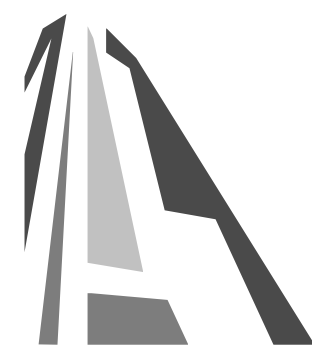
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Sheet #
A125





4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



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TURNER SITE

EMPRESA PROPERTIES
2002 Richmond Rd, Victoria,
BC

Sheet Name
Level 6

Date
2024-05-01 2:56:37 PM

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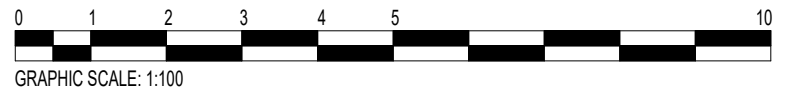
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Revision
2024.05.01

4

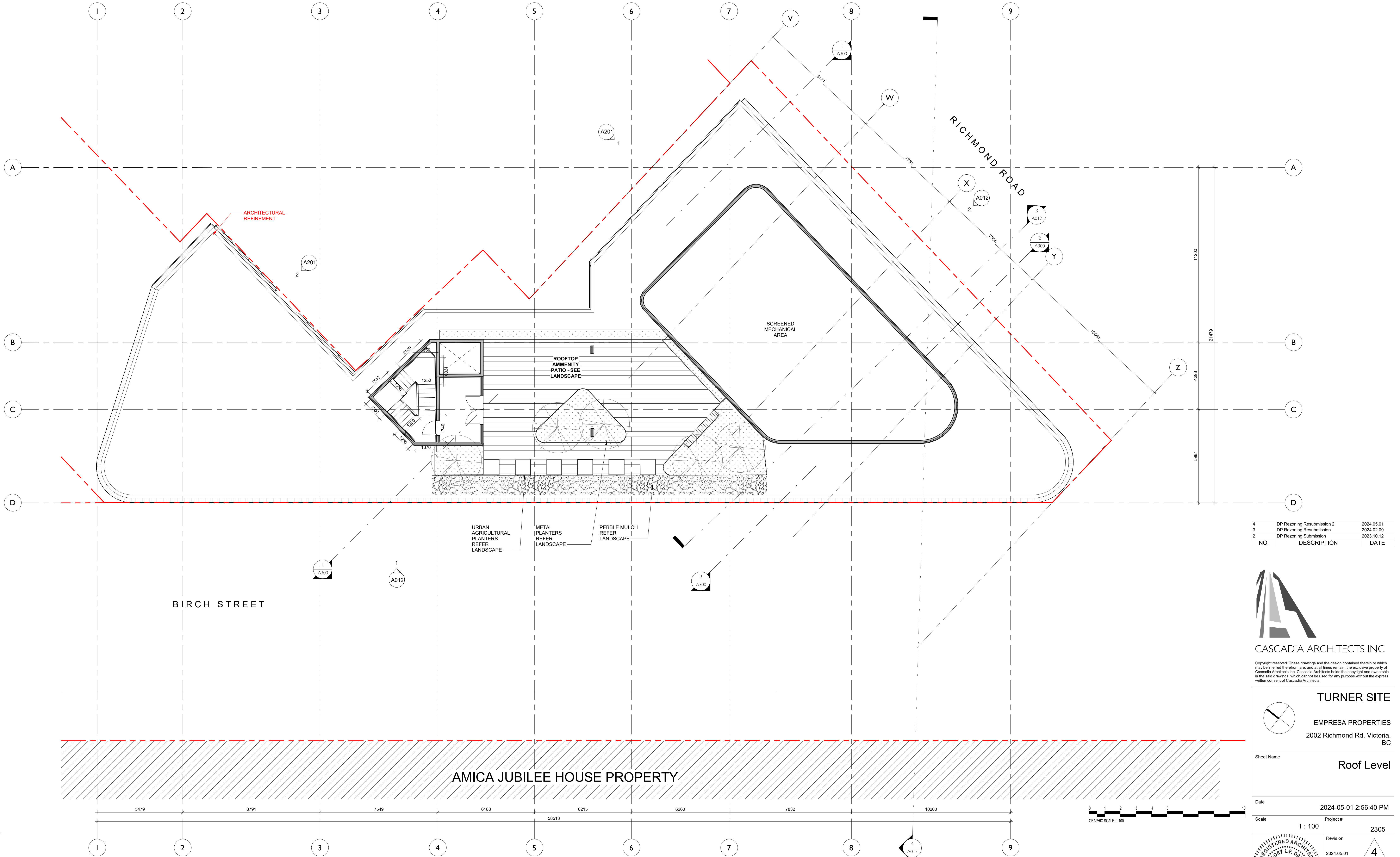
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A126



GRAPHIC SCALE: 1:100

C:\Users\jld\Documents\2305 Turner Site\Architectural\WIP\Level 6.dwg



4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
NO.	DESCRIPTION	DATE



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TURNER SITE

EMPRESA PROPERTIES
2002 Richmond Rd, Victoria,
BC

Sheet Name

Roof Level

Date

2024-05-01 2:56:40 PM

Scale

1 : 100

Project #

2305

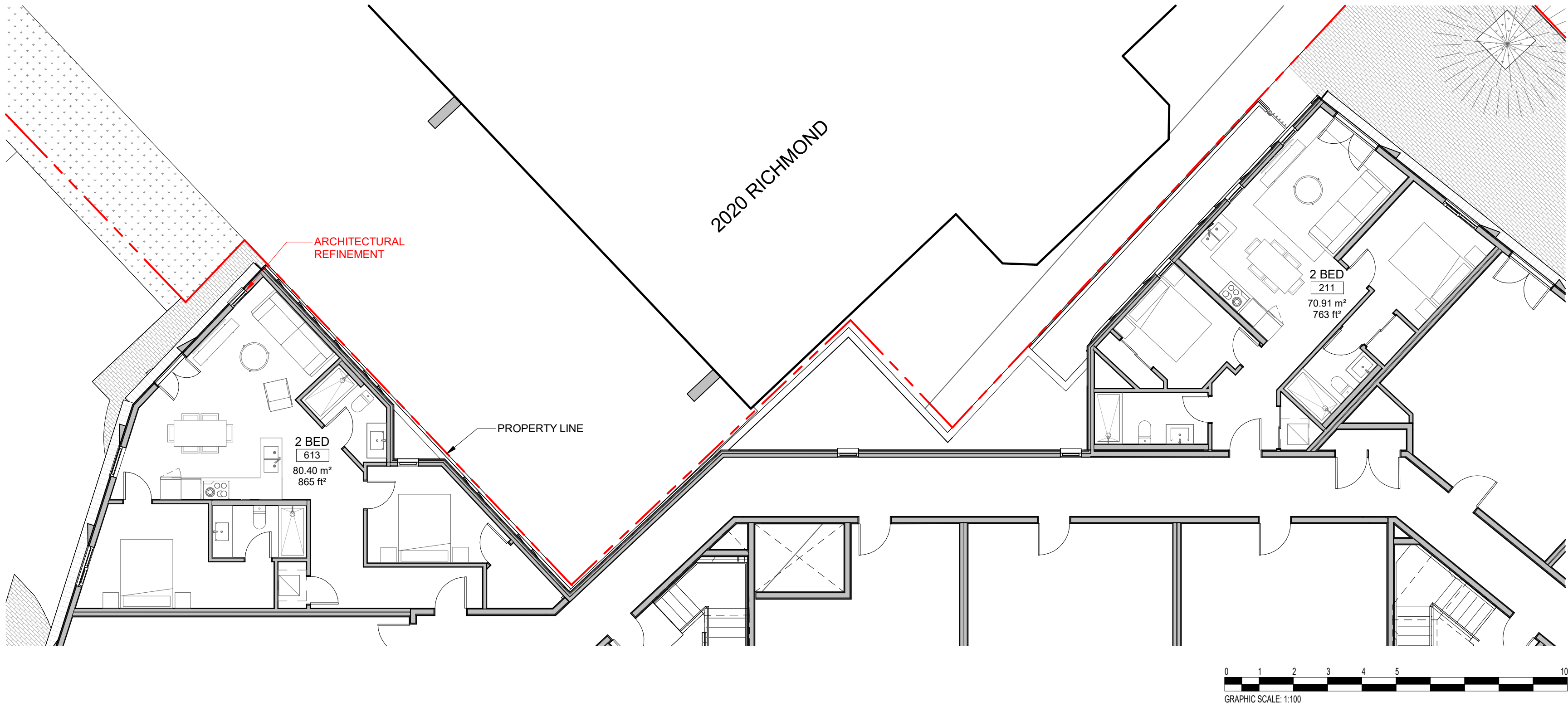
Revision

4

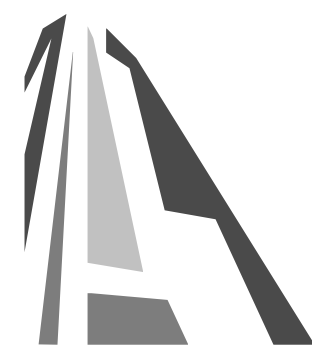
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Sheet #

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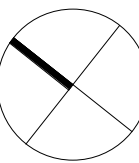


4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
NO.	DESCRIPTION	DATE



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TURNER SITE


EMPRESA PROPERTIES
2002 Richmond Rd, Victoria,
BC

Sheet Name
Unit Layouts along PL

Date
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Scale
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Project #
2305



Revision
2024.05.01

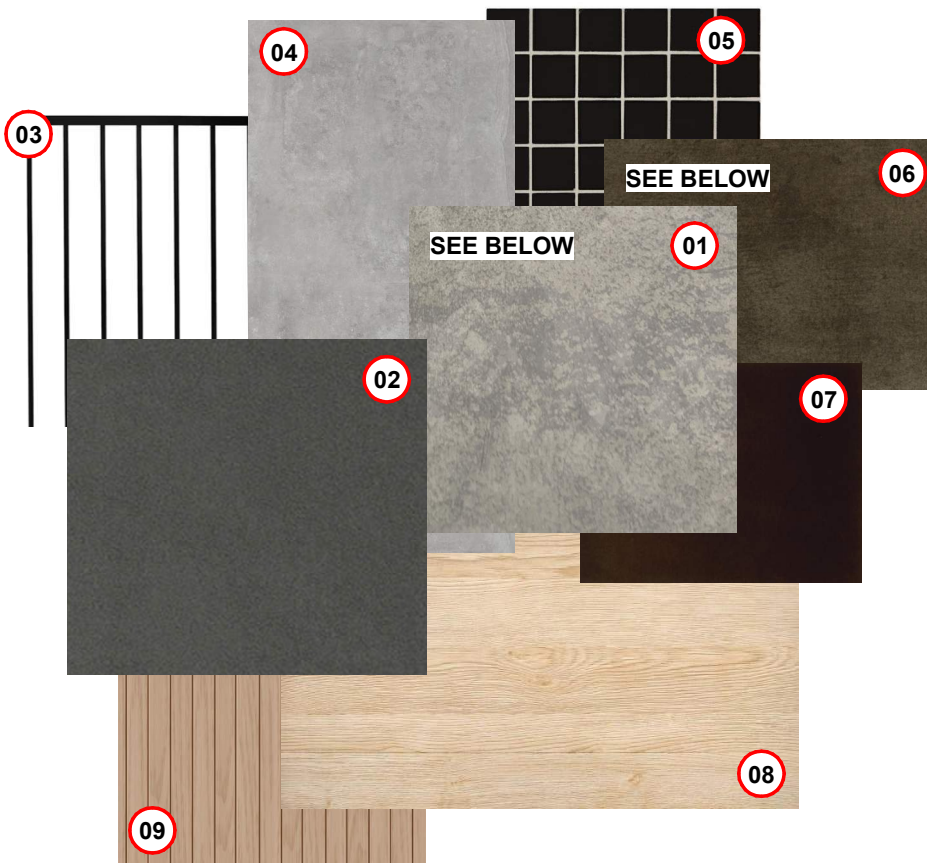
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A128

4



1 Birch Street Elevation
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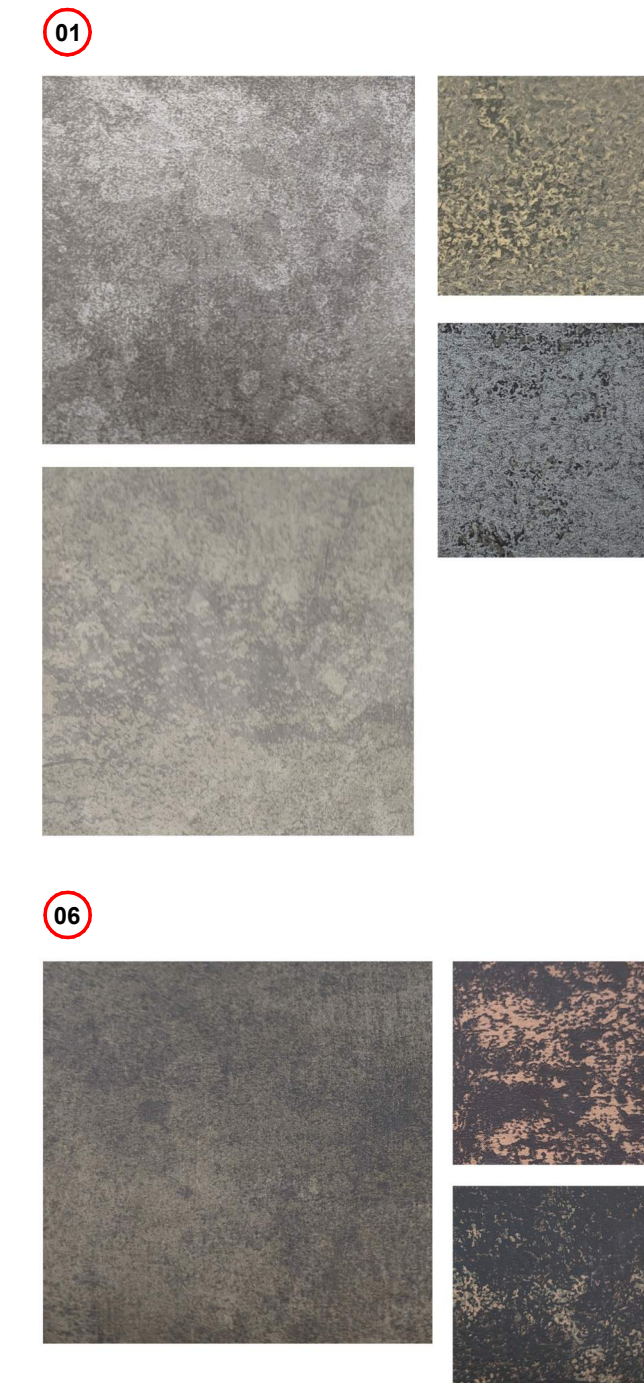
- MATERIALS LEGEND**
- 01 Metal Panel - Colour 01
 - 02 Cementitious Panel - Dark Colour 02
 - 03 Metal Picket - Dark Colour 02
 - 04 Cast-in-place Arch. Concrete
 - 05 Black tile
 - 06 Metal Panel - Colour 02
 - 07 Aluminum (Dark) pergola
 - 08 Wood
 - 09 Wood Soffit



2 Richmond Road Elevation
SCALE = 1 : 100

URBAN
AGRICULTURAL
PLANTERS
REFER
LANDSCAPE

Range of materials based on availability and cost:
Illustrated are products from Pure + Freeform and Old Country Metals. Both offer custom products based on volume.

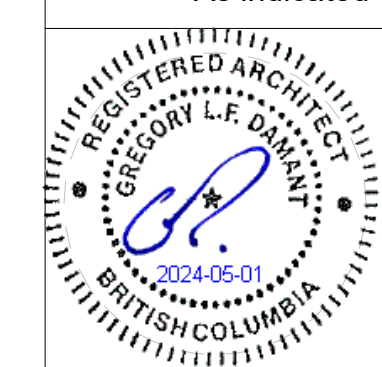


4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



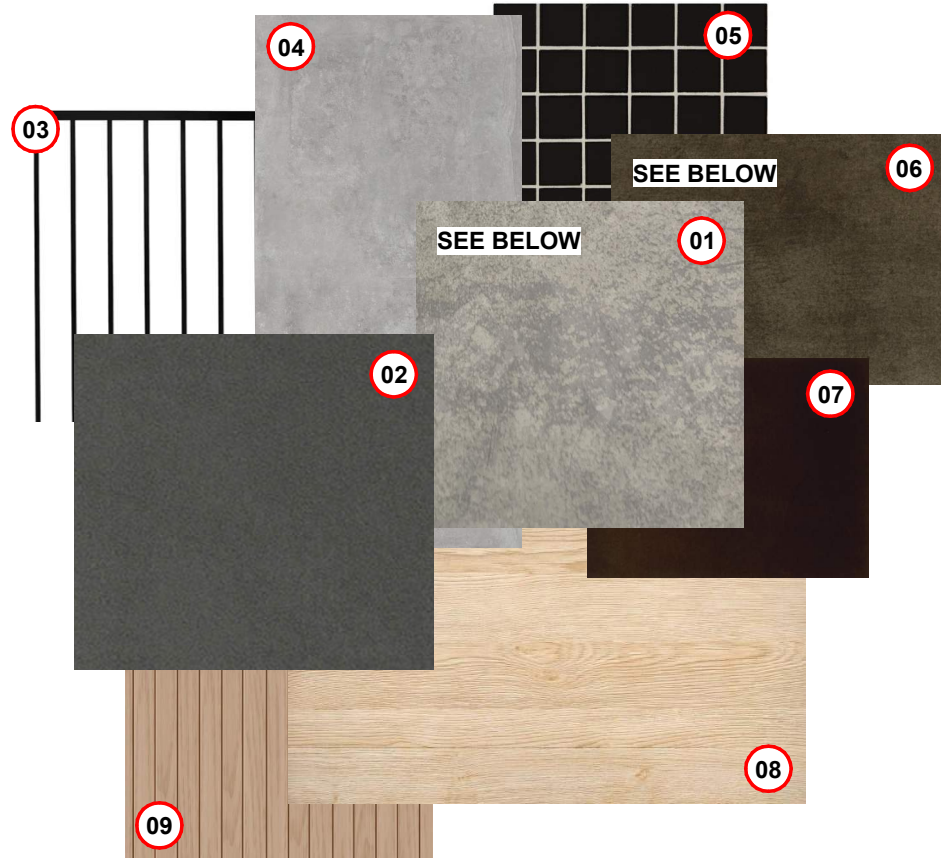
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TURNER SITE		
EMPRESA PROPERTIES 2002 Richmond Rd, Victoria, BC		
Sheet Name	Elevations	
Date	2024-05-01 2:57:13 PM	
Scale	As indicated	Project # 2305
Revision	2024.05.01	4
Sheet #	A200	

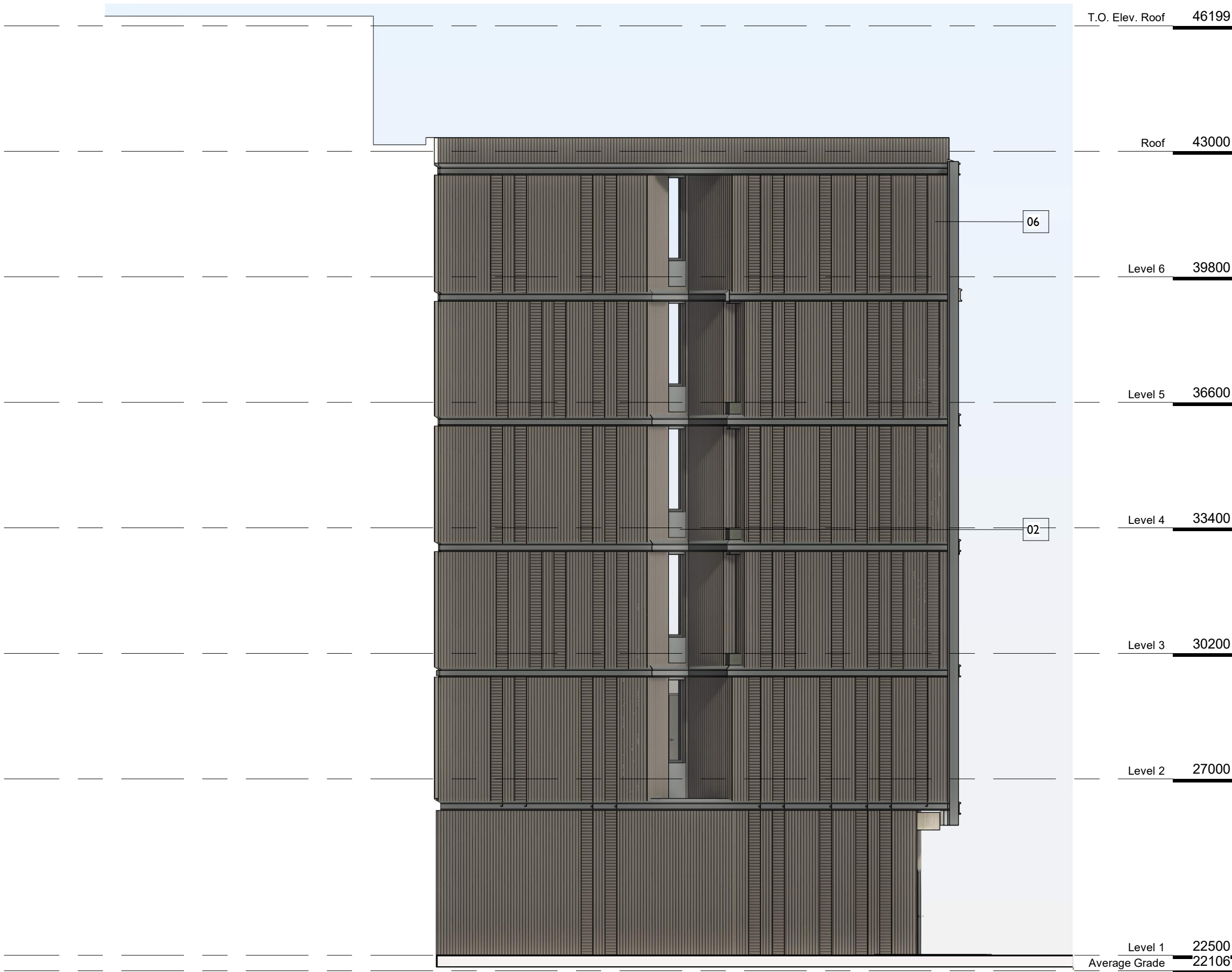




MATERIALS LEGEND	
01	Metal Panel - Colour 01
02	Cementitious Panel - Dark Colour 02
03	Metal Picket - Dark Colour 02
04	Cast-in-place Arch. Concrete
05	Black tile
06	Metal Panel - Colour 02
07	Aluminum (Dark) pergola
08	Wood
09	Wood Soffit



1 NORTH FACING ELEVATION FROM 2020 RICHMOND SITE
SCALE = 1 : 100



Range of materials based on availability and cost:
Illustrated are products from Pure + Freeform and Old Country Metals. Both offer custom products based on volume.



4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



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TURNER SITE

EMPRESA PROPERTIES
2002 Richmond Rd, Victoria,
BC

Sheet Name
Elevations

Date
2024-05-01 2:57:27 PM

Scale
As indicated

Project #
2305

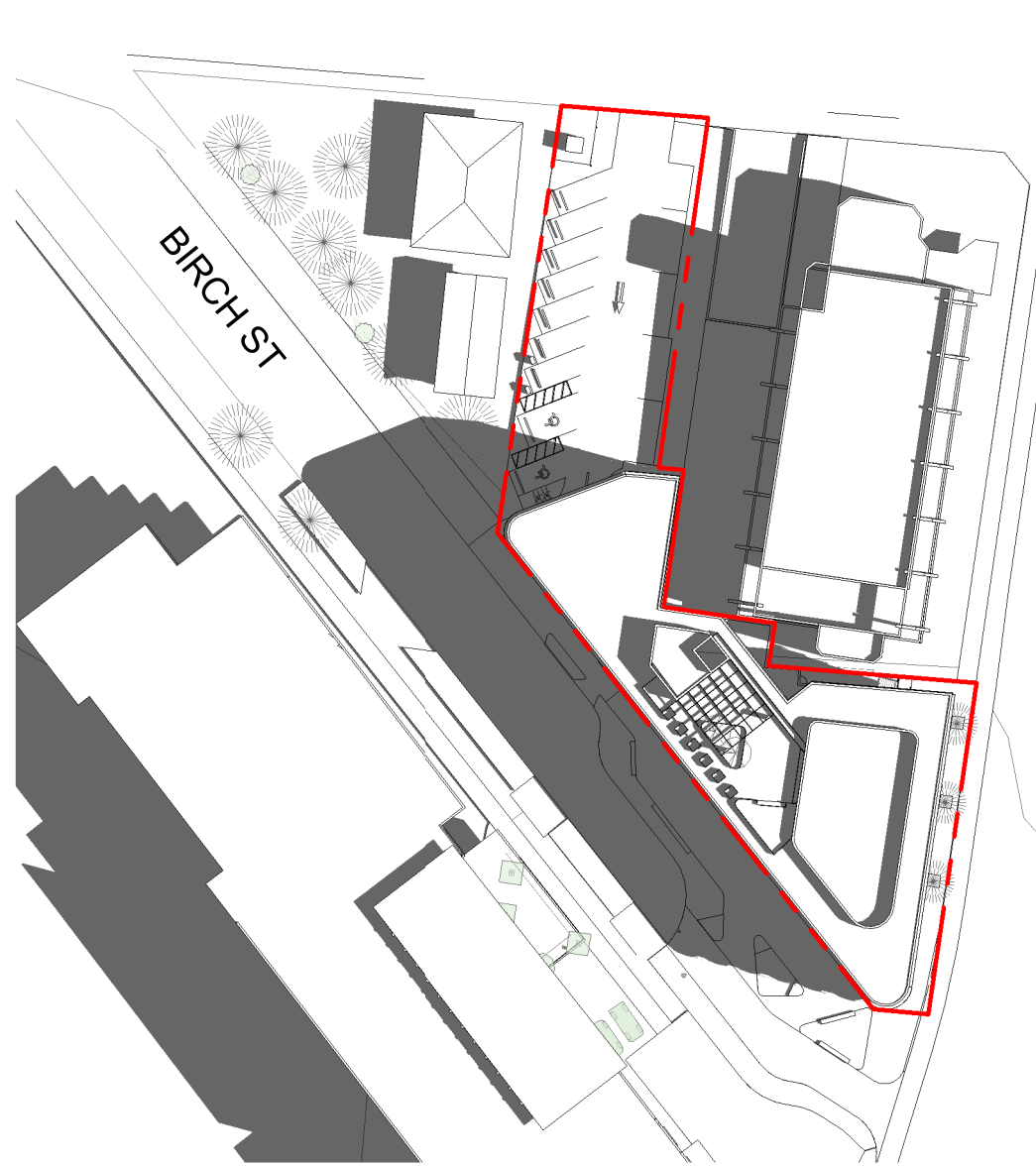
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2024.05.01

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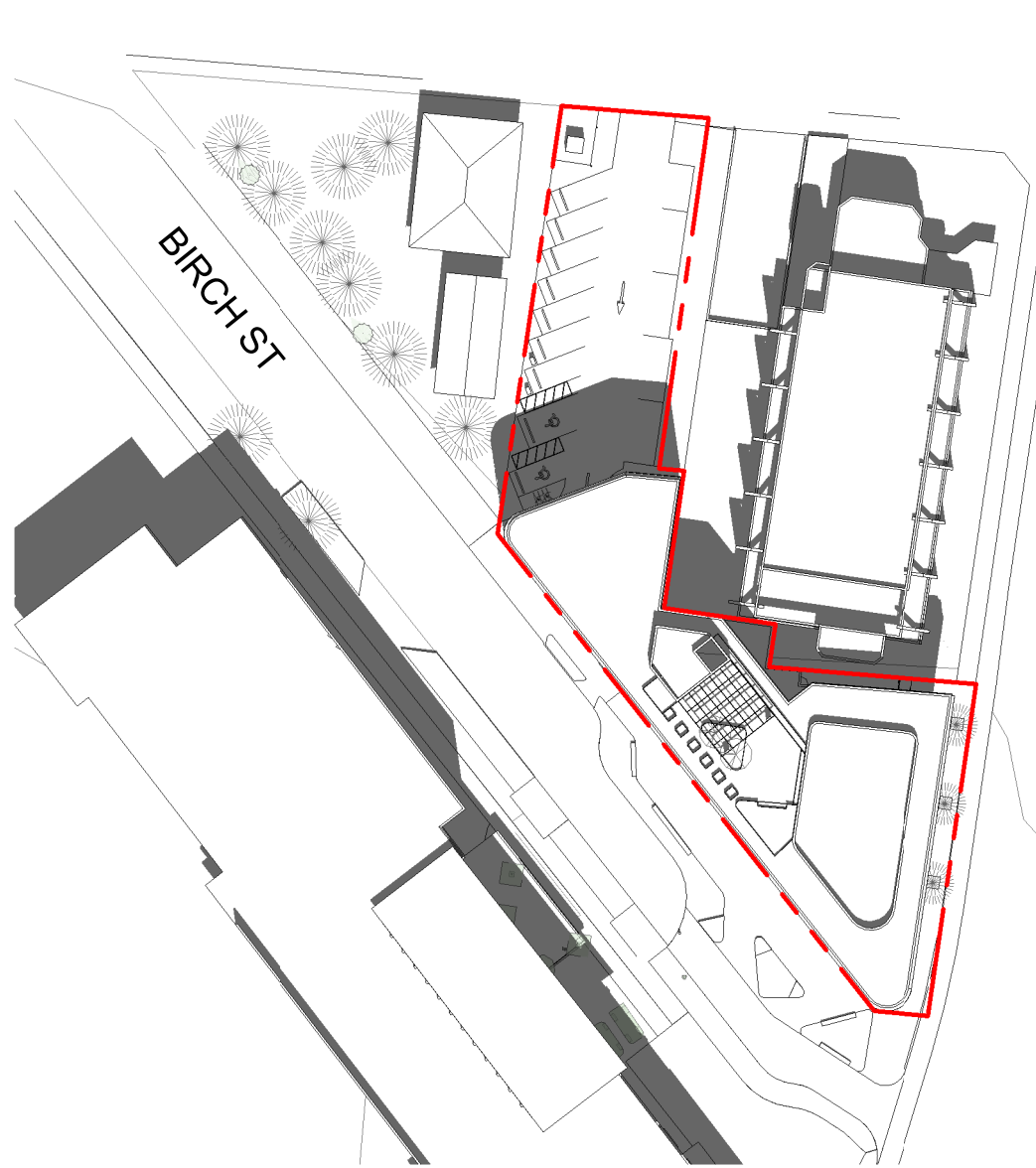
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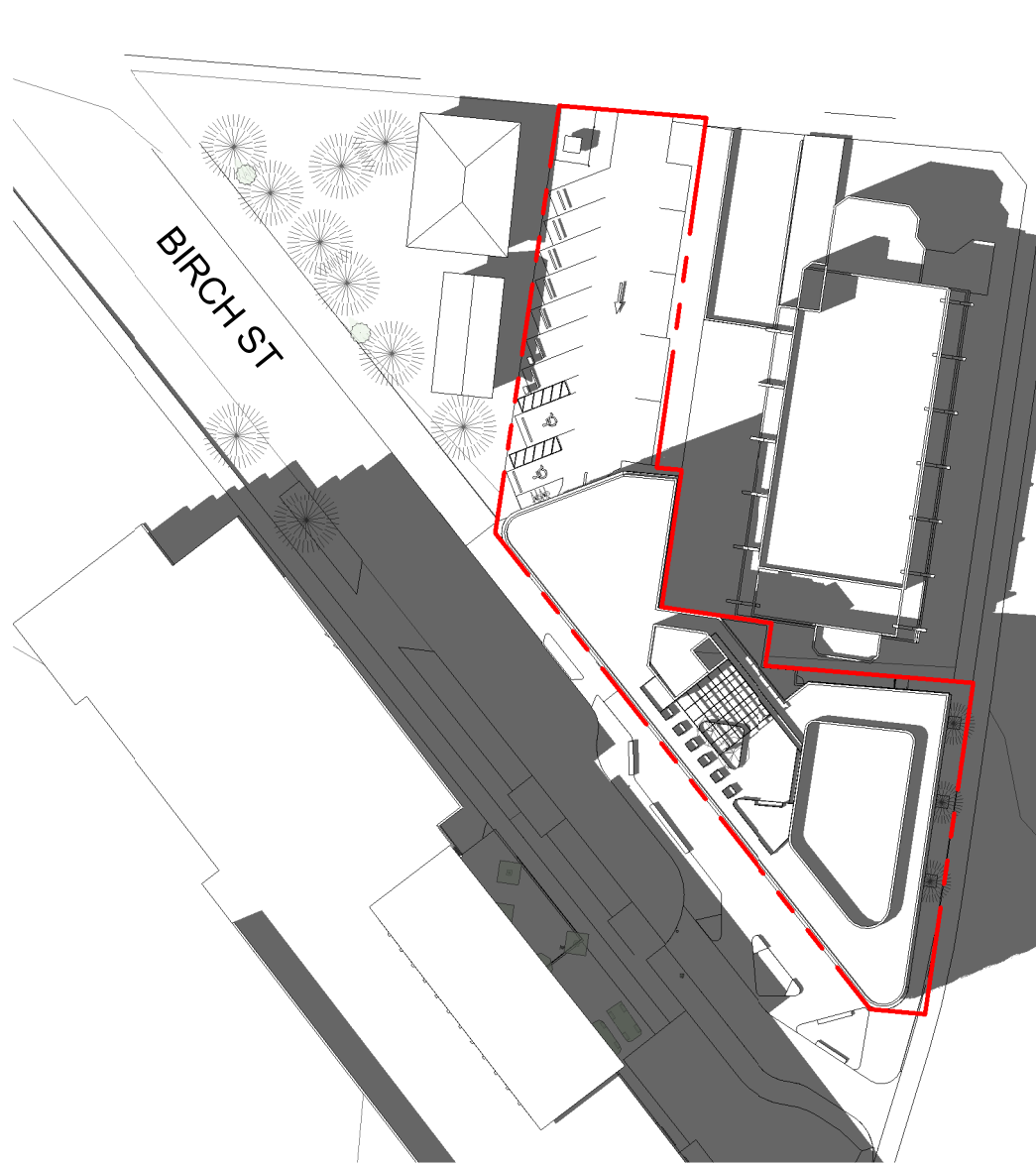
2 EAST FACING ELEVATION FROM 2020 RICHMOND SITE
SCALE = 1 : 100



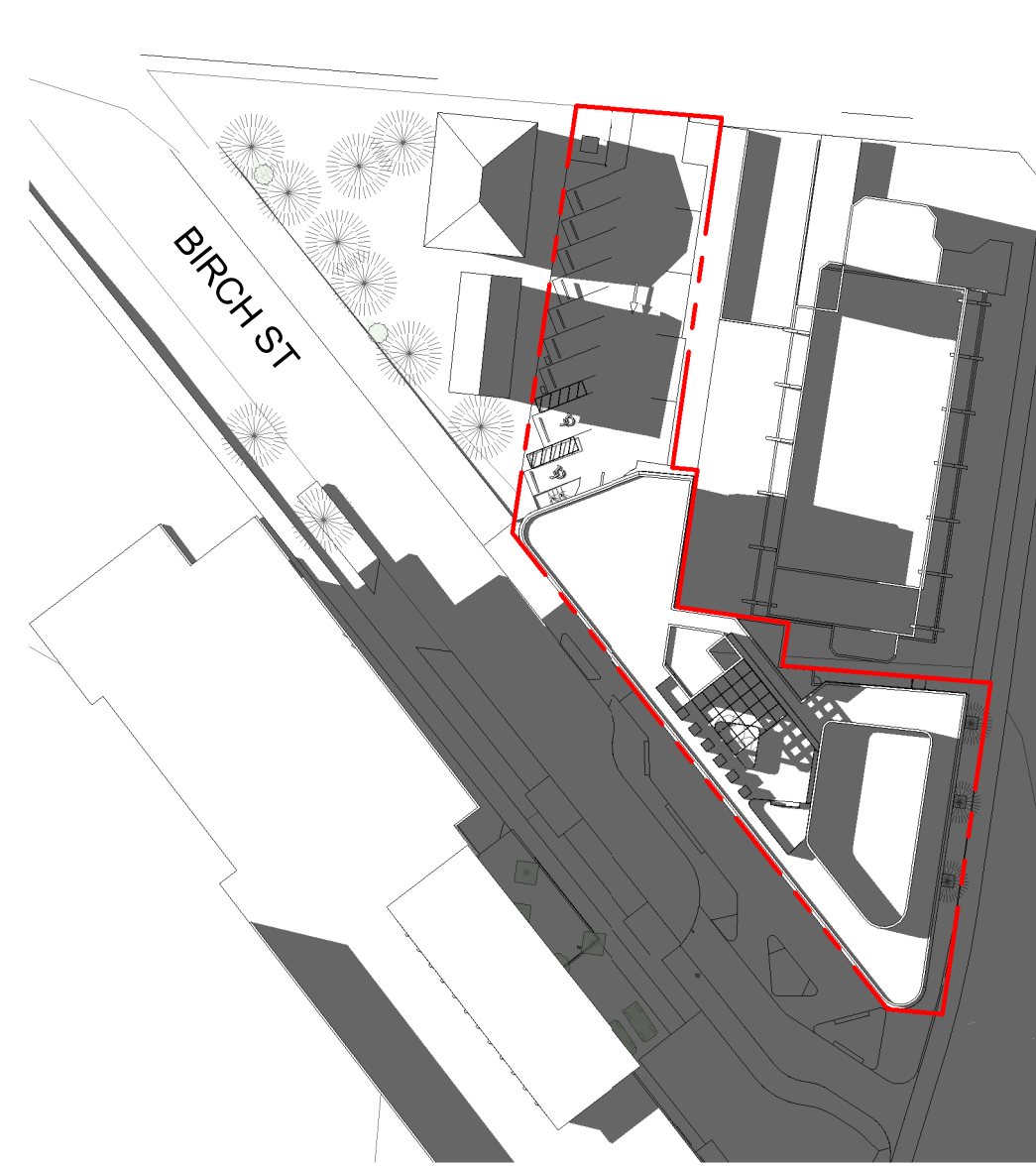
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SCALE = 1 : 750



2 Shadow Study - Summer Solstice 12 PM
SCALE = 1 : 750



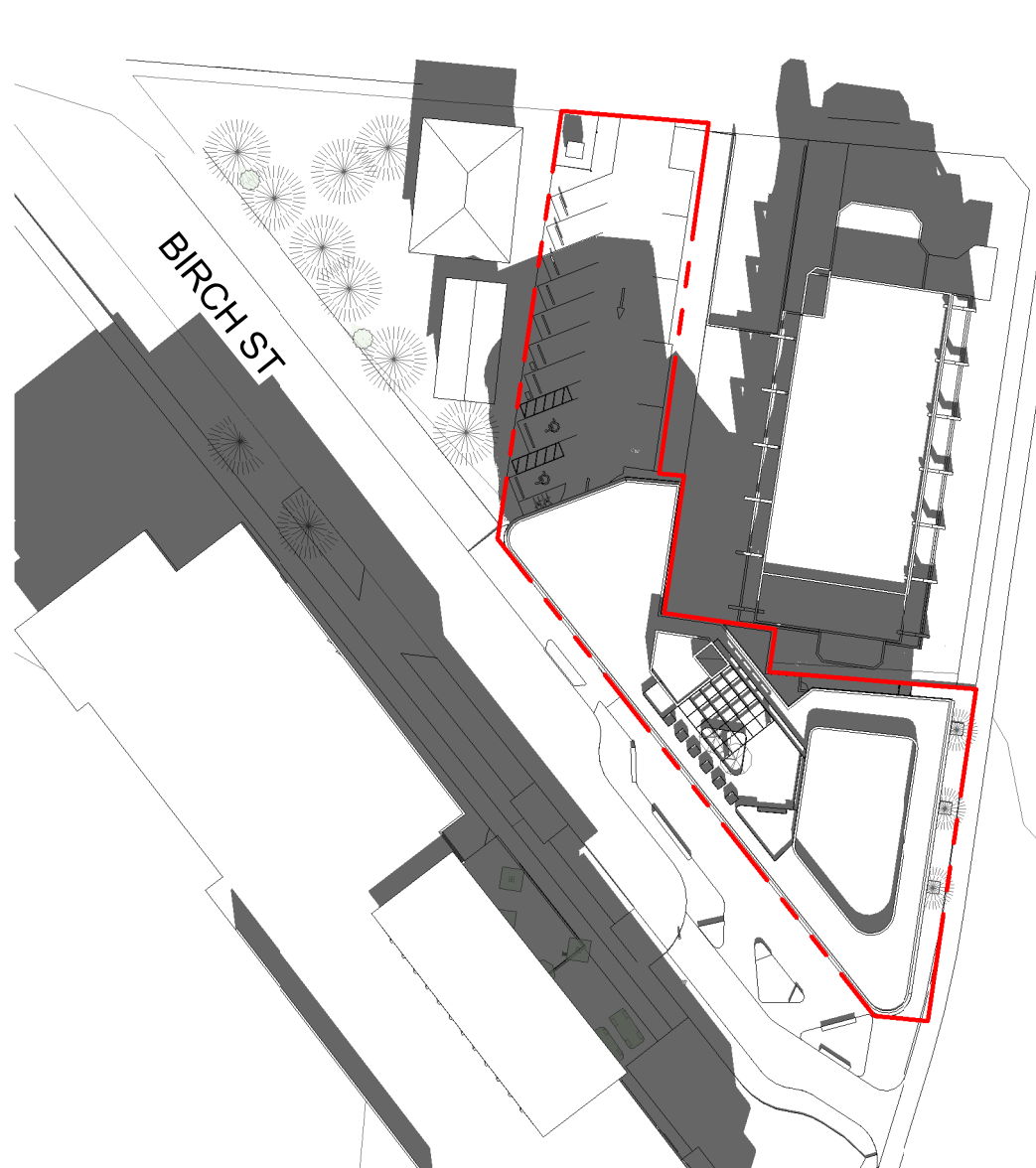
3 Shadow Study - Summer Solstice 3 PM
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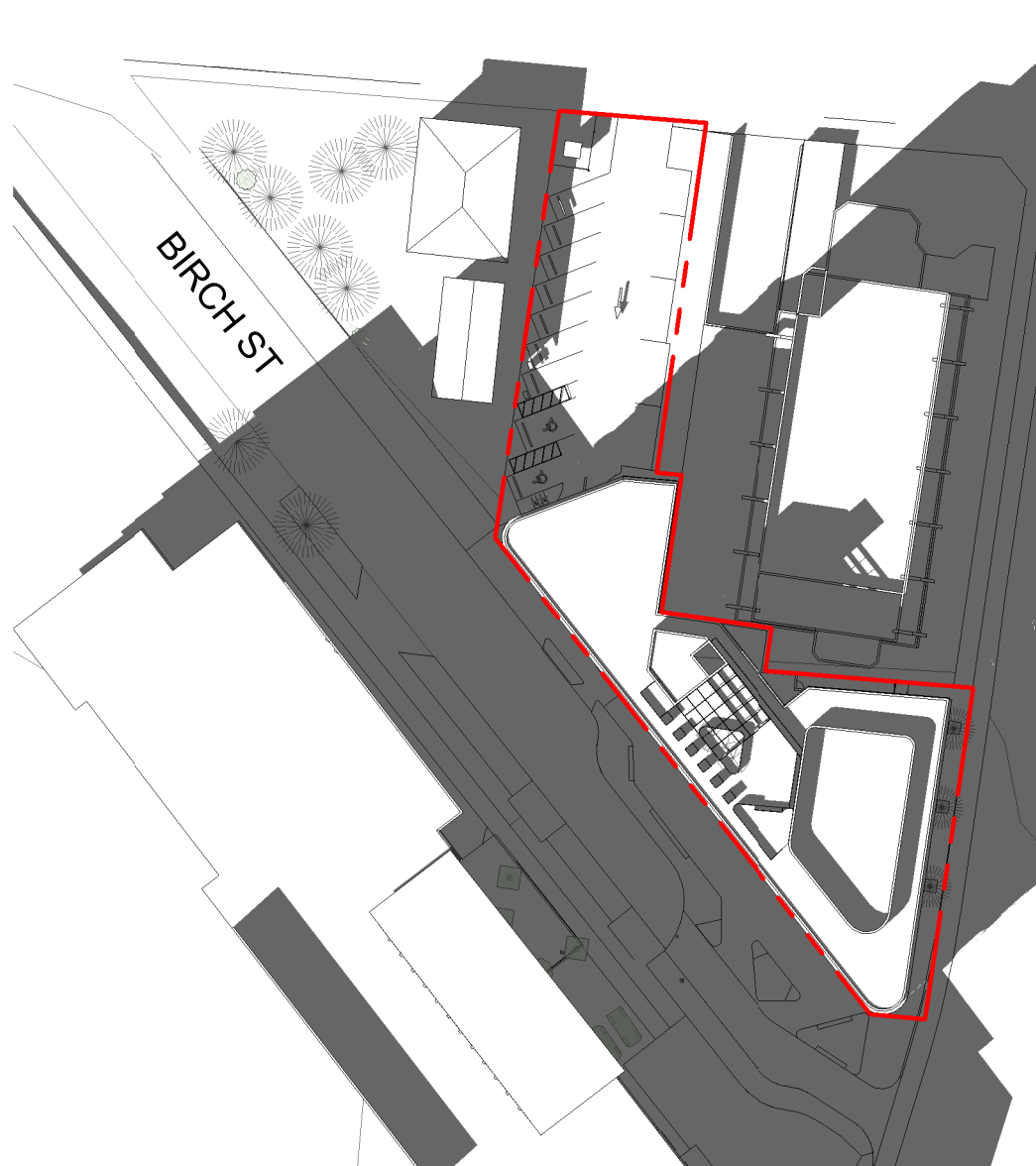
4 Shadow Study - Summer Solstice 6 PM
SCALE = 1 : 750



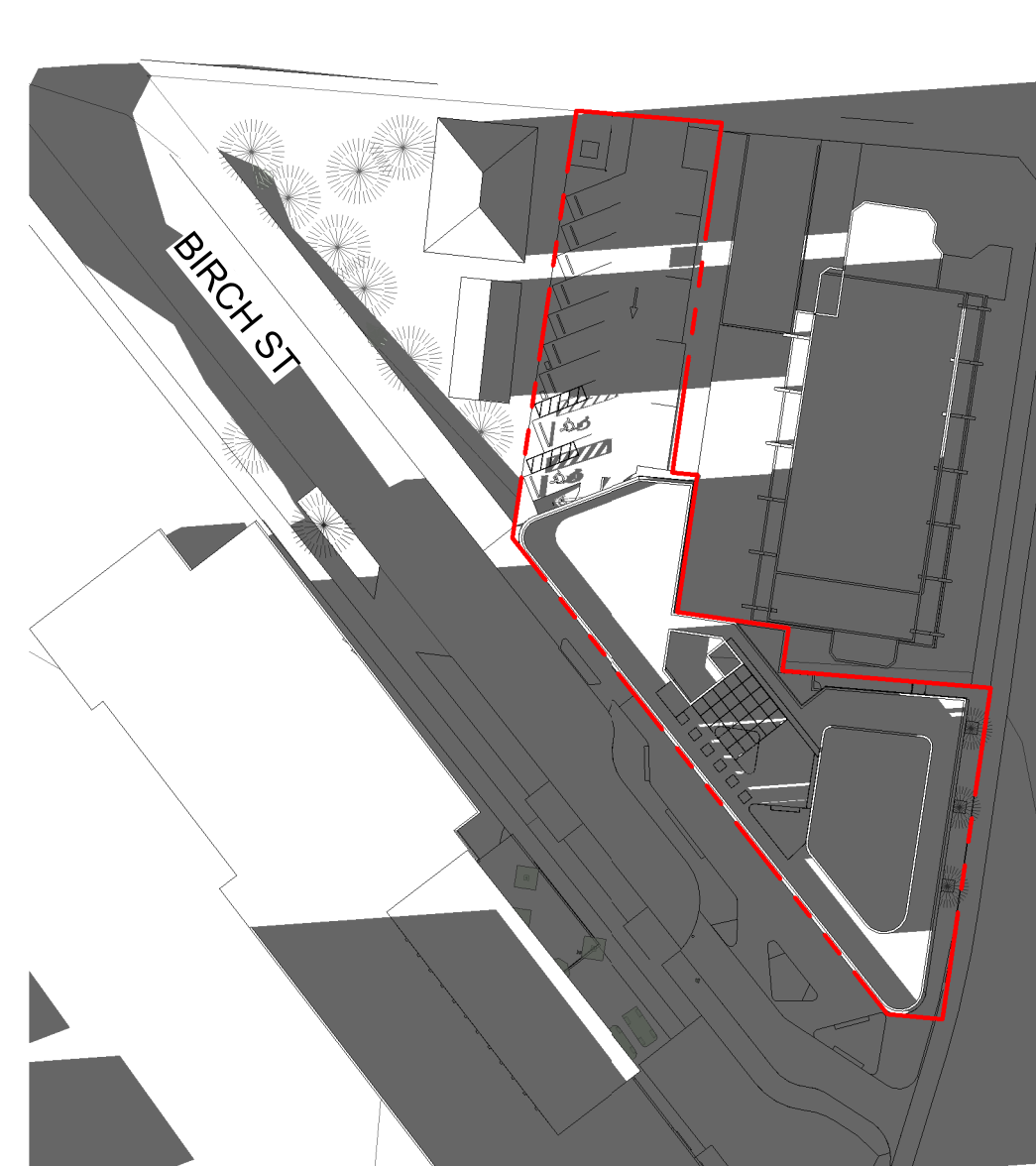
5 Shadow Study - Equinox 9 AM
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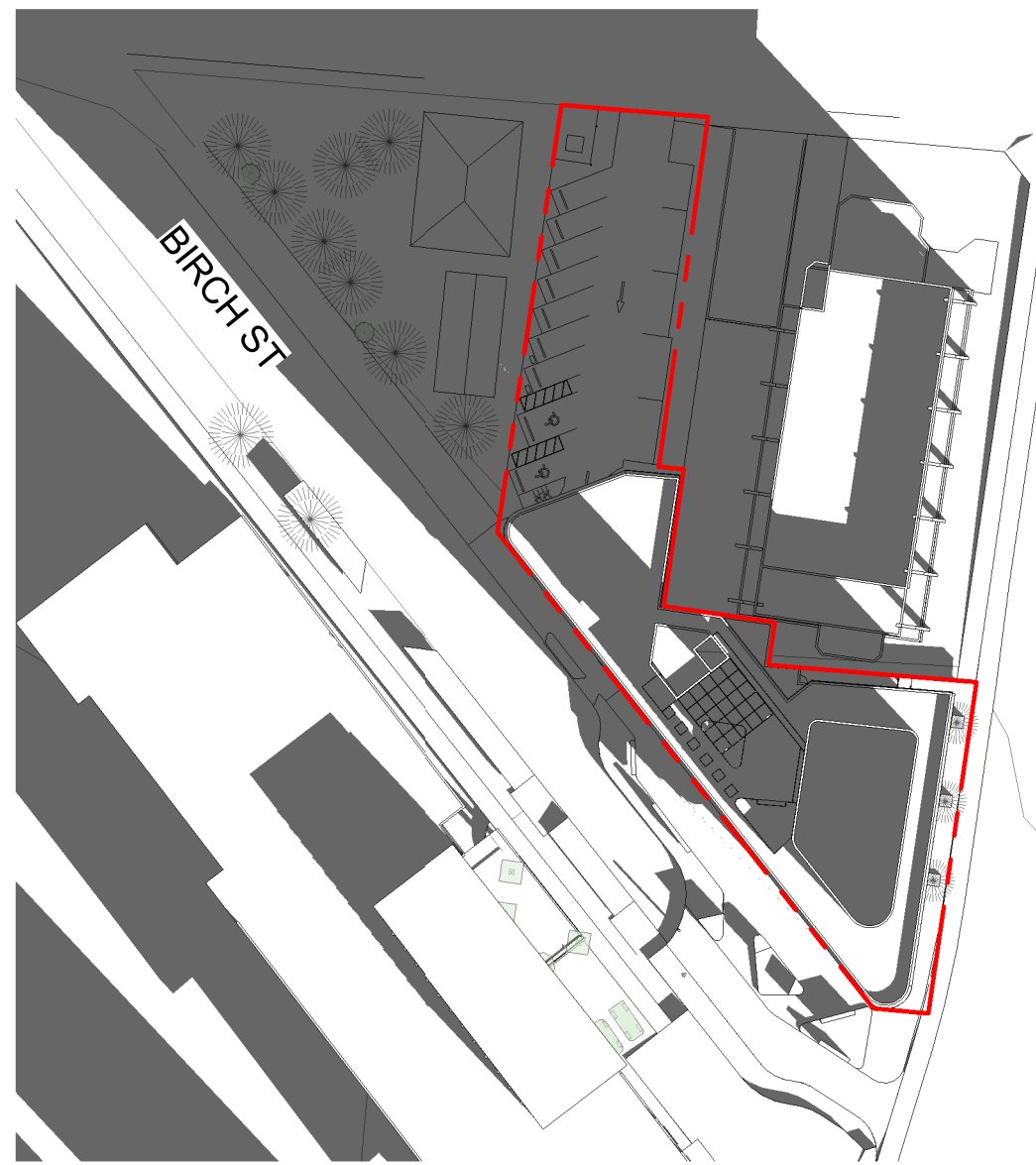
6 Shadow Study - Equinox 12 PM
SCALE = 1 : 750



7 Shadow Study - Equinox 3 PM
SCALE = 1 : 750



8 Shadow Study - Equinox 6 PM
SCALE = 1 : 750



9 Shadow Study - Winter Solstice 9 AM
SCALE = 1 : 750



10 Shadow Study - Winter Solstice 12 PM
SCALE = 1 : 750

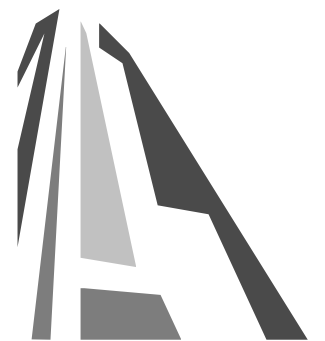


11 Shadow Study - Winter Solstice 3 PM
SCALE = 1 : 750



12 Shadow Study - Winter Solstice 6 PM
SCALE = 1 : 750

4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE



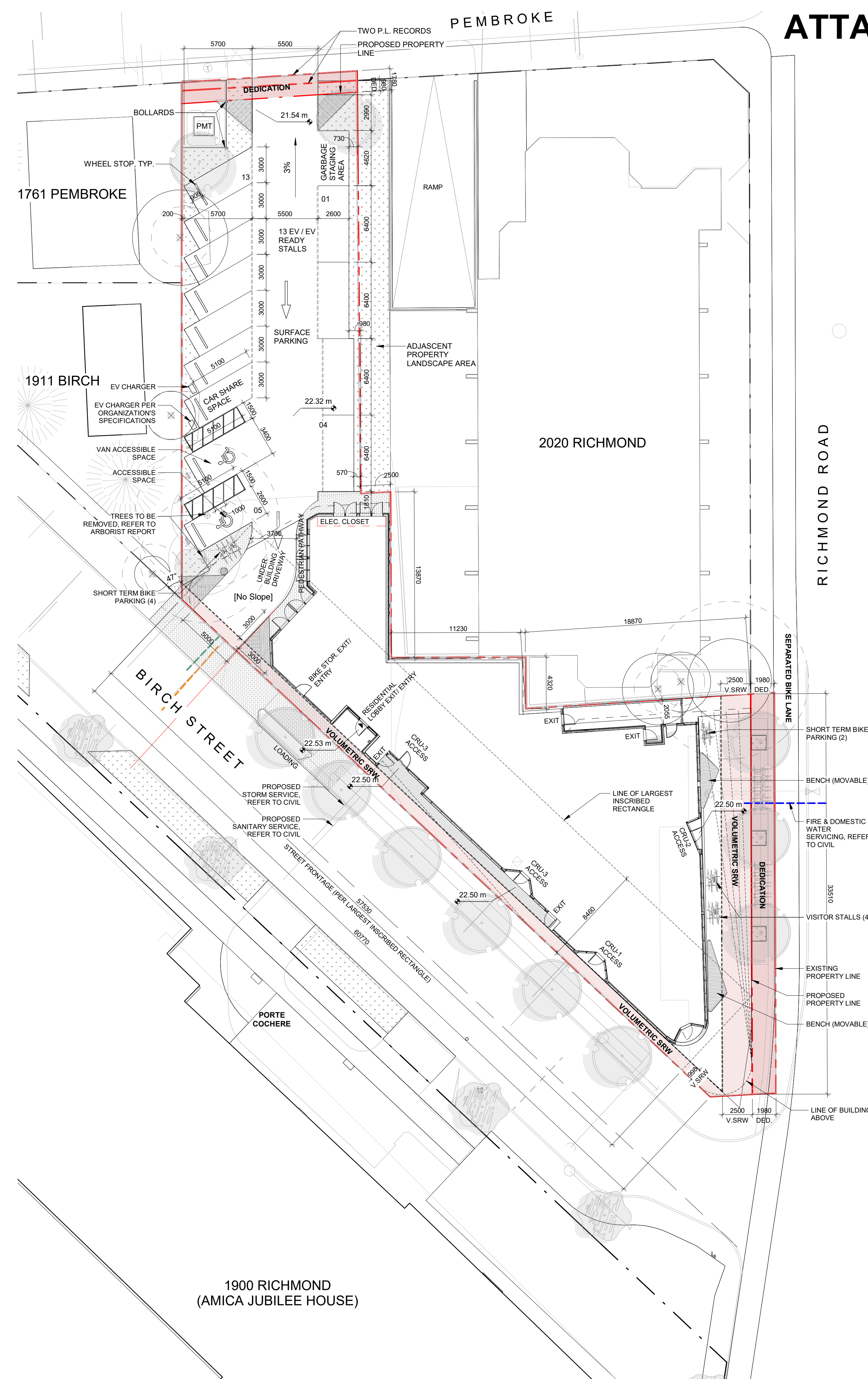
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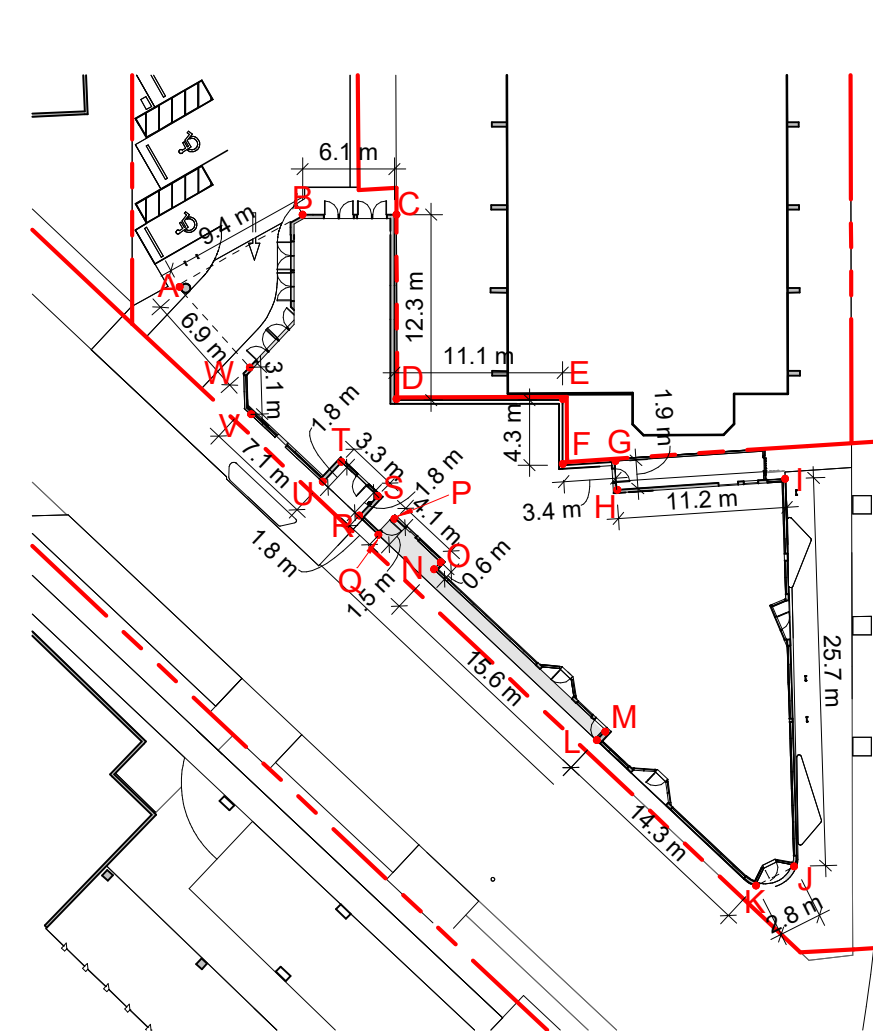
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Revision 2024.05.01		4
Sheet # A900		



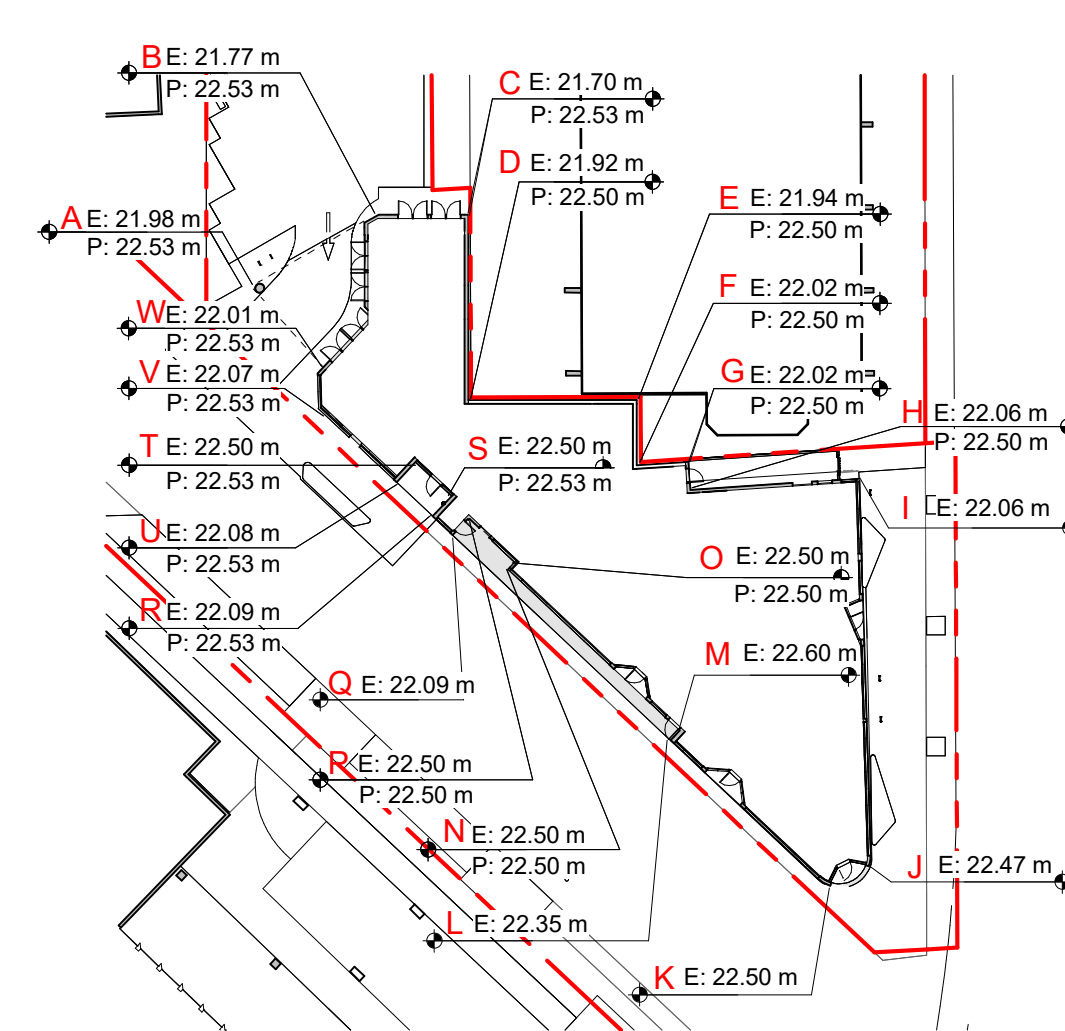
ATTACHMENT B



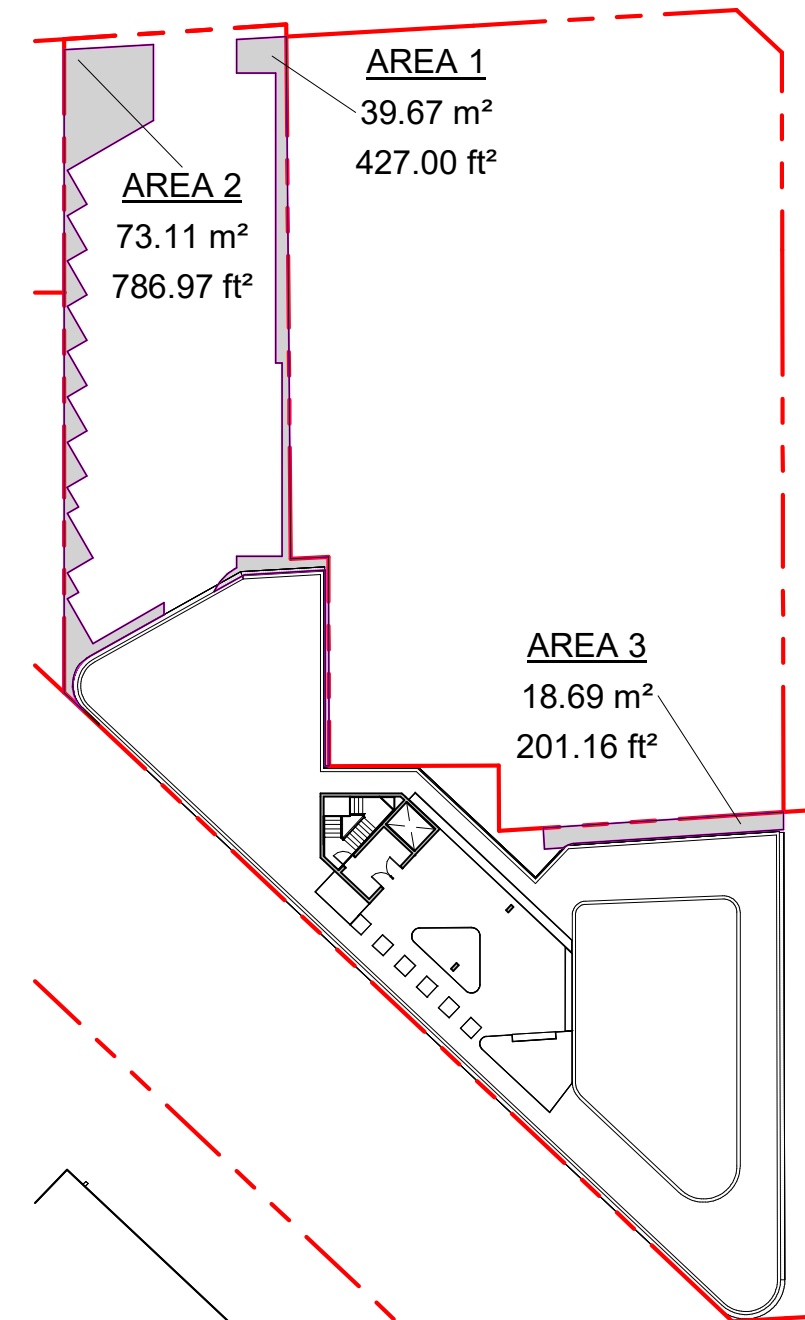
1 SITE PLAN-Project Data
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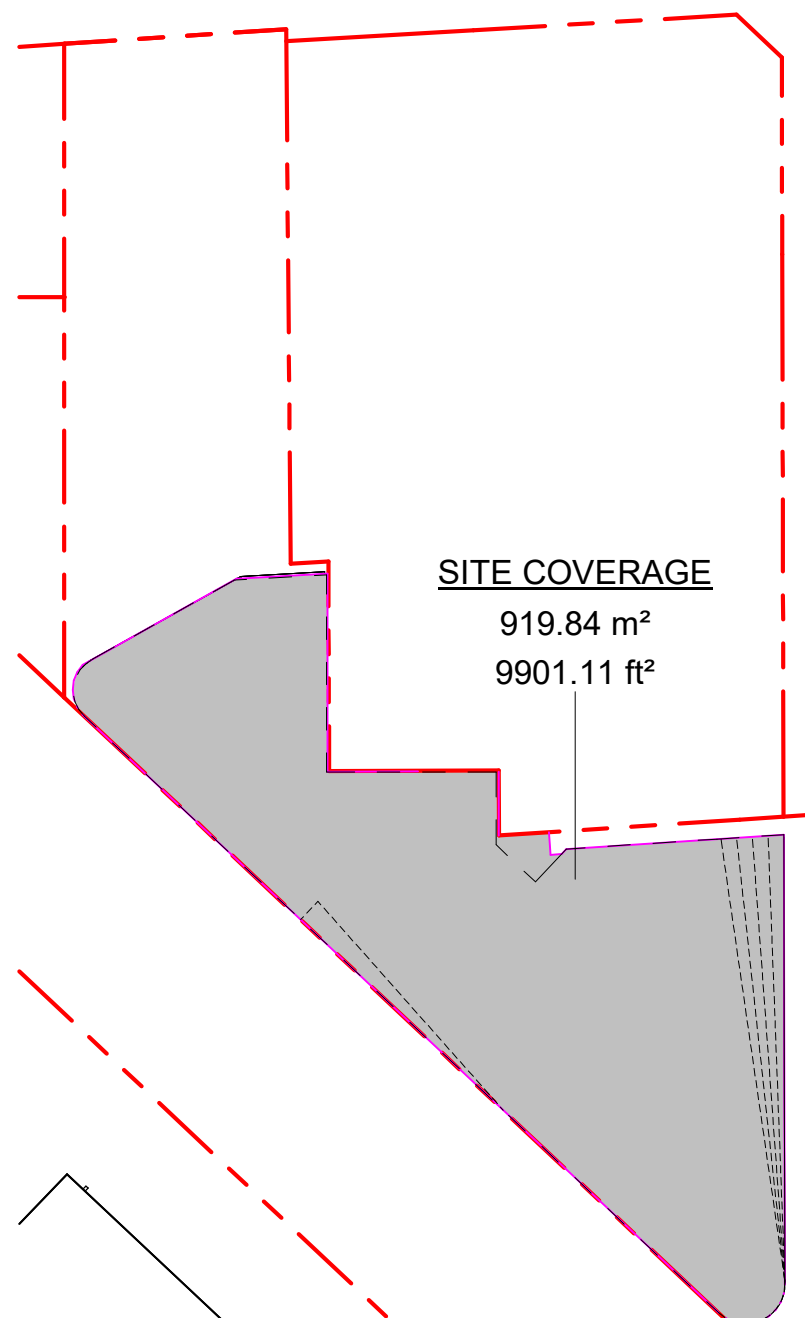
2 Distance Between Points
SCALE = 1 : 500



3 Average Grade Calculation
SCALE = 1 : 500



4 OPEN SITE SPACE
SCALE = 1 : 500

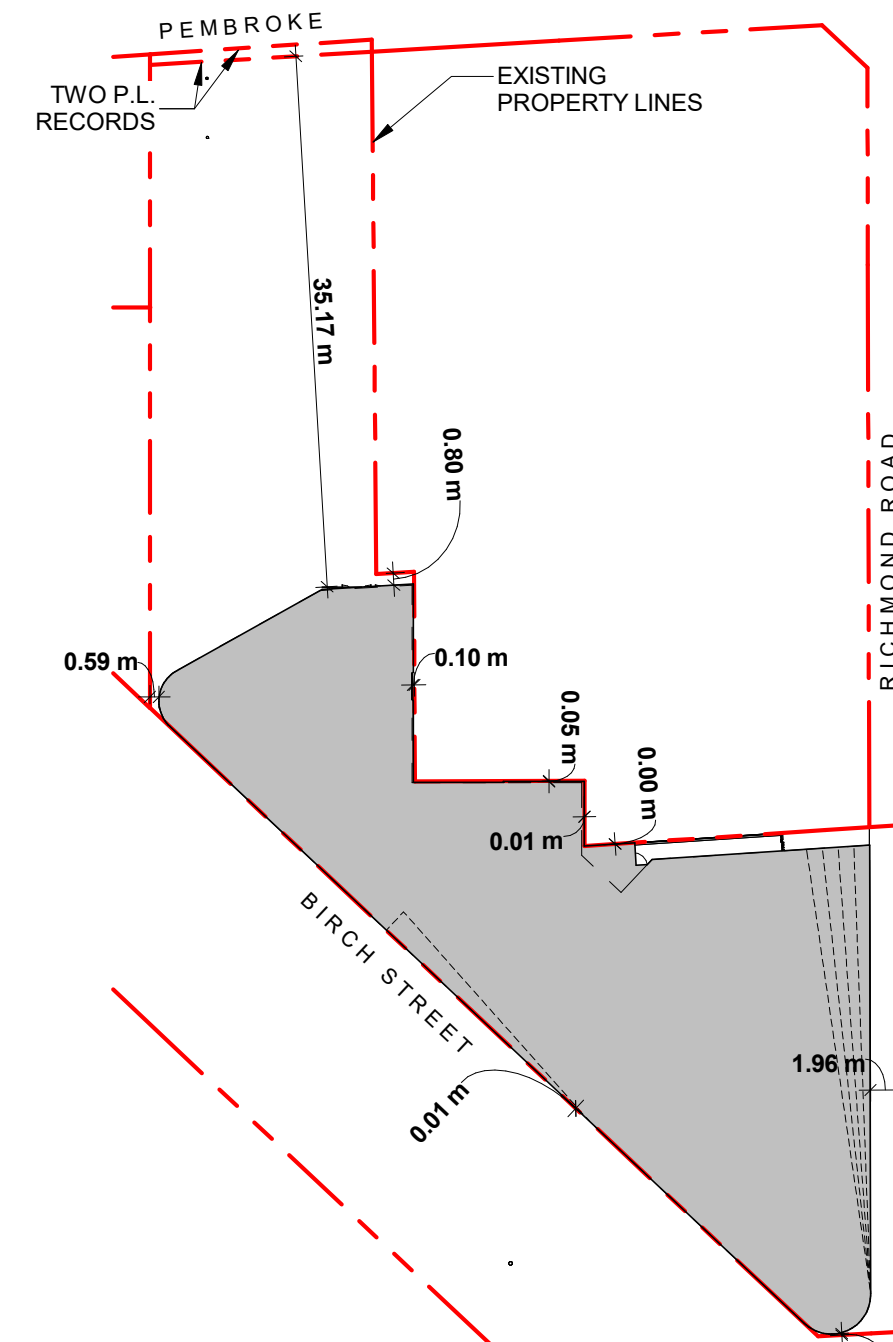


5 SITE COVERAGE
SCALE = 1 : 500

ZONING DATA				
ZONE	TBD - SITE SPECIFIC			
USE	RESIDENTIAL (L2-L6) COMMERCIAL (L1)			
EXISTING SITE AREA	1,586.8		m ²	
PROPOSED DEDICATION AREA	93.5		m ²	
PROPOSED SITE AREA	1,494.2		m ²	
REGULATORY CONDITIONS				
GROSS FLOOR AREA	4319.3		m ²	
COMMERCIAL FLOOR AREA	370.1		m ²	
TOTAL RESIDENTIAL FLOOR AREA	3949.2		m ²	
BUILDING HEIGHT (from Natural Grade)	24.0		m	
SETBACKS	RICHMOND	1.96	m	
	PEMBROKE	35.17	m	
	BIRCH	0.01	m	
	WEST (SIDE)	0.6	m	
EXTERIOR OPEN SPACE	136.1		m ²	
OPEN SITE SPACE	8.8		%	
FLOOR SPACE RATIO (FSR)	2.89 : 1			
SITE COVERAGE	61.7		%	
PARKING - VEHICLE				
USE	DENSITY	RATE	REQ'D	PROVIDED
RESIDENTIAL	10 UNITS (<45m ²)	0.75 / unit	7.5	13 SPACES
	25 UNITS (45-70m ²)	0.90 / unit	22.5	
	20 UNITS (>70m ²)	1.30 / unit	26	
VISITOR (RES.)	55 UNITS	0.1 / unit	5.5	
COMM. *	395.3m ²	1 / 20m ²	19.7	
TOTAL:			81	
PARKING - BICYCLE				
USE	DENSITY	RATE	REQ'D	PROVIDED
RESIDENTIAL	10 UNITS (<45m ²)	1 / unit	10	110 LONG TERM
	45 UNITS (> 45m ²)	1.25 / unit	56	
VISITOR (RES.)	55 UNITS	6 spaces	6	10 SHORT TERM
COMM. *	395.3m ²	1 / 200m ²	2	
VISTOR (COMM.)*	395.3m ²	1 / 100m ²	4	
TOTAL:			78	
RESIDENTIAL USE DETAIL				
Total number of Units		55		
UNIT TYPE				
Studio		10		
1 Bed		25		
2 Bed		20		
Minimum unit floor area		33.74 m ²		

* MOST RESTRICTIVE CRU USE APPLIED FOR SCHEDULE-C CALUCATIONS

This drawing has been provided as supplemental information to illustrate an alternate frontage improvement scheme, more in keeping with conventional improvements.



6 Building Setbacks
SCALE = 1 : 500

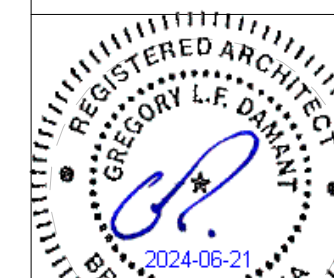
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5	DP Rezoning - Conventional Frontage	2024.06.21
4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04



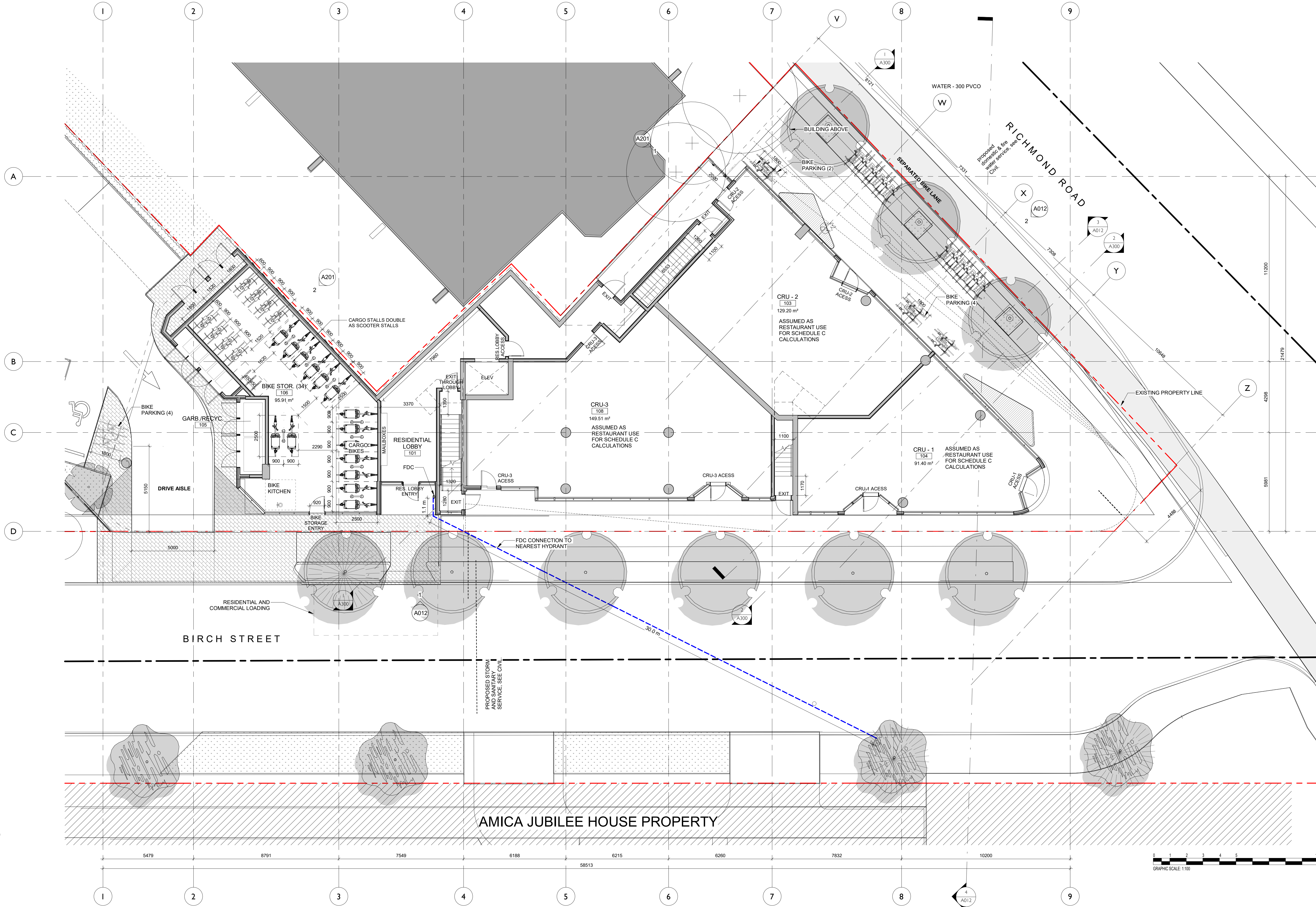
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TURNER SITE		
EMPRESA PROPERTIES 2002 Richmond Rd, Victoria, BC		
Site Plan & Project Data		
Date	2024-06-21 2:36:55 PM	
Scale	As indicated	Project # 2305
Revision	2024.06.21	5
Sheet #	A101	



A101



5	DP Rezoning - Conventional Frontage	2024.06.21
4	DP Rezoning Resubmission 2	2024.05.01
3	DP Rezoning Resubmission	2024.02.09
2	DP Rezoning Submission	2023.10.12
1	Development Tracker	2023.08.04
NO.	DESCRIPTION	DATE

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TURNER SITE

EMPRESA PROPERTIES
2002 Richmond Rd, Victoria, BC

Sheet Name

Level 1

Date

2024-06-21 2:36:59 PM

Scale

1 : 100

Project #

2305

Revision

5

2024.06.21

Sheet #

A121



This drawing has been provided as supplemental information to illustrate an alternate frontage improvement scheme, more in keeping with conventional improvements.

C:\Users\m\Documents\2305 Turner Site CONVENTIONAL FRONTAGE Cover 1_V10.cad.dwg

TURNER SITE

2002 RICHMOND RD. VICTORIA, BC

SHEET LIST

L0.00 COVER PAGE

L1.01 SITE PLAN

L2.01 SECTIONS

GENERAL LANDSCAPE NOTES

- STANDARDS:
- 1. ALL WORK ON MUNICIPAL PROPERTY TO CONFORM TO THE CITY OF VICTORIA DEVELOPMENT STANDARDS
 - 2. ALL WORK ON THE DEVELOPMENT SITE TO CONFORM TO THE BC LANDSCAPE STANDARD (BCLS) AND THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS PLATINUM EDITION (MMCD) AND MMCD SUPPLEMENTAL DRAWINGS AND SPECIFICATIONS, UNLESS SPECIFICALLY STATED OTHERWISE IN WRITTEN SPECIFICATIONS AND ON DRAWINGS.
 - 3. IN CASES OF CONFLICT BETWEEN THE BCLS AND THE MMCD STANDARDS, THE MORE STRINGENT REQUIREMENT WILL TAKE PRECEDENCE.
 - 4. LANDSCAPE CONTRACTOR TO BE FAMILIAR WITH MUNICIPAL DEVELOPMENT STANDARDS AND BE IN POSSESSION OF THE BCLS AND MMCD MANUALS AND SUPPLEMENTAL DRAWINGS AND SPECIFICATIONS.
 - 5. GROWING MEDIUM AND GROWING MEDIUM TESTING TO MMCD AND BCLS SECTION 6.
 - 6. IRRIGATION TO IABC AND BCLS STANDARDS.



LEGEND

- PROPERTY LINE
- IRRIGATION SLEEVING
- BUILDING ABOVE
- ROOT BARRIERS
- SRW LINE

MATERIALS SCHEDULE

SYMBOL	DESCRIPTION	QTY
	Paving Type 1: CIP concrete	421.5 m²
	Paving Type 4: Stamped Pervious Concrete	491.4 m²
	Planted areas -Refer to Planting plan	85.9 m²
	SOIL CELLS: 1000 MM SOIL DEPTH	92.6 m²
	Sod	49.3 m²

AMICA SITE PROPOSED TREES

PROPOSED TREES

SHORT TERM BIKE PARKING
• SEE DETAILS

MATERIALS PLAN NOTES

1. REFER TO CIVIL FOR WORKS ON TYPICAL SIDEWALKS
2. REFER TO SECTIONS AND DETAILS FOR LANDSCAPE IMPROVEMENTS

CITY OF VICTORIA - IRRIGATION

- IRRIGATION SYSTEMS ON CITY PROPERTY SHALL COMPLY TO CITY OF VICTORIA SUPPLEMENTARY SPECIFICATIONS FOR STREET TREES AND IRRIGATION SCHEDULE C, BYLAW 12-042, SUBDIVISION BYLAW, IRRIGATION DRAWINGS MUST BE SUBMITTED TO PARKS DIVISION FOR REVIEW AND APPROVAL 30 DAYS PRIOR TO INSTALLATION WORK.

• THE FOLLOWING IRRIGATION AND SLEEVING INSPECTIONS BY PARKS STAFF ARE REQUIRED BY SCHEDULE C, TO SCHEDULE AN INSPECTION PLEASE CONTACT CHUCK BASS, CBASS@VICTORIA.CA AND ALSO COPY TREE@PARKS@VICTORIA.CA AND TSH@PARKS@VICTORIA.CA 48 HOURS PRIOR TO THE REQUIRED INSPECTION TIME. IRRIGATION INSPECTION REQUIREMENTS: THE IRRIGATION SYSTEM AND SLEEVING INSPECTION REQUIREMENTS CAN BE FOUND IN SCHEDULE C OF THE VICTORIA SUBDIVISION AND DEVELOPMENT SERVICING BYLAW NO. 12-042.
- a. IRRIGATION SLEEVING PRIOR TO BACKFILLING*

b. OPEN TRENCH MAIN LINE AND PRESSURE TEST

c. OPEN TRENCH LATERAL LINE

d. IRRIGATION SYSTEM, CONTROLLER, COVERAGE TEST, BACKFLOW PREVENTER ASSEMBLY TEST

e. REPORT REQUIRED, BACKFLOW ASSEMBLY IS TO HAVE AN INSPECTION TAG COMPLETED AND

f. ATTACHED.

NOTE: PARKS IS NOW REQUESTING THAT 100MM SDR 28 PIPE BE USED FOR IRRIGATION SLEEVING UNDER HARD SURFACES. INSTALLATIONS WHERE A 90-DEGREE BEND IS REQUIRED SHOULD BE INSTALLED USING 100MM SDR 28 GSX (22.5 DEGREE) LONG SWEEPS. PLEASE INSTALL AT 400MM DEPTH.

ON-SITE IRRIGATION

- IRRIGATION
- ALL PLANTED LANDSCAPE AREAS TO BE IRRIGATED BY AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM DESIGNED BY AN IAABC CERTIFIED IRRIGATION DESIGNER AND INSTALLED TO IAABC STANDARDS

• WATER WISE MP ROTATOR SPRAY HEADS

• BACKFLOW PREVENTION DEVICE AND WINTERIZATION BLOW OUT

• WIFI TIMER

PROPOSED BOULEVARD TREES

- PROPOSED BOULEVARD TREES
- TREE SPECIES TO BE COORDINATED WITH PARKS PRIOR TO PLANTING

• TREES MUST HAVE ONE DOMINANT CENTRAL LEADER OR SINGLE STRAIGHT TRUNK, 5-8 cm DIAMETER, CALIPER MEASURED 15 cm ABOVE GROUND, WELL-BALANCED CROWN WITH BRANCHING STARTING AT 1.8m/2.5m ABOVE GROUND

• TREES TO BE PLANTED AS PER PLANTING OF TREES, SHRUBS AND GROUND COVERS (S2 93 01 MMCD 2009 AND CITY OF VICTORIA SUPPLEMENTAL DRAWINGS SD P3 AND SD P4)

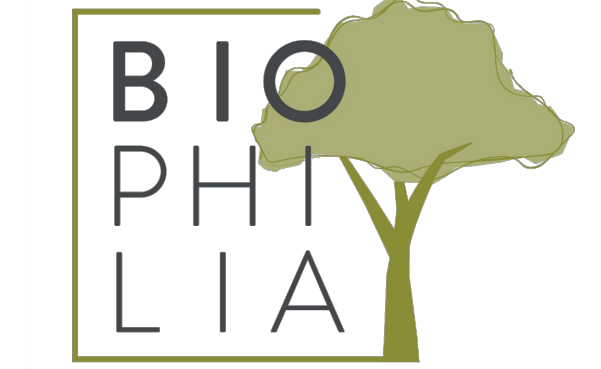
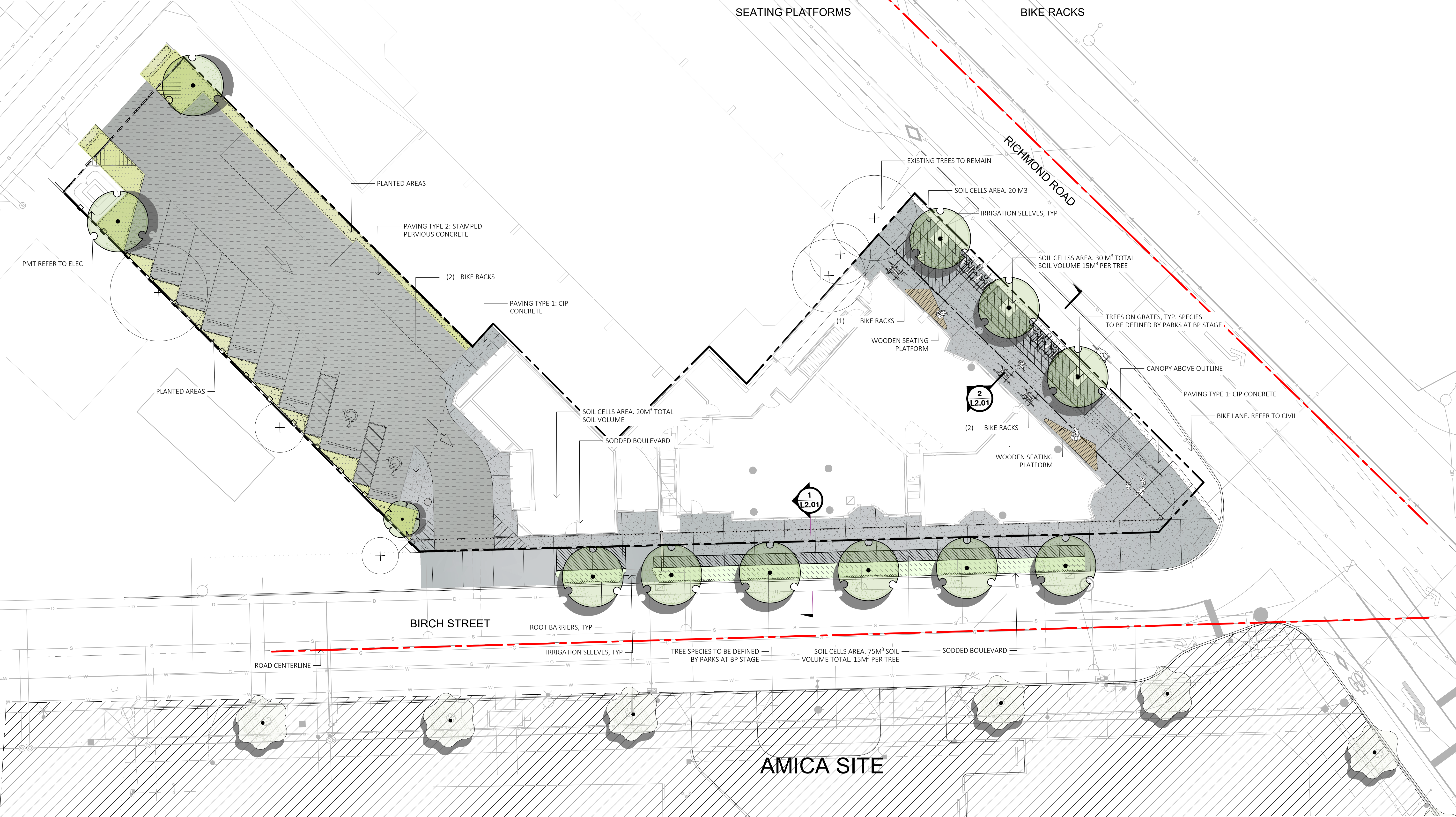
• PARKS WILL REQUIRE 3 INSPECTIONS FOR TREE PLANTING: 1) INSPECTION OF SOIL AND PLANTING AREA, 2) INSPECTION OF STOCK UPON DELIVERY, 3) INSPECTION OF INSTALLED TREE WITH MULCH AND STAKING. TRUNK FLARE MUST BE VISIBLE AND PLANTED AT OR SLIGHTLY ABOVE GRADE UPON INSPECTION. THE APPLICANT MUST MAINTAIN THE TREE IN GOOD HEALTH AND STRUCTURAL CONDITION FOR 3 YEAR FROM THE SUBSTANTIAL COMPLETION TO BE ELIGIBLE FOR DEPOSIT RETURN.



SEATING PLATFORMS



BIKE RACKS



1608 Camosun Street, Victoria BC V8T 3E6
Info@biophiliacollective.ca 250 590 1156

OWNER/CLIENT:
EMPRESA PROPERTIES

PROJECT NAME:
TURNER SITE

PROJECT ADDRESS:
**2002 RICHMOND RD
VICTORIA, BC.**

DESIGNED BY: BIANCA BODLEY
DRAWN BY: GRACE MORAZZANI

4	ISSUED FOR DP RESUBMISSION	5/1/2024
3	ISSUED FOR DP RESUBMISSION	2/9/2024
2	ISSUED FOR DP/REZONING	10/11/2023
1	ISSUED FOR DEVELOPMENT TRACKER	08/08/2023
NO.	ISSUE	MM/DD/YY

SEAL



DRAWING TITLE:
**CONVENTIONAL FRONTAGE
SITE PLAN**

DWG NO:

SCALE: 1:150

L1.01



1608 Camosun Street, Victoria BC V8T 3E6
Info@biophiliacollective.ca 250 590 1156

OWNER/CLIENT:
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SEAL

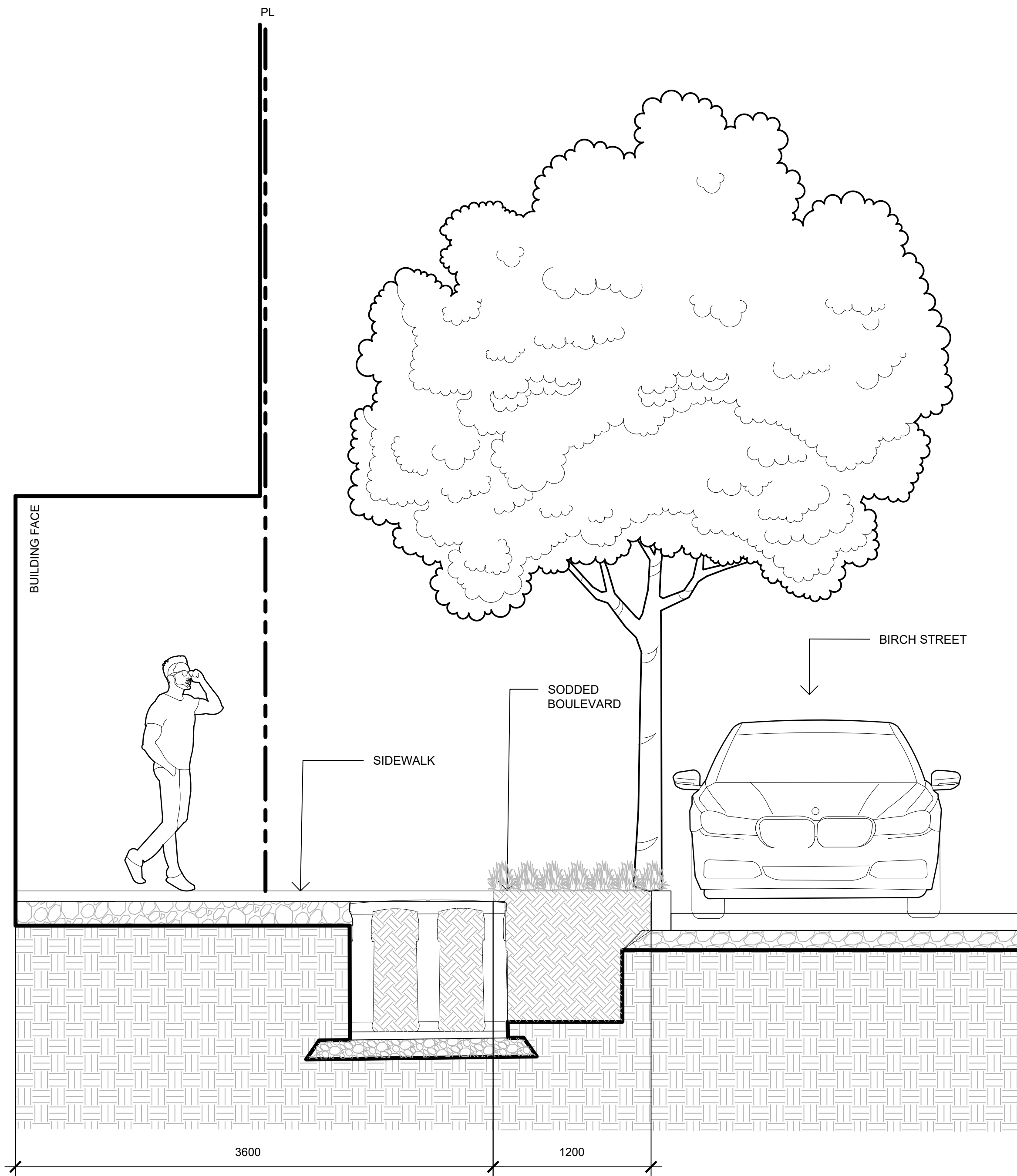


DRAWING TITLE:
SECTIONS

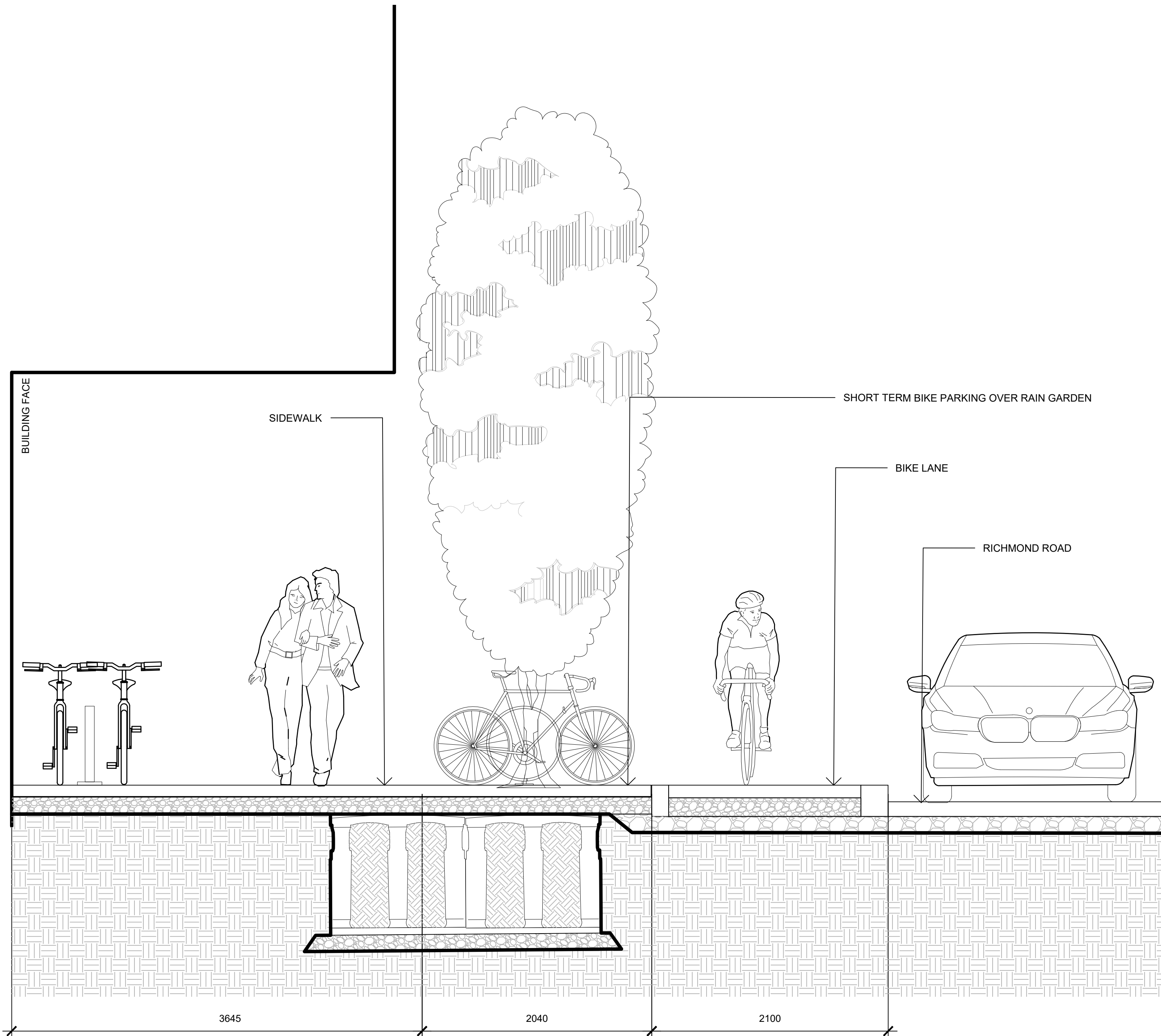
DWG NO:

SCALE: 1:50

L2.01



1 SECTION A-A: BIRCH STREET
1:25



2 SECTION B-B: RICHMOND ROAD
1:50



Appendix Data Table

The following data table compares the proposal with the existing C-1 Zone, Limited Commercial District. An asterisk is used to identify where the proposal is less stringent than the existing Zone. Key OCP policies are included where relevant.

Zoning Criteria	Proposal	Existing Zone (C-1)	OCP Policy (Urban Residential)
Site area (m ²) – minimum	1493.30	n/a	n/a
Density (Floor Space Ratio) – maximum	2.89*	1.40	2.0
Total floor area (m ²) – maximum	4316.60*	2090.62	2986.60
Height (m) – maximum	24.09*	12.00	n/a
Storeys – maximum	7	n/a	3 to 6
Site coverage (%) – maximum	61.25	n/a	n/a
Open site space (%) – minimum	8.55	n/a	n/a
Setbacks (m) – minimum			
Front (Birch Street)	0* (Upper Storeys) 0.998* (1st Storey)	11.90	n/a
Flanking Street (Richmond Road)	0*	2.40	n/a
Side (West)	0.59*	0 when adjoining commercial 5.95 when adjoining residential	n/a
Side (North East)	0.00*	0 when adjoining commercial 5.95 when adjoining residential	n/a

Zoning Criteria	Proposal	Existing Zone (C-1)	OCP Policy (Urban Residential)
Parking – minimum	13* total (including car share) 1* - visitor	87 – total 6 – visitor	n/a
Visitor parking included in the overall units – minimum	1* - accessible 1* - van accessible 0* visitor van accessible	3 accessible 1 van accessible 1 visitor van accessible	n/a
Bicycle parking stalls – minimum			
Short Term	10	10	n/a
Long Term	110	70	n/a

October 12, 2023

City of Victoria
No.1 Centennial Square
Victoria BC
V8W 1P6

Attn.: Mayor & Council

**Re: 2002 Richmond Road, 1909 Birch Street, 1769 Pembroke Street
Rezoning and Development Permit Application**

Cascadia Architects is pleased to submit, on behalf of Empresa Properties Ltd., a Rezoning and Development Permit Application for the properties located at 2002 Richmond Road, 1909 Birch Street, and 1769 Pembroke Street, commonly referred to as the "Turner Site". The application proposes the construction of a 6-storey 55-unit mixed-use commercial and residential building that carefully responds to the relevant 2012 Official Community Plan directions, the 1996 Jubilee Neighbourhood Plan and City of Victoria Design Guidelines for Multi-Unit Residential projects.

For many years the art-deco inspired building, home to *Turner's News* and *Ian's Coffee Stop*, was a gathering place for residents of North Jubilee and staff at the Jubilee Hospital, and despite the uninviting urban environment around the building, the site was arguably the heart of the Jubilee Neighbourhood. The design team's vision for this application is to create a project that renews that neighbourhood center as a visual landmark for the area and an improved urban environment that explicitly welcomes people by providing generous and attractive public realm amenities. In keeping with this vision, the building is proposed to include animated ground floor uses such as a café and restaurant, as well as purpose-built rental residential homes on 5 floors above the ground level.

In preparing this Development Tracker pre-application package, the design team has received preliminary input from both the North Jubilee and South Jubilee Neighbourhood Association Executive Committees, as well as local residents, City staff, and specialist consultants, including a transportation planner, landscape architect, and civil and geotechnical engineers. The public consultation and review process to-date included the following meetings:

- Multiple Planning Meetings – with City of Victoria staff from Planning, Engineering, Parks, and Transportation, as well as Council representatives.
- Presentation to 2020 Richmond Road Strata Council – May 2, 2023
- Presentation to NJNA Executive Committee – May 30, 2023
- Presentation to SJNA Executive Committee – June 6, 2023
- Pre-CALUC Community Meeting – June 27, 2023
- CALUC Community Meeting – September 13, 2023



CASCADIA ARCHITECTS INC
101-804 Broughton Street
Victoria BC, V8W 1E4
Canada

T 250 590 3223

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office@cascadiaarchitects.ca

A Corporate Partnership

Principals

GREGORY DAMANT
Architect AIBC, LEED AP

PETER JOHANNKNECHT
Architect AIBC, LEED AP,
Interior Architect AKNW Germany

- Milliken Developments (Joint owners of the Amica Building) – October 3, 2023

Existing Zoning, Site Characteristics, and the Jubilee Neighbourhood Plan:

The two parcels on Birch and Pembroke are currently zoned R1-B for single family homes, and the corner property is zoned C-1 for commercial and residential uses up to 3 storeys. The current total site area is approximately 1,587 sq.m.. Proposed land dedications along Richmond Ave and Pembroke St. would reduce the site area to 1,493.8 sq. m.. This area is well-integrated with the public transit and the AAA bicycle networks and is valued for its proximity to the Jubilee Hospital and the Fort and Foul Bay shopping center, as well as to downtown and UVIC via the transportation networks. Victoria's Official Community Plan suggests this area can be re-developed to 6 storeys in height, with a density of up to 2:1 where Plan objectives are advanced.

Description of the Proposal:

The proposed development capitalizes on the slender, triangular shape of the corner property to create a distinctive flat-iron inspired building of 6 storeys, paying homage to the former Turner building, while containing 55 residential units building in a mix of studio, 1-bedroom, and 2-bedroom configurations. The elegant architectural form proposed for the building will elevate this corner, and immediately create a unique landmark in the city as a clear expression of the North Jubilee location and identity. The building massing in this proposal is concentrated at the Birch & Richmond intersection, due to the awkward shape and width of the panhandle of the site that extends to Pembroke. The design team is proposing to use that area as a landscaped parking surface for the project, due to the inability to provide viable underground parking within the convoluted site boundary. This preserves the current open condition of the site where it is adjacent to single-family homes and keeps available the option of future coordinated development with the 2 properties at Birch and Pembroke, resulting in a superior 'neighbourhood fit' for that end of the block.

The project also proposes to create a significant community amenity in partnership with the City of Victoria, by closing the end of Birch Street as it intersects Richmond Road (except for service and emergency vehicle access) to create a public plaza that will extend and amplify the positive pedestrian-oriented activity created by the ground floor commercial spaces. This public plaza will feature stormwater management landscapes, and areas for public seating and presentation. It will also accommodate various temporary uses such as a small neighbourhood farmers' market, street musicians, and occasional food trucks or carts. The ground-level experience will be further enhanced by providing the City with volumetric SRWs on all sides to allow for greater pedestrian and cycling mobility, despite the additional challenges this poses for development on the narrow site. These significant public realm enhancements demonstrate the proponent's commitment to creating a true neighbourhood heart in this location. Accompanying the application is a cost-sharing proposal from the applicant, Empressa Properties.

The proposal's key characteristics can be evaluated against the **2012 Official Community Plan, and 1996 Jubilee Neighbourhood Plan** goals as follows:

- The proposal will require an OCP amendment to accommodate the increase in proposed density to 2.95:1, beyond the 2:1 OCP suggested threshold. As illustrated in the accompanying drawings (A052), the increased density largely results from creating a viable floor plate at the OCP height vision within the constraining site geometry. The case for this amendment is very strong, based on the proposed rental tenure for the residential units, the site's proximity to the adjacent Large Urban Village, and the extent of proposed public realm

improvements on a site that has proven financially unfeasible to develop for decades. In all other respects the intent of the Official Community Plan is fully achieved:

- 6 storey height limit,
- Improvement to pedestrian and cycling infrastructure around the Jubilee,
- Intensification of commercial and residential uses,
- Strengthening of the Large Urban Village centered at Fort Street and Richmond Road.
- The Jubilee Plan dates from 1996, and so is not as current as the OCP, but this proposal nevertheless addresses many of the objectives of the LAP:
 - By revitalizing a derelict site, the proposal is increasing safety and security in the area, (Community Objective 2.3)
 - The active, publicly accessible ground floor uses provide a significant community amenity that also, by virtue of the outdoor enhancements, acts as a potential gathering place for all residents, (informally, toward the intent of Community Objective 2.4) and enhances public safety (Commercial Objective 5.3.4)
 - By creating rental residential units at a variety of sizes close to a major employer that also is a major provider of healthcare services for the area, and in particular seniors, the project meets a crucial need for housing, (Housing Goal 3.2)
 - By massing the development at Richmond and Birch, the project keeps the built form away from the single-family zone, and preserves the opportunity for future, transitional development at the NW corner of the block (Housing Objective 3.3.1 and 3.4.10),
 - By providing rental housing (Housing Objective 3.3.8),
 - Although the existing art-deco inspired Turner Building is not salvageable and not listed as a Heritage feature in the neighbourhood, the proposal does reference key characteristics of the well-loved structure. The design maintains the distinctive bullnose profile at the corner of Richmond and Birch, as well as the corner entry location and configuration, and café / restaurant uses. Additionally, ground floor exterior finishes will include glazed black ceramic tile in reference to the original finish at the base of the Turner Building. In these ways the new development acknowledges the intent of the Heritage Objectives (4.3) in the LAP.
 - The project also adds commercial growth in an appropriate location (Commercial Objective 5.3) and creates a distinctive character for this area of the neighbourhood (Commercial Objective 5.3.2) as well as mixing commercial and residential uses (Commercial Objective 5.3.3),
 - By creating an accessible public landscaped area for local use the proposal addresses the intent of the intent of the Parks Objectives (7.3.1, 7.3.2, 7.3.4, 7.3.5),
 - The closure of Birch Street to cut-through type traffic use, the enhancement of boulevard landscaping, and the creation of the separated bike lane on Richmond Road will address Transportation Objectives (8.3.2, 8.3.3, 8.3.4, 8.3.6)

Exterior Finishes:

Due to the tight triangular site creating a challenging shape to achieve functional floorplates for residential use, the building is designed to use all the available area between Birch Street and Richmond Road, pushing the building faces right to the property lines at the residential levels 2 to 6. The architectural expression must therefore be achieved by the simplicity of sculptural form, without dramatic articulation. The slender bullnose at the corner of Richmond and Birch establishes the dominant character of the building and along the primary frontages of Birch Street and Richmond

Road, the building is composed of horizontal bands of vertical fins, rendered in a high-quality metal finish that will vary in its colour and radiance depending on the lighting conditions. This composition creates an elegant, stretched façade proportion along Birch, and then sweeps around the Richmond corner to create the strong fan-like shape as the building steps outward over the generous sidewalk on Richmond. The ground floor is properly recessed, creating weather-protected areas for seating, and giving the building a sense of lightness, as the upper floors 'float' over the ground floor.

The ground floor recalls the previous Turner Building in its materiality of clear glass storefronts framed by grey concrete structure and glazed black ceramic tiles. Access to the ground floor CRUs is via doors that match the original locations and geometry of the Turner Building. High quality paving materials and patterns connect the building's architecture to the forms of the public plaza landscape, where bullnose planters and triangular seating arrangements interspersed with groups of trees create a variety of outdoor spaces suitable to accommodate café patrons, street performers and the public alike.

For building residents, a rooftop garden augments the outdoor access achieved at their units via balconies and Juliet railings and creates a secure gathering and community space for the building.

Transportation and Infrastructure:

The project is exceptionally well situated and served by City of Victoria infrastructure. Schools, parks, and recreation facilities, as well as shopping destinations are all within walking or rolling distance of the site. The future residents will have a range of transportation options available to them. Infrastructure for vehicles, walking, and particularly cycling is immediately accessible from the property, with the newly constructed Fort Street AAA cycling corridors less than a block away.

The project will include 16 surface parking stalls accessed from the driveway at Pembroke Street, including one accessible parking stall to meet the City bylaw requirement (one being larger to accommodate van parking). Subject to Modo approval, there is an additional parking stall on-site which would be dedicated to a car-share vehicle. A well-appointed space located in a prominent location on the main level of the building provides those using bicycles for recreation and commuting, a quality area for storing and maintaining their bikes. Long-term bicycle parking in excess of Schedule C requirements will support individual and family cyclists. Short-term bicycle stalls are provided directly adjacent to the residential Main Entrance (as per Schedule C), with additional banks of short-term bike parking distributed through the landscape areas and around the commercial units.

In the accompanying Transportation Impact Assessment (TIA) Bunt & Associates has summarized its findings on existing and future traffic operations in the surrounding neighbourhood, project parking supply, rationale for the parking variance, and outlines a Transportation Demand Management (TDM) plan for the project.

Safety and Security:

This development will introduce a new population of residents in the neighbourhood and contribute additional 'eyes on the street'. The overall design has considered passive surveillance of the property, and views to all common areas and access points. The ground floor commercial units will animate the area throughout the day, re-enforcing the street presence with its landscaped area as an active space. Site lighting illuminates the areas around the entire building to promote safety and visibility of landscaped areas. It is important to note that this lighting will be shielded and kept at

a lower mounting height in order to avoid glare and light pollution to neighbouring properties. Lastly, access to the building will be secured and available only to the residents and permitted guests.

Sustainable Features:

The following is a list of green building / social sustainability initiatives that will be deployed within the project:

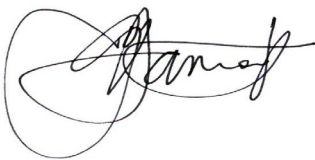
- No existing dwellings or residents displaced during construction,
- Net Positive Housing Creation (55 homes)
- Meeting Step 3 of the BC Energy Step Code as City of Victoria requirement,
- Site is located adjacent to the Richmond Bike Lane (and will improve it to a fully divided lane) and within 250m of the Fort Street Bike Lanes,
- High-efficiency LED lighting throughout common areas and homes,
- Secure bike storage at ground level includes an automatic door with electronic access control,
- Electrical outlets for electric bicycle charging locations within bicycle storage,
- A bicycle wash station and repair stand in convenient location,
- All Parking stalls to have Level 2 EV compatible electrical outlets at building completion, (vehicle energy management system may be required),
- Fresh air ducted to each home, by heat recovery ventilation units,
- No on-site fossil fuel consumption is proposed for residential area services, in anticipation of Victoria's Step 4 Carbon Step Code requirement,
- Stormwater Management Plan implemented during construction, and for street water run-off from public plaza area in final configuration,
- Construction Waste Diversion Plan implemented during construction,
- Community Rooftop Garden for Residents.

In preparing this application package the team has carefully considered community input, City staff input, the relevant Official Community Plan objectives and the Jubilee Neighbourhood Plan. It is our belief that the design for this project is responsive to the neighbourhood context and proposes timeless architecture and public landscapes that will contribute positively to the community experience.

If you have any questions or require further clarification of any part of this application, please do not hesitate to contact our office.

Sincerely,

CASCADIA ARCHITECTS INC.



Gregory Damant, Architect AIBC, RAIC, LEED AP
Principal



Peter Johannknecht, Architect AIBC, RAIC, LEED AP
cert. Passive House Designer, Principal

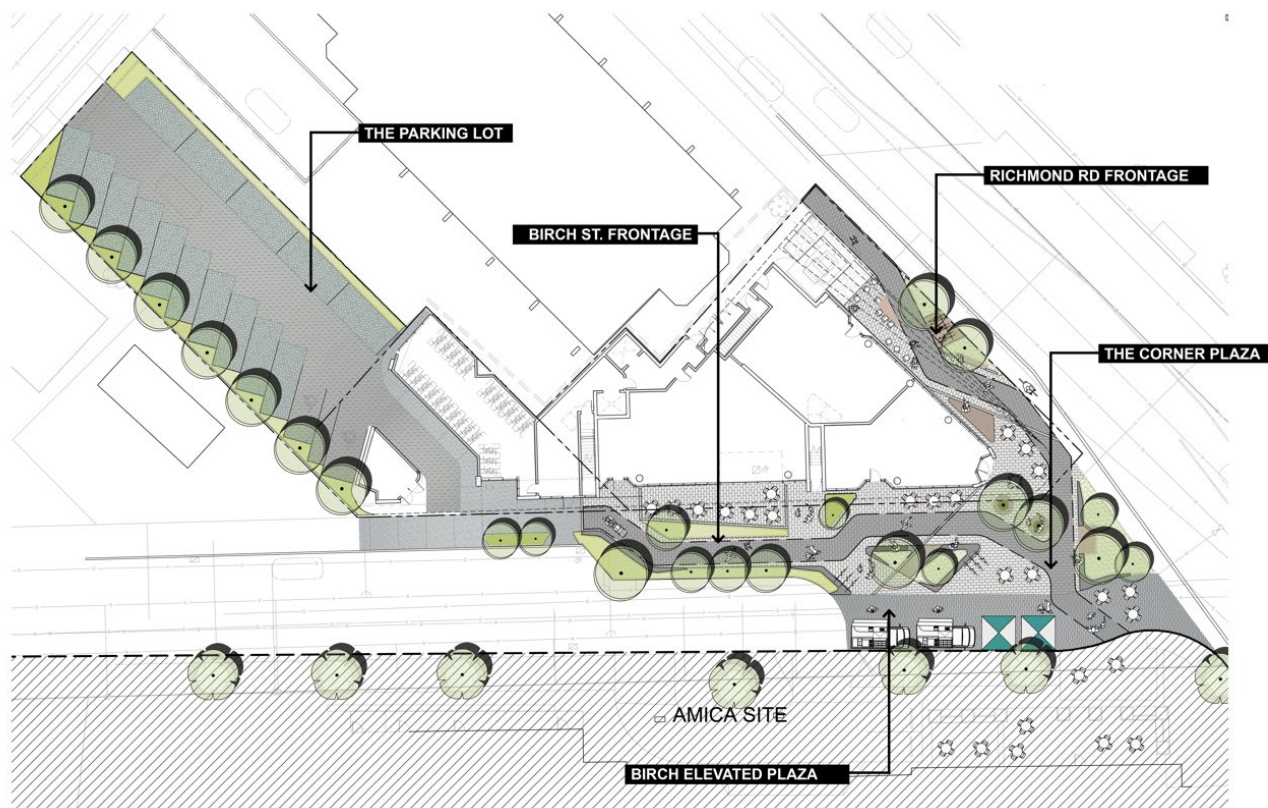
Re: Turner site Rezoning and Development Permit Application

2002 Richmond Rd. Victoria, BC
Landscape Rationale and Intent



October 11th, 2023

The Landscape design for the Turner site intends to create a community hub that revitalizes the area as a way to honor the historical values that once characterized this space. This design will be further refined through collaboration with the City of Victoria and it is currently divided into five subspaces on the ground floor plus the rooftop amenities intended for the building tenants.



Richmond Rd. Frontage

The landscape proposal along Richmond Road intends to work as an introduction to the plaza space intersecting Birch Street. This frontage features planted areas to buffer pedestrians from vehicular and bicycle traffic, while also providing welcoming features for cyclists and pedestrians to inhabit the space. The meandering nature of pedestrian circulation and seating features encourages the public to reduce their travelling speed and enjoy the space.

Birch St. Frontage

The frontage along Birch Street introduces pedestrians into the plaza from the northwest side. This frontage is activated by the commercial units' patios located on the main level of the building and is buffered from vehicular traffic in Birch Street through generous planting areas with incorporated seating that allows pedestrian to make a stop on their commute and enjoy the space.

Corner Plaza

The Corner Plaza, and the heart of the project, occurs on the intersection between Birch St and Richmond Rd. This space works as a hinge that connects the flow of users from all directions and will function as a congregation space. This area provides different opportunities for seating under tree canopy and enjoyment for daily use. It is a place where people of all ages can meet and connect in the public realm. This plaza can support multiple types of events such as live music performances, concerts, fitness classes, markets, and a multitude of other social events. The seating and garden areas are there to provide support for all these activities as well as movable furniture to keep the space flexible. Close consideration was given to maximizing the greenspace in this plaza both from an ecological and social point of view, creating an inviting and lush space for all to enjoy.

Birch elevated plaza

The conceptualization of Birch Street as an elevated plaza that extends the corner plaza further provides opportunities for ephemeral social events that can activate the space on a schedule. This space intends to rise and match the pavement to the plaza level to clearly differentiate the character of this portion of the street from the rest, but it will still provide access to emergency and service vehicles when needed. The rest of the time it will work as an extension of the plaza providing opportunities for food truck festivals, farmers, and artisans markets.

The Parking lot.

The intention for this space is to provide parking spaces while also maintaining critical hydrological functions of the site given our proximity to Bowker creek. This space intends to keep infiltration rates close to predevelopment conditions through the provision of planted green areas, with trees that minimize heat island effect and provide a positive aesthetic feature to the space.

The Rooftop

The rooftop is reserved for the building residents and provides a variety of outdoor amenity spaces. This space is composed of a lounge space and a barbecue area as well as a spaces for urban agriculture and food production in the form of raised beds.

Planting Strategy

The planting strategy for these areas will be composed of evergreen and deciduous trees that provide shade during summer months and allow the sun into the plaza during winter months. The understory will be planted with native plants in the rain gardens that provide ecological values and functions into these space and resilient draught tolerant species for other planting beds.

July 10, 2024

City of Victoria
No.1 Centennial Square
Victoria BC V8W 1P6

Attn.: Mayor & Council

Re: 2002 Richmond Road, 1909 Birch Street, 1769 Pembroke Street Rezoning and Development Permit Application – Supplementary Detail to Second Resubmission

Dear Mayor and Council,

This letter outlines our response to select comments from the City of Victoria's Staff regarding the second resubmission of the 2002 Richmond Road rezoning and development permit application, supplementing our formal letter and plan submission to the City. To date, our project team has conducted five meetings with City Staff and provided two resubmissions addressing one hundred and eleven initial comments to the best of our ability. The points addressed in this letter represent key areas where we are unable to satisfy Staff requests.

Throughout this process, our project team has collaborated with City Staff on the design of the plaza closure off Birch Street, an initiative suggested by City of Victoria councillors and supported by both staff and our team. While there are significant benefits to the 2002 Richmond project, the viability of the proposed purpose-built rental building, which will revitalize this long dormant but historically cherished site, remains our priority. Due to the geometric constraints of the site, the project faces an unusually challenging exterior wall-to-floor area ratio, which raises construction costs relative to income and is a major influence on the project's financial viability.

As a result, we must be very careful in assessing the project's ability to incorporate any changes that result in further reduced efficiency. This consistent issue limits our ability to respond to some of the City's desires, which are outlined in greater detail below. New purpose-built rental projects are generally financially challenging, and servicing debt via income generated by unit count and size is a fragile construct. This proposal is architecturally ambitious in form and expression and will be a landmark and credit to the neighborhood, even separate from the plaza concept. We have already invested considerable time and funding into engaging with City Staff around the optional Plaza design, and our proposal balances these sorts of voluntary community and quality-oriented commitments with the project's overall financial viability. Maintaining the current floor area and resultant income generation ability is key to keeping this proposal as an achievable vision.

We acknowledge that City Staff and our team share the goal of creating a beautiful project that functions well within the urban context of streets, services, and community amenities. As part of our transparent process of engagement with Staff's requested changes to the application, we provide the following explanations of our limitations in addressing some of those requests. This is to help Staff and Council understand that all requests have been sincerely considered and that we respectfully decline to include certain measures in the proposal only where they pose significant technical or financial difficulties.

Transportation Demand Management Measures

The Transportation Demand Management (TDM) measures have each been carefully selected in connection with our transportation impact assessment undertaken by Bunt & Associates. Transit passes will be provided to all three commercial units in addition to 10% of residential homes, as requested by City Staff. We are requesting that the duration for bus passes be reduced from five years to two years, with the intention of encouraging alternative transportation habits without prolonging the cost burden to our rental project. Residential users are expected to gravitate towards this development due to their car-free or car-lite lifestyle, suggesting that they would already use other forms of transportation. Additionally, bus passes are difficult to administer to residential units due to turnover and should be focused on commercial users who may need alternative ways to travel. By providing the BC Transit EcoPasses, we are committing roughly \$18,000 over two years to this TDM measure alone.

The carshare TDM we are proposing aligns exactly with Modo's carshare agreement letter and has been reviewed in the suite of TDM measures by Bunt & Associates. Modo has provided the development with a car sharing plan that includes one designated parking stall onsite, equipped with level 2 charging, providing access on a 24/7/365 basis to all Modo members. This request considers Modo's desire for new vehicles in select locations, and the presence of two Modo carshares within 500m of the proposed site. Further, Modo has outlined that our contribution, in addition to the onsite parking and level 2 charger, will be a financial contribution of \$27,500, which will provide each suite in the proposed development with a lifetime Modo membership. Additionally, Modo will provide each occupant of the development with \$100 in driving credits for participating in the program. These two TDM measures complement a full suite of measures detailed in our transportation impact assessment.

Parking Design Challenges

The site proves to be extraordinarily difficult to design and develop, resulting in no new development onsite for the last quarter century. Functional parking has proved to be the most challenging aspect with respect to the site's redevelopment. Residents of the building should expect a car-free or car-lite lifestyle, with all onsite parking allocated to commercial uses, carshare, visitor uses, and accessible parking stalls as requested by City Staff. To ensure that the limited parking onsite is not underutilized, we have aligned our accessible stalls with the required amount of parking stalls under schedule C for our commercial uses, with the remaining stalls designated for carshare, visitor, and commercial uses. An additional accessible van space will be provided on Birch Street, closer to the main entrance of the building, to further support accessibility. This ensures that the parking most closely aligns with schedule C by maximizing parking onsite without leaving stalls empty. These measures align with our transportation impact assessment by Bunt & Associates.

Statutory Right of Way (SRW) Impact

Applying a full statutory right of way (SRW) along Birch Street dramatically impacts project viability, with a loss of 196 square meters (2110 square feet) of residential floor area, resulting in geometric constraints that lead to either a reduced unit count or a reduction in the number of two-bedroom units, see illustrations below. The resulting perpetual loss in annual rental income affects lending terms and serviceability, ultimately making this change for a full SRW not viable.



Intersection Mitigation Costs

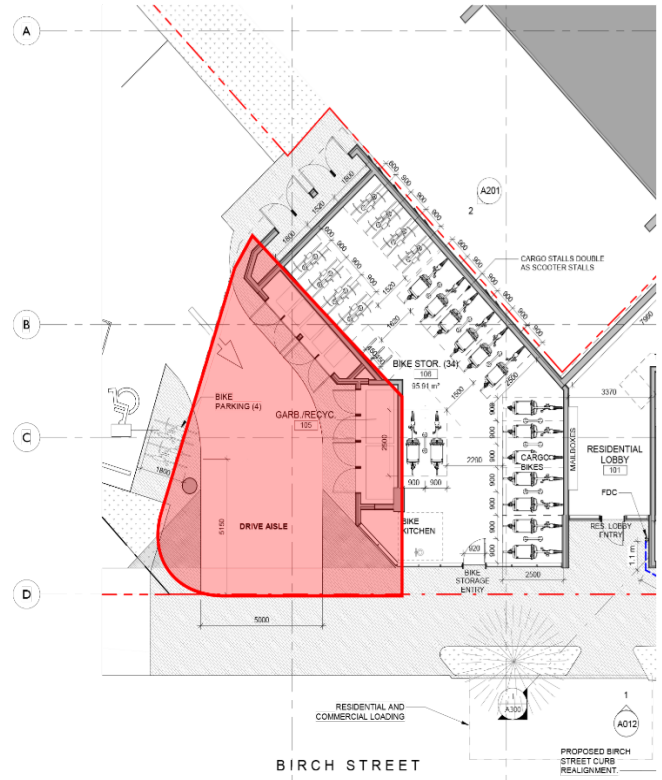
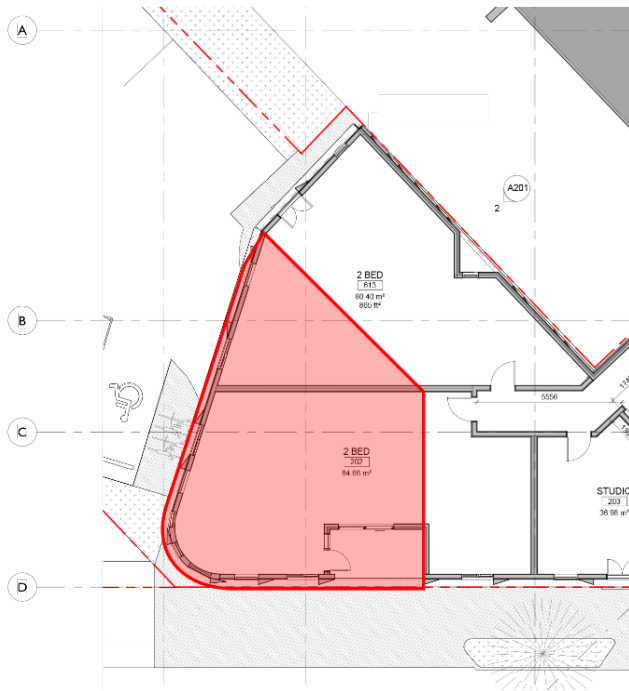
We have engaged Bunt & Associates to undertake the transportation impact assessment for this project, which studies both existing and future conditions with recommendations. The study concluded that the existing condition at the Pembroke/Richmond intersection warrants mitigation today due to its current Level of Service (LOS) grade F. Further, the report outlines that the redevelopment of our site has minimal impact on this intersection due to the reduced onsite parking. Given this existing condition

paired with the minimal adjacency and impact from our project, as outlined in our transportation impact assessment, we propose that the City undertakes this upgrade at their expense. Development Cost Charges (DCCs) pay for this type of infrastructure, and while our DCCs may not be used on this specific Rapid Flashing Beacon project, they will be used on other similar projects in the City. The suggestion to significantly increase our DCCs for the expense of this City project is not viable for our rental project as currently considered.

Municipal Service Unit (MSU) Turnaround

As proposed, the Municipal Service Unit (MSU) turnaround is fully accommodated within the municipal right-of-way (ROW), and staff have recommended against this strategy, keeping the boulevard intact. This implies the equivalent area must be removed from the building street frontage at the first and second levels. The turnaround is more appropriately accommodated within the municipal ROW as it is driven by the Birch Street closure, rather than the standalone building proposal. The structural changes necessary to safely accommodate the vehicle turnaround geometry on the proposed site would result in the reduction of unit area at the second floor (and possibly upper floors as well, as there is limited ability to bring upper floor loads to grade over the drive aisle already) and create additional structural and seismic design challenges that we are not able to accommodate, as they result in increased construction costs and perpetual loss of income that negatively impact the financial assessment of the project's viability. See illustration of impacts to the building below.





MSU Pass-Through Impact

An MSU pass-through would have one of two effects on the building: either removing two units at the second level as illustrated above and creating an undesirable street frontage condition for the building or increasing the ground level height to accommodate the MSU and moving the building classification into non-combustible construction. Service vehicles have been considered and are accommodated within the ROW, with waste collection being staged onsite and picked up along Pembroke. It should be noted that non-combustible construction (concrete vs. wood frame) would effectively terminate the project's financial viability as a rental building. The loss of homes within this project cannot be accommodated.

Tree Replacement Constraints

Given the parcel's constrained geometry, it is not possible to provide the seven replacement trees as requested. We are proposing six small replacement trees at a 2:1 replacement ratio and two medium trees at a 1:1 ratio, for a total of five replacement trees onsite, with cash-in-lieu for the two remaining replacement trees as per City of Victoria policy. It should be noted that should the plaza proceed, additional small and large trees will be added because of the proposal.

Thank you for your consideration of these points. We look forward to working together to achieve a successful and beneficial project for the City of Victoria.

Sincerely,

Karl Robertson

A handwritten signature in black ink, appearing to read 'Karl Robertson', with a stylized flourish at the end.

Empresa Properties Ltd.



2002 Richmond Road Transportation Impact Assessment

Version 3

Prepared for
Empresa Properties

Date
April 4, 2024

Project No.
08-23-0004

April 4, 2024
08-23-0004

Karl Robertson
Empresa Properties
655 Tyee Road #204
Victoria, BC
V9A 6X5

Dear Karl:

**Re: 2002 Richmond Road
Transportation Impact Assessment (TIA)**

Please find attached our Transportation Impact Assessment (TIA) report for the proposed development at 2002 Richmond Road in Victoria, BC. This study reviews existing and future (with and without site) traffic operations in the local road network, provides a parking and loading supply review and parking variance rationale, outlines a Transportation Demand Management (TDM) Plan, and provides a swept path analysis of on-site vehicle manoeuvres.

We trust this study will be helpful in the development rezoning application. Please do not hesitate to contact us if you have any questions.

Yours truly,
Bunt & Associates



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CORPORATE AUTHORIZATION

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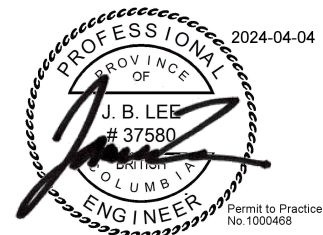
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EXECUTIVE SUMMARY

Empresa Properties proposes the development of a 6-storey, 55-unit residential building with approximately 356 m² of ground-floor commercial space located at 2002 Richmond Road in Victoria, BC.

Bunt was retained to examine the traffic and parking impacts of the proposed development.

Traffic

Traffic operations at three existing study area intersections were shown to operate with peak period delays that warrant mitigation. They are the Pembroke Street & Richmond Road intersection, the Birch Street & Richmond Road intersection, and the Ashgrove Street & Fort Street intersection. At each of these intersections, vehicles attempting to turn left from the minor road onto the major road are shown to encounter problematic delays.

The proposed development site is conservatively anticipated to add approximately 40-60 total two-way vehicle trips during peak hour periods. This was calculated using Institute of Transportation Engineer (ITE) rates, which are likely overstated for this site due to the anticipated low vehicle ownership of residents and the commercial units being local area serving amenities. The site trips associated with the currently under construction Amica buildings on Birch Street were also added to the analysis of future vehicle operation analysis.

To mitigate the existing operational constraints along Richmond Road, Bunt in collaboration with City staff examined the merits of closing Birch Street at its intersection with Richmond Road. This traffic would then be redirected to the Pembroke Street & Richmond Road intersection. Traffic control modifications at this Pembroke Street & Richmond Road intersection were proposed to assist vehicles turning from Pembroke Street to Richmond Road. During consultation with City staff and in appreciation of the close proximity of nearby signals on Richmond Road, a new pedestrian crossing of Richmond Road at Pembroke Street with a Rectangular Rapid Flashing Beacon (RRFB) is proposed. This treatment would both augment the existing pedestrian connectivity and also help create gaps in Richmond Road traffic which is anticipated to help facilitate the eastbound Pembroke Street to northbound Richmond Road left turn movement. The analysis also provided support for retention of the existing northbound left turn lane on Richmond Road to reduce the likelihood of northbound queues extending south to Fort Street.

Begbie Street currently operates as a one-way route with only westbound vehicle travel. This restriction was put in place to reduce cut-through traffic through the neighbourhood. Considering the closure of Birch Street and the low anticipated demand for cut-through movements given the current surrounding road network, reopening this segment of Begbie Street may assist with vehicle circulation through the area. For example, loading vehicles such as garbage collection vehicles could more easily circulation from Richmond Road to and from Fort Street with reduced reliance on turnaround maneuvers.

Finally, Bunt recommends that the southbound to eastbound left turn movement at Ashgrove Street & Fort Street be restricted to address the operational concerns identified. Specifically, in addition to experiencing long delays, this movement crosses a recently installed protected bike route on Fort Street and turns into the left turn lane of the adjacent Fort Street intersection resulting in potential conflict. Given the low number of vehicles attempting this movement, restricting the southbound left turn is not anticipated to result in any operational issues.

Parking

The development seeks a vehicle parking variance to supply vehicle spaces below the bylaw rate for the apartment and visitor uses. The requested variances are summarized below:

- Apartment: -52 spaces (from a requirement of 1.02 spaces / unit to a proposed 0.05 spaces / unit); and,
- Visitor: -6 spaces (from a requirement of 0.1 spaces / unit to a proposed 0.00 spaces / unit) as these are proposed to be shared with the site's commercial spaces.

The proposed supply of 12 spaces (plus 1 car share space and vehicle) is 58 spaces below the bylaw requirement of 70 spaces.

It is acknowledged that the proposed parking supply and variances sought are progressive. The development is attempting to align with the City's future transportation policy goals to reduce reliance on private vehicle usage by leveraging the site's inherent proximity to existing transit, cycling, and walking networks, while also leaning on nearby alternative supply options to complement the development's own parking provision. The following factors are anticipated to support the proposed reduced parking supply:

- The proposed site is well-connected to existing transit, cycling, and walking networks. Given the site's location, its commercial parking demand is expected to reflect a "Village/Centre" rate, despite being in an "Other Area" zone;
- The site is located near Jubilee Village, which offers many services that are anticipated to allow future residents to complete shopping and daily errands by walking and/or cycling;
- The proposed rental tenure of the residential units allows for management of the on-site parking spaces;
- The parking demand for the residential visitor and commercial retail land uses would generally peak at different times of the day, enabling a shared parking arrangement. The exception to this may be during weekend daytime periods;
- On-street parking exists in the vicinity of the site. While the development is not expected to rely on these spaces, they will complement the off-street supply at certain times/days of the week (e.g., during times when peak visitor and retail demand may coincide);
- Residents seeking long-term vehicle parking will have the option of renting a space at the adjacent 2020 Richmond Road building; and
- The development proposes to provide a comprehensive suite of TDM measures.

Transportation Demand Management (TDM)

To support the proposed reduced parking supply by reducing the reliance on private vehicle ownership, the developer proposes the following TDM measures:

- Transit incentives for commercial employees,
- Car-share on-site parking space and MODO memberships for each residential unit,
- Parking spaces to be “unbundled”, as opposed to being included with units,
- Improvements to bicycle storage room access and lighting,
- Bicycle wash and/or repair station,
- Extra-large cargo bicycle spaces,
- Cycling end-of-trip facilities (two showers) for commercial employees, and
- Pedestrian plaza offers improved local area pedestrian realm.

Site Design

Bunt’s AutoTURN analysis confirmed that no issues are expected with regards to passenger vehicle parking or circulation. However, our analysis of loading and waste collection vehicles on Birch Street indicate challenging turnaround movements on Birch Street which are not advisable. Instead, the development is encouraged to allow permeability through the plaza to enable egress of the occasional large loading truck onto Richmond Road and to work with a waste collection company to establish a collection plan that does not rely on large sized vehicles using Birch Street.

1. INTRODUCTION

1.1 Study Purpose & Objectives

Empresa Properties (the developer) is seeking a development permit from the City of Victoria (City) for a 55-unit rental residential building with approximately 356 m² of ground-floor commercial space located at 2002 Richmond Road. The developer is seeking to provide vehicle parking below the City's Zoning Bylaw requirement. Vehicle access to the surface level parking is proposed via Pembroke Street.

Bunt & Associates Engineering Ltd. (Bunt) has prepared this Transportation Impact Assessment (TIA) as a part of the development application.

The purpose of this study is to:

- Provide information on land use, relevant plans, as well as existing and future land road, transit, cycling, and walking networks in the study area;
- Assess the potential for traffic impacts due to the introduction of site traffic;
- Provide recommended mitigation options for any traffic performance issues;
- Summarize the requirements from the City of Victoria Zoning Bylaw and assess the viability of the proposed vehicle parking supply;
- Confirm functionality of required vehicle maneuvers on the proposed site plan; and,
- Provide a Transportation Demand Management (TDM) Strategy for the proposed development that is appropriate for the site and level of parking variance sought.

1.2 Study Area

Exhibit 1.1 illustrates the site location and study area. The study area includes the following intersections:

- Pembroke Street & Birch Street;
- Pembroke Street & Site Access;
- Richmond Road & Pembroke Street;
- Richmond Road & Birch Street;
- Fort Street & Ashgrove Street; and,
- Fort Street & Richmond Road.

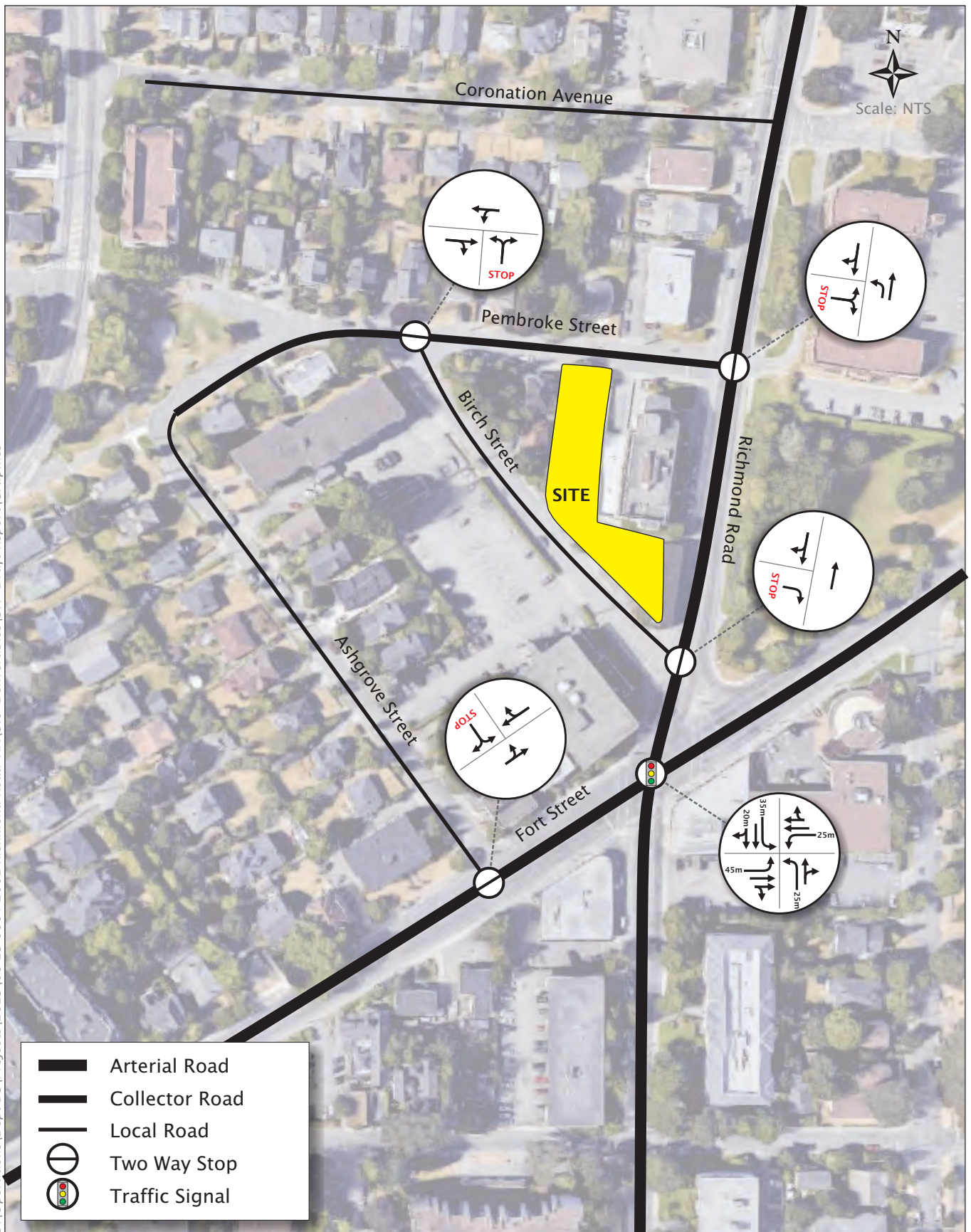


Exhibit 1.1 Site Location, Study Area & Existing Traffic Control

1.3 Organization of Report

This report is organized as follows:

Section 1 presents the study purpose, study scope, study area, and details of the proposed development.

Section 2 describes existing conditions including land use, local transportation network, relevant policies and plans, and existing traffic volumes and operations.

Section 3 describes future traffic volumes and operations and the anticipated traffic impact on the study area as well as provides recommended mitigations for any traffic performance issues.

Section 4 reviews the proposed parking supply and discusses the viability of the proposed parking supply variance.

Section 5 assesses the site's vehicle access, on-site circulation, and service vehicle maneuvers.

Section 6 provides a Transportation Demand Management (TDM) strategy to support the proposed parking supply for the development by encouraging active and sustainable modes of transportation.

Section 7 summarizes the study findings and recommendations.

1.4 Proposed Development

The proposed development consists of 55 rental residential units and approximately 356 m² of ground-floor commercial space. At this stage of development planning, it is assumed that half of the commercial space will be a Pharmacy and the other half will be a café or restaurant. **Table 1.1** summarizes the proposed land uses.

Table 1.1: Proposed Land Uses

LAND USE	DENSITY	UNITS
Apartment (Rental)	55	Dwelling Units
Café / Restaurant	232	Square Metres
Retail	124	Square Metres

The development proposes 12 at-grade vehicle parking spaces. In addition, an additional parking space will be provided that will be dedicated for a car-share vehicle.

By the opening day of the proposed development, it is anticipated that Birch Street will be closed at its intersection with Richmond Road. On Birch Street, where it intersects with Richmond Road in the existing condition, a plaza will be constructed to serve as pedestrian space as well as outdoor seating for the proposed restaurant/café land uses. This study will review the impacts of closing Birch Street & Richmond Road from a traffic perspective as well as from a service vehicle operations perspective. **Exhibit 1.2** illustrates the proposed site plan.

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Plotted by Kieran Quan

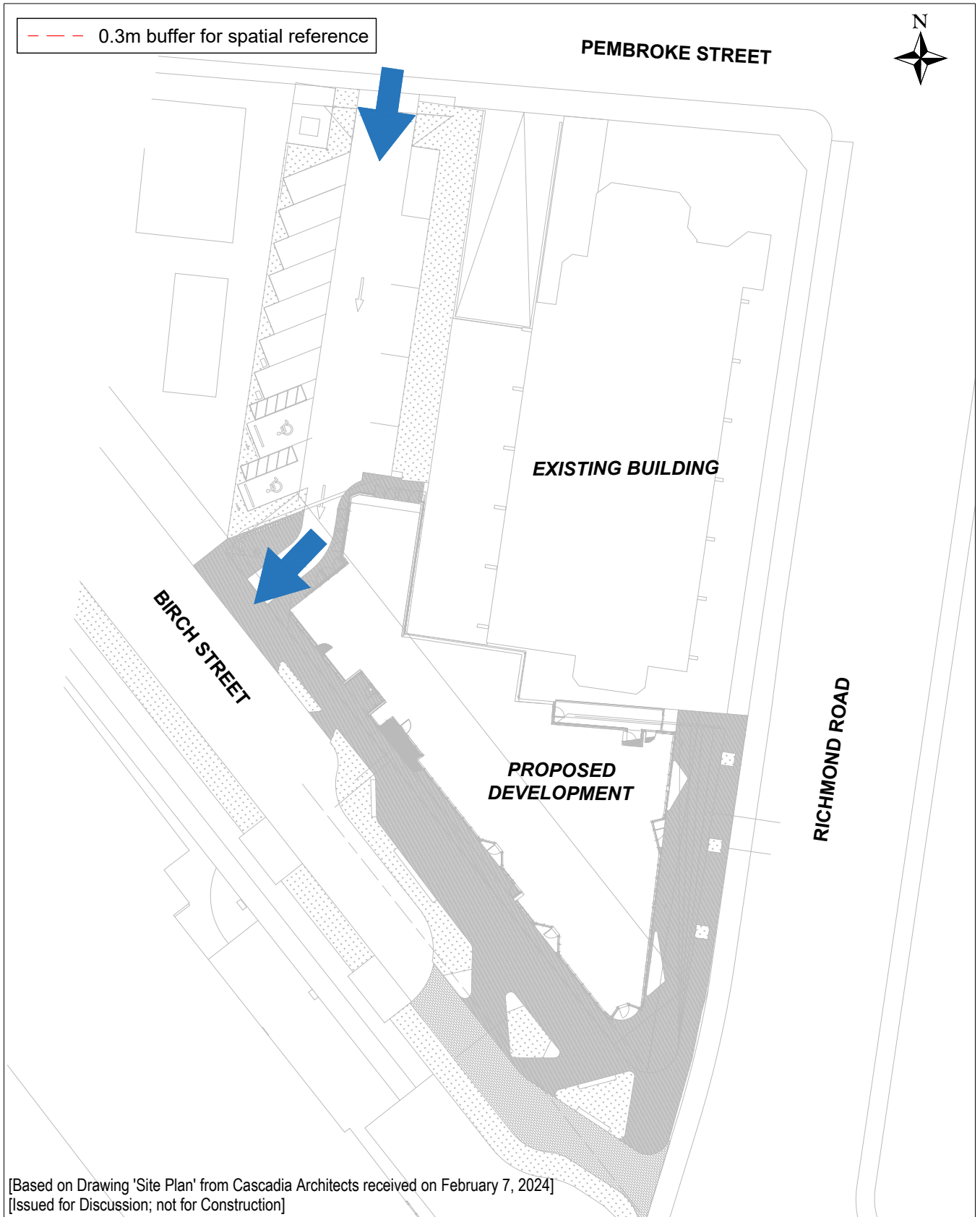


Exhibit 1.2 Site Plan



08-23-0004 February 2024

2002 Richmond Road
Scale 1:500_1 on Letter Prepared by KQ

2. EXISTING CONDITIONS

2.1 Land Use

The proposed site will combine the properties of 1769 Pembroke Street, 1909 Birch Street, and 2002 Richmond Road. 1769 Pembroke Street and 1909 Birch Street are currently zoned as '*R1-B Single Family Dwelling*' and 2002 Richmond Road is currently zoned as '*C-1 Limited Commercial District*'. The proposed site shares a triangle-shaped block with two single-family homes on the west corner and a medical clinic on the northeast corner.

2.2 Existing Transportation Network

A site visit was conducted on May 17th, 2023, to document existing conditions in the study area. The existing road, transit, cycling, and walking networks are described below.

2.2.1 Road Network

The proposed site is bounded by Pembroke Street to the north, Birch Street to the southwest, and Richmond Road to the east. Fort Street is a major east-west arterial road that intersects with Richmond Road just south of the site. Ashgrove Street is a one-way local road located one block west of Birch Street; Ashgrove Street provides an alternative inbound route to the site. **Table 2.1** summarizes the existing street characteristics of the study area road network.

Table 2.1: Existing Street Characteristics

STREET	CLASSIFICATION	NUMBER OF TOTAL TRAVEL LANES	POSTED SPEED	PARKING FACILITIES
Pembroke Street	Local	2	50 km/h	Both Sides
Birch Street	Local	2	30 km/h	Intermittent 1-Hour Parking on Both Sides
Richmond Road	Arterial	2	40 km/h	Intermittent 1-Hour Parking on West Side
Fort Street	Arterial	3	50 km/h	None
Ashgrove Street	Local	2	30 km/h	Residential Parking Only

2.2.2 Transit Network

Six bus routes have stops within 200-metres walking distance of the proposed site. **Table 2.2** summarizes the nearby transit service.

Table 2.2: Transit Stops within 200m Walking Distance of Site

STOP LOCATION	DIRECTION	STOP #	AMENITY	ROUTES SERVICED	WALKING DISTANCE
Richmond at Coronation	SB	100441	Shelter, Bench, Waste Bin	8, 14	150m
Richmond at Fort	NB	100434	Shelter, Bench, Waste Bin	8, 14	50m
Fort at Richmond	WB	100438	Shelter, Bench, Waste Bin	3, 10, 11, 15	100m
Fort at Richmond	EB	100427	Waste Bin	11, 15	150m

The #3, #8, #10, and #11 connect Royal Jubilee Hospital to James Bay, Oak Bay Marina to Camosun College Interurban Campus, Royal Jubilee Hospital to James Bay via Bay Street, and University of Victoria to Tillicum Mall, respectively. These routes are classified as 'local' routes, meaning they provide less frequent (30-minute or more headway) service to local areas.

The #14 connects Victoria General Hospital to the University of Victoria via the Town of Esquimalt and Downtown Victoria. The #14 is classified as a 'frequent' route meaning that it sees 15-minute or better service at peak commute times.

The #15 connects the Town of Esquimalt to the University of Victoria via Downtown Victoria. The #15 is considered a 'regional' route meaning it runs through more than one municipality and it provides 15-minute or better service at peak commute times.

2.2.3 Cycling & Walking Networks

Fort Street and Richmond Road currently provide painted bike lanes on both sides. The painted bike lanes on Fort Street become protected bike lanes to the west of the intersection with Cook Street. This will allow future residents to travel to Downtown Victoria and connect with the All-Ages and Abilities (AAA) Regional Bike Network entirely on existing cycling infrastructure. Plans to upgrade the painted bike lanes on Fort Street to the All-Ages and Abilities (AAA) standard are confirmed and are discussed in Section 3.1.1.

Sidewalks are provided on both sides of all study area roads. The Fort Street & Richmond Road intersection features a pedestrian crossing phase on all four legs. The land parcels adjacent along Fort Street adjacent to and east of the site are part of Jubilee Village, which is classified as a 'Village/Centre' in the Victoria Zoning Bylaw. Villages provide a variety of goods and services (e.g., restaurants, gyms, Save-On-Foods, liquor stores) to the local neighbourhood. These amenities are all within 1-kilometres walking distance of

the site. In addition, Oak Bay Recreation Centre is within 1-kilometres walking distance from the site, offering a wide range of activities and facilities.

Exhibit 2.1 illustrates the existing road, transit, cycling, and walking networks.

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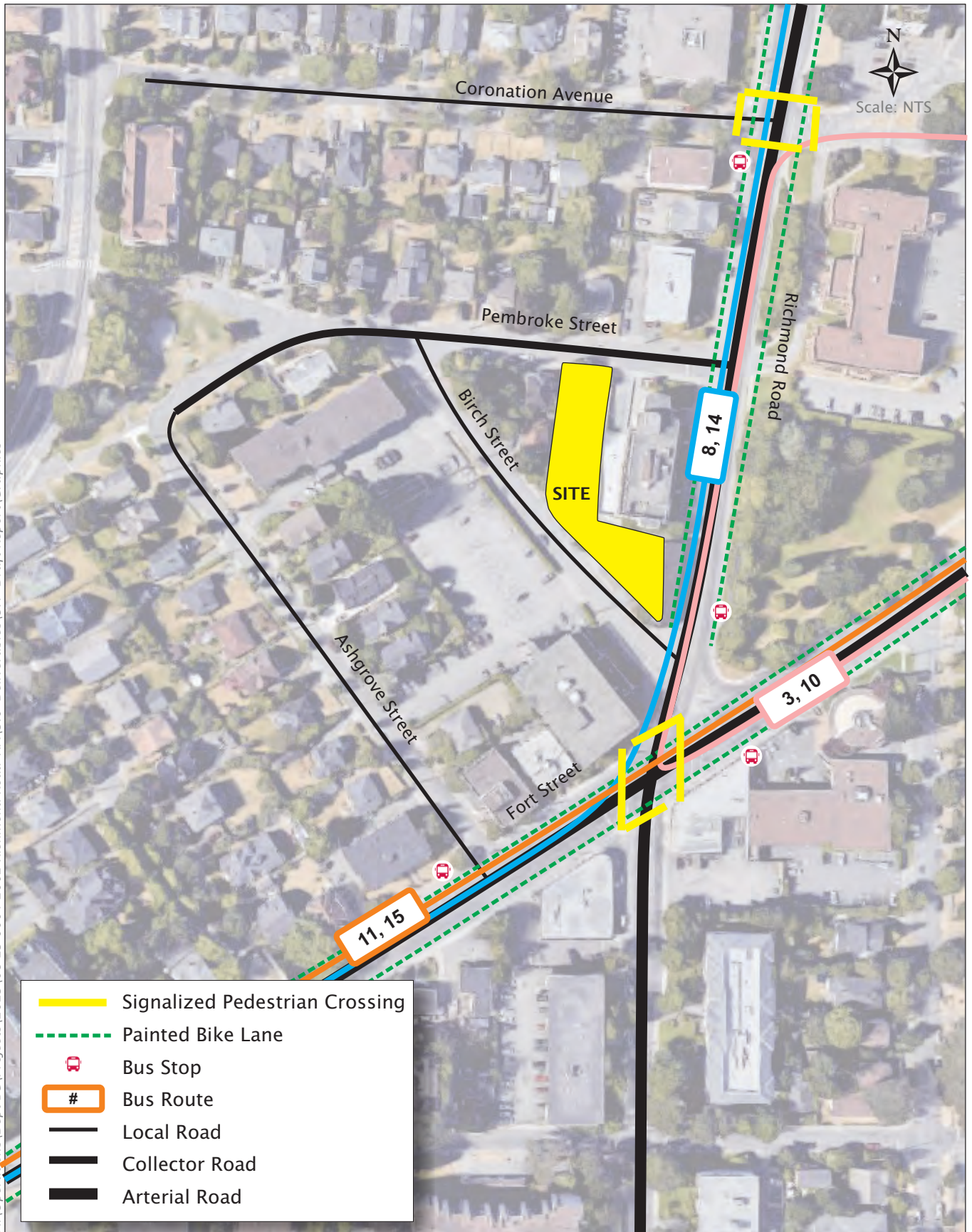


Exhibit 2.1 Existing Transportation Context

08-23-0004

2002 Richmond Road
October 2023

2.3 Current Relevant Policies & Plans

The following provides a high-level review of the relevant plans as they relate to the site.

2.3.1 GoVictoria Sustainable Mobility Strategy

The GoVictoria Sustainable Mobility Strategy provides a framework to guide transportation policies, priorities, and investments for the City's transportation networks. The GoVictoria strategy includes accessible mobility options, active transportation, high-occupancy modes like transit, and cleaner vehicles.

2.3.2 Victoria Strategic Plan – Sustainable Transportation

Sustainable transportation is the seventh strategic objective in Victoria's 2019-2022 Strategic Plan. Actions in the objective include increasing transit accessibility to the public, introducing a "floating" car share service to Victoria, and lowering speed limits on local neighbourhood streets.

2.3.3 BC Transit Victoria Regional Rapid Transit Project

The Victoria Regional Rapid Transit Project aims to provide a safe, reliable, attractive, and green alternative to traveling around the Capital Region. The project will introduce new bus routes that will provide improved travel times, frequency, and reliability compared to the existing bus service. The project will be completed in three phases: the Westshore Line between Downtown Victoria and Langford, the McKenzie Line between Uptown and the University of Victoria, and the Peninsula Line between Downtown Victoria and the Swartz Bay Ferry Terminal.

2.4 Existing Traffic Volumes

2.4.1 Peak Hour Traffic Volumes

Bunt collected traffic volumes at the study intersections between May 18th, 2023, and May 25th, 2023.

Table 2.3 summarizes the available and counted traffic data used in this study.

Table 2.3: Summary of Available and Counted Traffic Data

INTERSECTION	SOURCE	DATE OF COUNT
Richmond Road & Coronation Avenue	Bunt	May 18, 2023
Richmond Road & Pembroke Street	Bunt	May 18, 2023
Fort Street & Ashgrove Street	Bunt	May 25, 2023
Fort Street & Richmond Road	Bunt	May 18, 2023

The AM and PM Peak Hours were found to be 8:00 - 9:00 and 4:00 - 5:00, respectively.

Birch Street was closed to vehicle traffic due to construction at the time of the counts. As such, Bunt assumed ten vehicles in each travel direction in both the AM and PM peak hours on Birch Street by applying industry standard vehicle trip generation rates for the existing land uses on this road.

In addition to the counted traffic data, Bunt accounted for vehicle traffic from the new Amica Seniors development (Amica), which was under construction at the time of the counts. Vehicle trip generation was taken from the Amica Traffic Impact Assessment report, attached in **Appendix A**, prepared by Watt Consulting Group, and provided by the City of Victoria. The report estimated 48 two-way trips in the AM peak hour and 65 two-way trips in the PM peak hour. Bunt distributed these vehicle trips across the study network based on existing travel patterns.

Typically, vehicle trips from nearby other developments that are not yet complete would be added to existing volumes to create a background condition for analysis. Since this study will not be applying a growth factor to forecast future volumes, the Amica building volumes were layered onto the existing condition to streamline the analysis. This approach was vetted through City staff. **Exhibit 2.2** illustrates existing peak hour vehicle traffic volumes in the study area (with the estimated Amica vehicle trips added onto the counted traffic volumes to establish the existing peak hour traffic volumes).

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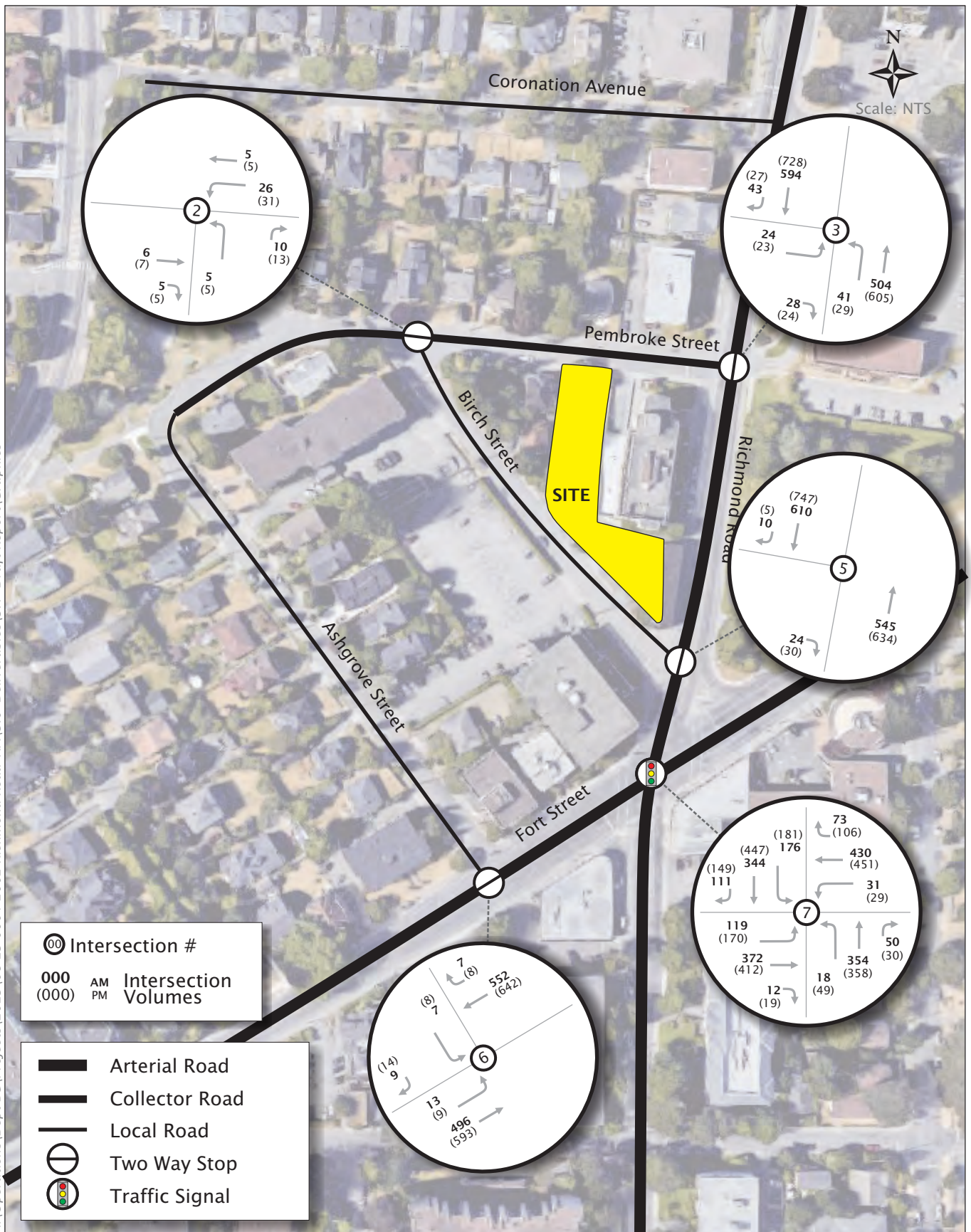


Exhibit 2.2 Existing Peak Hour Vehicle Traffic Volumes

08-23-0004

2002 Richmond Road
October 2023

2.5 Existing Operations

2.5.1 Performance Thresholds

The existing operations of study area intersections and access points were assessed using the methods outlined in the Highway Capacity Manual (HCM), 6th Ed., using Synchro 11 analysis software. The traffic operations were assessed using the performance measures of Level of Service (LOS) and volume-to-capacity (V/C) ratio.

The LOS rating is based on average vehicle delay and ranges from “A” to “F” based on the quality of operation at the intersection. LOS “A” represents optimal, minimal delay conditions while a LOS “F” represents an over-capacity condition with considerable congestion and/or delay. Delay is calculated in seconds and is based on the average intersection delay per vehicle.

Table 2.4 below summarizes the LOS thresholds for the six Levels of Service, for both signalized and unsignalized intersections.

Table 2.4: Intersection Level of Service Thresholds

LEVEL OF SERVICE	AVERAGE CONTROL DELAY PER VEHICLE (SECONDS)	
	SIGNALIZED	UNSIGNALIZED
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Source: Highway Capacity Manual

The volume to capacity (V/C) ratio of an intersection represents ratio between the demand volume and the available capacity. A V/C ratio less than 0.85 indicates that there is sufficient capacity to accommodate demands and generally represents reasonable traffic conditions in suburban settings. A V/C value between 0.85 and 0.95 indicates an intersection is approaching practical capacity; a V/C ratio over 0.95 indicates that traffic demands are close to exceeding the available capacity, resulting in saturated conditions. A V/C ratio over 1.0 indicates a very congested intersection where drivers may have to wait through several signal cycles. In downtown and Town Centre contexts, during peak demand periods, V/C ratios over 0.90 and even 1.0 are common.

For reference, the general performance thresholds used to trigger consideration of roadway or traffic control improvements are listed below:

Signalized Intersections:

- Overall intersection Level of Service = LOS D or better;
- Overall intersection V/C ratio = 0.85 or less;

- Individual movement Level of Service = LOS E or better; and,
- Individual movement V/C ratio = 0.90 or less.

Unsignalized Intersections and Roundabouts:

- Individual movement Level of Service = LOS E or better unless the volume is very low in which case LOS F is acceptable.

In interpreting of the analysis results, note that the HCM methodology reports performance differently for various types of intersection traffic control. In this report, the performance reporting convention is as follows:

- For signalized intersections: HCM 6th Ed. output for overall LOS and V/C as well as individual movement LOS and V/C is reported. 95th Percentile Queues are reported as estimated by Synchro or SimTraffic, the micro-simulation module of the Synchro software;
- For unsignalized two-way stop-controlled intersections: SimTraffic estimated queues and delays have been reported, as the HCM 6th Ed. methodology does not directly consider the gaps afforded by adjacent signalized intersections.

The performance reporting conventions noted above have been consistently applied throughout this document and the detailed outputs are provided in **Appendices B and C** for Synchro and SimTraffic reports, respectively.

2.5.2 Existing Conditions Analysis Assumptions

The following assumptions were made in Synchro 11 software:

Signal Timing:

In addition to the Fort Street & Richmond Road study intersection, Bunt included the Richmond Road & Coronation Avenue intersection in the traffic model to simulate the gapping effects of adjacent signals on the Richmond Road & Pembroke Street intersection.

Signal timing plans for both Fort Street & Richmond Road and the Richmond Road & Coronation Avenue were provided by the City of Victoria and input directly into the traffic model.

Synchro Parameters

Default Synchro parameters were used, except:

- Overall intersection Peak Hour Factor (PHF) was applied to each movement; and,
- Heavy vehicle percentage was set to 2% for all movements except for Fort Street & Richmond Road, in which case heavy vehicle percentages were available and applied to each movement.

2.5.3 Existing Operational Analysis Results

Table 2.5 summarizes the existing peak hour traffic operations in the study area.

Table 2.5: Existing Traffic Operations

INTERSECTION/ TRAFFIC CONTROL	MOVEMENT	AM			PM		
		LOS	V/C	95TH Q (M)	LOS	V/C	95TH Q (M)
Pembroke Street & Birch Street (Unsignalized)	NBLR	A	0.02	10	A	0.02	10
	EBTR	A	0.00	5	A	0.00	5
	WBTL	A	0.02	-	A	0.02	5
Richmond Road & Pembroke Street (Unsignalized)	NBL	A	0.06	15	B	0.04	15
	NBT	A	0.00	5	A	0.00	10
	EBLR	E	0.27	25	F	0.32	35
	SBTR	A	0.00	60	C	0.00	95
Richmond Road & Birch Street (Unsignalized)	NBT	A	0.00	20	A	0.00	20
	EBR	F	0.06	25	F	0.09	60
	SBTR	C	0.00	90	D	0.00	90
Fort Street & Ashgrove Street (Unsignalized)	EBTL	B	0.02	60	C	0.01	60
	WBT	A	0.00	5	A	0.00	5
	WBTR	A	0.00	5	A	0.00	20
	SBL	D	0.06	10	E	0.10	15
Richmond Road & Fort Street (Signalized)	EBL	B	0.36	25	B	0.43	35
	EBTR	B	0.29	35	B	0.28	40
	WBL	C	0.10	10	C	0.09	10
	WBTR	C	0.49	55	C	0.48	65
	NBL	C	0.06	10	C	0.21	15
	NBT	A	0.00	120	A	0.00	115
	NBR	D	0.90	120	D	0.80	115
	SBL	C	0.62	#40	C	0.63	#40
	SBT	B	0.47	50	C	0.62	65
	SBR	B	0.19	10	B	0.26	15

Notes: NB = Northbound, EB = Eastbound, WB= Westbound, SB = Southbound, L = left, T = through, R = right

Bolded results indicate values that do not meet acceptable performance criteria.

"#" indicates that the 95th percentile volume exceeds capacity; therefore, vehicle queue may be longer than reported.

The following movements exceed acceptable performance thresholds in the existing condition:

- The eastbound approach to the Richmond Road & Pembroke Street intersection operates at LOS F in the PM peak hour; and
- The eastbound right turn at Richmond Road & Birch Street operates at LOS F in both the AM and PM peak hours.

The performance issues in the existing condition are likely due to the long southbound queues that extend from the Richmond Road & Fort Street intersection. The southbound queues, especially in the PM peak hour, limit opportunities for vehicles on the unsignalized approaches of Pembroke Street and Birch Street to turn onto Richmond Road. These minor turning vehicles are forced to rely on drivers leaving gaps at intersections while queued or may be forced to rush their turn movements.

3. FUTURE TRAFFIC CONDITIONS

3.1 Traffic Forecasts

3.1.1 Future Transportation Network

The following changes to the local transportation network are planned to be completed before the opening day of the development:

Fort Street AAA Bike Lane Upgrade

The existing painted bike lanes on Fort Street will be removed and replaced with a two-way protected cycle track on the north edge of the street. This new cycle track will expand the regional All-Ages and Abilities (AAA) bike network and connect with the existing cycle track west of Cook Street. This will be a significant upgrade to the cycling infrastructure in the local area.

Birch Street Closed at Richmond Road

By the opening day of the proposed development, it is anticipated that Birch Street will be closed where it currently intersects with Richmond Road. This closure is supported by both the traffic analysis described in Section 2.5.3 and by City of Victoria staff. Therefore, **Bunt has assumed the Birch Street closure in all future traffic scenarios**. Due to this closure, traffic that would have been destined to Richmond Road was redistributed to Pembroke Street to the north.

In addition, the following changes to the local transportation network are being contemplated by the developer and the City of Victoria:

Northbound Left Turn Lane at Richmond Road & Pembroke Street Removed

The developer and the City of Victoria are interested in the anticipated traffic impact of removing the dedicated northbound left turn lane at Richmond Road & Pembroke Street. Bunt performed a sensitivity analysis for this scenario; this is described in Section 3.2.4.

3.1.2 Background Traffic Forecasts

Background traffic is traffic that would be present on the road network if the site did not redevelop. Historical traffic data suggests that there is no significant year-by-year growth in traffic in the City of Victoria. Therefore, no background traffic growth has been assumed for this study.

However, Bunt assumed Birch Street is closed at Richmond Road in all future scenarios. As a result, traffic patterns would change to avoid the closure. Therefore, Bunt redistributed traffic volumes from the Birch Street & Richmond Road intersection to the Pembroke Street & Richmond Road intersection in future scenarios.

Exhibit 3.1 illustrates future background (without site) peak hour traffic volumes.

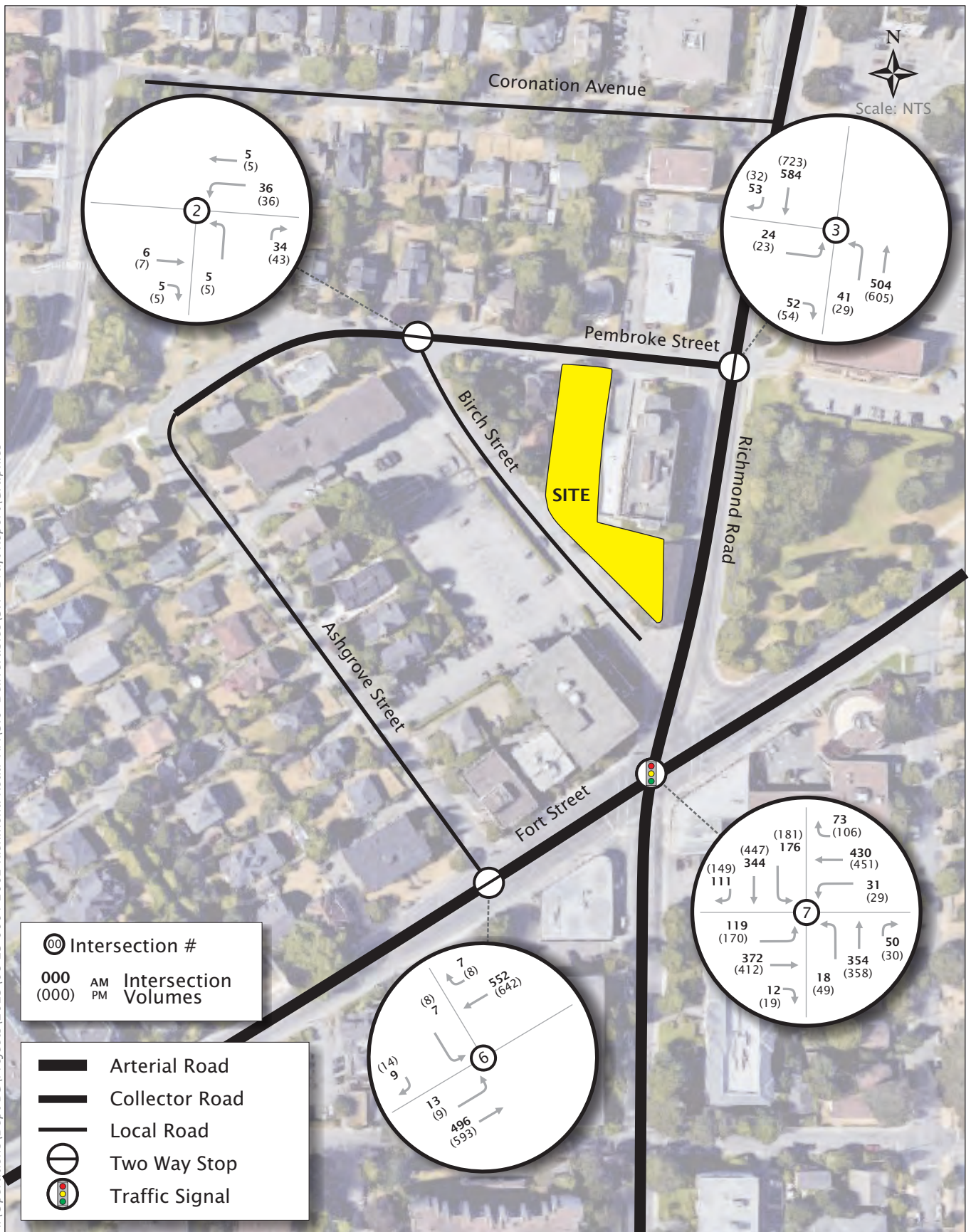


Exhibit 3.1 Future Background Peak Hour Traffic Volumes

3.1.3 Site Traffic

Bunt estimated future site traffic using the most appropriate rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. **Table 3.1** summarizes the trip generation rates applied to each of the proposed land uses. To be conservative, a higher trip generating restaurant land use was used for one of the three commercial retail units.

Table 3.1: Peak Hour Vehicle Trip Rates

LAND USE	UNITS	AM PEAK HOUR			PM PEAK HOUR		
		IN	OUT	TOTAL	IN	OUT	TOTAL
ITE 221 – Multifamily Housing (Mid-Rise)	Dwelling Units	23%	77%	0.37	61%	39%	0.39
ITE 932 – High-Turnover (Sit-Down) Restaurant	1,000 ft ²	55%	45%	9.57	61%	39%	9.05
ITE 880 – Pharmacy/Drugstore without Drive-Through Window	1,000 ft ²	65%	35%	2.94	49%	49%	8.51

Table 3.2 summarizes the anticipated future site generated vehicle trips for the proposed development based on the above rates.

Table 3.2: Estimated Peak Hour Site Vehicle Trips

LAND USE	AM PEAK HOUR			PM PEAK HOUR		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Apartment (55 Units)	5	16	21	13	8	21
Café / Restaurant (2,150 ft ²)	11	9	20	12	8	19
Pharmacy (2,150 ft ²)	4	2	6	9	9	18
TOTAL	20	27	47	34	25	59

The proposed development is anticipated to generate approximately 45 (20 inbound, 25 outbound) and 60 (35 inbound, 25 outbound) vehicle trips in the AM and PM peak hours, respectively. This equates to a new vehicle trip in the study area road network every 1-2 minutes at peak times, on average.

It should be noted that given the proposed reduced parking supply for the development (discussed in Section 4.1), it is unlikely that the site would be able to generate this number of vehicle trips. As such, while this estimate likely overstates the actual trip demand, it is considered a conservative approach to the analysis.

The site generated vehicle trips were distributed throughout the study area based on existing traffic patterns. **Exhibit 3.2** illustrates site traffic forecasts.

3.1.4 Total Traffic

Bunt estimated the future total (with site) peak hour traffic volumes by adding the site traffic forecasts onto the future background traffic forecasts. **Exhibit 3.3** illustrates future total (with site) peak hour traffic volumes.

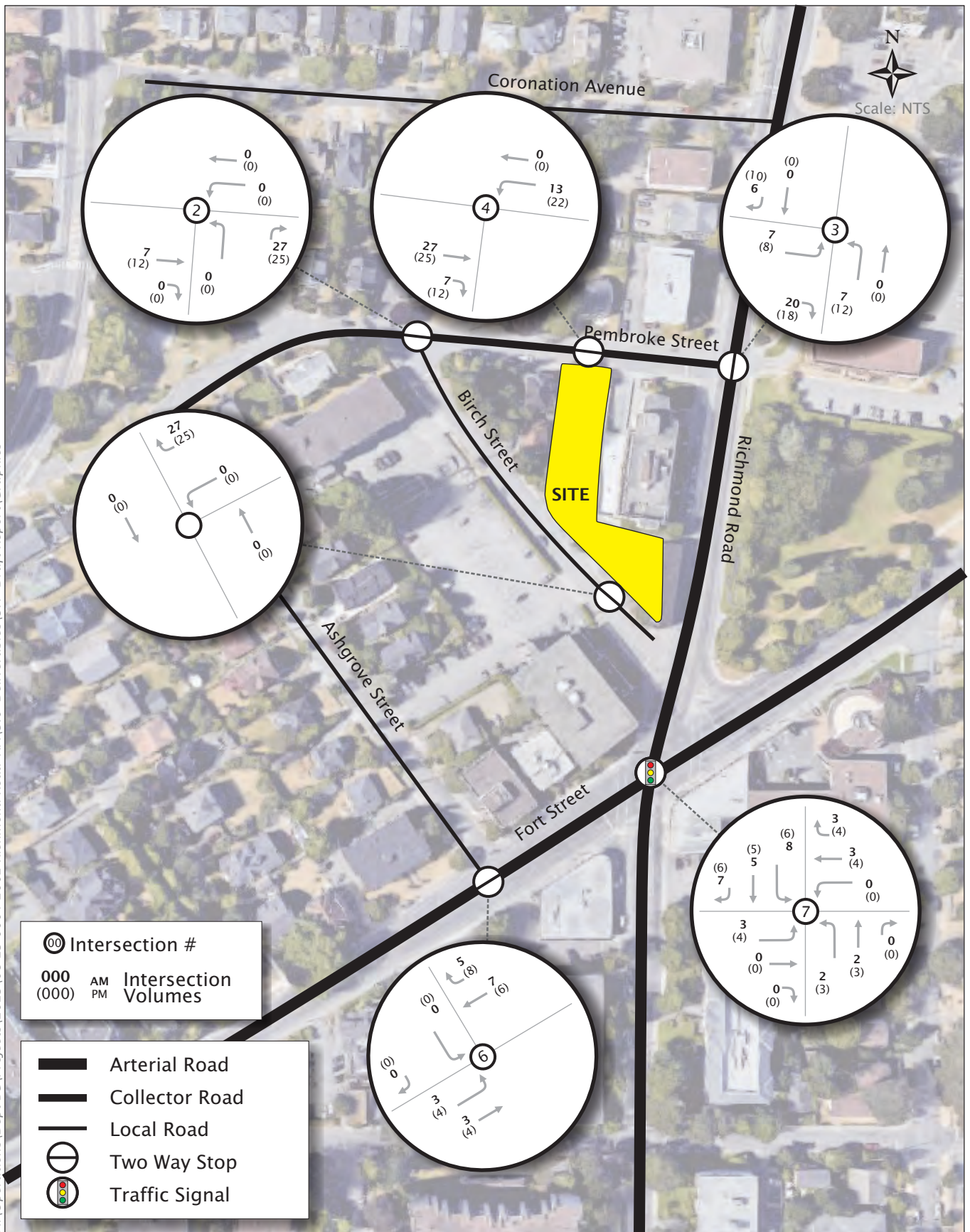


Exhibit 3.2 Site Traffic Forecasts

08-23-0004 2002 Richmond Road
October 2023

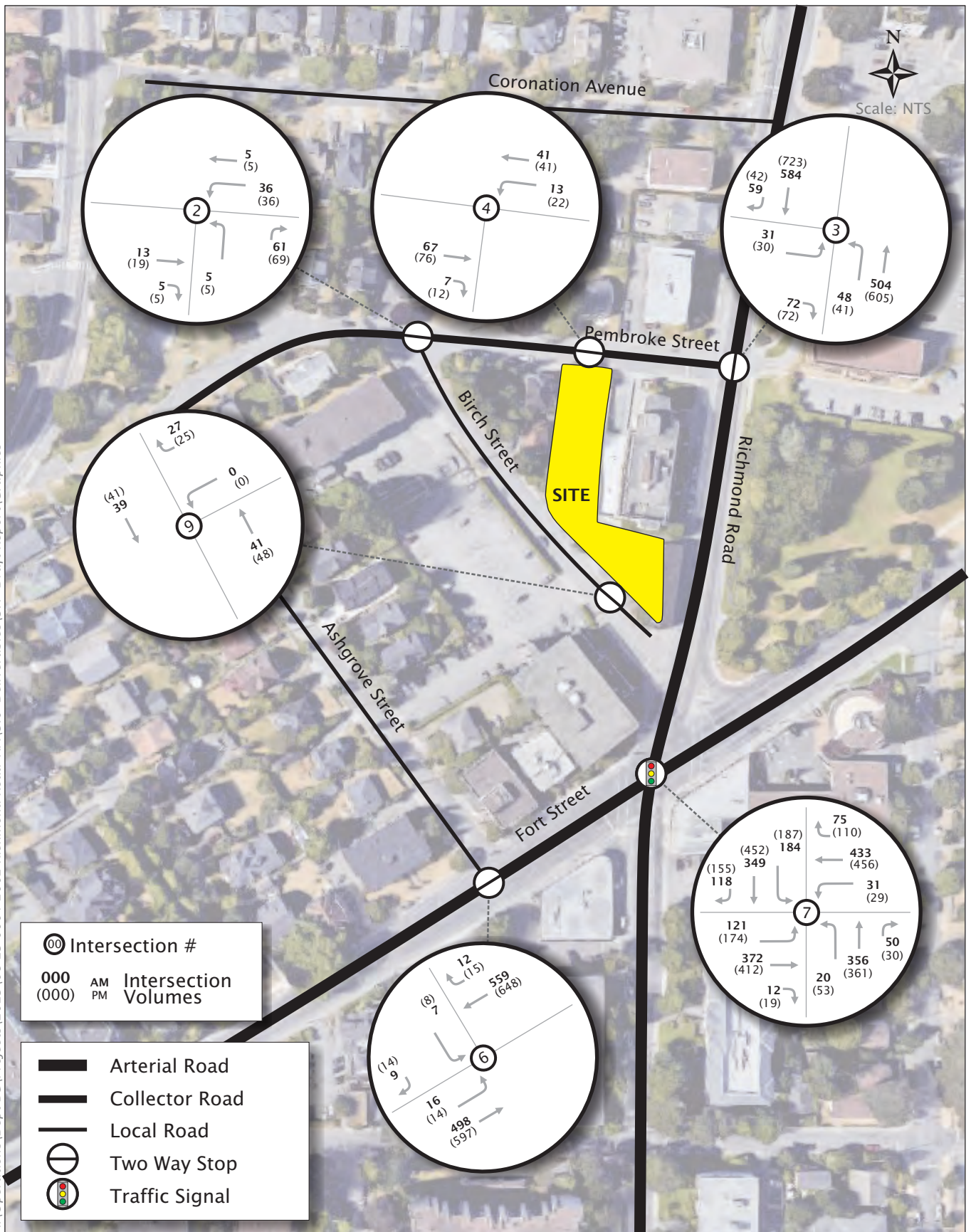


Exhibit 3.3 Future Total Peak Hour Traffic Volumes

08-23-0004

2002 Richmond Road
October 2023

3.2 Future Traffic Operations

3.2.1 Future Conditions Analysis Assumptions

The Synchro 11 software analysis assumptions outlined in Section 2.5.2 were also applied to the future conditions analysis.

3.2.2 Future Background Traffic Operations

Table 3.3 summarizes the future background (without site) peak hour traffic operations in the study area. Note that the Richmond Road & Birch Street intersection is assumed to be removed in all future scenarios.

Table 3.3: Future Background (Without Site) Traffic Operations

INTERSECTION/ TRAFFIC CONTROL	MOVEMENT	AM			PM		
		LOS	V/C	95TH Q (M)	LOS	V/C	95TH Q (M)
Pembroke Street & Birch Street (Unsignalized)	NBLR	A	0.04	10	A	0.05	15
	EBTR	A	0.00	5	A	0.00	5
	WBTL	A	0.02	5	A	0.02	5
Richmond Road & Pembroke Street (Unsignalized)	NBL	B	0.06	15	B	0.04	15
	NBT	B	0.00	10	A	0.00	5
	EBLR	F	0.33	35	F	0.42	45
	SBTR	A	0.00	60	C	0.00	95
Fort Street & Ashgrove Street (Unsignalized)	EBTL	A	0.02	50	B	0.01	65
	WBT	A	0.00	5	A	0.00	10
	WBTR	A	0.00	5	A	0.00	15
	SBL	D	0.06	15	D	0.10	15
Richmond Road & Fort Street (Signalized)	EBL	B	0.36	25	B	0.43	35
	EBTR	B	0.29	35	B	0.28	40
	WBL	C	0.10	10	C	0.09	10
	WBTR	C	0.49	55	C	0.48	65
	NBL	C	0.06	10	C	0.21	15
	NBT	A	0.00	120	A	0.00	120
	NBR	D	0.90	120	D	0.80	120
	SBL	C	0.62	#40	C	0.63	#40
	SBT	B	0.47	50	C	0.62	65
	SBR	B	0.19	10	B	0.26	15

Notes: NB = Northbound, EB = Eastbound, WB= Westbound, SB = Southbound, L = left, T = through, R = right

Bolded results indicate values that do not meet acceptable performance criteria.

"#" indicates that the 95th percentile volume exceeds capacity; therefore, vehicle queue may be longer than reported.

The following movement exceeds acceptable performance thresholds in the future background condition:

- The eastbound approach to the Richmond Road & Pembroke Street intersection operates at LOS F in both the AM and PM peak hour.

The assumed closure of Birch Street at Richmond Road successfully removed the failing eastbound right turn movement at that intersection. However, those vehicle trips were diverted to the eastbound right turn at the Richmond Road & Pembroke Street intersection. This increase in vehicle volume to the eastbound approach at the Richmond Road & Pembroke Street intersection was significant enough to induce LOS F in the AM peak hour, which previously operated at LOS E. However, as the V/C ratios are still well within acceptable thresholds in either peak hour, capacity of this movement is not considered to be a concern despite the delay experienced by the vehicles that are making this movement.

3.2.3 Future Total Traffic Operations

Table 3.4 summarizes the future total (with site) peak hour traffic operations in the study area.

Table 3.4: Future Total (With Site) Traffic Operations

INTERSECTION/ TRAFFIC CONTROL	MOVEMENT	AM			PM		
		LOS	V/C	95TH Q (M)	LOS	V/C	95TH Q (M)
Pembroke Street & Birch Street (Unsignalized)	NBLR	A	0.04	10	B	0.05	15
	EBTR	A	0.00	5	A	0.00	5
	WBTL	A	0.03	5	A	0.03	5
Richmond Road & Pembroke Street (Unsignalized)	NBL	A	0.06	15	B	0.06	15
	NBT	A	0.00	15	A	0.00	15
	EBLR	E	0.45	35	F	0.57	45
	SBTR	A	0.00	55	C	0.00	90
Pembroke Street & North Site Access (Unsignalized)	EBTR	A	0.00	15	D	0.00	25
	WBTL	A	0.01	5	A	0.02	5
Fort Street & Ashgrove Street (Unsignalized)	EBTL	A	0.02	45	B	0.02	65
	WBT	A	0.00	5	A	0.00	25
	WBTR	A	0.00	5	A	0.00	25
	SBL	E	0.07	10	F	0.10	20
Richmond Road & Fort Street (Signalized)	EBL	B	0.37	25	B	0.45	35
	EBTR	B	0.29	35	B	0.28	40
	WBL	C	0.10	10	C	0.09	10
	WBTR	C	0.49	55	C	0.48	65
	NBL	C	0.07	10	C	0.24	20
	NBT	A	0.00	120	A	0.00	120
	NBR	D	0.91	120	D	0.80	120
	SBL	C	0.65	#45	C	0.65	#45
	SBT	B	0.48	50	C	0.62	65
	SBR	B	0.20	10	B	0.27	15

Notes: NB = Northbound, EB = Eastbound, WB= Westbound, SB = Southbound, L = left, T = through, R = right

Bolded results indicate values that do not meet acceptable performance criteria.

indicates that the 95th percentile volume exceeds capacity; therefore vehicle queue may be longer than reported.

The following movements exceed acceptable performance thresholds in the future total condition:

- The eastbound approach to the Richmond Road & Pembroke Street intersection operates at LOS F in the PM peak hour.
- The southbound left turn at the Fort Street & Ashgrove Street intersection operates at LOS F in the PM peak hour.

The introduction of estimated site traffic is anticipated to increase the vehicle volume for the eastbound approach to the Richmond Road & Pembroke Street intersection. As such, similar to under background traffic conditions, this approach is shown to operate at LOS F under total conditions. For the AM peak hour, while Bunt's analysis results indicated this movement operates at an LOS F under background conditions, but LOS E under total conditions despite having slightly higher vehicle trips, this discrepancy can be attributed to the randomness of the SimTraffic software simulation runs. In reality, the delays are expected to be quite similar between the two scenarios.

3.2.4 Future Total Traffic Operations – Northbound Left Turn Lane at Richmond Road & Pembroke Street Removed

The City of Victoria asked Bunt to evaluate the option of removing the northbound to westbound left turn lane on Richmond Road at the Pembroke Street intersection. Bunt did this by reviewing SimTraffic results at the intersection with the left turn lane removed. While this scenario was technically shown to function within acceptable thresholds for delays and V/C ratio, the model assumes that southbound vehicles queuing from the Fort Street intersection will leave a gap along Richmond Road at Pembroke Street for northbound vehicles on Richmond Road to turn left through. Based on site observations, this is often not the case, and left turning vehicles would be blocked. As such, the northbound queues are expected to be longer than what the model has reported, likely extending further south on Richmond Road towards the Fort Street & Richmond Road intersection. Given this anticipated result, Bunt recommends retaining the existing northbound left turn lane on Richmond Road at its current location and length.

3.2.5 Summary of Traffic Impacts

The results of the traffic analysis in Synchro software indicate that closing Birch Street at its intersection with Richmond Road will successfully remove its failing eastbound right turn movement. However, vehicle traffic will be diverted to the eastbound right turn movement at Richmond Road & Pembroke Street; this is shown to worsen the delays at this movement to LOS F.

The introduction of site traffic is not anticipated to induce any new performance issues that are not already anticipated for the future background scenario. However, a significant portion of the site traffic will rely on the eastbound approach to the Richmond Road & Pembroke Street intersection, which is anticipated to experience long delays in either peak hour period.

3.2.6 Potential Mitigation – Traffic Signal at Richmond Road & Pembroke Street

To mitigate the long eastbound vehicle delays experienced at the at Richmond Road & Pembroke Street, Bunt tested the effectiveness of upgrading this intersection from stop control to a traffic signal. The following assumptions were applied to the traffic signal in Bunt's Synchro model:

- The control type was set to 'Actuated - Coordinated'; and,
- The Synchro 'Optimize Network Cycle Lengths' tool was applied to optimize the signal timing for the intersection while retaining the signal coordination with the adjacent Richmond Road & Coronation Avenue and Richmond Road & Fort Street intersections.

Table 3.5 presents the future total (with site) peak hour traffic operations with the Richmond Road & Pembroke Street intersection signalized.

Table 3.5: Future Total (With Site) Traffic Operations – Traffic Signal at Richmond Road & Pembroke Street

INTERSECTION/ TRAFFIC CONTROL	MOVEMENT	AM			PM		
		LOS	V/C	95TH Q (M)	LOS	V/C	95TH Q (M)
Richmond Road & Pembroke Street (Signalized)	EBL	D	0.78	20	D	0.79	20
	EBR	A	0.00	20	A	0.00	20
	NBL	A	0.09	5	A	0.09	5
	NBT	A	0.36	25	A	0.43	55
	SBT	A	0.00	5	A	0.00	10
	SBR	A	0.47	5	A	0.55	10

As shown above, all movements are shown to operate within performance and queuing limits in the future total condition with the Richmond Road & Pembroke Street intersection signalized. These results indicate that signalizing the intersection would be an effective mitigation measure.

To determine if signalizing the intersection would be warranted, Bunt applied the Transportation Association of Canada (TAC) signal warrant methodology. The results of this analysis indicated that based on the projected future total traffic volumes, a traffic signal would not technically be warranted. However, regardless of this result, because the vehicle delays for the eastbound approach affect a significant number of both background and site vehicle trips, access to/from this area is relatively limited (i.e., due to the closure of Birch Street to Richmond Road, the one-way restriction of Begbie Street, etc.), and long delays could lead to drivers attempting dangerous turns from Pembroke Street onto Richmond Road where there are insufficient gaps, a traffic signal may still be considered. This mitigation measure would effectively remove the long eastbound delays and provide drivers with a controlled opportunity to turn to/from Pembroke Street.

Rectangular Rapid Flashing Beacon

Alternative to a traffic signal, a pedestrian-actuated Rectangular Rapid Flashing Beacon (RRFB) pedestrian crossing along the intersection's south leg would be a mitigation option. Following Bunt's initial submission of this study to the City of Victoria, City staff indicated that an RRFB pedestrian crossing was its preferred mitigation approach rather than implementing a full traffic signal, particularly given the results of Bunt's signal warrant analysis and in consideration of signal spacing along Richmond Road. While this control type would not provide vehicle actuation, during periods of high pedestrian activity, an RRFB would operate similar to a traffic signal in terms of providing both controlled pedestrian crossing opportunities and opportunities for vehicles to turn left out from Pembroke Street onto Richmond Road when the beacon is activated and traffic along Richmond Road is momentarily stopped.

3.2.7 Potential Mitigation – Restrict Southbound to Eastbound Left Turn at Ashgrove Street & Fort Street Intersection

The City of Victoria may consider restricting the southbound to eastbound left turn movement at the Ashgrove Street & Fort Street intersection for various reasons such as its high peak period delays, it crosses a new protected bike route on Fort Street, and it leads into the left turn lane of the adjacent Fort Street intersection resulting in potential conflict. Given the low number of vehicles attempting this movement, combined with the viable and improved alternative routes (particularly if Richmond Road & Pembroke Street were to be signalized), restricting this movement is not anticipated to result in any operational issues.

4. PARKING SUPPLY REVIEW

4.1 Parking Supply

4.1.1 Vehicle Parking

The vehicle parking requirements for the City of Victoria are specified in *Schedule C: Off-Street Parking Regulations* of Zoning Bylaw No. 80-159 (the bylaw). **Table 4.1** summarizes the required vehicle parking supply and proposed provision for each land use using the City of Victoria's 'Other Area' subcategory. It is however noted that the site is immediately adjacent to the Jubilee Hospital Village and, as discussed in Section 4.2, is anticipated to function similar to a Village or Urban Centre.

The commercial tenants for the three Commercial/Retail units are unknown at this stage. At this time, they are estimated to be a restaurant, a local serving coffee shop, and a retail land use. As these tenants are not yet confirmed, the site's parking requirements were calculated using Victoria's 'general retail' parking rate for the 'Other Area' subcategory.

Table 4.1: Vehicle Parking Supply Requirement & Provision

LAND USE	DENSITY	BYLAW RATE	BYLAW SUPPLY REQUIREMENT (SPACES)	PROVIDED (SPACES)	DIFFERENCE (SPACES)
Apartment	14 units (< 45 m ²)	0.75 / unit	10.5	3	-52
	22 units (45-70 m ²)	0.90 / unit	19.8		
	19 units (> 70 m ²)	1.30 / unit	24.7		
Visitor (Apartment)	55 units	0.1 / unit	6	(shared with Commercial)	-6
Commercial (Retail)	356 m ²	1 / 37.5 m ²	9	9	-
Car-Share Vehicle			0	1	+1
TOTAL			70	12, PLUS 1 CAR SHARE	-58 (+1 CAR SHARE)

The vehicle parking supply requirement for the proposed development is 70 parking spaces, including 55 spaces for residents, 6 spaces for residential visitors, and 9 spaces for commercial land uses.

Given the site's proximity to nearby amenities and alternative transportation facilities, combined with general site constraints, the developer proposes a reduced parking supply of 12 spaces plus 1 car share space (and vehicle). There is also one motorcycle space, however this space does not technically count towards the site's parking supply.

While the site's parking supply is compliant with the bylaw in regard to commercial parking spaces, as the overall provision would fall short of the City's bylaw requirement, the project is seeking a vehicle parking variance. The requested variances are summarized below:

- Apartment: -52 spaces (from a requirement of 1.02 spaces / unit to a proposed 0.05 spaces / unit);
- Visitor: -6 spaces (from a requirement of 0.1 spaces / unit to a proposed 0.00 spaces / unit) as they will be shared with the commercial spaces.

The appropriateness of these variances is reviewed in Section 4.2.

Table 4.2 summarizes the required accessible parking supply and proposed provision for each land use.

Table 4.2: Accessible Parking Supply Requirement & Provision

LAND USE	DENSITY	BYLAW RATE	BYLAW SUPPLY REQUIREMENT (SPACES)	PROVIDED (SPACES)	DIFFERENCE (SPACES)
Apartment	55 req. parking paces	2 accessible and 1 van accessible for 51-75 parking spaces	2 accessible, 1 van accessible	1 accessible 1 van accessible	-1 accessible
Visitor (Apartment)	6 req. parking paces	1 van accessible for 6-25 parking spaces	1 van accessible	-	-1 van accessible
Retail	9 req. parking paces	1 van accessible for 6-25 parking spaces	1 van accessible	-	-1 van accessible
TOTAL			2 ACCESSIBLE 3 VAN ACCESSIBLE	1 ACCESSIBLE 1 VAN ACCESSIBLE	-1 ACCESSIBLE -2 VAN ACCESSIBLE

The proposed accessible parking supply includes 1 accessible space and 1 van accessible space shared between the commercial component and visitors to the apartment. This proposed supply represents a variance of 1 accessible space and 2 van-accessible spaces below the bylaw requirement. Note, an additional van accessible space is proposed to be provided on-street on the site's Birch Street frontage, but this space has not been included as part of the supply.

4.1.2 Bicycle Parking

The bicycle parking requirements for the City of Victoria are specified in *Schedule C: Off-Street Parking Regulations* of Zoning Bylaw No. 80-159. **Table 4.1** summarizes the required bicycle parking supply and proposed provision for each land use.

Table 4.3: Bicycle Parking Supply Requirement & Provision

LAND USE	DENSITY	BYLAW RATE	BYLAW SUPPLY REQUIREMENT (SPACES)	PROVIDED (SPACES)	DIFFERENCE (SPACES)
Apartment, Long Term	14 units (< 45 m ²)	1 / unit	14 Long Term	110 Long Term	+45 Long Term
	41 units (> 45 m ²)	1.25 / unit	51 Long Term		
Apartment, Short Term	1 building, 55 units	Greater of: 6 / building OR 0.1 / unit	6 Short Term	6 Short Term	-
Retail, Long Term	356 m ²	1 / 200 m ²	2 Long Term	2 Long Term	-
Retail, Short Term	356 m ²	1 / 200 m ²	2 Short Term	6 Short Term	+4 Short Term
TOTAL			67 LONG TERM 8 SHORT TERM	112 LONG TERM 12 SHORT TERM	+45 LONG TERM +4 SHORT TERM

The bicycle parking supply requirement for the proposed development is 65 long-term and 6 short-term for the apartment land use and 2 long-term and 6 short-term for the commercial land uses.

The proposed development will exceed the requirement for long term bicycle parking for the apartment land use; from 65 spaces required (1.18 / unit) to 110 proposed (2.00 / unit). The proposed development will meet the long-term bicycle parking requirements for commercial land use and exceed the short-term requirements.

4.2 Vehicle Parking Supply and Demand Analysis

As noted in Section 4.1.1, the developer is seeking the following parking variances:

- Apartment: -52 spaces (from a requirement of 1.02 spaces / unit to a proposed 0.05 spaces / unit); and,
- Visitor: -6 spaces (from a requirement of 0.1 spaces / unit to a proposed 0.00 spaces / unit) as they will be shared with the commercial spaces.

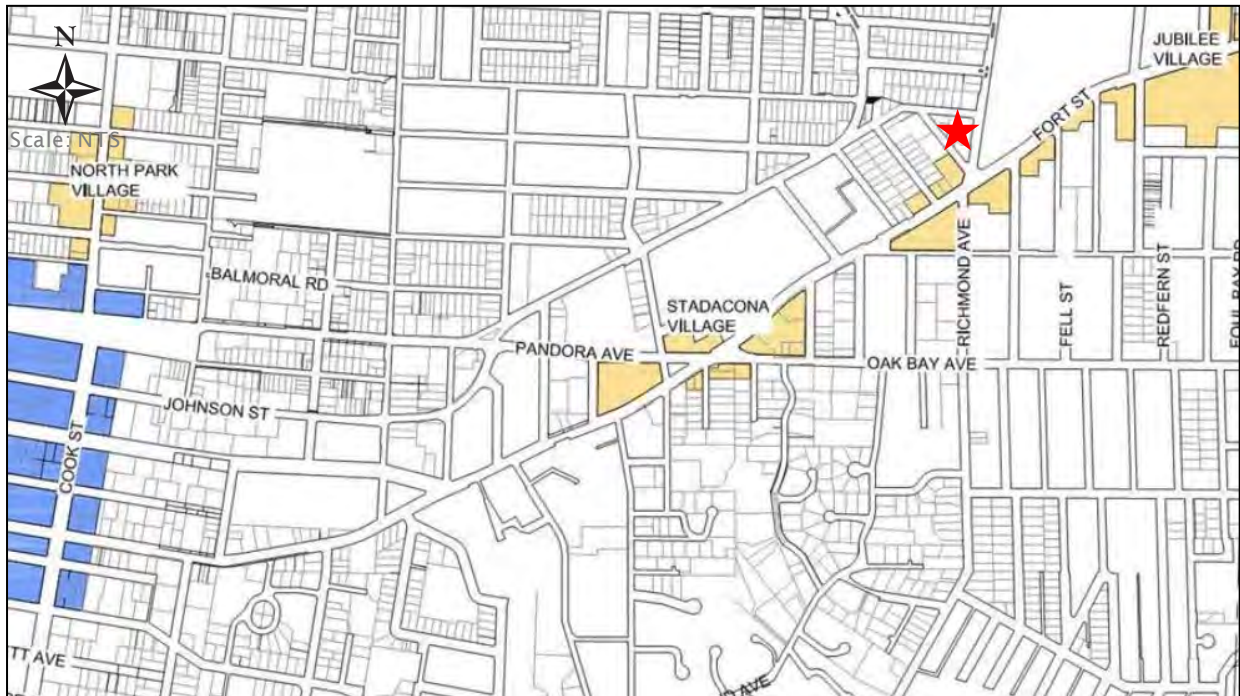
It is acknowledged that the proposed parking supply and variances sought are progressive. The development is attempting to align with the City's future transportation policy goals to reduce reliance on private vehicle usage by leveraging the site's inherent proximity to existing transit, cycling, and walking networks, while also leaning on nearby alternative supply options to complement the development's own provision.

This section reviews factors that influence demand to help support a lower parking provision (i.e., the site location, parking demand patterns, and the application transportation demand management (TDM) measures) and presents nearby alternative parking options that would help complement the proposed supply.

4.2.1 Site Location

As described in Section 2.2, the proposed site is well-connected to existing transit, cycling, and walking networks. The local transportation network and proximity of amenities is anticipated to allow residents and visitors to commute and run daily errands without a private vehicle. In addition, the future two-way protected cycle track on Fort Street will be an excellent addition to the local cycling network and is anticipated to further encourage cycling to/from the development.

The bylaw requirements for vehicle parking are based on the location of the proposed site. Different parking supply rates are specified for developments considered to be in different geographic sub-types: 'Core Area', 'Village/Centre', or 'Other Area'. **Figure 4.1** illustrates the site location overlaid onto a screen capture from the City of Victoria Parking Bylaw, with 'Core Area' shown in blue, 'Village/Centre' shown in beige, and 'Other Area' shown in white.

Figure 4.1: Site Location: Off-Street Parking Sub-Areas

As shown, the proposed site is located in an 'Other Area' which has the highest vehicle parking requirements of the three sub-types. However, the proposed site is near many 'Village/Centre' areas (approx. 20 metres from the nearest 'Village/Centre'). As a result, it is reasonable to view the proposed site as a 'Village/Centre' sub-type. If it were considered to be in a Village/ Centre area then the development would need just 7 commercial parking spaces which is two spaces less than what is being provided.

4.2.2 Rental Tenure Parking Management

As the proposed development includes rental residential units, rather than strata owned units, this would allow for management of the on-site parking spaces. In this way, the site's operator will be able to screen prospective tenants and ensure there is mutual understanding of the limited available site parking before the tenant enters into a rental agreement. This would help minimize the chances of vehicle parking ownership exceeding the available supply.

4.2.3 Different Time-of-Day Peak Demands

The proposed development will not dedicate on-site parking spaces to visitors to the apartments. Instead, the developer proposes to allow visitors to park in the shared commercial/visitor parking supply of 9 spaces. This arrangement is meant to take advantage of the fact that the parking demand for these uses tends to peak at different times of the day and on different days. For example, residential visitor parking

tends to peak both in the early evening on weekdays and during the daytime on weekends. Generally speaking, the parking demand for the commercial retail use is expected to be highest during the weekday daytime, and considerably lower during the weekday evenings. By sharing the commercial parking with residential visitors, visitor demand will be accommodated without needing to construct additional parking that may sit vacant at most times of the day.

As a result, Bunt recommends that the 9 commercial visitor spaces be marked as “Visitor” spaces allowing them to be used by both commercial and residential visitors. Further, they should be regulated with a time restriction (i.e. 2-hour maximum) to ensure they are used as intended.

Depending on the future commercial retail tenants, it is acknowledged that there may be time periods when both residential visitor and commercial parking demand coincide, such as daytime on the weekends. During these periods, should the combined demand exceed the off-street supply, visitors and commercial patrons are also anticipated to park within publicly available on-street parking, which would help accommodate the demand during these specific time periods. The nearby on-street parking is discussed further below.

4.2.4 On-Street Parking Supply

On-street parking exists in the vicinity of the site, which includes a mix of primarily time-restricted spaces and “Resident Only” spaces. Most of the publicly available time-restricted spaces are located on Birch Street, Pembroke Street, and Richmond Road. While these on-street spaces are not expected to be relied on for the proposed development, at certain times/days of the week these on-street spaces would help complement the on-site supply (e.g., periods when commercial retail and residential visitor peak parking demand coincide). **Exhibit 4.1** illustrates on-street parking regulations within the study area. As shown, 1 and 2-hour short-term parking is available on multiple street edges within 200 metres of the proposed site.

4.2.5 Rentable Parking Spaces in Adjacent Buildings

In terms of other complementary supply options, there are long-term (monthly) parking spaces available for rent at the adjacent 2020 Richmond Road building. Robbins Parking, the company that manages these spaces, offers exclusive use of a parking space for \$141.75 per month. There are also long-term parking opportunities at the neighboring Jubilee Hospital should some residents also work at the hospital. These nearby available parking spaces provide a valuable contingency should resident vehicle ownership be greater than anticipated.

4.2.6 Transportation Demand Management (TDM) Measures

Transportation Demand Management (TDM) is defined as the “application of strategies and policies to reduce travel demand (specifically that of single-occupancy private vehicles), or to redistribute this demand in space or in time”. A successful TDM program can influence travel behaviour away from Single Occupant Vehicle (SOV) travel during peak periods towards more sustainable modes such as High Occupancy Vehicle (HOV) travel, transit, cycling or walking. The responsibility for implementation of TDM

measures can range across many groups, including regional and municipal governments, transit agencies, private developers, residents/resident associations or employers.

To help support the proposed reduced parking supply, the developer proposes to implement a comprehensive TDM strategy for the development. This strategy, which was developed in coordination with Bunt, includes a suite of measures intended to promote the use of alternative transportation modes and reduce the site's reliance on private vehicle ownership. Details of the proposed TDM measures are provided in Section 6.

4.2.7 Vehicle Parking Demand Summary

In summary, the following items are anticipated to collectively reduce the parking demand and provide alternative supply options for the proposed development to support the proposed reduced parking supply:

- The proposed site is well-connected to existing transit, cycling, and walking networks, which reduces the reliance of private vehicle ownership. Given the site's location, its commercial parking demand is expected to reflect a "Village/Centre" rate, despite being in an "Other Area" zone;
- The site is located near Jubilee Village, which offers many services that are anticipated to allow future residents to complete shopping and daily errands by walking and/or cycling;
- The proposed rental tenure of the residential units allows for management of the on-site parking spaces where prospective tenants would be informed of the limited parking space availability before entering into a rental agreement;
- The parking demand for the residential visitor and commercial retail land uses are expected to peak at different times of the day, enabling a shared parking arrangement. The exception to this may be during weekend daytime periods, depending on the commercial use;
- On-street parking exists in the vicinity of the site, including 1 and 2-hour short-term parking on Birch Street, Pembroke Street, and Richmond Road. While the development is not expected to rely on these spaces, they will complement the off-street supply at certain times/days of the week (e.g., periods when commercial retail and residential visitor peak parking demand may coincide).
- Residents seeking long-term vehicle parking will have the option of renting a space at the adjacent 2020 Richmond Road building; and
- The development proposes to provide a comprehensive suite of TDM measures to promote the use of alternative transportation modes and reduce the site's reliance on private vehicle ownership.

M:\Operations\Dept BC\Projects\2023\08-23-0004 2002 Richmond Road TIA\5.0 Deliverables\5.1 Draft Report\Graphics

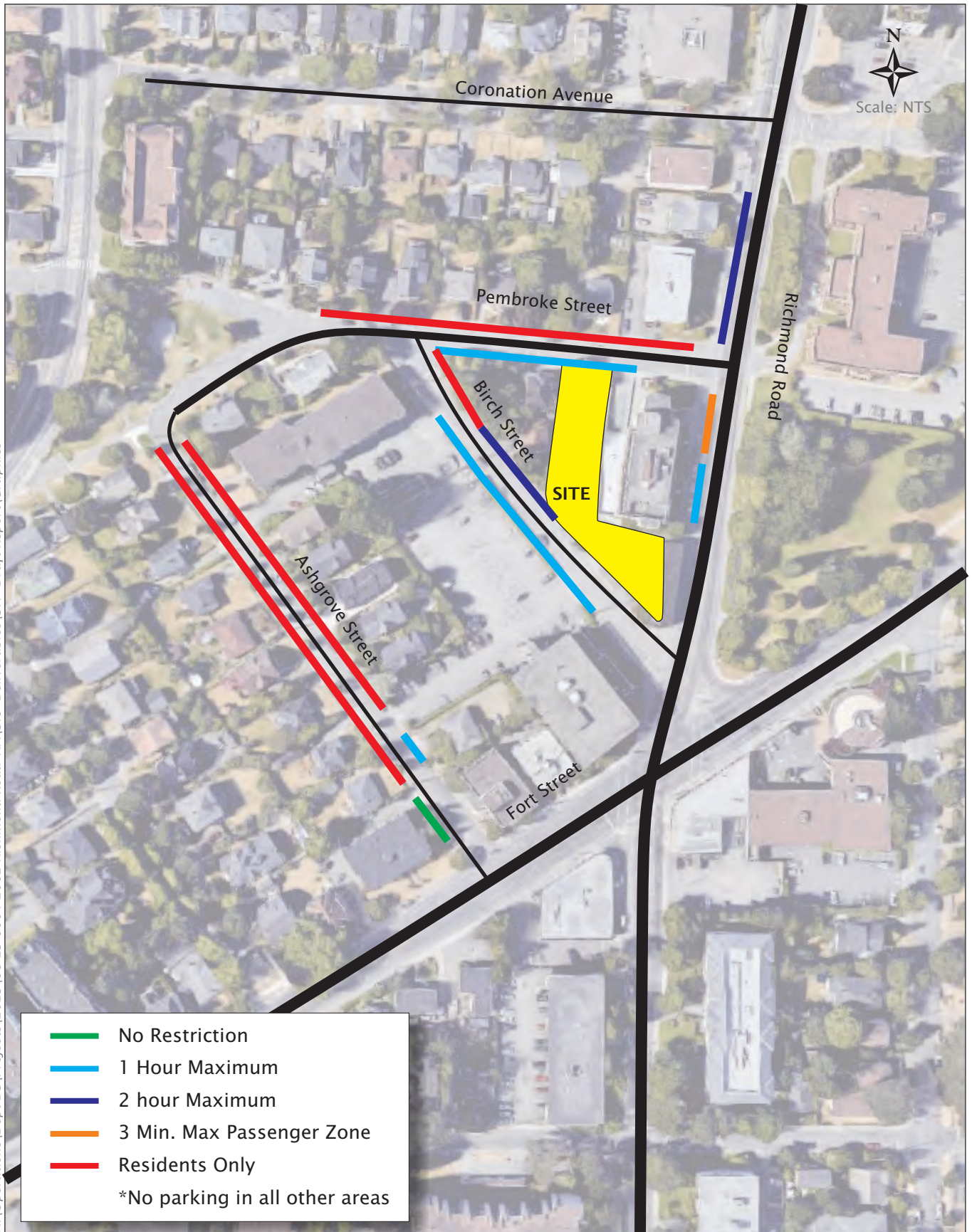


Exhibit 4.1 On-Street Parking Regulations

08-23-0004

2002 Richmond Road
October 2023

5. SITE DESIGN REVIEW

5.1 Swept Path Analysis

Bunt completed a swept path analysis, attached in **Appendix D**, of the proposed site plan using AutoTURN software. Bunt confirmed functionality of waste collection and passenger vehicle maneuvers in and around the proposed development. The following summarizes the analysis:

- **Exhibit D.1a** illustrates a waste collection vehicle turnaround movement. As shown, the turn path requires multiple point turns while still coming closer than advisable to the proposed building. This diagram illustrates the difficulty of turning around a large loading vehicle on Birch Street. Due to this analysis, it is recommended that the plaza area be made permeable to loading vehicles to allow egress of the occasional large loading truck onto Richmond Road. It is also recommended that the site pursue a waste collection plan that reduces or removes the need for large sized garbage collection vehicles to use Birch Street. For example, a handheld electric waste bin tug (e.g., V-Move Dumpster Mover) could be used to pull garbage bins from the site to Pembroke Street. Further, the developer should explore opportunities to develop a tailored collection plan for the site with a waste collection company that minimizes reliance on Birch Street and accounts for the one-way circulation of the parking area.
- **Exhibit D.1b** illustrates an alternative option to a waste collection vehicle turning around on Birch Street (as shown in Exhibit D.1a). This option allows the waste vehicle to use the proposed pedestrian plaza, which will be located on Birch Street where it meets with Richmond Road, as an outbound route onto Richmond Road. The pedestrian plaza would need to be constructed to allow service vehicle access but deter all other vehicle use. Waste collection and large loading vehicles would be scheduled outside of peak pedestrian traffic hours to limit conflicts. One public on-street parking space would need to be removed to accommodate this option.
- **Exhibit D.2** illustrates passenger vehicle circulation through the surface parking lot. The parking lot will be one-way southbound (inbound only from Pembroke Street, outbound only to Birch Street). The hatched surfaces shown on the site plan will be mountable for vehicles.
- **Exhibits D.3 and D.4** illustrate inbound and outbound passenger vehicle parking maneuvers, respectively. No issues were identified.

6. TRANSPORTATION DEMAND MANAGEMENT

6.1 Proposed TDM Strategy

The following section describes the individual TDM measures proposed for the development. These measures are intended to support the reduced parking supply by promoting the use of alternative transportation modes and reducing the site's reliance on private vehicle ownership. The measures were identified have by Bunt to be suitable for the size, location, and requested parking variance of the proposed development, and have been agreed to by the developer.

6.1.1 Transit Passes

The developer proposes to provide a subsidized annual transit pass from BC Transit for employees of the proposed commercial land uses. Employees would be given the option of purchasing an annual transit pass for a reduced fee via the development manager. Transit passes provide unlimited use of the BC Transit bus service in the Greater Victoria area. This measure in combination with the proposed development's proximity to frequent transit services is anticipated to greatly increase transit use from the development and reduce the need for commuting by private vehicle.

6.1.2 Car-Share Parking Space and Memberships

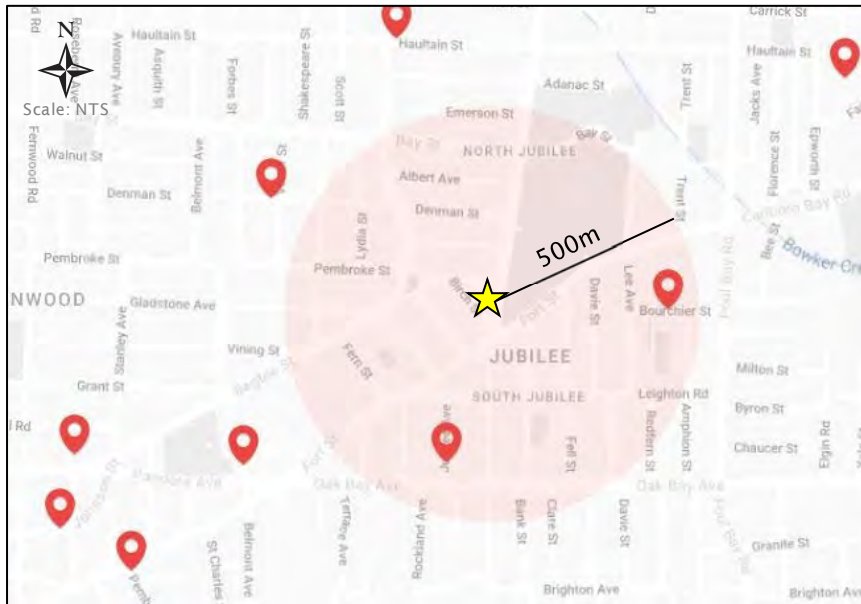
The developer will provide an on-site dedicated car-share parking space. The inclusion of this space is accounted for in this report's parking calculations.

Modo is the primary car-share service in Greater Victoria, offering round trips for members. A car-share vehicle will enable residents to have short-term access to a vehicle, without having to buy or maintain their own. The developer is proposing to provide \$500 Modos memberships for each unit. Each membership is tied to a unit and can be transferred between units or to new tenants, as needed.

The Metro Vancouver Car-Share Study provides information on the effects of car-share on vehicle ownership. Each shared car has been shown to remove 3-11 private vehicles from the street system. In addition, the number of vehicles owned per household was reduced by 27% when a Modo membership was acquired¹.

Figure 6.1, taken from Modo's website, illustrates the location of existing Modo vehicles near the proposed site. Two Modo car share vehicles are located within 500 metres. A new Modo vehicle located adjacent to the proposed site will be a valuable addition to the neighbourhood and reduce resident vehicle ownership.

¹ <http://www.metrovancouver.org/services/regional-planning/PlanningPublications/MetroVancouverCarShareStudyTechnicalReport.pdf>

Figure 6.1: Nearby Existing Modo Car Share Vehicles

6.1.3 Unbundled Parking Spaces

The development manager will not package parking spaces with the proposed rental units. Instead, tenants will have the option of renting a parking space for an additional monthly fee, subject to availability. Because the monthly rental price will not include a parking space, tenants will not feel an obligation to own a vehicle to utilize an amenity they are already paying for. This policy will also help attract tenants who do not own a vehicle and help incentivise a car-free lifestyle.

6.1.4 Additional Long-Term Bicycle Parking

The developer is committed to providing additional long-term bicycle parking for residents. The proposed supply of 110 spaces (2.00 / unit) will allow more residents to securely store their bicycles and will encourage cycling as a viable means of local travel.

6.1.5 Improved Bicycle Parking and Access

The developer is planning to provide high-quality lighting, grades, surfacing, and other amenities that will improve the access to and experience of the bicycle storage rooms. This may include installation of bright LED lights along the access path and in the bicycle room, at-grade or ramp access to the bicycle rooms, extra-wide automatic doors for large bicycle access.

6.1.6 Bicycle Maintenance Facilities

The developer is planning to provide a bicycle wash station and/or repair stand in or near the bicycle storage room. A bicycle wash station features a hose, stand, and drain for washing bicycles. A bicycle repair stand provides a stand with tools for repairing and maintaining a bicycle (e.g., allen keys, pump, tire

patches, screwdrivers, etc.). **Figures 6.2 and 6.3** illustrate an example of a bicycle wash station and a bicycle repair stand, respectively.

Figure 6.2: Bicycle Wash Station Example



Figure 6.3: Bicycle Repair Stand Example



6.1.7 Cargo Bicycle Spaces

The developer will provide extra-large spaces for cargo bicycles in the bicycle storage room. Electric cargo bicycles have high storage capacity and power and are excellent for commutes and for errands, such as grocery shopping. For these reasons, cargo bicycles are more effective at replacing the need for a private vehicle than standard bicycles. **Figure 6.4** illustrates an example of a cargo bicycle.

Figure 6.4: Cargo Bicycle Example



6.1.8 End-of-trip Facilities

The developer will provide showers, change rooms, and lockers for the employees of the proposed commercial uses. This measure would encourage employees to commute by active modes.

6.1.9 Pedestrian Plaza

The proposed pedestrian plaza, which is anticipated to be completed by the opening day of the development, will provide a shared pedestrian-only space with outdoor seating. This neighbourhood amenity is anticipated to augment the walkability of the area as well as provide pedestrian level placemaking.

7. CONCLUSIONS & RECOMMENDATIONS

7.1 Conclusions

7.1.1 Proposed Development

- Empresa Properties proposes the development of a 6-storey, 55-unit residential rental building with approximately 356 m² of ground-floor commercial space.

7.1.2 Existing Transportation Network

- The proposed development is well-connected to local transit, cycling, and pedestrian networks. Six bus routes have stops within 200 metres of the site, two of which are classified as 'frequent' routes; these routes cover a comprehensive service area with two-way service to Victoria General Hospital, University of Victoria, Esquimalt, Downtown Victoria, and Oak Bay. Painted bike lanes are provided within the study area on Fort Street and on Richmond Road, with the Fort Street bike lanes transitioning to a two-way protected cycle track to the west as part of the All-Ages and Abilities (AAA) regional cycling network. Sidewalks are provided on both sides of all study area roads; many amenities are available within walking distance due to the site's proximity to Jubilee Village.

7.1.3 Existing Traffic Conditions

- Synchro 11 analysis indicated that the following movements exceed acceptable performance limits in the existing condition:
 - The eastbound approach to the Richmond Road & Pembroke Street intersection operates at LOS F in the PM peak hour; and
 - The eastbound right turn at Richmond Road & Birch Street operates at LOS F in both the AM and PM peak hours.

7.1.4 Future Traffic Conditions

- The proposed development is anticipated to generate approximately 45 and 60 vehicle trips in the AM and PM peak hours, respectively. This equates to a new vehicle trip every 1-2 minutes, on average. Given the reduced parking supply proposed for the development, this estimate likely overstates the actual number of trips that would be generated by the site and is therefore conservative.
- The Richmond Road & Birch Street intersection is assumed to be closed by the opening day of the proposed development.
- Bunt's analysis indicated that in addition to the performance issues in the existing condition, the eastbound approach to the Richmond Road & Pembroke Street intersection operates at LOS F with or without future site traffic present in most future time periods. This is partly attributed to traffic previously exiting from Birch Street onto Richmond Road now using Pembroke Street.

7.1.5 Future Traffic Conditions – Potential Mitigations

- SimTraffic 11 analysis indicated that removing the northbound left turn lane at the Richmond Road & Pembroke Street intersection would operate within performance and capacity limits. However, this level of performance is dependent on southbound drivers leaving a gap in the queue at Pembroke Street, which is an inconsistent situation based on site observations.
- Synchro 11 analysis indicated that a traffic signal at the Richmond Road & Pembroke Street intersection can mitigate performance issues at this location. The City has expressed a preference for a pedestrian crossing with a rectangular rapid flashing beacon (RRFB) at this location, rather than a full traffic signal, given that the signal is not technically warranted and in consideration of signal spacing along Richmond Road. This is anticipated to create gaps in Richmond Road traffic which can also help facilitate left turn vehicle movements from Pembroke Street onto Richmond Road.

7.1.6 Parking Supply Review

- The vehicle parking supply requirement for the development is 70 parking spaces, including 55 residential, 6 residential visitor, and 9 commercial retail spaces.
- The developer is seeking to provide a total of 12 parking spaces plus one car share space (and vehicle). Of this supply, 3 spaces will be for residents and 9 spaces will be shared between residential and commercial visitors.
- The proposed supply results in the following required parking variance:
 - Apartment: -52 spaces (from a requirement of 1.02 spaces / unit to a proposed 0.05 spaces / unit); and,
 - Visitor: -6 spaces (from a requirement of 0.1 spaces / unit to a proposed 0.00 spaces / unit) as these will be shared with the commercial spaces.
- The proposed accessible parking supply is 1 accessible space and 1 van accessible space shared between the commercial component and visitors to the apartment. An additional van accessible space is proposed to be provided on-street near the development along the site's Birch frontage. This proposed supply represents a variance of 1 accessible space and 2 van-accessible spaces below the bylaw requirement.
- The bicycle parking supply requirement for the proposed development is 65 long-term and 6 short-term for the apartment land use and 2 long-term and 6 short-term for the commercial land uses. The proposed development will exceed the requirement for long term bicycle parking for the apartment land use; from 65 spaces required (1.18 / unit) to 110 proposed (2.00 / unit). The proposed development will meet the long-term bicycle parking requirements for commercial land use and exceed the short-term requirements.

7.1.7 Vehicle Parking Supply and Demand Analysis

- The following factors are anticipated to help support a lower parking provision by reducing demand and providing nearby alternative parking supply options:

- The proposed site is well-connected to existing transit, cycling, and walking networks. Given the site's location, its commercial parking demand is expected to reflect a "Village/Centre" rate, despite being in an "Other Area" zone;
- The site is located near Jubilee Village, which offers many services that are anticipated to allow future residents to complete shopping and daily errands by walking and/or cycling;
- The proposed rental tenure of the residential units allows for management of the on-site parking spaces;
- The parking demand for the residential visitor and commercial retail land uses would generally peak at different times of the day, enabling a shared parking arrangement. The exception to this may be during weekend daytime periods;
- On-street parking exists in the vicinity of the site. While the development is not expected to rely on these spaces, they will complement the off-street supply at certain times/days of the week (e.g., during times when peak visitor and retail demand may coincide);
- Residents seeking long-term vehicle parking will have the option of renting a space at the adjacent 2020 Richmond Road building; and
- The development proposes to provide a comprehensive suite of TDM measures, including, but not limited to, transit incentives and improvements, a car share vehicle and memberships, excess secure bicycle parking and amenities, and a pedestrian plaza.

7.1.8 Site Design Review

- Bunt completed a swept path analysis of the proposed site plan using AutoTURN software. The analysis indicates that garbage collection vehicle (MSU) turnaround on Birch is not feasible. Instead, the development is encouraged to allow permeability through the plaza and to work with a waste collection company to establish a collection plan that does not rely on large sized vehicles on Birch Street. No issues were identified with passenger vehicle parking or circulation.

7.2 Recommendations

7.2.1 Future Traffic Operations – Potential Mitigations

- Bunt recommends that the intersection of Richmond Road & Pembroke Street be upgraded to address vehicular delays and queuing. Bunt's analysis indicated that signalizing the intersection with a full traffic signal to help facilitate minor road turn movements would be an effective mitigation measure. However, City staff indicated that an RRFB pedestrian crossing was its preferred mitigation approach rather than implementing a full traffic signal, particularly given the results of Bunt's signal warrant analysis and in consideration of signal spacing along Richmond Road. During periods of high pedestrian activity, an RRFB would operate similar to a traffic signal in terms of providing both controlled pedestrian crossing opportunities and opportunities for vehicles to turn left out from Pembroke Street onto Richmond Road when the beacon is activated.
- Bunt recommends that the existing northbound left turn lane at the Richmond Road & Pembroke Street intersection be retained in the future to reduce the likelihood of northbound queues at the intersection.

- Bunt recommends the southbound left turn at the Fort Street & Ashgrove Street intersection be restricted at all times as this movement is difficult and highly delayed with a low traffic volume.

7.2.2 Site Design

- Bunt recommends that the plaza be made permeable to enable egress of the occasional large loading truck onto Richmond Road. This area would need to be carefully designed to enable occasional service vehicle access but deter all other vehicle use.
- Bunt recommends that the developer work with a waste collection company to establish a collection plan that does not rely on large sized vehicles on Birch Street.
- Bunt recommends that the 9 commercial visitor spaces be marked as “Visitor” spaces allowing them to be used by both commercial and residential visitors. Further, they should be regulated with a time restriction (i.e. 2-hour maximum) to ensure they are used as intended.

7.2.3 Transportation Demand Management (TDM)

Bunt has identified the TDM measures suitable to the size, location, and parking variance sought of the development. The developer has committed to provide the following measures:

- Transit incentives for commercial employees,
- Car-share parking space and MODO memberships for each residential unit,
- Parking spaces to be “unbundled”, as opposed to being included with units,
- Improvements to bicycle storage room access and lighting,
- Bicycle wash and/or repair station,
- Extra-large cargo bicycle spaces, and,
- End-of-trip facilities with two showers, a change room, and lockers for each of the commercial uses.

Also anticipated to be completed by the opening day of the proposed development, which will bolster the TDM strategy, is:

- The pedestrian plaza where Birch Street meets Richmond Road.

*The attached information is provided to support the agency's review process
and shall not be distributed to other parties without written consent from
Bunt & Associates Engineering Ltd.*

APPENDIX A

Amica Seniors Development TIA (Watt Consulting Group)

AMICA SENIOR LIFESTYLES PHASE 2

Traffic Impact Assessment



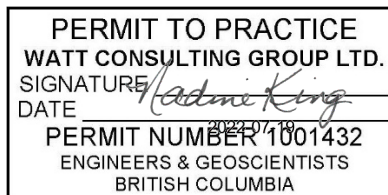
2022-07-19

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Reviewer



Prepared For: Milliken Developments

Date: July 19, 2022

Our File No: 3302.B01

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APPENDIX A: Synchro Information

1.0 INTRODUCTION

Watt Consulting Group was retained by Milliken Developments to conduct a traffic impact assessment (TIA) for the proposed development at 1900 Richmond Road and 1929, 1931-1933, 1935 Ashgrove Street, in the City of Victoria. This study assesses the traffic impacts of the proposed land use, reviews traffic conditions at key intersections, and assesses the need for any mitigation measures. The study reviews the existing traffic operations along with the post development and long-term conditions for all modes of transportation.

1.1 Study Area

See **Figure 1** for the study area and location. The study area includes the site accesses and following intersections:

- Fort Street / Richmond Road (Signalized)
- Fort Street / Ashgrove Street
- Richmond Road / Pembroke Street



Figure 1: Study Area and Site Location

2.0 EXISTING CONDITIONS

2.1 Land Use

The site is located to the north of Fort Street between Ashgrove Street and Birch Street. The proposed site is currently a combination of C1-R (Limited Commercial 2 District), R3-2 (Multiple Dwelling District), and R1-B (Single Family Dwelling District). The surrounding land use is a mix of residential, commercial, and shopping. There are several single-family residences near the development site along Ashgrove Street. Along the north side there are 3 multi-family apartments. Along Birch Street to the east there are single dwelling units and light commercial. The Royal Jubilee Hospital is located east of the site along Richmond Road. Along the south end of the development there are offices, shopping, and restaurants along Fort Street.

2.2 Road Network

The development site (Phase 1 & 2) faces Birch Street and Ashgrove Street.

- **Fort Street** is an undivided, four-lane, major arterial road that runs east/west within the study area. There are dedicated bike lanes on both northbound and southbound lanes.
- **Richmond Road** is an undivided, two-lane, minor arterial road that runs north/south within the study area. Bike lanes begin north of Fort Street. Richmond Road becomes Richmond Avenue south of Fort Street.
- **Birch Street** is an undivided, two-lane, minor local road that runs north/south within the study area.
- **Ashgrove Street** is an undivided, two-lane, minor local road that runs north/south within the study area.
- **Begbie Street** is a one-way minor local road with a short section between Ashgrove Street and Pembroke Street within the study area.
- **Pembroke Street** is an undivided, two-lane, minor local road that runs north/south within the study area.

The speed zone on all study roads is 50 km/h except Richmond Avenue (south of Fort Road) which is 40 km/h. Three key intersections were identified within the study area:

- **Fort Street / Richmond Road** is a skewed four-leg, signalized intersection. There are separate left turn lanes on all approaches and the southbound, eastbound, and westbound approaches have a dedicated right turn lane. The eastbound and southbound approaches are protected / permitted left turn phases while two other approaches are permitted left turns. Intersection improvements are currently proposed by the City to implement enhanced bike lanes with raised medians on Fort Street and one eastbound lane on Fort Street will be redistributed to the changes.
- **Fort Street / Ashgrove Street** is a three-leg, stop-controlled intersection. The southbound approach is stop-controlled while the eastbound and westbound approaches are free flow.
- **Richmond Road / Pembroke Street** is a three-leg, stop-controlled intersection. The westbound approach is stop-controlled while the northbound and southbound approaches are free flow.

2.3 Traffic Modelling – Background Information

Analysis of the traffic conditions at the intersections within the study area were undertaken using Synchro software (for signalized and stop-controlled intersections).

Synchro / SimTraffic is a two-part traffic modelling software that provides analysis of traffic conditions based on traffic control, geometry, volumes, and traffic operations. Synchro software is used because of its ability to provide analysis using the Highway Capacity Manual (2010) methodology, while SimTraffic integrates established driver behaviours and characteristics to simulate actual conditions by randomly “seeding” or positioning vehicles travelling throughout the network. These measures of effectiveness include level of service (LOS), delay and 95th percentile queue length.

The delays and type of traffic control are used to determine the Level of Service (LOS). The LOS is broken down into six letter grades with LOS A being excellent operations and LOS F being unstable / failure operations. LOS C is generally considered to be an acceptable LOS by most municipalities. LOS D is generally considered to be on the threshold between acceptable and unacceptable operations. A description of LOS and Synchro is provided in **Appendix A**.

2.4 2022 Existing Conditions

Traffic counts were conducted at the three study intersections on Wednesday May 25, 2022. At the adjacent streets (Ashgrove Street and Birch Street), it was observed that 2022 existing volumes decreased compared to 2018 volumes, it is speculated that the on-going construction for Phase 1 of the Amica Seniors project, which touches both streets, is the likely culprit.

A 0.0% average annual growth rate was used for the background to match the growth rate provided by the City of Victoria's Screenline (2019) which shows volume is not increasing. A combination of the growth rate and balancing of the counts was used to obtain 2022 traffic volumes.

Existing conditions were analyzed for the three key intersections on Fort Street and Richmond Road. The signalized intersection of Fort Street / Richmond Road currently operates at a LOS D or better for all movements during the AM and PM peak hours. At Fort Street / Ashgrove Street, all movements operate at a LOS C or better. At Richmond Road / Pembroke Street, all movements operate at a LOS D or better. See **Figure 2 / 3** for the existing AM / PM peak hour traffic volumes and traffic conditions.

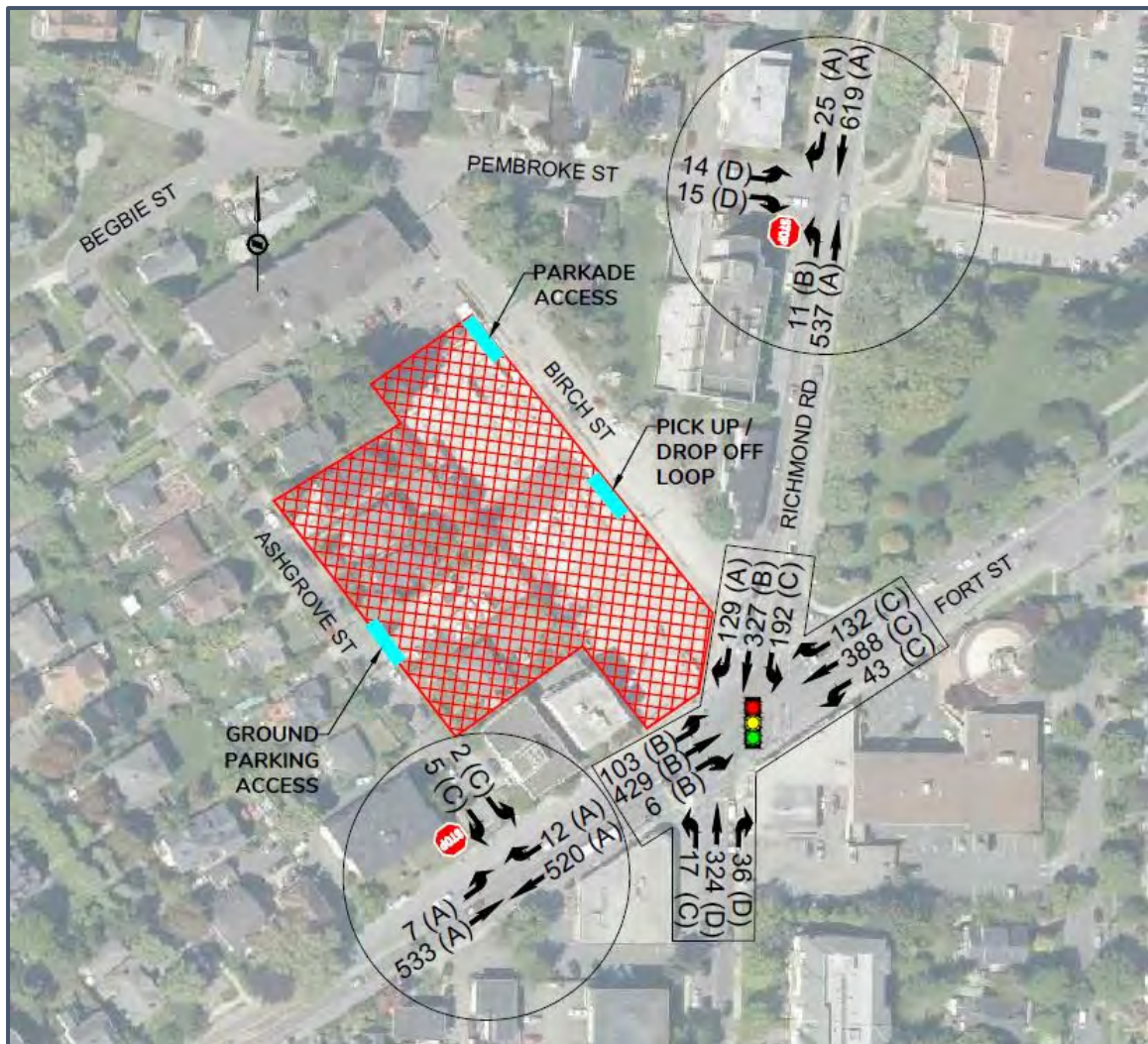


Figure 2: 2022 Existing AM Peak Hour Volumes and LOS

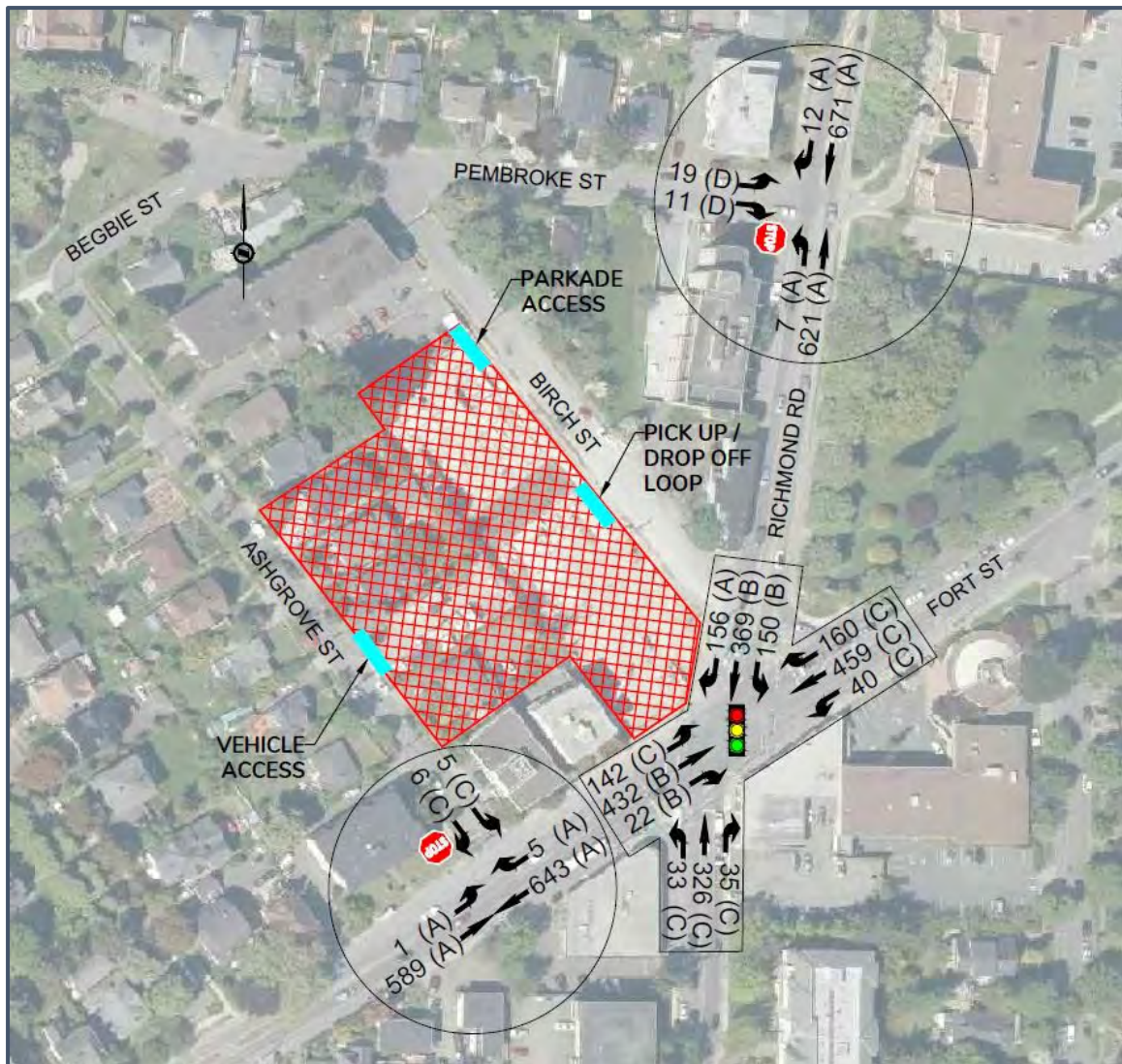


Figure 3: 2022 Existing PM Peak Hour Volumes and LOS

The Transportation Association of Canada's *Geometric Design Guide for Canadian Roads* (2017) recommends a minimum corner clearance of 15m on a local road. The proposed location of this developments access exceeds TAC's minimum recommendation for a local road. At the proposed three site accesses, no sight line issues were found. The site access operates at LOS A for all movements into the ten-year horizon (2034) in both the AM and PM peak hours.

3.3 Trip Generation

Trip generation rates were estimated using the 11th Edition of the *ITE Trip Generation Manual*. Trip generation rates for the weekday AM and PM peak hours are shown in **Table 1**. **Table 2** shows the estimated site trips by proposed land use. The estimated site trips are 18 vehicles for the AM peak hour and 22 vehicles for the PM peak.

Table 1: Peak Hour Trip Generation Rates

ITE Land Use		Weekday AM			Weekday PM		
Code	Description	Rate	In	Out	Rate	In	Out
252	Senior Housing (Multi-family)	0.20	26%	74%	0.50	63%	37%

Table 2: Peak Hour Trip Generation

Proposed Density	Weekday AM			Weekday PM		
	Total	In	Out	Total	In	Out
MF Senior Housing: 88 Units	18	6	12	22	12	10

3.4 Background Trip Estimate for Opening Day

Existing traffic volumes were collected after the on-site existing buildings were demolished. The proposed Phase 1 development (Amica Seniors) is currently going on and the Phase 1 site trips will be added as background trips. Additionally, the traffic from two concurrent adjacent developments (1906-1912 Duchess Street and 1693-1699 Fort Street) was added to the background traffic.

Table 3 summarizes the AM and PM peak hour trip generation results for the proposed Phase 1 development. For the Phase 1 development, the site trips were estimated at 30 trips during the AM peak hour and 43 trips during the PM peak hour.

Table 3: Background Trip Generation 1 – Amica Seniors Phase 1

ITE Code	Land Use	Units / Area	AM Trips	In	Out	PM Trips	In	Out
254	Assisted Living / Memory Care	137	25	15	10	33	13	20
822	Commercial Retail Unit*	2.12	5	3	2	14	7	7
Internal Trip Deduction (2 land use)			-	-	-	(-4)	(-2)	(-2)
Net Trip Total			30	18	12	43	18	25

*Retail land use is based on a unit area (1000 ft²). Internal trip calculation based on the ITE Trip Generation Manual. No pass-by trips applied.

The proposed development at 1906-1912 Duchess Street will generate 12 trips during the AM peak hour and 12 trips during the PM peak hour. The AM and PM peak hour trip generation results for the proposed development are summarized in **Table 4**.

Table 4: Background Trip Generation 2 – Duchess Street Development

ITE Code	Land Use	Units / Area	AM Trips	In	Out	PM Trips	In	Out
221	Multifamily (Mid-rise)	32	12	3	9	12	7	5

The proposed development at 1693-1699 Fort Street will generate 15 trips during the AM peak hour and 18 trips during the PM peak hour. The AM and PM peak hour trip generation results for the proposed development are summarized in **Table 5**.

Table 5: Background Trip Generation 3 – Fort Street Development

ITE Code	Land Use	Units / Area	AM Trips	In	Out	PM Trips	In	Out
221	Multifamily (Mid-rise)	34	13	3	10	13	8	5
822	Commercial Retail Unit*	0.83	2	1	1	5	3	2
Trip Total			15	4	11	18	11	7

*Retail land use is based on a unit area (1000 ft²). Internal trip calculation based on the ITE Trip Generation Manual. No internal / pass-by trips assumed.

See **Figure 5** for the added background trip total (Phase 1 plus two concurrent site trips). The estimated background traffic total is 57 trips during the AM peak hour and 73 trips during the PM peak hour.

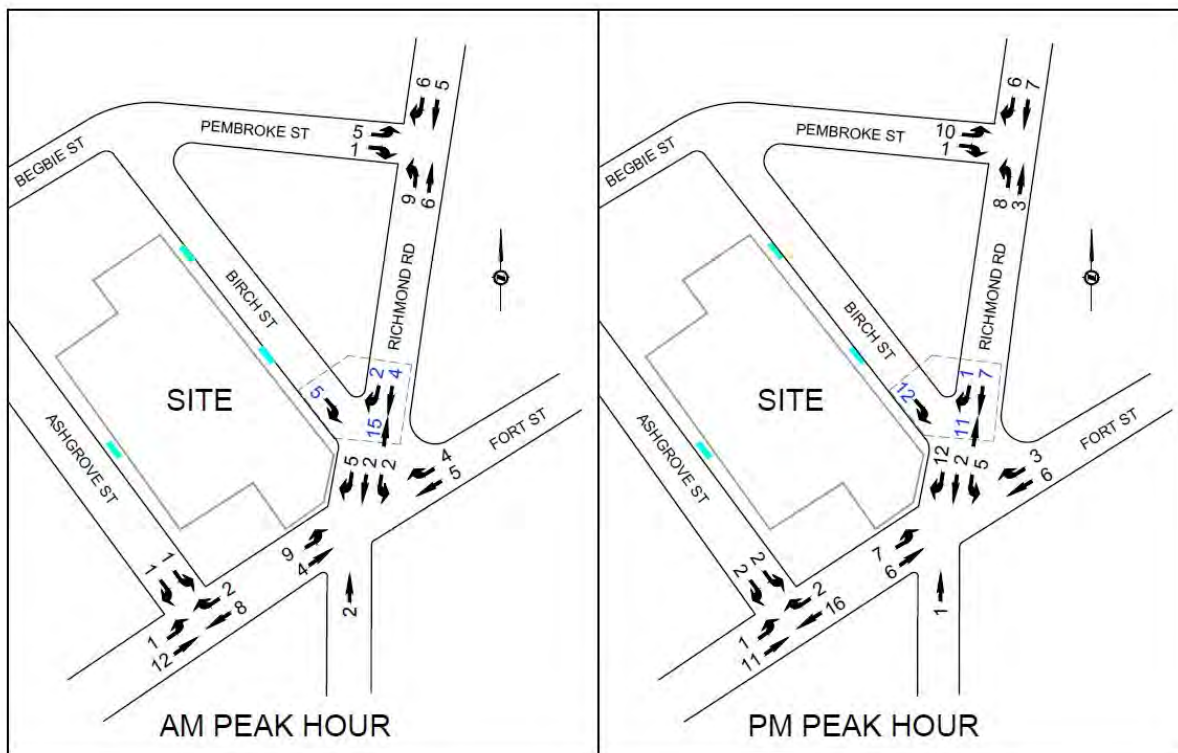


Figure 5: Added Background Trips

3.5 Trip Assignment

The trip assignment was based on the existing trip distribution and key destinations / origins for traffic in the area. The peak hour trip distributions are shown in **Figure 6**. The resulting trip assignments for the AM and PM peak hours are shown in **Figure 7**.

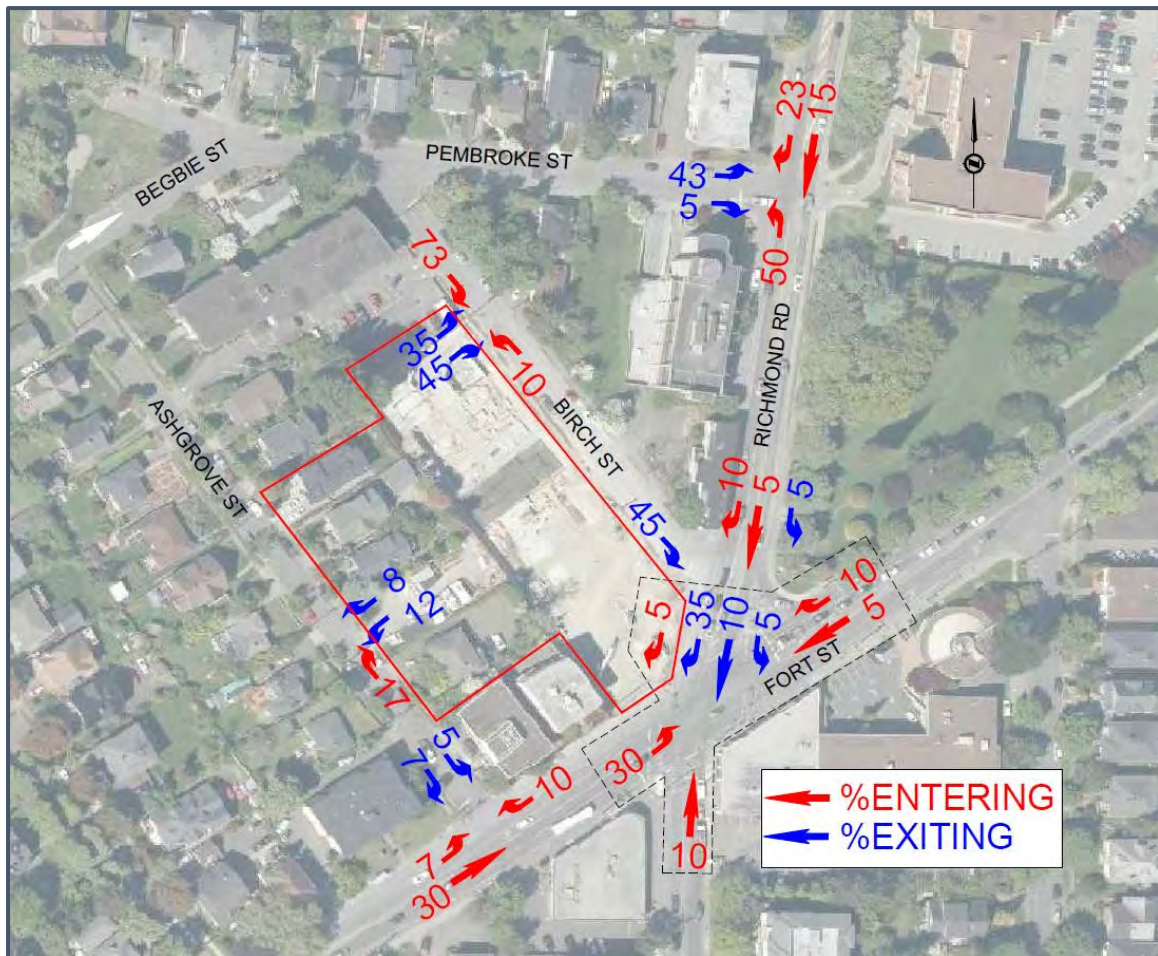


Figure 6: Peak Hour Trip Distributions

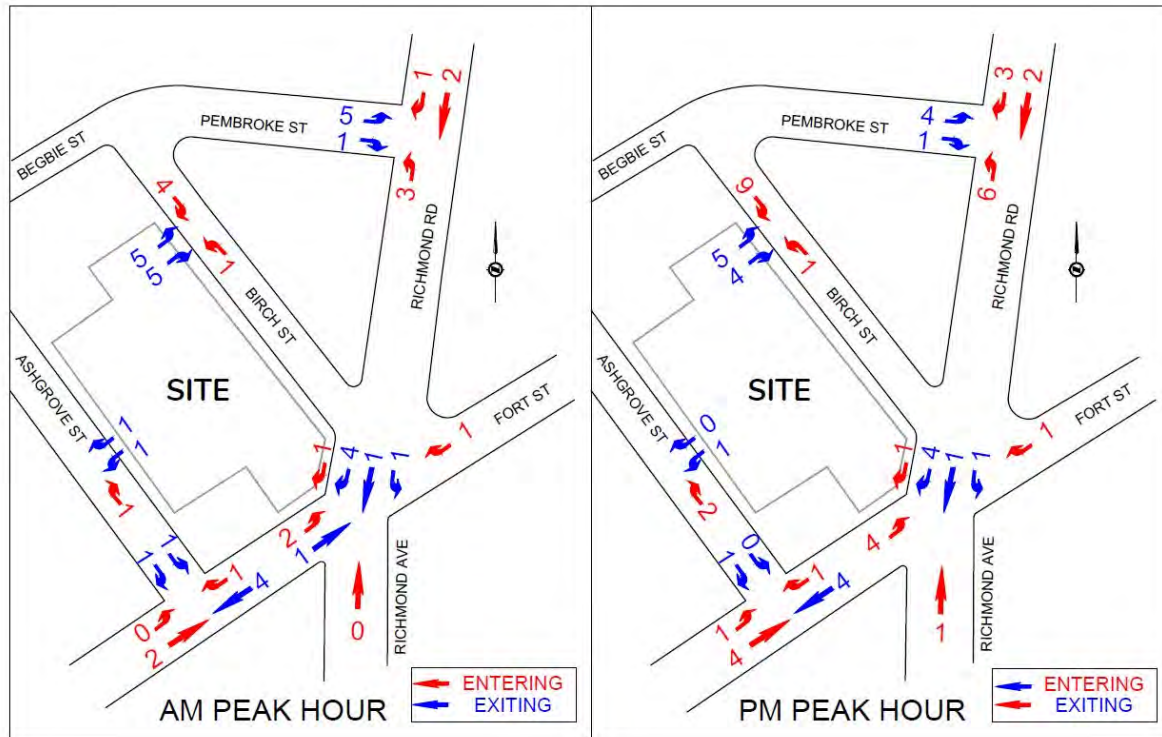


Figure 7: Trip Assignment

3.6 2024 Opening Day Background Conditions

It is assumed that the opening day occurs in 2024. 2024 background volumes were obtained by adding the Phase 1 plus two concurrent site trips onto the measured 2022 traffic volumes. 2024 background conditions for the opening day were analyzed for the three key intersections based on the estimated 2024 volumes and existing roadway network. See **Figure 8 / 9** for 2024 opening day background volumes and LOS.

Opening day background conditions were analyzed for the three key intersections within the study area. The signalized intersection of Fort Street / Richmond Road operates at a LOS D or better for all movements during the AM and PM peak hours. There is a minor queuing issue at the westbound left turn lane. The estimated 95th percentile queue lengths (32m to 33m) exceed the existing storage length (25m).

At Fort Street / Ashgrove Street, all movements operate at a LOS C or better. At Richmond Road / Pembroke Street, the stop controlled eastbound movement operates at a LOS E during the background AM and PM peak hours. All other movements operate at a LOS A/B. See **Table 6** for the results of the 2024 opening day background conditions analysis.



Figure 8: Opening Day Background Volumes and LOS – AM Peak Hour

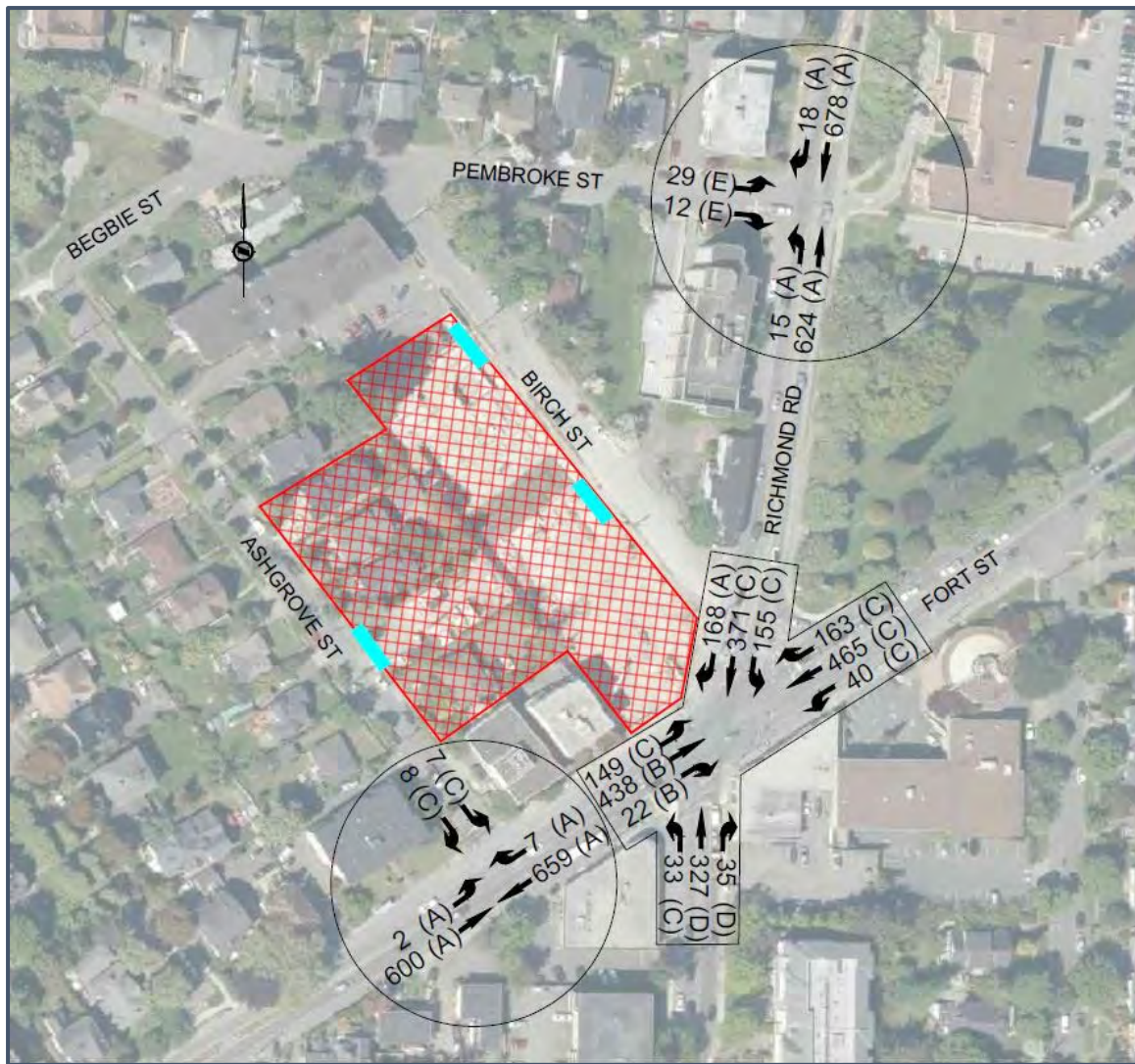


Figure 9: Opening Day Background Volumes and LOS – PM Peak Hour

Table 6: Opening Day Background Conditions

INTERSECTION	MOVEMENT	AM PEAK HOUR			PM PEAK HOUR		
		LOS	Delay (s)	Queue (m)*	LOS	Delay (s)	Queue (m)*
FORT ST / RICHMOND RD (SIGNALIZED)	EBL	B	19.8	25.7	C	23.6	31.4
	EBTR	B	15.8	43.1	B	15.7	44.8
	WBL	C	25.3	32.1 (25)	C	26.6	32.7 (25)
	WBTR	C	24.3	86.7	C	27.7	121
	NBL	C	21.7	26.6 (35)	C	24.8	32.9 (35)
	NBTR	D	41.4	108	D	39.5	83.9
	SBL	D	43.4	31.0 (45)	C	33.4	31.8 (45)
	SBT	B	17.7	52.7	C	21.2	55.3
	SBR	A	3.1	16.3	A	3.4	26.6
FORT ST / ASHGROVE ST (STOP CONTROL)	EBL	A	8.9	6.6 (10)	A	9.4	2.3 (10)
	EBT	A	0	34.3	A	0	32.8
	WBTR	A	0	4.9	A	0	2.1
	SBLR	C	15.6	7.1	C	17.4	10.2
RICHMOND RD / PEMBROKE ST (STOP CONTROL)	EBLR	E	37.6	17.9	E	39.1	15.3
	NBL	B	10.6	13.2 (15)	A	9.6	8.0 (15)
	NBT	A	0	12.2	A	0	12.6
	SBTR	A	0	12.7	A	0	17.9

*Note: 95th Queues based on SimTraffic results (averaged from five simulation runs); (##) = Existing Storage Length

3.7 Opening Day Post Development Conditions

Opening day post development conditions were analyzed for the three key intersections within the study area. See **Figure 10 / 11** for the post development AM / PM peak hour traffic volumes and LOS.

The development impacts to the three key intersections within the study area are minimal. At the signalized intersection of Fort Street / Richmond Road, all movements will continue to operate at the same levels of service (LOS D or better) during the AM / PM peak hour. Additional delays by the development would be minor with a maximum of less than a second during the AM and PM peak hours.

The proposed development will not change LOS for any movements at the two stop-controlled study intersections (Fort Street / Ashgrove Street and Richmond Road / Pembroke Street). No capacity improvements would be required at the two stop-controlled intersections based on Synchro results. At Richmond Road / Pembroke Street, no queuing issue was found at the northbound left turn lane on Richmond Road. See **Table 7** for the results of the opening day post development conditions analysis.

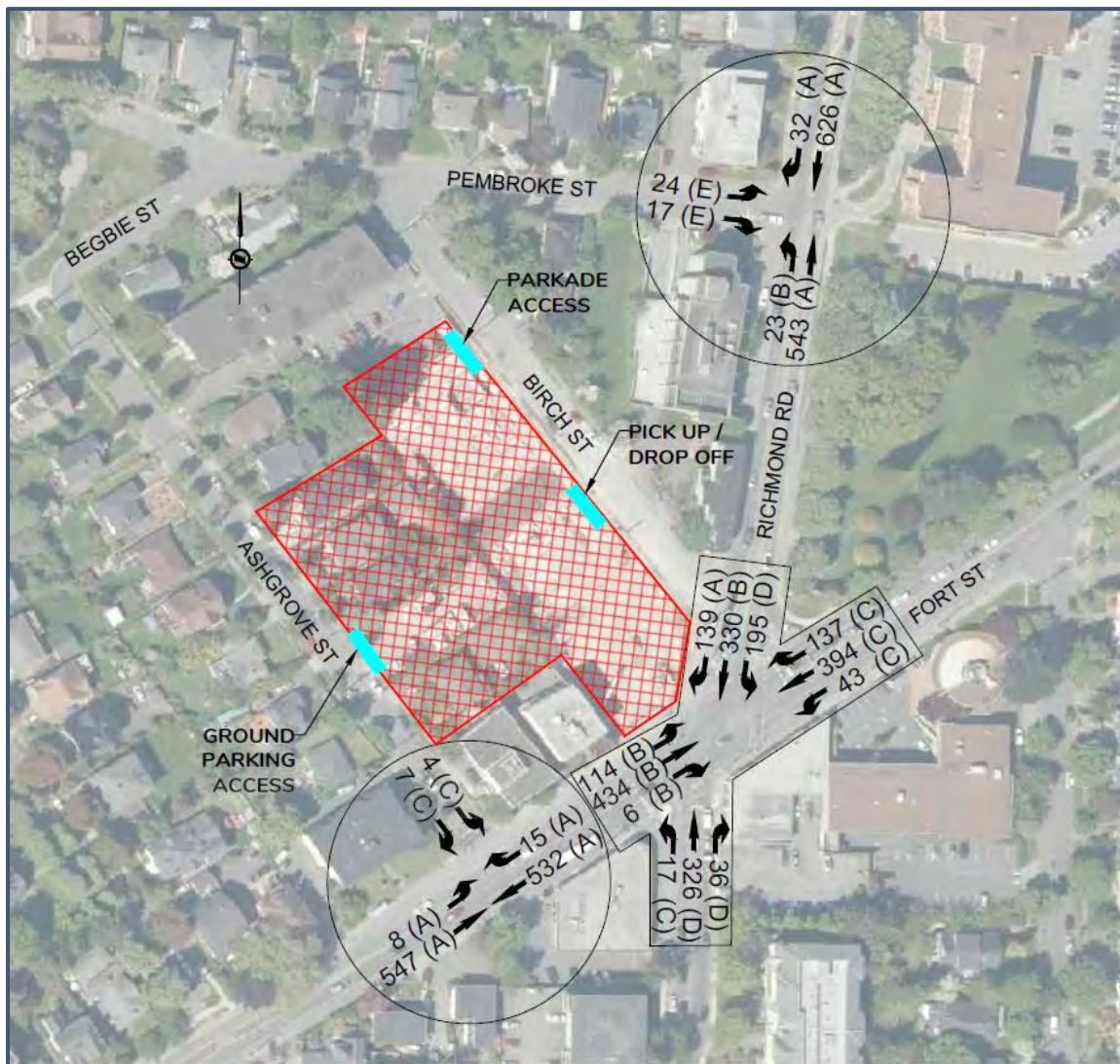


Figure 10: Opening Day Post Development Volumes and LOS - AM Peak Hour

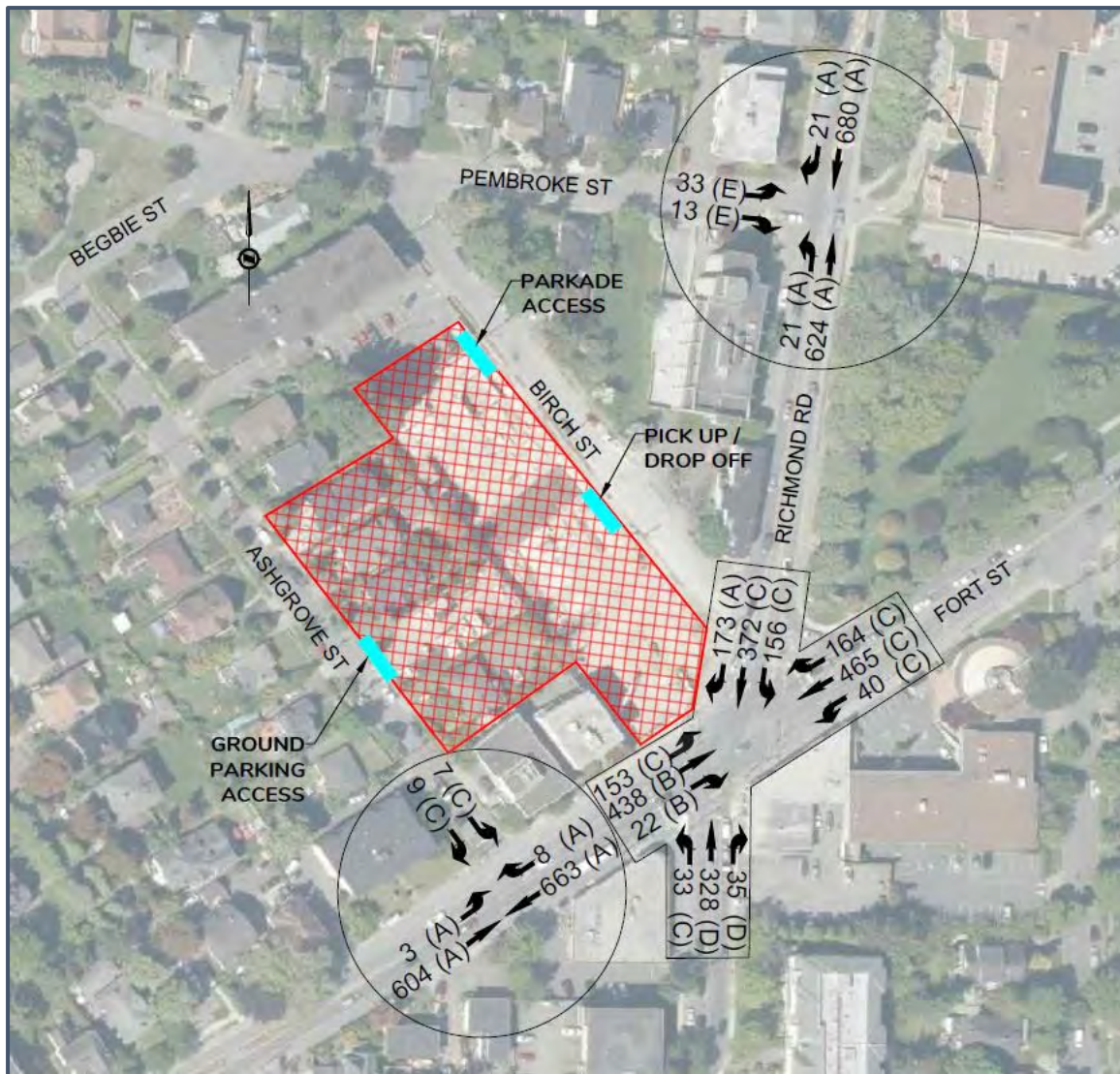


Figure 11: Opening Day Post Development Volumes and LOS - PM Peak Hour

Table 7: Opening Day Post Development Conditions

INTERSECTION	MOVEMENT	AM PEAK HOUR			PM PEAK HOUR		
		LOS	Delay (s)	Queue (m)*	LOS	Delay (s)	Queue (m)*
FORT ST / RICHMOND RD (SIGNALIZED)	EBL	B	20.0	27.6	C	24.4	35.1
	EBTR	B	15.8	43.6	B	15.7	45.1
	WBL	C	25.3	38.9 (25)	C	26.6	32.9 (25)
	WBTR	C	24.3	87.2	C	27.8	130
	NBL	C	21.7	23.2 (35)	C	24.8	30.0 (35)
	NBTR	D	41.4	93.6	D	39.6	90.7
	SBL	D	43.9	31.4 (45)	C	34.0	31.8 (45)
	SBT	B	17.8	54.4	C	21.2	53.1
	SBR	A	3.1	20.6	A	3.4	20.9
FORT ST / ASHGROVE ST (STOP CONTROL)	EBL	A	9.0	4.9 (10)	A	9.5	3.8 (10)
	EBT	A	0	39.0	A	0	35.1
	WBTR	A	0	3.8	A	0	4.7
	SBLR	C	15.7	9.9	C	17.3	10.7
RICHMOND RD / PEMBROKE ST (STOP CONTROL)	EBLR	E	43.6	21.7	E	43.8	14.9
	NBL	B	10.6	14.5 (15)	A	9.6	10.7 (15)
	NBT	A	0	12.7	A	0	12.7
	SBTR	A	0	12.9	A	0	8.3

*Note: 95th Queues based on SimTraffic results (averaged from five simulation runs); (##) = Existing Storage Length

3.8 Mitigation Measures for Short Term

At Fort Street / Richmond Road, there are potential queuing issues with the eastbound and westbound left turn lane. The estimated westbound left turn queues exceed the existing storage; however, this queuing issue is due to existing conditions. A westbound left turn storage extension could be considered if there is room provided for the westbound approach of Fort Street.

Additionally, there could be a traffic control issue with the eastbound left turns from Fort Street onto Ashgrove Street. Currently the eastbound left turn lane from Fort Street is shared for both the left turns onto Richmond Road and Ashgrove Street in one long left

turn lane. At Fort Street / Ashgrove Street, the eastbound left turn point on Fort Street is located 40m from the stop line of the intersection of Fort Street / Richmond Road. The estimated 95th percentile queue length is 39m during the AM peak hour and 35m during the PM peak. On the shared eastbound left turn lane on Fort Street, left turn traffic onto Ashgrove Street could interfere with left turn traffic onto Richmond Road as left turn queues will be sometimes extended up to Ashgrove Street. Traffic from the Amica developments is expected to add fewer than 10 of these Ashgrove left turns. The additional bicycle traffic expected as part of the Fort Street AAA project will further add to the safety issue with these turns as a person driving turning left onto Ashgrove Street will now have to turn across the oncoming vehicle and bicycle traffic. The City should monitor the situation and react with restriction on the Ashgrove left turns should the need arise.

4.0 LONG TERM TRAFFIC CONDITIONS

For the 2034 10-year horizon after opening day analysis, long term background volumes were adjusted with a -6% decrease from the measured 2022 traffic volumes, as per City guidance. The GoVictoria mode split data was examined, and showed that trips by car are anticipated to decrease from 61% (2017) to 55% (2030). Bicycle traffic increases were not accounted for in this study.

The 2034 long term analysis also reflects geometric changes at For Street / Richmond Road including eastbound through lane will be drop out. See **Figure 12 / 13** for 2034 10-year horizon after opening day background volumes and conditions.

4.1 2034 10-Year Horizon Background Conditions

2034 10-year horizon background conditions were analyzed for the three study intersections within the study area. See **Table 8** for the results of 2034 10-year horizon background conditions analysis.

The signalized intersection of Fort Street / Richmond Road continues to operate at a LOS D or better for all movements during the AM and PM peak hours. At Fort Street / Ashgrove Street, all movements continue to operate at a LOS C or better. At Richmond Road / Pembroke Street, the stop controlled eastbound movement operates at a LOS D during the background AM and PM peak hours and all other movements operate at a LOS A/B.

At Fort Street / Richmond Road, estimated 2034 background queue lengths slightly increase overall compared to 2024 background conditions as one eastbound through lane is drop out based on the proposed Fort Street AAA intersection design. For the eastbound through movement, estimated 2034 background queue lengths (47m to 50m) increase by 3m to 5m during the peak hours compared 2024 background conditions.

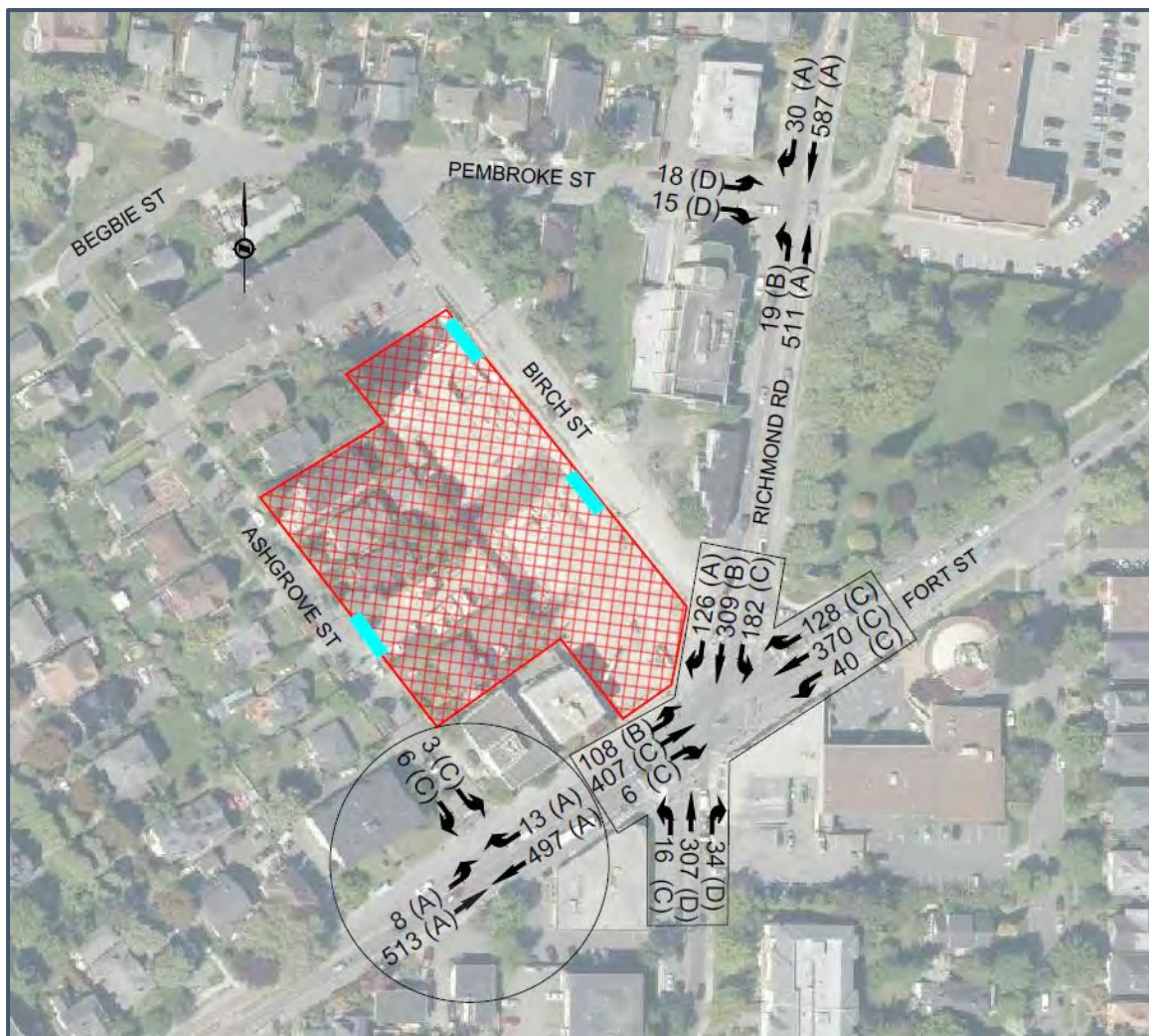


Figure 12: 2034 10-Year Horizon Background Volumes and LOS – AM Peak Hour

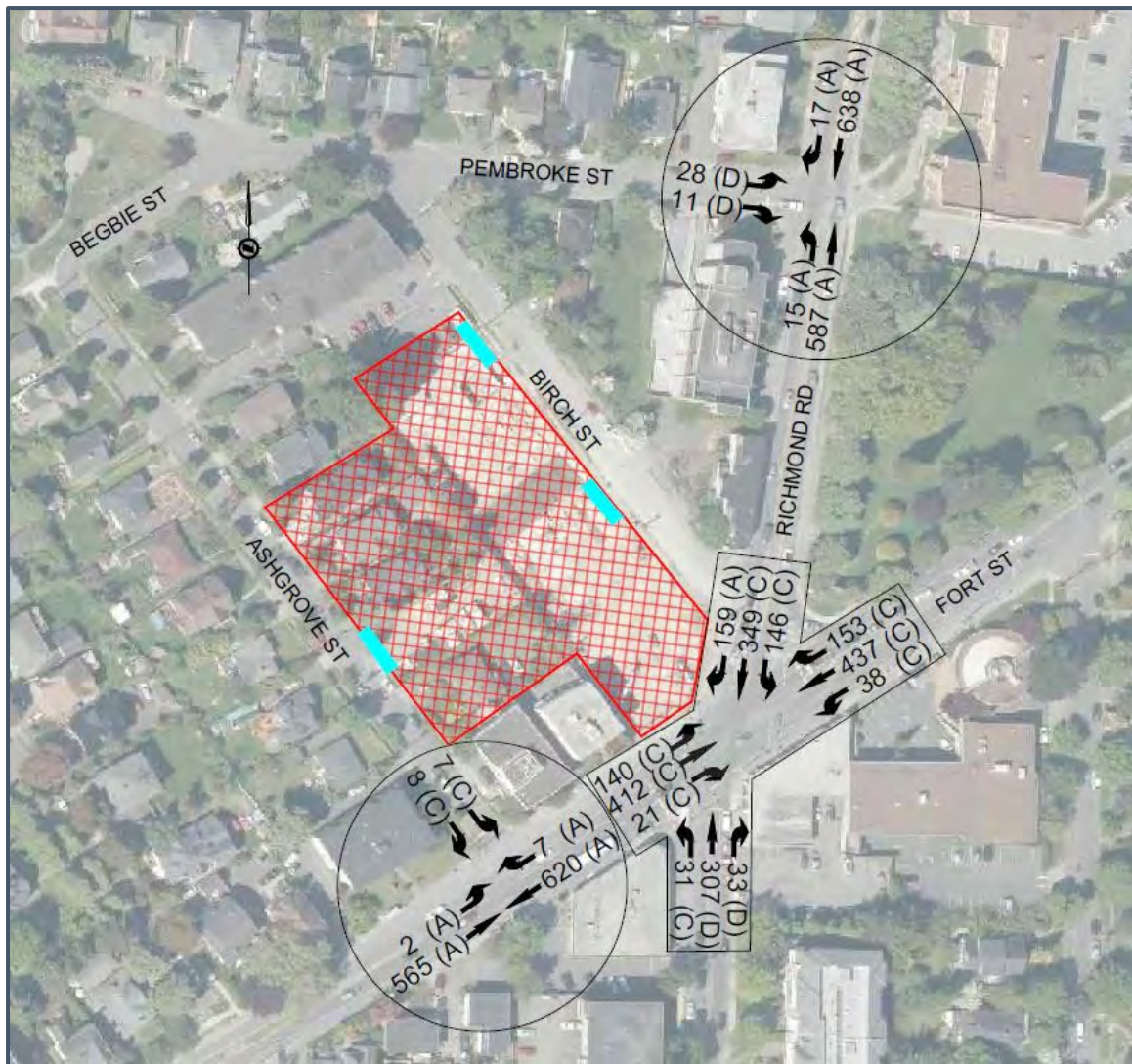


Figure 13: 2034 10-Year Horizon Background Volumes and LOS – PM Peak Hour

Table 8: 2034 10-year Horizon Background Conditions

INTERSECTION	MOVEMENT	AM PEAK HOUR			PM PEAK HOUR		
		LOS	Delay (s)	Queue (m)*	LOS	Delay (s)	Queue (m)*
FORT ST / RICHMOND RD (SIGNALIZED)	EBL	B	18.7	27.1	C	21.3	34.9
	EBTR	C	21.3	46.7	C	20.8	49.6
	WBL	C	24.6	30.4 (25)	C	25.9	38.1 (25)
	WBTR	C	23.5	84.3	C	26.6	102
	NBL	C	21.6	29.6 (35)	C	24.5	29.0 (35)
	NBTR	D	37.6	96.9	D	36.5	83.3
	SBL	C	31.9	30.9 (45)	C	26.9	30.5 (45)
	SBT	B	17.2	51.5	C	20.6	54.2
	SBR	A	3.2	13.3	A	3.4	14.2
FORT ST / ASHGROVE ST (STOP CONTROL)	EBL	A	8.8	6.3 (10)	A	9.3	5.4 (10)
	EBT	A	0	44.7	A	0	44.2
	WBTR	A	0	5.2	A	0	0
	SBLR	C	19.3	9.9	C	20.4	10.5
RICHMOND RD / PEMBROKE ST (STOP CONTROL)	EBLR	D	33.8	16.6	D	33.5	17.0
	NBL	B	10.3	12.6 (15)	A	9.4	9.0 (15)
	NBT	A	0	9.9	A	0	10.6
	SBTR	A	0	12.2	A	0	17.8

*Note: 95th Queues based on SimTraffic results (averaged from five simulation runs); (##) = Existing Storage Length

4.2 10-Year Horizon Post Development Analysis Results

10-year horizon post development conditions were analyzed by adding the development trips to 10-year horizon background traffic volumes. See **Figure 14 / 15** for 2034 10-year horizon post development volumes and LOS.

The development does not change the LOS (LOS D or better) for all movements at the intersection of Fort Street / Richmond Road. Additional delays by the development will be negligible with a maximum of less than a half seconds for all movements. No additional queuing issues were found at the intersection due to the development.

At Fort Street / Ashgrove Street, all movements continue to operate at a LOS C or better. At Richmond Road / Pembroke Street, the stop controlled eastbound movement drops to a LOS E during the background AM and PM peak hours; however, estimated delays are similar to 2024 background conditions with less than 38 seconds. The left turn movement with a LOS E would be acceptable without traffic control change. Richmond Road / Birch Street is a right-in / right-out and the right-out movement from Birch Street will operate at LOS B with no operational issue in the long term. See **Table 9** for the results of the 10-year horizon post development conditions analysis.

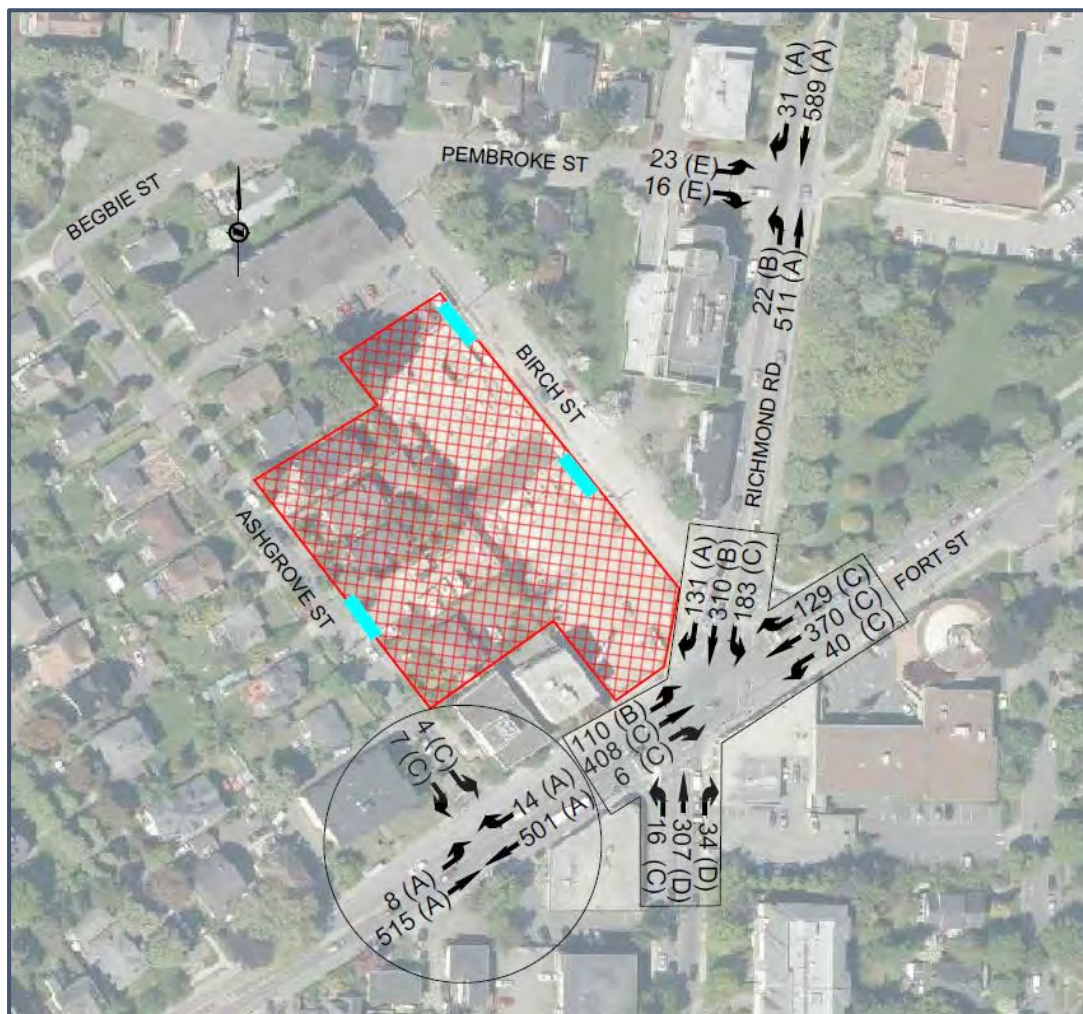


Figure 14: 2034 Post Development Volumes and LOS – AM Peak Hour

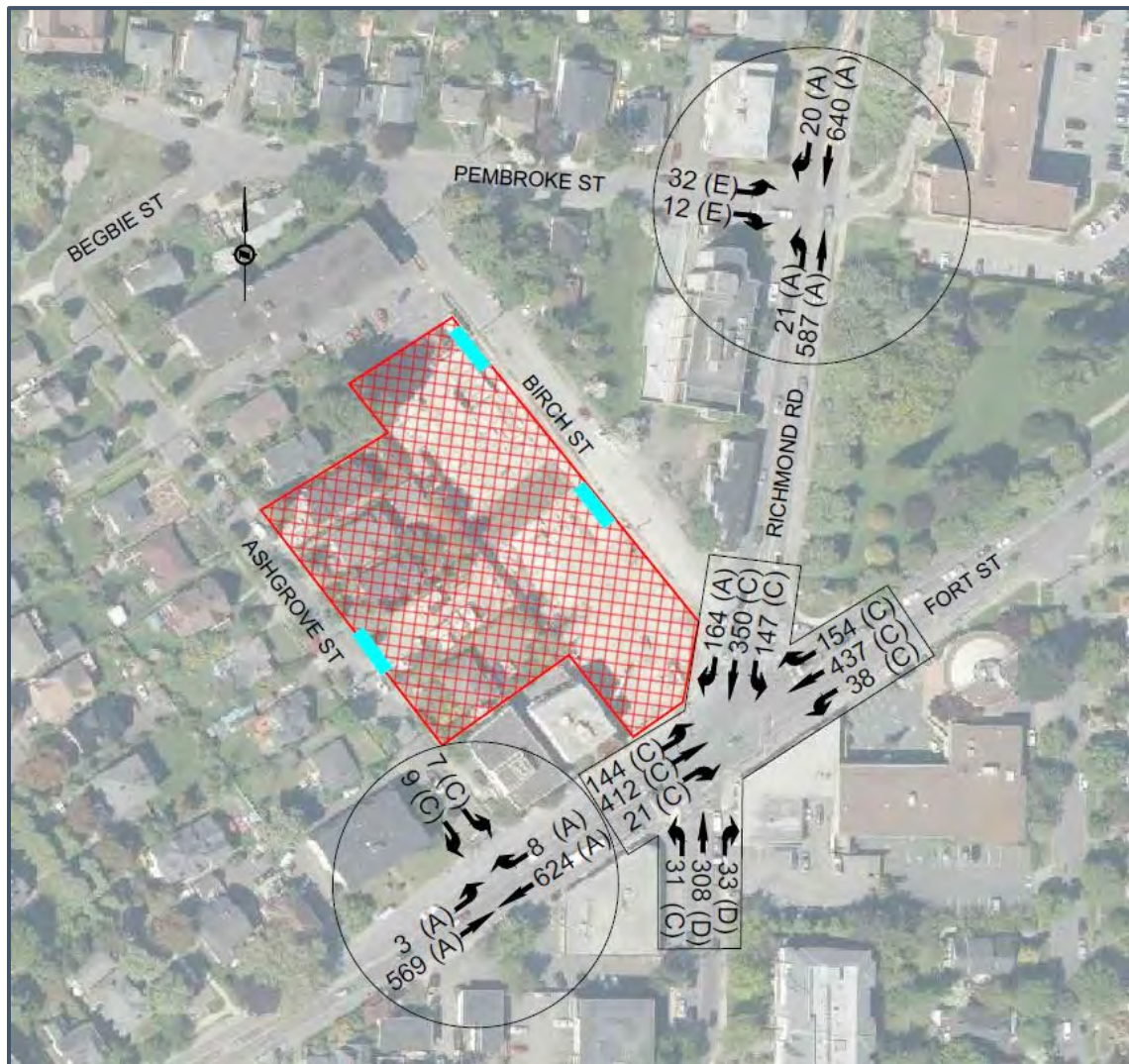


Figure 15: 2034 Post Development Volumes and LOS – PM Peak Hour

Table 9: 2034 10-Year Horizon Post Development Conditions

INTERSECTION	MOVEMENT	AM PEAK HOUR			PM PEAK HOUR		
		LOS	Delay (s)	Queue (m)*	LOS	Delay (s)	Queue (m)*
FORT ST / RICHMOND RD (SIGNALIZED)	EBL	B	18.9	27.2	C	21.6	34.0
	EBTR	C	21.3	47.4	C	20.8	49.5
	WBL	C	24.6	33.6 (25)	C	25.9	30.9 (25)
	WBTR	C	23.4	78.7	C	26.7	96.8
	NBL	C	21.6	26.0 (35)	C	24.5	34.4 (35)
	NBTR	D	37.6	95.0	D	36.6	74.2
	SBL	C	32.1	31.3 (45)	C	27.3	30.5 (45)
	SBT	B	17.2	51.2	C	20.6	51.5
	SBR	A	3.1	13.4	A	3.4	13.4
FORT ST / ASHGROVE ST (STOP CONTROL)	EBL	A	8.8	9.1 (10)	A	9.3	4.2 (10)
	EBT	A	0	42.3	A	0	41.3
	WBTR	A	0	3.2	A	0	2.7
	SBLR	C	20.3	9.6	C	20.4	11.0
RICHMOND RD / PEMBROKE ST (STOP CONTROL)	EBLR	E	37.8	19.4	E	36.2	16.8
	NBL	B	10.3	14.6 (15)	A	9.4	11.2 (15)
	NBT	A	0	11.4	A	0	11.0
	SBTR	A	0	9.5	A	0	10.8

*Note: 95th Queues based on SimTraffic results (averaged from five simulation runs); (##) = Existing Storage Length

4.3 Mitigation Measures for Long Term

In the long term with the development, no capacity issues were found at three study intersections. However, at Fort Street / Richmond Street, the proposed design (one eastbound lane drop out with new bike lanes) could make queue lengths slightly longer on Fort Street. At Fort Street / Ashgrove Street, left turn movements could be restricted during peak hours for safety; a No Left Turn signs could be installed with designated time periods. If Fort Street / Ashgrove Street is right in / right out during the peak hours, Begbie Street would need to be changed to two-way from one-way for the site trips-in (ground parking users) from Pembroke Street. Note that Begbie was recently narrowed (5m at the narrowest point) as part of a project. There is width to accommodate two vehicles but

warning signs would be need to clarify the narrowness to the approaching drivers. The two-way Begbie Street curve would function like a chicane limiting the curve to one vehicle at a time. Total volume using this is expected to be low.

5.0 ONSITE VEHICLE TURNING MOVEMENT REVIEW

At the proposed ground parking lot and truck loading zone, vehicle turning movements were reviewed using the AutoTURN Pro 11 software. The proposed parking design can accommodate a passenger car appropriately to enter/exit parking stalls and Ashgrove driveway access loop also accommodates an LSU (small delivery truck) and HandyDART (6.7m long) bus. An MSU truck can also maneuver securely to the loading zone area and enter/exit the parking lot access. The proposed parking lot / loading zone is properly designed based on the onsite vehicle turning movement review. See **Figure 16** for the onsite MSU truck turning template review.

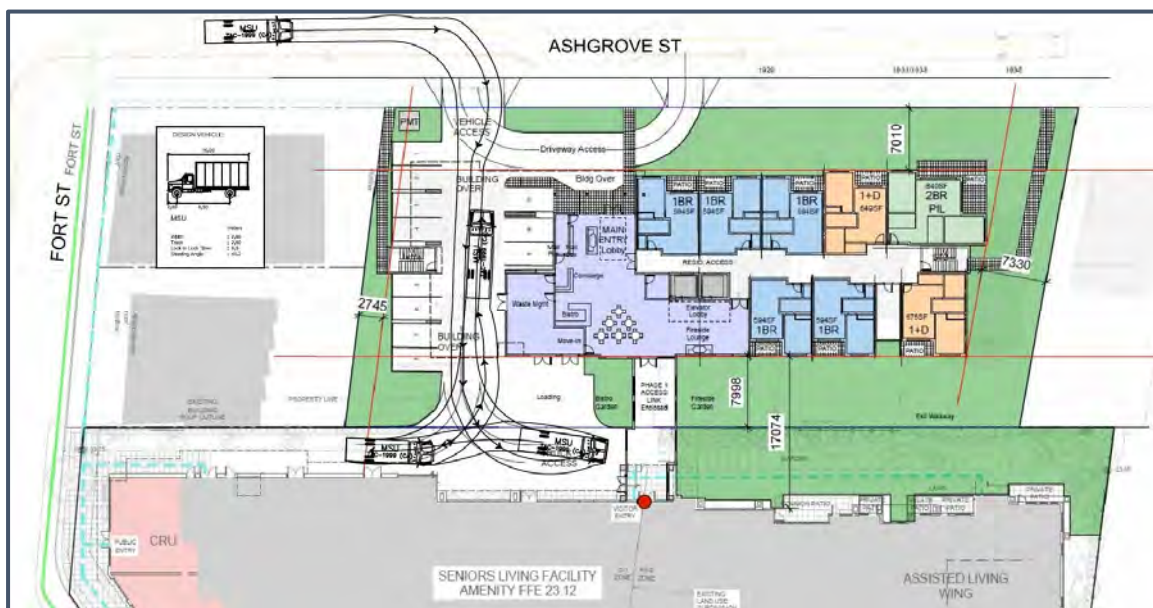


Figure 16: Onsite MSU Truck Turning Template Review

6.0 ACTIVE TRANSPORTATION

6.1 Pedestrians Facilities

Within the study area, there are sidewalks along both sides of all roads with the exception of Begbie Street (low volume road). There are signalized pedestrian crossings located at the Fort Street / Richmond Road intersection. No other marked crosswalks exist within the study area.

There are existing sidewalks along the property frontage. Given that the proposed land use is for seniors housing space, the sidewalks should be upgraded to ensure a smooth surface and sufficient width to meet the mobility requirements of the proposed residents. It is recommended that the adjacent sidewalks be upgraded to meet current design standards.

6.2 Bicycle Facilities

Fort Street has continuous bike lanes in the eastbound and westbound directions. Richmond Road has bike lanes on both sides of the road north of the study area. The City is currently proposing bike lane improvements with raised medians / elephant feet crossings on Fort Street at Richmond Avenue. The proposed development includes bike parking at the Birch Street entrance (Phase 1) as well as bike storage in the parkade.

6.3 Transit

Several bus routes are provided within a 150m walking distance from the site. BC Transit route 8 (Interurban / Tillicum Mall / Oak Bay) and route 14 (Vic General / UVic) provide service along Richmond Road. There is a northbound stop (route 8/14) with a shelter on Richmond at Fort Street, and a southbound stop on Richmond Road at Coronation Avenue. Route 3/10 (James Bay/Royal Jubilee), 11 (Tillicum Mall/UVic), 14 and 15 (UVic / Esquimalt) run along Fort Street. There is an eastbound bus stop (route 11/15) on Fort St at Richmond Road, and a westbound bus stop (route 3/10/11/15) on Fort Street at Richmond Road and another westbound bus stop (route 11/14) is at Ashgrove Street. No transit improvements are required with the proposed development.

7.0 CONCLUSIONS

The proposed seniors housing development (Phase 2) at 1900 Richmond Road is expected to generate 18 vehicle trips during the AM peak hour and 22 vehicle trips during the PM peak hour. The estimated site trips total for the proposed development (Phase 1 + Phase 2) was identified to be lower than the previous land uses (2018 existing site trip counts at the parking lot).

The addition of development traffic is predicted to have minimal impact on the surrounding traffic network in the short-term and long-term. The intersection of Fort Street / Richmond Road will operate at a LOS D or better for all movements during the AM and PM peak hours in the long term with the development. No mitigation measures are required due to the development at all three study intersections.

However, a potential safety issue exists with left turns at Fort Street / Ashgrove Street. At the Fort Street / Richmond Road intersection, the proposed bike lane improvements include one eastbound lane drop out and this new design could make queues a bit longer on Fort Street. Currently left turns are allowed onto Ashgrove Street from Fort Street using the Fort Street eastbound left turn lane (onto Richmond Road) with no restriction. With the new intersection configuration, peak hour left turn restriction may be required for safety from Fort Street onto Ashgrove Street and left turns also restricted from Ashgrove Street onto Fort Street at the same time periods. Begbie Street is currently one-way with low volumes and two-way is recommended to allow trips in from the westbound Pembroke Street traffic in order to provide an alternative for the Ashgrove Street situation.

At the proposed access location on Ashgrove Street, no sight distance and intersection spacing issues were found. The proposed driveway access, parking stalls and loading zone are appropriately designed based on the vehicle turning movement review.

Existing sidewalks along the property frontage provide pedestrian access to and from the development site and nearby transit stops. The sidewalks adjacent to the development along Fort Street and Richmond Road should be upgraded to meet the current City of Victoria standards and to ensure adequate width and an even surface. The bike parking and storage included in the proposed development should be implemented. The

development site is well serviced by transit, with several major routes travelling along Fort Street and along Richmond Road thus transit improvements are not required.

8.0 RECOMMENDATIONS

The following recommendations are made for the proposed development:

- Upgrade sidewalks along the development frontage of Ashgrove Street to ensure a smooth surface and sufficient widths and to conform to current City standards.

The following is recommended of the City:

- Peak hour left turn restriction be required from Fort Street onto Ashgrove Street should be examined; no left turn signage with designated peak hour periods be required.
- On Begbie Street, conversion to two-way travel be considered to allow the Pembroke westbound traffic into Ashgrove Street should also be examined as part of the Ashgrove Street turn restrictions. The two-way should be enacted such that it functions like a chicane allowing only one vehicle at a time around the curve. Warning signs and other measures (to ensure only one car access at a time, example: bollards to further narrow at the mouths) would be required.



APPENDIX A: SYNCHRO INFORMATION



SYNCHRO MODELLING SOFTWARE DESCRIPTION

The traffic analysis was completed using Synchro and SimTraffic traffic modeling software. Results were measured in delay, level of service (LOS) and 95th percentile queue length. Synchro is based on the Highway Capacity Manual (HCM) methodology. SimTraffic integrates established driver behaviours and characteristics to simulate actual conditions by randomly “seeding” or positioning vehicles travelling throughout the network. The simulation is run five times (five different random seedings of vehicle types, behaviours and arrivals) to obtain statistical significance of the results.

Levels of Service

Traffic operations are typically described in terms of levels of service, which rates the amount of delay per vehicle for each movement and the entire intersection. Levels of service range from LOS A (representing best operations) to LOS E/F (LOS E being poor operations and LOS F being unpredictable / disruptive operations). LOS E/F are generally unacceptable levels of service under normal everyday conditions.

The hierarchy of criteria for grading an intersection or movement not only includes delay times, but also takes into account traffic control type (stop signs or traffic signal). For example, if a vehicle is delayed for 19 seconds at an unsignalized intersection, it is considered to have an average operation, and would therefore be graded as an LOS C. However, at a signalized intersection, a 19 second delay would be considered a good operation and therefore it would be given an LOS B. The table below indicates the range of delay for LOS for signalized and unsignalized intersections.





Table A1: LOS Criteria, by Intersection Traffic Control

Level of Service	Unsignalized Intersection Average Vehicle Delay (sec/veh)	Signalized Intersection Average Vehicle Delay (sec/veh)
A	Less than 10	Less than 10
B	10 to 15	11 to 20
C	15 to 25	20 to 35
D	25 to 35	35 to 55
E	35 to 50	55 to 80
F	More than 50	More than 80




*The attached information is provided to support the agency's review process
and shall not be distributed to other parties without written consent from
Bunt & Associates Engineering Ltd.*

APPENDIX B

Synchro Reports

Intersection						
Int Delay, s/veh	5.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	5	26	5	5	10
Future Vol, veh/h	6	5	26	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	5	28	5	5	11
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	12	0	71	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1607	-	933	1071
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	962	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1607	-	917	1071
Mov Cap-2 Maneuver	-	-	-	-	917	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	946	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	6.1		8.6		
HCM LOS	A					
Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1014	-	-	1607	-	
HCM Lane V/C Ratio	0.016	-	-	0.018	-	
HCM Control Delay (s)	8.6	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0.1	-	

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	28	41	504	594	43
Future Vol, veh/h	24	28	41	504	594	43
Conflicting Peds, #/hr	0	0	60	0	0	60
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None		- None		- None	
Storage Length	0	-	15	-	-	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	30	45	548	646	47
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1368	730	753	0	-	0
Stage 1	730	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	162	422	857	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	138	401	813	-	-	-
Mov Cap-2 Maneuver	138	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay	27.9	0.7		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	813	-	213	-	-	
HCM Lane V/C Ratio	0.055	-	0.265	-	-	
HCM Control Delay (s)	9.7	-	27.9	-	-	
HCM Lane LOS	A	-	D	-	-	
HCM 95th %tile Q(veh)	0.2	-	1	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	496	552	7	7	9
Future Vol, veh/h	13	496	552	7	7	9
Conflicting Peds, #/hr60		0	0	60	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-	-	-	0	-
Veh in Median Storage,#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	539	600	8	8	10
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	668	0	-	0	1231	364
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	567	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	920	-	-	-	182	634
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	567	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	873	-	-	-	160	602
Mov Cap-2 Maneuver	-	-	-	-	160	-
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	538	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		19.1		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	873	-	-	-	273	
HCM Lane V/C Ratio	0.016	-	-	-	0.064	
HCM Control Delay (s)	9.2	0	-	-	19.1	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Queues
7: Richmond Rd & Fort St

Existing AM
10-17-2023























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	134	431	35	565	20	454	198	387	125
v/c Ratio	0.42	0.30	0.15	0.59	0.07	0.90	0.65	0.47	0.17
Control Delay	18.2	16.3	23.9	26.9	22.5	50.6	32.0	17.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	16.3	23.9	26.9	22.5	50.6	32.0	17.8	6.0
Queue Length 50th (m)	12.6	23.3	4.2	39.2	2.4	68.4	18.6	42.9	2.8
Queue Length 95th (m)	23.5	33.4	11.4	55.0	7.5	#121.3	#42.8	50.5	11.6
Internal Link Dist (m)		41.3		108.4		99.8		120.3	
Turn Bay Length (m)	45.0		25.0		30.0		45.0		15.0
Base Capacity (vph)	317	1449	241	962	269	506	304	815	721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.30	0.15	0.59	0.07	0.90	0.65	0.47	0.17




Intersection Summary


95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
7: Richmond Rd & Fort St

Existing AM
10-17-2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	372	12	31	430	73	18	354	50	176	344	111
Future Volume (veh/h)	119	372	12	31	430	73	18	354	50	176	344	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		1.00	0.96		1.00	0.99		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	418	0	35	483	0	20	398	56	198	387	125
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	8	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	1466		349	993		333	441	62	321	818	675
Arrive On Green	0.08	0.41	0.00	0.28	0.28	0.00	0.28	0.28	0.28	0.11	0.44	0.44
Sat Flow, veh/h	1697	3647	0	926	3647	0	880	1595	224	1781	1870	1542
Grp Volume(v), veh/h	134	418	0	35	483	0	20	0	454	198	387	125
Grp Sat Flow(s),veh/h/ln	1697	1777	0	926	1777	0	880	0	1819	1781	1870	1542
Q Serve(g_s), s	4.2	6.3	0.0	2.3	9.1	0.0	1.3	0.0	19.3	5.9	11.7	4.0
Cycle Q Clear(g_c), s	4.2	6.3	0.0	2.3	9.1	0.0	1.3	0.0	19.3	5.9	11.7	4.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	372	1466		349	993		333	0	503	321	818	675
V/C Ratio(X)	0.36	0.29		0.10	0.49		0.06	0.00	0.90	0.62	0.47	0.19
Avail Cap(c_a), veh/h	379	1466		349	993		333	0	503	324	818	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	15.6	0.0	21.6	24.0	0.0	21.4	0.0	27.9	18.9	16.0	13.8
Incr Delay (d2), s/veh	0.6	0.5	0.0	0.6	1.7	0.0	0.3	0.0	22.1	3.4	2.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.3	0.0	0.3	2.5	0.0	0.2	0.0	8.0	1.4	2.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	16.1	0.0	22.2	25.7	0.0	21.8	0.0	50.0	22.4	17.9	14.4
LnGrp LOS	B	B		C	C		C	A	D	C	B	B
Approach Vol, veh/h	552		A	518		A	474		710			
Approach Delay, s/veh	16.5			25.5			48.8		18.5			
Approach LOS	B			C			D		B			
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.9	28.1		39.0		41.0	10.6	28.4				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0	4.0	6.0				
Max Green Setting (Gmax),s	90	22.0		33.0		35.0	7.0	22.0				
Max Q Clear Time (g_c+11)7.9	7.9	21.3		8.3		13.7	6.2	11.1				
Green Ext Time (p_c), s	0.1	0.3		3.4		3.5	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay	26.0											
HCM 6th LOS	C											

Intersection						
Int Delay, s/veh	5.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	7	5	31	5	5	13
Future Vol, veh/h	7	5	31	5	5	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	5	34	5	5	14
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	13	0	84	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	73	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1606	-	918	1070
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	950	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1606	-	899	1070
Mov Cap-2 Maneuver	-	-	-	-	899	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	930	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	6.3		8.6		
HCM LOS	A					
Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1016	-	-	1606	-	
HCM Lane V/C Ratio	0.019	-	-	0.021	-	
HCM Control Delay (s)	8.6	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	24	29	605	728	27
Future Vol, veh/h	23	24	29	605	728	27
Conflicting Peds, #/hr	0	0	60	0	0	60
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None		- None		- None	
Storage Length	0	-	15	-	-	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	26	32	658	791	29
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1588	866	880	0	-	0
Stage 1	866	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	119	353	768	-	-	-
Stage 1	412	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	102	335	729	-	-	-
Mov Cap-2 Maneuver	102	-	-	-	-	-
Stage 1	374	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	38.3	0.5		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	729	-	158	-	-	
HCM Lane V/C Ratio	0.043	-	0.323	-	-	
HCM Control Delay (s)	10.2	-	38.3	-	-	
HCM Lane LOS	B	-	E	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Vol, veh/h	9	593	642	8	8	14
Future Vol, veh/h	9	593	642	8	8	14
Conflicting Peds, #/hr60	0	0	60	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	645	698	9	9	15
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	767	0	-	0	1428	414
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	665	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	845	-	-	-	137	588
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	802	-	-	-	121	558
Mov Cap-2 Maneuver	-	-	-	-	121	-
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	484	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.1	0	21.6			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	802	-	-	-	241	
HCM Lane V/C Ratio	0.012	-	-	-	0.099	
HCM Control Delay (s)	9.5	0	-	-	21.6	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Queues
7: Richmond Rd & Fort St

Existing PM
10-17-2023
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	185	469	32	605	53	422	197	486	162
v/c Ratio	0.52	0.30	0.13	0.61	0.22	0.79	0.67	0.62	0.25
Control Delay	20.0	16.5	25.6	29.1	27.3	41.9	29.0	20.6	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	16.5	25.6	29.1	27.3	41.9	29.0	20.6	8.2
Queue Length 50th (m)	19.3	27.4	4.3	47.1	7.3	69.8	16.2	42.8	4.9
Queue Length 95th (m)	33.0	38.7	11.8	65.1	17.4	#116.5	#39.9	64.4	15.9
Internal Link Dist (m)		41.3		108.4		99.8		120.3	
Turn Bay Length (m)	45.0		25.0		30.0		45.0		15.0
Base Capacity (vph)	356	1547	240	998	242	532	296	786	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.30	0.13	0.61	0.22	0.79	0.67	0.62	0.25





Intersection Summary


95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.




HCM 6th Signalized Intersection Summary
7: Richmond Rd & Fort St

Existing PM
10-17-2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	412	19	29	451	106	49	358	30	181	447	149
Future Volume (veh/h)	170	412	19	29	451	106	49	358	30	181	447	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		1.00	0.95		1.00	0.99		0.94	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1870	1737	1870	1870	1870	1870	1870	1870	1870	1870	1841
Adj Flow Rate, veh/h	185	448	0	32	490	0	53	389	33	197	486	162
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	2	11	2	2	2	2	2	2	2	2	4
Cap, veh/h	427	1579		340	1030		250	488	41	312	790	629
Arrive On Green	0.11	0.44	0.00	0.29	0.29	0.00	0.29	0.29	0.29	0.09	0.42	0.42
Sat Flow, veh/h	1753	3647	0	897	3647	0	773	1691	143	1781	1870	1489
Grp Volume(v), veh/h	185	448	0	32	490	0	53	0	422	197	486	162
Grp Sat Flow(s),veh/h/ln	1753	1777	0	897	1777	0	773	0	1834	1781	1870	1489
Q Serve(g_s), s	6.1	7.2	0.0	2.4	10.2	0.0	5.2	0.0	19.1	6.7	18.3	6.3
Cycle Q Clear(g_c), s	6.1	7.2	0.0	2.4	10.2	0.0	11.4	0.0	19.1	6.7	18.3	6.3
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	427	1579		340	1030		250	0	530	312	790	629
V/C Ratio(X)	0.43	0.28		0.09	0.48		0.21	0.00	0.80	0.63	0.62	0.26
Avail Cap(c_a), veh/h	429	1579		340	1030		250	0	530	312	790	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	15.9	0.0	23.5	26.3	0.0	29.4	0.0	29.6	21.3	20.3	16.9
Incr Delay (d2), s/veh	0.7	0.5	0.0	0.5	1.6	0.0	1.9	0.0	11.8	4.1	3.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.6	0.0	0.4	3.0	0.0	0.8	0.0	7.1	1.9	5.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	16.3	0.0	24.1	27.9	0.0	31.4	0.0	41.3	25.4	23.9	17.8
LnGrp LOS	B	B		C	C		C	A	D	C	C	B
Approach Vol, veh/h	633		A	522		A	475				845	
Approach Delay, s/veh	17.0			27.7			40.2				23.1	
Approach LOS	B			C			D				C	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.0	32.0		46.0		44.0	13.9	32.1				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0	4.0	6.0				
Max Green Setting (Gmax),s	30	26.0		40.0		38.0	10.0	26.0				
Max Q Clear Time (g_c+l1)s	21.1			9.2		20.3	8.1	12.2				
Green Ext Time (p_c), s	0.0	1.5		3.9		4.4	0.1	3.4				
Intersection Summary												
HCM 6th Ctrl Delay	25.8											
HCM 6th LOS	C											

Intersection						
Int Delay, s/veh	6.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	5	36	5	5	34
Future Vol, veh/h	6	5	36	5	5	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	5	39	5	5	37
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	12	0	93	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1607	-	907	1071
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1607	-	885	1071
Mov Cap-2 Maneuver	-	-	-	-	885	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	917	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	6.4		8.6		
HCM LOS	A					
Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1043	-	-	1607	-	
HCM Lane V/C Ratio	0.041	-	-	0.024	-	
HCM Control Delay (s)	8.6	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	52	41	504	584	53
Future Vol, veh/h	24	52	41	504	584	53
Conflicting Peds, #/hr	0	0	60	0	0	60
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None		- None		- None	
Storage Length	0	-	15	-	-	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	57	45	548	635	58
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1362	724	753	0	-	0
Stage 1	724	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	163	426	857	-	-	-
Stage 1	480	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	139	404	813	-	-	-
Mov Cap-2 Maneuver	139	-	-	-	-	-
Stage 1	431	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	26.1	0.7		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	813	-	252	-	-	
HCM Lane V/C Ratio	0.055	-	0.328	-	-	
HCM Control Delay (s)	9.7	-	26.1	-	-	
HCM Lane LOS	A	-	D	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.4	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	496	552	7	7	9
Future Vol, veh/h	13	496	552	7	7	9
Conflicting Peds, #/hr60		0	0	60	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-	-	-	0	-
Veh in Median Storage,#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	539	600	8	8	10
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	668	0	-	0	1231	364
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	567	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	920	-	-	-	182	634
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	567	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	873	-	-	-	160	602
Mov Cap-2 Maneuver	-	-	-	-	160	-
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	538	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		19.1		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	873	-	-	-	273	
HCM Lane V/C Ratio	0.016	-	-	-	0.064	
HCM Control Delay (s)	9.2	0	-	-	19.1	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Queues
7: Richmond Rd & Fort St

Background AM - Birch Closed
10-17-2023























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	134	431	35	565	20	454	198	387	125
v/c Ratio	0.42	0.30	0.15	0.59	0.07	0.90	0.65	0.47	0.17
Control Delay	18.2	16.3	23.9	26.9	22.5	50.6	31.9	17.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	16.3	23.9	26.9	22.5	50.6	31.9	17.8	6.0
Queue Length 50th (m)	12.6	23.3	4.2	39.2	2.4	68.4	18.6	42.8	2.8
Queue Length 95th (m)	23.5	33.4	11.4	55.0	7.5	#121.3	#41.8	50.7	11.4
Internal Link Dist (m)		41.3		108.4		99.8		120.3	
Turn Bay Length (m)	45.0		25.0		30.0		45.0		15.0
Base Capacity (vph)	317	1449	241	962	269	506	304	815	721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.30	0.15	0.59	0.07	0.90	0.65	0.47	0.17




Intersection Summary





95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.




HCM 6th Signalized Intersection Summary
7: Richmond Rd & Fort St

Background AM - Birch Closed
10-17-2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	372	12	31	430	73	18	354	50	176	344	111
Future Volume (veh/h)	119	372	12	31	430	73	18	354	50	176	344	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		1.00	0.96		1.00	0.99		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1781	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	418	0	35	483	0	20	398	56	198	387	125
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	8	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	1466		349	993		333	441	62	321	818	675
Arrive On Green	0.08	0.41	0.00	0.28	0.28	0.00	0.28	0.28	0.28	0.11	0.44	0.44
Sat Flow, veh/h	1697	3647	0	926	3647	0	880	1595	224	1781	1870	1542
Grp Volume(v), veh/h	134	418	0	35	483	0	20	0	454	198	387	125
Grp Sat Flow(s),veh/h/ln	1697	1777	0	926	1777	0	880	0	1819	1781	1870	1542
Q Serve(g_s), s	4.2	6.3	0.0	2.3	9.1	0.0	1.3	0.0	19.3	5.9	11.7	4.0
Cycle Q Clear(g_c), s	4.2	6.3	0.0	2.3	9.1	0.0	1.3	0.0	19.3	5.9	11.7	4.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	372	1466		349	993		333	0	503	321	818	675
V/C Ratio(X)	0.36	0.29		0.10	0.49		0.06	0.00	0.90	0.62	0.47	0.19
Avail Cap(c_a), veh/h	379	1466		349	993		333	0	503	324	818	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	15.6	0.0	21.6	24.0	0.0	21.4	0.0	27.9	18.9	16.0	13.8
Incr Delay (d2), s/veh	0.6	0.5	0.0	0.6	1.7	0.0	0.3	0.0	22.1	3.4	2.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.3	0.0	0.3	2.5	0.0	0.2	0.0	8.0	1.4	2.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	16.1	0.0	22.2	25.7	0.0	21.8	0.0	50.0	22.4	17.9	14.4
LnGrp LOS	B	B		C	C		C	A	D	C	B	B
Approach Vol, veh/h	552		A	518		A	474		710			
Approach Delay, s/veh	16.5			25.5			48.8		18.5			
Approach LOS	B			C			D		B			
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.9	28.1		39.0		41.0	10.6	28.4				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0	4.0	6.0				
Max Green Setting (Gmax),s	30	22.0		33.0		35.0	7.0	22.0				
Max Q Clear Time (g_c+11)7s	21.3			8.3		13.7	6.2	11.1				
Green Ext Time (p_c), s	0.1	0.3		3.4		3.5	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay			26.0									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	6.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	7	5	36	5	5	43
Future Vol, veh/h	7	5	36	5	5	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	5	39	5	5	47
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	13	0	94	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1606	-	906	1070
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1606	-	884	1070
Mov Cap-2 Maneuver	-	-	-	-	884	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	917	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		6.4		8.6	
HCM LOS	A					
Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1047	-	-	1606	-	
HCM Lane V/C Ratio	0.05	-	-	0.024	-	
HCM Control Delay (s)	8.6	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	54	29	605	723	32
Future Vol, veh/h	23	54	29	605	723	32
Conflicting Peds, #/hr	0	0	60	0	0	60
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None		- None		- None	
Storage Length	0	-	15	-	-	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	59	32	658	786	35
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1586	864	881	0	-	0
Stage 1	864	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	119	354	767	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	102	336	728	-	-	-
Mov Cap-2 Maneuver	102	-	-	-	-	-
Stage 1	375	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	35.6	0.5		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	728	-	199	-	-	
HCM Lane V/C Ratio	0.043	-	0.421	-	-	
HCM Control Delay (s)	10.2	-	35.6	-	-	
HCM Lane LOS	B	-	E	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.9	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	593	642	8	8	14
Future Vol, veh/h	9	593	642	8	8	14
Conflicting Peds, #/hr60		0	0	60	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage,#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	645	698	9	9	15
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	767	0	-	0	1428	414
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	665	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	845	-	-	-	137	588
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	802	-	-	-	121	558
Mov Cap-2 Maneuver	-	-	-	-	121	-
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	484	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		21.6		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	802	-	-	-	241	
HCM Lane V/C Ratio	0.012	-	-	-	0.099	
HCM Control Delay (s)	9.5	0	-	-	21.6	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Queues
7: Richmond Rd & Fort St

Background PM - Birch Closed
10-17-2023
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	185	469	32	605	53	422	197	486	162
v/c Ratio	0.52	0.30	0.13	0.61	0.22	0.79	0.67	0.62	0.25
Control Delay	20.0	16.5	25.6	29.1	27.3	41.9	29.0	20.6	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	16.5	25.6	29.1	27.3	41.9	29.0	20.6	8.2
Queue Length 50th (m)	19.3	27.4	4.3	47.1	7.3	69.8	16.2	42.9	4.9
Queue Length 95th (m)	33.0	38.7	11.8	65.1	17.4	#116.5	#40.0	64.5	15.8
Internal Link Dist (m)		41.3		108.4		99.8		120.3	
Turn Bay Length (m)	45.0		25.0		30.0		45.0		15.0
Base Capacity (vph)	356	1547	240	998	242	532	296	786	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.30	0.13	0.61	0.22	0.79	0.67	0.62	0.25




Intersection Summary


95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.




HCM 6th Signalized Intersection Summary
7: Richmond Rd & Fort St

Background PM - Birch Closed
10-17-2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	412	19	29	451	106	49	358	30	181	447	149
Future Volume (veh/h)	170	412	19	29	451	106	49	358	30	181	447	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		1.00	0.95		1.00	0.99		0.94	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1870	1737	1870	1870	1870	1870	1870	1870	1870	1870	1841
Adj Flow Rate, veh/h	185	448	0	32	490	0	53	389	33	197	486	162
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	2	11	2	2	2	2	2	2	2	2	4
Cap, veh/h	427	1579		340	1030		250	488	41	312	790	629
Arrive On Green	0.11	0.44	0.00	0.29	0.29	0.00	0.29	0.29	0.29	0.09	0.42	0.42
Sat Flow, veh/h	1753	3647	0	897	3647	0	773	1691	143	1781	1870	1489
Grp Volume(v), veh/h	185	448	0	32	490	0	53	0	422	197	486	162
Grp Sat Flow(s),veh/h/ln	1753	1777	0	897	1777	0	773	0	1834	1781	1870	1489
Q Serve(g_s), s	6.1	7.2	0.0	2.4	10.2	0.0	5.2	0.0	19.1	6.7	18.3	6.3
Cycle Q Clear(g_c), s	6.1	7.2	0.0	2.4	10.2	0.0	11.4	0.0	19.1	6.7	18.3	6.3
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	427	1579		340	1030		250	0	530	312	790	629
V/C Ratio(X)	0.43	0.28		0.09	0.48		0.21	0.00	0.80	0.63	0.62	0.26
Avail Cap(c_a), veh/h	429	1579		340	1030		250	0	530	312	790	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	15.9	0.0	23.5	26.3	0.0	29.4	0.0	29.6	21.3	20.3	16.9
Incr Delay (d2), s/veh	0.7	0.5	0.0	0.5	1.6	0.0	1.9	0.0	11.8	4.1	3.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.6	0.0	0.4	3.0	0.0	0.8	0.0	7.1	1.9	5.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	16.3	0.0	24.1	27.9	0.0	31.4	0.0	41.3	25.4	23.9	17.8
LnGrp LOS	B	B		C	C		C	A	D	C	C	B
Approach Vol, veh/h	633		A	522		A	475		845			
Approach Delay, s/veh	17.0			27.7			40.2		23.1			
Approach LOS	B			C			D		C			
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.0	32.0		46.0		44.0	13.9	32.1				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0	4.0	6.0				
Max Green Setting (Gmax),s	30	26.0		40.0		38.0	10.0	26.0				
Max Q Clear Time (g_c+I1)s	21.1			9.2		20.3	8.1	12.2				
Green Ext Time (p_c), s	0.0	1.5		3.9		4.4	0.1	3.4				
Intersection Summary												
HCM 6th Ctrl Delay	25.8											
HCM 6th LOS	C											

Intersection						
Int Delay, s/veh	6.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	13	5	36	5	5	61
Future Vol, veh/h	13	5	36	5	5	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	5	39	5	5	66
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	19	0	100	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1597	-	899	1062
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1597	-	877	1062
Mov Cap-2 Maneuver	-	-	-	-	877	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	917	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	6.4		8.7		
HCM LOS	A					
Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1045	-	-	1597	-	
HCM Lane V/C Ratio	0.069	-	-	0.025	-	
HCM Control Delay (s)	8.7	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	72	48	504	584	59
Future Vol, veh/h	31	72	48	504	584	59
Conflicting Peds, #/hr	0	0	60	0	0	60
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None		- None		- None	
Storage Length	0	-	15	-	-	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	78	52	548	635	64
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1379	727	759	0	-	0
Stage 1	727	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	159	424	852	-	-	-
Stage 1	478	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	134	402	809	-	-	-
Mov Cap-2 Maneuver	134	-	-	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	30.4	0.8		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	809	-	251	-	-	
HCM Lane V/C Ratio	0.064	-	0.446	-	-	
HCM Control Delay (s)	9.8	-	30.4	-	-	
HCM Lane LOS	A	-	D	-	-	
HCM 95th %tile Q(veh)	0.2	-	2.1	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	498	559	12	7	9
Future Vol, veh/h	16	498	559	12	7	9
Conflicting Peds, #/hr60		0	0	60	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-	-	-	0	-
Veh in Median Storage,#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	541	608	13	8	10
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	681	0	-	0	1250	371
Stage 1	-	-	-	-	675	-
Stage 2	-	-	-	-	575	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	910	-	-	-	177	627
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	562	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	864	-	-	-	155	595
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	533	-
Approach	EB	WB		SB		
HCM Control Delay, s	9.3	0		19.5		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	864	-	-	-	265	
HCM Lane V/C Ratio	0.02	-	-	-	0.066	
HCM Control Delay (s)	9.3	0	-	-	19.5	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	

Queues
7: Richmond Rd & Fort St

Total AM
10-17-2023
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	136	431	35	571	22	456	207	392	133
v/c Ratio	0.43	0.30	0.15	0.59	0.08	0.90	0.69	0.48	0.18
Control Delay	18.4	16.3	23.9	27.0	22.6	50.9	33.9	18.0	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	16.3	23.9	27.0	22.6	50.9	33.9	18.0	6.4
Queue Length 50th (m)	12.8	23.3	4.2	39.6	2.6	68.7	19.5	43.4	3.6
Queue Length 95th (m)	23.8	33.4	11.4	55.6	8.2	#122.3	#42.8	51.6	12.4
Internal Link Dist (m)		41.3		108.4		99.8		120.3	
Turn Bay Length (m)	45.0		25.0		30.0		45.0		15.0
Base Capacity (vph)	314	1449	241	961	268	507	302	815	721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.30	0.15	0.59	0.08	0.90	0.69	0.48	0.18




Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
7: Richmond Rd & Fort St

Total AM
10-17-2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	372	12	31	433	75	20	356	50	184	349	118
Future Volume (veh/h)	121	372	12	31	433	75	20	356	50	184	349	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		1.00	0.96		1.00	0.99		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1781	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	418	0	35	487	0	22	400	56	207	392	133
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	8	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	1466		349	992		330	441	62	320	818	675
Arrive On Green	0.08	0.41	0.00	0.28	0.28	0.00	0.28	0.28	0.28	0.11	0.44	0.44
Sat Flow, veh/h	1697	3647	0	926	3647	0	869	1596	223	1781	1870	1542
Grp Volume(v), veh/h	136	418	0	35	487	0	22	0	456	207	392	133
Grp Sat Flow(s),veh/h/ln	1697	1777	0	926	1777	0	869	0	1819	1781	1870	1542
Q Serve(g_s), s	4.3	6.3	0.0	2.3	9.2	0.0	1.5	0.0	19.4	6.2	11.9	4.2
Cycle Q Clear(g_c), s	4.3	6.3	0.0	2.3	9.2	0.0	1.5	0.0	19.4	6.2	11.9	4.2
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	371	1466		349	992		330	0	502	320	818	675
V/C Ratio(X)	0.37	0.29		0.10	0.49		0.07	0.00	0.91	0.65	0.48	0.20
Avail Cap(c_a), veh/h	378	1466		349	992		330	0	502	322	818	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	15.6	0.0	21.6	24.1	0.0	21.5	0.0	28.0	19.0	16.0	13.9
Incr Delay (d2), s/veh	0.6	0.5	0.0	0.6	1.7	0.0	0.4	0.0	22.8	4.4	2.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.3	0.0	0.3	2.5	0.0	0.2	0.0	8.1	1.6	2.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	16.1	0.0	22.2	25.8	0.0	21.9	0.0	50.7	23.4	18.0	14.5
LnGrp LOS	B	B		C	C		C	A	D	C	B	B
Approach Vol, veh/h	554		A	522		A	478		732			
Approach Delay, s/veh	16.6			25.6			49.4		18.9			
Approach LOS	B			C			D		B			
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.9	28.1		39.0		41.0	10.7	28.3				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0	4.0	6.0				
Max Green Setting (Gmax),s	30	22.0		33.0		35.0	7.0	22.0				
Max Q Clear Time (g_c+l1)s	21.4			8.3		13.9	6.3	11.2				
Green Ext Time (p_c), s	0.1	0.2		3.4		3.6	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay	26.2											
HCM 6th LOS	C											

Intersection						
Int Delay, s/veh	6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	19	5	36	5	5	43
Future Vol, veh/h	19	5	36	5	5	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	5	39	5	5	47

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	26
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1588
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1588
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.4	8.7
HCM LOS	A		

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1029	-	-	1588	-
HCM Lane V/C Ratio	0.051	-	-	0.025	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection

Int Delay, s/veh 3.4

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations

Traffic Vol, veh/h 30 72 41 605 723 42

Future Vol, veh/h 30 72 41 605 723 42

Conflicting Peds, #/hr 0 0 60 0 0 60

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - 15 - - -

Veh in Median Storage 0# - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 92 92 92 92 92 92

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 33 78 45 658 786 46

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 1617 869 892 0 - 0

Stage 1 869 - - - - -

Stage 2 748 - - - - -

Critical Hdwy 6.42 6.22 4.12 - - -

Critical Hdwy Stg 1 5.42 - - - - -

Critical Hdwy Stg 2 5.42 - - - - -

Follow-up Hdwy 3.518 3.318 2.218 - - -

Pot Cap-1 Maneuver 14 351 760 - - -

Stage 1 410 - - - - -

Stage 2 468 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 96 333 721 - - -

Mov Cap-2 Maneuver 96 - - - - -

Stage 1 365 - - - - -

Stage 2 444 - - - - -

Approach EB NB SB

HCM Control Delay, s 46.2 0.7 0

HCM LOS E

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR




Capacity (veh/h) 721 - 193 - -

HCM Lane V/C Ratio 0.062 - 0.574 - -

HCM Control Delay (s) 10.3 - 46.2 - -

HCM Lane LOS B - E - -

HCM 95th %tile Q(veh) 0.2 - 3.1 - -

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	597	648	15	8	14
Future Vol, veh/h	14	597	648	15	8	14
Conflicting Peds, #/hr60	0	0	60	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	649	704	16	9	15
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	780	0	-	0	1451	420
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	835	-	-	-	132	583
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	793	-	-	-	115	553
Mov Cap-2 Maneuver	-	-	-	-	115	-
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	477	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		22.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	793	-	-	-	232	
HCM Lane V/C Ratio	0.019	-	-	-	0.103	
HCM Control Delay (s)	9.6	0	-	-	22.3	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	

Queues
7: Richmond Rd & Fort St

Total PM
10-17-2023
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	189	469	32	616	58	425	203	491	168
v/c Ratio	0.54	0.30	0.13	0.62	0.24	0.80	0.69	0.62	0.25
Control Delay	20.4	16.5	25.6	29.3	27.9	42.3	30.7	20.9	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	16.5	25.6	29.3	27.9	42.3	30.7	20.9	8.6
Queue Length 50th (m)	19.8	27.4	4.3	48.1	8.1	70.5	16.8	43.7	5.3
Queue Length 95th (m)	33.7	38.7	11.8	66.4	18.6	#117.7	#42.5	66.4	17.0
Internal Link Dist (m)		41.3		108.4		99.8		120.3	
Turn Bay Length (m)	45.0		25.0		30.0		45.0		15.0
Base Capacity (vph)	352	1547	240	998	239	532	294	786	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.30	0.13	0.62	0.24	0.80	0.69	0.62	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
7: Richmond Rd & Fort St




Total PM
10-17-2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	412	19	29	456	110	53	361	30	187	452	155
Future Volume (veh/h)	174	412	19	29	456	110	53	361	30	187	452	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		1.00	0.95		1.00	0.99		0.94	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1870	1737	1870	1870	1870	1870	1870	1870	1870	1870	1841
Adj Flow Rate, veh/h	189	448	0	32	496	0	58	392	33	203	491	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	2	11	2	2	2	2	2	2	2	2	4
Cap, veh/h	425	1579		340	1030		246	489	41	310	790	629
Arrive On Green	0.11	0.44	0.00	0.29	0.29	0.00	0.29	0.29	0.29	0.09	0.42	0.42
Sat Flow, veh/h	1753	3647	0	897	3647	0	765	1692	142	1781	1870	1489
Grp Volume(v), veh/h	189	448	0	32	496	0	58	0	425	203	491	168
Grp Sat Flow(s),veh/h/ln	1753	1777	0	897	1777	0	765	0	1834	1781	1870	1489
Q Serve(g_s), s	6.3	7.2	0.0	2.4	10.4	0.0	5.8	0.0	19.3	6.9	18.5	6.6
Cycle Q Clear(g_c), s	6.3	7.2	0.0	2.4	10.4	0.0	12.3	0.0	19.3	6.9	18.5	6.6
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	425	1579		340	1030		246	0	530	310	790	629
V/C Ratio(X)	0.45	0.28		0.09	0.48		0.24	0.00	0.80	0.65	0.62	0.27
Avail Cap(c_a), veh/h	426	1579		340	1030		246	0	530	310	790	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	15.9	0.0	23.5	26.4	0.0	29.9	0.0	29.6	21.5	20.4	16.9
Incr Delay (d2), s/veh	0.7	0.5	0.0	0.5	1.6	0.0	2.2	0.0	12.1	4.9	3.7	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.6	0.0	0.4	3.1	0.0	0.9	0.0	7.2	2.0	5.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	16.3	0.0	24.1	28.0	0.0	32.1	0.0	41.7	26.4	24.0	18.0
LnGrp LOS	B	B		C	C		C	A	D	C	C	B
Approach Vol, veh/h	637		A	528		A	483		862			
Approach Delay, s/veh	17.0			27.7			40.6		23.4			
Approach LOS	B			C			D		C			
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.0	32.0		46.0		44.0	13.9	32.1				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0	4.0	6.0				
Max Green Setting (Gmax),s	30	26.0		40.0		38.0	10.0	26.0				
Max Q Clear Time (g_c+l1)s	9	21.3		9.2		20.5	8.3	12.4				
Green Ext Time (p_c), s	0.0	1.5		3.9		4.4	0.1	3.4				
Intersection Summary												
HCM 6th Ctrl Delay	26.0											
HCM 6th LOS	C											

Intersection

Int Delay, s/veh 6.7

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	13	5	36	5	5	61
Future Vol, veh/h	13	5	36	5	5	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	5	39	5	5	66

Major/Minor Major1 Major2 Minor1




Conflicting Flow All	0	0	19	0	100	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1597	-	899	1062
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1597	-	877	1062
Mov Cap-2 Maneuver	-	-	-	-	877	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	917	-

Approach EB WB NB

HCM Control Delay, s	0	6.4	8.7
HCM LOS			A

Minor Lane/Major MvmNBLn1 EBT EBR WBL WBT




Capacity (veh/h)	1045	-	-	1597	-
HCM Lane V/C Ratio	0.069	-	-	0.025	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	498	559	12	7	9
Future Vol, veh/h	16	498	559	12	7	9
Conflicting Peds, #/hr60	0	0	60	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	541	608	13	8	10
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	681	0	-	0	1250	371
Stage 1	-	-	-	-	675	-
Stage 2	-	-	-	-	575	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	910	-	-	-	177	627
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	562	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	864	-	-	-	155	595
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	533	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		19.5		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	864	-	-	-	265	
HCM Lane V/C Ratio	0.02	-	-	-	0.066	
HCM Control Delay (s)	9.3	0	-	-	19.5	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	

Intersection

Int Delay, s/veh 6.6

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	19	5	36	5	5	69
Future Vol, veh/h	19	5	36	5	5	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	5	39	5	5	75

Major/Minor Major1 Major2 Minor1




Conflicting Flow All	0	0	26	0	107	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1588	-	891	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1588	-	869	1052
Mov Cap-2 Maneuver	-	-	-	-	869	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	917	-

Approach EB WB NB

HCM Control Delay, s	0	6.4	8.8
HCM LOS			A

Minor Lane/Major MvmNBLn1 EBT EBR WBL WBT

Capacity (veh/h)	1037	-	-	1588	-
HCM Lane V/C Ratio	0.078	-	-	0.025	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	597	648	15	8	14
Future Vol, veh/h	14	597	648	15	8	14
Conflicting Peds, #/hr60		0	0	60	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage,#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	649	704	16	9	15
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	780	0	-	0	1451	420
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	835	-	-	-	132	583
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	503	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	793	-	-	-	115	553
Mov Cap-2 Maneuver	-	-	-	-	115	-
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	477	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		22.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	793	-	-	-	232	
HCM Lane V/C Ratio	0.019	-	-	-	0.103	
HCM Control Delay (s)	9.6	0	-	-	22.3	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.8	0.2	1.3	0.2	4.9	2.1	1.4

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.9	4.6	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	46.8	39.7	9.7	1.2	5.9	4.6	5.2

4: Site & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.3	0.3

5: Richmond Rd & Birch St Performance by movement

Movement	EBT	EBR	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.2	86.5	2.9	18.3	16.4	12.7

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	14.4	4.7	2.4	0.8	33.1	4.6	3.8

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.1	0.0	0.0	0.0	0.0	26.2	29.9	22.4	0.3	0.3	0.3
Total Del/Veh (s)	26.5	17.4	3.0	48.2	42.2	6.5	69.3	74.2	66.2	33.0	15.8	5.9

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	6.2
Total Del/Veh (s)	35.1

8: Richmond Rd & Coronation Ave/RJH Performance by movement

Movement	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	3.6	0.1	0.0	0.0	3.4	0.9	1.0	0.7
Total Del/Veh (s)	7.2	22.4	11.2	5.8	5.4	9.0	5.4	1.7	5.9

*The attached information is provided to support the agency's review process
and shall not be distributed to other parties without written consent from
Bunt & Associates Engineering Ltd.*

APPENDIX C

SimTraffic Reports

20: Begbie St & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.4	0.1

Total Network Performance

Denied Del/Veh (s)	6.8
Total Del/Veh (s)	47.0

Intersection: 2: Birch St & Pembroke St

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	1.8	6.7
Average Queue (m)	0.3	2.9
95th Queue (m)	2.7	8.1
Link Distance (m)	117.0	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	20.1	12.6	5.7	44.8
Average Queue (m)	10.7	6.2	0.8	17.4
95th Queue (m)	23.2	14.0	7.3	60.0
Link Distance (m)	34.2		74.1	66.3
Upstream Blk Time (%)	0			1
Queuing Penalty (veh)	0			8
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)		0	0	
Queuing Penalty (veh)		2	0	

Intersection: 4: Site & Pembroke St

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 5: Richmond Rd & Birch St

Movement	EB	NB	SB
Directions Served	R	T	TR
Maximum Queue (m)	22.1	16.8	73.0
Average Queue (m)	10.6	4.1	54.1
95th Queue (m)	23.6	16.4	91.9
Link Distance (m)	117.0	22.2	74.1
Upstream Blk Time (%)		0	9
Queuing Penalty (veh)		2	60
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B9	SB
Directions Served	LT	T	LR
Maximum Queue (m)	47.2	4.1	10.8
Average Queue (m)	22.0	0.9	4.1
95th Queue (m)	60.8	7.1	12.0
Link Distance (m)	51.2	81.6	
Upstream Blk Time (%)	2		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	38.0	42.0	37.7	28.8	86.4	75.2	2.2	31.5	109.1	22.2	32.6	17.5
Average Queue (m)	22.4	34.7	16.3	9.5	66.3	48.5	1.6	10.2	94.9	18.4	27.8	11.0
95th Queue (m)	41.5	49.0	40.0	31.4	105.5	94.8	11.1	33.9	132.6	24.2	33.9	23.2
Link Distance (m)		38.4	38.4		102.4	102.4	17.8		103.4		22.2	
Upstream Blk Time (%)	1	8	1		5	0	5		43	9	36	0
Queuing Penalty (veh)	0	22	2		0	0	0		0	0	246	0
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	1	8		0	51				65	9	38	1
Queuing Penalty (veh)	3	11		0	18				13	46	124	5

Intersection: 8: Richmond Rd & Coronation Ave/RJH

Movement	EB	WB	WB	NB	SB	SB
Directions Served	R	L	R	TR	L	TR
Maximum Queue (m)	8.8	9.4	9.7	54.6	22.8	64.9
Average Queue (m)	2.9	3.0	2.8	27.8	10.2	31.8
95th Queue (m)	9.6	9.5	9.9	57.6	24.1	73.0
Link Distance (m)	206.9		43.4	66.3		70.8
Upstream Blk Time (%)				0		1
Queuing Penalty (veh)				2		0
Storage Bay Dist (m)		10.0			20.0	
Storage Blk Time (%)		7	2		0	9
Queuing Penalty (veh)		1	0		1	6

Intersection: 20: Begbie St & Pembroke St

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 573

*The attached information is provided to support the agency's review process
and shall not be distributed to other parties without written consent from
Bunt & Associates Engineering Ltd.*

APPENDIX C

SimTraffic Reports

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0		0.1	0.1	0.0
Total Del/Veh (s)	1.0	0.1	1.6		4.1	2.3	1.8

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	77.6	77.3	0.0	0.0	0.8	0.0	2.9
Total Del/Veh (s)	87.4	169.6	13.9	1.2	21.3	16.2	15.6

4: Site & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.8	0.5	0.6

5: Richmond Rd & Birch St Performance by movement

Movement	EBT	EBR	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	21.9	328.2	3.3	31.6	21.7	24.7

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	17.5	4.9	2.5	1.6	46.2	24.5	4.1

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	4.1	1.2	0.7	0.0	0.1	0.5
Total Del/Veh (s)	28.1	15.7	1.4	61.3	45.1	9.9	44.0	38.2	26.3	33.5	19.3	5.9

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	28.2

8: Richmond Rd & Coronation Ave/RJH Performance by movement

Movement	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	3.9	0.3	0.0	0.0	28.8	28.9	51.0	14.6
Total Del/Veh (s)	16.9	44.7	7.3	5.3	2.8	24.9	23.2	25.4	15.2

20: Begbie St & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.3	0.1

Total Network Performance

Denied Del/Veh (s)	10.6
Total Del/Veh (s)	57.6

Intersection: 2: Birch St & Pembroke St

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	0.9	0.9	6.7
Average Queue (m)	0.1	0.1	3.0
95th Queue (m)	1.9	1.9	8.5
Link Distance (m)		43.5	117.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	27.7	12.3	7.5	69.6
Average Queue (m)	16.7	5.3	1.1	53.9
95th Queue (m)	32.5	14.3	9.2	95.2
Link Distance (m)	34.2		74.1	66.3
Upstream Blk Time (%)	4			16
Queuing Penalty (veh)	1			131
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)		2	0	
Queuing Penalty (veh)		11	0	

Intersection: 4: Site & Pembroke St

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 5: Richmond Rd & Birch St

Movement	EB	NB	SB
Directions Served	R	T	TR
Maximum Queue (m)	40.7	16.3	78.4
Average Queue (m)	23.3	4.9	71.3
95th Queue (m)	58.6	18.9	91.9
Link Distance (m)	117.0	22.2	74.1
Upstream Blk Time (%)		1	31
Queuing Penalty (veh)		4	254
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B9	WB	SB
Directions Served	LT	T	T	LR
Maximum Queue (m)	58.9	13.1	1.7	12.7
Average Queue (m)	22.5	2.1	0.2	5.7
95th Queue (m)	60.7	17.6	3.5	15.4
Link Distance (m)	51.2	81.6	38.4	
Upstream Blk Time (%)	3			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	35.6	41.8	33.4	27.4	100.8	85.0	4.5	37.1	94.4	22.1	32.9	17.5
Average Queue (m)	25.4	34.8	16.7	8.7	73.7	52.5	0.9	14.0	63.8	16.6	28.3	11.9
95th Queue (m)	40.4	48.5	40.0	29.5	118.3	107.2	7.5	36.5	108.8	25.4	34.3	24.4
Link Distance (m)		38.4	38.4		102.4	102.4	17.8		103.4		22.2	
Upstream Blk Time (%)	0	8	0		4	0	1		3	6	44	0
Queuing Penalty (veh)	0	27	1		0	0	0		0	0	369	0
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	0	8			53			0	35	6	50	1
Queuing Penalty (veh)	1	15			17			1	19	36	180	8

Intersection: 8: Richmond Rd & Coronation Ave/RJH

Movement	EB	WB	WB	NB	SB	SB
Directions Served	R	L	R	TR	L	TR
Maximum Queue (m)	9.3	16.1	20.4	54.9	21.2	77.2
Average Queue (m)	3.2	9.5	9.8	28.8	5.2	61.5
95th Queue (m)	10.1	18.2	22.2	56.2	18.5	94.4
Link Distance (m)	206.9		43.4	66.3		70.8
Upstream Blk Time (%)			0	0		32
Queuing Penalty (veh)			0	1		0
Storage Bay Dist (m)		10.0			20.0	
Storage Blk Time (%)		34	10		0	41
Queuing Penalty (veh)		22	4		0	7

Intersection: 20: Begbie St & Pembroke St

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 1111

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	1.2	0.1	1.3	0.4	4.9	2.5	1.9

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	21.7	21.2	0.0	0.0	0.0	0.0	1.3
Total Del/Veh (s)	41.4	53.7	10.9	1.2	6.8	4.4	7.0

4: Site & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	17.0	0.3	5.4

5: Richmond Rd & Birch St Performance by movement

Movement	EBT	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	3.1	19.6	11.5

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	6.8	3.6	2.5	1.9	29.8	6.3	3.2

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.0	0.0	10.6	8.4	8.0	0.2	0.1	0.5
Total Del/Veh (s)	26.3	16.5	1.8	54.8	47.3	10.1	52.5	55.2	52.7	34.3	15.1	4.8

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	1.8
Total Del/Veh (s)	32.7

8: Richmond Rd & Coronation Ave/RJH Performance by movement

Movement	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	4.6	0.1	0.0	0.0	3.3	0.9	1.0	0.7
Total Del/Veh (s)	6.4	20.3	5.7	5.4	2.9	10.8	5.8	5.6	6.0

20: Begbie St & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.4	0.1

Total Network Performance

Denied Del/Veh (s)	3.0
Total Del/Veh (s)	44.5

Intersection: 2: Birch St & Pembroke St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	0.9	10.2
Average Queue (m)	0.1	5.6
95th Queue (m)	1.9	11.9
Link Distance (m)	43.5	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	28.3	14.3	6.8	47.0
Average Queue (m)	17.4	6.3	0.9	19.7
95th Queue (m)	32.5	15.7	8.5	61.4
Link Distance (m)	34.2		74.1	66.3
Upstream Blk Time (%)	6			1
Queuing Penalty (veh)	3			9
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)		2	0	
Queuing Penalty (veh)		10	0	

Intersection: 4: Site & Pembroke St

Movement	EB
Directions Served	TR
Maximum Queue (m)	7.1
Average Queue (m)	2.0
95th Queue (m)	15.1
Link Distance (m)	43.5
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Richmond Rd & Birch St

Movement	NB	SB
Directions Served	T	TR
Maximum Queue (m)	17.6	72.3
Average Queue (m)	3.7	55.3
95th Queue (m)	17.1	95.1
Link Distance (m)	22.2	74.1
Upstream Blk Time (%)	0	11
Queuing Penalty (veh)	2	74
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B9	WB	SB
Directions Served	LT	T	T	LR
Maximum Queue (m)	42.5	1.7	1.7	11.1
Average Queue (m)	17.3	0.4	0.2	4.4
95th Queue (m)	47.9	4.3	3.5	13.6
Link Distance (m)	51.2	81.6	38.4	
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	37.3	42.2	34.1	29.9	99.6	89.4	4.5	25.2	104.4	22.1	32.0	17.5
Average Queue (m)	22.3	32.8	16.0	10.4	74.7	56.6	1.5	7.3	78.3	18.0	27.0	11.5
95th Queue (m)	40.3	47.5	38.5	33.2	115.2	107.1	10.3	26.9	123.6	26.1	35.7	22.8
Link Distance (m)		38.4	38.4		102.4	102.4	17.8		103.4		22.2	
Upstream Blk Time (%)	0	6	0		4	1	2		20	14	35	0
Queuing Penalty (veh)	0	17	1		0	0	0		0	0	239	0
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	0	6		0	59				53	14	38	0
Queuing Penalty (veh)	1	9		0	20				11	72	123	3

Intersection: 8: Richmond Rd & Coronation Ave/RJH

Movement	EB	WB	WB	NB	SB	SB
Directions Served	R	L	R	TR	L	TR
Maximum Queue (m)	9.3	9.0	9.7	51.4	21.5	68.2
Average Queue (m)	2.7	3.4	3.8	25.4	9.1	29.9
95th Queue (m)	9.4	10.8	11.3	56.5	22.5	69.9
Link Distance (m)	206.9		43.4	66.3		70.8
Upstream Blk Time (%)				0		1
Queuing Penalty (veh)				1		0
Storage Bay Dist (m)		10.0			20.0	
Storage Blk Time (%)		8	2		0	11
Queuing Penalty (veh)		1	0		1	7

Intersection: 20: Begbie St & Pembroke St

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 604

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.8	0.1	1.7	0.2	4.1	7.2	3.8

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	39.3	85.9	0.0	0.0	0.2	0.0	3.5
Total Del/Veh (s)	205.4	217.8	12.0	1.0	24.1	17.3	20.2

4: Site & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	86.2	0.5	37.2

5: Richmond Rd & Birch St Performance by movement

Movement	EBT	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	3.0	33.0	18.2

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	12.5	5.5	2.5	1.6	29.3	6.1	4.2

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.0	0.0	4.0	1.4	0.8	0.0	0.1	0.0
Total Del/Veh (s)	32.2	17.0	1.9	62.1	52.0	11.6	52.6	43.1	37.0	35.1	19.6	5.2

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	31.6

8: Richmond Rd & Coronation Ave/RJH Performance by movement

Movement	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	3.9	0.5	0.0	0.0	23.1	29.4	34.6	14.7
Total Del/Veh (s)	29.1	42.7	10.0	5.5	3.4	26.1	26.8	25.3	17.0

20: Begbie St & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.3	0.1

Total Network Performance

Denied Del/Veh (s)	10.8
Total Del/Veh (s)	60.7

Intersection: 2: Birch St & Pembroke St

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	1.7	12.1
Average Queue (m)	0.2	6.7
95th Queue (m)	2.6	15.9
Link Distance (m)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	35.6	12.7	69.3
Average Queue (m)	27.2	5.9	56.6
95th Queue (m)	43.2	14.5	94.1
Link Distance (m)	34.2		66.3
Upstream Blk Time (%)	46		20
Queuing Penalty (veh)	25		160
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		1	
Queuing Penalty (veh)		6	

Intersection: 4: Site & Pembroke St

Movement	EB
Directions Served	TR
Maximum Queue (m)	25.5
Average Queue (m)	11.8
95th Queue (m)	37.0
Link Distance (m)	43.5
Upstream Blk Time (%)	5
Queuing Penalty (veh)	3
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Richmond Rd & Birch St

Movement	NB	SB
Directions Served	T	TR
Maximum Queue (m)	17.8	78.1
Average Queue (m)	3.2	72.4
95th Queue (m)	15.9	91.7
Link Distance (m)	22.2	74.1
Upstream Blk Time (%)	0	34
Queuing Penalty (veh)	1	285
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B9	WB	SB
Directions Served	LT	T	T	LR
Maximum Queue (m)	60.6	10.5	4.5	11.5
Average Queue (m)	26.1	2.1	0.6	4.9
95th Queue (m)	62.9	17.2	7.8	12.9
Link Distance (m)	51.2	81.6	38.4	
Upstream Blk Time (%)	3		0	
Queuing Penalty (veh)	0		0	
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	38.1	44.1	36.9	30.5	108.3	88.5	11.6	37.3	97.6	22.0	32.6	17.1
Average Queue (m)	27.3	37.6	18.2	9.5	80.2	59.7	4.2	16.7	72.0	17.0	27.9	10.3
95th Queue (m)	43.3	49.0	42.1	31.3	126.7	112.0	18.6	40.1	118.6	25.4	35.0	23.1
Link Distance (m)		38.4	38.4		102.4	102.4	17.8		103.4		22.2	
Upstream Blk Time (%)	1	11	0		8	1	4		6	8	46	0
Queuing Penalty (veh)	0	36	2		0	0	0		0	0	391	0
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	1	11		0	57			0	41	8	50	1
Queuing Penalty (veh)	3	20		0	18			2	22	51	178	4

Intersection: 8: Richmond Rd & Coronation Ave/RJH

Movement	EB	WB	WB	NB	SB	SB
Directions Served	R	L	R	TR	L	TR
Maximum Queue (m)	9.7	14.2	22.5	52.1	26.6	80.2
Average Queue (m)	3.2	7.4	10.5	28.4	6.3	66.5
95th Queue (m)	10.8	16.3	22.4	54.5	22.3	100.2
Link Distance (m)	206.9		43.4	66.3		70.8
Upstream Blk Time (%)			1	0		42
Queuing Penalty (veh)			0	1		0
Storage Bay Dist (m)		10.0			20.0	
Storage Blk Time (%)		26	15		0	47
Queuing Penalty (veh)		17	5		0	8

Intersection: 20: Begbie St & Pembroke St

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 1239

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.1	0.1	1.3	0.0	5.9	0.5	2.3	1.9

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.7	0.7	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	23.2	14.8	10.6	4.1	2.6	1.6	4.6

4: North Access & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.3	1.5	0.3	0.4

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	8.2	3.9	2.4	1.3	55.1	2.4	3.5

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.1	0.0	0.0	0.0	0.0	13.2	15.2	12.0	0.3	0.2	0.1
Total Del/Veh (s)	27.2	16.0	1.2	51.5	34.2	6.7	72.6	72.9	64.2	41.5	24.7	14.2

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	3.2
Total Del/Veh (s)	35.3

Total Zone Performance

Denied Del/Veh (s)	12.7
Total Del/Veh (s)	366.9

Intersection: 2: Birch St & Pembroke St

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	2.7	7.4
Average Queue (m)	0.4	6.1
95th Queue (m)	3.4	9.5
Link Distance (m)		60.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	25.6	12.5	5.0	12.7
Average Queue (m)	15.7	5.8	0.7	3.2
95th Queue (m)	27.2	14.5	10.6	15.8
Link Distance (m)	34.4		112.3	66.3
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	1			
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)		1		
Queuing Penalty (veh)		4		

Intersection: 4: North Access & Pembroke St

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (m)	0.9	3.6
Average Queue (m)	0.1	0.5
95th Queue (m)	1.9	4.0
Link Distance (m)	43.4	34.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B22	SB
Directions Served	LT	T	LR
Maximum Queue (m)	44.2	6.2	9.4
Average Queue (m)	16.0	1.4	4.0
95th Queue (m)	52.8	10.2	11.0
Link Distance (m)	51.2	81.6	
Upstream Blk Time (%)	2		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	36.8	41.8	35.8	26.7	88.0	76.4	3.0	29.0	107.0	32.3	103.0	17.6
Average Queue (m)	20.0	32.2	15.2	8.0	58.2	40.1	0.4	8.5	93.3	27.8	64.4	14.3
95th Queue (m)	39.2	48.9	39.8	28.5	97.3	84.3	5.0	30.7	130.8	38.2	115.7	22.1
Link Distance (m)		38.4	38.4		101.3	101.3	17.8		103.4		112.3	
Upstream Blk Time (%)	1	7	1		1	0	0		33		1	
Queuing Penalty (veh)	0	20	2		0	0	0		0		8	
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	1	7		0	42			0	65	21	31	1
Queuing Penalty (veh)	2	10		0	15			0	14	108	104	4

Zone Summary

Zone wide Queuing Penalty: 292

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.0	0.1	1.8	0.1	4.9	4.1	2.7

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	42.1	16.2	0.0	0.0	0.0	0.0	1.5
Total Del/Veh (s)	65.8	98.9	17.8	4.2	9.4	6.8	12.2

4: North Access & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	27.1	12.4	2.2	0.6	12.8

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	16.6	6.8	2.5	1.4	56.9	7.2	4.9

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	6.0	4.5	2.3	1.0	0.2	0.8
Total Del/Veh (s)	34.8	16.7	1.8	59.9	47.8	9.8	65.2	51.6	44.0	63.1	43.0	29.2

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	39.8

Total Zone Performance

Denied Del/Veh (s)	8.9
Total Del/Veh (s)	523.5

Intersection: 2: Birch St & Pembroke St

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	0.8	0.9	9.3
Average Queue (m)	0.0	0.1	6.6
95th Queue (m)	0.0	1.9	10.3
Link Distance (m)		43.4	60.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	32.9	13.5	4.3	51.5
Average Queue (m)	23.3	6.9	0.9	29.9
95th Queue (m)	41.2	15.6	9.0	77.1
Link Distance (m)	34.4		112.3	66.3
Upstream Blk Time (%)	22			3
Queuing Penalty (veh)	18			28
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)		3	0	
Queuing Penalty (veh)		17	0	

Intersection: 4: North Access & Pembroke St

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (m)	22.1	5.3
Average Queue (m)	6.5	0.7
95th Queue (m)	26.4	4.7
Link Distance (m)	43.4	34.4
Upstream Blk Time (%)	3	
Queuing Penalty (veh)	3	
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B22	SB
Directions Served	LT	T	LR
Maximum Queue (m)	60.7	11.1	10.6
Average Queue (m)	29.7	2.0	4.7
95th Queue (m)	70.1	15.3	11.8
Link Distance (m)	51.2	81.6	
Upstream Blk Time (%)	4		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	37.7	46.9	34.8	26.2	108.8	90.4	8.6	37.4	96.6	32.4	114.6	18.2
Average Queue (m)	26.9	38.4	17.4	8.6	73.8	57.7	2.4	20.2	74.5	28.3	101.1	14.6
95th Queue (m)	44.1	51.3	41.3	29.7	120.2	106.1	13.7	44.0	118.2	40.1	137.5	23.3
Link Distance (m)		38.4	38.4		101.3	101.3	17.8		103.4		112.3	
Upstream Blk Time (%)	4	14	0		6	1	2		11		15	
Queuing Penalty (veh)	0	45	1		0	0	0		0		128	
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	4	14		0	55			0	49	20	48	1
Queuing Penalty (veh)	10	26		0	18			1	28	135	178	10

Zone Summary

Zone wide Queuing Penalty: 646

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	2.5	0.4	1.3	0.1	4.9	3.9	2.4

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	12.1	22.7	0.0	0.0	0.0	0.0	1.5
Total Del/Veh (s)	55.2	43.2	10.3	3.7	6.9	4.5	8.6

4: Site & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.9	0.4
Total Del/Veh (s)	17.8	28.5	1.2	0.3	24.7	8.9

5: Richmond Rd & Birch St Performance by movement

Movement	EBT	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	3.1	17.6	10.5

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	10.0	4.7	2.4	1.1	28.4	11.1	3.8

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.0	0.0	15.9	14.9	19.0	0.4	0.2	0.3
Total Del/Veh (s)	27.2	17.0	1.7	57.7	46.0	9.0	54.7	60.5	51.7	31.9	15.6	5.0

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	3.4
Total Del/Veh (s)	33.1

8: Richmond Rd & Coronation Ave/RJH Performance by movement

Movement	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	4.9	0.1	0.0	0.0	5.6	3.1	1.3	1.9
Total Del/Veh (s)	10.5	38.1	7.7	7.3	6.2	11.3	7.3	2.3	7.7

20: Begbie St & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.2	0.1

Total Network Performance

Denied Del/Veh (s)	5.1
Total Del/Veh (s)	46.5

Intersection: 2: Birch St & Pembroke St

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	2.7	9.6
Average Queue (m)	0.4	5.9
95th Queue (m)	3.4	12.1
Link Distance (m)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	33.3	59.1	45.9
Average Queue (m)	21.0	24.8	17.8
95th Queue (m)	38.3	62.4	56.9
Link Distance (m)	35.9	74.2	66.2
Upstream Blk Time (%)	10	0	3
Queuing Penalty (veh)	7	1	23
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Site & Pembroke St

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	6.6	0.9	16.6
Average Queue (m)	2.5	0.1	7.3
95th Queue (m)	18.5	1.9	18.0
Link Distance (m)	43.5	35.9	29.4
Upstream Blk Time (%)	3		1
Queuing Penalty (veh)	1		0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Richmond Rd & Birch St

Movement	NB	SB
Directions Served	T	TR
Maximum Queue (m)	10.9	75.9
Average Queue (m)	1.6	52.0
95th Queue (m)	9.1	95.6
Link Distance (m)	22.2	74.2
Upstream Blk Time (%)	0	9
Queuing Penalty (veh)	0	66
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B9	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (m)	50.1	6.4	1.6	1.7	10.1
Average Queue (m)	21.5	1.4	0.2	0.2	4.0
95th Queue (m)	57.5	11.8	3.4	3.5	11.5
Link Distance (m)	51.2	81.6	38.4	38.4	
Upstream Blk Time (%)	2				
Queuing Penalty (veh)	0				
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	37.2	44.7	34.7	29.8	96.9	82.6	2.2	24.5	105.9	21.9	32.8	17.4
Average Queue (m)	21.2	35.5	14.0	11.4	69.8	52.4	0.7	6.0	83.9	18.2	27.5	12.4
95th Queue (m)	40.1	49.6	36.7	34.1	114.9	100.1	6.9	24.0	128.4	24.9	34.3	22.7
Link Distance (m)		38.4	38.4		102.4	102.4	17.8		103.4		22.2	
Upstream Blk Time (%)	1	9	0		4	1	0		29	10	33	0
Queuing Penalty (veh)	0	26	1		0	0	0		0	0	238	0
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	1	9			53				55	10	38	1
Queuing Penalty (veh)	1	13			19				12	52	129	4

Intersection: 8: Richmond Rd & Coronation Ave/RJH

Movement	EB	WB	WB	NB	SB	SB
Directions Served	R	L	R	TR	L	TR
Maximum Queue (m)	8.8	8.3	9.7	60.5	24.9	69.9
Average Queue (m)	2.5	2.4	3.7	30.2	10.6	35.6
95th Queue (m)	8.8	9.3	11.1	66.0	24.5	80.2
Link Distance (m)	207.1		43.4	66.2		70.8
Upstream Blk Time (%)				1		4
Queuing Penalty (veh)				4		0
Storage Bay Dist (m)		10.0			20.0	
Storage Blk Time (%)		7	3		0	13
Queuing Penalty (veh)		1	0		0	9

Intersection: 20: Begbie St & Pembroke St

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 607

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	1.2	12.0	0.0	0.0	1.3	0.1	0.7
Total Del/Veh (s)	16.6	0.1	1.8	0.3	13.1	24.8	14.2

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	144.4	118.3	0.0	0.0	0.0	0.0	6.3
Total Del/Veh (s)	169.5	260.1	13.1	5.5	22.0	18.8	23.5

4: Site & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	9.7	1.4
Total Del/Veh (s)	138.7	114.4	1.9	0.4	134.4	68.5

5: Richmond Rd & Birch St Performance by movement

Movement	EBT	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1
Total Del/Veh (s)	0.1	3.3	33.9	19.1

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	13.0	7.1	2.5	1.4	53.2	10.0	5.3

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	4.0	1.9	1.8	0.0	0.0	0.2
Total Del/Veh (s)	31.7	16.0	2.2	65.4	56.0	14.5	54.2	47.1	40.7	33.8	19.3	6.7

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	32.8

8: Richmond Rd & Coronation Ave/RJH Performance by movement

Movement	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	4.1	0.2	0.0	0.0	37.4	21.1	19.7	11.1
Total Del/Veh (s)	23.9	38.5	8.7	7.3	5.3	17.3	24.7	25.7	16.9

20: Begbie St & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.2	0.0

Total Network Performance

Denied Del/Veh (s)	10.5
Total Del/Veh (s)	66.5

Intersection: 2: Birch St & Pembroke St

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	4.0	0.9	17.7
Average Queue (m)	0.7	0.1	7.6
95th Queue (m)	4.8	1.9	18.8
Link Distance (m)	43.5		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	37.5	71.6	69.8
Average Queue (m)	32.7	30.0	60.1
95th Queue (m)	46.7	80.0	89.1
Link Distance (m)	35.9	74.2	66.2
Upstream Blk Time (%)	69	1	13
Queuing Penalty (veh)	56	10	110
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Site & Pembroke St

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	40.1	21.7
Average Queue (m)	20.2	10.8
95th Queue (m)	49.6	26.0
Link Distance (m)	43.5	29.4
Upstream Blk Time (%)	17	9
Queuing Penalty (veh)	11	0
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Richmond Rd & Birch St

Movement	NB	SB
Directions Served	T	TR
Maximum Queue (m)	30.1	78.7
Average Queue (m)	8.6	74.3
95th Queue (m)	28.6	88.2
Link Distance (m)	22.2	74.2
Upstream Blk Time (%)	2	34
Queuing Penalty (veh)	14	291
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B9	SB
Directions Served	LT	T	LR
Maximum Queue (m)	67.4	19.7	11.9
Average Queue (m)	31.4	3.5	5.1
95th Queue (m)	72.1	20.9	13.6
Link Distance (m)	51.2	81.6	
Upstream Blk Time (%)	5		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	37.7	45.4	37.8	24.4	106.2	89.8	11.2	35.2	97.3	22.4	32.2	17.8
Average Queue (m)	25.8	37.9	16.7	9.3	79.4	61.9	4.7	13.7	70.6	17.3	27.6	12.1
95th Queue (m)	41.6	51.3	42.4	31.4	133.0	114.2	19.3	35.4	120.7	24.7	33.3	24.4
Link Distance (m)		38.4	38.4		102.4	102.4	17.8		103.4		22.2	
Upstream Blk Time (%)	2	12	1		13	1	7		8	7	47	0
Queuing Penalty (veh)	0	39	2		0	0	0		0	0	404	0
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	2	12		0	56			1	42	7	52	2
Queuing Penalty (veh)	4	23		0	18			2	24	48	194	13

Intersection: 8: Richmond Rd & Coronation Ave/RJH

Movement	EB	WB	WB	NB	SB	SB
Directions Served	R	L	R	TR	L	TR
Maximum Queue (m)	9.5	14.7	17.3	65.5	15.4	81.4
Average Queue (m)	2.3	7.8	10.1	35.9	2.8	65.9
95th Queue (m)	9.5	17.2	17.8	71.3	12.6	100.5
Link Distance (m)	207.1		43.4	66.2		70.8
Upstream Blk Time (%)				1		36
Queuing Penalty (veh)				7		0
Storage Bay Dist (m)		10.0			20.0	
Storage Blk Time (%)		28	14		0	45
Queuing Penalty (veh)		18	5		0	8

Intersection: 20: Begbie St & Pembroke St

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 1301

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0		0.0	0.0
Total Del/Veh (s)	1.0	0.1	1.2	0.2	5.7		2.8	2.3

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.4	1.4	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	37.1	18.9	13.2	4.1	3.6	2.2	5.5

4: Site & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.1	1.6	0.3	0.4

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	9.5	4.2	2.5	1.2	33.5	7.6	3.6

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.8	0.9	0.4	0.1	0.1
Total Del/Veh (s)	28.6	19.8	2.3	81.8	57.9	12.0	34.6	38.9	32.9	35.8	21.2	13.0

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	33.6

8: Richmond Rd & Coronation Ave/RJH Performance by movement

Movement	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	3.8	0.1	0.0	0.0	3.1	1.0	0.6	0.7
Total Del/Veh (s)	7.3	26.4	5.8	4.5	3.8	7.8	5.5	2.4	5.3

9: Birch St & South Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1
Total Del/Veh (s)	1.8	0.9	0.1	0.8

20: Begbie St & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.4	0.1

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	38.5

Intersection: 2: Birch St & Pembroke St

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	0.9	8.8
Average Queue (m)	0.1	6.2
95th Queue (m)	1.9	10.4
Link Distance (m)		67.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	28.7	15.2	31.2	32.8
Average Queue (m)	17.5	7.3	8.1	12.5
95th Queue (m)	30.3	16.8	36.4	36.9
Link Distance (m)	34.4		112.3	66.3
Upstream Blk Time (%)	1			0
Queuing Penalty (veh)	1			0
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)		2	2	
Queuing Penalty (veh)		10	1	

Intersection: 4: Site & Pembroke St

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (m)	1.8	3.7
Average Queue (m)	0.3	0.7
95th Queue (m)	2.8	4.6
Link Distance (m)	43.3	34.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B18	SB
Directions Served	LT	T	LR
Maximum Queue (m)	48.0	1.8	10.1
Average Queue (m)	19.6	0.5	3.5
95th Queue (m)	50.9	4.8	11.0
Link Distance (m)	51.2	81.6	
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	34.7	40.5	35.8	31.9	107.4	90.7	12.9	22.0	93.2	32.3	95.5	17.2
Average Queue (m)	19.6	34.1	13.9	11.0	78.0	58.7	2.6	5.5	61.8	26.9	59.4	11.2
95th Queue (m)	37.6	48.2	37.4	34.5	122.7	105.1	13.8	23.6	104.9	39.1	107.0	22.4
Link Distance (m)		38.4	38.4		101.3	101.3	17.8		103.4		112.3	
Upstream Blk Time (%)	0	8	0		7	0	2		3		0	
Queuing Penalty (veh)	0	23	1		0	0	0		0		2	
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	0	8		0	62				40	19	29	1
Queuing Penalty (veh)	0	11		0	22				9	99	97	6

Intersection: 8: Richmond Rd & Coronation Ave/RJH

Movement	EB	WB	WB	NB	SB	SB
Directions Served	R	L	R	TR	L	TR
Maximum Queue (m)	7.7	8.6	9.0	47.2	17.6	70.8
Average Queue (m)	2.5	2.9	3.0	21.9	8.8	35.7
95th Queue (m)	8.7	9.8	9.8	47.9	19.0	77.2
Link Distance (m)	206.9		43.4	66.3		70.8
Upstream Blk Time (%)				0		1
Queuing Penalty (veh)				1		0
Storage Bay Dist (m)		10.0			20.0	
Storage Blk Time (%)		8	2		0	10
Queuing Penalty (veh)		1	0		1	6

Intersection: 9: Birch St & South Access

Movement	WB
Directions Served	LR
Maximum Queue (m)	10.8
Average Queue (m)	5.6
95th Queue (m)	13.2
Link Distance (m)	9.9
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 20: Begbie St & Pembroke St

Movement	
Directions Served	
Maximum Queue (m)	
Average Queue (m)	
95th Queue (m)	
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 292

2: Birch St & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.9	0.1	1.7	0.0	4.6	3.5	2.4

3: Richmond Rd & Pembroke St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	3.0	2.2	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	34.6	30.0	23.6	6.5	9.8	7.1	10.2

4: Site & Pembroke St Performance by movement

Movement	EBT	EBR	WBL	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.5	0.3	2.2	0.5	1.2

6: Fort St & Ashgrove St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	14.1	7.7	2.4	1.2	75.4	68.0	6.0

7: Richmond Rd & Fort St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	5.0	2.2	1.8	1.3	0.4	0.0
Total Del/Veh (s)	35.8	17.7	1.8	65.5	52.0	12.6	55.7	42.7	37.0	54.9	36.5	25.2

7: Richmond Rd & Fort St Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	37.1

8: Richmond Rd & Coronation Ave/RJH Performance by movement

Movement	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	4.0	0.3	0.0	0.0	5.2	4.1	4.3	2.2
Total Del/Veh (s)	9.0	35.4	9.2	7.2	6.0	15.1	11.8	8.2	10.3

9: Birch St & South Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1
Total Del/Veh (s)	3.0	0.9	0.2	1.1

20: Begbie St & Pembroke St Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.4	0.1

Total Network Performance

Denied Del/Veh (s)	3.3
Total Del/Veh (s)	49.0

Intersection: 2: Birch St & Pembroke St

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	1.8	0.9	11.3
Average Queue (m)	0.1	0.0	6.9
95th Queue (m)	1.9	0.0	11.5
Link Distance (m)		43.3	67.5
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Richmond Rd & Pembroke St

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	31.4	14.3	54.7	61.3
Average Queue (m)	20.0	6.9	24.0	33.6
95th Queue (m)	34.2	16.6	57.5	78.5
Link Distance (m)	34.4		112.3	66.3
Upstream Blk Time (%)	3			4
Queuing Penalty (veh)	2			33
Storage Bay Dist (m)		15.0		
Storage Blk Time (%)		4	9	
Queuing Penalty (veh)		24	4	

Intersection: 4: Site & Pembroke St

Movement	EB	WB
Directions Served	TR	LT
Maximum Queue (m)	3.3	7.0
Average Queue (m)	0.6	0.9
95th Queue (m)	4.7	5.8
Link Distance (m)	43.3	34.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Fort St & Ashgrove St

Movement	EB	B18	SB
Directions Served	LT	T	LR
Maximum Queue (m)	65.4	11.6	15.0
Average Queue (m)	32.0	2.1	6.7
95th Queue (m)	74.7	12.5	22.3
Link Distance (m)	51.2	81.6	
Upstream Blk Time (%)	5		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Richmond Rd & Fort St

Movement	EB	EB	EB	WB	WB	WB	B10	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	T	R
Maximum Queue (m)	37.6	45.2	36.1	29.2	101.6	85.5	5.6	33.9	99.9	32.3	115.8	17.5
Average Queue (m)	26.3	37.9	13.0	7.0	78.2	54.7	2.7	15.7	71.2	27.4	89.7	13.1
95th Queue (m)	42.8	49.6	36.6	28.0	124.9	111.8	14.6	37.4	113.9	40.4	142.8	22.9
Link Distance (m)		38.4	38.4		101.3	101.3	17.8		103.4		112.3	
Upstream Blk Time (%)	2	16	0		10	1	8		7		9	
Queuing Penalty (veh)	0	54	1		0	0	0		0		80	
Storage Bay Dist (m)	45.0			25.0				30.0		25.0		10.0
Storage Blk Time (%)	2	16		0	55			1	41	20	44	1
Queuing Penalty (veh)	5	31		0	18			4	24	130	163	7

Intersection: 8: Richmond Rd & Coronation Ave/RJH

Movement	EB	WB	WB	NB	SB	SB
Directions Served	R	L	R	TR	L	TR
Maximum Queue (m)	8.5	15.5	18.5	54.8	18.2	75.3
Average Queue (m)	2.9	8.6	9.9	35.9	5.6	55.1
95th Queue (m)	9.8	18.2	19.4	63.2	18.7	88.9
Link Distance (m)	206.9		43.4	66.3		70.8
Upstream Blk Time (%)				0		10
Queuing Penalty (veh)				2		0
Storage Bay Dist (m)		10.0			20.0	
Storage Blk Time (%)		29	15		0	24
Queuing Penalty (veh)		19	5		0	4

Intersection: 9: Birch St & South Access

Movement	WB
----------	----

Directions Served	LR
-------------------	----

Maximum Queue (m)	10.2
-------------------	------

Average Queue (m)	5.2
-------------------	-----

95th Queue (m)	12.8
----------------	------

Link Distance (m)	9.9
-------------------	-----

Upstream Blk Time (%)	2
-----------------------	---

Queuing Penalty (veh)	0
-----------------------	---

Storage Bay Dist (m)	
----------------------	--

Storage Blk Time (%)	
----------------------	--

Queuing Penalty (veh)	
-----------------------	--

Intersection: 20: Begbie St & Pembroke St

Movement

Directions Served

Maximum Queue (m)

Average Queue (m)

95th Queue (m)

Link Distance (m)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (m)

Storage Blk Time (%)

Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 608

*The attached information is provided to support the agency's review process
and shall not be distributed to other parties without written consent from
Bunt & Associates Engineering Ltd.*

APPENDIX D

Swept Path Analysis

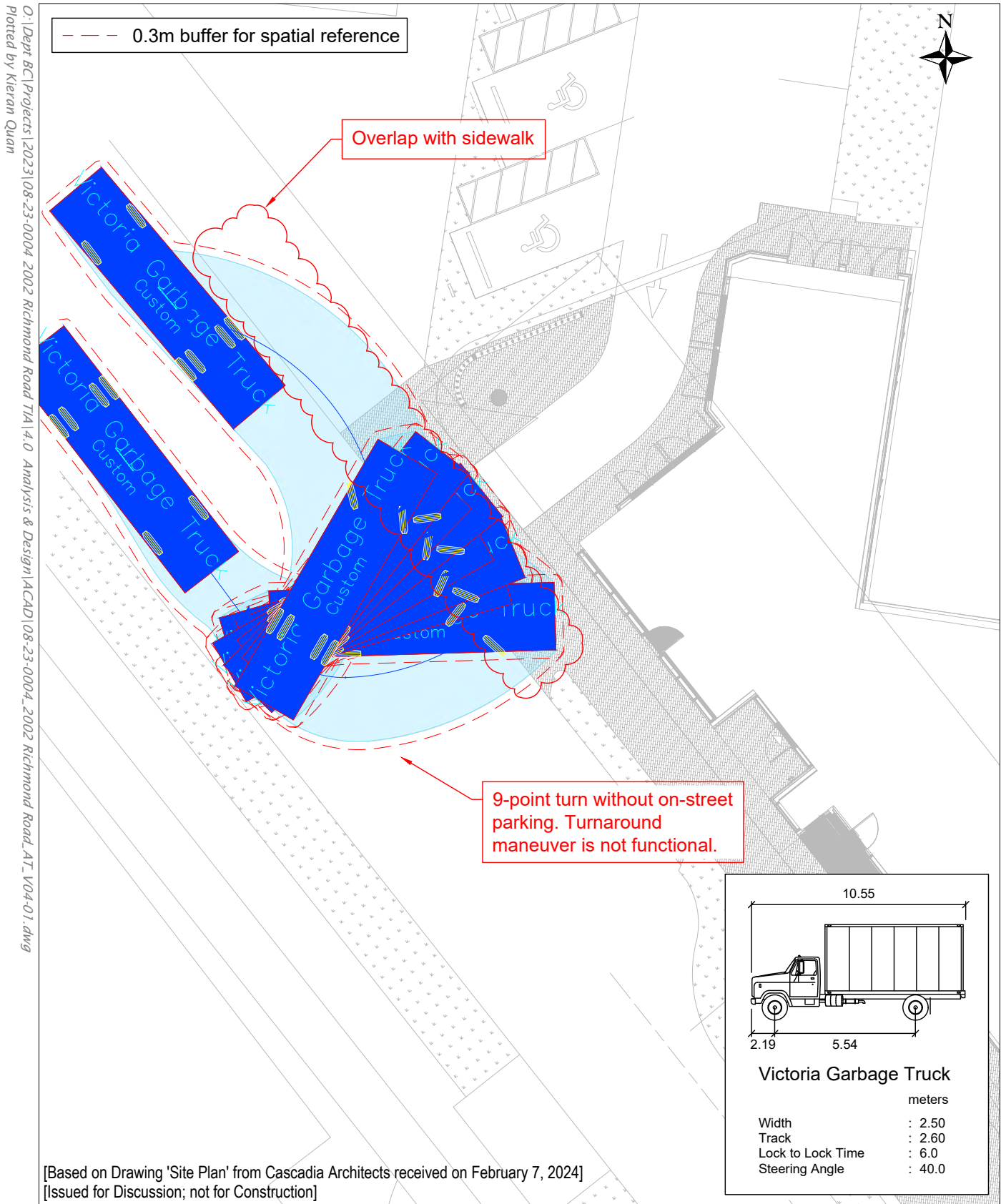


Exhibit D.1a Waste Collection Turnaround - Birch Street

08-23-0004

February 2024

2002 Richmond Road
Scale 1:200 on Letter Prepared by KQ



O:\Dept BC\Projects\2023\08-23-0004_2002 Richmond Road TIA\4.0_Analysis & Design\ACAD\08-23-0004_2002 Richmond Road_AT_V04-01.dwg
 Plotted by Kieran Quan

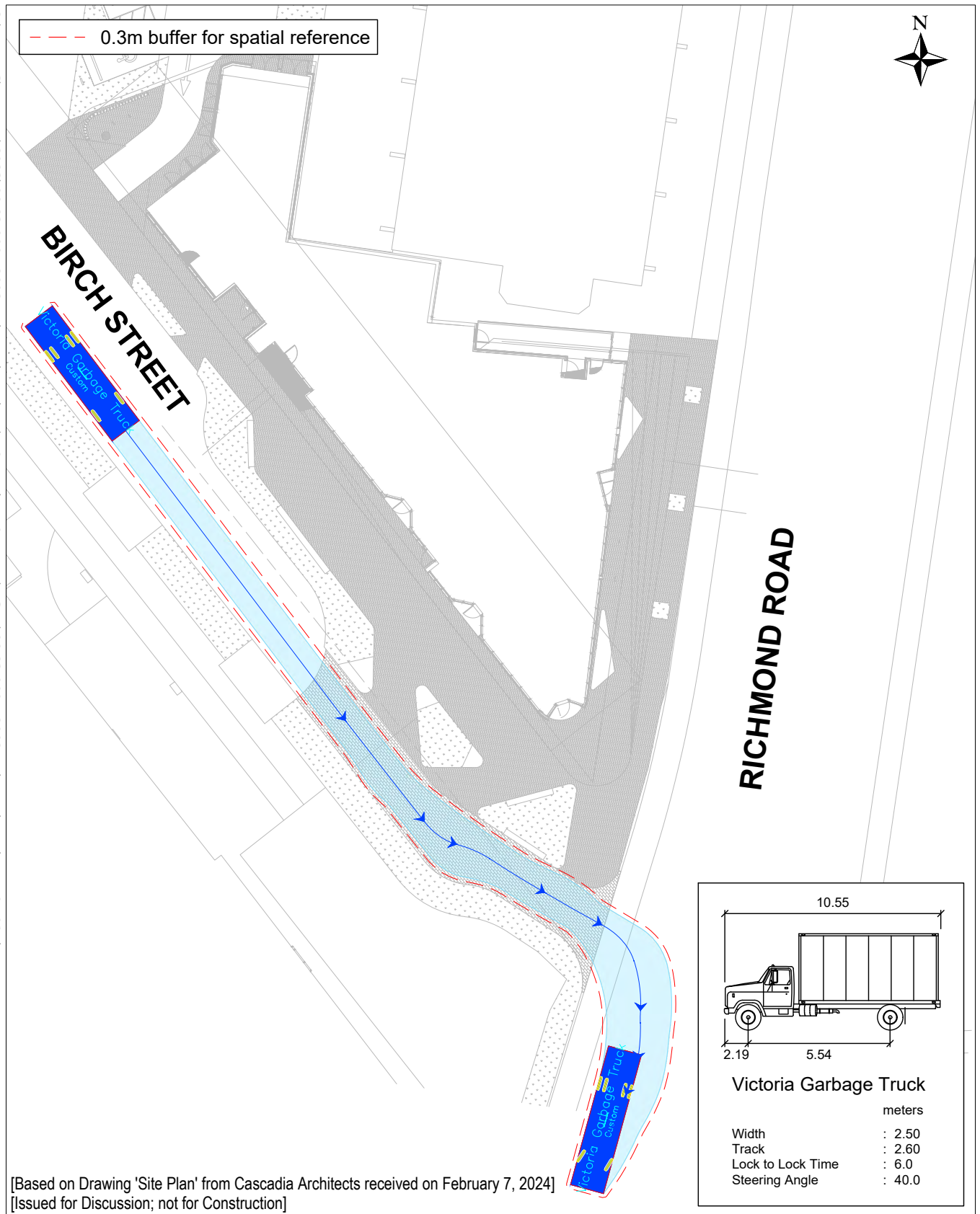


Exhibit D.1b Waste Collection via Proposed Plaza

08-23-0004

February 2024

2002 Richmond Road
 Scale 1:400 on Letter Prepared by KQ



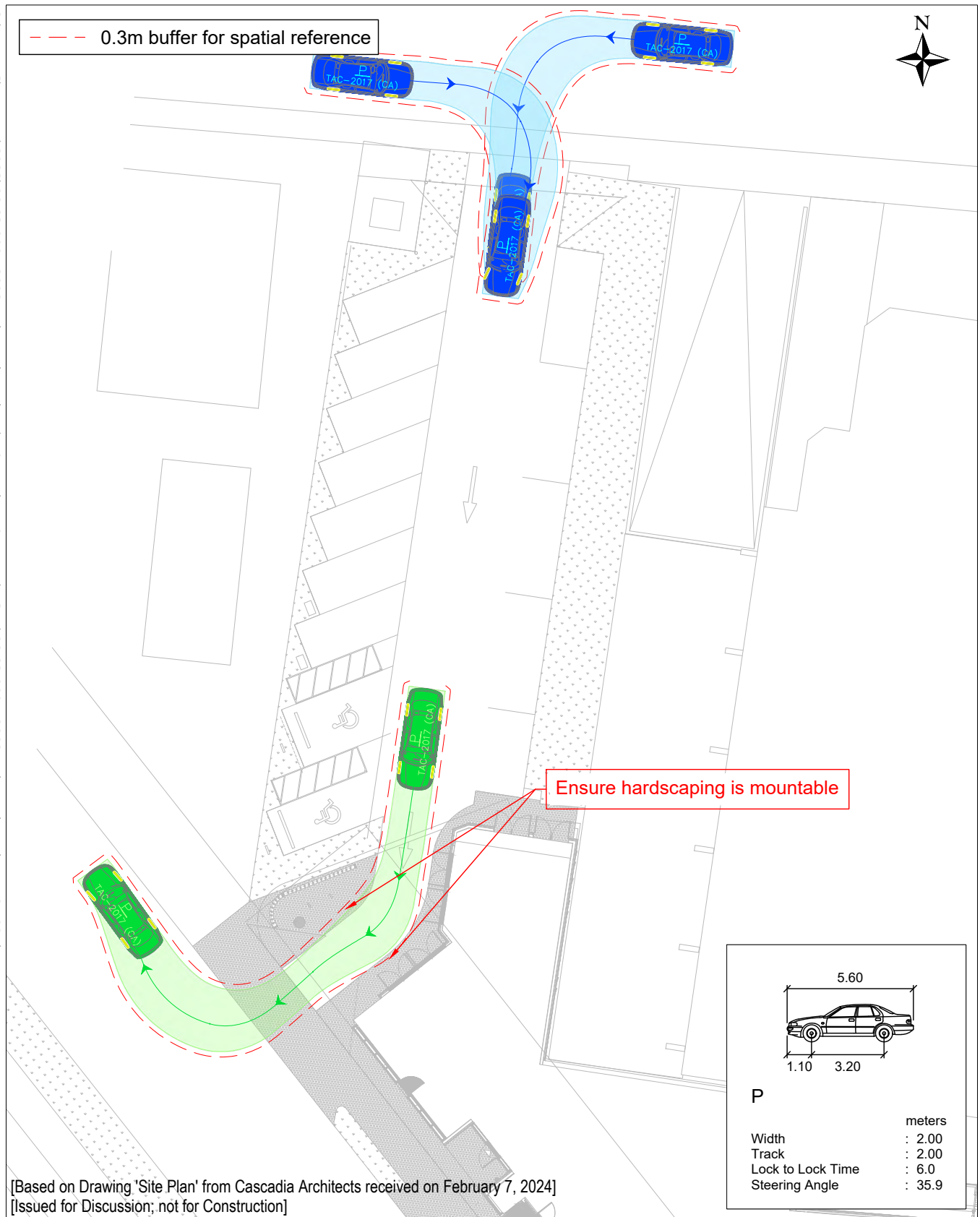


Exhibit D.2 Passenger Vehicle Circulation



O:\Dept BC\Projects\2023\08-23-0004 2002 Richmond Road TIA\4.0 Analysis & Design\ACAD\08-23-0004_2002 Richmond Road_AT_V04-01.dwg
Plotted by Kieran Quan



Exhibit D.3 Passenger Vehicle Parking - Inbound

08-23-0004

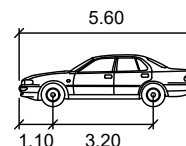
February 2024

2002 Richmond Road
Scale 1:300 on Letter Prepared by KQ



O:\Dept BC\Projects\2023\08-23-0004_2002 Richmond Road TIA\4.0 Analysis & Design\ACAD\08-23-0004_2002 Richmond Road_AT_V04-01.dwg
 Plotted by Kieran Quan

--- 0.3m buffer for spatial reference



P	metres
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

[Based on Drawing 'Site Plan' from Cascadia Architects received on February 7, 2024]
 [Issued for Discussion; not for Construction]

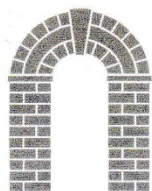
Exhibit D.4 Passenger Vehicle Parking - Outbound

08-23-0004

February 2024

2002 Richmond Road
 Scale 1:300 on Letter Prepared by KQ





North Jubilee
Neighbourhood
Association

October 9, 2023

Mayor Marianne Alto and Victoria City Councillors
1 Centennial Square
Victoria, BC V8W 1P6

Re: CALUC: 1909 Birch Street, 1769 Pembroke Street, 2002 Richmond Road

Mayor Alto and Victoria City Councillors,

On September 13, 2023 North Jubilee Neighbourhood Association (NJNA) Land Use Committee held a CALUC meeting to provide residents the opportunity to hear, discuss, and provide feedback to the proponent's application for rezoning at the addresses above. Empresa Properties, in conjunction with Cascadia Architects, and Biophilia Design Collective presented their application. This letter provides a summary of concerns, comments, and questions from NJNA and area residents.

There were 40 people in attendance. The proponent provided an approximately hour-long slide show, with descriptions and commentary provided by representatives from Cascadia and Biophilia. Comments were additionally provided by a traffic planner on Empresa's behalf. Following the slide show, residents were provided an opportunity for comment.

Two pre-CALUC information events were held - with NJNA LUC on May 30, 2023 and with NJ residents on June 27, 2023.

Overview of proposal

For this proposal, the existing Turner building will need to be demolished – it has been deemed too unsafe for remediation. The plans are for a 6-storey, market-rate, 55-unit rental complex with retail and restaurant space on the ground floor. Empresa representative, Karl Robertson, presented a synopsis of his vision to create a more vibrant and people-focused community village corner, that attempts to minimize the currently traffic-focused width of the intersection. City planners and the proponent are exploring closing off part of Birch Street to create a public realm. This space would alternatively be used as a market with outdoor food stalls and plantings enhancing the people-focused aspect.

Summary of questions and comments from those in attendance

- **Greenspace:** Q. With the unusual lot configuration and site coverage, will there be enough green space to catch water running off the building. *A. There are plans for rainwater catchment management.*
- **Bicycle parking:** Q. The bike lock design does not look secure. Are there enough bike parking spots. *A. Planning on 50. Photo of locked bike parking was just a sample. Will be modified from slide show example.*
- **Parking:** Q. Will the parking lot be permeable and made to look attractive with trees of significant height to mask the surface parking lot. *A. Yes, the parking will be permeable and tree screenage provided to mask the lot.* Q. 16 spots is not enough parking for 55 units, plus commercial visitors. If 16 spots are further reduced by one Modo spot, there will be even less. Why not underground parking. How will clients and staff of the commercial restaurants find parking. *A. Due to the building site's unusual configuration, it is not possible at this time to provide underground parking. It's felt that due to the location and availability of only limited parking, tenants with no cars or car-lite lifestyles will naturally be attracted to the building. Public transportation is convenient at this location. Bicycle travel will be encouraged. There is discussion with owners of the next-door medical building about ability to use their unfilled underground parking units.*
- **Birch Street plaza:** Q. How do emergency, garbage and delivery vehicles access Amica and Turner building via Birch. *A. There is a rollover curb which would inhibit car traffic but allow these vehicles access.* What about increased traffic on Ashgrove caused by commercial traffic and tenants. Ashgrove will see a great increase in vehicle traffic in spite of the fact that left turns would still be illegal since this happens currently. *A. Cars exiting the parking lot would exit at the Pembroke/Richmond intersection. This intersection is currently nearing the stage where delays are too long. There is discussion with City traffic planners about the need for this intersection to be enhanced with traffic lights.*
- **Existing Turner building:** Q. Can it be demolished before building constructions starts. *A. Due to strict requirements for remediation, the cost is too prohibitive until proposal has been approved and sale is finalized.*
- **Property values in neighbourhood:** Q. What will this project do to property values in neighbourhood? *A. Not sure, but due to the challenging shape of the site, the project will only be able to provide 1, 2 unit and bachelor suites at market rates.*

Final comments

There did not appear to be strong criticism of the proposal. Many comments were positive or asking for further information. There was relief expressed that the derelict Turner building might finally be addressed.

The greatest concern centred on the question of traffic flow, volume, and parking with consequences for liveability on tiny residential Ashgrove Street. The congested nature of Begbie, Pembroke and Birch all converging onto busy Richmond will make Ashgrove look like a convenient escape for higher density traffic. Ashgrove is not designed to take high volume and residents value the quiet nature of their current street.

This proponent has been highly engaged with the community from the start, and is the first applicant in memory to respond to the lack of amenities that North Jubilee residents experience. Overall, the public seemed pleased with the building's appearance and public realm enhancements that could mark an "entrance" to the North Jubilee neighbourhood.

Sincerely,

North Jubilee Neighbourhood Assoc. LUC

cc:

Chelsea Medd, City of Victoria Planning

Karl Richardson, Empresa Properties

Greg Damant, Cascadia Architect

Marg Gardiner, Councillor

Survey Responses

2002 Richmond Road, 1909 Birch Street
and 1769 Pembroke Street

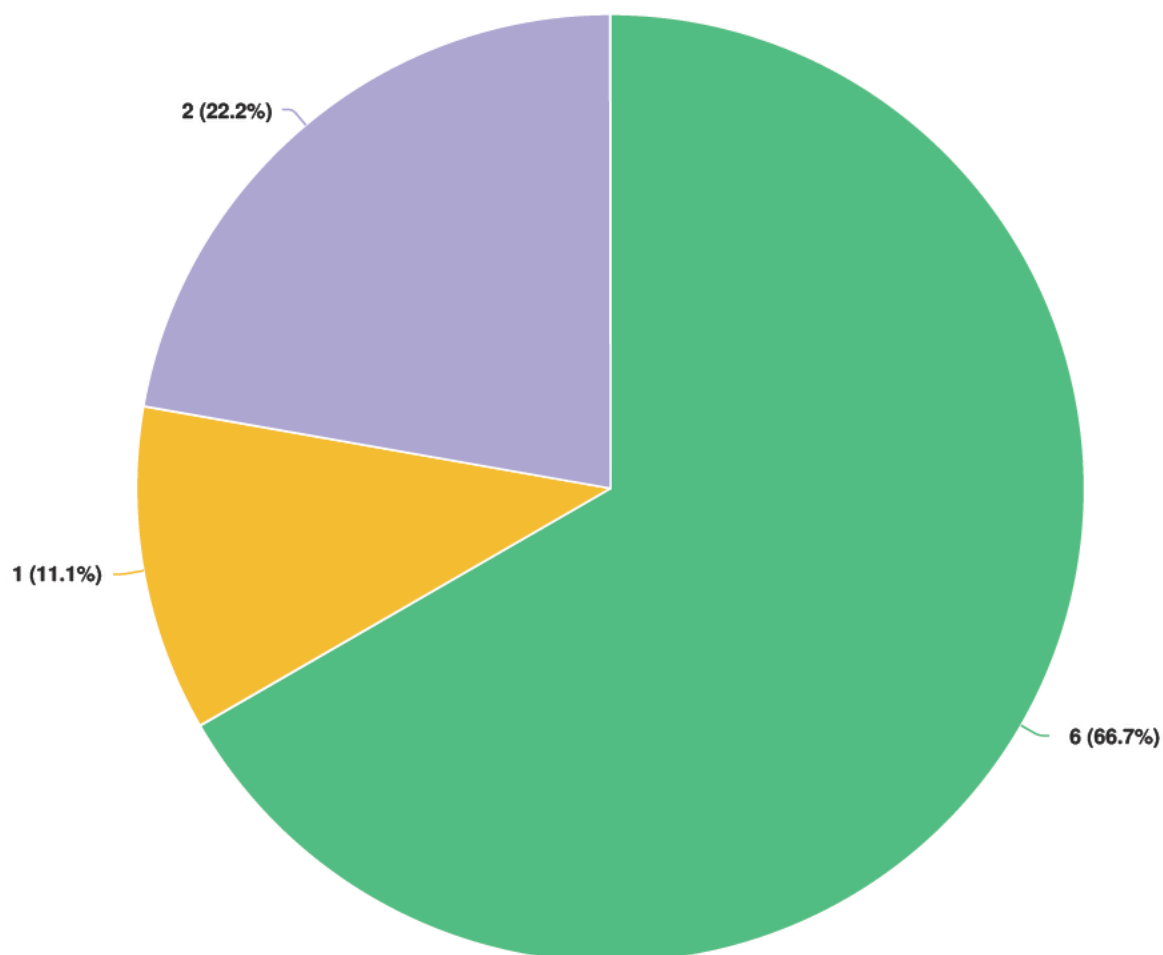
Have Your Say

Project: 2002 Richmond Road, 1909 Birch Street and 1769 Pembroke Street



VISITORS					
9					
CONTRIBUTORS			RESPONSES		
8			9		
0	0	8	0	0	9
Registered	Unverified	Anonymous	Registered	Unverified	Anonymous

Q1 What is your position on this proposal?



Question options

Support Oppose Other (please specify)

Mandatory Question (9 response(s))

Note: Participants may submit multiple responses. See detailed feedback in the following pages.



Respondent No: 1
Login: Anonymous

Responded At: Aug 30, 2023 20:12:35 pm
Last Seen: Aug 30, 2023 20:12:35 pm

Q1. What is your position on this proposal? Support

Q2. Comments (optional)

This is an excellent location for desperately needed housing density, as well as commercial space. Many people who live here will be able to leverage the cycling and transit connections and nearby businesses to unburden themselves of car ownership.

Q3. Your Full Name Julias Housing

Q4. Your Street Address 2637 Mt Stephen Ave

Q5. Your email address (optional)



Respondent No: 2
Login: Anonymous

Responded At: Sep 01, 2023 14:14:44 pm
Last Seen: Sep 01, 2023 14:14:44 pm

Q1. What is your position on this proposal? Support

Q2. Comments (optional)

I'm so excited to see this proposal. The site has long been a rotting eyesore, and a draw for vandalism and pests. It detracts from the area, and makes it feel unsafe due to the constant tagging. I believe rebuilding will be a very positive move for the area and residents alike. The sooner, the better!

Q3. Your Full Name Laurie Farkas

Q4. Your Street Address 1745 Leighton Rd

Q5. Your email address (optional)



Respondent No: 3
Login: Anonymous

Responded At: Sep 02, 2023 13:02:43 pm
Last Seen: Sep 02, 2023 13:02:43 pm

Q1. What is your position on this proposal? Support

Q2. Comments (optional)

I whole heartedly support this project.....firstly to get rid of the infested old Turner eyesore that should have been removed years ago!!! I very much like the idea of the closing off of Birch Street and the development of a plaza and hopefully with the right kind of tenant that the corner can develop a social life of it's own that will become more of a village centre. I also think that the rain gardens are important in the context of protecting Bowker Creek as much as possible. One thing that is not obvious to me on the plans is that the parking lot seems to be impermeable with no clear indication of there being rain gardens to catch and absorb the huge runoff that will occur in the winter.....I think it is critical that changes be made to indicate that the parking lot should be cambered and have a rain garden at each side to accumulate all of that runoff rather than going into the storm drains. The only other observation is the photograph that shows a bike stand made out of concrete with no obvious place to chain up to, I am going to assume that this a stock photo and not what is being proposed as it seems to be totally impractical and useless occupying a lot of space. Hopefully this project can get through the permitting process quickly so construction can start forthwith to assist with the housing crisis. Maybe this project will be the stimulus for Richmond /Fort beginning to become a village centre with further project to come.

Q3. Your Full Name Denis Farling

Q4. Your Street Address #110-1655 Begbie Street

Q5. Your email address (optional)



Respondent No: 4

Login: Anonymous

Responded At: Sep 07, 2023 09:59:05 am

Last Seen: Sep 07, 2023 09:59:05 am

Q1. What is your position on this proposal?

Other (please specify)

Something has to go there but not this proposal as it stands.

Q2. Comments (optional)

I'm not experienced reading drawings but as far as I can see, there is no parking and no secure bike storage. I would like to see 3 bedroom apartments. If the missing middle can't afford houses, then they need to be able to raise a family in rental accommodation. The neighbourhood doesn't need revitalizing. Between that corner and Foul Bay Road there are at least 5 pharmacies, 5 restaurants, an optometrist, 2 medical buildings and a grocery store on Fort. Not to mention the coffee shop and the pub in the other direction. The Amica building throws a lot of shade, I know since I have walked down Birch twice since this came to my attention. I loathe the idea of a plaza - mostly they turn into grim dirty empty eyesores. And what sort of businesses will go on the ground floor? Be daring - a bit of parking and bike storage on the ground, a whole building of 3 bedroom apartments going no higher than a further 3 stories. Having said all that, I think the general shape of the proposed building takes advantage of the lot in a positive way.

Q3. Your Full Name

Susan Robinson

Q4. Your Street Address

101 - 2211 Shelbourne St.

Q5. Your email address (optional)



Respondent No: 5
Login: Anonymous

Responded At: Sep 10, 2023 13:15:39 pm
Last Seen: Sep 10, 2023 13:15:39 pm

Q1. What is your position on this proposal?

Other (please specify)

Support with appropriate parking!

Q2. Comments (optional)

According to the Proposed Development Notice, there is only 16 surface parking stalls. There should be enough parking for the businesses AND their staff AND visitors to the buildings. I am assuming there is proposed underground parking but it is not mentioned. With 55 units, there should be enough parking spots for each studio unit and two parking spots for each 1 and 2 bedroom units. The units only need to come with one spot, but there should be additional spots to purchase/rent. The streets in this area already very congested and there is very limited parking available.

Q3. Your Full Name

JoleneMacKinnon

Q4. Your Street Address

1655 Begbie Street, Victoria V8R 1L3

Q5. Your email address (optional)



Respondent No: 6
Login: Anonymous

Responded At: Sep 15, 2023 11:00:06 am
Last Seen: Sep 15, 2023 11:00:06 am

Q1. What is your position on this proposal? Support

Q2. Comments (optional)

Re: 2002 Richmond / Turner Site I am writing to provide my views on green infrastructure / nature-based solutions aspects of the proposed 2002 Richmond Street Turner Site. I live in South Jubilee and was unable to attend the 13.9.23 CALUC meeting so some of this may have been addressed. Overall, green infrastructure aspects of this development, some of which are noted on the Biophilia Materials Plan, need to be understood within the context of an increasingly disrupted and rapidly changing climate. With this in mind, I propose for consideration principles, goals and approaches for green infrastructure at this site, and potentially others. Principles Any green infrastructure amenities at 2002 Richmond should: - Be understood as part of the development of an overall, resilient infrastructure system, not as disconnected measures on an individual site. - Maximise not one, but multiple outcomes (examples could include heat island effect, biodiversity, aquifer recharge, stormwater management) - Establish quantitative performance measures and be designed to meet these. - Take a whole-of-site approach that ensures all measures cumulatively contribute to goals. As examples (a) the Turner building roof could be considered as part of the site's green infrastructure and (b) the site could also contemplate run-off from the road and other possible linkages to the watershed within which it exists - Contemplate soil quantity, quality and maintenance sufficient to meet goals Goals & targets - Performance measures should be ambitious and contemplate future climate scenarios. An obvious, measurable goal could be that the site can absorb all rainfall up to (e.g.) a 1:1000 year event. - Monitoring should occur to ensure that goals are met. Approaches that could be contemplated - A blue-green roof that stores water during dry months. A regional example can found at BCIT, the site of which notes that these can improve on green roofs through "enhanced water detention and retention that regulate peak storm water flows and enable extended passive capillary irrigation." <https://commons.bcit.ca/nbs/connected-blue-green-roof/> - Stormwater tree trenches or other measures that absorb street run-off and thus extend site benefits. Regional examples may be found in North Vancouver and Vancouver. - Permeable pavement Thank you for considering these views.

Q3. Your Full Name Roy Brooke

Q4. Your Street Address 1743 Davie Street

Q5. Your email address (optional)



Respondent No: 7
Login: Anonymous

Responded At: Sep 15, 2023 13:33:23 pm
Last Seen: Sep 15, 2023 13:33:23 pm

Q1. What is your position on this proposal?

Support

Q2. Comments (optional)

I WOULD LIKE TO AMMEND MY PREVIOUSLY-SUBMITTED COMMENTS AS WITH A COUPLE MORE DETAILS - PLEASE SEE BELOW AND IGNORE EARLIER VERSION. Re: 2002 Richmond / Turner Site I am writing to provide my views on green infrastructure / nature-based solutions aspects of the proposed 2002 Richmond Street Turner Site. I live in South Jubilee and was unable to attend the 13.9.23 CALUC meeting. Overall, green infrastructure aspects of this development, some of which are noted on the Biophilia Materials Plan, need to be understood within the context of an increasingly disrupted and rapidly changing climate. With this in mind, I propose for consideration principles, goals and approaches for green infrastructure at this site, and potentially others. **PRINCIPLES.** Any green infrastructure amenities at 2002 Richmond should: - Be understood as part of the development of an overall, resilient infrastructure system, not as disconnected measures on an individual site. - Maximise not one, but multiple outcomes (examples could include heat island effect, biodiversity, aquifer recharge, stormwater management) - Have established, quantitative performance measures and be designed to meet these. - Take a whole-of-site approach that ensures all measures cumulatively contribute to goals. As examples (a) the Turner building roof could be considered as part of the site's green infrastructure and (b) the site could also contemplate run-off from the road and other possible linkages to the watershed within which it exists - Contemplate soil quantity and quality sufficient to meet goals **GOALS AND TARGETS** - Performance measures should be ambitious and contemplate future climate scenarios. An obvious, measurable goal could be that the site can absorb all rainfall up to a given level. You could use a 48mm/day capture target (which would mean all storm events up to 48mm would be diverted from stormwater system through infiltration, evaporation or evapotranspiration), subject to feasibility through geotechnical engineering assessments. 48mm is a target in Vancouver for public spaces in the right of way. - Monitoring should occur to ensure that goals are met. **POSSIBLE APPROACHES** - A blue-green roof that stores water during dry months. A regional example can found at BCIT, the site of which notes that these can improve on green roofs through "enhanced water detention and retention that regulate peak storm water flows and enable extended passive capillary irrigation." <https://commons.bcit.ca/nbs/connected-blue-green-roof/> - Stormwater tree trenches or other measures on the 2002 Richmond site and right of way that absorb street run-off and thus extend site benefits. Regional examples may be found in North Vancouver. - Where the ground is particularly rocky, measures may needs to focus more on evaporation and evapotranspiration; blue-green roof can be excellent in this circumstance. In the Netherlands, blue-green roofs are being designed to manage up to 150 mm of rainfall per day. - Permeable pavement on-site

Q3. Your Full Name

Roy Brooke

Q4. Your Street Address

1743 Davie Street

Q5. Your email address (optional)

**Respondent No:** 8**Login:** Anonymous**Responded At:** Sep 18, 2023 20:59:13 pm**Last Seen:** Sep 18, 2023 20:59:13 pm**Q1. What is your position on this proposal?**

Support

Q2. Comments (optional)

Our family owns the two houses immediately next-door to (1909 Birch and 1769 Pembroke) the proposed parking lot of this development project. In general, we support the development project that Empresa is putting forth. By maximizing the use of the odd-shaped land properties, the project will provide much-needed housing near the medical area as well as creating a meeting place in the street plaza that may be enjoyed by the seniors and their families visiting Amica Living (new building). The proposed limited car parking space makes one think that the parking space could instead be used further for more bicycles and e-scooters. The City of Victoria and Empresa are leading the green movement with these 55 housing units geared toward rental use, minimizing car parking and promoting walking, transit and cycle use. Because the area is a Quiet Zone (Large Hospital and Seniors Centre), it is better for quality of living if car parking was kept to a minimum (~10 spaces). As neighbours owning the two houses on the western property line of the proposed project, we are not in favour of the proposed setback being reduced to only 0.6 metres from the current 3 metres setback from our property line. We kindly ask Empresa to build a solid 6' cedar fence on the current property line between us at 1911 Birch/1761 Pembroke and 1909 Birch/1769 Pembroke as a way to keep the noise and privacy of our two houses from the construction/future parking. In addition, as their project gets completed, Empresa should install a safety concrete abutment to keep cars from accidentally running into our yard where kids play. In summary, we don't want cars parking 0.6 metres from our property line (please keep it at 3 metres away). And we request to have a 6' cedar fence built at the expense of the developer, before the project starts to keep the noise and privacy to a reasonable level. A cement safety curb to keep cars from entering our yard is needed before new parking space opens up. Overall, we support the proposal, with these minor provisions added.

Q3. Your Full Name

Jason Mann

Q4. Your Street Address

1761 Pembroke Street and 1911 Birch Street

Q5. Your email address (optional)



Respondent No: 9
Login: Anonymous

Responded At: Sep 23, 2023 18:46:58 pm
Last Seen: Sep 23, 2023 18:46:58 pm

Q1. What is your position on this proposal? Oppose

Q2. Comments (optional)

This proposal asks for nearly 150% of the approved density (2:1) in an area that is already experiencing a large development on the other side of Birch Street (which has a proposed second phase of development). There is not sufficient consideration for vehicle parking (already a problem) or the relatively huge increase in neighborhood population. Further, it is suggested the Turner building be demolished mechanically despite acknowledged hazardous conditions in the engineering report.

Q3. Your Full Name Jen Pape

Q4. Your Street Address 1911 Birch Street

Q5. Your email address (optional) not answered

Monica Dhawan

From: Brian McKee <2[REDACTED]>
Sent: Monday, June 25, 2018 8:59 PM
To: Victoria Mayor and Council
Subject: Rezoning applications REZ00500 and REZ00651

I am writing to express my concerns with the proposed development applications in North Jubilee relating to building out the “large urban village” area at the corner of Fort St. and Richmond Rd. The two proposals that concern me are REZ00500 and REZ00651 – If both of these proposals go forward in a form similar to those proposed an existing difficult traffic situation will only be exacerbated. The neighbourhood was laid out sometime in the late 1800’s or early 1900’s when traffic was scarce and vehicles were slower and much smaller.

I have lived in the neighbourhood since 1980. Since I moved here the vibrancy of the Birch St. corridor area has stagnated due to the neglect of former landowners. Lots 202/08 Richmond Rd., 1903/1909 Birch St. and 1769 Pembroke all were neglected by the previous owners to the extent that houses on the latter two were demolished after being rendered uninhabitable by that neglect. The remaining structure on Richmond Rd. Known as the Turner building has also suffered the same neglect, but is only barely standing due to some feeble attempt to secure it in the hopes that it can be incorporated into a new building – this effort is being made only to maintain the lack of setback on Richmond Rd. which is required by current city by-laws. The other two Birch St. lots have, in my tenure, been held by various landlords for speculative purposes and have shared somewhat similar decay. In my almost 40 years in the neighbourhood, Birch Street has only served as a parking lot for users of the surrounding services

We are faced now with the challenge of developing these properties in a way suitable to today’s conditions and the community’s needs.

It is my opinion that Birch Street has outlived its usefulness as a traffic carrying artery. Access to the street is achieved by very obtuse angled turns and egress is either by an almost blind (vision obscured by steepness of the angle and the lack of setback on the existing Turner building) turn onto extremely busy Richmond Rd, or by an obtuse turn onto Pembroke St. to exit onto Richmond – not too bad if you are turning right, but quite difficult if you wish to turn left as the traffic flow is usually quite heavy mid-day).

I would suggest to the city that before acting on any of the proposed applications that a proper traffic study be undertaken to determine if the existing road configuration can support the proposals. I would also like to suggest that the City explore the possibility of eliminating Birch Street and amalgamating the land with either or both of the current proponents to create a more viable parcel to house the community’s needs in this area.

Yours Sincerely

Brian McKee

1956 Ashgrove St.

Dear Sir/Madam,

Greetings. I would like to comment on this proposal. Six Storeys, 55 units and only 16 parking stalls do not sound logical. The discrepancy between 55 and 16 is just too enormous and spells big trouble: the traffic, the gross lack of parking (for the residents and visitors) in a busy area of town. It will have a negative impact on the quality of life for people living and working in the area.

My office is in the Richmond Medical Building, and the proximity of the residential building and parked cars would lead to a loss of privacy with clients/patients. The windows facing west would need permanent blinds closed. The noise of the traffic would interfere with our consultations. Our own private parkade is often at maximum capacity and cannot accommodate more cars.

Where will all the cars park? The building simply cannot be that large for these obvious reasons. You may share my views with other people involved with this proposal. Thank you for your attention.

Yours truly

C. Lam, MD

**MINUTES OF THE
ADVISORY DESIGN PANEL MEETING
HELD WEDNESDAY FEBRUARY 28, 2024**

1. THE CHAIR CALLED THE MEETING TO ORDER AT 12:00 PM

Present: Bruce Anderson (Chair)
David Berry
Julie Brown
Tamara Bonnemaïson
Priscilla Samuel
Patrick Conn
Colin Harper

Absent: Elizabeth Balderson recused
Peter Johannknecht recused

Staff Present: Charlotte Wain- Senior Planner, Urban Design
Chelsea Medd – Planner
Alena Hickman – Planning Secretary

2. APPROVAL OF MINUTES & AGENDA

Motion:

It was moved by Peter Johannknecht, seconded by Colin Harper that the minutes from November 22, 2023 be approved as presented.

Carried Unanimously

Motion:

It was moved by Peter Johannknecht, seconded by Patrick Conn that the minutes from January 24, 2024 be approved as presented.

Carried Unanimously

Motion:

It was moved by Peter Johannknecht, seconded by Tamara Bonnemaïson to adopt the agenda as presented.

Carried Unanimously

3. APPLICATION

3.1 Development Permit with Variance No. 00252 for 2002 Richmond Road, 1909 Birch Street, and 1769 Pembroke Street

The proposal is to construct a seven-storey (six-storey with rooftop access) mixed-use building with approximately 55 units of rental housing and commercial on the ground floor. Applicant meeting attendees:

Will Kryzmowski – Cascadia Architects
Karl Robertson – Empresa Properties
Bianca Bodley – Biophilia Design collective ltd.
Peter Johannknecht – Cascadia Architects

Chelsea Medd provided the Panel with a brief introduction of the application and the areas that Council is seeking advice on, including the following:

- building massing
- prominence of the residential entry
- any other aspects of the proposal on which the ADP chooses to comment.

Karl Robertson provided the Panel with a detailed presentation of the site and context of the proposal, and Bianca Bodley provided the Panel with details of the proposed landscape plan.

The Panel asked the following questions of clarification:

- Was there consideration in using the park across the street for this plaza?
 - We met with the neighbourhood association a few times as well as councillors. There was talk about North Jubilee not having a centre. They feel dominated by the hospital, and they really appreciated the opportunity for this park. The park across the street wasn't up for discussion.
- Regarding the fan element, is it correct that the ground floor is setback significantly from the property line at the corner of the site, which puts level two at the property line and as you move down Richmond Road, and it fans up from there?
 - Yes, the property line has a chamfered edge.
 - Was the primary driver for this condition to allow for more meaningful landscaping along Richmond Road?
 - It's one of the reasons yes but also to transition to the neighbouring building in the back.
- Did you try different options for the fanning of the building?
 - We did do some studies with full exclusion. The predominant reason is to add interest and break up the massing.
- What is the black material on the ground floor as well as the material below the windows on levels 2 through 6?
 - The ground floor is black tile. There is spandrel material, metal panel below the windows so it ties into the windows not to the cladding.
- Is the rear parking and Emergency access intertwined?
 - The front door lobby would be the emergency access. They don't need to go through that parking lot.
- What is the soffit material for the upper levels?
 - A textured metal panel.
- What commercial uses are indented for the ground floor?
 - Coffee shop or perhaps a restaurant. It's important that we keep it activated and lively.
- How big will the trees on Richmond Road get?
 - They will be upwards of 30ft but will stay narrow.

- Can you comment if there are there any plans in the works for the adjacent building?
 - Not sure about any immediate plans.
- How do you feel about security of the bike storage with access right off Birch Street?
 - I think convenience will encourage bike access. Could potentially look at having bike spaces enclosed.
- Is it intentional for the windows at the apex to be staggered?
 - Yes, the windows throughout are staggered to reinforce the grain and nature of the building.
- Do you have any other angles of the residential angles we could see?
 - Yes (slides were viewed).
- Can staff clarify the concerns on the prominence of the residential entry?
 - I think these illustrations have helped but staff are looking for differentiation on both entries.
- Is permeable stamp concrete something that can be used in our climate?
 - I have used this many times. I have not used the stamping technique but I don't see an issue and it does hold up in our climate.
- Why was that decision made to have that one angled wall, which looks to be on levels 2 & 3?
 - We were looking for gentle expression to tell everyone there is something different, it breaks up the massing. We didn't want to make it dominate to compete with the entries.

Panel members discussed:

- Really like this building
- Material choices, fabric of the elevation, angled walls add rich detail
- Appreciate horizontal expression
- The fan shape feels like it's competing with the geometry
- Like the idea of respecting the street wall angle
- Building is amazing for that location
- Equal is not better quality to the new adjacent building
- No issue with the fan itself
- Commend the flatiron design
- Doesn't make sense to remove fan
- Thoughtful design
- Love the fan and appreciate the way it ties in
- The staggering of the windows should be a bit more staggered or aligned
- Parking lot could use some small car spots for more landscaping
- General landscaping is lovely
- Impressed with this building
- Feels like a wing, I think it does add something to the impression of the building.

Motion: David Berry

Seconded by: Tamara Bonnemaïson

That the Advisory Design Panel recommend to Council that Development Permit with Variances Application No. 00252 be approved as presented.

Carried 5:1

For: David Berry, Tamara Bonnemaïson, Patrick Conn, Julie Brown, Priscilla Samuel

Opposed: Colin Haper

ADJOURNMENT

Motion to adjourn: Colin Harper, Seconded by Tamara Bonnemaïson

The Advisory Design Panel meeting of February 28, 2024 was adjourned at 1:27 pm.

Bruce Anderson, Chair



TALMACK
 URBAN FORESTRY
 ——— Consultants Limited ———

**2002 Richmond Avenue, 1909 Birch
 Street and 1769 Pembroke Street,
 Victoria, BC**

**Draft Construction Impact Assessment &
 Tree Management Plan**

PREPARED FOR: Empresa Properties
 655 Tyee Road #204
 Victoria, BC V9A 6X5

PREPARED BY: Talmack Urban Forestry Consultants Ltd.
 Graham Mackenzie– Consulting Arborist
 ISA Certified # PN-0428A
 Tree Risk Assessment Qualified

DATE OF ORIGINAL REPORT ISSUANCE: October 10, 2023

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- Appendix A Tree Management Plan (T1)
- Appendix B Tree Preservation Summary
- Appendix C Site Photographs
- Appendix D Hard Surface Over Tree Roots Detail

REVISION	DESCRIPTION	DATE (YYYY-MM-DD)	ISSUED BY
DRAFT	Draft TPP report delivered to the client for review and coordination.	2023-10-10	GM
R1	Revisions to address tree replacement plan	2024-02-07	NTL

1. INTRODUCTION

Talmack Urban Forestry Consultants Ltd. was asked to complete a tree inventory, construction impact assessment and management plan for the trees at the following proposed project:

Site:	2002 Richmond Avenue, 1909 Birch Street and 1769 Pembroke Street
Municipality	City of Victoria
Client Name:	Empresa Properties
Dates of Site Visit(s):	September 29, 2023
Site Conditions:	3 urban lots. No ongoing construction activity.
Weather During Site Visit:	Overcast

The purpose of this report is to address requirements of the City of Victoria arborist report terms of reference, and Tree Preservation Bylaw No. 21-035. The construction impact assessment section of this report (section 8), is based on plans reviewed to date, including the CALUC presentation slideshow dated September 13, 2023 (By Empresa Properties), and Landscape package – dated October 6, 2023 (by Biophilia design collective). At this time, we have not reviewed any detailed architectural plans, site servicing details or grading plans.

2. TREE INVENTORY METHODOLOGY

Prior to our site visit we were provided with a site survey plan with surveyed tree locations. For the purpose of this report, the size, health, and structural condition of trees was documented. For ease of identification in the field, numerated metal tags are attached to the lower trunks of onsite trees. Trees located on neighbouring properties or the municipal frontage were not tagged. Each tree was visually examined on a limited visual assessment basis (level 1), in accordance with Tree Risk Assessment Qualification (TRAQ) methods (Dunster *et al.* 2017) and ISA Best Management Practices. The approximate locations of any trees not surveyed were added to the plan for discussion purposes.

3. EXECUTIVE SUMMARY

Based on review of the concept architectural, and landscape plans provided, 1 municipal tree (M1) and 2 offsite trees (1852 & 1853) are located where they can be retained, using mitigation recommendations outlined in this report. Additionally, there are 3 offsite trees identified as Retain* that may be able to be retained, depending on the final grades of the proposed parking area (os1 & os2) and the extent of pruning that may be required to facilitate building clearance and construction (1851).

Based on bylaw criteria, 8 replacement trees (from Schedule “E”, part 1 or a combination of trees from part 1 and 2 of Tree Preservation Bylaw No. 21-035) are required to be planted to meet the 8-tree onsite planting minimum

(site area of 1575.2 m²). The Landscape Package by Biophilia design provides locations for 2 trees from part 1, 1 tree from part 2, and 5 trees from part 3. Therefore a planting shortfall of one tree will be compensated to the city via a cash in lieu payment by the owner.

4. TREE INVENTORY DEFINITIONS

Tag: Tree identification number on a metal tag attached to tree with nail or wire, generally at eye level. Trees on municipal or neighboring properties are not tagged.

DBH: Diameter at breast height – diameter of trunk, measured in centimetres at 1.4m above ground level. For trees on a slope, it is taken at the average point between the high and low side of the slope.

* Measured over ivy

~ Approximate due to inaccessibility or on neighbouring property

Dripline: Indicates the radius of the crown spread measured in metres to the dripline of the longest limbs.

Relative Tolerance Rating: Relative tolerance of the tree species to construction related impacts such as root pruning, crown pruning, soil compaction, hydrology changes, grade changes, and other soil disturbance. This rating does not take into account individual tree characteristics, such as health and vigour. Three ratings are assigned based on our knowledge and experience with the tree species: Poor (P), Moderate (M) or Good (G).

Critical Root Zone: A calculated radial measurement in metres from the trunk of the tree. It is the optimal size of tree protection zone and is calculated by multiplying the DBH of the tree by 10, 12 or 15 depending on the tree's Relative Tolerance Rating. This methodology is based on the methodology used by Nelda Matheny and James R. Clark in their book "Trees and Development: A Technical Guide to Preservation of Trees During Land Development."

- 15 x DBH = Poor Tolerance of Construction
- 12 x DBH = Moderate
- 10 x DBH = Good

To calculate the critical root zone, the DBH of multiple stems is considered the sum of 100% of the diameter of the largest stem and 60% of the diameter of the next two largest stems. It should be noted that these measures are solely mathematical calculations that do not consider factors such as restricted root growth, limited soil volumes, age, crown spread, health, or structure (such as a lean).

Health Condition:

- Poor – significant signs of visible stress and/or decline that threaten the long-term survival of the specimen
- Fair – signs of stress
- Good – no visible signs of significant stress and/or only minor aesthetic issues

Structural Condition:

- Poor – Structural defects that have been in place for a long period of time to the point that mitigation measures are limited
- Fair – Structural concerns that are possible to mitigate through pruning
- Good – No visible or only minor structural flaws that require no to very little pruning

Suitability ratings are described as follows:

Rating: Suitable.

- A tree with no visible or minor health or structural defects, is tolerant to changes to the growing environment and is a possible candidate for retention provided that the critical root zone can be adequately protected.

Rating: Conditional.

- A tree with good health but is a species with a poor tolerance to changes to its growing environment or has a structural defect(s) that would require that certain measures be implemented, in order to consider it suitable for retention (ie. retain with other codominant tree(s), structural pruning, mulching, supplementary watering, etc.)

Rating: Unsuitable.

- A tree with poor health, a major structural defect (that cannot be mitigated using ANSI A300 standards), or a species with a poor tolerance to construction impacts, and unlikely to survive long term (in the context of the proposed land use changes).

Retention Status:

- Remove – Not possible to retain given proposed construction plans
- Retain – It is possible to retain this tree in the long-term given the proposed plans and information available. This is assuming our recommended mitigation measures are followed
- Retain * - See report for more information regarding potential impacts

Table 1. Tree Inventory

Tag #	Surveyed ? (Yes/No)	Location (On, Off, Shared, City)	Bylaw protected ? (Yes/No)	Name		dbh (cm)	crown radius (m)	Critical root zone radius (m)	Condition		Relative tolerance	Retention Suitability	General field observations/remarks	Tree retention/location comments	Retention status
				Common	Botanical				Health	Structural					
1851	No	On	Yes	Norway Maple	Acer platanoides	55	3.5	6.6	Fair-good	Fair-poor	Moderate	Suitable	Codominant structure with active inclusions, limited rooting area, large surface roots topped repeatedly.	Root zone likely restricted to within planter, depending on depth of retaining wall. Will require significant pruning to accommodate new building, retention will depend on extent of pruning required.	Retain*
1852	No	On	No	Japanese Maple 'Full Moon'	Acer palmatum 'Full moon'	7,4,4	2.5	2	Fair-good	Fair-poor	Moderate	Suitable	Multiple stems, competing for light.	Root zone restricted to within planter. No impacts anticipated.	Retain
1853	No	On	No	Japanese Maple 'Coral Bark'	Acer palmatum 'Coral Bark'	7,7,5	3	2	Fair	Fair	Moderate	Suitable	Multiple stems, deadwood, overhangs existing balcony.	Root zone restricted to within planter. No impacts anticipated.	Retain
1854	Yes	On	Yes	Pear	Pyrus spp.	44	3.5	5.3	Fair-poor	Fair-poor	Moderate	Suitable	Dieback, deadwood.	Within proposed building area	Remove
1855	Yes	On	Yes	Pear	Pyrus spp.	29,22	3	6	Fair	Fair	Moderate	Suitable	Codominant with included bark in union, small deadwood.	Within proposed parking area.	Remove
OS1	Yes	Shared	No	Sycamore Maple	Acer pseudoplatanus	~20	4	2.5	Fair	Fair	Moderate	Suitable	Drought stress.	Shared tree, retention will depend on potential impacts from proposed parking area,	Retain*
OS2	No	Off	No	Golden Chain Tree	Laburnum anagyroides	~8,7	2	2	Fair	Fair	Moderate	Suitable	Co-dominant 2 stems previously removed.	Neighbours tree, retention will depend on potential impacts from proposed parking area.	Retain*
M1	No	Off	Yes	Golden Chain Tree	Laburnum anagyroides	8,7,6	1.5	2.5	Fair-poor	Poor	Moderate	Suitable	Decay at base, bark damage.	Municipal tree, should be possible to isolate it from construction activity.	Retain

5. SITE INFORMATION & PROJECT UNDERSTANDING

The development site consists of three lots (2002 Richmond Avenue, 1909 Birch Street and 1769 Pembroke Street), in Victoria, B.C. There is an existing building on 2002 Richmond which we understand will be demolished. The remaining lots are empty currently and the proposal is to construct a building with a mixture of commercial and residential units and a parking area.

6. FIELD OBSERVATIONS

There are two bylaw protected pear trees (1854 and 1855) on 1909 Birch Street and no bylaw protected trees located on the other properties. There is one shared Sycamore maple (Os1) on the property line between 1769 and 1761 Pembroke Street. There is one bylaw protected Norway maple (1851) and two non-bylaw protected Japanese maples (1852 and 1853) planted within a retaining wall planter on 2020 Richmond Avenue, one municipal Laburnum tree (M1) and one non bylaw protected Laburnum (Os2) that are all within influencing distance of the subject site.



figure 1: Site context air photo: The approximate boundary of the subject site is outlined in Yellow.

7. TREE RISK ASSESSMENT

During our September 29, 2023 site visit and in conjunction with the tree inventory, onsite trees were assessed for risk, on a limited visual assessment basis (level 1), and in the context of the existing land uses. The time frame used for the purpose of our assessment is one year (from the date of the tree inventory update). Unless otherwise noted herein, we did not conduct a detailed (level 2) or advanced (level 3) risk assessment, such as resistograph testing, increment core sampling, aerial examinations, or subsurface root/root collar examinations.

Existing Land Uses

We did not observe any trees that were deemed to be moderate, high or extreme risk (in the context of the existing land uses, that would require hazard abatement to eliminate present and/or future risks (within a 1-year timeframe). Targets considered during this TRAQ assessment include: occupants of the existing buildings (constant use), occupants of vehicles travelling on Richmond Avenue, Birch Street or Pembroke Street (frequent use), pedestrians travelling along existing sidewalks (frequent use), hydro lines (constant use).

8. CONSTRUCTION IMPACT ASSESSMENT

8.1. RETENTION AND REMOVAL OF MUNICIPAL TREES

The following municipal trees (indicated by ID #) are located where they are possible for retention providing that the critical root zones are adequately protected during construction. The project arborist must be onsite to supervise and excavation or fill placement required within its critical root zone (shown on the tree management plan (T1) in [appendix A](#)):

Retain and protect 1 municipal trees

- M1

***The municipality must provide consent prior to the removal, transplantation or pruning of any trees located on municipal property.**

8.2. RETENTION AND REMOVAL OF PRIVATE OFFSITE TREES

The following private offsite trees (indicated by ID #) are located where they are possible for retention providing that the critical root zones are adequately protected during construction. The project arborist must be onsite to supervise and excavation or fill placement required within its critical root zone (shown on the tree management plan (T1) in [appendix A](#)):

Retain and protect 5 private offsite trees

- 1851, 1852, 1853, Os1, Os2

8.3. RETENTION AND REMOVAL OF ONSITE TREES

The following onsite trees (indicated by ID #) are located where they are in conflict with the proposed building and parking design:

Remove 2 bylaw protected onsite trees.

- 1854 and 1855

8.4. TREE IMPACT SUMMARY TABLE

Pursuant to City of Victoria Tree Preservation Bylaw No. 21-035, the tree replacement calculations are as follows:

	A	B	C	D
Tree Status	Total # of Protected Trees	# Of Trees to be REMOVED	# Of NEW or REPLACEMENT Trees to be Planted*	# Of EXISTING non-protected Trees Counted as Replacements
Onsite Trees	2	2	7	0
Private Offsite Trees	1	0	N/A	N/A
Municipal Trees	1	0	N/A	N/A
Total	4	2	7	0

Based on bylaw criteria, 8 replacement trees (from Schedule "E", part 1 or a combination of trees from part 1 and 2 of Tree Preservation Bylaw No. 21-035) are required to be planted to meet the 8-tree onsite planting minimum (site area of 1575.2 m²). The Landscape Package by Biophilia design collective, provides locations for 5 replacement trees in container plantings on the rooftop and 2.5 trees planted in the parking lot. All rooftop trees will be planted in containers with a soil volume greater than 6m³. If the site cannot accommodate the required quantity of replacement trees, any replacement tree planting shortfall will be compensated to the city via a cash in lieu payment by the owner.

9. IMPACT MITIGATION

Tree Protection Barrier: The areas, surrounding the trees to be retained should be isolated from the construction activity by erecting protective barrier fencing (see [Appendix A](#) for municipal barrier specifications). Where possible, the fencing should be erected at the perimeter of the critical root zone. The barrier fencing to be erected must be a minimum of 4 feet in height, of solid frame construction that is attached to wooden or metal posts. A solid board or rail must run between the posts at the top and the bottom of the fencing. This solid frame can then be covered with flexible snow fencing. The fencing must be erected prior to the start of any construction activity on site (i.e. demolition, excavation, construction), and remain in place through completion of the project. Signs should be posted around the protection zone to declare it off limits to all construction related activity. The project arborist must be consulted before this fencing is removed or moved for any purpose.

Arborist Supervision: All excavation occurring within the critical root zones of protected trees should be completed under supervision by the project arborist. Any severed or severely damaged roots must be pruned back to sound tissue to reduce wound surface area and encourage rapid compartmentalization of the wound.

Pruning: Neighbours bylaw protected Norway maple 1851 will likely require significant pruning if scaffolding is going to be used. Once more detailed plans are available, we will better be able to assess the potential impacts to this tree.

Methods to Avoid Soil Compaction: In areas where construction traffic must encroach into the critical root zones of trees to be retained, efforts must be made to reduce soil compaction where possible by displacing the weight of machinery and foot traffic. This can be achieved by one of the following methods:

- Installing a layer of hog fuel or coarse wood chips at least 20 cm in depth and maintaining it in good condition until construction is complete.
- Placing medium weight geotextile cloth over the area to be used and installing a layer of crushed rock to a depth of 15 cm over top.
- Placing two layers of 19mm plywood.
- Placing steel plates.

Demolition of the Existing Buildings: The demolition of the existing houses, driveways, and any services that must be removed or abandoned, must take the critical root zone of the trees to be retained into account. If any excavation or machine access is required within the critical root zones of trees to be retained, it must be completed under the supervision and direction of the project arborist. If temporarily removed for demolition, barrier fencing must be erected immediately after the supervised demolition.

Paved Surfaces Above Tree Roots:

If the new paved surfaces within the CRZ of tree to be retained require excavation down to bearing soil and roots are encountered in this area, this could impact their health and structural stability. If tree retention is desired, a raised and permeable paved surface should be constructed in the areas within the critical root zone of the trees. The “paved surfaces above root systems” diagram and specifications is attached.

The objective is to avoid root loss and to instead raise the paved surface and its base layer above the roots. This may result in the grade of the paved surface being raised above the existing grade (the amount depending on how close roots are to the surface and the depth of the paving material and base layers). Final grading plans should take this potential change into account. This may also result in soils which are high in organic content being left intact below the paved area.

To allow water to drain into the root systems below, we also recommend that the surface be made of a permeable material (instead of conventional asphalt or concrete) such as permeable asphalt, paving stones, or other porous paving materials and designs such as those utilized by Grasspave, Gravelpave, Grasscrete and open-grid systems.

Mulching: Mulching can be an important proactive step in maintaining the health of trees and mitigating construction related impacts and overall stress. Mulch should be made from a natural material such as wood chips or bark pieces and be 5-8cm deep. No mulch should be touching the trunk of the tree. See “methods to avoid soil compaction” if the area is to have heavy traffic.

Blasting: Care must be taken to ensure that the area of blasting does not extend beyond the necessary footprints and into the critical root zones of surrounding trees. The use of small low-concussion charges and multiple small charges designed to pre-shear the rock face will reduce fracturing, ground vibration, and overall impact on the surrounding environment. Only explosives of low phytotoxicity and techniques that minimize tree damage should be used. Provisions must be made to ensure that blasted rock and debris are stored away from the critical root zones of trees.

Scaffolding: This assessment has not included impacts from potential scaffolding including canopy clearance pruning requirements. If scaffolding is necessary and this will require clearance pruning of retained trees, the project arborist should be consulted. Depending on the extent of pruning required, the project arborist may recommend that alternatives to full scaffolding be considered such as hydraulic lifts, ladders or platforms. Methods to avoid soil compaction may also be recommended (see “Minimizing Soil Compaction” section).

Landscaping and Irrigation Systems: The planting of new trees and shrubs should not damage the roots of retained trees. The installation of any in-ground irrigation system must take into account the critical root zones of the trees to be retained. Prior to installation, we recommend the irrigation technician consult with the project arborist about the most suitable locations for the irrigation lines and how best to mitigate the impacts on the trees to be retained. This may require the project arborist supervise the excavations associated with installing the irrigation system. Excessive frequent irrigation and irrigation which wets the trunks of trees can have a detrimental impact on tree health and can lead to root and trunk decay.

Arborist Role: It is the responsibility of the client or his/her representative to contact the project arborist for the purpose of:

- Locating the barrier fencing
- Reviewing the report with the project foreman or site supervisor
- Locating work zones, where required
- Supervising any excavation within the critical root zones of trees to be retained
- Reviewing and advising of any pruning requirements for machine clearances

Review and site meeting: Once the project receives approval, it is important that the project arborist meet with the principals involved in the project to review the information contained herein. It is also important that the arborist meet with the site foreman or supervisor before any site clearing, tree removal, demolition, or other construction activity occurs and to confirm the locations of the tree protection barrier fencing.

10. DISCLOSURE STATEMENT

This arboricultural field review report was prepared by Talmack Urban Forestry Consultants Ltd. for the exclusive use of the Client and may not be reproduced, used or relied upon, in whole or in part, by a party other than the Client without the prior written consent of Talmack Urban Forestry Consultants Ltd.. Any unauthorized use of this report, or any part hereof, by a third party, or any reliance on or decisions to be made based on it, are at the sole risk of such third parties. Talmack Urban Forestry Consultants Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report, in whole or in part.

Arborists are professionals who examine trees and use their training, knowledge, and experience to recommend techniques and procedures that will improve a tree's health and structure or to mitigate associated risks. Trees are living organisms whose health and structure change and are influenced by age, continued growth, climate, weather conditions, and insect and disease pathogens. Indicators of structural weakness and disease are often hidden within the tree structure or beneath the ground. The arborist's review is limited to a visual examination of tree health and structural condition, without excavation, probing, resistance drilling, increment coring, or aerial examination. There are inherent limitations to this type of investigation, including, without limitation, that some tree conditions will inadvertently go undetected. The arborist's review followed the standard of care expected of arborists undertaking similar work in British Columbia under similar conditions. No warranties, either express or implied, are made as to the services provided and included in this report.

The findings and opinions expressed in this report are based on the conditions that were observed on the noted date of the field review only. The Client recognizes that passage of time, natural occurrences, and direct or indirect human intervention at or near the trees may substantially alter discovered conditions and that Talmack Urban Forestry Consultants Ltd. cannot report on, or accurately predict, events that may change the condition of trees after the described investigation was completed.

It is not possible for an Arborist to identify every flaw or condition that could result in failure nor can he/she guarantee that the tree will remain healthy and free of risk. The only way to eliminate tree risk entirely is to remove the entire tree. All trees retained should be monitored on a regular basis. Remedial care and mitigation measures recommended are based on the visible and detectable indicators present at the time of the examination and cannot be guaranteed to alleviate all symptoms or to mitigate all risk posed.

Immediately following land clearing, grade changes or severe weather events, all trees retained should be reviewed for any evidence of soil heaving, cracking, lifting or other indicators of root plate instability. If new information is discovered in the future during such events or other activities, Talmack Urban Forestry Consultants Ltd. should be requested to re-evaluate the conclusions of this report and to provide amendments as required prior to any reliance upon the information presented herein.

11. IN CLOSING

We trust that this report meets your needs. Should there be any questions regarding the information within this report, please do not hesitate to contact the undersigned.

Yours truly,

Talmack Urban Forestry Consultants Ltd.

Prepared by:



Graham Mackenzie
ISA Certified Arborist PN – 0428A
Tree Risk Assessment Qualification
Email: Graham@Talmack.ca

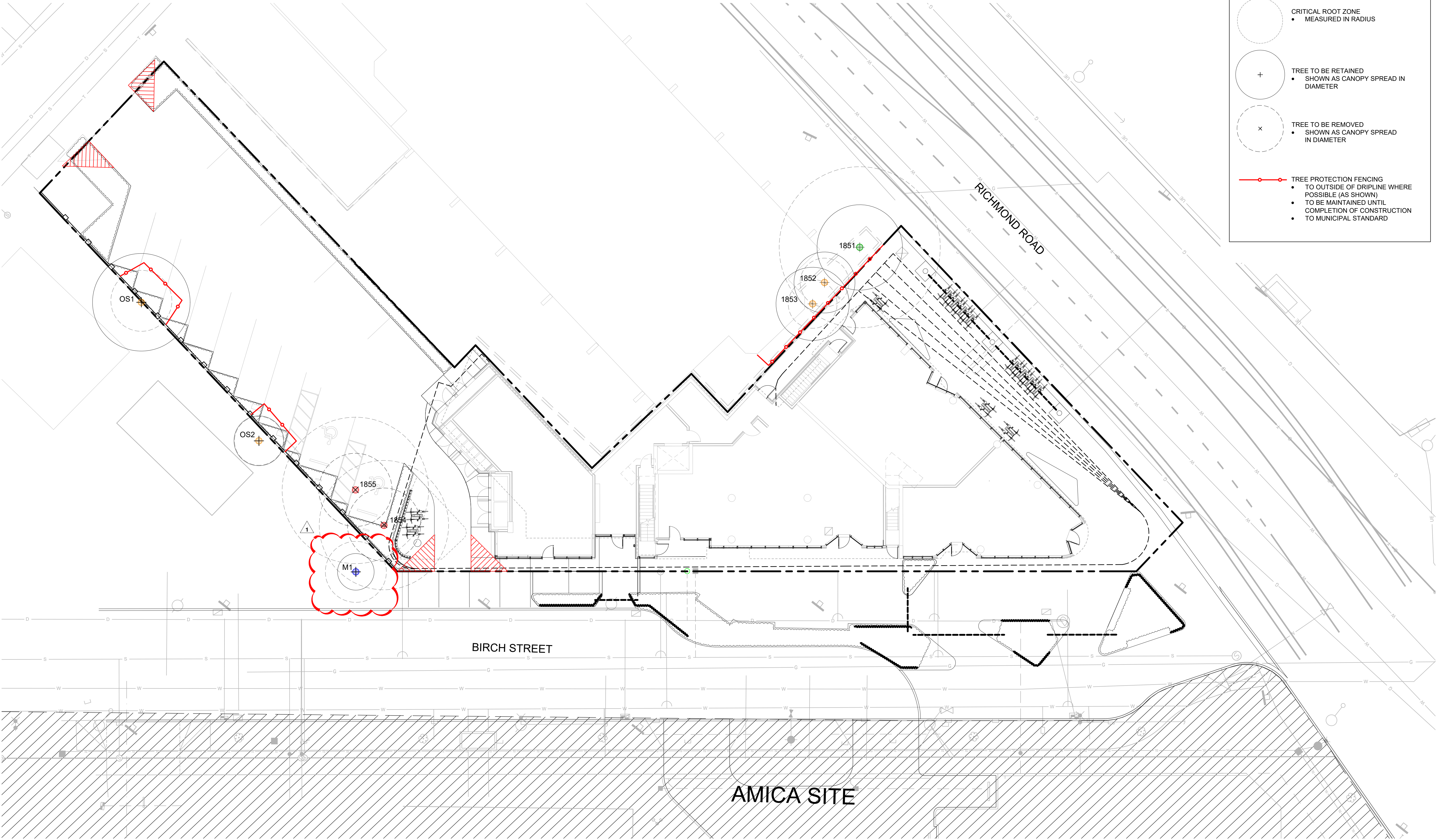
12. REFERENCES

Dunster, J.A., E.T. Smiley, N. Matheny, and S. Lily. 2017. Tree Risk Assessment Manual, International Society of Arboriculture (ISA).

The City of Victoria Tree Preservation Bylaw No. 21-035.

APPENDIX A - TREE MANAGEMENT PLAN (T1)

APPENDIX B – TREE PRESERVATION SUMMARY



LEGEND

PROTECTED TREE FOR REMOVAL

PROTECTED TREE TO RETAIN

NON-PROTECTED TREE FOR REMOVAL

NON-PROTECTED TREE TO BE RETAINED

MUNICIPAL TREE TO BE RETAINED

MUNICIPAL TREE TO BE REMOVED

CRITICAL ROOT ZONE

• MEASURED IN RADIUS

+

TREE TO BE RETAINED

• SHOWN AS CANOPY SPREAD IN DIAMETER

x

TREE TO BE REMOVED

• SHOWN AS CANOPY SPREAD IN DIAMETER

—o—o—o—

TREE PROTECTION FENCING

• TO OUTSIDE OF DRIPLINE WHERE POSSIBLE (AS SHOWN)

• TO BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION

• TO MUNICIPAL STANDARD

1608 Camosun Street, Victoria BC V8T 3E6
Info@biophiliacollective.ca 250 590 1156

OWNER/CLIENT:
EMPRESA PROPERTIES

PROJECT NAME:
TURNER SITE

PROJECT ADDRESS:
**2002 RICHMOND RD
VICTORIA, BC.**

DESIGNED BY: BIANCA BODLEY
DRAWN BY: GRACE MORAZZANI

3	ISSUED FOR DP RESUBMISSION	27/2024
2	ISSUED FOR DP/REZONING	10/11/2023
1	ISSUED FOR DEVELOPMENT TRACKER	08/08/2023
NO.	ISSUE	YY/MM/DD

SEAL

NORTH ARROW


DRAWING TITLE:
**TREE MANAGEMENT PLAN
LEVEL 1**

DWG NO:

SCALE: 1:150

L0.01

294

Tree Preservation Summary			
City of Victoria Project No: Unknown			
Address: 2002 Richmond Avenue, 1909 Birch Street and 1769 Pembroke Street			
Prepared for Empresa Properties.			
Arborist: Noah Talbot, BA			
Certifications/Qualifications: ISA Certified Arborist (PN0428A), Tree Risk Assessment Qualified			
	Count	Multiplier	Total
ONSITE Minimum replacement tree requirement			
A. Protected Trees Removed	2	X 1	A. 2
B. Replacement Trees Proposed per Schedule "E", Part 1	2	X 1	B. 2
C. Replacement Trees Proposed per Schedule "E", Part 2	1	X 0.5	C. 0.5
D. Replacement Trees Proposed per Schedule "E", Part 3	5	X 1	D. 5*
E. Total replacement trees proposed (B+C+D) Round down to nearest whole number			E. 7*
F. Onsite replacement tree deficit (A-E) Record 0 if negative number			F. 0
ONSITE Minimum trees per lot requirement (onsite trees)			
G. Tree minimum on lot*			G. 8
H. Protected trees retained (other than specimen trees)	1	X 1	H. 1
I. Specimen trees retained	0	X 3	I. 0
J. Trees per lot deficit (G - (B+C+H+I)) Record 0 if negative number			J. 1
OFFSITE Minimum replacement tree requirement (offsite trees)			
K. Protected trees Removed	0	X 1	K. 0
L. Replacement trees proposed per Schedule "E", Part 1 or Part 3	0	X 1	L. 0
M. Replacement trees proposed from Schedule "E", Part 2	0	X 0.5	M. 0
N. Total replacement trees proposed (L+ M) Round down to nearest whole number			N. 0
O. Offsite replacement tree deficit (K - N) Record 0 if negative number			O. 0
Cash-in-lieu requirement			
P. Onsite trees proposed for cash-in-lieu Enter F. or J., whichever is the greater number			P. 1
Q. Offsite trees proposed for cash-in-lieu Enter O.			Q. 0
R. Cash-in-lieu proposed ((P+Q) X \$2,000)			R. \$2000
Summary prepared and submitted by: Date: October 10, 2023			*Refer to landscape plan by others for planting locations and soil volume calculations.

APPENDIX C – SITE PHOTOGRAPHS



Photograph 1. Yellow arrow indicates Neighbours Norway maples 1851.



Photograph 2 – Onsite Pear trees 1854 and 1855.



Photograph 3 – Shared Sycamore maple Os1.



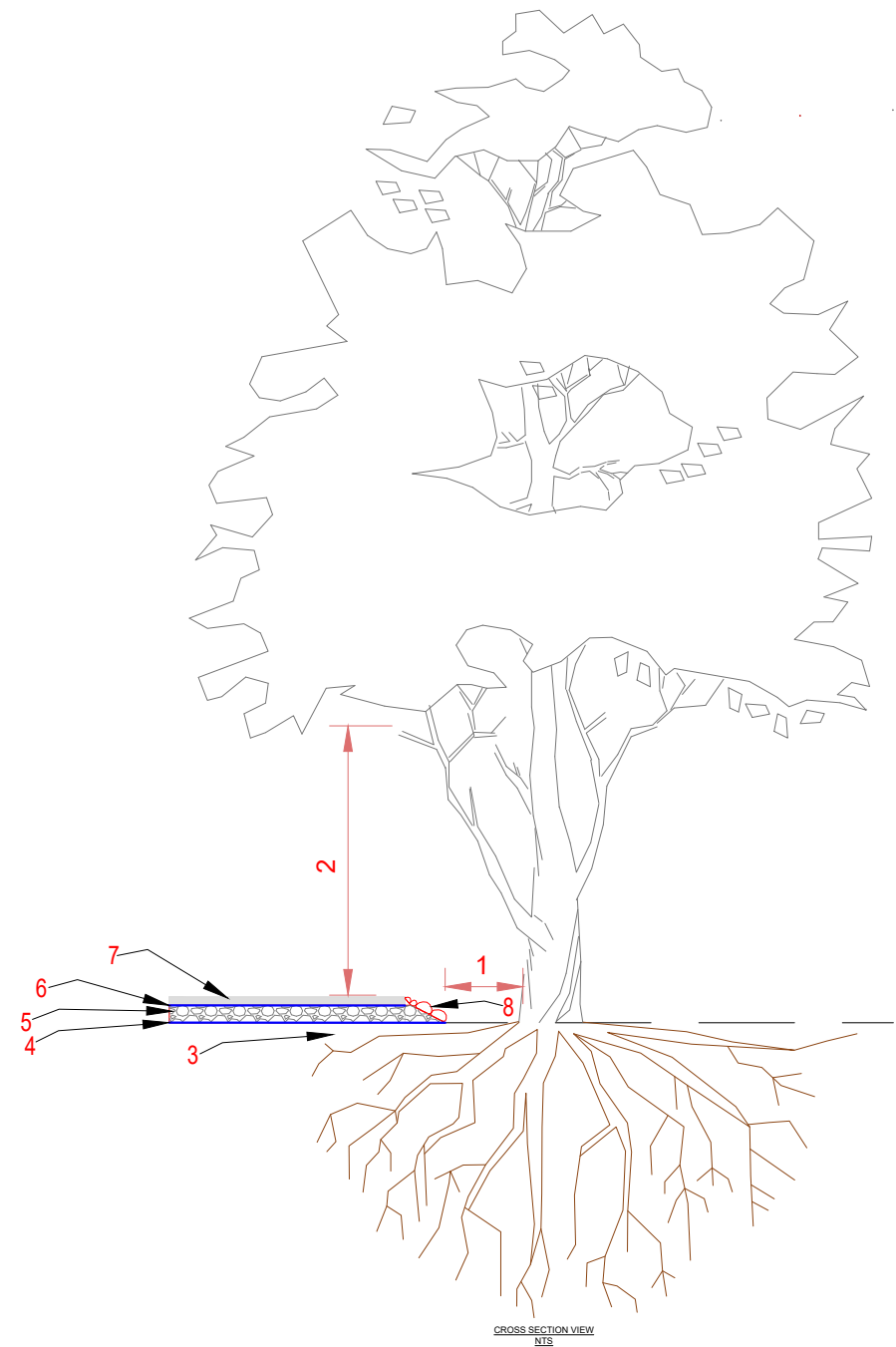
Photograph 4 – Neighbours Laburnum tree Os2



Photograph 5 – Yellow arrow showing municipal Laburnum M1

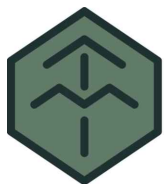
APPENDIX D – HARD SURFACE OVER TREE ROOTS DETAIL

HARD SURFACE ABOVE TREE ROOTS DETAIL



HARD SURFACE ABOVE TREE ROOTS NOTES

1. Maintain as large a setback between the fill encroachment and the root collar of the tree as possible.
2. Review any canopy clearance pruning requirements to accommodate vehicle or pedestrian clearances (Pruning to be performed to ANSI A300 standards).
3. Excavate the new footprint of the driveway or sidewalk under the supervision of the project arborist. Excavation will be limited to the removal of the existing sod layer. Excavation around root structures must be performed by hand, airspade, or hydroexcavation.
4. Install a two-dimensional (such as Combigrid $\frac{30}{30}$) or Three-dimensional geogrid reinforcement.
5. Install a 150mm depth layer of clear crushed gravel (no fines) using 20mm and/or 75mm diameter material or approved equivalent. *Note - the depth may be less than 150mm in some situations (dependant on grading constraints).
6. Install 4 oz non woven geotextile over the clear crushed gravel layer to prevent fine particles of sand from infiltrating this layer.
7. The bedding or base layer and new driveway or sidewalk surface can be installed directly on top of the felted filter fabric.
8. Fill slopes - where possible install loose stacked boulders to reduce the footprint of the fill slopes that encroach within the critical root zone. Fill slope materials must be permeable to air and water. Do not pile fill material directly against the trunk of a tree.




2024

CITY OF VICTORIA | Planning and Development

Rezoning Application No. 00862

2002 Richmond Road, 1909 Birch Street and 1769 Pembroke Street

COMMITTEE OF THE WHOLE | OCTOBER 17, 2024



1

2

Aerial Photo





2

3



**Subject
Property**



3

4



**Neighbouring
Properties**



4

5

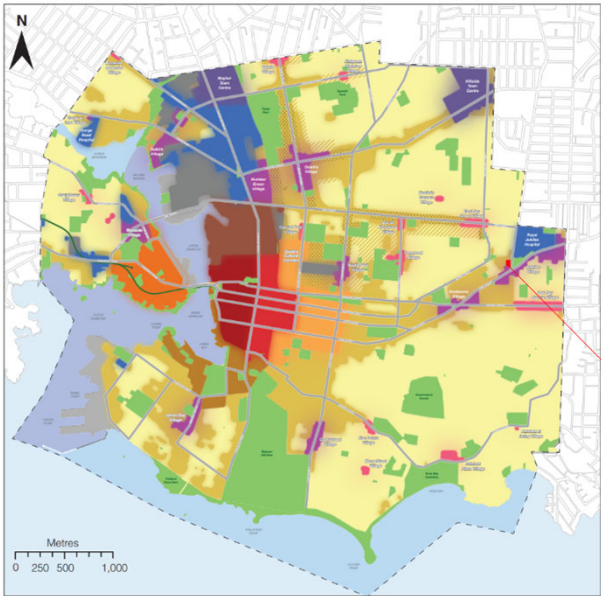


Neighbouring Properties



5

6



MAP 2
Urban Place
Designations

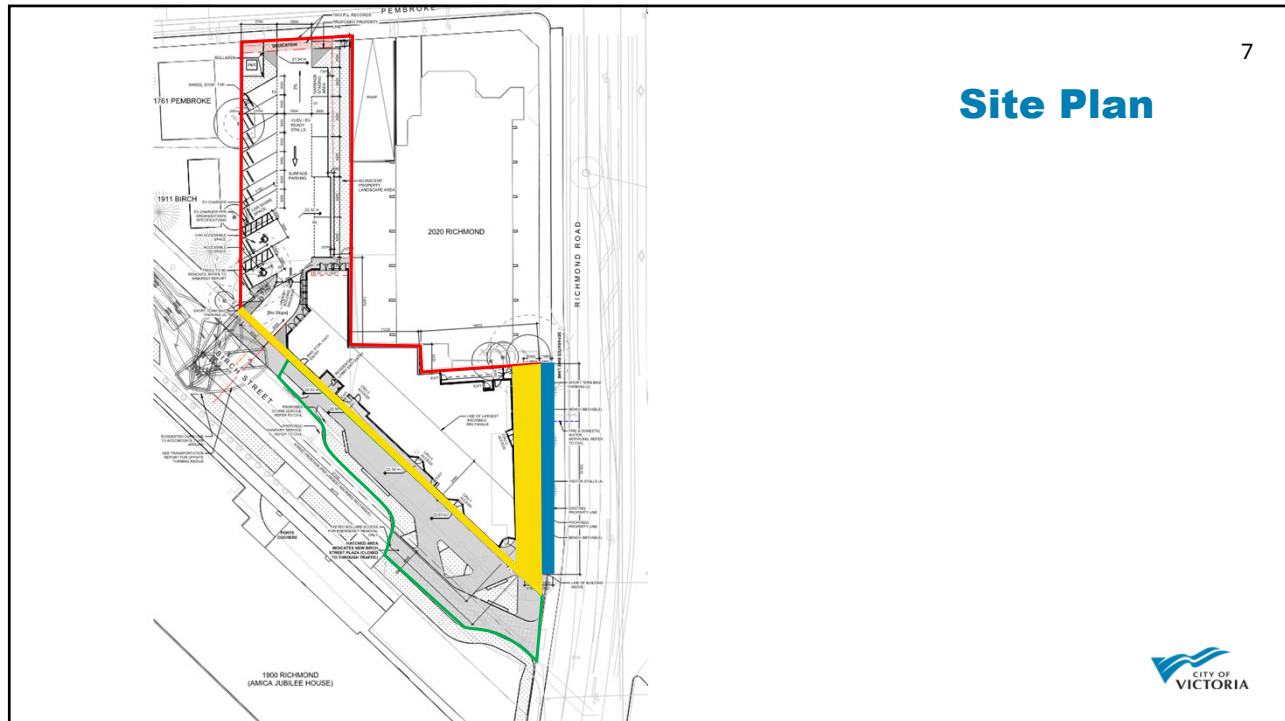
- Core Historic
- Core Business
- Core Employment
- Core Inner Harbour / Legislative
- Core Songhees
- Core Residential
- General Employment
- Urban Industrial
- Marine Industrial
- Town Centre
- Large Urban Village
- Small Urban Village
- Housing Opportunity
- Urban Residential
- Mixed Residential
- Traditional Residential
- Public Facilities, Institutions, Parks and Open Space
- Rail Corridor
- Working Harbour
- Marine

Areas adjacent to a different designation should consider transitional scales, which may depart from the guidance in this plan.

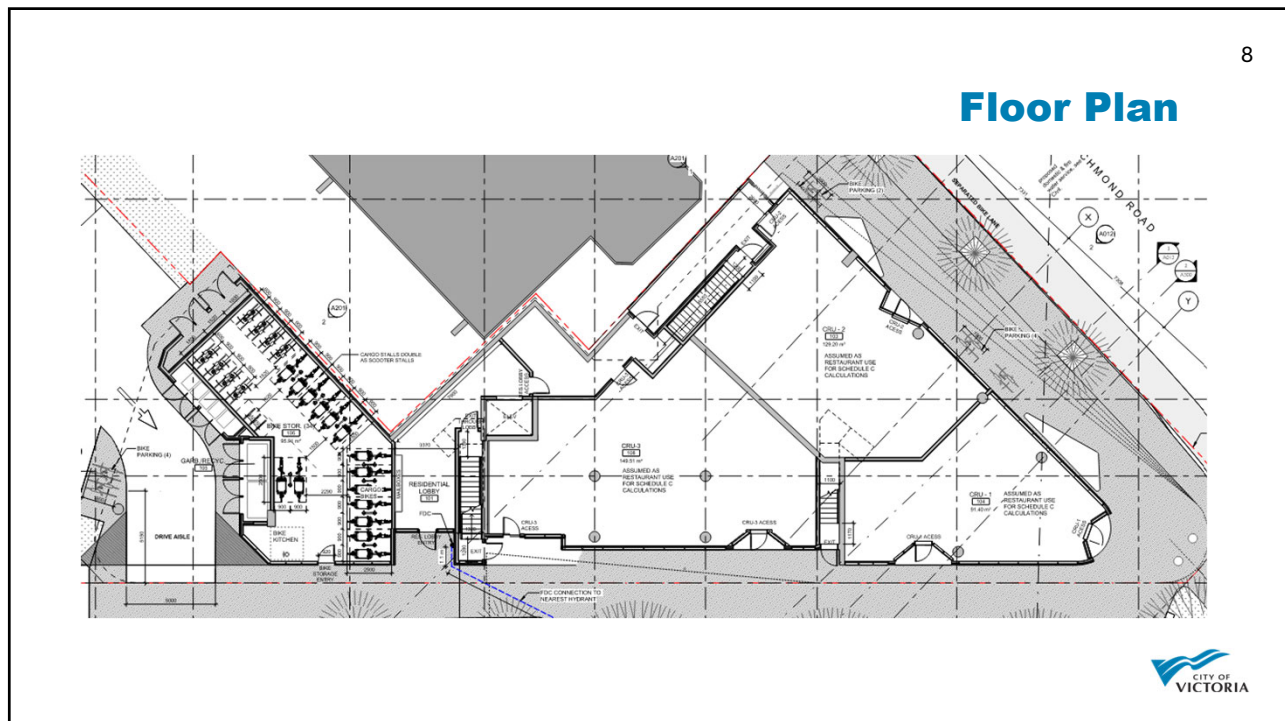
OCP
Designation



6



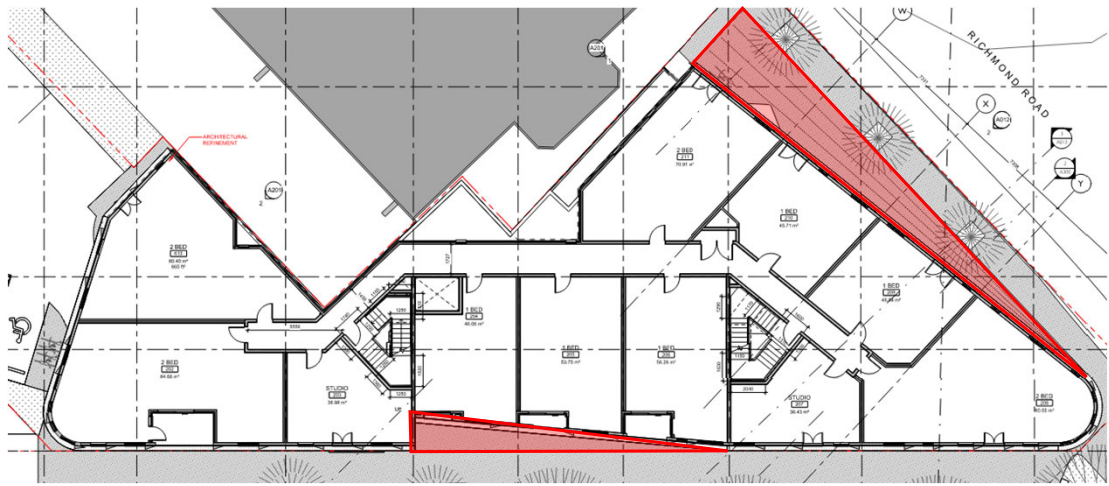
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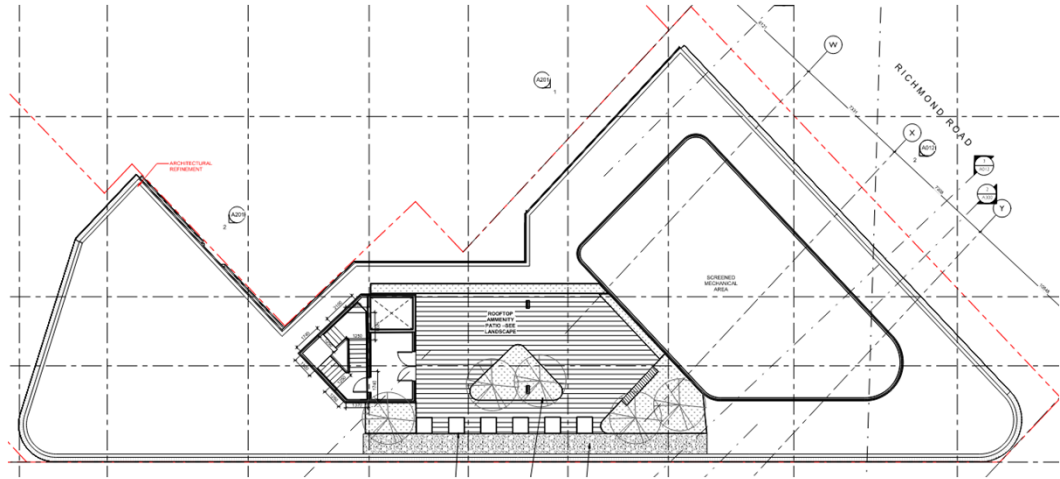
Floor Plan



9

10

Roof Plan



10

11

Elevations



11

12

Elevations



12

13

Elevations



13

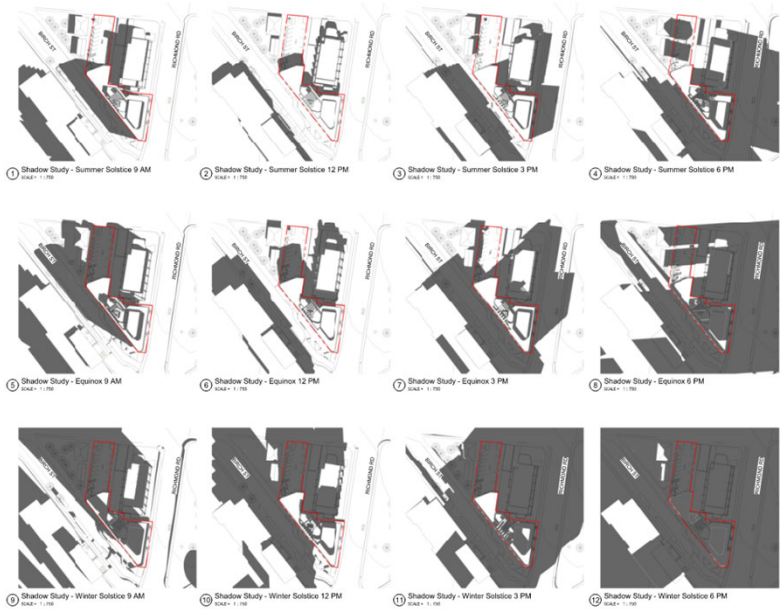
14

Elevations

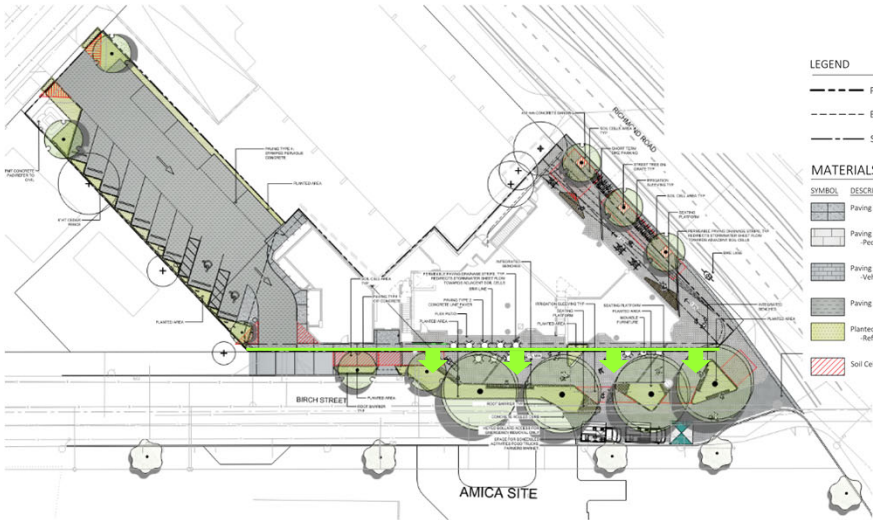


14

Shadow Study



Landscape Plan



LEGEND

---	PROPERTY LINE	----	IRRIGATION SLEEVING
---	BUILDING ABOVE	---	ROOT BARRIERS
---	SRW LINE		

MATERIALS SCHEDULE - LEVEL 1

SYMBOL	DESCRIPTION	QTY
[Symbol]	Paving Type 1: CIP concrete	82.7 m ²
[Symbol]	Paving Type 2: Concrete Unit Pavers - Pedestrian grade	456.5 m ²
[Symbol]	Paving Type 3: Concrete Unit pavers - Vehicular grade	109.6 m ²
[Symbol]	Paving Type 4: Stamped Permeous Concrete	492.4 m ²
[Symbol]	Planted areas - Refer to Planting plan	185.3 m ²
[Symbol]	Soil Cells	93.2 m ²

AMICA SITE PROPOSED TREES

PROPOSED TREES

MOVABLE FURNITURE

SHORT TERM BAY PARKING SEE DETAILS



17

Renderings



17

18

Renderings



18



Renderings



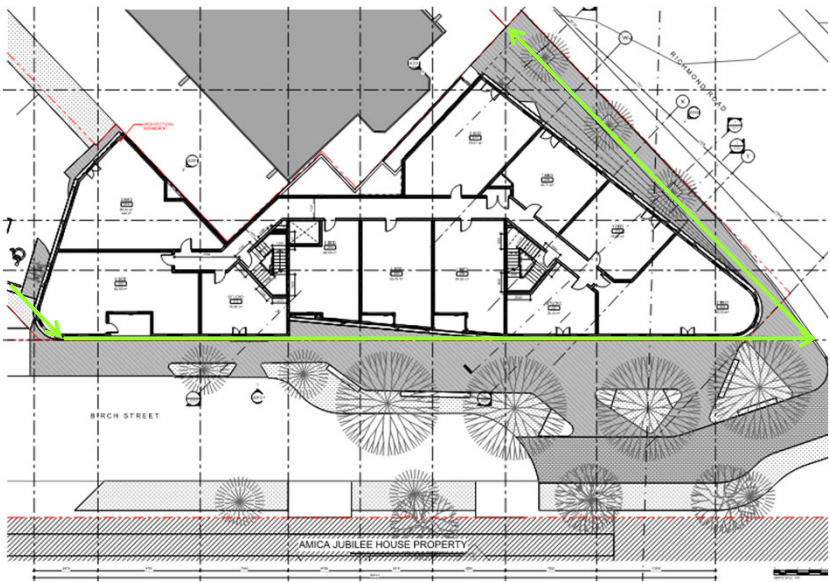
Material Board

- MATERIALS LEGEND
- 01 Metal Panel - Colour 01
 - 02 Cementitious Panel - Dark Colour 02
 - 03 Metal Picket - Dark Colour 02
 - 04 Cast-in-place Arch. Concrete
 - 05 Black tile
 - 06 Metal Panel - Colour 02
 - 07 Aluminum (Dark) pergola
 - 08 Wood
 - 09 Wood Soffit



21

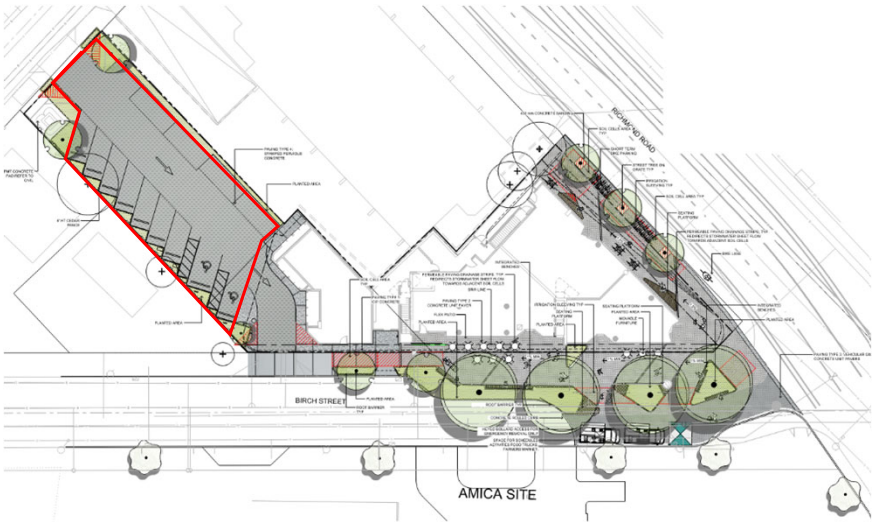
Variances



21

22

Variances



22



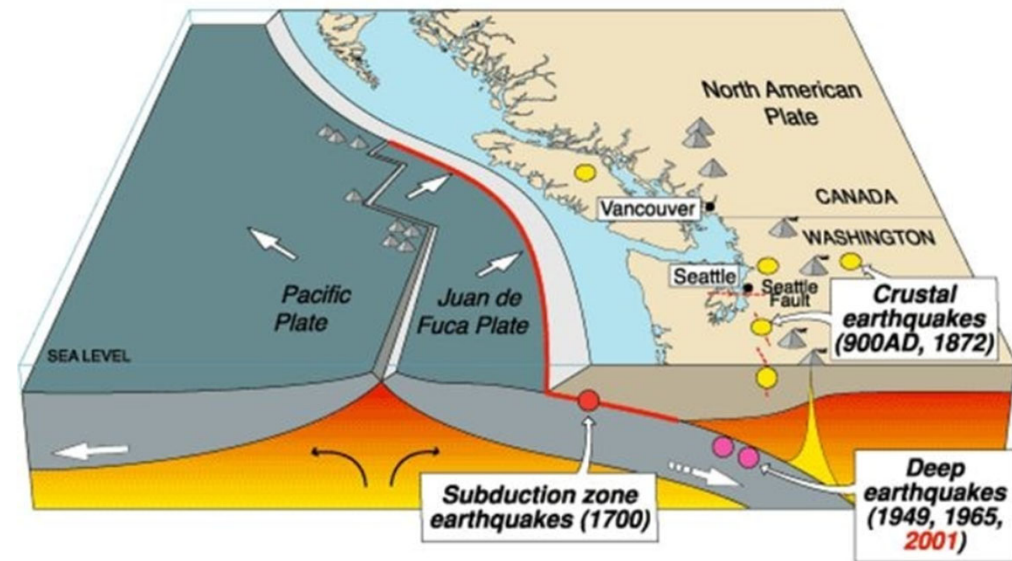
23

Get Ready to ShakeOut.





Cascadia earthquake sources



We are at risk from 3 kinds of earthquakes: Plate Interface (Cascadia Megathrust), Deep Intraslab, and shallow Crustal faulting (Leech River & Devil's Mountain).

Earthquake Early Warning Alerts, Now in B.C.



During an Earthquake

Move no more than a few steps, then **Drop, Cover and Hold On**.



DROP to the ground
(before the earthquake
drops you!)



Take **COVER** by getting
under a sturdy desk or
table.



HOLD ON to it until the
shaking stops.



DO NOT
Get in a Doorway!



DO NOT
Run Outside!



DO NOT
Believe The
“Triangle-of-Life”



KNOW
YOUR
RISKS!



Next Steps

1. Know your risks
2. Make a Plan
3. Get Your Kit Together
4. Get Connected



Free Emergency Preparedness Workshops

Register for one of our free workshops to learn about what you need to be prepared.



Prepare Your Community

Neighbours are often your first responders in an emergency. Learn how to plan and prepare together.



Risk Readiness

Know your risks and what to do before, during, and after an emergency.



CITY OF VICTORIA

PROCLAMATION

“SMALL BUSINESS MONTH”

- WHEREAS** *Small businesses are at the heart of Victoria, leading innovation and adding to the vibrancy of our city; and*
- WHEREAS** *Small businesses are essential to our local, provincial, and national economic wellbeing and provide numerous job; and*
- WHEREAS** *Small businesses make up 98 percent of all business in BC; and*
- WHEREAS** *The City of Victoria recognizes and values the small businesses within our community and their contributions to this beautiful city; and*
- WHEREAS** *The Downtown Victoria Business Association has coordinated a campaign to promote small businesses and highlight their importance to our economy and community.*

NOW, THEREFORE *I do hereby proclaim the month of October 2024, as “SMALL BUSINESS MONTH” on the **HOMELANDS** of the Lekwungen People, the **SONGHEES NATION** and the **XWSEPSUM NATION**, in the **CITY OF VICTORIA**, the **CAPITAL CITY** of the **PROVINCE of BRITISH COLUMBIA**.*

IN WITNESS WHEREOF, *I hereunto set my hand this 25th Day of September, Two Thousand and Twenty-Four.*

MARIANNE ALTO
MAYOR
CITY OF VICTORIA
BRITISH COLUMBIA

Sponsored by:
Downtown Victoria
Business Association





Council Member Motion

For the Committee of the Whole Meeting of October 17th, 2024

To: Committee of the Whole **Date:** October 17, 2024
From: Councillor Jeremy Caradonna and Mayor Marianne Alto
Subject: Advocacy to Province to Support Small Businesses and other Commercial Tenants

Background

Downtown Victoria has witnessed the closure of several small businesses and other commercial tenants in recent months, including Baggins Shoes, Little Jumbo, Tombo, Prism Imaging, the Victoria Events Centre, and others.

In interviews with local media, the outgoing businesses have cited three main factors for closing up shop:

- 1) Post-pandemic economic conditions, including high inflation, high interest rates, skyrocketing commercial rents, and the ongoing shift to online shopping;
- 2) The shift to remote and hybrid work, especially amongst provincial employees, which has deprived downtown Victoria of thousands of small business customers;
- 3) Street disorder and the perception of unsafety in the downtown core.


While the City continues to provide unprecedented levels of social, economic, and health supports, the core responsibilities rest with senior levels of government and the City of Victoria will need help from the incoming government to address these fast-changing and deep-seated economic and social challenges.

In many ways, downtown Victoria is thriving. It has one of the lowest storefront vacancy rates of any downtown in the country, at about 10%, and tourism and other industries remain vibrant. That said, and as with many downtowns across this province and country, it is experiencing the strains of the post-pandemic economy and requires greater investment and supports from all levels of government. The City is doing its part by investing in downtown revitalization, including Our DWTN, heritage revitalization and façade-restoration programs, Royal Athletic Park renovations, the Government Street refresh, the Major Community Initiatives and Events Grant, Centennial Square upgrades, the City Hall bike valet, and other investments, but there is much more to be done, and the support of the provincial government is crucial.

Recommendation

That Council direct the Mayor to write an advocacy letter to appropriate ministries, and the Premier, following the election, to request the following:

1. Greater supports for small businesses and other commercial tenants experiencing high commercial rents and the impacts of current economic conditions;
2. For the Province to consider impacts to downtown Victoria when making decisions about remote and hybrid work arrangements;
3. For a renewed focus on addressing street disorder and its underlying causes, such as insufficient regionwide supportive housing, affordable housing, and health and social services, including for mental health and addictions, all of which sit with the provincial government.


Coun. Jeremy Caradonna
Mayor Marianne Alto