



CORPORATION OF THE TOWNSHIP OF ESQUIMALT

ADVISORY PLANNING COMMISSION

AGENDA

TUESDAY AUGUST 20, 2019

7:00 P.M.

COUNCIL CHAMBER, MUNICIPAL HALL

-
- I. CALL TO ORDER**
 - II. LATE ITEMS**
 - III. ADOPTION OF AGENDA**
 - IV. ADOPTION OF MINUTES – July 16, 2019**
 - V. STAFF REPORTS**

1) DEVELOPMENT VARIANCE PERMIT

1010 Wychbury Avenue

[PID 002 -775- 084, Lot A, Section 11, Esquimalt District, Plan 26297]

Purpose of Application:

The applicant is seeking a parking variance for the addition of a portable classroom at the existing school [Ecolé Macaulay Elementary School] to operate as a Group Children's Day Care Centre. The variance is being requested as additional parking on the property would infringe on the existing non-permeable space for students to play on in the winter when access to the fields is prohibited.

Recommendation:

That the Esquimalt Advisory Planning Commission recommends to Council that the application for a Development Variance Permit, requesting the decrease in the number of required parking spaces for the addition of a Group Children's Day Care Centre as per Site Plan prepared by Bradley Shuya Architect Inc. stamped "Received August 14, 2019" and to include the following variance to Parking Bylaw, 1992, No. 2011 for the property located at 1010 Wychbury Avenue [PID 002- 775-084, Lot A, Section 11, Esquimalt District, Plan 26297] be forwarded to Council with a **recommendation to either approve, approve with conditions, or deny the application; and provide reasons for the chosen recommendation.**

Parking Bylaw, 1992, No. 2011, Part 5 – Parking Requirements, Section 13 – Number of Off-Street Parking Spaces (d) Public Institutional (Schools – Elementary and Junior Secondary) – A reduction to the number of required vehicle parking spaces from 38 to 25.

- 2) Development Permit Application – Hazardous Conditions**
Development Variance Permit Application – Building Height and Setbacks
455 Sturdee Street (Appendix "A")
Lot A Suburban Lot 48 Esquimalt District Plan EPP86766 (Appendix "B")

Purpose of the Application:

The purpose of the development permit application is to establish a minimum geodetic floor elevation for future residential development due to the Tsunami hazard

for two of the proposed Strata Lots in a proposed three-lot residential subdivision (Appendix “C”). The two affected Lots are proposed Strata Lot “B” and proposed Strata Lot “C”. Proposed Strata Lot “A” is above the calculated Tsunami flood level of 9.0 m geodetic.

The purpose of the development variance permit application is to:

- a) Change the way the maximum building height is calculated from 7.3 metres above grade to 16.3 metres geodetic;
- b) Reduce the required front setback on proposed Strata Lot B from 7.5 metres to 3.6 metres; and
- c) Reduce the required rear setback on proposed Strata Lot C from 7.5 metres to 1.5 metres.

Recommendation:

- 1) That the Esquimalt Advisory Planning Commission recommends to Council that the application for a Development Permit for the “Protection of Development From Hazardous Conditions” for a proposed three-lot bare land strata subdivision (Appendix “C”) prepared by Powell & Associates, BC Land Surveyors and stamped “Received August 14, 2019” that would set the minimum habitable floor height at 9.0 m geodetic be forwarded to Council with a recommendation to either **approve, approve with conditions, or deny the application; and including reasons for the chosen recommendation.**

- 2) That the Esquimalt Advisory Planning Commission recommends to Council that the application for a Development Variance Permit allowing for the future construction of two detached dwellings on Proposed Strata Lots “B” and “C” for Strata Plan EPS5951 as prepared by Powell & Associates B.C. Land Surveyors and stamped “Received August 14, 2019”, including the following variance be either **approve, approve with conditions, or deny the application, including reasons for the recommendation.**

Zoning Bylaw, 1992, No. 2050, Section 36 (6)(a) – Building Height – Principal Building – that the Building Height of the Principal Buildings be varied from a maximum Height for 7.3 metres to a maximum height of 16.3 metres geodetic (7.3 metres + 9.0 metres Tsunami Hazard Zone).

- 3) That the Esquimalt Advisory Planning Commission recommends to Council that the application for a Development Variance Permit allowing for the future construction of a detached dwelling on Proposed Lot “B”, Strata Plan EPS5951 as prepared by Powell & Associates B.C. Land Surveyors and stamped “Received August 14, 2019”, including the following variance **be either approve, approved with conditions, or deny the application, including reasons for the recommendation.**

Zoning Bylaw, 1992, No. 2050, Section 36 (9)(a)(i) – Siting Requirements – Principal Building – Front Setback: a 3.9 metre reduction from 7.5 metres to 3.6 metres.

- 4) That the Esquimalt Advisory Planning Commission recommends to Council that the application for a Development Variance Permit allowing for the future construction of a detached dwelling on Proposed Strata Lot “C”, Strata Plan EPS5951 as prepared by Powell & Associates B.C. Land Surveyors and stamped “Received August 14, 2019”, including the following variances be **either approve, approved with conditions, or deny the application, including reasons for the recommendation.**

Zoning Bylaw, 1992, No. 2050, Section 36 (9)(a)(iii) – Siting Requirements – Principal Building – Rear Setback: a 6.0 metre reduction from 7.5 metres to 1.5 metres.

3) **Rezoning Application**
874 Fleming Street
[PID 002-900-246 Lot B, Section 10, Esquimalt District Plan 25267]

Purpose of the Application:

The applicant is requesting a change in zoning from the current RM-4 [Multiple Family Residential] to a Comprehensive Development District zone [CD]. This change is required to accommodate the proposed 6 storey, 137 unit, purpose built affordable rental, multiple family residential building including a 60 space parking garage and 7 surface parking stalls.

Evaluation of this application should focus on issues related to zoning such as the proposed height, density, massing, proposed unit sizes, siting, setbacks, lot coverage, usable open space, parking, permitted uses, fit with the neighbourhood, and consistency with the overall direction contained within the Official Community Plan.

This site is located within Development Permit Area No. 1 - Natural Environment, No. 6 – Multi-Family Residential, No. 7 - Energy Conservation and Greenhouse Gas Reduction and No. 8 - Water Conservation of the Township's Official Community Plan. Should the rezoning be approved, a Development Permit would be considered for consistency against the guidelines of Development Permit Area No. 6 Multi-Family Residential. Furthermore, the form and character of the buildings, landscaping, and consistency with guidelines relating to natural environment protection, energy conservation, greenhouse gas reduction, and water conservation would be controlled by a Development Permit that would be considered by Council at a future date as the proposed development is still situated within Development Permit Areas 1, 7 and 8.

Recommendation:

That the Esquimalt Advisory Planning Commission recommends that the application for Rezoning, authorizing a 21 metre [6 storey], 137 unit, multiple family residential, affordable rental, building sited in accordance with the Site Plan provided by Low Hammond Rowe Architects and incorporating height and massing consistent with the architectural plans provided by Low Hammond Rowe Architects both stamped "Received June 17, 2019", detailing the development proposed to be located at 874 Fleming Street [PID 002-900-246, Lot B, Section 10, Esquimalt District Plan 25267] be forwarded to Council with a recommendation **to either approve, approve with conditions, or deny the application including reasons for the chosen recommendation.**

VI. **ADJOURNMENT**



CORPORATION OF THE TOWNSHIP OF ESQUIMALT

ADVISORY PLANNING COMMISSION MINUTES OF JULY 16, 2019 COUNCIL CHAMBERS, MUNICIPAL HALL

PRESENT:	Graeme Dempster Fil Ferri Michael Angrove	Helen Edley Chris Munkacsi Duncan Cavens
ABSENT:	Marie Fidoe	
STAFF:	Bill Brown, Director of Development Services, Staff Liaison Tricia deMacedo, Planner Janany Nagulan, Planner	
COUNCIL LIAISON:	Councillor Meagan Brame Councillor Jacob Helliwell (regrets)	

I. CALL TO ORDER

Graeme Dempster, Chair, called the Advisory Planning Commission meeting to order at 7:01 p.m.

II. LATE ITEMS

There were no late items

III. APPROVAL OF THE AGENDA

Moved by Michael Angrove, seconded by Chris Munkacsi: That the agenda be approved as circulated. **Carried Unanimously**

IV. ADOPTION OF MINUTES

Moved by Helen Edley seconded by Chris Munkacsi: That the minutes of June 18, 2019, be adopted as circulated. **Carried Unanimously**

V. STAFF REPORTS

1) REZONING APPLICATION 524 Admirals Road

Tricia deMacedo, Planner, provided a general overview of the application including zoning, OCP designation, and parking and responded to questions from Council.

Mary Anne Emmott, Alternative Aromatics Ltd., provided details of rezoning application for 524 Admirals Road. She suggested the new business would enhance walkability in the community and business growth in the area. The applicant intends to remove a storage locker behind the building allowing for up to three additional parking spaces and install a bicycle rack at the front of the building.

Commission comments and questions included (*Response in italics*):

Questions for the Applicant:

- Have you had any conversations with the operators of the Rainbow Kitchen? *A brief discussion that did not relate directly to the application.*

- Have you spoken to the business neighbours that are already there on Admirals? *The one business next to me is my landlord and members of the United Church and the day care gave it a stamp of approval.*
- What were the thoughts from the liquor store owner? *He did not say anything negative.*
- How will you differentiate your store from the other cannabis stores? *There is a limited list of product that we can buy from the province therefore there will not be a lot of difference.*

Questions for Staff:

- What is the status of the other two applications? *The one at 829 Admirals has first and second reading. The one at 1314 Esquimalt Road was withdrawn from Monday's agenda in order to allow the applicant to reassess the space requirements for the Cannabis Store. It will likely be presented to Council after the summer break.*
- How far is this from areas frequented by children? *It is beyond the 500 m exclusion zone from schools.*
- How about the Sunday school at the United Church? *The Business Bylaw only pertains to schools.*
- Does the provincial licencing have limiting distances? *No*
- If Council approves the rezoning application there is no guarantee that they will get a licence, alternatively if Council denies the rezoning application they will *not* get licence from the Province.

APC Discussion:

- Victoria has a 400 m separation distance between stores.
- Some members have concerns regarding proximity between other potential Cannabis stores.
- Some members support the free market approach.
- Cannabis stores are very regulated.
- For a small community we only have so much space.
- Concerns with proximity to the church and Rainbow kitchen.
- Concerns with fit for the neighbourhood.
- Concerns with proximity to other cannabis stores; however, legislation will help regulate.

RECOMMENDATION:

Moved by Duncan Cavens, seconded by Michael Angrove: That the application for rezoning to allow for the operation of a Cannabis Sales Store, consistent with the BC Land Surveyor's certificate prepared by Glen Mitchell, BCLS, stamped "Received June 3, 2019" and the Proposed Parking Reconfiguration for 522 (524) Admirals Road stamped "Received June 3, 2019" be forwarded to Council with a recommendation by the Esquimalt Advisory Planning Commission to approve; subject to Council having a discussion around the issue of having too many cannabis stores in close proximity to each other, as the application on its own merits meets the policy but needs consideration of the larger context. **Defeated.**

Moved by Helen Edley and seconded by Graeme Dempster: That the application for rezoning to allow for the operation of a Cannabis Sales Store, consistent with the BC Land Surveyor's certificate prepared by Glen Mitchell, BCLS, stamped "Received June 3, 2019" and the Proposed Parking Reconfiguration for 522 (524) Admirals Road stamped "Received June 3, 2019" be forwarded to Council with a recommendation by the Esquimalt Advisory Planning Commission to deny the application because the location of the building is not appropriate for this business. **Carried.**

2) ZONING TEXT AMENDMENT
1182 Colville Road – Unit 15

Janany Nagulan, Planner, provided the APC with an overview of the application.

Heather Boulding, Owner, in attendance by phone, had no additional comments to provide regarding the Zoning Text Amendment Application for 15-1182 Colville Road and requested that the Advisory Planning Commission proceed straight to questions.

Commission comments and questions included (*Response in italics*):

- Will you keep the upstairs residential? *Yes, however, when the residents upstairs no longer have to be there we would like to future proof the property by allowing the upstairs to be used for teaching. For example, the three bedrooms could be used as three private teaching rooms and the early child music program could use the common space. We have no immediate need to use the upstairs.*
- How does the parking work? *We have two on-site parking stalls; one is used by the teacher. For the daycare all teachers bike to work. The preschool is drop off and pick up. In terms of the music teaching it is all predominantly private teaching. Most children under 10 are accompanied by a parent. For early childhood music classes the average class size is 6. We have never had a complaint about parking from our neighbours.*
- How many on street parking stalls are there? *There are two time limited stalls. All of the street-parking is up for grabs.*
- Suggested the street parking is seldom used except for the evenings and weekends.
- Requested staff clarify the upstairs would have the option of being either commercial or residential in the future. *Staff confirmed this.*

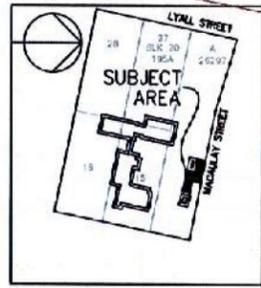
RECOMMENDATION:

Moved by Chris Munkacsi seconded by Helen Edley: That the application for a Zoning Text Amendment, authorizing the additional use of “Group Children’s Day Care Centre” to the existing commercial unit and authorizing that commercial uses be extended to the existing residential unit allowing for one combined residential/commercial dwelling or one commercial unit at 1182 Colville Road – Unit 15 [PID 026-875-683, Strata Lot 15, Section 10, Esquimalt District Strata Plan VIS6147 Together With An Interest In The Common Property In Proportion To The Unit Entitlement Of The Strata Lot As Shown On Form V], **be forwarded to Council with a recommendation by the Esquimalt Advisory Planning Commission to approve; as** it would be positive for the neighbourhood. **Carried Unanimously**

VI. ADJOURNMENT

The meeting adjourned 7:43 p.m.

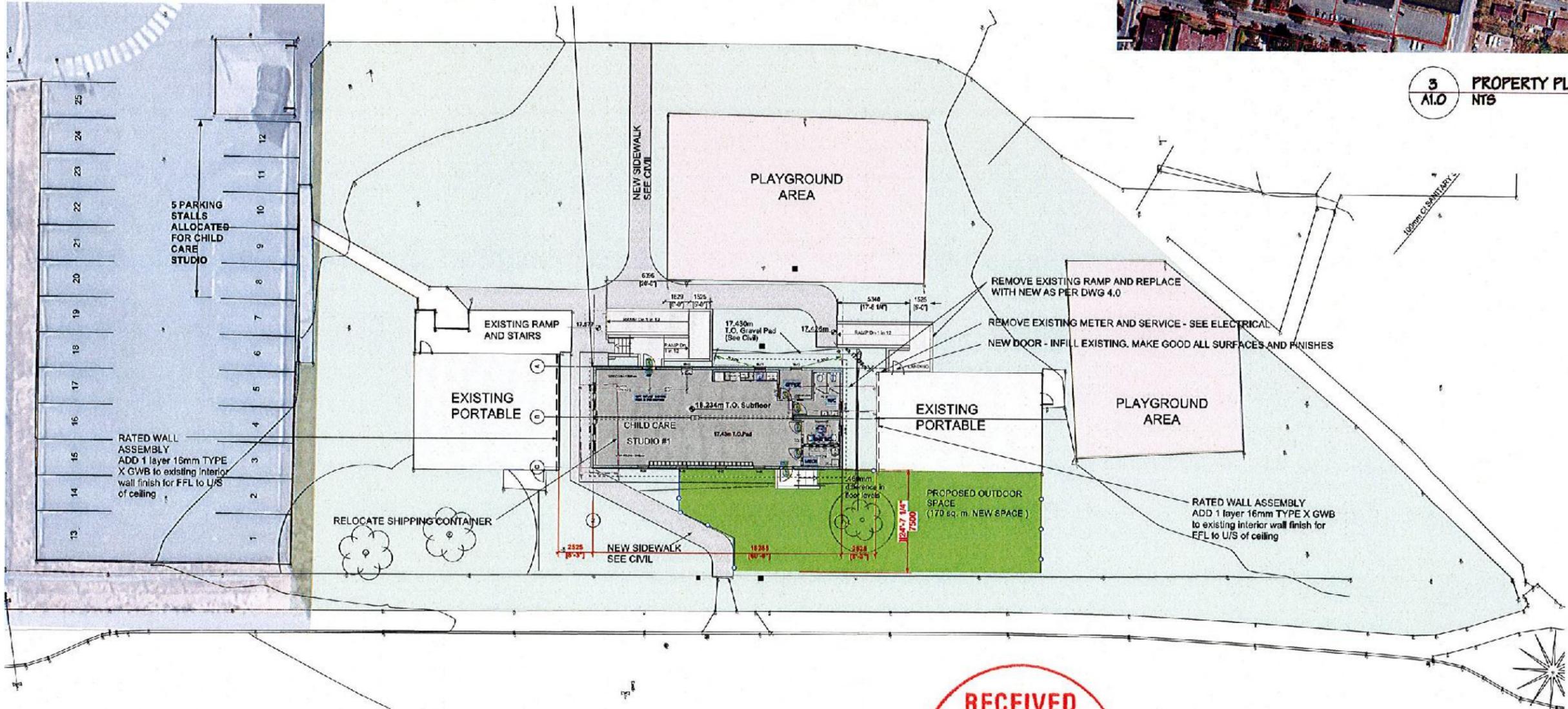
CERTIFIED CORRECT



2 KEY PLAN
A1.0 NTS



3 PROPERTY PLAN
A1.0 NTS



1 SITE PLAN
A1.0 1:150

RECEIVED
AUG 14 2019
CORP. OF TOWNSHIP OF ESQUIMALT
DEVELOPMENT SERVICES



REVISIONS	
3	Update Parking
2	REVISION FOR BPAMMENDMENT
1	ISSUED FOR BP

Greater Victoria School District
École Macaulay Elementary School
 1010 Wychbury Ave., Victoria, BC, V9A 5K6
 NEW CHILD CARE STUDIO - ISSUED FOR BPAMMENDMENT

The design and drawings prepared by the architect are instruments of service for the execution of the work shown and are the property of the architect. The contractor shall verify all dimensions and conditions of the project and be responsible for securing any necessary permits from all authorities and conditions apply on the drawing to the architect for subsequent and in accordance with the contract.

Written dimensions shall take precedence over verbal dimensions. The contractor shall verify all dimensions and conditions of the project and be responsible for securing any necessary permits from all authorities and conditions apply on the drawing to the architect for subsequent and in accordance with the contract.



762 Ralph St, Victoria B.C.
 P. 252.727.6905 - F. 252.727.0606
 brad@bradleyshuyaarchitect.com
 www.bradleyshuyaarchitect.com

SITE PLAN	
Date	Aug. 14, 2019
Scale	AS NOTED
Drawn	AP
Job	18-18C
Sheet	A1.0



CORPORATION OF THE TOWNSHIP OF ESQUIMALT

Municipal Hall, 1229 Esquimalt Road, Esquimalt, B.C. V9A 3P1
Telephone (250) 414-7100 Fax (250) 414-7111

APC Meeting: August 20, 2019

STAFF REPORT

DATE: August 15, 2019

TO: Chair and Members of the Advisory Planning Commission

FROM: Bill Brown, Director of Development Services

SUBJECT: **Development Permit Application – Hazardous Conditions**
Development Variance Permit Application – Building Height and
Setbacks
455 Sturdee Street (Appendix “A”)
Lot A Suburban Lot 48 Esquimalt District Plan EPP86766 (Appendix “B”)

RECOMMENDATION:

- 1) That the Esquimalt Advisory Planning Commission recommends to Council that the application for a Development Permit for the “Protection of Development From Hazardous Conditions” for a proposed three-lot bare land strata subdivision (Appendix “C”) prepared by Powell & Associates, BC Land Surveyors and stamped “Received August 14, 2019” that would set the minimum habitable floor height at 9.0 m geodetic be forwarded to Council with a recommendation to either **approve, approve with conditions, or deny the application; and including reasons for the chosen recommendation.**
- 2) That the Esquimalt Advisory Planning Commission recommends to Council that the application for a Development Variance Permit allowing for the future construction of two detached dwellings on Proposed Strata Lots “B” and “C” for Strata Plan EPS5951 as prepared by Powell & Associates B.C. Land Surveyors and stamped “Received August 14, 2019”, including the following variance be either **approve, approve with conditions, or deny the application, including reasons for the recommendation.**

Zoning Bylaw, 1992, No. 2050, Section 36 (6)(a) –Building Height – Principal Building – that the Building Height of the Principal Buildings be varied from a maximum Height for 7.3 metres to a maximum height of 16.3 metres geodetic (7.3 metres + 9.0 metres Tsunami Hazard Zone).

- 3) That the Esquimalt Advisory Planning Commission recommends to Council that the application for a Development Variance Permit allowing for the future construction of a detached dwelling on Proposed Lot “B”, Strata Plan EPS5951 as prepared by Powell & Associates B.C. Land Surveyors and stamped “Received August 14, 2019”, including the following variance **be either approve, approved with conditions, or deny the application, including reasons for the recommendation.**

Zoning Bylaw, 1992, No. 2050, Section 36 (9)(a)(i) – Siting Requirements –
Principal Building – Front Setback: a 3.9 metre reduction from 7.5 metres to 3.6 metres.

- 4) That the Esquimalt Advisory Planning Commission recommends to Council that the application for a Development Variance Permit allowing for the future construction of a detached dwelling on Proposed Strata Lot “C”, Strata Plan EPS5951 as prepared by Powell & Associates B.C. Land Surveyors and stamped “Received August 14, 2019”, including the following variances be **either approve, approved with conditions, or deny the application, including reasons for the recommendation.**

Zoning Bylaw, 1992, No. 2050, Section 36 (9)(a)(iii) – Siting Requirements –
Principal Building – Rear Setback: a 6.0 metre reduction from 7.5 metres to 1.5 metres.

BACKGROUND:

Purpose of the Applications

The purpose of the development permit application is to establish a minimum geodetic floor elevation for future residential development due to the Tsunami hazard for two of the proposed Strata Lots in a proposed three-lot residential subdivision (Appendix “C”). The two affected Lots are proposed Strata Lot “B” and proposed Strata Lot “C”. Proposed Strata Lot “A” is above the calculated Tsunami flood level of 9.0 m geodetic.

The purpose of the development variance permit application is to:

- a) Change the way the maximum building height is calculated from 7.3 metres above grade to 16.3 metres geodetic;
- b) Reduce the required front setback on proposed Strata Lot B from 7.5 metres to 3.6 metres; and
- c) Reduce the required rear setback on proposed Strata Lot C from 7.5 metres to 1.5 metres.

Context

Applicant: Aaron Flaig, Pacific East Developments Limited
Owner: Darrell Russell Brown,
Property Size: 0.172 ha
Existing Land Use: Vacant Single Family Residential

Surrounding Land Uses:

North: Vacant Single Family Residential Lot
South: Strait of Juan de Fuca
West: Single Family Residential
East: Single Family Residential

Zoning: Single Family Waterfront Residential [R-3] [no change required]

OCP Proposed Land Use Designation: Low Density Residential [no change required]

Zoning and Parking

The proposed lots conform to the Single-Family Waterfront Residential [R-3] zone in terms of minimum area and minimum lot width. However, in order to allow for the efficient development, several variances are required. First, height variances will be required for proposed Strata Lots B and C. This is because the Height is measured from Grade which is defined in the Zoning Bylaw as:

the average of the existing ground (as determined by a BC Land Surveyor) of those points of a polygon having the shortest perimeter that will encompass the outermost walls of a building or structure, provided that localized depressions such as vehicle or pedestrian entrances need not be considered in the determination of the average of existing ground.

The Maximum Height in the Single Family Waterfront Residential [RS-3] Zone for a Principal Building is 7.3 metres. Due to the sloping nature of the site and the fact that there can be no habitable space below 9.0 metres geodetic, the height restriction would constrain the type of dwelling that could be built on Strata Lots B and C. By establishing a maximum Building Height of 16.3 metres based on setting grade at 9.0 metres and then allowing a Building Height of 7.3 metres, the development potential of the properties are maintained. It should be noted that the 9.0 m geodetic elevation is the same elevation as the strata access road, so the relationship between the floor level elevation of the dwelling unit and the street level elevation will read as a typical street, although much narrower.

The proposed reduction of the Front Yard Setback for proposed Lot B from 7.5 metres to 3.6 metres has a number of advantages.

- a) It allows the building to be moved forward on the lot thereby reducing the portion of the foundation that would have to be built below the 9.0 metre Tsunami elevation.
- b) It allows the building to be moved forward on the lot thereby creating a greater setback from the shoreline.
- c) It allows the building to be moved forward on the lot thereby improving the view cones on adjacent properties.
- d) It allows the building to be moved forward on the lot thereby creating a consistent setback along the Common Property Access Road.

The proposed reduction of the Rear Yard Setback for proposed Lot C is a result of how Front Lot Line is defined in the Zoning Bylaw:

"Lot Line, Front" means the Lot Line(s) common to the Parcel and an abutting Highway or Access Route, but: **[Amendment, 2018, Bylaw No. 2938]**

(1) Where a Parcel has Lot Lines abutting two or more Highways, or Access Routes, the Lot Line (or combined Lot Lines abutting one Highway) having the shorter length abutting a Highway or Access Route is the Front Lot Line;

Although based on the site layout the front lot line would intuitively be along the Common Property Access Road similar to proposed Strata Lot B – by definition it is along the undeveloped portion of Sturdee Street. Although legally a Rear Yard it functions as a Side Yard when reviewed in the context of proposed Lot B. Treating it as a Side Yard allows for a more practical building envelope and has no significant impacts on any adjacent properties.

Official Community Plan [OCP]

The Official Community Plan requires that any subdivision application within the Hazardous Conditions Development Permit Area requires a Development Permit for the Protection of Development from Hazardous Conditions. As described in Section 19.3 of the Official Community Plan,

The Township is located in one of the most seismically active areas in Canada. As such it is imperative that land use and development decisions take into consideration the potential dangers associated with tsunamis. A tsunami is a series of long surge-like waves and is usually caused by an underwater earthquake, landslide, or volcanic eruption. The most dangerous tsunami threat in the Capital Region will follow a major earthquake in the Cascadia subduction zone (CSZ), located about 100 km off Vancouver Island. Such an earthquake will cause ground shaking lasting between one and four minutes and will result in significant damage throughout the region (<https://www.crd.bc.ca/about/news/article/2013/04/19/modelling-tsunami>). These guidelines are justified based on the thousands of people across the globe who have been killed due to tsunamis.

Section 19.5 of the Official Community Plan contains the following Development Permit Area Guidelines

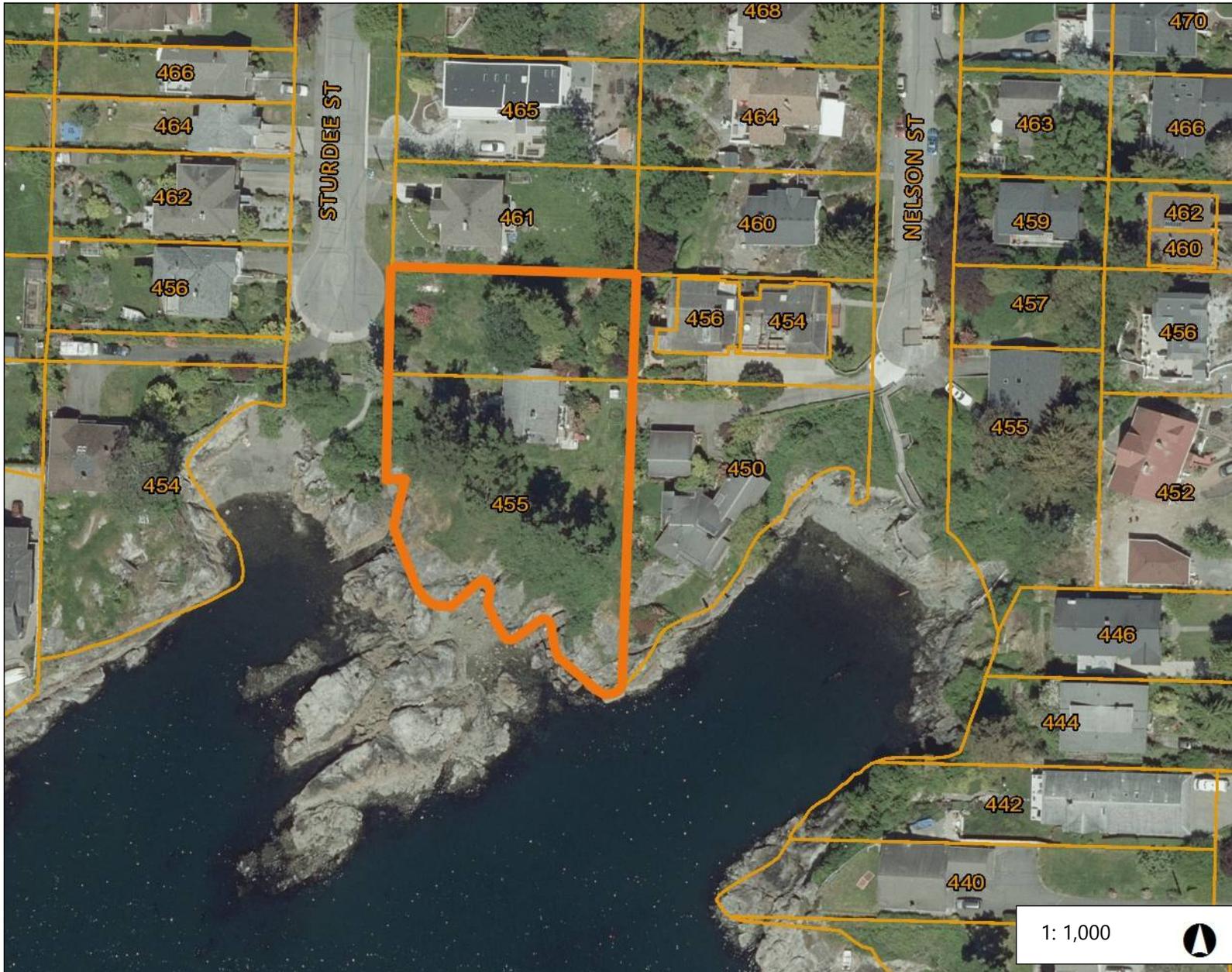
- 1. No building intended for the occupation of people shall be built within an area directly impacted by a tsunami.*
- 2. Tsunami walls, retaining walls, sea walls, and other similar structures located in an area directly impacted by a Tsunami shall be designed to absorb wave energy and deflect residual wave energy away from locations likely to be occupied by people.*
- 3. Use of board form design, landscaping, breaking up large expanses of flat surfaces, and other techniques to add interest in Tsunami walls, sea walls, and other similar structures is encouraged.*
- 4. The use of construction materials that may leach toxic chemicals over time into the land or water should be avoided.*
- 5. Incorporating wildlife habitat such as marine pools, nesting ledges, rough surfaces, sheltered coves, and similar design elements into tsunami walls, retaining walls, and sea walls is encouraged.*

The applicant has provided a letter from a Geotechnical Engineer (Appendix D) that recommends between an 8.4 and 9.0 m geodetic elevation for the floor slab elevation of a future dwelling unit on proposed Strata Lots “B” and “C”. At this time the Advisory Planning Commission is only dealing with a proposed subdivision – not a proposed dwelling unit - so this development permit will only establish the overall geodetic elevation for any future floor slabs within the subdivision. The Development Permit Area guidelines are more appropriate for an actual proposed development as opposed to a proposed subdivision. It should be noted that the Official Community Plan requires that the owner apply for a subsequent Development Permit for the Protection of Development from Hazardous Conditions for the actual dwelling unit. At that time, a more rigorous application of the guidelines will apply.

ALTERNATIVES:

1. Forward the application for Development Permit to Council with a **recommendation of approval including reasons for the recommendation.**
2. Forward the application for Development Permit to Council with a **recommendation of approval including specific conditions and including reasons for the recommendation.**
3. Forward the application for Development Permit to Council with a **recommendation of denial including reasons for the recommendation.**
4. Forward the application for Development Variance Permit to Council with a **recommendation of approval including reasons for the recommendation.**
5. Forward the application for Development Variance Permit to Council with a **recommendation of approval including specific conditions and including reasons for the recommendation.**
6. Forward the application for Development Variance Permit to Council with a **recommendation of denial including reasons for the recommendation.**

Appendix "A" 455 Sturdee Street Key Map



Legend

- Regional District Boundary
- Electoral Area Boundary 1-7.5I
- Municipal Boundary 1-7.5K
- International Boundary
- Community Labels
- Geographic Labels
- Coastal Water Labels
- Building Footprint
- Civic Sites
 - Airport
 - Paramedic
 - Recreation Center
 - Office
 - Library
 - Museum
 - Firehall
 - Hospital
 - Police
 - School
 - Golf
 - Ferry
 - Station
- Road Labels 1-1500
 - E & N Railway
 - All Road Types 1-1.5K
 - Ferry Route

Notes

0.1 0 0.03 0.1 Kilometres

NAD_1983_UTM_Zone_10N
© Capital Regional District

Important: This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

Reference Plan of Lot 24, Suburban Lot 48, Esquimalt District, Plan 822

PLAN EPP86766

Pursuant to Section 100(1)(a) of the Land Title Act
BCGS 92B.044

84H0154
Datum: NAD83(CSR)3.0.0.BC.1.CRD
UTM Zone 10 coordinates
UTM Northing 5363988.645
UTM Easting 468891.873
Point Combined Factor 0.9996123
Estimated horizontal positional accuracy is 0.01m.



All distances are shown in metres.

The intended plot size of this plan is 432mm in width by 560mm in height (C size) when plotted at a scale of 1:300.

LEGEND

Integrated Survey Area No. 38, Township of Esquimalt NAD83 (CSRS) 3.0.0.BC.1.CRD

Grid bearings are derived from observations between geodetic control monuments 84H0154 and 84H0202.

The UTM coordinates and estimated horizontal positional accuracy achieved are derived from the MASCOT published coordinates and standard deviations for the geodetic control monuments 84H0154 and 84H0202.

This plan shows horizontal ground-level distances unless otherwise specified. To compute grid distances, multiply ground-level distances by combined factor of 0.9996133 which has been derived from control monument 84H0202.

Found	Set	Denotes
●	○	Standard Iron Post
■	□	Standard Lead Plug
▲	▲	Control Monument
⊙	⊙	Non Standard Post
△	△	Traverse Station
IPR	+	Short Iron Post in rock
	+	Unmarked measured point



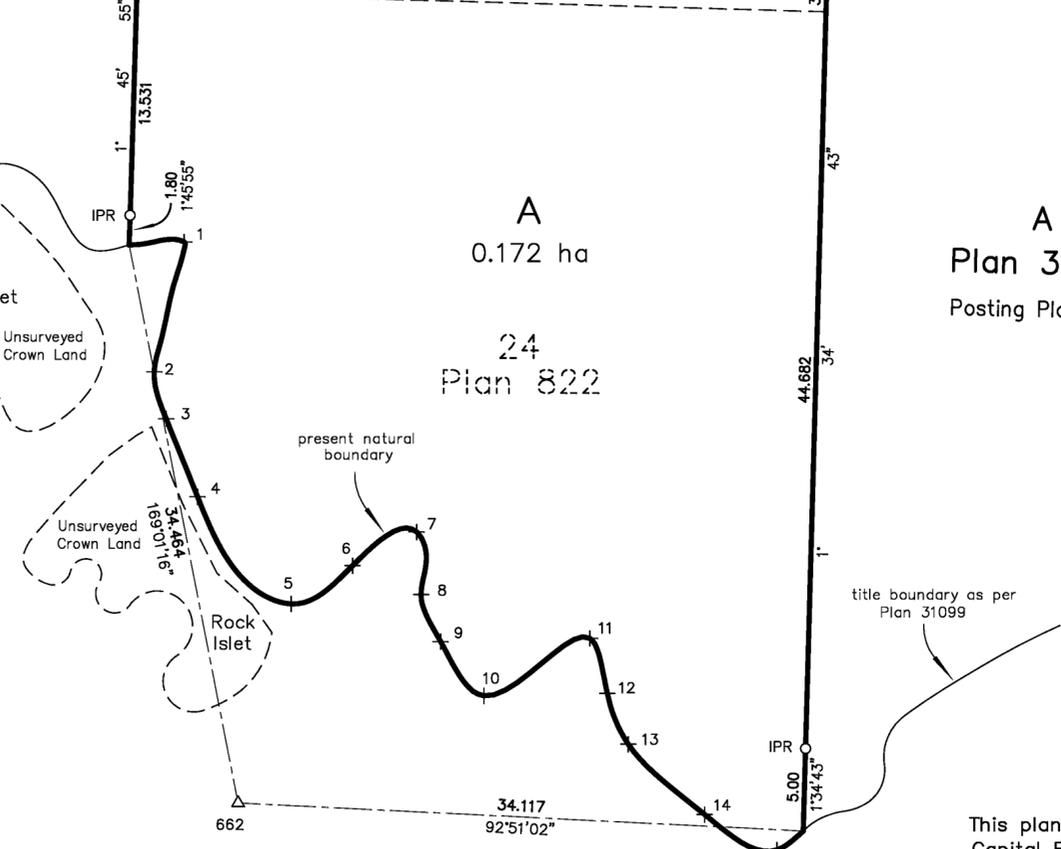
Sturdee Street

84H0202
Datum: NAD83(CSR)3.0.0.BC.1.CRD
UTM Zone 10 coordinates
UTM Northing 5363793.131
UTM Easting 468898.370
Point Combined Factor 0.9996133
Estimated horizontal positional accuracy is 0.01m.

Ties to Natural Boundary

From - To	Bearing	Distance
662 to 1	354°32'45"	34.16
662 to 2	349°03'15"	26.62
662 to 3	349°27'45"	23.69
662 to 4	352°30'30"	18.73
662 to 5	14°51'10"	12.49
662 to 6	25°38'10"	15.96
662 to 7	33°13'55"	19.64
662 to 8	41°07'50"	16.78
662 to 9	51°17'45"	15.65
662 to 10	66°18'35"	16.18
662 to 11	64°47'40"	23.44
662 to 12	73°23'30"	23.23
662 to 13	81°23'10"	23.79
662 to 14	91°25'20"	28.13
662 to 15	95°00'40"	32.61

Pontoon Cove



L TSA FILE: 0889184

File : 11098-19
POWELL & ASSOCIATES
B C Land Surveyors
250-2950 Douglas Street
Victoria, BC V8T 4N4
phone (250) 382-8855

Land Title Act, Section 94(1)(d)
The water boundary shown hereon is the natural boundary as defined in the Land Act

This plan lies within the Capital Regional District

The field survey represented by this plan was completed on the 21st day of September, 2018.
Scott T. Pearce, BCLS 951

BC LAND SURVEYORS SITE PLAN OF:

Civic: 455 Sturdee Street

Legal: Strata Lots A, B & C, Suburban Lot 48,
Esquimalt District, Strata Plan EPS5951

Scale - 1 : 250 Distances are in metres.

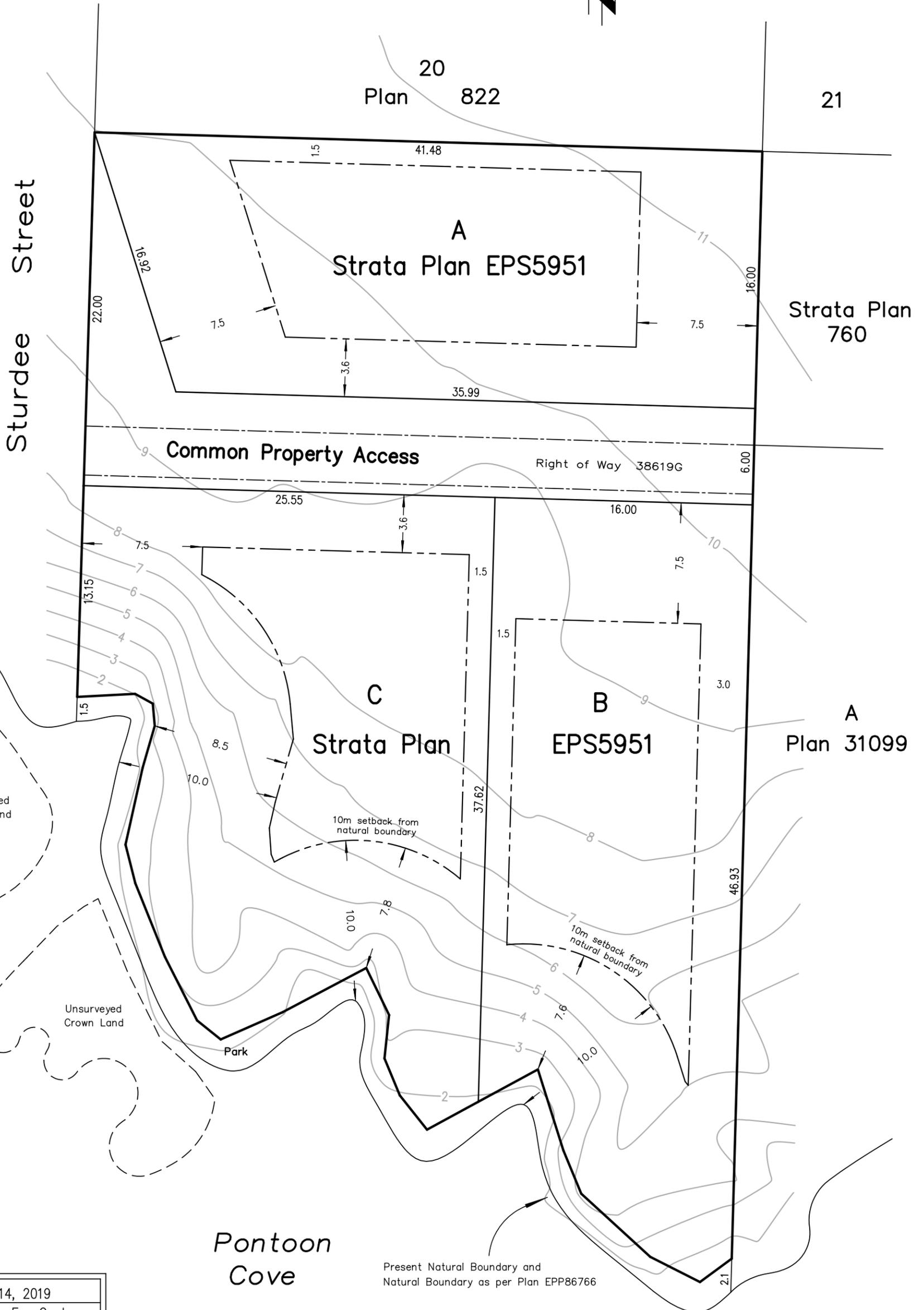


The intended print size is 11" by 17".

LEGEND

Contour Interval = 1.0 metres

Contours have been derived by digital terrain modelling and any critical elevations must be verified by field survey.



Date	August 14, 2019
Drawing	Site Bldg Env Contours
File	11098 - 19
POWELL & ASSOCIATES	
B C Land Surveyors	
250-2950 Douglas Street	
Victoria, BC V8T 4N4	
phone (250) 382-8855	

RYZUK GEOTECHNICAL
Engineering & Materials Testing

28 Crease Avenue, Victoria, BC, V8Z 1S3 Tel: 250-475-3131 Fax: 250-475-3611 www.ryzuk.com

August 8, 2019
File No: 8-4943-5

Pacific East Developments
PO box 30060 RPO Reynolds
Victoria, BC
V8X 5E1

Attn: Mr. Aaron Flaig

Dear Sir,

Re: Proposed Three Lot Subdivision
455 Sturdee Street – Esquimalt, BC

We issued a geotechnical assessment letter for the above-referenced proposed development on November 27, 2018. That letter, plus a 2014 letter for a similar proposal by a different proponent, included provision of a recommended Flood Construction Level (FCL) for future residences on the three lots, but did not provide a specific estimate of the tsunami level under the design earthquake. Recent correspondence from the Township of Esquimalt, which you have forwarded to us, notes that they require a qualified professional to provide “an estimated geodetic elevation for tsunami inundation” before the proposed subdivision can be approved. Our related comments and recommendations in this regard are contained herein. Our work has been carried out in accordance with, and is subject to, the attached Terms of Engagement.

The waterfront property is located within southern Esquimalt, generally bounded by similar residential properties to the north and east, Sturdee Street and a public water access to the west, and by the foreshore of the Strait of Juan de Fuca to the south. The site is gently sloping downwards to the south within the northern and central areas, with the slope inclination steepening to moderately steep with local steep portions adjacent to the irregular shoreline. According to topographic information that you recently provided to us, elevation across the property ranges from about 11.5 m geodetic at the northeast corner to about 1.3 -1.5 m at the Present Natural Boundary (PNB) along the shoreline, with the elevation of the crest of the steeper foreshore slope gradually decreasing from about 8 m at the western side of the property to as little as 5 m at the eastern side. Bedrock is exposed along the shoreline and we expect that a thin veneer of topsoil with possible localized pockets of dense glacial till or very stiff glacio-marine silty clay may overlie shallow bedrock in upland areas. Some fill soils associated with past site works may also be encountered. The bedrock was noted to be hard gneiss and the surface of the rock is typically erratic, as observed along the shoreline. A residence that was present near the middle of the property at the time our previous letter was prepared has been removed, and site grading and construction of the common access road and utilities is underway.

The e-mail correspondence from Esquimalt notes that tsunami hazard reports had recently been prepared for a number of sites, including a development that is located at 455 Nelson Street, which is

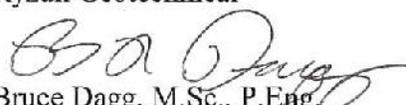
located about 100 m to the east of the subject property on the same small bay. The e-mail further notes that the assessment procedure used for that property would be appropriate for 455 Sturdee. A review of our files indicates that, although we were involved with some aspects of that project, we deferred discussion of tsunami levels to a report prepared specifically for that site by International Tsunami Research Inc. (ITR). We understand that you contacted one of the principals of that firm and found that they no longer offer this service. We do not possess the same level of expertise as ITR in estimating tsunami levels, and can only comment on the similarity and differences between the two properties and whether the level predicted by ITR for 455 Nelson might also apply at 455 Sturdee, if such an approach would be acceptable to Esquimalt.

The two properties are located on a rocky shoreline at the head of an unnamed bay to the northwest of Saxe Point. The foreshores of the properties have a similar aspect, to the southwest towards the Strait of Juan de Fuca proper, roughly parallel to the relatively straight section of coastline that extends from Fisgard Lighthouse to Rocky Point. Given the similar topography, aspect and setting of the two properties, we expect that the tsunami level should be similar, although we do note that the reported elevations on Nelson property (prior to development) were somewhat higher, with a proposed minimum lower floor building elevation in the range of 14.2 – 14.3 m geodetic.

In considering a combination of the effects of sea level rise between now and the year 2100, storm surge, El Nino, tide, and tsunami based on a Cascadia Subduction Zone earthquake with magnitude of 9.0 or greater, the ITR report derives a predicted tsunami level of 8.36 m geodetic, although they emphasize that several of the components of this cumulative figure are estimates. They further note that, given the grades noted in the previous paragraph, the proposed building at 455 Nelson Street would be close to 6 m above the anticipated maximum tsunami height. However, as noted previously, site grades at 455 Sturdee Street are significantly lower. In particular, the proposed Strata Lot (SL) A currently lies between about 9.1 and 11.5 m elevation geodetic, but only about the northern one-third of SL B and a small portion of SL C appear to be above 8.4 m. We are uncertain of the maximum permissible grades on this site (due to building height restrictions and the like), but we recommend a minimum top of floor slab elevation (assuming slab on grade construction) of 8.4 m, and preferably closer to 9.0 m if permissible, for protection against the *estimated maximum* tsunami level. We reiterate that this estimate has been developed by others, for a nearby and similar site, although it appears to be generally applicable to the site at 455 Sturdee Street.

We trust that the preceding is suitable for your purposes at present, and satisfies the requirements of the Township of Esquimalt. Please don't hesitate to contact our office if we can be of further assistance. This letter is to be read in conjunction with our letter of November 27, 2018.

Yours very truly,
Ryzuk Geotechnical


Bruce Dagg, M.Sc., P.Eng.
Principal Geotechnical Engineer



Attachment – Terms of Engagement

TERMS OF ENGAGEMENT

GENERAL

Ryzuk Geotechnical (the Consultant) shall render the Services, as specified in the agreed Scope of Services, to the Client for this Project in accordance with the following terms of engagement. The Services, and any other associated documents, records or data, shall be carried out and/or prepared in accordance with generally accepted engineering practices in the location where the Services were performed. No other warranty, expressed or implied is made. The Consultant may, at its discretion and at any stage, engage sub-consultants to perform all or any part of the Services.

Ryzuk Geotechnical is a wholly owned subsidiary of C. N. Ryzuk & Associates Ltd.

COMPENSATION

All charges will be payable in Canadian Dollars. Invoices will be due and payable by the Client on receipt of the invoice without hold back. Interest on overdue accounts is 24% per annum.

REPRESENTATIVES

Each party shall designate a representative who is authorized to act on behalf of that party and receive notices under this Agreement.

TERMINATION

Either party may terminate this engagement without cause upon thirty (30) days' notice in writing. On termination by either party under this paragraph, the Client shall forthwith pay to the Consultant its Charges for the Services performed, including all expenses and other charges incurred by the Consultant for this Project.

If either party breaches this engagement, the non-defaulting party may terminate this engagement after giving seven (7) days' notice to remedy the breach. On termination by the Consultant under this paragraph, the Client shall forthwith pay to the Consultant its Charges for the Services performed to the date of termination, including all fees and charges for this Project.

ENVIRONMENTAL

The Consultant's field investigation, laboratory testing and engineering recommendations will not address or evaluate pollution of soil or pollution of groundwater. The Consultant will cooperate with the Client's environmental consultant during the field work phase of the investigation.

PROFESSIONAL RESPONSIBILITY

In performing the Services, the Consultant will provide and exercise the standard of care, skill and diligence required by customarily accepted professional practices and procedures normally provided in the performance of the Services contemplated in this engagement at the time when and the location in which the Services were performed.

INSURANCE

Ryzuk Geotechnical is covered by Professional Indemnity Insurance as follows:

1. \$ 3,000,000 each and every claim
2. \$ 5,000,000 aggregate
3. \$ 5,000,000 commercial/general liability coverage

LIMITATION OF LIABILITY

The Consultant shall not be responsible for:

1. the failure of a contractor, retained by the Client, to perform the work required for the Project in accordance with the applicable contract documents;
2. the design of or defects in equipment supplied or provided by the Client for incorporation into the Project;
3. any cross-contamination resulting from subsurface investigations;
4. any Project decisions made by the Client if the decisions were made without the advice of the Consultant or contrary to or inconsistent with the Consultant's advice;
5. any consequential loss, injury or damages suffered by the Client, including but not limited to loss of use, earnings and business interruption;
6. the unauthorized distribution of any confidential document or report prepared by or on behalf of the consultant for the exclusive use of the Client
7. Subsurface structures and utilities

The Consultant will make all reasonable efforts prior to and during subsurface site investigations to minimize the risk of damaging any subsurface utilities/mains. If, in the unlikely event that damage is incurred where utilities were unmarked and/or undetected, the Consultant will not be held responsible for damages to the site or surrounding areas, utilities/mains or drilling equipment or the cost of any repairs.

The total amount of all claims the Client may have against the Consultant or any present or former partner, executive officer, director, stockholder or employee thereof under this engagement, including but not limited to claims for negligence, negligent misrepresentation and breach of contract, shall be strictly limited to the amount of any professional liability insurance the Consultant may have available for such claims.

No claim may be brought against the Consultant in contract or tort more than two (2) years after the date of discovery of such defect.

DOCUMENTS AND REPORTING

All of the documents prepared by the Consultant or on behalf of the Consultant in connection with the Project are instruments of service for the execution of the Project. The Consultant retains the property and copyright in these documents, whether the Project is executed or not. These documents may not be used on any other project without the prior written agreement of the Consultant.

The documents have been prepared specifically for the Project, and are applicable only in the case where there has been no physical alteration to, or deviation from any of the information provided to the Consultant by the Client or agents of the Client. The Client may, in light of such alterations or deviations, request that the Consultant review and revise these documents.

The identification and classification as to the extent, properties or type of soils or other materials at the Project site has been based upon investigation and interpretation consistent with the accepted standard of care in the engineering consulting practice in the location where the Services were performed. Due to the nature of geotechnical engineering, there is an inherent risk that some conditions will not be detected at the Project site, and that actual subsurface conditions may vary considerably from investigation points. The Client must be aware of, and accept this risk, as must any other party making use of any documents prepared by the Consultant regarding the Project.

Any conclusions and recommendations provided within any document prepared by the Consultant for the Client has been based on the investigative information undertaken by the Consultant, and any additional information provided to the Consultant by the Client or agents of the Client. The Consultant accepts no responsibility for any associated deficiency or inaccuracy as the result of a miss-statement or receipt of fraudulent information.

JOBSITE SAFETY AND CONTROL

The Client acknowledges that control of the jobsite lies solely with the Client, his agents or contractors. The presence of the Consultant's personnel on the site does not relieve the Client, his agents or contractors from their responsibilities for site safety. Accordingly, the Client must endeavor to inform the Consultant of all hazardous or otherwise dangerous conditions at the Project site of which the Client is aware.

The client must acknowledge that during the course of a geotechnical investigation, it is possible that a previously unknown hazard may be discovered. In this event, the Client recognizes that such a hazard may result in the necessity to undertake procedures which ensure the safety and protection of personnel and/or the environment. The Client shall be responsible for payment of any additional expenses incurred as a result of such discoveries, and recognizes that under certain circumstances, discovery of hazardous conditions or elements requires that regulatory agencies must be informed. The Client shall not bring about any action or dispute against the Consultant as a result of such notification.

FIELD SERVICES

Where applicable, field services recommended for the Project are the minimum necessary, in the sole discretion of the Consultant, to observe whether the work or a contractor retained by the Client is being carried out in general conformity with the intent of the Services. Any reduction from the level of services recommended will result in the Consultant providing qualified certifications for the work.

DISPUTE RESOLUTION

If requested in writing by either the Client or the Consultant, the Client and the Consultant shall attempt to resolve any dispute between them arising out of or in connection with this Agreement by entering into structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. If a dispute cannot be settled within a period of thirty (30) calendar days with the mediator, the dispute shall be referred to and finally resolved by arbitration under the rules of the arbitrator appointed by agreement of the parties or by reference to a Judge of the British Columbia Court.

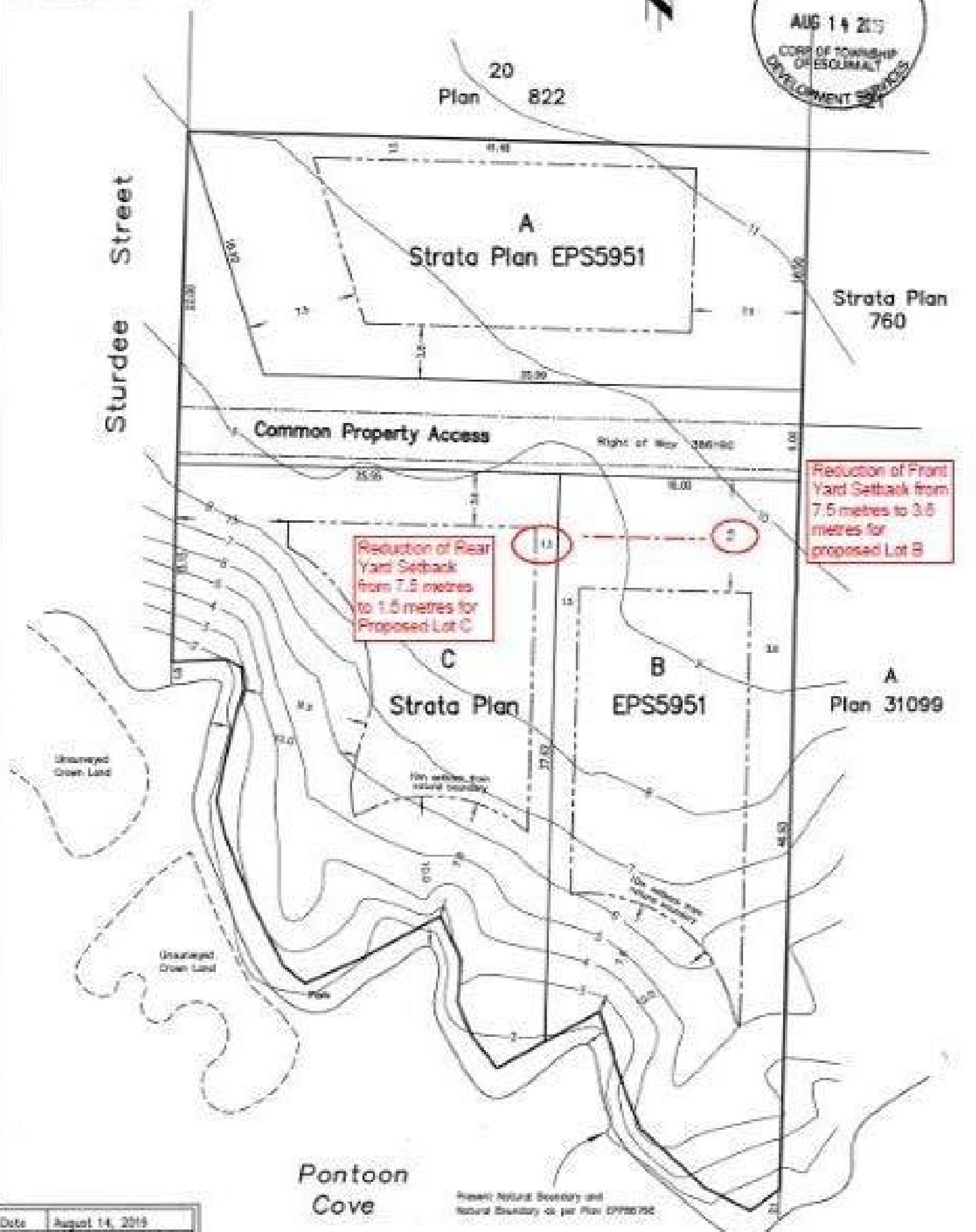
BC LAND SURVEYORS SITE PLAN OF:

Civic: 455 Sturdee Street

Legal: Strata Lots A, B & C, Suburban Lot 48,
Esquimalt District, Strata Plan EPS5951

LEGEND
Contour Interval = 1.0 metres
Contours have been derived by digital terrain modelling and any vertical elevations must be verified by field survey

S.S.P.L.S. - 1:2.5.0 Distances are in metres.
0 2 10 20
The intended print size is 11" by 17".



Date	August 14, 2015
Drawing	Site Bay, Etn Contours
File	11098 - 15
POWELL & ASSOCIATES	
B.C. Land Surveyors	
250-2950 Douglas Street	
Victoria, BC V8T 4N4	
phone (250) 383-8855	

Refer Natural Boundary and Natural Boundary as per Plan EPS5951

The applicant is requesting a change in zoning from RM to M. The property is currently zoned RM and is located at 1234 Main Street, Riverside, CA 92501. The property is currently vacant and the applicant is seeking to develop the property for residential use.

Context

Applicant: Mr. John Doe, 1234 Main Street, Riverside, CA 92501

Owners: Mr. John Doe, 1234 Main Street, Riverside, CA 92501

Property Size: 0.25 acres, 10,890 sq. ft.

Existing Land Use: Residential Medium Density (RM)

Surrounding Land Uses:

- Residential Medium Density (RM)
- Residential Single-Family (RSF)
- Commercial (C)
- Industrial (I)
- Municipal (M)

OCP Proposed Land Use Designation: Medium Density Residential (MDR)

Existing Zoning: Residential Medium Density (RM)

Proposed Zoning: Medium Density Residential (MDR)

Official Community Plan

The Official Community Plan (OCP) for the City of Riverside identifies the area surrounding the subject property as a Medium Density Residential (MDR) area. The OCP states that the MDR area is intended to provide a mix of residential uses, including single-family homes, townhomes, and small multi-family units. The subject property is currently zoned Residential Medium Density (RM), which is a less dense residential use than the MDR area. Therefore, a change in zoning to MDR is necessary to allow for the development of the property in accordance with the OCP.

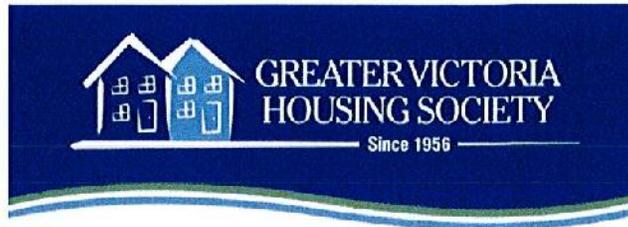
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- The applicant is requesting a change in zoning from RM to M. The property is currently zoned RM and is located at 1234 Main Street, Riverside, CA 92501. The property is currently vacant and the applicant is seeking to develop the property for residential use.



June 17, 2019

Township of Esquimalt
1229 Esquimalt Road
Esquimalt, British Columbia
V9A 3P1

Dear Mayor Desjardins, Council, and Staff:

Re: Application to Rezone 874 Fleming Street, Esquimalt, British Columbia

Please accept this letter as part of our Rezoning Application for 874 Fleming Street, a proposed one hundred and thirty-seven (137) unit permanently affordable, residential rental building.

874 Fleming Street, currently known as Esquimalt Lions Lodge, was designed and constructed by the Esquimalt Lions Club in 1972. The Greater Victoria Housing Society acquired the four (4) storey, seventy-seven (77) unit apartment building in 1980 and has continued operation of the building to this day. A recent feasibility study indicates that the current site is underutilized and can support a building nearly twice in size. As the current building is well past its effective life and no longer meets the needs of the tenants, we are proposing to rezone the property from RM-4 to a site-specific zone.

The site is a single lot approximately 3,903 sq. m. and is bounded by single family lots to the north, an undeveloped treed lot to the west, a multi-residential building to the east, and the Esquimalt Lions Park to the south. The proposed development is a six (6) storey wood frame building, over a single below grade parkade. The ground floor will contain multiple common rooms with patios, common laundry room, and caretaker's office with washroom facilities.

The proposed development is being designed to Step 4 of the BC Energy Step Code subject to funding availability. The Greater Victoria Housing Society strives to create Zero Emission buildings by eliminating the need for a natural gas, domestic hot water heating system, thereby reducing annual CO² outputs entirely.

The proposed development is designed using Crime Prevention through Environmental Design (CTPED) principles to engage and promote safety and security for tenants and visitors. To minimize opportunities for concealment, the building footprint is uncomplicated, with minimal alcoves and recesses. Landscaping is similarly articulated with a combination of low ground cover and high crown plant species that provide clear sight lines into front, rear, and side yards eliminating blind spots. Appropriate levels of shielded lighting provide safe, well-lit pathways and garden areas around the building, specifically at entry and exit doors.

The proposed development has been carefully designed to conform with the *Official Community Plan* (OCP). The OCP recognizes this site under Section 5.3, Medium and High Density Residential Development. The proposed development meets the strategic directions as outlined by thoughtfully increasing residential density and enhancing the existing neighbourhood through quality design.

The OCP acknowledges affordable housing units as an amenity to the Township of Esquimalt under section 5.4, Affordable Housing. It is the intent of the Greater Victoria Housing Society to design and construct this development as a purpose-built rental building to be owned and operated by the Greater Victoria Housing Society. The proposed development includes twenty-eight (28) studios, sixty-seven (67) one bedroom units, twenty-four (24) two bedroom units, five (5) three bedroom units, six (6) four bedroom units, and seven (7) fully accessible studios, with rental rates set to assist seniors and families earning very low to moderate incomes.

The proposed development allows seniors to 'age in place' in age-friendly housing and addresses the shortage of family and child-friendly housing in the Township of Esquimalt.

Funding for the proposed development is provided by BC Housing as part of the provincial Community Housing Fund program. As per the funding agreement with BC Housing, the Greater Victoria Housing Society will enter into an Operating Agreement with BC Housing for a period of no less than thirty-five years. This agreement will outline minimum and maximum rental amounts, along with the demographic of residents.

Tenants will have the opportunity to take advantage of the neighbouring parkland, schools, recreation facilities, and public transportation, aiding in an active lifestyle and the ability to live, work, and play in the Township of Esquimalt.

The provision of one hundred and thirty-seven (137) units (sixty (60) net units) will provide many benefits to the current tenants, neighbours, and the community at large. The increase in density on the site is beneficial to the local economy as it will increase the consumer base to the neighbourhood, in addition to consumers and employees for local businesses.

The form, massing, and character have been developed in keeping with Section 23, DPA.: 6 Multi-Family Residential as listed in the OCP. The proposed development addresses the Guidelines under Section 23.5 as follows:

- Sightlines have been limited along the north elevation as to not intrude on neighbouring properties, in addition to the increased 6.5 m. setback.
- Appropriate setbacks along the south elevation highlight the proposed building entrance and add key interest to the streetscape, encouraging interaction at the street level.
- Enhanced landscaping creates visual stimulation and allows for distinct separation between the proposed building and the neighbouring residential properties.

Convenient and efficient transportation access encourages opportunities for cycling, walking, and public transit use.

The proposed development includes sixty (60) secure underground parking stalls, seven (7) surface stalls, including a loading bay, and a bicycle facility capable of accommodating one hundred and thirty-eight (138) bicycles.

A total of 10% of all parking stalls will be equipped with EV charging stations. Additional conduit will be distributed to each remaining parking stall for the installation of future EV charging stations. Charging for mobility scooters and electric bicycles will be provided.

As per the Development Application Procedures and Fee Bylaw No.: 2791, 2012, a Community Open House was held in the evening on the 29th of May, 2019. The Greater Victoria Housing Society welcomed more 25 members of the neighbourhood and community to view the proposed development plans and provide comments and feedback. The response was overwhelmingly positive.

The Greater Victoria Housing Society further met with the current tenants of the Esquimalt Lion's Lodge on the 29th of May, 2019, to discuss the redevelopment of the site and the details of the Tenant Relocation Plan.

Founded in 1956, the Greater Victoria Housing Society is a non-profit organization dedicated to providing affordable rental housing. For over 62 years, the Greater Victoria Housing Society has provided homes to low to moderate-income seniors, families, working individuals, and adults with disabilities. The Greater Victoria Housing Society owns and operates seventeen (17) properties and seven hundred and twenty-six (726) units of affordable housing throughout the region. The Greater Victoria Housing Society currently owns and manages one hundred and sixty-eight (168) units of seniors' housing in the Township of Esquimalt.

We thank you for your time and consideration.

Sincerely,



Kaye Melliship
Executive Director
/CA

References:

Official Community Plan - June 25, 2018

Official Community Plan - Schedule B
Proposed Land Use Designations



Talbot Mackenzie & Associates

Consulting Arborists

874 Fleming St, Esquimalt

Construction Impact Assessment &

Tree Preservation Plan

Prepared For: Greater Victoria Housing Society
2326 Government St
Victoria, BC
V8T 5G5

Prepared By: Talbot, Mackenzie & Associates
Noah Borges – Consulting Arborist
ISA Certified # PN-8409A
TRAQ – Qualified

Date of Issuance: June 26, 2019



Box 48153 RPO - Uptown Victoria, BC V8Z 7H6

Ph: (250) 479-8733

Fax: (250) 479-7050

Email: tmtreehelp@gmail.com



Talbot Mackenzie & Associates

Consulting Arborists

Jobsite Property: 874 Fleming St, Esquimalt
Date of Site Visit: February 13, 2019
Site Conditions: Existing multi-story building with at-grade parking area. No ongoing construction activity.

Summary: 16 trees will have to be removed, in addition to several trees within cluster NT15. Shoring techniques will be required to limit excavation outside the footprint of the underground parkade within the critical root zones (CRZs) of trees #249, 257, 285, 286, and NT7-14. The health of several of these trees may be impacted, particularly Arbutus #249. #249 and Douglas-fir NT8 will also require clearance pruning. Trees NT2-4, NT16, and NT17 may have to be removed if excavation is required down to bearing soil within the footprint of the Fleming St road extension. We recommend their final retention status be determined on site by the project arborist at the time of road construction.

Scope of Assignment:

- To inventory the existing bylaw protected trees and any trees on municipal or neighbouring properties that could potentially be impacted by construction or that are within three metres of the property line
- Review the proposal to demolish the existing building and construct a new multi-storey building with an underground parkade, a new driveway, at-grade parking, and turnaround area
- Comment on how construction activity may impact existing trees
- Prepare a tree retention and construction damage mitigation plan for those trees deemed suitable to retain given the proposed impacts

Methodology: We visually examined the trees on the property and prepared an inventory in the attached Tree Resource Spreadsheet. Each by-law protected tree was identified using a numeric metal tag attached to its lower trunk. Municipal trees and neighbours' trees were not tagged. Information such as tree species, DBH (1.4m), crown spread, critical root zone (CRZ), health, structure, and relative tolerance to construction impacts were included in the inventory. The by-law protected trees with their identification numbers were labelled on the attached Site Plan. The conclusions reached were based on the information provided within the attached plans from Low Hammond Rowe Architects (dated June 17, 2019).

Limitations: No exploratory excavations have been requested and thus the conclusions reached are based solely on critical root zone calculations and our best judgement using our experience and expertise. The location, size and density of roots are often difficult to predict without exploratory excavations and therefore the impacts to the trees may be more or less severe than we anticipate.

Servicing plans were not available for comment. We recommend the project arborist review the servicing plans once they become available to assess potential impacts to any trees to be retained. We recommend directing all underground services outside the CRZs of trees to be retained where possible.

Summary of Tree Resource: 36 trees were inventoried, 19 of which are by-law protected trees on the subject property. To the west of the existing building is a forested area where there are several large Douglas-firs within 3m of the property line. There are 7 trees located within the road dedication south of the property.

Trees to be Removed: 16 trees will have to be removed, in addition to several trees within cluster NT15:

- **Trees #246-248, 250-256, 259-261, and NT5:** Assuming excavation occurs 2m outside the proposed parkade footprint, we anticipate these trees will be significantly impacted during construction.

As NT5 is located on the adjacent property, the neighbour should be notified of the proposed impacts to their tree.

- **Arbutus #258** (43, 14cm DBH): The new building will extend approximately 3m closer to the west property line, resulting in a significant conflict with this tree's crown.
- **Trees NT1** and most of the trees in cluster NT15 will have to be removed to extend Fleming Street.

Potential Impacts on Trees to be Retained and Mitigation Measures

- **Underground Parkade:** Shoring techniques will be required to avoid significantly impacting the following trees. Based on discussions with the applicant, it is our understanding that a significant amount of blasting is expected to be required for construction of the underground parkade. Blasting can unintentionally extend beyond the necessary footprints and into the CRZs of trees to be retained, which may result in unanticipated impacts and possibly require additional trees to be removed. We recommend the recommendations in the "Blasting" section below be followed when working around these trees.
 - **Arbutus #249** (101cm DBH), the nearest point of the parkade is approximately 8m away
 - **Douglas-fir #257** (88cm DBH), located approximately 6m away
 - **Grand Fir #285** (18cm DBH), located approximately 3m away
 - **Douglas-fir #286** (16cm DBH), located 3-4m away
 - **Trees NT7-14**, located 5-7.5m away

We recommend the project arborist supervise any excavation within the CRZs of these trees. Depending on the extent of excavation and blasting, and the number and size of roots

encountered, their retention viability may have to be re-evaluated. Outside the areas of excavation, the existing grades within the CRZs of these trees should be maintained where possible.

As trees NT7-14 are located on the adjacent property to the west, the property owner should be notified of the potential impacts to their trees.

- **Arbutus #249** (101cm DBH): The underground parkade is located approximately 8m to the west and 8.5m to the north. The plans have been amended in an effort to minimize impacts to the health of the tree. Root growth will likely be partially restricted to the north by the presence of the existing stairway, retaining wall, and parking area. For this tree to be retained, shoring techniques will be required to limit the extent of excavation. Based on discussions with the applicant, it is our understanding that a significant amount of blasting is expected to be required for construction of the underground parkade and that excavation is expected to occur approximately 2m outside the parkade footprint. Arbutus trees typically exhibit poor tolerance to root loss and changes in hydrology. Depending on the extent of blasting and excavation, and on the number and size of roots encountered, particularly in the area west of the tree, the health of this tree may be significantly impacted.

The potential health impacts will likely be exacerbated by clearance pruning from the new building. This tree's crown extends approximately 9m to the north and west. The building is approximately 7m west of the tree and 8m to the north. If 1m of clearance from the building is desired, several large limbs (up to 15cm in diameter) growing westward will have to be pruned, in addition to 1 ~10cm limb extending 9-10m to the north. In total, this could amount to up to 15% of its crown being removed. All pruning must be completed by an ISA Certified Arborist to ANSI A300 pruning standards. Limbs should be pruned back to suitable laterals where appropriate. To limit the amount of pruning required, alternatives to full scaffolding should be considered, such as hydraulic lifts, ladders, or platforms.

We recommend the project arborist supervise all excavation within this tree's CRZ, including removal of the stairway, retaining walls, and paved parking areas and walkways. Any roots severed during excavation should be pruned back to sound tissue to encourage rapid wound compartmentalization and new root growth.

- **Douglas-fir #262** (25cm DBH): A patio and retaining wall are proposed to be constructed within 2m of this tree. The patio floor will be constructed at the existing grade. There is a curb separating this tree from the parking area approximately 0.5m from the base of this tree, which may partially restrict root growth in this direction. If this tree is to be retained, the retaining wall and patio will have to be constructed in a way that preserves any large roots encountered. We recommend the project arborist be on site to supervise their construction, as well as removal of the curb and any pavement overlapping with the tree's CRZ.
- **Level 1 Patios and Walkway:** The attached plans show patios will be constructed for the level 1 units on the west side of the building. The patios will extend 2.5m outside the building footprint, and 3.5m west of the underground parkade footprint. The patio floors will be constructed above at a higher grade than most of the trees growing along the west property

line, so we anticipate excavation will be minimal in these areas. In addition, a walkway will be constructed 1m from the west property line. To avoid additional impacts to trees NT7-14 and #257, the patios and walkway will have to be constructed above the root systems of these trees (see attached specification).

- **Douglas-fir #257** (88cm DBH) is located immediately adjacent to the proposed walkway. For this tree to be retained, the stump of Arbutus #258 will have to be left in place or routed to grade, rather than removed. It may not be possible to construct the walkway immediately adjacent to this tree if the stump of #258 must be removed and depending on the final grade of the walkway (based on discussions with the applicant, it will be constructed at a higher grade than existing and some fill will likely need to be installed around the tree). We recommend the final retention status of this tree be determined at the time of construction. It should also be noted that the health of this tree may be impacted during excavation for construction of the underground parkade.
- **Douglas-fir NT8** (~60cm DBH): This tree will require minor pruning to attain clearance from the new building. We do not anticipate its health will be impacted. All pruning should be completed by an ISA Certified Arborist to ANSI A300 pruning standards. As this tree is located on the adjacent property, the owner of that property should be notified of the pruning required.
- **Fleming Street Extension:** Trees NT2-4, NT16, NT17 are located along the south edge of the proposed road extension. The remaining trees in cluster NT15 (not within the road footprint) will also have overlapping CRZs. If excavation down to bearing soil is required within the footprint of the proposed road extension and roots from any of these trees are encountered, their health and/or structural stability could be significantly impacted. If an effort will be made to retain the trees, the depth of the curb sub-base will likely have to be reduced and the grade of the new street will have to be elevated above any large roots to avoid significant health and structural impacts (see attached specification for constructing paved surfaces over root systems). Several of these trees will require clearance pruning. (These trees have been given the retention status "to be determined").
- **Arborist Supervision:** All excavation occurring within the critical root zones of protected trees should be completed under supervision by the project arborist. Any severed roots must be pruned back to sound tissue to reduce wound surface area and encourage rapid compartmentalization of the wound. In particular, the following activities should be completed under the direction of the project arborist:
 - Any excavation for construction of the underground parkade within the CRZs of trees #249, 257, 285, 286, and NT6-14
 - Removal of the existing paved areas within the CRZs of trees #249, 262, 285
 - Excavation for patio construction within the CRZs of trees #257, 262, and NT7-14
 - Excavation for the construction of the Fleming St Road extension within the CRZs of trees NT2-4, NT16, NT17, and any trees remaining in cluster NT15
- **Barrier Fencing:** The areas surrounding the trees to be retained should be isolated from the construction activity by erecting protective barrier fencing. Where possible, the fencing should

be erected at the perimeter of the critical root zones. The barrier fencing 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 plywood, or 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.

- **Minimizing 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 Building:** The demolition of the existing house 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.
- **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.

Please do not hesitate to call us at (250) 479-8733 should you have any further questions.

Thank you,



Noah Borges
ISA Certified #PN-8409A
TRAQ – Qualified

Talbot Mackenzie & Associates
ISA Certified Consulting Arborists

Encl. 3-page tree resource spreadsheet, 15-page site and building plans, 1-page specification for constructed paved areas over tree roots, 1-page barrier fencing specifications, 2-page tree resource spreadsheet methodology and definitions

Disclosure Statement

Talbot Mackenzie & Associates

Arborists are professionals who examine trees and use their training, knowledge and experience to recommend techniques and procedures that will improve their 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. It is not possible for an Arborist to identify every flaw or condition that could result in failure or can he/she guarantee that the tree will remain healthy and free of risk.

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.

Tree ID	Common Name	Latin Name	DBH (cm) ~ approximate	Crown Spread (m)	CRZ (m)	Relative Tolerance	Health	Structure	Remarks and Recommendations	Retention Status
246	European Walnut	<i>Juglans regia</i>	46, 34	10	10.0	Poor	Good	Fair		X
247	European Walnut	<i>Juglans regia</i>	40	8	6.0	Poor	Good	Fair		X
248	European Walnut	<i>Juglans regia</i>	46	8	7.0	Poor	Good	Fair	Under shared ownership with municipality, asymmetric crown due to competition	X
249	Arbutus	<i>Arbutus menziesii</i>	101	14	15.0	Poor	Good	Good	Minor dieback	Retain
250	Arbutus	<i>Arbutus menziesii</i>	12	2	2.0	Poor	Good	Fair		X
251	Grand Fir	<i>Abies grandis</i>	24	4	3.5	Poor	Fair	Fair		X
252	Scouler's Willow	<i>Salix scouleriana</i>	85	14	10.0	Moderate	Good	Fair	Limb conflicts with fir 251	X
253	Douglas-fir	<i>Pseudotsuga menziesii</i>	44	5	6.5	Poor	Fair	Fair/poor	Previously topped, 2 new leaders	X
254	Douglas-fir	<i>Pseudotsuga menziesii</i>	41	3	6.0	Poor	Fair/poor	Fair/poor	Topped	X
255	Douglas-fir	<i>Pseudotsuga menziesii</i>	70	8	10.5	Poor	Good	Fair		X
256	Scouler's Willow	<i>Salix scouleriana</i>	41, 35	6	7.5	Moderate	Fair	Poor	Decay in trunk of 35cm stem - consider removal	X
257	Douglas-fir	<i>Pseudotsuga menziesii</i>	88*	8	13.0	Poor	Good	Fair		TBD
258	Arbutus	<i>Arbutus menziesii</i>	43, 14	8	7.5	Poor	Good	Fair	Leans towards building, foliage up to building	X
259	Grand Fir	<i>Abies grandis</i>	16	3	2.5	Poor	Good	Good	Growing against chain-link fence	X
260	Western Red Cedar	<i>Thuja plicata</i>	~25, 25	6	6.0	Poor	Fair/poor	Fair/poor	Declining tops, growing against chain link fence	X

Tree ID	Common Name	Latin Name	DBH (cm) ~ approximate	Crown Spread (m)	CRZ (m)	Relative Tolerance	Health	Structure	Remarks and Recommendations	Retention Status
261	Grand Fir	<i>Abies grandis</i>	15	3	2.5	Poor	Good	Good	Growing against chain-link fence	X
262	Douglas-fir	<i>Pseudotsuga menziesii</i>	25	5	4.0	Poor	Fair	Good		Retain
285	Grand Fir	<i>Abies grandis</i>	18	4	2.5	Poor	Good	Good		Retain
286	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	3	2.5	Poor	Good	Good		Retain
NT1	Hawthorn	<i>Crataegus spp.</i>	22, 17	5	3.0	Good	Fair	Fair	Municipal	X
NT2	Apple	<i>Malus spp.</i>	35 below unions	8	4.0	Moderate	Good	Fair	Municipal	TBD
NT3	Black Cottonwood	<i>Populus trichocarpa</i>	60, 59	12	14.5	Poor	Good	Fair	Municipal	TBD
NT4	Black Cottonwood	<i>Populus trichocarpa</i>	63	10	9.5	Poor	Good	Good	Municipal	TBD
NT5	Big Leaf Maple	<i>Acer macrophyllum</i>	~50	10	6.0	Moderate	Fair	Fair	Neighbour's, ivy on trunk	X
NT6	Garry Oak	<i>Quercus garryana</i>	~70	16	7.0	Good	Good	Fair	Neighbour's, ~5m from property line, crown overhangs bridge, large deadwood	Retain
NT7	Douglas-fir	<i>Pseudotsuga menziesii</i>	~70	8	10.5	Poor	Good	Fair	Neighbour's, ~1.5m from property line, ivy on trunk, appears topped	Retain
NT8	Douglas-fir	<i>Pseudotsuga menziesii</i>	~60	10	9.0	Poor	Good	Fair/poor	Neighbour's, ~1m from property line, topping wound 2/3 height	Retain
NT9	Grand Fir	<i>Abies grandis</i>	60	6	9.0	Poor	Good	Fair	Neighbour's, multiple leaders	Retain
NT10	Grand Fir	<i>Abies grandis</i>	55	5	8.5	Poor	Good	Fair	Neighbour's, multiple leaders	Retain
NT11	Big Leaf Maple	<i>Acer macrophyllum</i>	35	5	4.0	Moderate	Fair	Fair	Neighbour's, swelling at base	Retain

874 Fleming St
Tree Resource Spreadsheet

Tree ID	Common Name	Latin Name	DBH (cm) ~ approximate	Crown Spread (m)	CRZ (m)	Relative Tolerance	Health	Structure	Remarks and Recommendations	Retention Status
NT12	Grand Fir	<i>Abies grandis</i>	43	3	6.5	Poor	Good	Fair	Neighbour's	Retain
NT13	Grand Fir	<i>Abies grandis</i>	60, 42	8	13.0	Poor	Good	Fair	Neighbour's, codominant union at base	Retain
NT14	Scouler's Willow	<i>Salix scouleriana</i>	~40	6	5.0	Moderate	Fair	Fair/poor	Near property line, prostrate growth	Retain
NT15	Cluster of willows, plums, hawthorns	-	-	-	-	Moderate to Good	-	-	Located on municipal and adjacent property (867 Lampson St). Several willow trees in this cluster are by-law protected	X (some trees)
NT16	Douglas-fir	<i>Pseudotsuga menziesii</i>	~50	8	7.5	Poor	Good	Fair	Municipal tree. Located in centre of cluster NT15	TBD
NT17	Garry Oak	<i>Quercus garryana</i>	~30	6	3.0	Good	Good	Fair	Municipal tree, located in southwest corner of cluster NT15	TBD

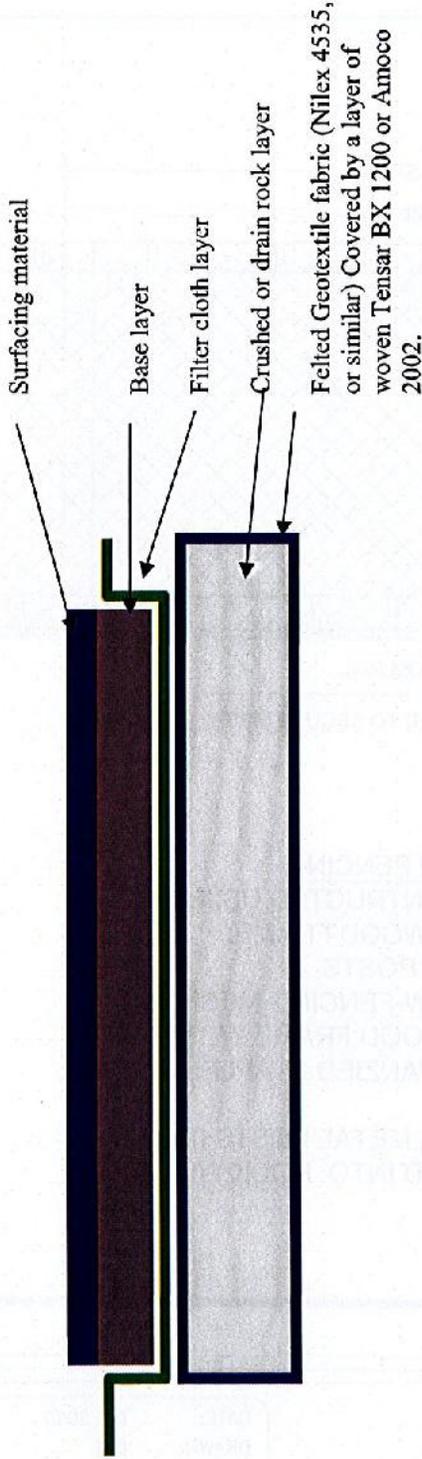
PRELIMINARY - NOT FOR CONSTRUCTION



Talbot Mackenzie & Associates

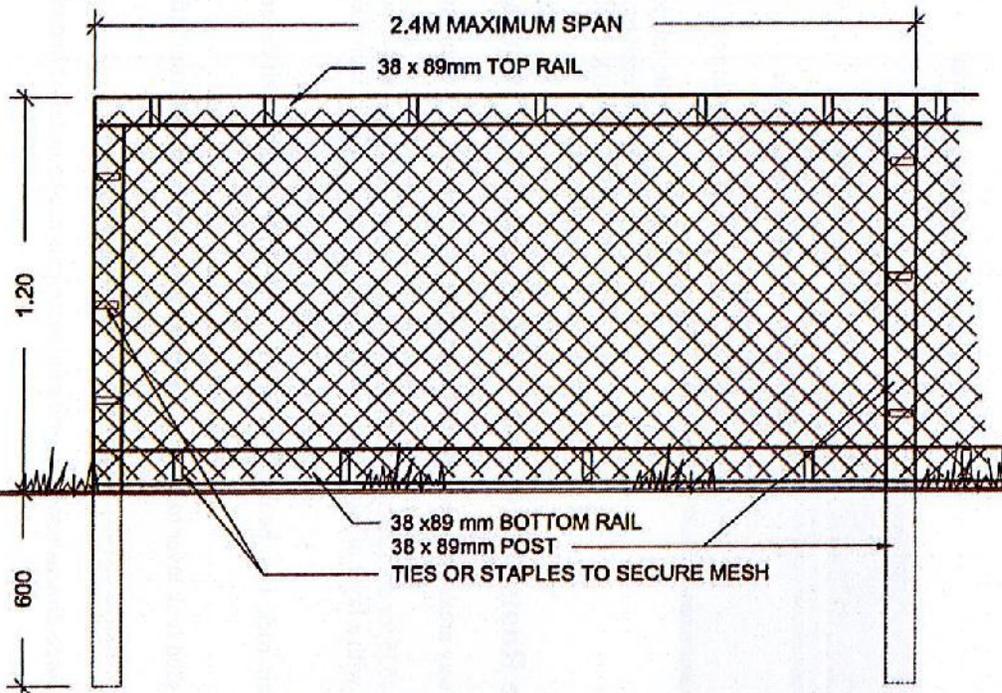
Consulting Arborists

Diagram – Site Specific Driveway, Parking and Walkway



Specifications for Paved Surfaces Above Tree Roots (Driveway, Parking and Walkway Areas)

1. Excavation for construction of the driveway/parking/walkway areas must remove only the top layer of sod and not result in root loss
2. A layer of medium weight felted Geotextile fabric (Nillex 4535, or similar) is to be installed over the entire area of the critical root zone that is to be covered by the paved surface. Cover this Geotextile fabric with a layer of woven Amoco 2002 or Tensar BX 1200. Each piece of fabric must overlap the adjoining piece by approximately 30-cm.
3. A 10cm layer of torpedo rock or 20-mm clean crushed drain rock, is to be used to cover the Geotextile fabric (depth dependent on desired finished grade).
4. A layer of felted filter fabric is to be installed over the crushed rock layer to prevent fine particles of sand and soil from infiltrating this layer.
5. The bedding or base layer and permeable surfacing can be installed directly on top of the Geotextile fabric.
6. Two-dimensional (such as CombiGrid 30/30 or similar) or three-dimensional geo-grid reinforcements can be installed in combination with, or instead of, the geotextile fabric specified in the attached diagram.
7. Ultimately, a geotechnical engineer should be consulted and in consultation with the project arborist may specify their own materials and methods that are specific to the site's soil conditions and requirements, while also avoiding root loss and reducing compaction to the sub-grade.



TREE PROTECTION FENCING
 FENCE WILL BE CONSTRUCTED USING
 38 X 89 mm (2"X4") WOOD FRAME:
 TOP, BOTTOM AND POSTS. *
 USE ORANGE SNOW-FENCING MESH AND
 SECURE TO THE WOOD FRAME WITH
 "ZIP" TIES OR GALVANIZED STAPLES

* IN ROCKY AREAS, METAL POSTS (T-BAR
 OR REBAR) DRILLED INTO ROCK WILL BE
 ACCEPTED

DETAIL NAME:

TREE PROTECTION FENCING

DATE: Oct 30/07
 DRAWN: DM
 APP'D. RR
 SCALE: N.T.S.

E105
 DRAWING



Talbot Mackenzie & Associates

Consulting Arborists

Box 48153 RPO - Uptown Victoria, BC V8Z 7H6

Ph: (250) 479-8733

Fax: (250) 479-7050

Email: tmtreehelp@gmail.com

Tree Resource Spreadsheet Methodology and 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.

NT: No tag due to inaccessibility or ownership by municipality or neighbour.

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

Crown Spread: Indicates the diameter 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

Retention Status:

- X - 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
- TBD (To Be Determined) - The impacts on the tree could be significant. However, in the absence of exploratory excavations and in an effort to retain as many trees as possible, we recommend that the final determination be made by the supervising project arborist at the time of excavation. The tree might be possible to retain depending on the location of roots and the resulting impacts, but concerned parties should be aware that the tree may require removal.
- NS - Not suitable to retain due to health or structural concerns

Esquimalt Lions Lodge Redevelopment:
874 Fleming Street
Transportation and Parking Study
Final Report

Prepared for
Greater Victoria Housing Society

Date
May 27, 2019

Project No.
04-19-0017



May 27, 2019
04-19-0017

Daniel Saxton
Greater Victoria Housing Society
2326 Government Street
Victoria, BC
V8T 5G5

Dear Mr. Saxton:

**Re: Esquimalt Lions Lodge Redevelopment, 874 Fleming Street
Transportation and Parking Study - Final Report**

Please find attached our final Transportation and Parking Study for Greater Victoria Housing Society's Esquimalt Lions Lodge redevelopment. Upon reviewing vehicle ownership rates for residents at similar affordable rental buildings, we found the proposed vehicle parking supply appropriate. We also found that redevelopment will cause a modest amount of additional vehicles to use Fleming Street and no substantial impacts.

We trust this information will be helpful for your application approval. Please let us know if you have any questions or comments on the enclosed report.

Yours truly,
Bunt & Associates



Simon Button, P.Eng.
Transportation Engineer

TABLE OF CONTENTS

1.	INTRODUCTION	1
1.1	Study Scope and Objectives	1
1.2	Development Details	1
2.	LOCAL CONTEXT	4
2.1	Land Use	4
2.2	Street Network	4
2.3	Walking	4
2.4	Cycling	4
2.5	Transit	4
3.	DEVELOPMENT PLAN REVIEW	5
3.1	Bicycle Parking	5
3.2	Vehicle Parking	5
3.2.1	Bylaw Requirement	5
3.2.2	Proposed Supply	5
3.2.3	Vehicle Parking Demand Analysis	5
3.2.4	Vehicle Parking Summary	8
4.	TRAFFIC OPERATIONS REVIEW	9
4.1	Traffic Operations Assessment Methodology	9
4.2	Existing Conditions	9
4.3	Future Conditions	10
4.3.1	Background Traffic Growth	10
4.3.2	Development Generated Traffic	10
4.3.3	Traffic Operations Results	11
5.	SUMMARY AND RECOMMENDATIONS	14
5.1	Summary	14
5.2	Recommendations	14

EXHIBITS

Exhibit 1.1: Site Location 2

Exhibit 1.2: Site Plan..... 3

Exhibit 4.1: Existing Vehicle Volumes & Operations..... 12

Exhibit 4.2: 2032 Vehicle Volumes & Operations (with Development)..... 13

TABLES

Table 1.1: Residential Unit Mix 1

Table 3.1: Vehicle Ownership Rates for Comparable GVHS Buildings in Greater Victoria..... 6

Table 3.2: Vehicle Ownership Rates for Comparable CRHC Buildings in Greater Victoria 7

Table 4.1: Peak Hour Vehicle Trip Generation..... 11

1. INTRODUCTION

1.1 Study Scope and Objectives

Greater Victoria Housing Society (GVHS) is proposing to redevelop the existing Esquimalt Lions Lodge at 874 Fleming Street at in Esquimalt, BC. **Exhibit 1.1** shows the site location which is northwest of the northern terminus of Fleming Street. The existing property is a 77-unit affordable housing building operated by GVHS which is past its effective life and does not meet the current residents' needs. The redevelopment will replace the existing building with a 137-unit affordable housing building over a single phase.

The purpose of this study is to:

- Review the development's parking strategy and determine its suitability; and,
- Evaluate the transportation impacts the proposed development has on the nearby road network;

1.2 Development Details

The development proposes to have 137 affordable residential units offered below-market rates. **Table 1.1** summarizes the unit mix. The units are modestly sized with the majority of the units being studios and one-bedrooms designed for one or two residents each.

Table 1.1: Residential Unit Mix

RESIDENTIAL UNIT TYPE	QUANTITY	PERCENT OF UNITS
Studio	28 units	20%
Accessible Studio	7 units	5%
One-bedroom	67 units	49%
Two-bedroom	24 units	18%
Three-bedroom	5 units	4%
Four-bedroom	6 units	4%
TOTALS	137 UNITS	100%

Exhibit 1.2 illustrates the proposed site plan. The development intends to extend Fleming Street westwards along the site's southern edge only. The Township of Esquimalt already has a right-of-way for this land. The development will have six surface parking stalls accessed off of this new east/west Fleming Street extension as well as access to the underground parkade.

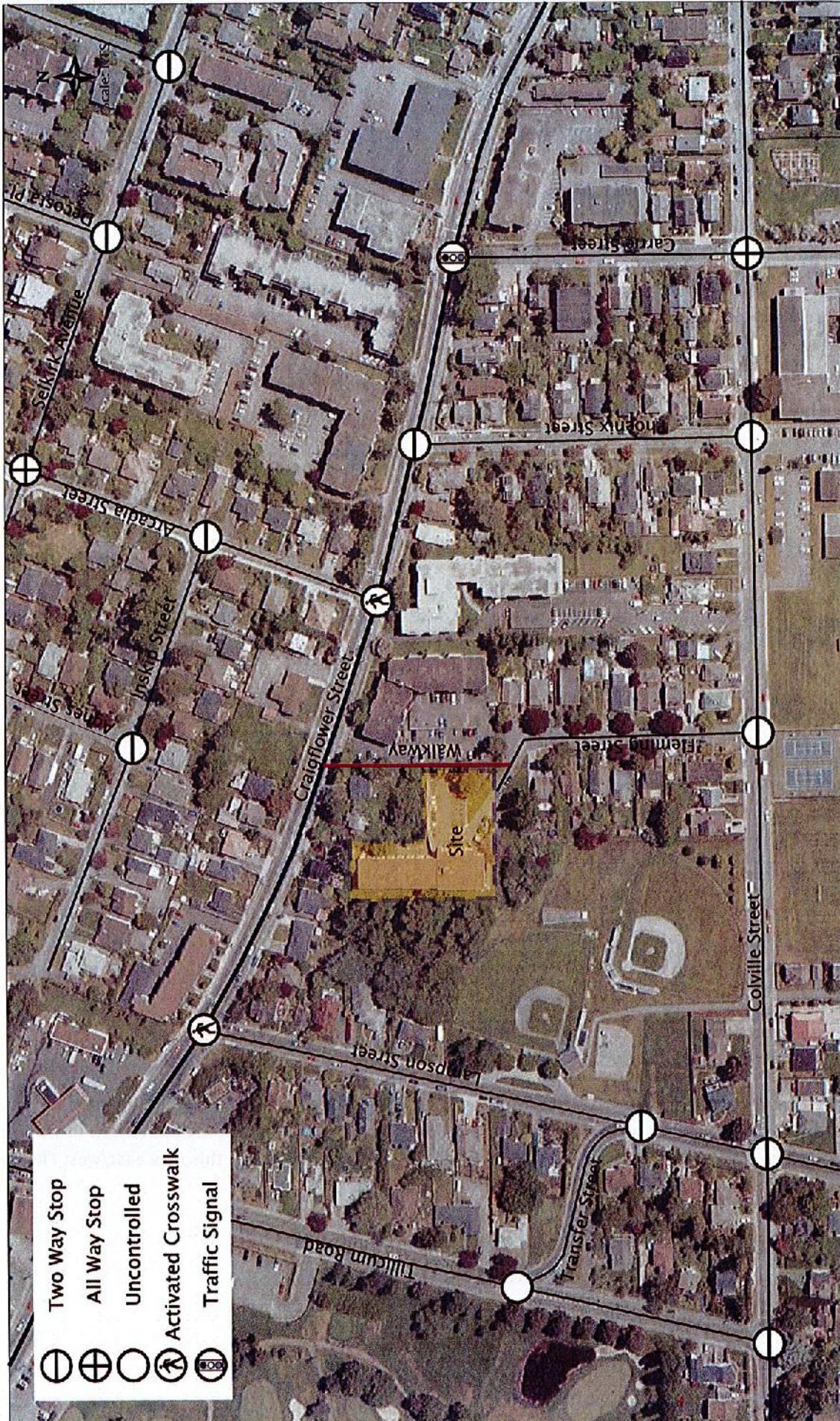
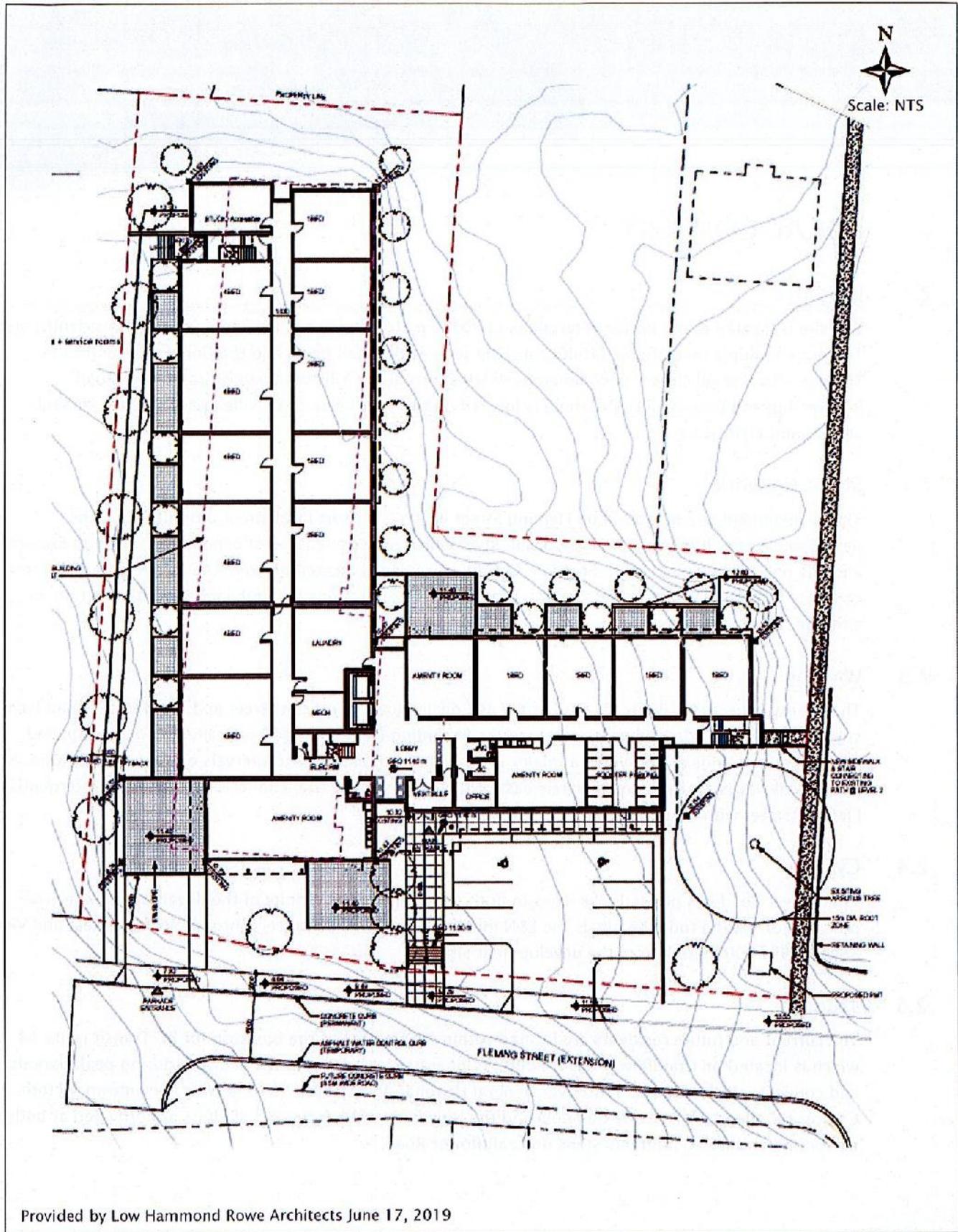


Exhibit 1.1 Site Location

874 Fleming Street
May 2019

04-19-0017





Provided by Low Hammond Rowe Architects June 17, 2019

Exhibit 1.2 Peak Hour Site Plan

04-19-0017

874 Fleming Street
June 2019



2. LOCAL CONTEXT

2.1 Land Use

The site is located at the northern terminus of Fleming Street, which is located in a mostly residential area. There are multiple recreational facilities nearby such as baseball fields and the Gorge Vale Golf Club. There is also a small cluster of commercial destinations at the Tillicum Road & Craigflower Road intersection and Esquimalt High School is located on the south side of Colville Road, between Phoenix Street and Carrie Street.

2.2 Street Network

The development site is located on Fleming Street which is a short local street terminating at the development site. It is connected to Colville Road which provides east-west connectivity through Esquimalt and has one travel lane in each direction. Craigflower Road is located north of the development site and connects to both View Royal and Victoria. Craigflower Road has one through lane in each direction, in addition to left turn lanes.

2.3 Walking

The nearby collector and arterial roads such as Colville Road, Lampson Street and Craigflower Road have sidewalks on both sides; however, local streets (including Fleming Street) typically do not. Designated pedestrian crossings are provided at major intersections and at regular intervals on Craigflower Road. A public walkway is available immediately east of the development site, connecting the northern terminus of Fleming Street with Craigflower Road.

2.4 Cycling

Craigflower Road has painted bike lanes in both directions in the vicinity of the development site. The other major cycling route nearby is the E&N multi-use trail which connects through Victoria West and View Royal and is 600 metres from the development site.

2.5 Transit

The current and future residents are located within 100 metres of the bus stop for BC Transit route 14 which is located on Craigflower Road. Route 14 operates with 10-minute headways during peak periods and connects the site to the Vancouver General Hospital, View Royal, Victoria West, Downtown Victoria, Camosun College (Lansdowne Campus) and the University of Victoria. Bus shelters are provided at both eastbound and westbound bus stops on Craigflower Road.

3. DEVELOPMENT PLAN REVIEW

3.1 Bicycle Parking

The Esquimalt Parking (Bylaw 2011) does not have any requirements for bicycle parking for multi-family dwellings. However, the development is planning on providing 137 secure bicycle parking spaces (1.0 per unit) in the parkade. Approximately six short-term bicycle parking spaces with weather protection for visitors should be provided near the building's primary entrance.

3.2 Vehicle Parking

3.2.1 Bylaw Requirement

The Esquimalt Parking (Bylaw 2011) requires 1.30 parking spaces per dwelling unit in medium and high-density buildings such as the proposed development which results in a requirement of 178 spaces. The Parking Bylaw also stipulates that 25% of the required parking spaces need to be reserved for visitors which results in a requirement of 134 spaces for residents and 41 spaces for visitors. The Parking Bylaw does not account for the affordable nature of the development which results in residents owning substantially fewer vehicles (and thus requiring fewer parking spaces) than market residential buildings.

3.2.2 Proposed Supply

The development plan includes 67 parking spaces which equates to 0.49 spaces per residential unit. Three accessible spaces are provided in addition to 62 regular spaces.

3.2.3 Vehicle Parking Demand Analysis

Providing the appropriate level of vehicle parking is critical, not enough spaces can cause parking demand to spill onto adjacent streets while over providing vehicle parking can result in wasted resources, unnecessary promotion of vehicle ownership and vehicle dependence.

For low-income residential buildings, the opportunity to provide lower, more appropriate vehicle parking supplies can lead to lower building construction costs and therefore lower rental rates.

To more specifically assess the anticipated vehicle parking demand of the proposed development Bunt examined a variety of development and location-specific factors.

Factors Affecting Resident Auto Ownership

Vehicle ownership, and therefore the need for vehicle storage (parking) depends on a number of factors. Key factors are listed below:

- Size of the household unit (number of bedrooms);
- Tenure of the unit (rental or strata);
- Income level;

- Number of working adults in the household (which related to the size of the unit but also age distribution of residents);
- Proximity to frequent and high-quality transit;
- Proximity and quality of active mode infrastructure; and,
- Transportation Demand Management (TDM) measures in place at the site.

Comparable Affordable Housing Parking Rates

Bunt obtained parking supply and parking demand data comparable GVHS buildings (Table 3.1) and comparable Capital Region Housing Corporation buildings (Table 3.2). The buildings compared were selected as they share similar characteristics such as expected resident demographics, unit size, proximity to services and that they are all non-downtown locations. Tables 3.1 and 3.2 show that the average parking demand is approximately 0.37 spaces per unit and no building had a parking demand greater than 0.59 spaces per unit. The existing Esquimalt Lions Lodge building has a residential parking demand rate of 0.27 spaces per unit.

Table 3.1: Vehicle Ownership Rates for Comparable GVHS Buildings in Greater Victoria

COMPLEX NAME	LOCATION	SUBSIDIZED	NUMBER OF UNITS	PARKING SPACES	PARKING SPACES OCCUPIED BY TENANT	PARKING DEMAND RATE
Colwood Lodge	85 Belmont Road Victoria	YES	50	37	24	0.48
Constance Court	1325 Esquimalt Road Esquimalt	YES	52	26	18	0.35
Grafton Lodge	506 Crofton Street Esquimalt	YES	29	20	17	0.59
Townley Lodge	1780 Townley Street Saanich	NO	39	16	13	0.33
Esquimalt Lions Lodge	874 Fleming Street Esquimalt	NO	77	23	21	0.27
Weighted Average						0.37
Minimum Value						0.27
MAXIMUM VALUE						0.59

Source: Greater Victoria Housing Society

Table 3.2: Vehicle Ownership Rates for Comparable CRHC Buildings in Greater Victoria

COMPLEX NAME	LOCATION	SUBSIDIZED	NUMBER OF UNITS	PARKING SPACES OCCUPIED BY TENANT	PARKING DEMAND RATE
Amberlea	3330 Glasgow Avenue	YES	44	22	0.50
The Birches	1466 Hillside Avenue	YES	49	8	0.16
Leblond Place	390 Waterfront Crescent	YES	53	23	0.43
Rosewood	1827 McKenzie Avenue	YES	44	15	0.34
Springtide	270 Russell Street	YES	48	19	0.40
The Heathers	3169 Tillicum Road	YES	26	11	0.42
Viewmont Gardens	4450 Viewmount Avenue	YES	36	14	0.39
Weighted Average					0.37
Minimum Value					0.16
MAXIMUM VALUE					0.50

Source: Capital Region Housing Corporation

Effect of Lower Incomes

The Canada Mortgage and Housing Corporation (CMHC) (Research Highlight, Socio-Economic Series Issue 50- Revision 2) concluded that household income is the second best predictor of vehicle ownership. As income increases, auto ownership and use increase. A study reported in the Australia Transportation Forum (2007) confirmed a strong correlation between vehicle ownership and household income. A study published by Pushkar et al (TRB 2000) based on a survey of 115,000 households in Toronto indicated that higher income households had more vehicles. A study conducted by Bunt & Associates in the Vancouver area in the early 1990s and in the Calgary area in 2003 also supported the positive, almost linear relationship between income and vehicle ownership.

Effect of Tenure & Size of Units

Rental units tend to have lower vehicle ownership levels compared to strata units. This contention is supported by findings from the 2012 and 2018 *Metro Vancouver Apartment Parking Studies (MVAPS)*. The study included research and a comprehensive survey program of over 1,000 apartment household units in the Greater Vancouver area, including strata and rental units.

A key finding in the MVAPS was that residents of rental apartment units had average vehicle ownership that was approximately 65% of that of strata units. There was also a clear link between the number of bedrooms and vehicle ownership.

As discussed in Section 1, the units in the proposed development tend to be small in size. The building's units are designed to provide housing for low- to moderate-income families and seniors. All units are to be designated rental units.

Visitor Parking

The Township of Esquimalt Parking Bylaw (Bylaw 2011) requires a high level of residential visitor parking at 0.32 spaces per unit for multi-unit residential uses. However, based on Bunt's previous experience for similar village centres in municipalities across Greater Victoria and Metro Vancouver, a visitor parking supply rate of 0.05 to 0.10 spaces per unit is more appropriate for the proposed development.

This recommendation stems from the Metro Vancouver Residential Apartment Parking Study¹ which found that visitor parking demand never exceeded 0.06 vehicles per dwelling unit during the study period. These rates have been further substantiated by previous Bunt studies for similar projects.

3.2.4 Vehicle Parking Summary

Due to location, unit size and demographic factors we anticipate that the proposed parking supply rate of 67 spaces total (0.49 spaces per unit) is appropriate for the proposed development. The empirical parking demand data presented above indicates that the parking supply should approximately consist of 53 to 60 residential spaces and 7 to 14 visitor spaces.

¹ The visitor parking demand results from the Metro Vancouver Residential Parking Study was obtained from suburban sites in Burnaby, Port Coquitlam and Richmond which had varying levels of transit service. The visitor parking demand was not correlated with proximity to the Frequent Transit Network; in fact the site with the worst transit service had the lowest peak visitor parking demand of 0.02 visitor vehicles per dwelling. Therefore the results from the Metro Vancouver Residential Parking Study are seen as applicable to the proposed development.

4. TRAFFIC OPERATIONS REVIEW

4.1 Traffic Operations Assessment Methodology

The traffic operations were assessed at the Fleming Street & Colville Road intersection for the weekday AM & PM peak hours. The analysis was completed for the existing conditions (2019) and for the 2032 horizon year (ten years after development completion). The 2032 analysis includes the vehicle trips generated by the proposed development and background traffic (i.e. future traffic without development).

The operation of study intersection was assessed using the methods outlined in the 2000 Highway Capacity Manual (HCM), using the Synchro 9 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 minimal queuing time conditions while a LOS "F" represents an over-capacity condition with considerable congestion and/or queuing time. A queuing time of fewer than 10 seconds receive a LOS A whereas queuing times greater than 50 seconds receive a LOS F. In downtown and Town Centre contexts, during peak demand periods, queuing times greater than 50 seconds (LOS F) are common.

The volume to capacity (V/C) ratio of an intersection represents the 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 congested intersection where drivers may have to wait through multiple signal cycles. In urban downtown and town centre contexts, during peak demand periods, V/C ratios over 0.90 and even 1.0 are common.

4.2 Existing Conditions

Bunt collected the morning transportation data on February 1, 2019, and the afternoon transportation data on January 31, 2019. During this time period, 7:45 to 8:45 am was identified as the AM peak hour and 3:30 to 4:30 pm was identified as the PM peak hour. These peak hours are earlier than usual, likely impacted by the travel patterns caused by Esquimalt High School and CFB Esquimalt. Exhibit 4.1 illustrates the vehicle volumes for these two peak hours.

Bunt observed approximately 100 vehicles per hour (both directions) on Colville Road during peak hours. 10 to 15 vehicles per hour (both directions) were observed on Fleming Street during peak hours. During data collection, the number of vehicles travelling on Fleming Street was separated into two categories: vehicles accessing the existing Esquimalt Lions Lodge and vehicles accessing the remaining 13 homes on Fleming Street. Although the sample size was fairly small, it is clear that the existing Esquimalt Lions Lodge contributes to less than half of the existing vehicle travel on Fleming Street.

Exhibit 4.1 also shows the existing traffic operations for which there are no concerns. All movements operate within their capacity and have reasonable queuing times.

4.3 Future Conditions

4.3.1 Background Traffic Growth

Background traffic is the traffic that would exist without the proposed development. Background traffic was estimated by growing the existing vehicle volumes on Colville Road by 1% per year. This is a conservative assumption as the vehicle volumes in other locations in Esquimalt (such as Admirals Road and Esquimalt Road) are growing by less than this rate.

4.3.2 Development Generated Traffic

The proposed redevelopment will increase the number of affordable residential units from 77 to 137. The resulting increase in vehicle traffic due to the 60 additional affordable residential units was estimated using two methods:

1. Using the observed number of vehicles entering/exiting the existing building.
2. Using industry standard vehicle trip rates.

Vehicle Trip Generation using Observed Travel Patterns

As previously mentioned in Section 4.2, the existing Esquimalt Lions Lodge contributes to less than half of the existing vehicle travel on Fleming Street. This equates to less than 7 vehicle trips during the AM peak hour and less than 8 vehicle trips during the PM peak hour. Since the existing building has 77 units, it generates 0.09 vehicle trips per unit during the AM peak hour and 0.10 vehicle trips per unit during the PM peak hour. If residents of the redeveloped Esquimalt Lions Lodge use their vehicle in a similar pattern to the existing residents, the additional 60 residential units equate to an additional 5 vehicles on Fleming Street during the AM peak hour and 6 vehicles during the PM peak hour.

Vehicle Trip Generation using Standard Trip Rates

The Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition) was also used to estimate vehicle trip generation. The ITE trip rate for Mid-Rise Multifamily Housing was used as it is the most appropriate land use included in the manual. This trip rate likely overestimates the number of vehicle trips the building will generate because it is based on market-residential buildings. Low-income apartments generally having lower vehicle ownership rates and thus have lower vehicle trips. There are no ITE rates for low-income apartments.

Table 4.1 presents the vehicle trips rates from the ITE Trip Generation Manual and the resulting vehicle trip generation. This vehicle trip generation method results in 22 additional vehicles on Fleming Street during the AM peak hour and 26 additional vehicles on Fleming Street during the PM peak hour.

Table 4.1: Peak Hour Vehicle Trip Generation

	AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT
Trip Rate	0.36 trips/unit	26%	74%	0.44 trips/unit	61%	39%
Trip Generation	22 trips	6 trips	16 trips	26 trips	16 trips	10 trips

Vehicle Trip Generation Estimate

The two vehicle trip generation methods provide a significant range of 5 to 26 additional vehicle trips per peak hour. The realized vehicle trip generation post-redevelopment is anticipated to be near the lower end of this range since the observed travel patterns are likely more accurate than the values in the ITE Trip Generation Manual.

4.3.3 Traffic Operations Results

In order to complete a 'worst-case' analysis, the future conditions were assessed using the higher ITE Trip Generation Manual estimate of 25 additional vehicles during AM peak hour and 26 additional vehicles during the PM peak hour. **Exhibit 4.2** illustrates the 2032 vehicle traffic forecast which is based on vehicle traffic on Colville Road growing at 1% per year and the 'worst-case' traffic forecasts for the proposed redevelopment.

Exhibit 4.2 also demonstrates the traffic operation results for the year 2032. As with the existing conditions, there are no traffic operational concerns with the study intersection well within its capacity.

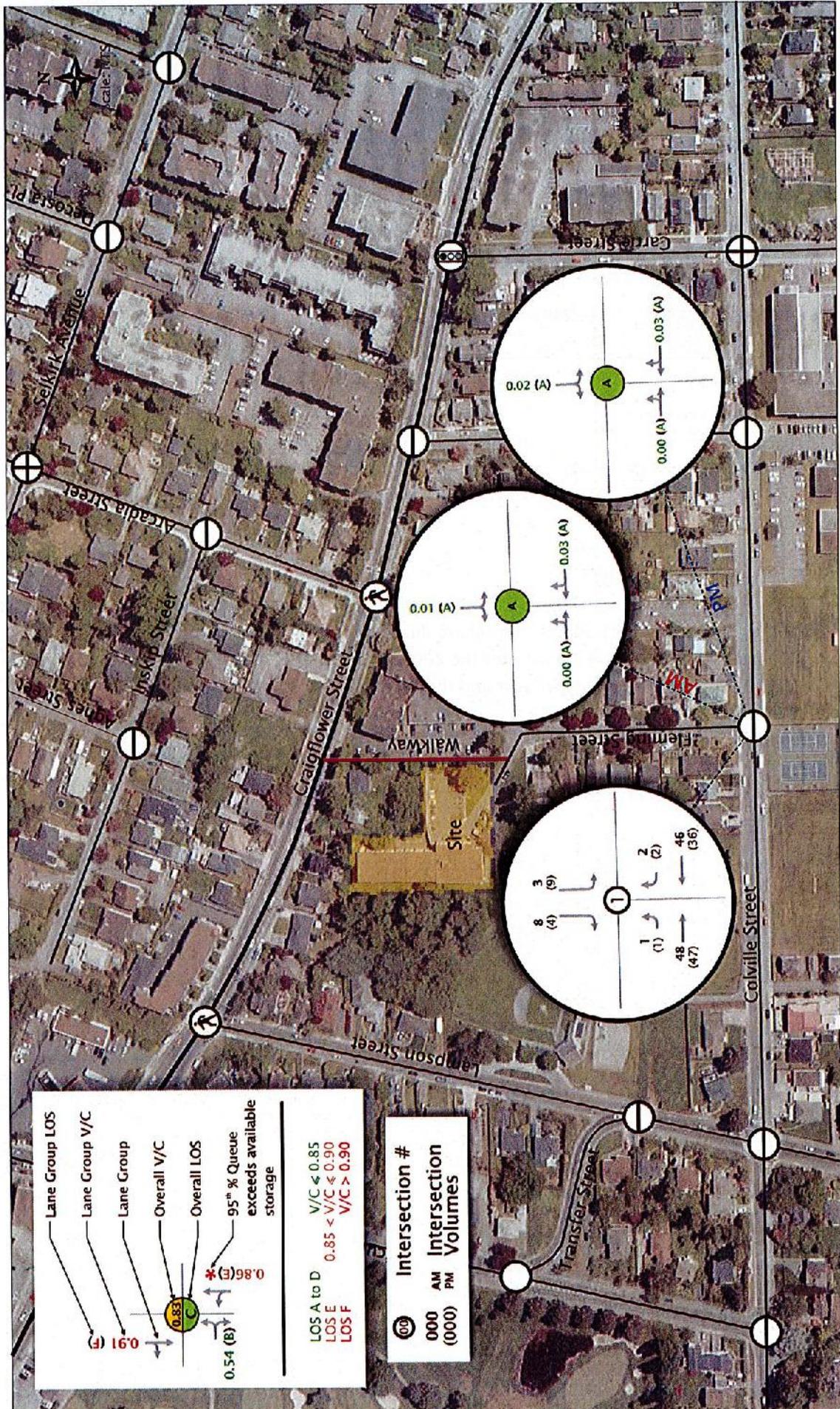


Exhibit 4.1 Existing Vehicle Volumes & Operations

874 Fleming Street
May 2019

04-19-0017

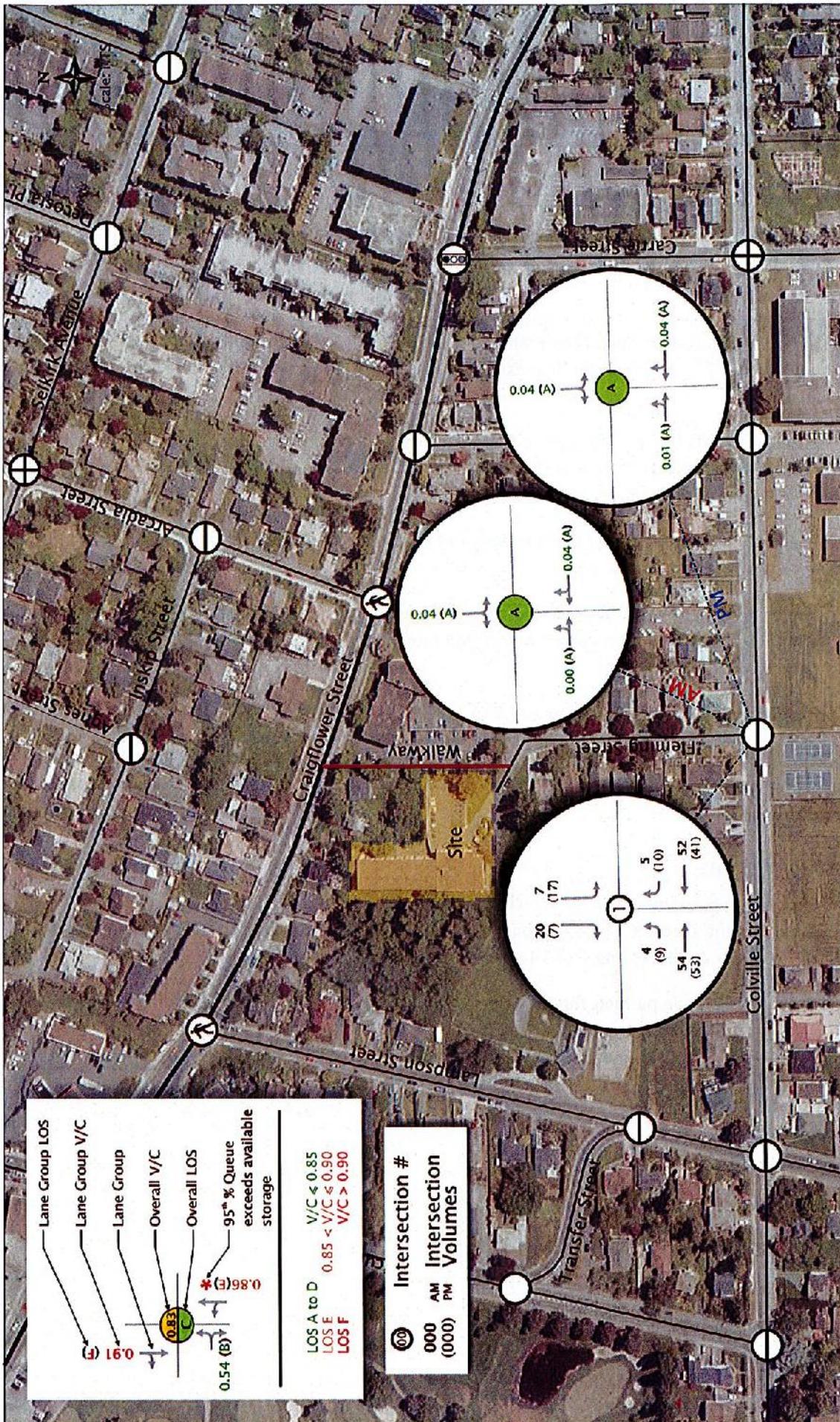


Exhibit 4.2 2032 Vehicle Volumes & Operations (with Development)

874 Fleming Street
 May 2019

04-19-0017

5. SUMMARY AND RECOMMENDATIONS

5.1 Summary

- GVHS intends to redevelop Esquimalt Lions Lodge which will increase the number of residential units from 77 to 137 (60 unit increase). All existing and future homes will be affordable rental apartments.
- Esquimalt Lions Lodge is located to the northwest of the northern terminus of Fleming Street. The development intends to extend Fleming Street westwards along the site's southern edge only. The Township of Esquimalt already has a right-of-way for this land.
- The Esquimalt Parking (Bylaw 2011) does not have a minimum vehicle parking supply rate specifically for affordable homes.
- The development plans to provide 0.47 vehicle parking spaces per unit. This supply rate was empirically tested against vehicle ownership rates in affordable residential buildings and visitor parking observations.
- Redevelopment is anticipated to add 5 to 10 vehicles to Fleming Street per peak hour.
- The intersection of Fleming Street & Colville Road currently operates within capacity and is forecasted to continue operating within capacity with the proposed development and background traffic growth.

5.2 Recommendations

- Supplying approximately 0.47 vehicle parking spaces is appropriate for the proposed development. Of the 67 parking spaces provided, approximately 53 to 60 spaces should be reserved for residents and 7 to 14 spaces for visitors.
- Short-term bicycle parking should be provided on-site near the primary building entrance with weather protection.

Completed checklists form part of the application package reviewed by staff and ultimately, Council. New buildings and developments have impacts that last well beyond the construction period. Reducing the consumption of natural resources and increasing resilience to a changing climate are part of the challenge of building more sustainably. This checklist will help you identify and present how your project will help the Township meet its goals of becoming carbon neutral by 2050.

Applicant's Name Greater Victoria Housing Society

Site Address 874 Fleming Street



1.0 Certification		Please check
1.1	Step Code (Please indicate level) <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5	
1.2	EnerGuide rating	
1.3	LEED	<input type="checkbox"/>
1.4	Passive House	<input type="checkbox"/>
1.6	Living building	<input type="checkbox"/>
1.7	Other (Built Green BC, R-2000, Green Shores etc.)	<input type="checkbox"/>
2.0 Siting		
2.1	New buildings > 10 m ² are located > 20 m from the high water mark (HWM) of the Gorge Waterway.	Required
2.2	New buildings >10 m ² are located at least 10 m from the HWM from the outer coastline.	Required
2.3	Flood Construction Level has been established using sea level rise projections for the life of the building.	<input type="checkbox"/>
2.4	Habitats of threatened and endangered species have been protected from impacts of development.	<input type="checkbox"/>
2.5	Buildings are located within disturbed or developed areas.	<input checked="" type="checkbox"/>
3.0 Shoreline Protection Measures		
3.1	Landscaping within 10 m of the high water mark consists primarily of native plant and tree species.	Required
3.2	A conservation covenant has been signed to protect sensitive ecosystems within 10 m of the shoreline.	<input type="checkbox"/>
3.3	At least one native tree capable of (now or in the future) supporting the nest of a Bald Eagle, Osprey etc. has been retained or is planted within 30 m of the high water mark (HWM).	<input type="checkbox"/>
3.4	Removal of at least 30% of hardened shoreline and replacement with erosion control measures designed to improve the habitat of the shoreline.	<input type="checkbox"/>
3.5	Light from building and landscaping does not cast over water.	<input type="checkbox"/>
3.6	Wildlife habitat has been incorporated into seawall design.	<input type="checkbox"/>

4.0 Stormwater Absorption and Treatment		Please Check
4.1	An on-site stormwater retention system has been designed to retain at least the first 3 cm of rainfall from each rain event.	<input type="checkbox"/>
4.2	Stormwater will be treated for pollutants prior to release to the stormdrain system or to a surface water source.	<input checked="" type="checkbox"/>
4.3	The project features a green roof.	<input type="checkbox"/>
4.4	The total amount of impervious surface is not greater than 20%.	<input type="checkbox"/>
5.0 Water Conservation		
5.1	The irrigation system has been designed to reduce potable water use by 50% compared to conventional systems.	<input checked="" type="checkbox"/>
5.2	Waterless urinals will be used.	<input type="checkbox"/>
5.3	Water features use re-circulating water systems.	<input type="checkbox"/>
5.4	Rainwater will be collected for irrigation purposes.	<input type="checkbox"/>
5.5	Toilet and kitchen sink drains are separate from other drains to the point of exit.	<input type="checkbox"/>
5.6	An approved greywater reuse system will be installed.	<input type="checkbox"/>
6.0 Trees/Landscaping		
6.1	The project is designed to protect as many native and significant trees as possible.	<input checked="" type="checkbox"/>
6.2	There will be no net loss of trees.	<input type="checkbox"/>
6.3	Trees will be planted in soil volumes calculated to support the full grown size of the tree.	<input checked="" type="checkbox"/>
6.4	At least 25% of replacement trees are large canopy trees.	<input type="checkbox"/>
6.5	Topsoil will be protected from compaction, or stockpiled and reused.	<input checked="" type="checkbox"/>
6.6	Erosion control measures have been designed and installed to prevent erosion of topsoil.	<input checked="" type="checkbox"/>
7.0 Biodiversity		
7.1	New landscaping is predominantly native plant and tree species.	<input type="checkbox"/>
7.2	Invasive species will be removed from landscaped areas.	<input checked="" type="checkbox"/>
7.3	At least two biodiversity features have been incorporated into the new or existing landscaping (see section 18.5.3 of the OCP for ideas).	<input checked="" type="checkbox"/>
8.0 Energy Conservation		
8.1	The building is pre-plumbed for solar hot water.	Required
8.2	Install a greywater heat recovery unit.	<input type="checkbox"/>
8.3	Passive cooling is supported through flow-through ventilation design, low E windows, solar shades, shade trees etc.	<input checked="" type="checkbox"/>
8.4	Passive heating is supported via building orientation, window design and thermal mass.	<input checked="" type="checkbox"/>
8.5	The building will have necessary structural support and conduit for Solar PV.	<input type="checkbox"/>
8.6	Obtain minimum of 20% of building energy consumption through community based or on-site renewables, such as district energy, waste heat recovery, geothermal, solar PV, solar hot water.	<input checked="" type="checkbox"/>
8.7	Heating uses a low carbon heating source, such as air source heat pump.	<input checked="" type="checkbox"/>

9.0 Transportation		Please Check
9.1	Building will have a car share or bus pass program for residents.	<input type="checkbox"/>
9.2	Enhanced facilities for bicyclists such as showers, lockers, storage etc.	<input type="checkbox"/>
9.3	Charging infrastructure for E-bikes will be provided.	<input checked="" type="checkbox"/>
9.4	EV charging conduit supplied to 100% of residential parking units.	<input checked="" type="checkbox"/>
9.5	30% of residential parking spaces include an electrical outlet or EV charging equipment.	<input type="checkbox"/>
9.6	Adequate space in the electrical system to provide EV charging for 100% of parking stalls.	<input checked="" type="checkbox"/>
9.7	For commercial buildings, Level 2 or Level 3 EV charging provided for employees and/or visitors.	<input type="checkbox"/>
10.0 Materials/Waste		
10.1	Employs at least 3 advanced framing techniques described in the CHBA builder's manual to reduce unnecessary lumber and sheathing.	<input type="checkbox"/>
10.2	Uses at least two materials which are certified for recycled content.	<input checked="" type="checkbox"/>
10.3	Uses engineered structural material for two major applications (>10% of floor area).	<input checked="" type="checkbox"/>
10.4	5 major building elements made from >50% recycled content.	<input type="checkbox"/>
10.5	Use foundation, floor and >50% of walls from existing building.	<input type="checkbox"/>
10.6	Deconstruct at least 50% of existing building for material salvage.	<input type="checkbox"/>
10.7	Use at least five major materials or systems produced in BC.	<input type="checkbox"/>
10.8	Use certified sustainably harvested wood for one major structural or finishing application (eg framing, plywood, floors)	<input checked="" type="checkbox"/>
10.9	Eliminate use of wood from threatened trees.	<input checked="" type="checkbox"/>
10.10	Recycling area provided within residential suites.	<input type="checkbox"/>
10.11	Recycling collection area for multi-family buildings.	<input checked="" type="checkbox"/>
10.12	Pickup of compostables provided in multi-family units.	<input checked="" type="checkbox"/>
10.13	Construction waste management practices used to reduce and separate waste and divert at least 50% from the landfill.	<input checked="" type="checkbox"/>

Please include a brief description of how this project contributes to a reduction in greenhouse gas emissions and moves the municipality closer to its ultimate target of becoming carbon neutral by 2050 (use next page if needed).

The proposed development is being designed to Step 4 of the BC Energy Step Code subject to funding availability. We strive to create Zero Emission buildings by eliminating the need for a natural gas, domestic hot water heating system, thereby reducing CO2 entirely. A total of 10% of all parking stalls will be equipped with EV charging stations. Charging for mobility scooters and electric bicycles will be provided.

- D01 EXISTING SITE PLAN W/ PROPOSED BUILDING
- D02 AVERAGE GRADE CALCULATION
- D03 OVERALL SITE PLAN
- D04 LEVEL PARKADE FLOOR PLAN
- D05 LEVEL 1 FLOOR PLAN
- D06 LEVEL 2 FLOOR PLAN
- D07 LEVEL 3 to 5 FLOOR PLAN
- D08 LEVEL 6 FLOOR PLAN
- D09 BUILDING ELEVATIONS
- D10 BUILDING ELEVATIONS
- D11 UNIT PLANS
- D12 UNIT PLANS
- D13 AREA SUMMARIES
- D14 RENDERINGS
- L01 LANDSCAPE CONCEPT PLAN



RECEIVED

JUN 17 2019

CORP. OF TOWNSHIP
OF ESQUIMALT

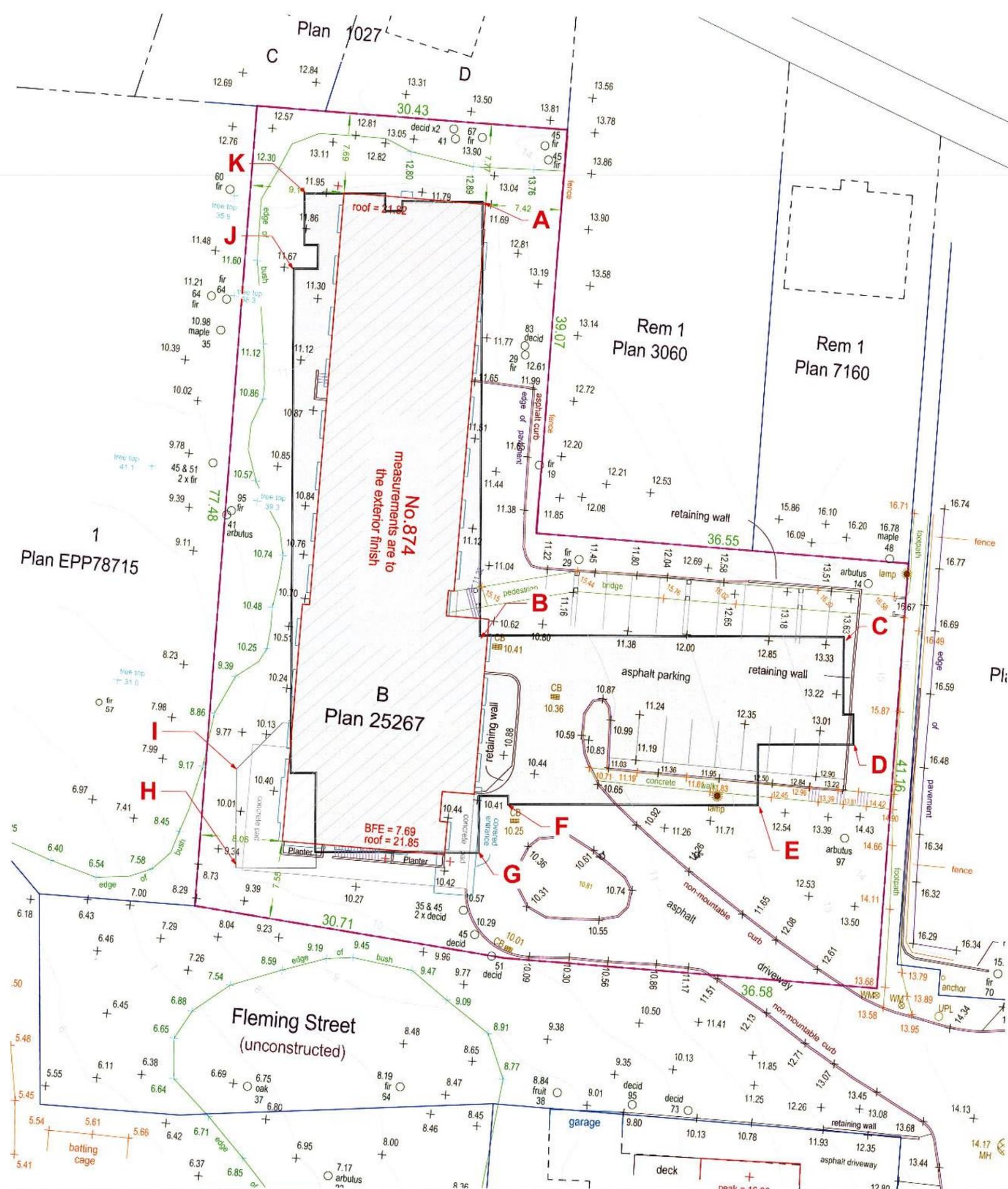
DEVELOPMENT SERVICES

PRELIMINARY - NOT FOR CONSTRUCTION



RECEIVED
JUN 17 2019
 CORP. OF TOWNSHIP
 OF ESQUIMALT
 DEVELOPMENT SERVICES

PRELIMINARY - NOT FOR CONSTRUCTION



AVERAGE GRADE CALCULATION W/ BASEMENT PROTRUSION:
ALL DATUMS IN GEODETIC IN METRES

- A:** NORTHEAST CORNER
EXISTING 11.70m
NEW 11.40m
- B:** NORTHEAST INSIDE CORNER
EXISTING 10.67m
NEW 11.40m
- C:** NORTHEAST OUTSIDE CORNER
EXISTING 12.43m
NEW 11.40m
- D:** SOUTHEAST OUTSIDE CORNER
EXISTING 13.18m
NEW 11.40m
- E:** SOUTHEAST CORNER
EXISTING 12.54m
NEW 11.40m
- F:** SOUTHWEST INSIDE CORNER
EXISTING 10.32m
NEW 11.40m
- G:** SOUTH CORNER
EXISTING 10.42m
NEW 11.40m
- H:** SOUTHWEST INSIDE CORNER
EXISTING 9.34m
NEW 11.40m
- I:** SOUTHWEST INSIDE CORNER
EXISTING 9.72m
NEW 11.40m
- J:** SOUTHWEST OUTSIDE CORNER
EXISTING 11.80m
NEW 11.40m
- K:** NORTHWEST INSIDE CORNER
EXISTING 11.33m
NEW 11.40m

AVERAGE GRADE CALCULATION
 $11.70 + 10.67 + 12.43 + 13.18 + 12.54 + 10.32 + 10.42 + 9.34 + 9.72 + 11.80 + 11.33 = 124.58$
 $124.58 / 11 = 11.33m$ GEO

AVERAGE GRADE
11.35m GEO



RESIDENTIAL UNITS

*Is measured from the centre line of party walls, the face of the exterior sheathing, and the centre line of the corridor walls

	# Units	Area (m2)	Area (sf)	
Studio	28	37 m ²	398 sf	1,036 m ²
Studio Acc.	7	37 m ²	398 sf	259 m ²
1 BD	67	53 m ²	570 sf	3,551 m ²
2 BD	24	72 m ²	775 sf	1,728 m ²
3 BD	5	91 m ²	980 sf	455 m ²
4 BD	6	138 m ²	1,485 sf	828 m ²
Total	137			7,857 m²

RESIDENTIAL AREA 7,857 m²
 GROSS LIVABLE AREA 10,055 m²
 OBE 78.1402 %

RESIDENTIAL AREA + AMENITY 8,063 m²
 GROSS LIVABLE AREA 10,055 m²
 OBE 80.18763 %

OVERALL BUILDING EFFICIENCY *Total Residential area / Gross Livable Area
 (Total Residential area + residents amenity + admin/support + circulation + service rooms)



NOTE: ROAD ELEVATIONS ARE PRELIMINARY AND MAY CHANGE PENDING FINAL FRONTAGE DESIGN

PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT DATA - 874 Fleming St Esquimalt, BC

ZONING: RM-4
 LEGAL: Lot B Plan VIP25267 Section 10 Land District 21/Lot B Plan VIP25267 Section 10 Land District 21 PID: 002-900-246

	Existing RM-4	OCP	Proposed	Notes
SITE AREA:	na		3909 m ² 42076 sf	
LOT COVERAGE:	30.0 %		49 %	
DENSITY (FAR)*:	1.0	2.0	2.14	
SETBACKS:				
(Building) South	7.5 m		5.5 m	
(Parkade) South			2.2 m	
East	6.0 m		4.0 m	
(Inner) East			5.1 m	
(Building) West	6.0 m		4.8 m	
(Parkade) West			3.0 m	
(Rear) North	7.5 m		7.0 m	
HEIGHT:	11 m 4 storeys	6 Storeys	20.35 m 6 storeys	Average Grade: 11.35 T. O. Roof Surface: 31.7

GROSS* FLOOR AREA: *Area calculated to exterior face of exterior sheathing - for construction budget purposes

LEVEL	Area (m ²)	Area (sq ft)
LEVEL 1	1,646 m ²	17,718 sf
LEVEL 2	1,728 m ²	18,600 sf
LEVEL 3	1,694 m ²	18,234 sf
LEVEL 4	1,694 m ²	18,234 sf
LEVEL 5	1,694 m ²	18,234 sf
LEVEL 6	1,599 m ²	17,212 sf
Total	10,055 m²	108,232 sf
PARKADE	2,488 m ²	26,780 sf

LOT COVERAGE AREA:

	Area (m ²)	Area (sq ft)
Typical Floor Plate Area + Canopy + Parkade Protrusion	1,933 m ²	20,807 sf

NET* TOTAL FLOOR AREA: *Area calculated to interior face of exterior walls - per zoning definition (FAR calculation) and excludes stairs, elev, corridors

LEVEL	Area (m ²)	Area (sq ft)
LEVEL 1	1,280 m ²	13,778 sf
LEVEL 2	1,460 m ²	15,715 sf
LEVEL 3	1,430 m ²	15,393 sf
LEVEL 4	1,430 m ²	15,393 sf
LEVEL 5	1,430 m ²	15,393 sf
LEVEL 6	1,350 m ²	14,531 sf
Total	8,380 m²	90,202 sf

SUITE BREAKDOWN: unit areas calculated to centre line of party wall and outside face of exterior sheathing

Unit Type	Unit Area	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Total Units	%
Studio	37 m ² 398 sf	1	6	6	7	7	1	28	20
Studio Acc.	37 m ² 398 sf	1	2	1	1	1	1	7	5
1 BD	53 m ² 570 sf	7	9	12	12	12	15	67	49
2 BD	72 m ² 775 sf	2	2	5	5	5	5	24	18
3 BD	91 m ² 975 sf	0	1	1	1	1	1	5	4
4 BD	138 m ² 1485 sf	6	0	0	0	0	0	6	4
Sub Total		17	19	25	26	26	23	137	100

PARKING BREAKDOWN:

	Required	Proposed	Stalls /unit
RM-4 & RM-5	1.3	178 stalls	
Senior's Housing	0.5	67 stalls	0.49 /unit

BICYCLE PARKING: 137 stalls, 137 stalls, 1.00 /unit

SCOOTER PARKING: 14 stalls



PRELIMINARY - NOT FOR CONSTRUCTION



NOTE
ROAD ELEVATIONS ARE PRELIMINARY AND MAY
CHANGE PENDING FINAL FRONTAGE DESIGN

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CORP OF TOWNSHIP
OF ESQUIMALT
DEVELOPMENT SERVICES



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 DEVELOPMENT SERVICES



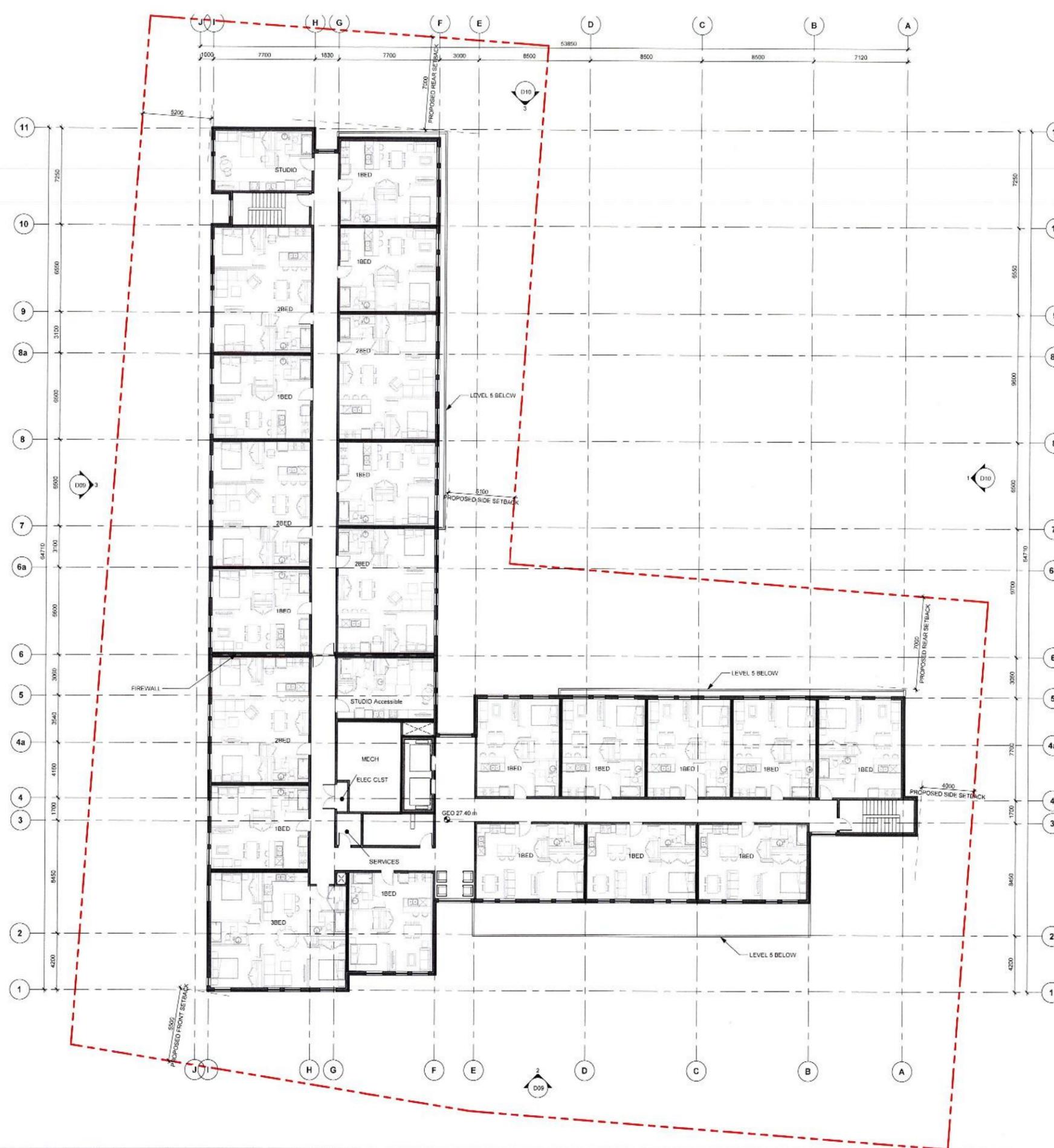
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SOUTH ELEVATION.

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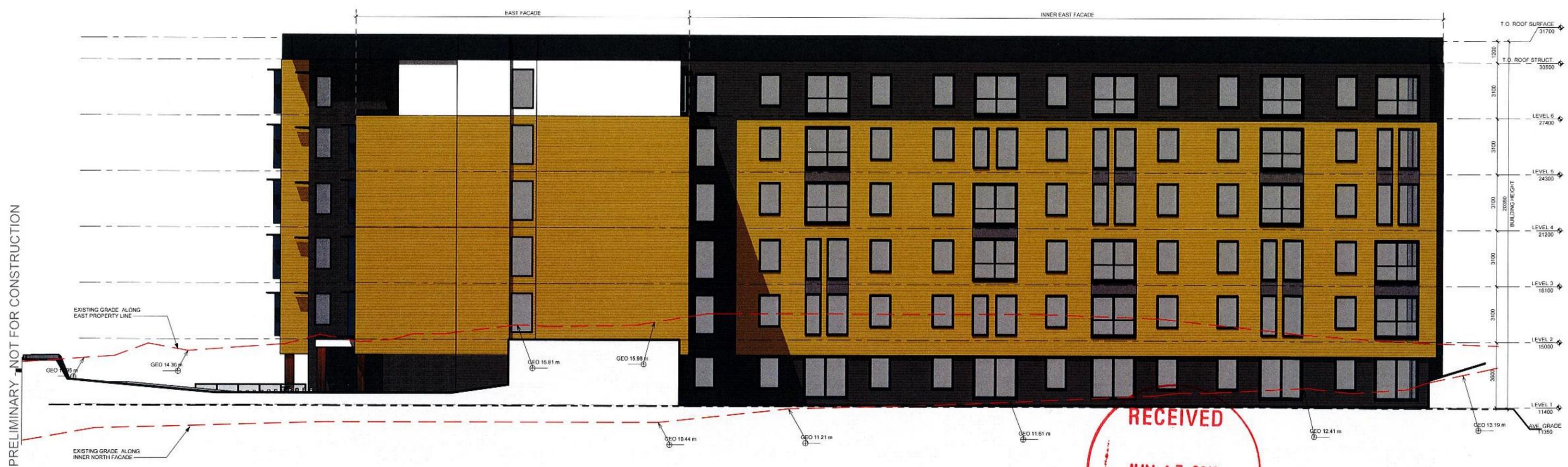


WEST ELEVATION.



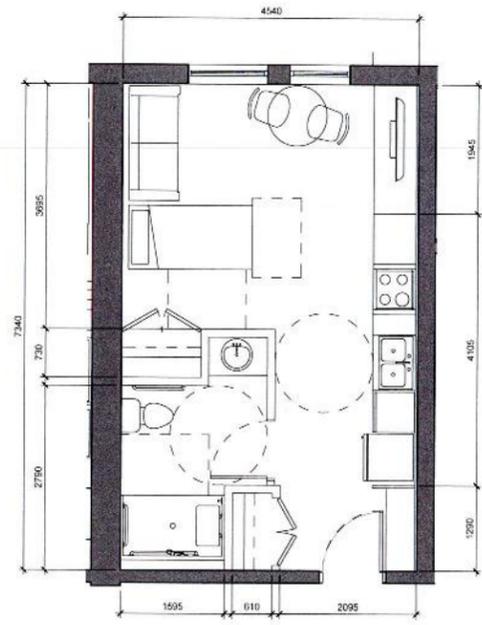


NORTH ELEVATION.



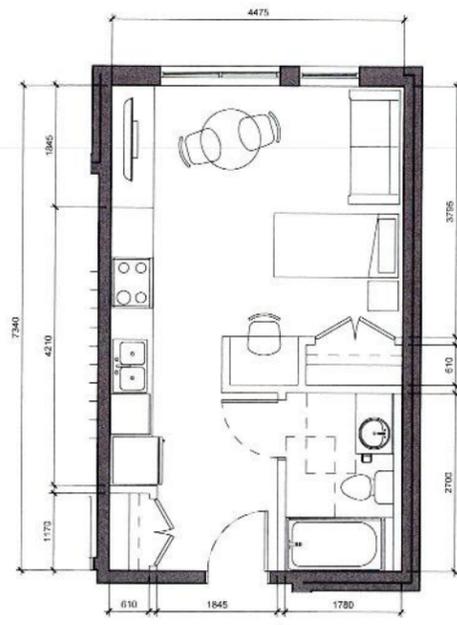
EAST ELEVATION.





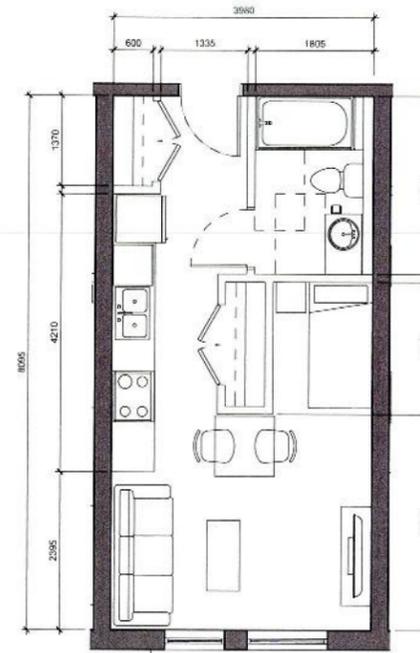
STUDIO - ACCESSIBLE 37 m² (398 sf)

1 : 50



STUDIO - TYPE B 37 m² (398 sf)

1 : 50



STUDIO - TYPE C 35 m² (377 sf)

1 : 50



1 BEDROOM - TYPE A & B 50 m² (538 sf) & 53 m² (572 sf)

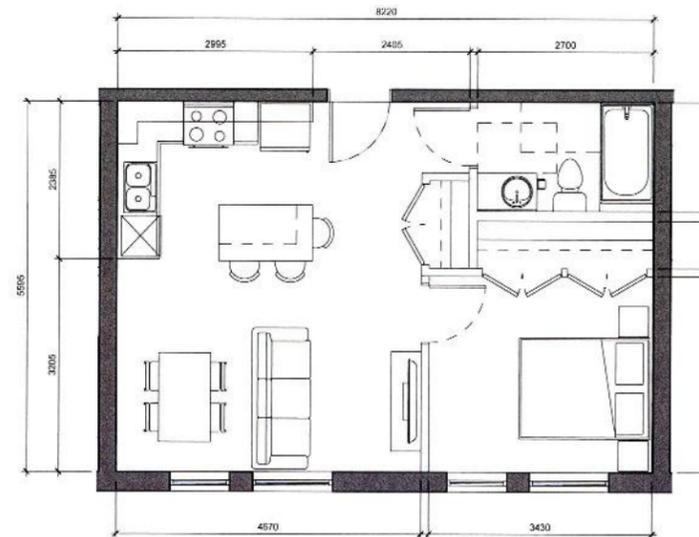
1 : 50



2 BEDROOM 72 m² (780 sf)

1 : 50

NOTE:
UNIT AREA CALCULATED FROM THE CENTRE LINE OF DEMISING WALLS, CENTRE LINE OF CORRIDOR WALLS AND OUTSIDE FACE OF SHEATHING ON EXTERIOR WALLS.



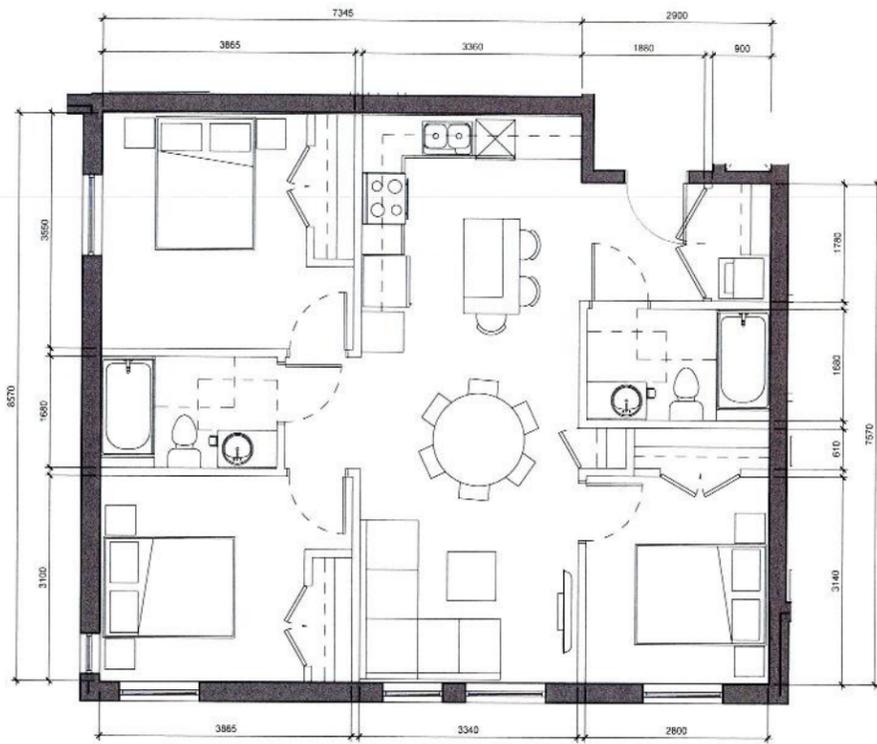
1 BEDROOM - TYPE C 51 m² (545 sf)

1 : 50



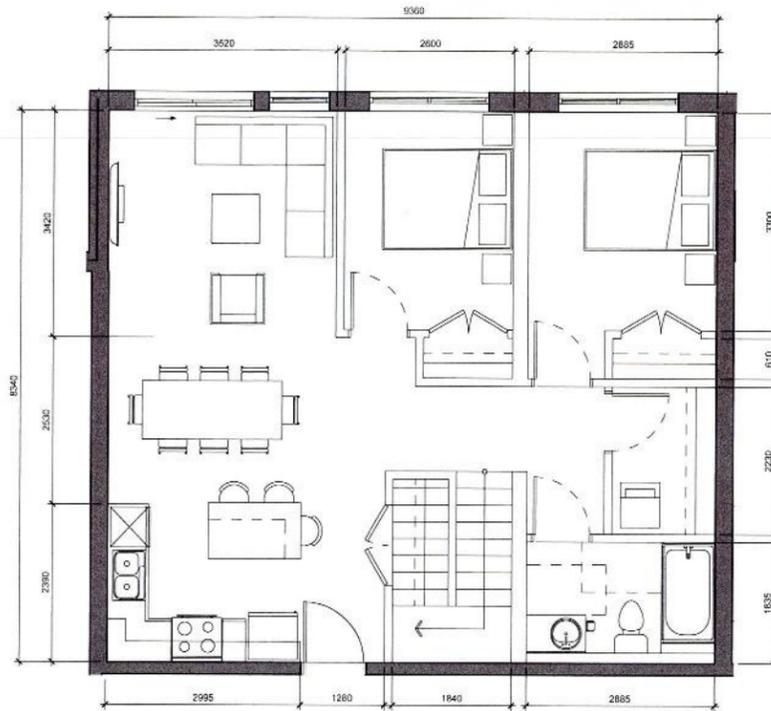
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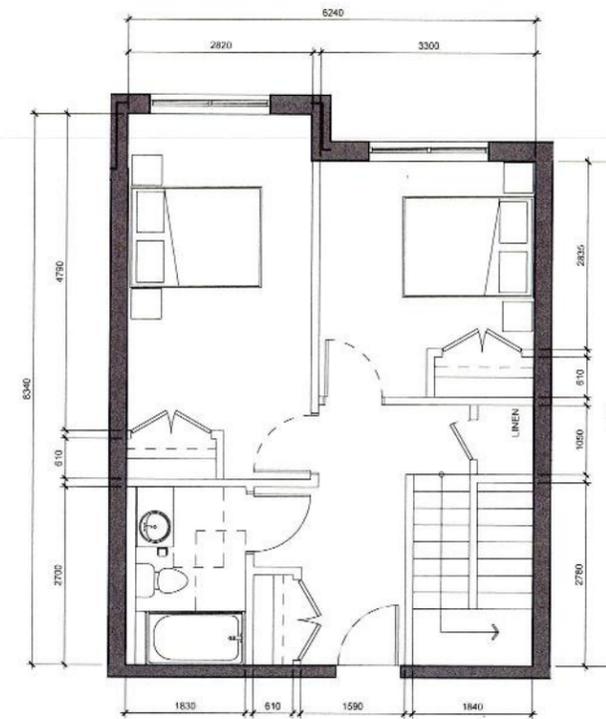
3 BEDROOM 90.6 m² (975 sf)

1 : 50



4 BEDROOM - TYPE A @ L1 138 m² (1485 sf)

1 : 50



4 BEDROOM - TYPE A @ L2

1 : 50



4 BEDROOM - TYPE B @ L1 138 m² (1485 sf)

1 : 50



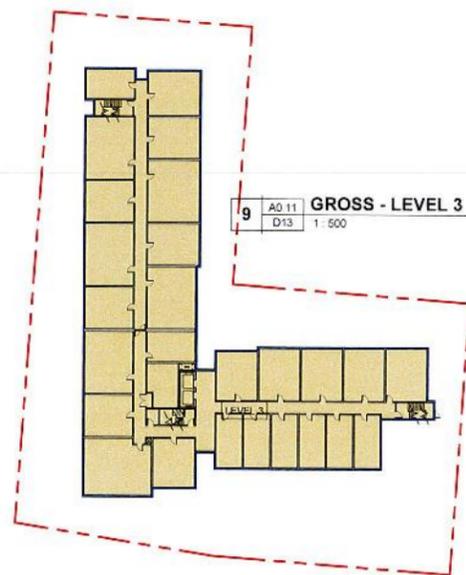
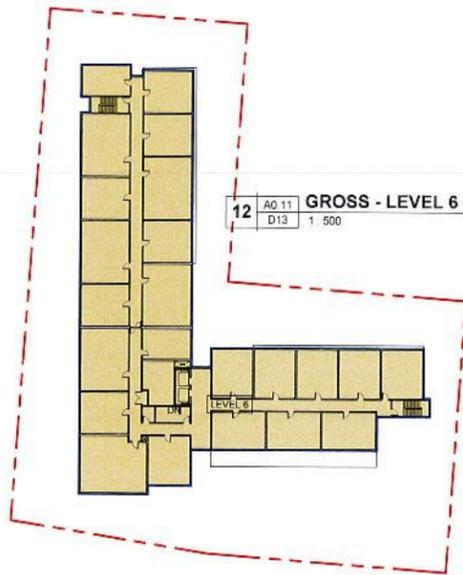
4 BEDROOM - TYPE B @ L2

1 : 50

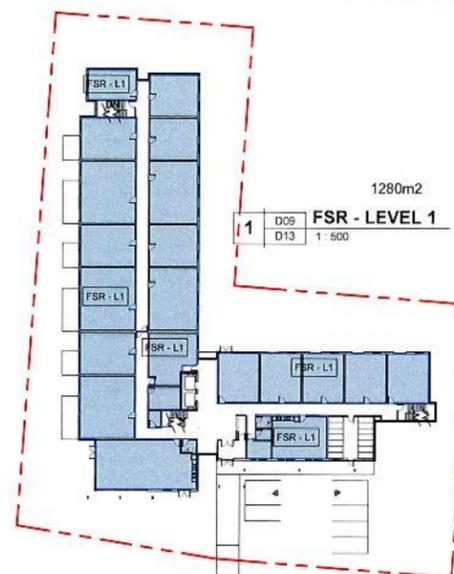
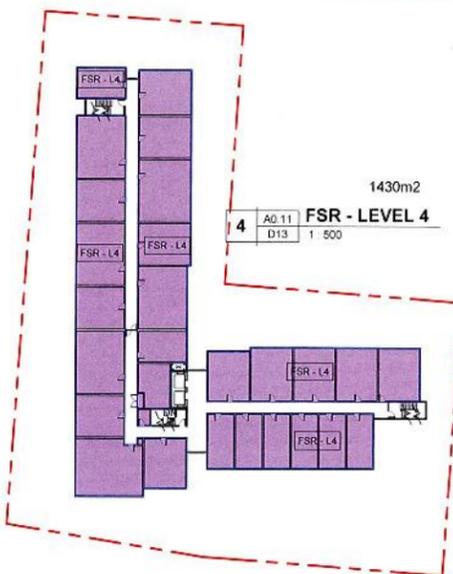
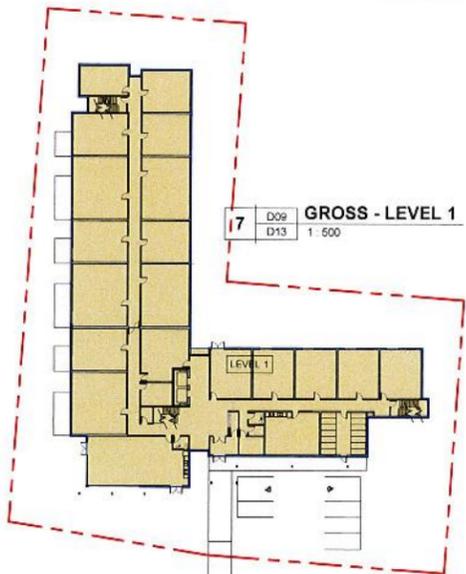
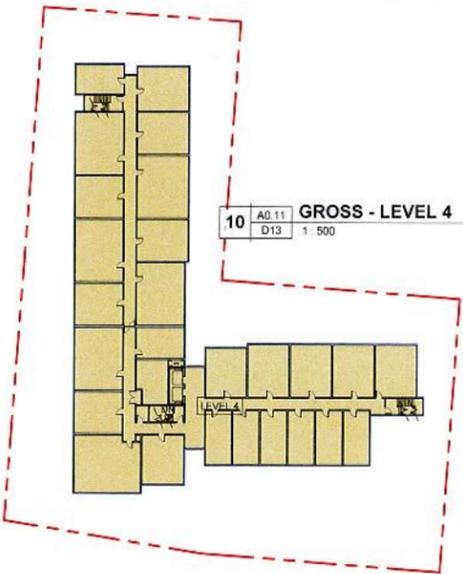
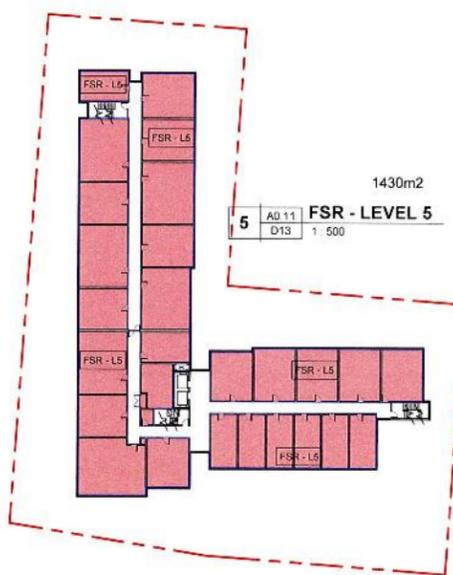
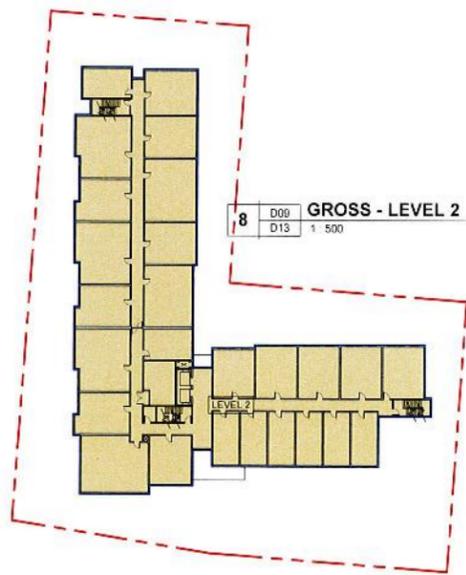
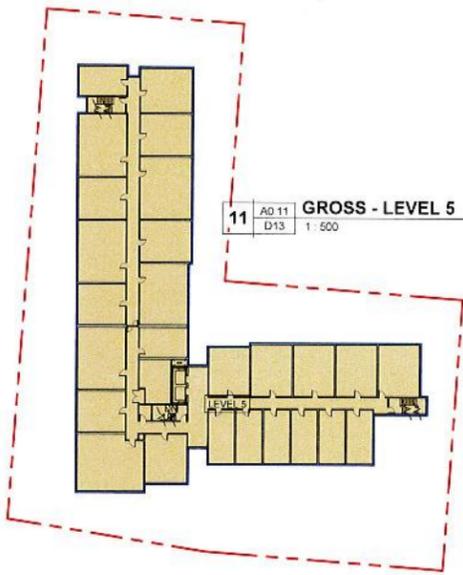
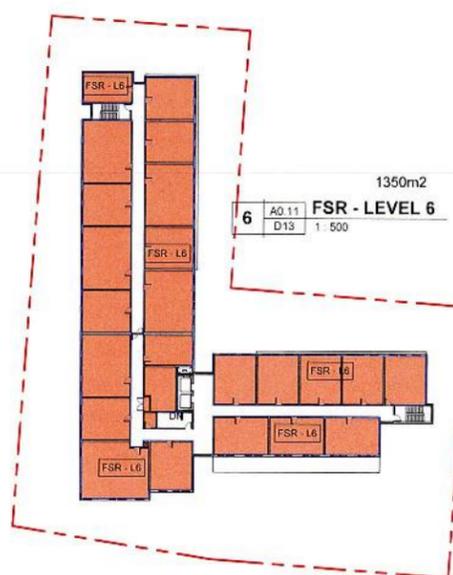


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AREA SCHEDULE - GROSS BUILDING		
Name	Area (sqm)	AREA (sqft)
LEVEL 1	1645.9 m ²	17715 ft ²
LEVEL 2	1728.3 m ²	18603 ft ²
LEVEL 3	1694 m ²	18234 ft ²
LEVEL 4	1694 m ²	18234 ft ²
LEVEL 5	1694 m ²	18234 ft ²
LEVEL 6	1599.3 m ²	17215 ft ²
Grand total	10055.4 m ²	108235 ft ²



TOTAL AREA :
8380m²

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NOTE:
FAR IS CALCULATED FROM THE CENTRE LINE OF PARTY WALLS, INSIDE FACE OF CORRIDOR WALLS AND THE INSIDE FACE OF EXTERIOR WALL AND INCLUDE ALL INTERIOR STORAGE.
GROSS AREA IS CALCULATED FROM FACE OF EXTERIOR SHEATHING.

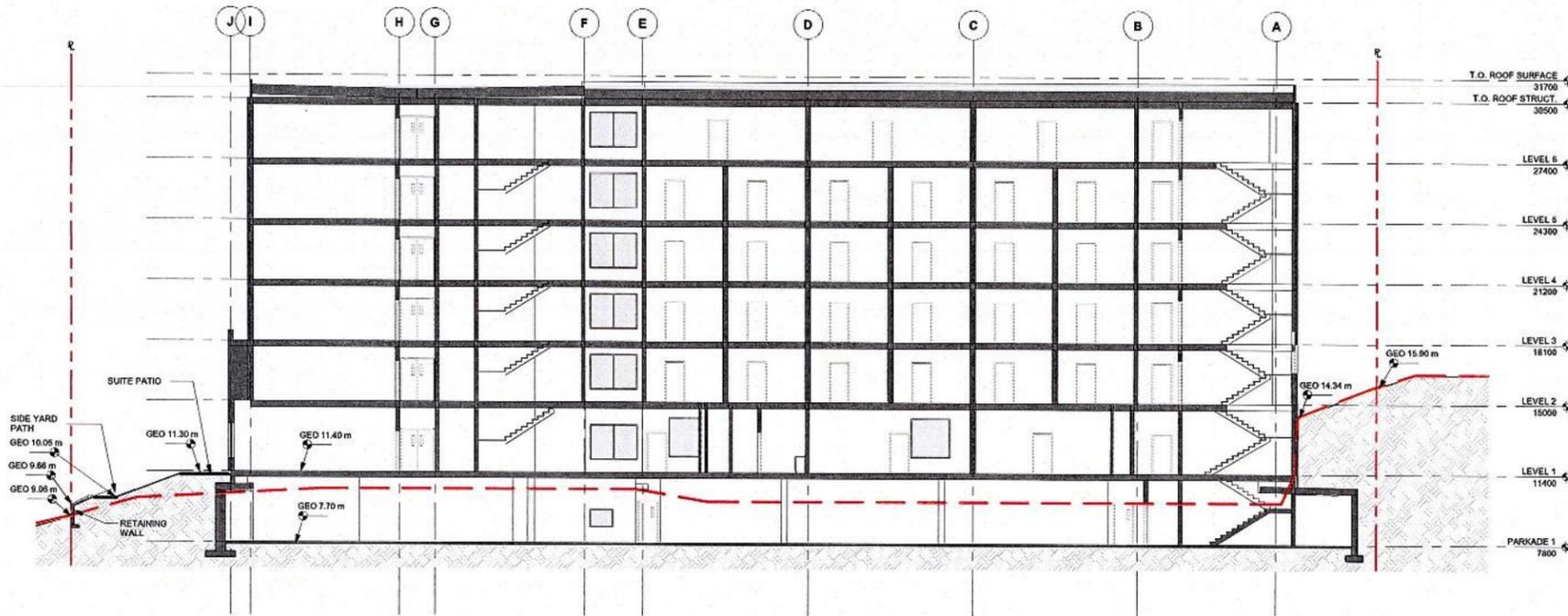


AERIAL VIEW

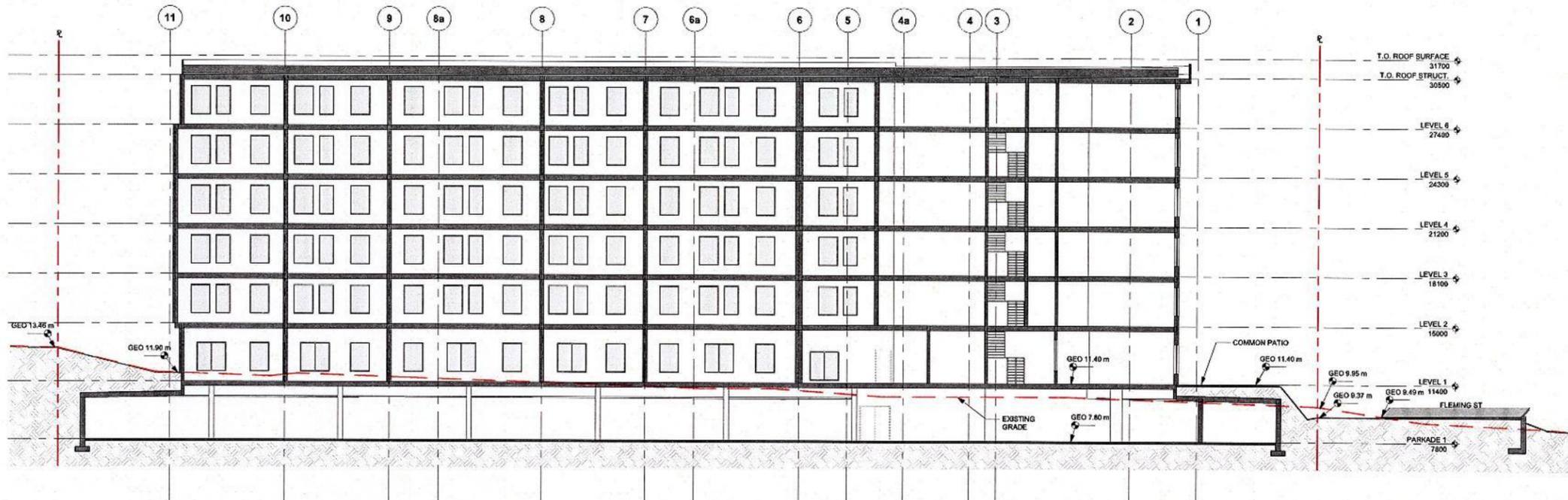
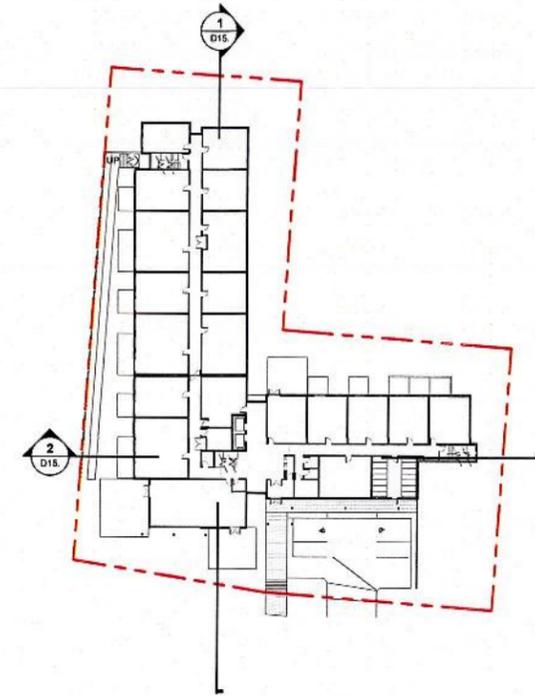
VIEW FROM FLEMING STREET

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2 D15 EAST WEST SECTION 04 - Dependent 1
D15 1:150



1 D15 NORTH SOUTH SECTION 04 - Dependent 1
D15 1:150



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Image 1. Katsura Tree

Recommended Nursery Stock

Trees				
ID	Quantity	Botanical Name	Common Name	Size
AcCi	5	Acer circinatum	Vine Maple	6 cm cal.
CoJa	3	Cercidiphyllum japonicum	Katsura Tree	6 cm cal.
MaGa	7	Magnolia Galaxy	Galaxy Magnolia	6 cm cal.
PiOm	9	Picea omorika	Serbian Spruce	3 m ht.
Large Shrubs				
ID	Quantity	Botanical Name	Common Name	Size
ChTe	12	Choisya temata	Mexican Orange Blossom	# 5 pot
CoCo	11	Cotinus coggygria	Smoke Bush	# 7 pot
Medium Shrubs				
ID	Quantity	Botanical Name	Common Name	Size
RhDu	196	Rhododendron 'Dora Amateis'	Dora Amateis Rhododendron	# 2 pot
RiSa	34	Ribes sanguineum	Red Flowering Currant	# 5 pot
SaRu	84	Sarcococca ruscifolia	Sweet Box	# 1 pot
Small Shrub				
ID	Quantity	Botanical Name	Common Name	Size
GaSh	385	Gaultheria shallon	Salal	# 1 pot
MaNe	204	Mahonia nervosa	Low Oregon Grape	# 1 pot
SkJa	32	Skimmia japonica	Skimmia	# 1 pot
Perennials, Annuals and Ferns				
ID	Quantity	Botanical Name	Common Name	Size
AcMi	93	Achillea millefolium	Common White Yarrow	# 1 pot
AsYo	107	Astilbe younique white	Dwarf Astilbe	# 1 pot
EcPu	253	Echinacea purpurea	Purple Coneflower	SP4
MiSi	78	Miscanthus sinensis	Japanese Silver Grass	# 5 pot
PeAl	78	Pennisetum alopecuroides	Fountain Grass	# 1 pot
PoMu	256	Polystichum munitum	Sword Fern	SP4
RuFu	226	Rudbeckia fulgida 'Goldsturm'	Goldsturm Black Eyed Susan	SP4

Notes:

- All work to be completed to current BCSLA Landscape Standards
- All soft landscape to be irrigated with an automatic irrigation system



Image 2. Siberian Spruce



Image 3. Galaxy Magnolia Tree



Image 4. Vine Maple Tree



A.	June 14, '19	Rezoning Submission

REVISIONS

#3-864 Queens Ave. Victoria B.C. V8T 1M5
Phone: (250) 598-0105 Fax: (250) 412-0696

PROJECT
874 Fleming St.
Esquimalt, B.C.

TITLE
Landscape Concept
Plan

SCALE As shown DRAWN O.L. CHECKED B.W.

PROJECT No. 1907

DATE June 14, 2019 1 of 1 SHEET

