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: Trevor Parkes, Senior Planner
Bill Brown, Director of Development Services

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

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.**

BACKGROUND:

Purpose of the Application:

The applicant is requesting for 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.

Context

Applicant: Greater Victoria Housing Society [James Munro/ Carly Abrahams]

Owners: Greater Victoria Housing Society, Inc. No. S-0005025

Property Size: Metric: 3905 m^2 Imperial: 42033 ft^2

Existing Land Use: Multiple Family Residential [Affordable Seniors Rental]

Surrounding Land Uses:
North: Single Family Residential/ Vacant Land
South: Park/ Single Family Residential
West: Vacant land [Future Development Site]
East: Multiple Family Residential

OCP Proposed Land Use Designation: Medium Density Residential [No change necessary]

Existing Zoning: RM-4 [Multiple Family Residential]

Proposed Zoning: CD [Comprehensive Development District]

Official Community Plan

The Official Community Plan Proposed Land Use Designation for the subject property is 'Medium Density Residential', considering developments with a Floor Area Ratio of up to 2.0 and up to six storeys in height. The proposed development is consistent with the height of six storeys but has a Floor Area Ratio of 2.1. Consistent with the direction contained within the Official Community Plan relating to density bonuses, the applicant is proposing to provide affordable rental and special needs housing for the benefit of the community.

OCP Section 5.1 states a policy to 'support the development of a variety of housing types and designs to meet the anticipated housing needs of residents. This may include non-market and market housing options that are designed to accommodate young and multi-generational families, the local workforce, as well as middle and high income households.'

OCP Section 5.1 also states a policy to 'encourage the development of rental accommodation designed for a variety of demographic household types, including young families.

OCP Section 5.3 Medium and High Density Residential Development states an objective to support compact, efficient medium density and high density residential development that integrates with existing proposed adjacent uses.

As the proposed development has a floor area ratio of 2.1, it is inconsistent with the following policy:

- Consider new medium density residential development proposals with a Floor Area Ratio of up to 2.0 and up to six storeys in height, in areas designated on the "Proposed Land Use Designation Map"

However, the following policies address the use of density bonus for this proposed development in order to achieve consistency with the Official Community Plan:

- Consider, where appropriate, development proposals with densities greater than those set out in the OCP through density bonus of floor-space provided that the additional density result in the provision of community amenities deemed appropriate by Council for the benefit of the community.Recognize, for the purposes of density bonuses, "amenities" may include but are not limited to:
    1. Privately-owned, publicly-accessible open space;
    2. Public art;
    3. Contributions towards the enhancement of public recreation facilities;
    4. Contributions towards street and boulevard enhancements, including street furniture and decorative lighting;
    5. Building to a higher step of the BC Energy Step Code than required under the Building Bylaw;
    6. Group daycare and respite for children and adults;
    7. Preservation of heritage structures, features or assets;
    8. **Affordable housing units;**
    9. **Special needs housing units;**
    10. Community gardens;
    11. Enhanced green family play space for residents;
    12. Public space improvements supporting and surrounding transit stations; and
    13. Other as may be appropriate to the development proposal or surrounding community as deemed appropriate by Council.

The applicant's proposal is for the entire building to be affordable rental housing and the design includes seven (7) fully accessible units.

Supporting policies in OCP Section 5.3 consistent with the proposed development include:

- Encourage new medium density and high density residential development with high quality design standards for building and landscaping and which enhance existing neighbourhoods.
- Prioritize medium density and high density residential development in proposed land use designated areas that:
    1. reduce single occupancy vehicle use;
    2. support transit service;
    3. are located within close proximity to employment centres; and
    4. accommodate young families.
- A mix of dwelling unit sizes should be provided in medium density and high density residential land use designated areas in order to meet the varying housing needs of Esquimalt residents.
- Encourage the incorporation of spaces designed to foster social interaction.
- Encourage the installation of electric vehicle charging infrastructure in medium and high density residential developments.

Official Community Plan, Section 5.4 states an objective to encourage a range of housing by type, tenure and price so that people of all ages, household types, abilities and incomes have a diversity of housing choice in Esquimalt.
Through the provision of affordable, special needs and seniors housing, the proposed development would be consistent with the following policies in this section:

- Encourage the provision of affordable housing by the private market and the non-profit housing sector et. al.
- Encourage the placement of new rental, affordable, special needs, and seniors housing

in accordance with designated residential land use areas as they are integral components of inclusive neighbourhoods.
- Avoid the spatial concentration of affordable and special needs housing in neighbourhoods.
- Consider bonus density, parking relaxations or other development variances where a development proposal includes affordable, special needs or seniors housing. This may apply to both market and non-market housing, and mixed-use proposals. A housing agreement may be entered into between the Township and the owner.

Official Community Plan, Section 5.5, states an objective to expand and protect seniors housing in Esquimalt to enable citizens to "age in place".

Supporting policies in OCP Section 5.5 consistent with the proposed development include:
- Support and facilitate development of multi-generational housing, including in medium and high density residential developments.
- Encourage more accessible housing for people with mobility limitations on the ground floor of medium and high density residential buildings.
- Encourage the development of seniors housing that is within close proximity and accessible to services and amenities.

OCP Section 11.3.1 Public Cycling Infrastructure states the following policy:
- Encourage end-of-trip facilities including secure lockup and shower facilities

OCP Section 11.3.2 New Development states the following policy:
- Encourage bike lockers in multi-unit residential and commercial/commercial mixed-use developments.

OCP Section 13.3.3 Building Energy Efficiency states the following policies:
- Adopt best practices based on evolving building technologies and materials.
- Encourage the adoption of passive, efficient, and renewable energy systems in new buildings and during building retrofits
- Investigate options for encouraging developers to achieve high energy performance in new developments through such tools as density bonusing, expedited permit approval process, rebate of development fees, revitalization tax exemption, and other incentives.
- Pursue higher energy-efficiency performance in new developments, through the achievement of higher steps in the BC Energy Step Code as an amenity associated with rezoning.

Under OCP Section 13.3.6 Passenger Vehicle Alternatives, the following policies are listed:
- Encourage the installation of electric vehicle charging infrastructure in all new multi-unit developments.
- Pursue the installation of electric vehicle charging capacity in new developments during the rezoning process.

Relevant Development Permit Area Guidelines to consider as it relates to the rezoning application include:
- Retain existing healthy native trees, vegetation, rock outcrops and soil wherever possible.
- Avoid disturbing, compacting and removing areas of natural soil as this can lead to invasion by unwanted plant species, poor water absorption and poor establishment of new plantings. Use of local natural soil in disturbed and restored areas will support re-

establishment of ecosystem functions.

- In residential locations plan for 'nature out front'; for new landscaping in front and exterior side yards use a variety of site-appropriate, native species; thereby contributing positively to pedestrian friendly urban streets, future greenways and habitat enhanced corridors.
- New buildings should be designed and sited to minimize visual intrusion on to the privacy of surround homes and minimize the casting of shadows on to the private outdoor space of adjacent residential units.
- Underground parking should be encouraged for any multi-unit residential buildings exceeding four storeys.
- Avoid excessively long blank walls adjacent to public streets.
- Avoid expansive blank walls (over 5 m in length) and retaining walls adjacent to public streets.
- Orient buildings to take advantage of site specific climate conditions, in terms of solar access and wind flow; design massing and solar orientation for optimum passive performance.
- Build new developments compactly, considering the solar penetration and passive performance provided for neighbouring sites, and avoid shading adjacent to usable outdoor open spaces.

Zoning

Density, Lot Coverage, Height and Setbacks: The following chart compares the floor area ratios, lot coverage, setbacks, height, parking and usable open space of this proposal. Zoning Bylaw, 1992, No. 2050 does not currently contain a zone that can accommodate this proposed development.

	Proposed Comprehensive Development Zone
Residential Units	137
Residential Floor Area Ratio	2.10
Lot Coverage	69%
Lot Coverage at or above Parking Level	49%
Parking Structure Setbacks • **Front [West]** • **Rear [East]** • **Interior Side [Northernmost]** • **Interior Side [Easternmost]** • **Interior Side [Southernmost]** • **Exterior Side [South]**	 4.0 m 3.0 m 7.0 m 5.1 m 7.0 m 4.5 m
Building above Setbacks • **Front [West]** • **Rear [East]** • **Interior Side [North]** • **Interior Side [South]**	 10.6 m 4.5 m 7.0 m 3.7 m
Building Height	21 m [6 storeys]

Off Street Parking	67 spaces
Usable Open Space	0%
Bicycle Parking	137 resident + 6 visitor

Floor Area Ratio: The FAR of this proposal is 2.10 which is greater than the acceptable amount of 2.0 for a building in a 'Medium Density Residential' designated area. However, the applicant has proposed a density bonus contribution of 137 affordable housing units to offset the added density.

Lot Coverage: The lot coverage of the building above the parking level is 49%, compared to 69% for the lot coverage at the parking level.

Usable Open Space: Our zones that accommodate apartment developments generally require usable open space in the amount of not less than 7.5% of the area of the parcel. This development has no space allocated that would meet the definition of useable open space however the building design includes an amenity room attached to a large outdoor deck located at the southwest corner overlooking the park for use by all residents.

Parking: Parking Bylaw, 1992, No. 2011 requires 1.3 parking spaces per unit to be provided for multiple family developments. Parking areas are required to be constructed to meet the standards for manoeuvring aisle dimensions and associated parking stall dimensions detailed in Part 14, Table 2, of the Bylaw. This proposal incorporates 67 parking spaces to serve 137 residential rental dwelling units.

In addition to reducing the parking spaces required, the following relaxations are required to the Parking Bylaw No. 2011 based on the current parking plan:

- Reduction of the number of required Visitor parking spaces from 1 in 4 spaces to 1 in 10 spaces [i.e. from 17 to 7 spaces]

Green Building Features

The applicant has completed the Esquimalt Green Building Checklist [attached].

Comments from Other Departments

The plans for this proposal were circulated to other departments and the following comments were received:

Community Safety Services: Building to be constructed to requirements of BC Building Code 2018 and municipal bylaws. Plans will be reviewed for compliance with BC Building Code upon submission of a Building Permit application.

Engineering Services: Engineering staff has completed a preliminary evaluation of Works and Services that would be required for the proposed 137 unit multiple family residential building. Staff confirms that the design appears achievable on the site and that appropriate works and services are available in the immediate area. If approved, the development must be serviced in accordance with bylaw requirements including, but not limited to, new sewer and drain connections, underground hydro, telephone and cable services and new road works would be required up to the centre line of Fleming Street, meaning the installation of a significant portion of roadway. Should the application be approved, additional comments will be provided when detailed civil engineering drawings are submitted as part of a Building Permit application.

ALTERNATIVES:

1. Forward the application for Rezoning to Council with a **recommendation of approval including reasons for the recommendation**.

2. Forward the application for Rezoning to Council with a **recommendation of approval including specific conditions and including reasons for the recommendation**.

3. Forward the application for Rezoning to Council with a **recommendation of denial including reasons for the recommendation**.

GREATER VICTORIA HOUSING SOCIETY
Since 1956

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 CO^2 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 maximin 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
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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

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

Prepared by:
Talbot Mackenzie & Associates
ISA Certified and Consulting Arborists
Phone: (250) 479-8733
Fax: (250) 479-7050
email: tmtreehelp@gmail.com

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

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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	*Abies grandis*	43	3	6.5	Poor	Good	Fair	Neighbour's	Retain
NT13	Grand Fir	*Abies grandis*	60, 42	8	13.0	Poor	Good	Fair	Neighbour's, codominant union at base	Retain
NT14	Scouler's Willow	*Salix scouleriana*	~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	*Pseudotsuga menziesii*	~50	8	7.5	Poor	Good	Fair	Municipal tree. Located in centre of cluster NT15	TBD
NT17	Garry Oak	*Quercus garryana*	~30	6	3.0	Good	Good	Fair	Municipal tree, located in southwest corner of cluster NT15	TBD

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Plan 1027

C

D

CRAIGFLOWER ROAD

Rem 1
Plan 3060

Rem 1
Plan 7160

1
Plan EPP78715

B
Plan 25267

1
Plan 29037

No.874
measurements are to
the exterior finish

No.899

No.899

LINE OF PROPOSED BUILDING

LINE OF EXISTING BUILDING
TO BE DEMOLISHED

roof = 21.92

BFE = 7.69
roof = 21.85

30.43

39.07

36.55

30.71

36.58

41.16

77.48

retaining wall

asphalt parking

retaining wall

retaining wall

asphalt

non-mountable curb

driveway

non-mountable curb

Fleming Street
(FUTURE)

garage

deck

asphalt driveway

concrete

pedestrian bridge

footpath

footpath

fence

fence

fence

edge of pavement

edge of pavement

edge of bush

edge of bush

edge of bush

concrete pad

concrete pad

concrete entrance pad

asphalt curb

Planter

Planter

walk

lamp

lamp

anchor

baseball diamond

batting cage

MHS 1816
lid=9.12

MHS 1805
lid=6.13

CB

CB

CB

WM

WM

WV

WV

WM

UPL

MH

FH

tree top 35.9

tree top 38.3

tree top 41.1

tree top 39.3

tree top 31.0

45 & 51
2 x fir

41
arbutus

35 & 45
2 x decid

83
decid

45
decid

51
decid

95
fir

60
fir

64
fir

29
fir

19
fir

57
fir

45
fir

45
fir

67
fir

64
fir

10.98
maple
35

16.78
maple
48

7.75
oak
37

8.84
fruit
38

8.19
fir
64

decid
95

decid
73

arbutus
14

arbutus
97

7.17
arbutus

15.52
decid
25

roof=
27.58

roof=
27.58

roof=
27.58

roof=
30.34

roof=
30.32

roof=
30.31

roof=
27.57

roof=
27.58

roof line

roof line

31.56

PRELIMINARY - NOT FOR CONSTRUCTION

LOW HAMMOND ROWE ARCHITECTS

GREATER VICTORIA HOUSING SOCIETY
Since 1936

ESQUIMALT RENTAL HOUSING

874 FLEMING STREET, ESQUIMALT, BC

EXISTING SITE PLAN W/ PROPOSED BUILDING

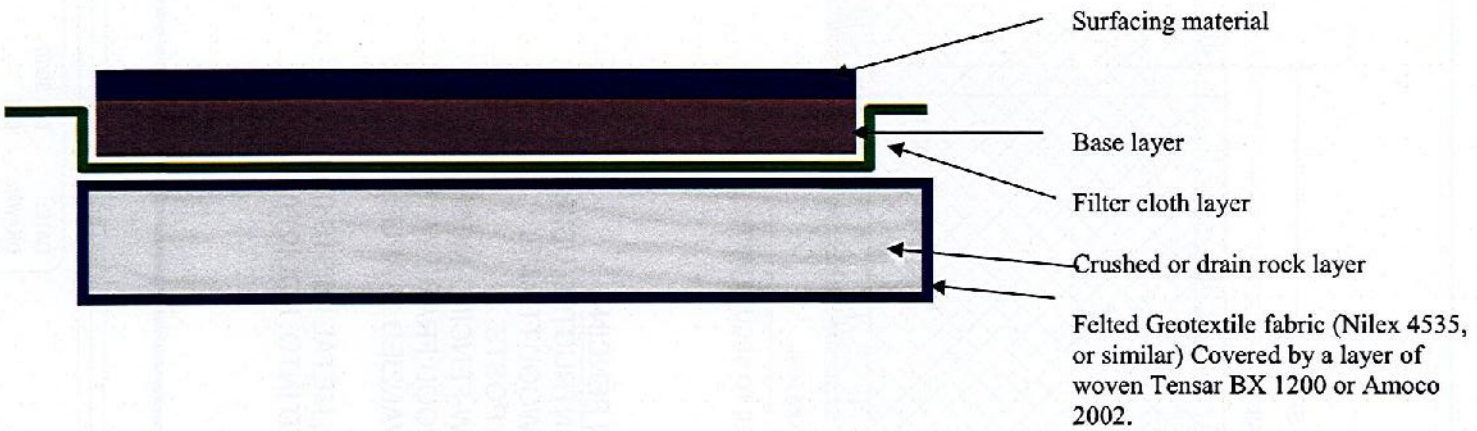
scale 1 : 200 date 2019.06.17

D01

Talbot Mackenzie & Associates

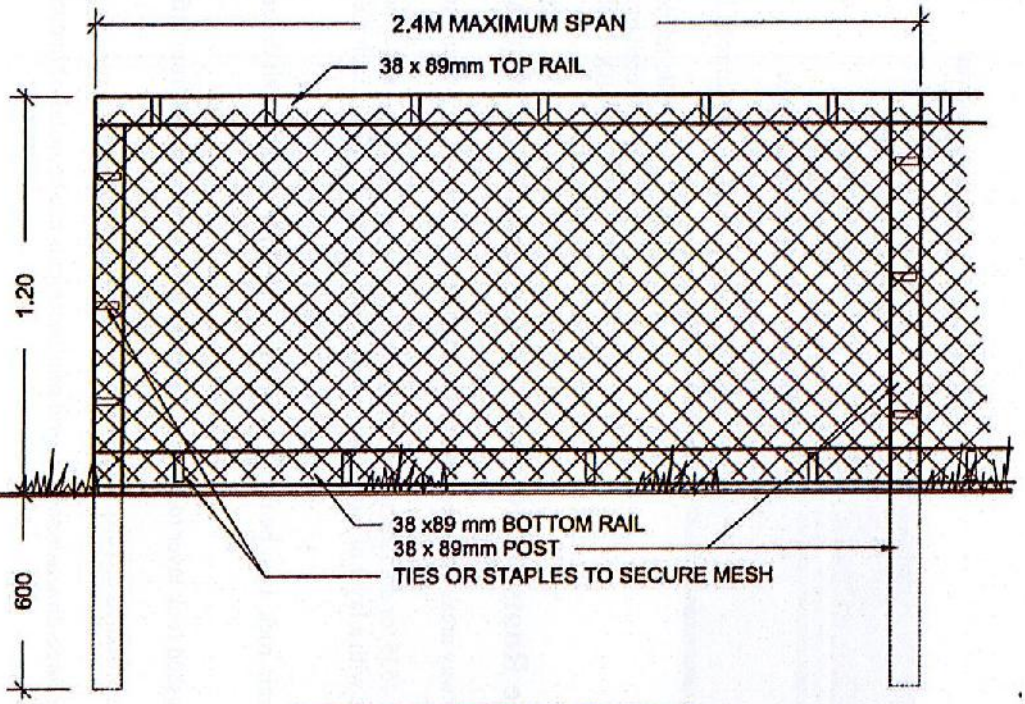
Consulting Arborists

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 (Nilex 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 CONTRUCTED 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 GALVANZIED 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
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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

TRANSPORTATION PLANNERS AND ENGINEERS

bunt &associates

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

SButton

Simon Button, P.Eng.
Transportation Engineer

TABLE OF CONTENTS

EXHIBITS

TABLES

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;

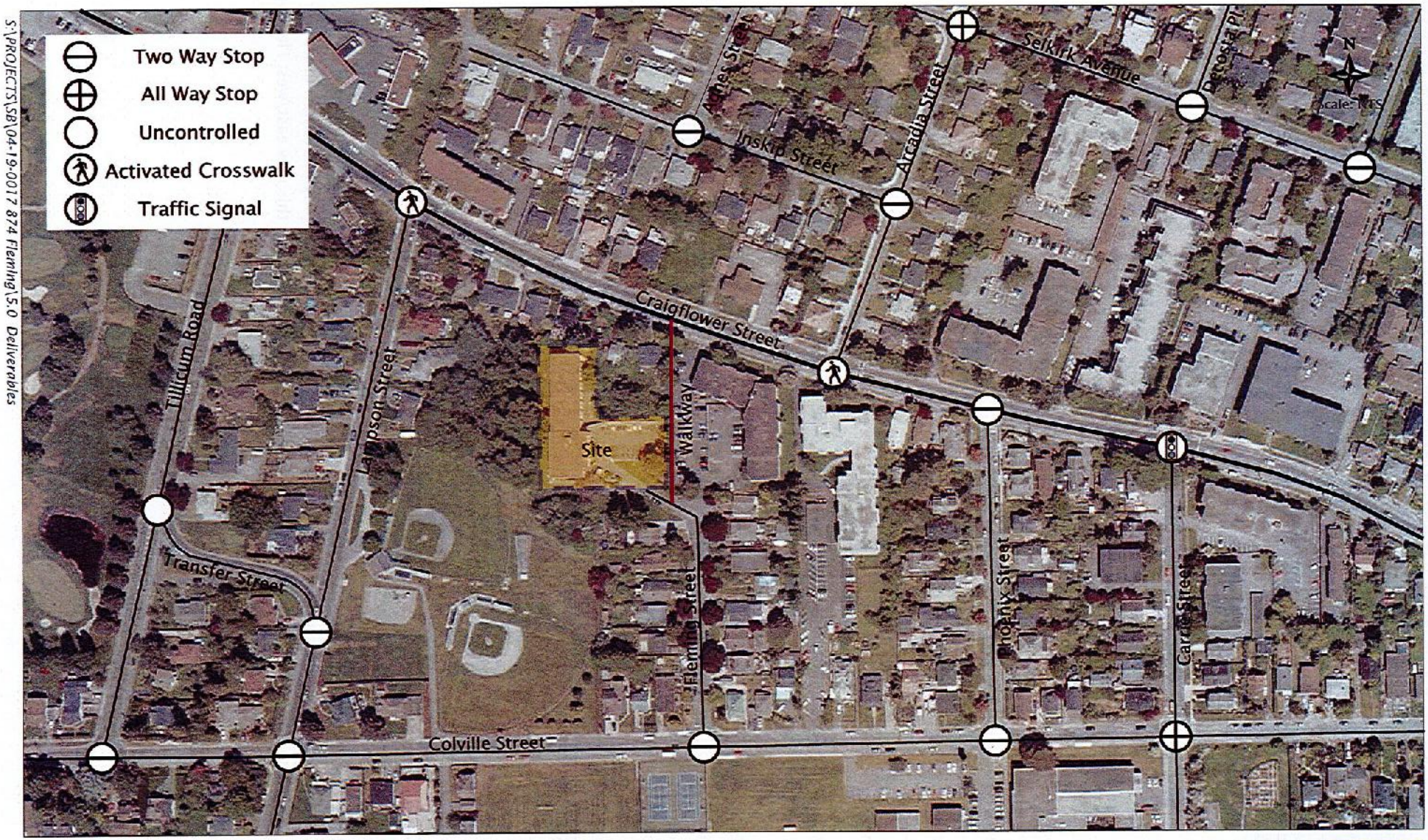
1.2 Development Details

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.



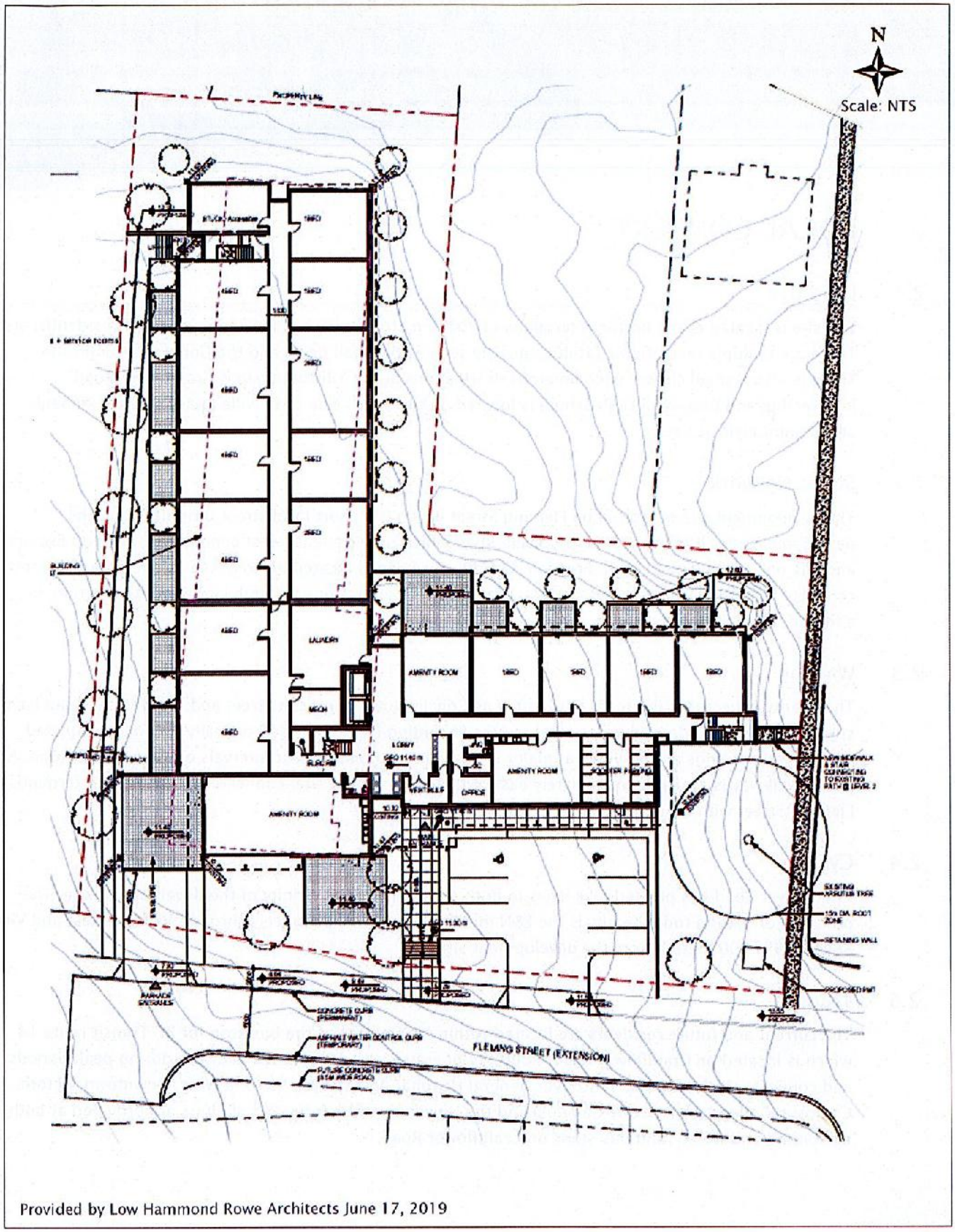
S:\PROJECTS\SB\04-19-0017 874 Fleming\5.0 Deliverables

Exhibit 1.1
Site Location

874 Fleming Street
May 2019

04-19-0017

bunt & associates



Provided by Low Hammond Rowe Architects June 17, 2019

Exhibit 1.2

Peak Hour Site Plan

874 Fleming Street
June 2019

04-19-0017

bunt &associates

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 Study[1] 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 be 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.

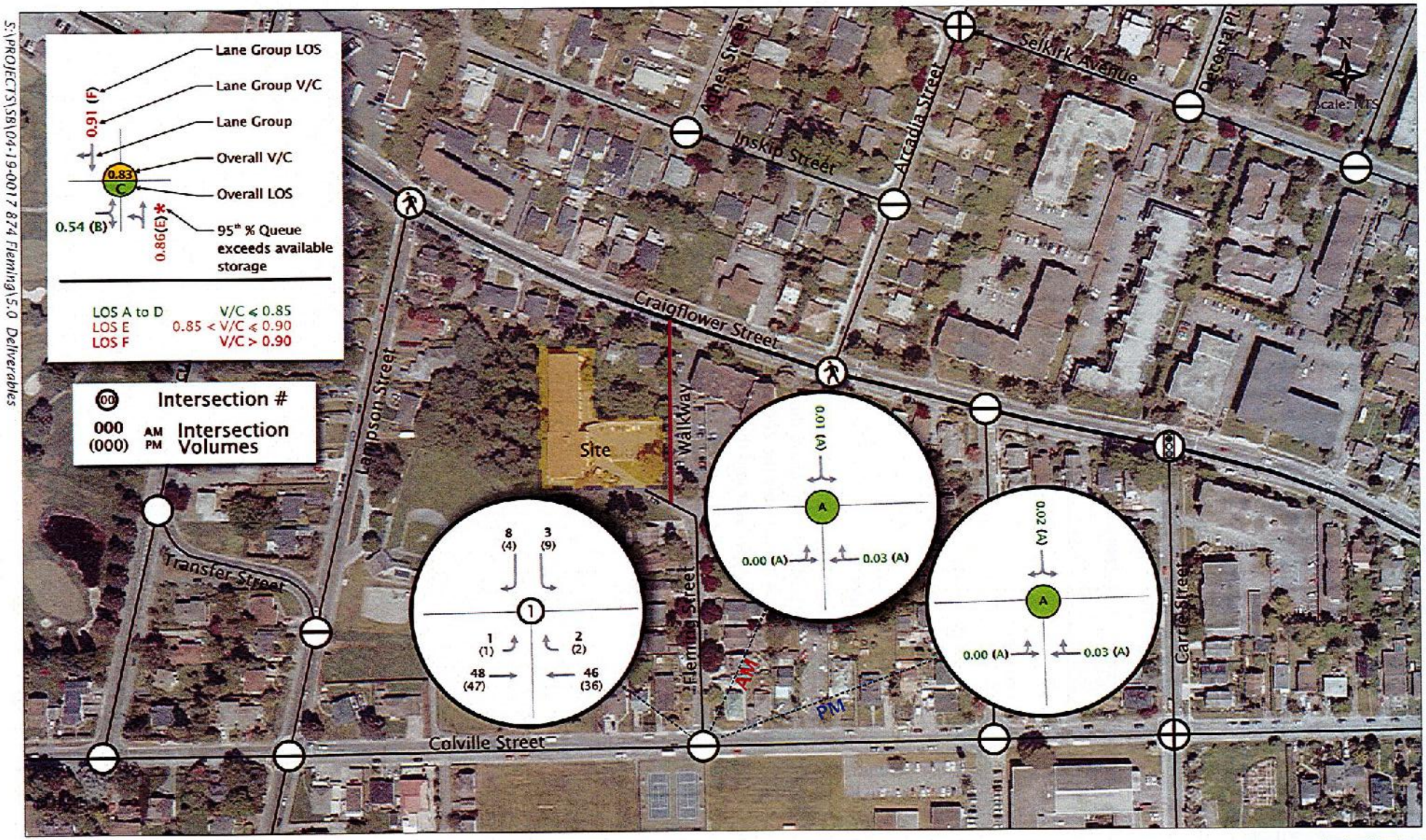


Exhibit 4.1

Existing Vehicle Volumes & Operations

874 Fleming Street
May 2019

04-19-0017

bunt & associates

S:\PROJECTS\SB\04-19-0017 874 Fleming\5.0 Deliverables

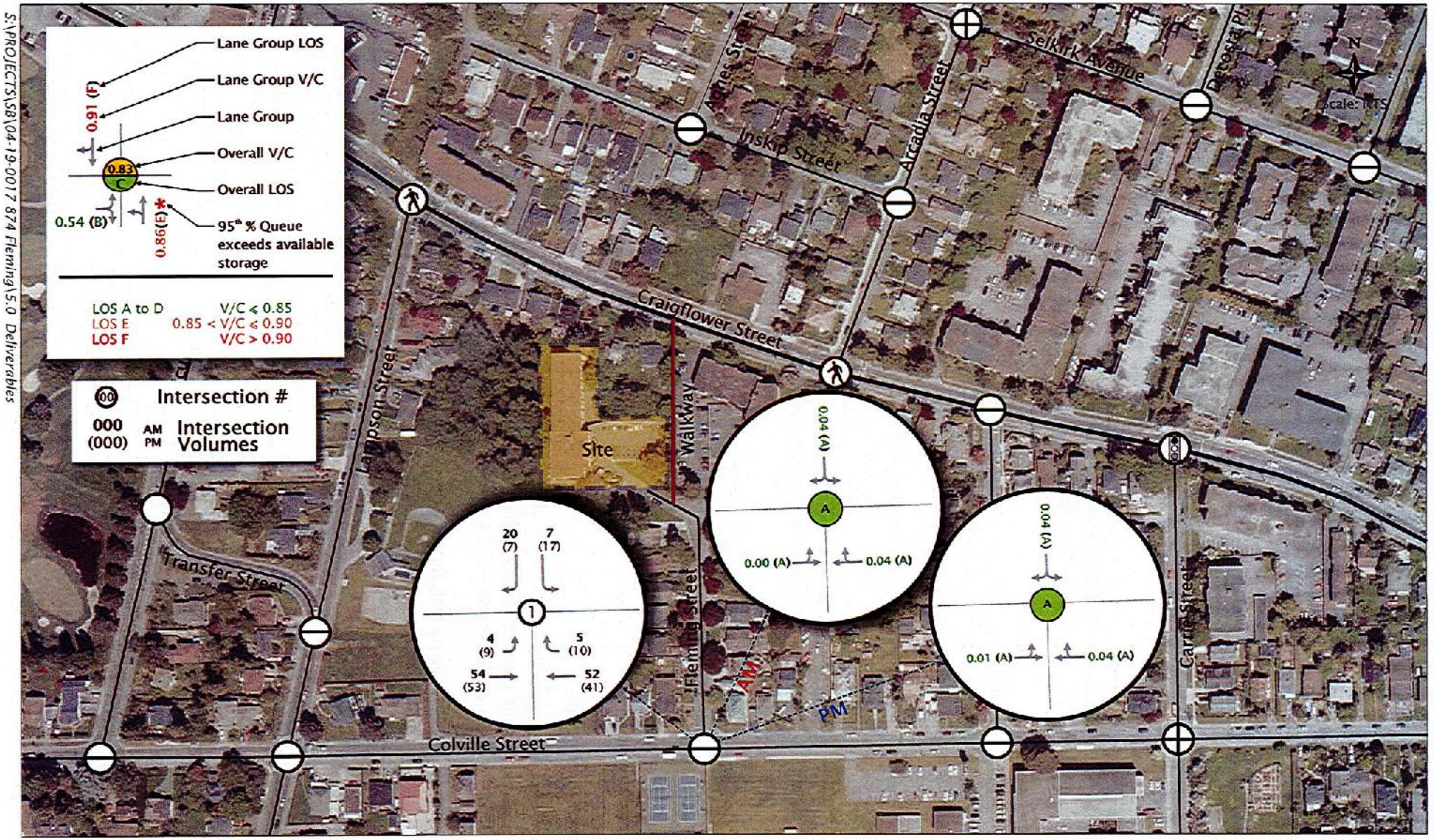


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Exhibit 4.2

2032 Vehicle Volumes & Operations (with Development)

874 Fleming Street
May 2019

04-19-0017

bunt & associates

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.

Township of ESQUIMALT

Green Building Checklist

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

		Please check
1.0 Certification		
1.1	Step Code (Please indicate level) ☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5	
1.2	EnerGuide rating	
1.3	LEED	☐
1.4	Passive House	☐
1.6	Living building	☐
1.7	Other (Built Green BC, R-2000, Green Shores etc.)	☐
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.	☐
2.4	Habitats of threatened and endangered species have been protected from impacts of development.	☐
2.5	Buildings are located within disturbed or developed areas.	☑
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.	☐
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).	☐
3.4	Removal of at least 30% of hardened shoreline and replacement with erosion control measures designed to improve the habitat of the shoreline.	☐
3.5	Light from building and landscaping does not cast over water.	☐
3.6	Wildlife habitat has been incorporated into seawall design.	☐

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.	
4.2	Stormwater will be treated for pollutants prior to release to the stormdrain system or to a surface water source.	✓
4.3	The project features a green roof.	
4.4	The total amount of impervious surface is not greater than 20%.	
5.0 Water Conservation		
5.1	The irrigation system has been designed to reduce potable water use by 50% compared to conventional systems.	✓
5.2	Waterless urinals will be used.	
5.3	Water features use re-circulating water systems.	
5.4	Rainwater will be collected for irrigation purposes.	
5.5	Toilet and kitchen sink drains are separate from other drains to the point of exit.	
5.6	An approved greywater reuse system will be installed.	
6.0 Trees/Landscaping		
6.1	The project is designed to protect as many native and significant trees as possible.	✓
6.2	There will be no net loss of trees.	
6.3	Trees will be planted in soil volumes calculated to support the full grown size of the tree.	✓
6.4	At least 25% of replacement trees are large canopy trees.	
6.5	Topsoil will be protected from compaction, or stockpiled and reused.	✓
6.6	Erosion control measures have been designed and installed to prevent erosion of topsoil.	✓
7.0 Biodiversity		
7.1	New landscaping is predominantly native plant and tree species.	
7.2	Invasive species will be removed from landscaped areas.	✓
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).	✓
8.0 Energy Conservation		
8.1	The building is pre-plumbed for solar hot water.	Required
8.2	Install a greywater heat recovery unit.	
8.3	Passive cooling is supported through flow-through ventilation design, low E windows, solar shades, shade trees etc.	✓
8.4	Passive heating is supported via building orientation, window design and thermal mass.	✓
8.5	The building will have necessary structural support and conduit for Solar PV.	
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.	✓
8.7	Heating uses a low carbon heating source, such as air source heat pump.	✓

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

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.

LOW HAMMOND ROWE ARCHITECTS

ESQUIMALT RENTAL HOUSING

874 FLEMING STREET, ESQUIMALT, BC

ISSUED FOR REZONING
2019.06.17

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Since 1858

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ESQUIMALT RENTAL HOUSING
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EXISTING SITE PLAN W/ PROPOSED BUILDING
scale 1 : 200 date 2019.06.17
D01

PRELIMINARY - NOT FOR CONSTRUCTION

AVERAGE GRADE CALCULATION W/ BASEMENT PROTRUSION:
ALL DATUMS IN GEOGETIC 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 **13.43m**
NEW 11.40m

D: SOUTHEAST OUTSIDE CORNER
EXISTING **13.18m**
NEW 11.40m

E: SOUTHEAST CORNER
EXISTING **12.54m**
NEW 11.40m

F: SOUTHEAST 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 **11.60m**
NEW 11.40m

K: NORTHWEST INSIDE CORNER
EXISTING **11.93m**
NEW 11.40m

AVERAGE GRADE CALCULATION
11.70 + 10.67 + 13.43 + 13.18 + 12.54 + 10.32
+ 10.42 + 9.34 + 9.72 + 11.60 + 11.93 =
124.58
124.58 / 11 = **11.35m GEO**

AVERAGE GRADE
11.35m GEO

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874 FLEMING STREET, ESQUIMALT, BC

AVERAGE GRADE CALCULATION **D02**
scale 1 : 200 date 2019.06.17

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 m^2**

RESIDENTIAL AREA 7,857 m^2
GROSS LIVABLE AREA 10,055 m^2
OBE **78.1402 %**

RESIDENTIAL AREA + AMENITY 8,063 m^2
GROSS LIVABLE AREA 10,055 m^2
OBE **80.18763 %**

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

PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT DATA - 874 Fleming St
Esquimalt, BC

ZONING: RM-4
LEGAL: Lot B Plan VIP25267 Section 10 Land District 21Lot 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		20.35 m	Average Grade: 11.35
	4 storeys	6 Storeys	6 storeys	T. O. Roof Surface: 31.7

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

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 m^2	108,232 sf
PARKADE	2,488 m^2	26,780 sf

LOT COVERAGE AREA:

	Area (m2)	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 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 m^2	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

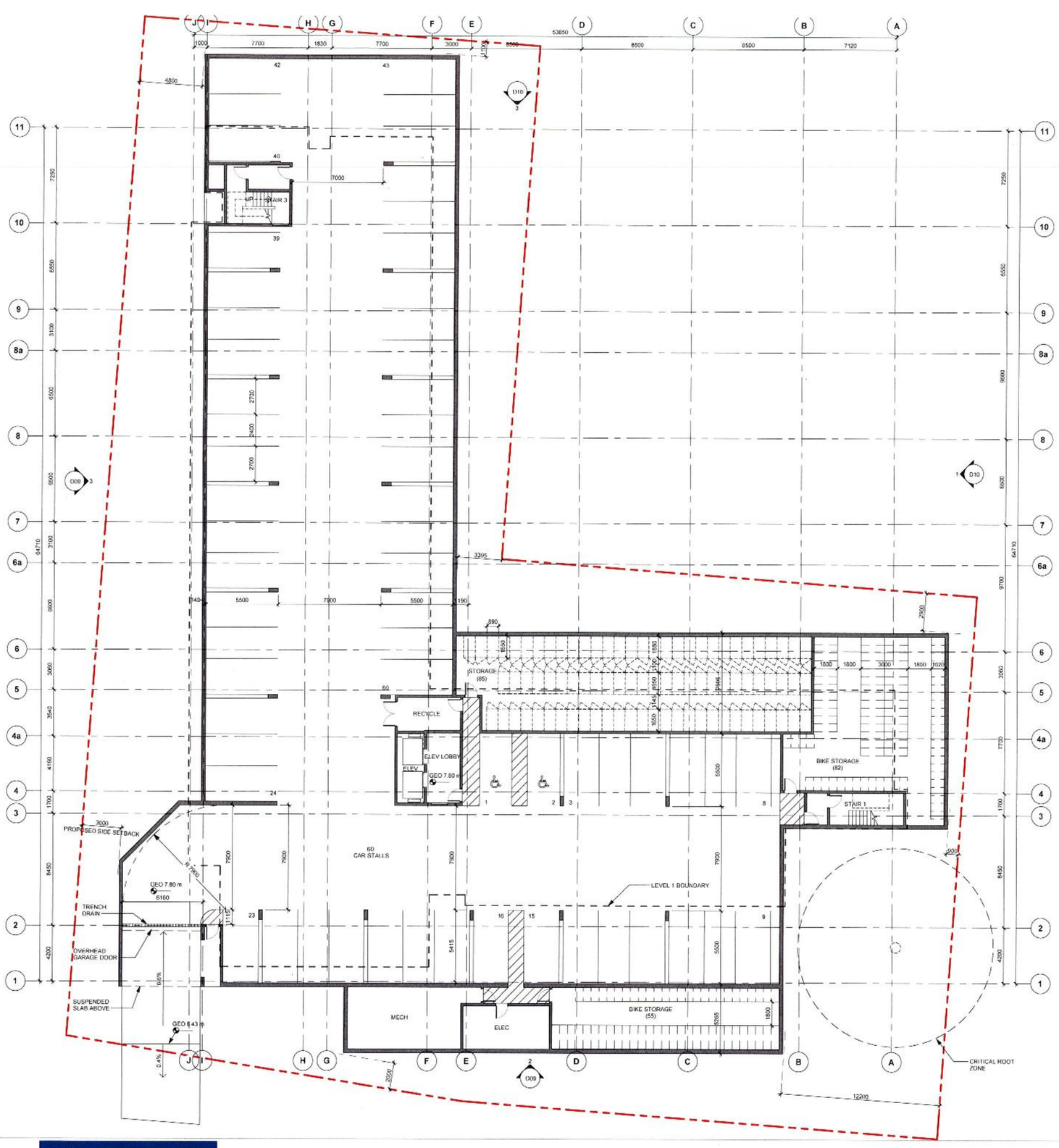
PARKING BREAKDOWN:

		Required	Proposed	Stalls /unit
RM-4 & RM-5	1.3	178 stalls		
Senior's Housing	0.5	69 stalls	67 stalls	0.49 /unit

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

SCOOTER PARKING: 14 stalls

PRELIMINARY - NOT FOR CONSTRUCTION



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LEVEL PARKADE FLOOR PLAN D04
scale 1 : 150 date 2019.06.17

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

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LEVEL 1 FLOOR PLAN
scale 1 : 150 date 2019.06.17

D05

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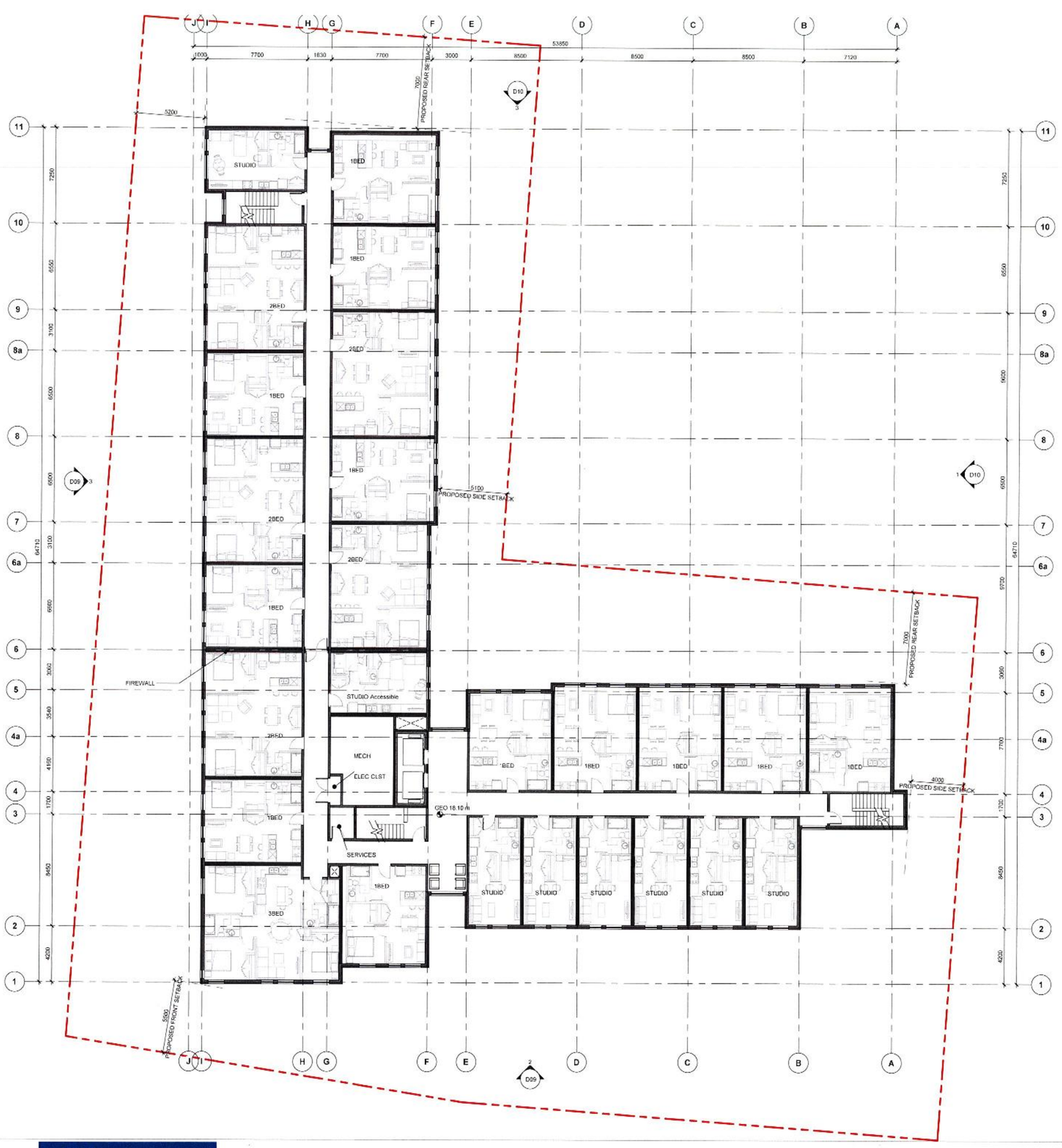
LEVEL 2 FLOOR PLAN **D06**
scale 1 : 150 date 2019.06.17



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ESQUIMALT RENTAL HOUSING
874 FLEMING STREET, ESQUIMALT, BC

LEVEL 3 to 5 FLOOR PLAN **D07**
scale 1 : 150 date 2019.06.17

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LOW HAMMOND ROWE ARCHITECTS

GREATER VICTORIA HOUSING SOCIETY
Since 1958

ESQUIMALT RENTAL HOUSING
874 FLEMING STREET, ESQUIMALT, BC

LEVEL 6 FLOOR PLAN **D08**
scale 1 : 150 date 2019.06.17

SOUTH ELEVATION.

WEST ELEVATION.

PRELIMINARY - NOT FOR CONSTRUCTION

LOW HAMMOND ROWE ARCHITECTS

GREATER VICTORIA HOUSING SOCIETY
Since 1956

ESQUIMALT RENTAL HOUSING
874 FLEMING STREET, ESQUIMALT, BC

BUILDING ELEVATIONS
scale 1 : 100 date 2019.06.17

D09

NORTH ELEVATION.

EAST ELEVATION.

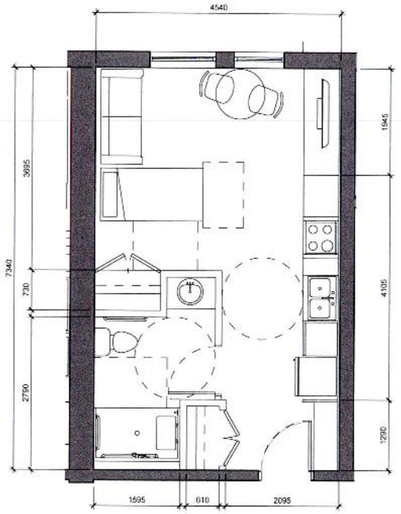
PRELIMINARY - NOT FOR CONSTRUCTION

LOW HAMMOND ROWE ARCHITECTS

GREATER VICTORIA HOUSING SOCIETY Since 1956

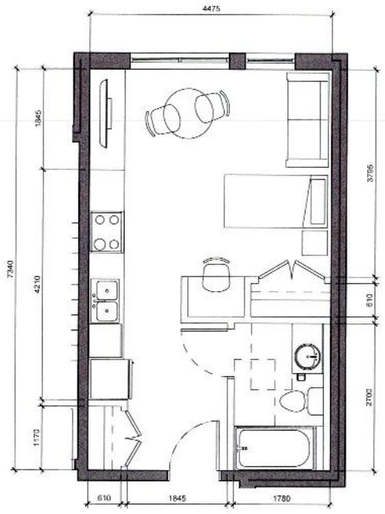
ESQUIMALT RENTAL HOUSING
874 FLEMING STREET, ESQUIMALT, BC

BUILDING ELEVATIONS **D10**
scale 1 : 100 date 2019.06.17



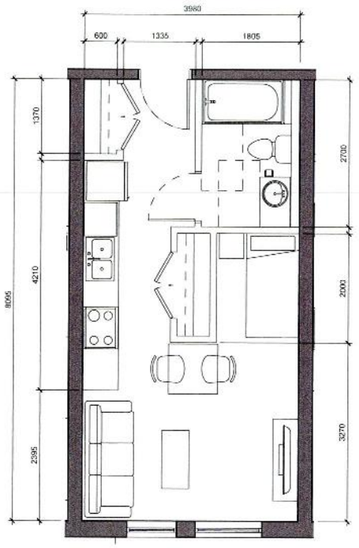
STUDIO - ACCESSIBLE **37 m² (398 sf)**

1 : 50



STUDIO - TYPE B **37 m² (398 sf)**

1 : 50

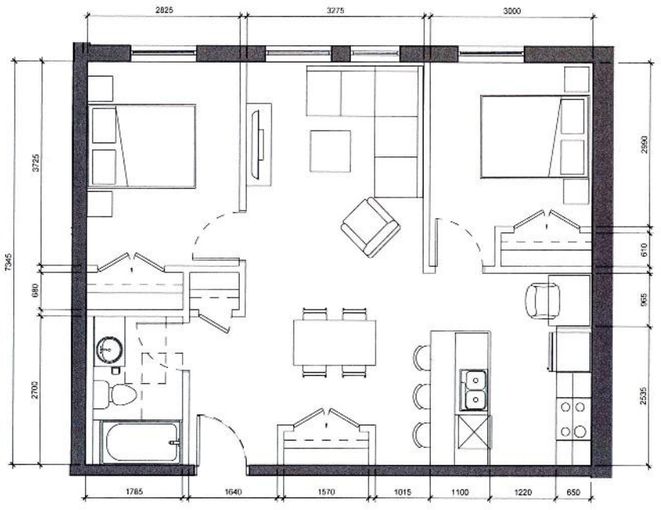


STUDIO - TYPE C **35 m² (377 sf)**

1 : 50

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

1 : 50

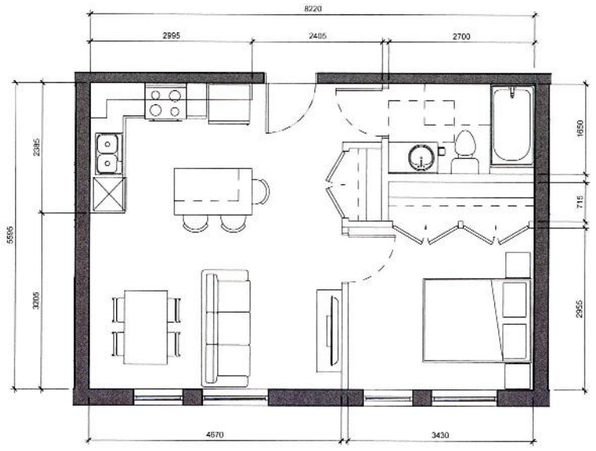


2 BEDROOM **72 m² (780 sf)**

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

PRELIMINARY - NOT FOR CONSTRUCTION

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

LOW HAMMOND ROWE ARCHITECTS

GREATER VICTORIA HOUSING SOCIETY Since 1955

ESQUIMALT RENTAL HOUSING

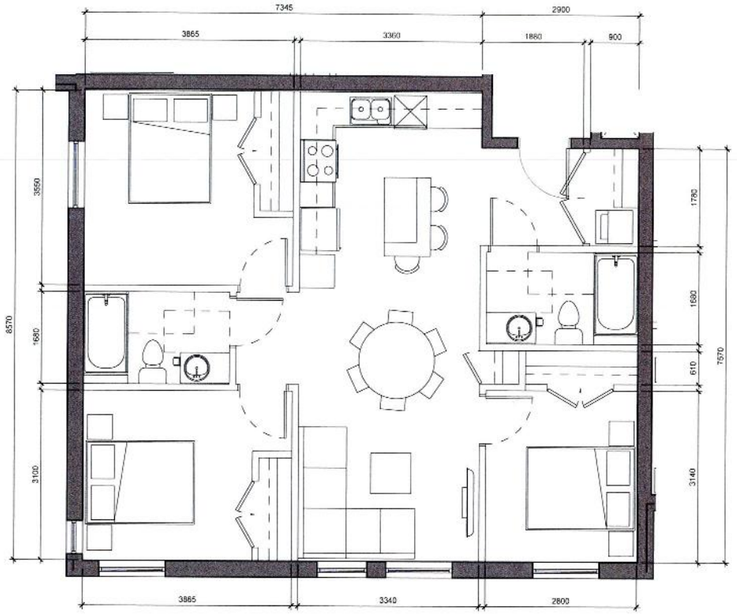
874 FLEMING STREET, ESQUIMALT, BC

scale As indicated

UNIT PLANS

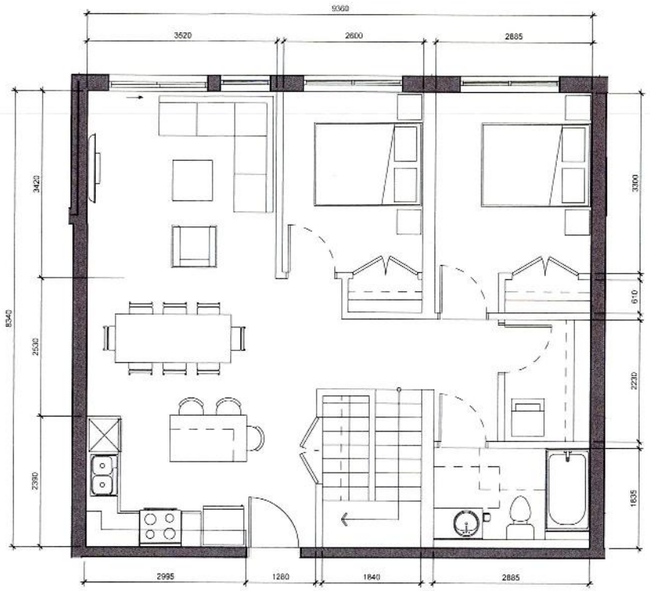
date 2019.06.17

D11



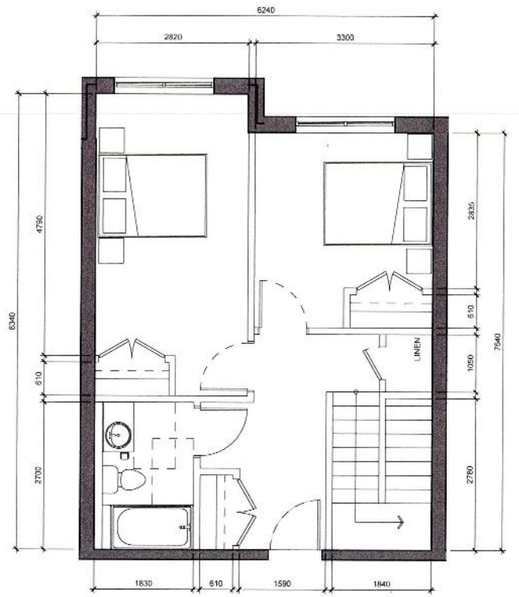
3 BEDROOM **90.6 m2 (975 sf)**

1 : 50



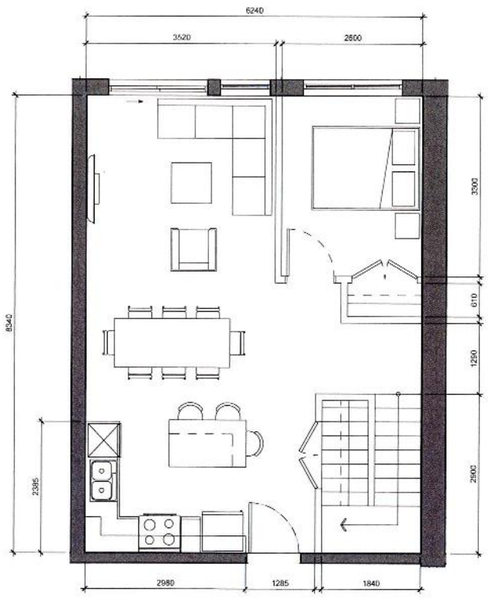
4 BEDROOM - TYPE A @ L1 **138 m² (1485 sf)**

1 : 50



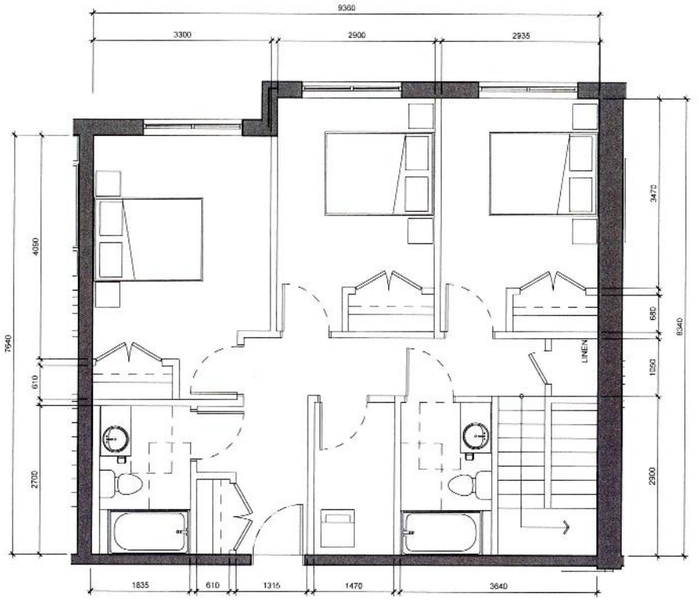
4 BEDROOM - TYPE A @ L2

1 : 50



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

1 : 50



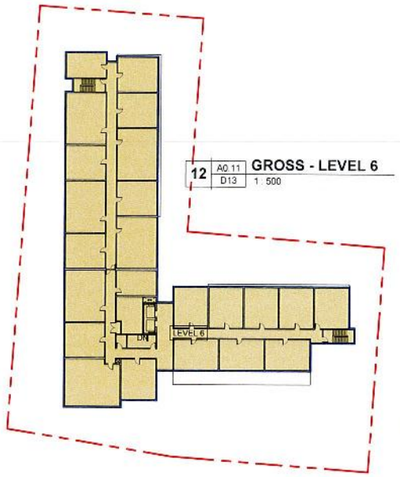
4 BEDROOM - TYPE B @ L2

1 : 50

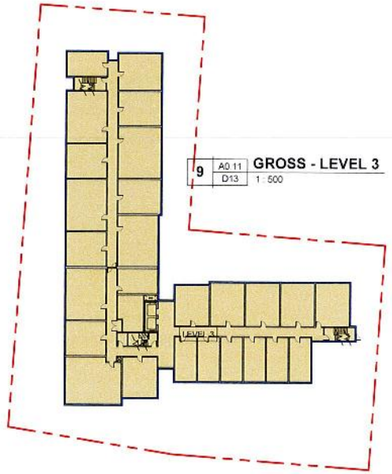
PRELIMINARY - NOT FOR CONSTRUCTION

AREA SCHEDULE - GROSS BUILDING		
Name	Area (sqm)	AREA (sqft)
LEVEL 1	1645.8 m²	17715 ft²
LEVEL 2	1728.3 m²	18603 ft²
LEVEL 3	1694 m²	18234 ft²
LEVEL 4	1694 m²	18234 ft²
LEVEL 5	1694 m²	18234 ft²
LEVEL 6	1599.3 m²	17215 ft²
Grand total	10055.4 m²	108235 ft²

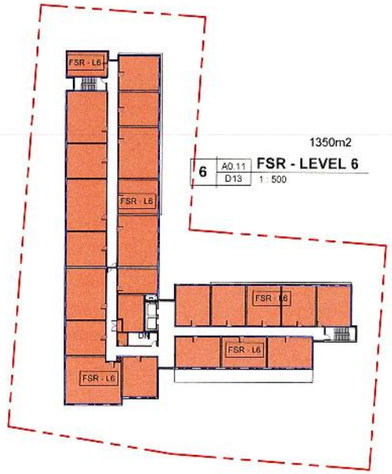
TOTAL AREA :
8380m2



12 A0.11 D13 **GROSS - LEVEL 6** 1 : 500

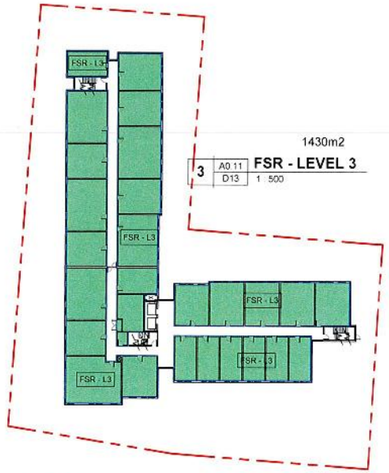


9 A0.11 D13 **GROSS - LEVEL 3** 1 : 500



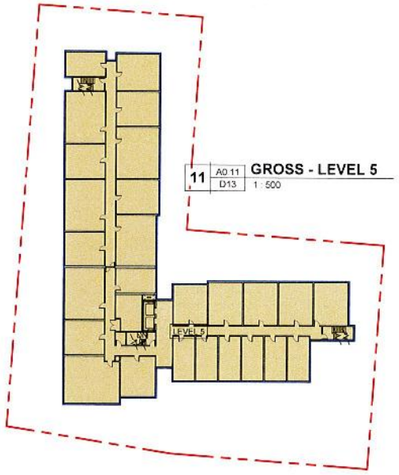
1350m2

6 A0.11 D13 **FSR - LEVEL 6** 1 : 500

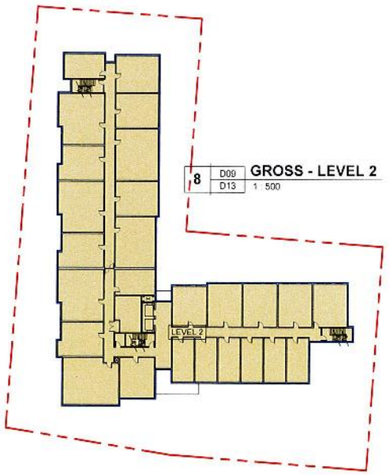


1430m2

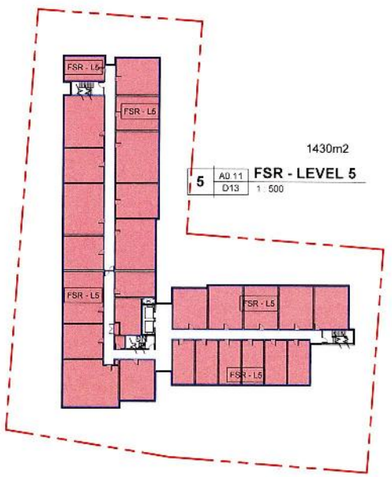
3 A0.11 D13 **FSR - LEVEL 3** 1 : 500



11 A0.11 D13 **GROSS - LEVEL 5** 1 : 500

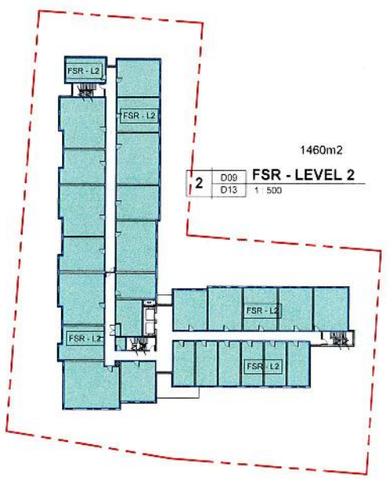


8 D09 D13 **GROSS - LEVEL 2** 1 : 500



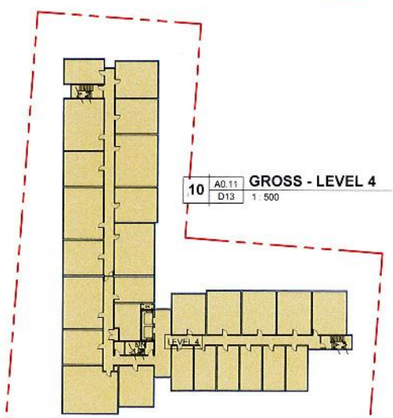
1430m2

5 A0.11 D13 **FSR - LEVEL 5** 1 : 500

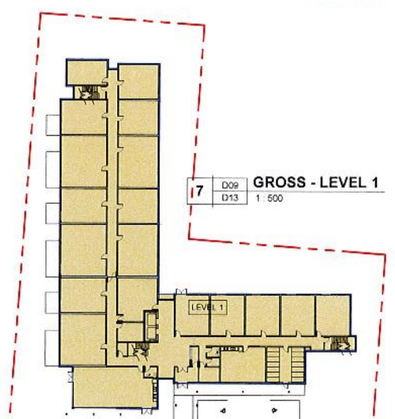


1460m2

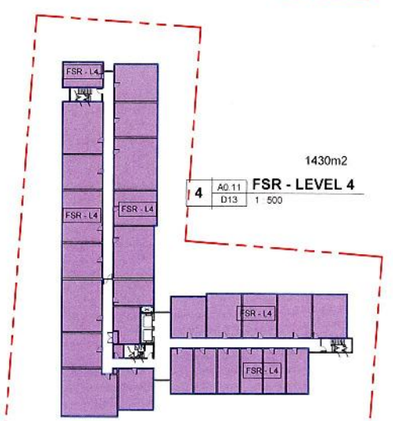
2 D09 D13 **FSR - LEVEL 2** 1 : 500



10 A0.11 D13 **GROSS - LEVEL 4** 1 : 500

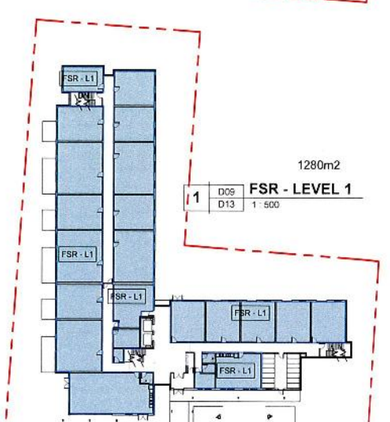


7 D09 D13 **GROSS - LEVEL 1** 1 : 500



1430m2

4 A0.11 D13 **FSR - LEVEL 4** 1 : 500



1280m2

1 D09 D13 **FSR - LEVEL 1** 1 : 500

NOTE :

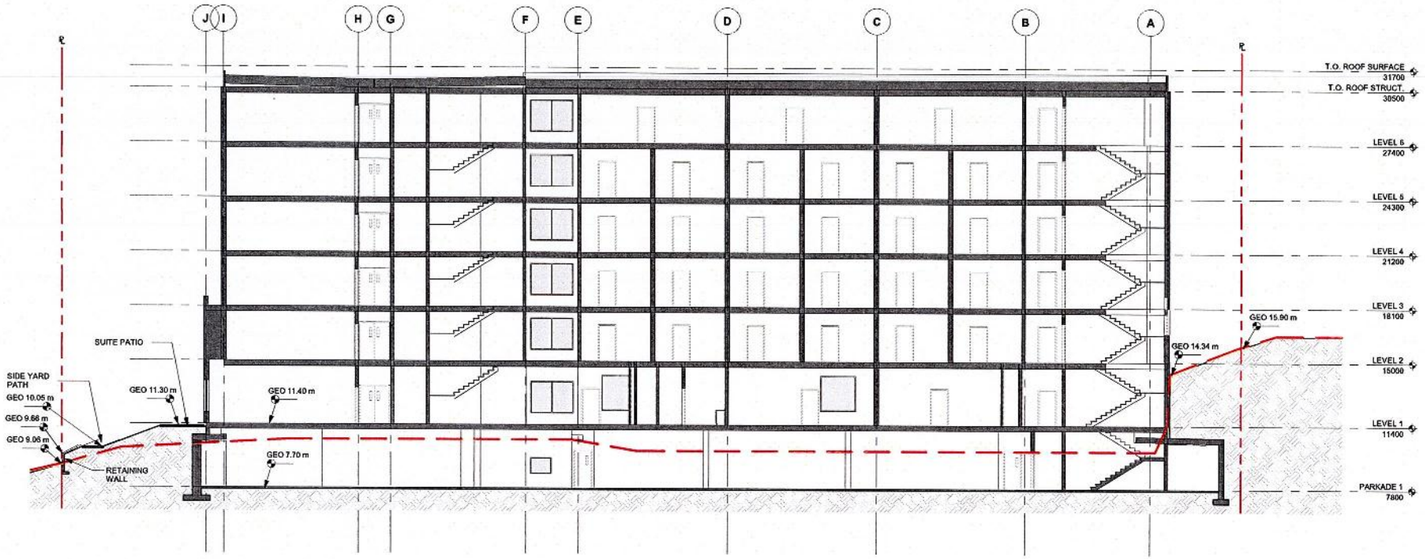
FAR IS CALCULATED FROM THE CENTRE LINE OF PARTY WALLS, INSIDE FACE OF CORRIDOR WALLS AND THE INSIDE FACE OF EXTERIOR WALL AND INCLUDE ALL INTERIOR STORAGE.

GROSS AREA IS CALCULATED FROM FACE OF EXTERIOR SHEATHING.

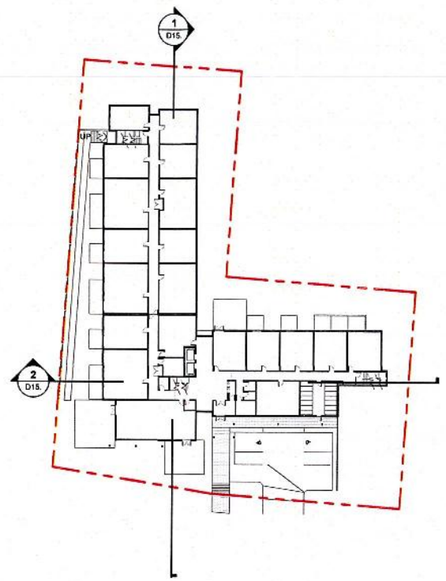
PRELIMINARY - NOT FOR CONSTRUCTION

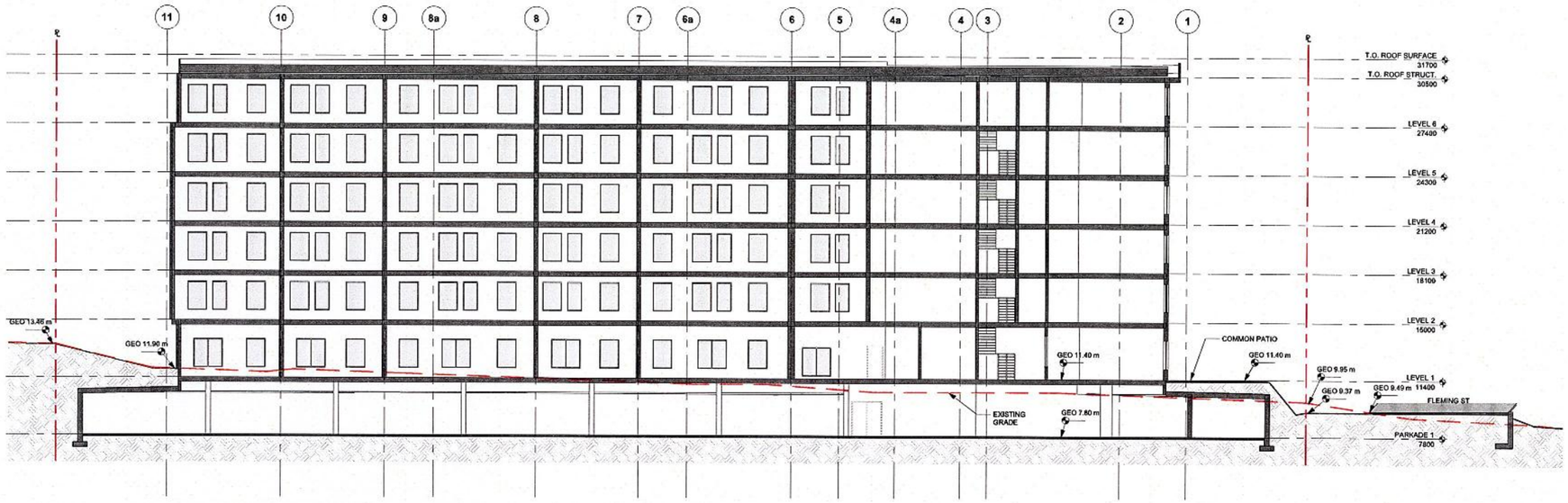
AERIAL VIEW

VIEW FROM FLEMING STREET



2 D15 / D15. **EAST WEST SECTION 04 - Dependent 1**
1 : 150





1 D15 / D15. **NORTH SOUTH SECTION 04 - Dependent 1**
1 : 150

PRELIMINARY - NOT FOR CONSTRUCTION

LOW HAMMOND ROWE ARCHITECTS

GREATER VICTORIA HOUSING SOCIETY

ESQUIMALT RENTAL HOUSING
874 FLEMING STREET, ESQUIMALT, BC

BUILDING SECTIONS
scale AS indicated date 2019.07.16
D15.

1 Landscape Concept Plan
Scale: 1:150

Image 1. Katsura Tree

Recommended Nursery Stock

Trees

ID	Quantity	Botanical Name	Common Name	Size
AcCi	5	Acer circinatum	Vine Maple	6 cm cal.
CeJa	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 ternata	Mexican Orange Blossom	# 5 pot
CoCo	11	Cotinus coggygria	Smoke Bush	# 7 pot

Medium Shrubs

ID	Quantity	Botanical Name	Common Name	Size
RhDo	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 Shrui

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:

1. All work to be completed to current BCSLA Landscape Standards
2. 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

LADR LANDSCAPE ARCHITECTS
#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

SHEET 1 of 1