



15 March 2019

Revised 17 July 2019

Mayor and Council
City of Victoria
1 Centennial Square
Victoria, BC V8W 1P6

**RE: DEVELOPMENT PERMIT WITH VARIANCES SUBMISSION
FOR 605, 607, 609, 615, 629 SPEED AVENUE AND 606, 612-618
FRANCES AVENUE**

Mayor and Council,

Mike Geric Construction (MGC) in collaboration with Aryze Developments (Aryze) is pleased to submit this development permit with variances (DPV) application for the development of a 14-storey Mass Timber building (12-storey under the BC Building Code) and a 6-storey building with an affordable rental portion. This document outlines the core content of our application for this innovative solution to urban infill development.

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PROJECT TEAM

WE HAVE ASSEMBLED A TALENTED, INNOVATIVE TEAM TO DEVELOP THE CALIBER OF PROJECT THIS COMMUNITY DESERVES

MIKE GERIC CONSTRUCTION (MGC)

DEVELOPER & CONSTRUCTOR

The Geric family has been building quality homes in Victoria and Saanich for over 50 years. With a strong reputation as a trusted local developer, MGC uses a hands-on approach to develop projects that contribute to their communities. Thoughtful and responsible planning, design, and construction go into everything they do so every home MGC builds is one that they themselves would want to call home.

MGC uses Built Green Gold standards to create healthy living spaces and energy efficient homes. In each project they build, they 'up their game' when it comes to cost-effective, smart technologies that provide savings for their homeowners.

D'AMBROSIO ARCHITECTURE + URBANISM (DAU)

ARCHITECT

DAU is an award-winning practice in architecture, research, planning, and urban design and has provided professional services in Victoria and Vancouver Island since 1991. Their work is based on proven design principles as well as original design thinking. With both public and private clients, DAU makes architecture and urban projects that are beautiful, meaningful and long-lasting, emphasizing the long-term fit of the designs into their place, ecological region, and cultural context.

RJC ENGINEERS

STRUCTURAL

RJC Engineers is one of North America's leading engineer firms and specializes in structural engineering, building science, structural restoration, structural glass and façade engineering, and parking facility design and restoration.

ARYZE

COLLABORATOR

Aryze is a local Victoria-based group of millennials trying to shape our city with homes designed by the best architects and constructed by the best craftsmen to bring Victorians a space worthy of being called home.

Aryze likes to think of themselves as entrepreneurs with an underlying goal of building better communities: this includes experimenting with a fledgling coffee shop, restoring historical heritage projects, and engaging in Victoria's political conversations. Naturally, this expanded to include tackling the mystifying real estate industry, where they see an opportunity to build homes that are more in line with their creative and social values.

KEITH GRANT

LANDSCAPE ARCHITECT

Keith N. Grant Landscape Architecture Ltd. was established in Victoria in 1984 and provides a high standard of creative, functional, and sustainable landscape design for a wide range of projects. Their firm recognizes the importance of working together as a "team" with the client, consultants, neighbourhood groups, and approving agencies to obtain the goal of a successfully completed project.

BUNT & ASSOCIATES ENGINEERING LTD. (BUNT)

TRAFFIC

Bunt offers innovative and cost effective solutions on all components of integrated transportation systems including roadway networks, public and private transit, parking, alternative transportation, and airports. With an emphasis on sustainability, Bunt provides multi-modal solutions to urban transportation planning challenges.

PROJECT OVERVIEW

In 2016, Council approved the rezoning of this 1.3 acre land assembly to allow higher density in the form of apartments and limited commercial. This site specific R-81 zone allows for the development of two 12-storey buildings with a maximum density of 3.08 floor space ratio (FSR), which by Victoria's standards is middle to high density. This proposal was approved under the vision of a Mayfair Town Centre designation envisioned in the City of Victoria (CoV) Official Community Plan (OCP) and was further affirmed by the adoption of the Burnside Gorge Local Area Plan in 2017.

Our revised proposal for Speed and Frances has been carefully amended to feature a single 14-storey strata building and a single 6-storey strata building proposed to feature a portion as affordable rental homes. This proposed change does not require any new zoning or OCP changes. Our application to the CoV is for a Development Permit with Variances of which the following are meaningful :

PARKING REDUCTION

When adopted in 2016, the R-81 zone required 0.96 parking stalls per home. This is problematic because a future homeowner is paying for the cost of parking, whether or not they own a car. Since then, the Province of BC, CRD, and CoV have invested millions in additional bus and cycling infrastructure in the area.

Due to the very poor soil conditions and the properties underlying high water table, the cost to build 1 underground parking stall can exceed \$60,000. We are proposing to detach the availability of parking from every home so that future residents can choose to live

Height: Instead of constructing two 12-storey buildings, we are proposing a lesser visual impact by designing a smaller 6-storey building in conjunction with a single 12-storey condominium building. The height variance for the 12-storey building is largely due to a double height ground floor to allow work/live townhomes at the street level, provision of a rooftop amenity spaces for residents, and structural designs related to mass timber and the very poor soil conditions. A more detailed letter from RJC Structural Engineering is included in our submission detailing the requirements for additional height.

Parking: Homes are aimed at first-time home buyers and parking makes these homes less affordable. We are proposing to de-couple parking from the homes to extend consumer choice for parking.

a car-lite lifestyle whereby the homeowner gets to keep the savings. As such, the development would sell parking spaces separate from the homes and limit the number of parking spaces purchased by each household to one; second parking spaces would only be available if there are unsold spaces. This strategy facilitates understanding of the full cost of vehicle ownership and will be attractive for non-vehicle owners. On site, we will be providing a total of 166 stalls, which is a 54 parking stall variance off the revised Schedule C (2017) parking requirements.

AFFORDABLE HOUSING

A portion of the 6-storey strata building will provide affordable strata rental homes to future residents. We are proposing to holdback ten homes as rental units and define them as affordable as per the City of Victoria's affordability guidelines. These rental homes will be comprised of seven studios, two 1bed, and one 2bed homes. These rental homes will be rental in perpetuity and be affordable for a secured period of ten years. As reflected in Schedule C of Victoria's Zoning Regulation Bylaw, affordable housing requires fewer parking spaces compared to market homes due to decreased car ownership.

CAR SHARE PROGRAM

Studies show that vehicle ownership is reduced by 27% when residents are part of a two-way car-sharing service. Two parking spaces in the development will be allocated to the Modo Car Share program and the buildings will become a Partner Member of the program with a 105 free lifetime memberships available to homeowners or residents. MGC will also be providing Modo with a cash contribution to purchase two vehicles for the site.

MASS TIMBER PRIMER

A CENTURIES OLD CONCEPT OFFERS A SOLUTION TO THE MOST PRESSING 21ST CENTURY PROBLEM

SUSTAINABILITY

Wood is the most abundant and naturally renewable building material on the planet and has the lowest embodied energy of any primary building material. Mass Timber materials are produced using fibre from small second-growth Douglas-fir and fast growing deciduous species. Fibre from beetle-killed timber from the interior of BC also make excellent feed stock for the production of Mass Timber material.

Because these second-growth stands are in their juvenile periods of maximum growth, the benefit in terms of carbon sequestering is maximized. Use of beetle-killed timber speeds up the time that is required for these stands to again become green, fast-growing forest, further increasing the amount of carbon sequestering these forests can accomplish.

This represents a value-added option for both the BC and Canadian economy, building on our foundation of sustainable and renewable forestry.



A recently harvested and replanted second-growth stand of Douglas-fir in coastal Oregon.



Aerial photograph of the beetle-killed pine trees in the dry interior of BC east of Prince George. At the height of the outbreak from 1990 to 2005, tens of thousands of hectares of pine and spruce forests were being killed each summer.

THE BENEFITS OF MASS TIMBER

Mass timber offers all the engineering benefits of traditional reinforced concrete construction while at the same time reducing the carbon emissions on production and with the added capacity to store carbon long-term (centuries) rather than emit carbon as concrete and steel do. As more and more Mass Timber suppliers enter the market and competition increases, the cost of many of these building materials will fall. Federal and provincial carbon pricing is expected to significantly impact the price for both concrete and steel, both of which are carbon intensive building materials.

MASS TIMBER CONSTRUCTION

- reduces building weight by 25-30% which in turn reduces seismic load by 25-30%
- is cost competitive to traditional concrete construction in tall buildings up to 30 stories in height
- is 25% faster to assemble compared to traditional concrete construction
- requires a smaller build site
- is quieter than concrete construction because most building elements can be assembled off-site
- has a lower impact on the surrounding neighborhood
- has an extended material longevity, as wood is well suited to deconstruction and re-use

MASS TIMBER PRIMER

SAFETY + CODE COMPLIANCE

- Mass Timber Laminated Strand Lumber (LSL) columns and beams and Cross-Laminated Timber (CLT) floor and wall panels are stronger than 35 Mpa reinforced concrete in shear capacity, tension, and compression.
- Mass Timber behaves very well in fire and is significantly more resistant to failure during fire events than light wood frame construction using dimensional lumber.
- Fire protection and building code compliance for wind and seismic events can be readily addressed without increasing costs beyond those for reinforced concrete construction.
- Mass Timber buildings are 25% lighter than the equivalent reinforced concrete building, making them much more appropriate as a construction method in areas of poor soils.



Before and after picture of a 5-ply glu-laminated panel wall. The panel was subjected to temperatures exceeding 980°C for a total of 3 hours and 6 minutes. This test shows that such a CLT wall panel would easily exceed the 2-hour fire rating required by the building and fire codes. Studies have shown that structural steel will begin to lose strength at 350°C, the typical ignition temperature of wood, and that by 550°C steel is reduced to 60% of its original strength.

PROCESS

- 1 **Material Procurement** – Kinsol has strong relationships with multiple glulam and CLT manufacturers in Canada, the US, and Europe, and are experienced in procuring this material for delivery regardless of origin country.
- 2 **Shop Fabrication** – Prefabrication from final drawings happens at the Kinsol factory at Bamberton in the Cowichan Valley; individual members are assembled into prefabricated building modules, where appropriate. The precision of these components directly contributes to the overall accuracy, quality, and speed of site installation.
- 3 **Site Assembly/Installation** – Site personnel assemble the various prefabricated members and modules into large assemblies on site for final erection. Prefabrication and preassembly greatly enhance site safety as it increases the amount of work that can be performed under ideal conditions.



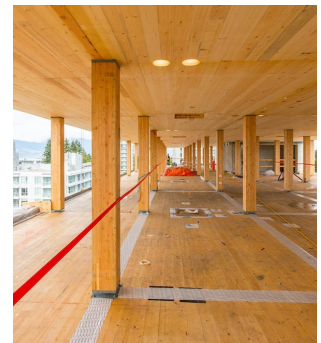
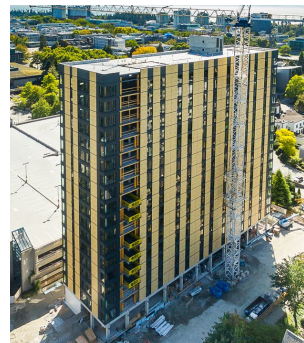
The 330 foot long Glulam Mass Timber beams at the Richmond Speed Skating Oval in 2009.



CLT floor panels at the Brock Commons Tall Wood House on the UBC Campus

PRECEDENT

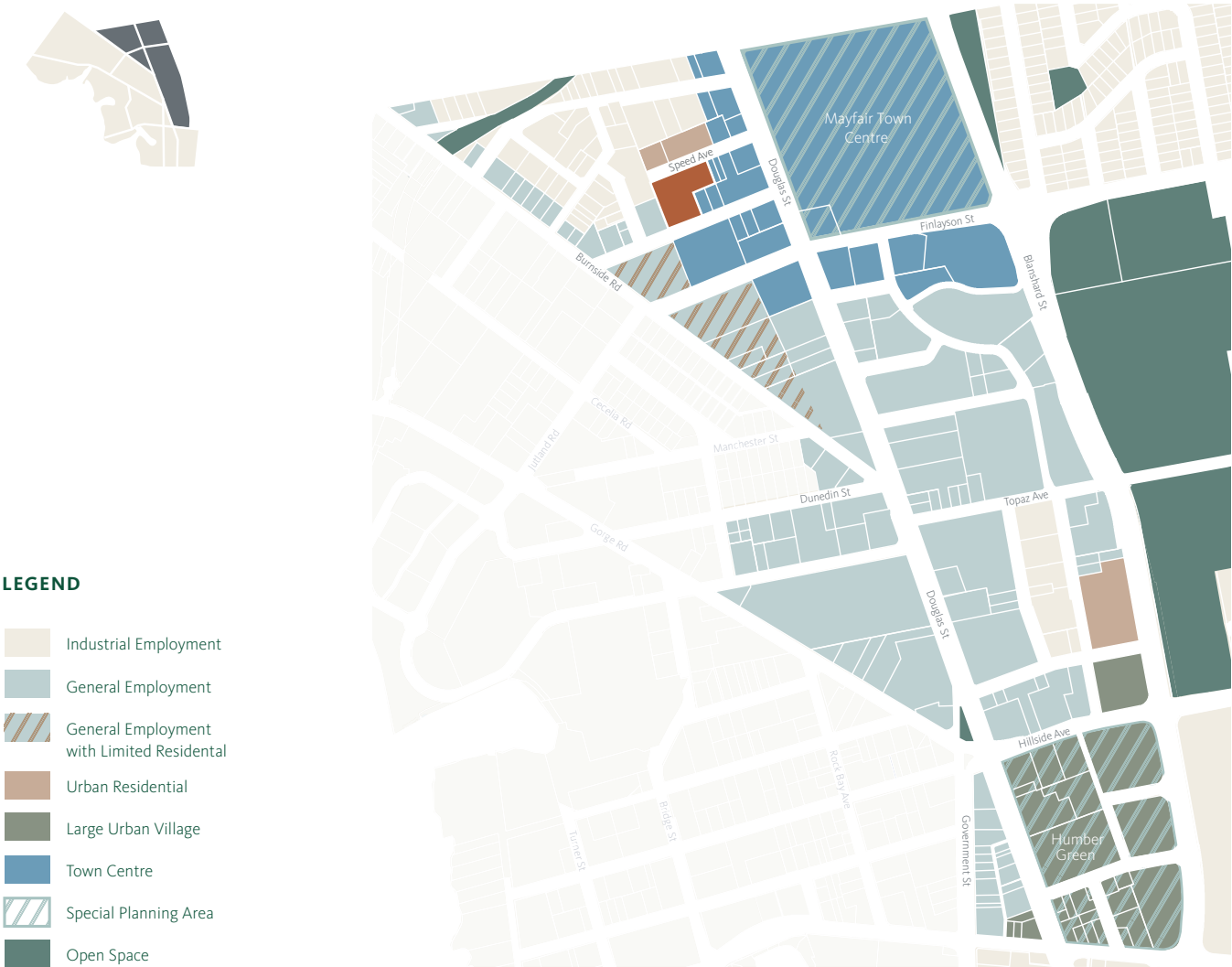
At 18 stories tall, the Brock Commons Tallwood House on the campus of UBC is currently the tallest Mass Timber building in the world.



BURNSIDE GORGE NEIGHBOURHOOD PLAN

THE HOME THAT YOU WANT, THE DEVELOPMENT THAT VICTORIA NEEDS

The Mayfair Town Centre area is envisioned for redevelopment centred around a future transit node at Douglas and Finlayson, making it a logical location to include new housing that takes advantage of the transportation, employment, and community services within the area.



CONTRIBUTION TO A SUSTAINABLE CITY

VICTORIANS ARE QUICKLY MOVING BEYOND THE ATTACHMENT TO CARS AS THE PRIMARY MODE OF URBAN TRANSPORTATION

Reducing automobile trips is a significant component of reducing greenhouse gas emissions. The development's central location in relation to multiple local amenities including Mayfair Mall, Topaz Park, the Galloping Goose Regional Trail, among many other commercial and industrial offerings encourages a pedestrian and bicycle oriented lifestyle. Accordingly, the project has been designed assuming walking, cycling, and transit as primary transportation options for future residents.

Bunt completed a Traffic Impact Assessment (TIA) on the proposed development. The assessment looked at the impact of reducing the number of required parking stalls under the R-81 zoning requirement and to be more inline with the revised Schedule C Parking Bylaw which was adopted by the CoV in 2017 after the initial project was approved. In assessing the location and the proposed use, a number of factors were considered including:



1. WALKSCORE OF 80

Indicating that Speed Avenue is 'very walkable' and that 'most errands can be accomplished on foot.' There are a variety of commercial destinations nearby and Topaz Park, the largest park in the area, is located 550m from the development site.



2. CYCLING

The site is in close proximity to the existing bike/bus lanes on Douglas, painted bike lanes on Blanshard and Finlayson, and the multi-use Galloping Goose Regional Trail, 400m from the project.



3. TRANSIT

Bus routes operate on Douglas, Finlayson, and Burnside, providing access to 18 bus routes within a 300m walk of the site. BC Transit intends to implement a rapid bus route on Douglas and Hwy 1, which would likely include a stop between Tolmie and Finlayson.

COMMUNITY CONSULTATION

MGC and Aryze, in concert with D'Ambrosio Architecture + Urbanism have undertaken a multi-phase community consultation process. This process was intended to ensure that all parties affected by the proposed project were given a chance to review the proposal and provide feedback, and that feedback would then influence the development of the project. Community engagement events to-date include:

1. **05 November 2018:** Introductory Burnside Gorge Community Association (BGCA) Meeting
2. **07 January 2019:** Second BGCA Meeting
3. **06 March 2019:** Delivery of 150+ flyers to households in the immediate area
4. **12 March 2019:** Community Open House at the BGCA
5. **26 May 2019:** Engagement event at the Selkirk Waterfront Festival where 77 letters of support were sent to Mayor & Council.

CONCLUSION

Mike Geric Construction in collaboration with Aryze has put a significant amount of energy and resources into a redesign of a town centre development in the Burnside Gorge neighbourhood. Rather than pursuing the traditional approach of higher density development, we have chosen to voluntarily increase the provision of attainable housing with an affordable rental holdback—which is in addition to our \$1,000,000 affordable housing contribution—shifting away from homes for cars and focus on homes for people, and introduce a new form of sustainable construction that will be the largest of its kind in North America. These efforts, combined with the CoV's progressive mandate, will put Victoria at the forefront of a continent-wide revolution in reducing greenhouse gases associated with transportation and construction.

Sincerely,

Ed Geric
President,
Mike Geric Construction

Luke Mari + Ryan Goodman
Partners,
Aryze

July 17, 2019

Luke Mari
Purdey Group
1839 Fairfield Road
Victoria, BC V8S 1G9

Dear Luke,

RE: Speed and Frances – Mass Timber

RJC No. VIC.101398.0004

The proposed building form for Speed and Frances has been developed specifically to take advantage of the benefits of mass timber, to reduce the seismic forces on the building, and to mitigate the effects of the very poor soil conditions.

In areas such as southern Vancouver Island, with very high seismic loads, the seismic force resisting system is a significant portion of building costs. Designing taller, more flexible buildings allows us to reduce the seismic design forces on the buildings and the foundations.

Due to the poor soil conditions, a reduction in building weight and increase in height is critical to project success. Replacing concrete floors with mass timber allows us to save approximate 30% of the building weight, reducing the cost of the transfer slabs and deep foundations. The increase in height also creates a more flexible and ductile structure, reducing the cost of the seismic system.

The building form takes advantage of the economy of mass timber by optimizing spans and using repetition to minimize material and reduce fabrication and erection costs.

We trust the above helps to clarify the design approach for the structure at Speed and Frances. Please don't hesitate to contact us with any questions.

Yours truly,

READ JONES CHRISTOFFERSEN LTD.

Leon Plett, P.Eng, Struct. Eng., MStructE, LEED AP
Managing Principal

LP/hr

