



City of  
Richmond

**Memorandum**

Planning and Development Department  
Development Applications

**To:** Richmond City Council **Date:** April 17, 2014  
**From:** Wayne Craig **File:** RZ 12-605038  
Director of Development  
**Re:** **Rezoning Application by Yamamoto Architecture Inc at 7120, 7140, 7160, 7180, 7200, 7220, 7240, and 7260 Bridge Street and 7211, 7231, and 7271 No. 4 Road**

**Official Community Plan Bylaw 7100, Amendment Bylaw 9106 and Richmond Zoning Bylaw 8500, Amendment Bylaw 9107**

**Response to March 4<sup>th</sup> Planning Committee referral**

At the Planning Committee meeting held on March 4, 2014, the Committee made the following referral to staff:

*To provide Council with the following information prior to the Public Hearing on Tuesday, April 22, 2014.*

- *Information on alternative energy options for the proposed project; and*
- *A list of alternative energy options that could be provided in developments similar to the proposed project.*

The purpose of this memo is to provide a response to the Planning Committee's request for the applicant to incorporate energy efficiency in the proposed townhouse project.

In response to the first point, Planning staff worked together with the applicant and the City's Sustainability and District Energy Division staff to develop options for increasing use of alternative energy that staff would support as well as be accepted by the applicant.

The applicant obtained the services of E3 Eco Group, a Lower Mainland consultancy firm who works with builders, developers, and home owners to achieve higher energy efficiency in wood framed buildings. The study examined a "worst case scenario" townhouse unit at the end of a building cluster, in an area of the site that would have the greatest exposure to wind and rain, and established a rating for energy consumption for lighting and appliances as well as a specification list for the building's exterior wall system.

E3 Eco Group used an industry standard, EnerGuide for Homes, as a measurement tool of performance. The EnerGuide rating is a standard measure of a building's energy performance. The building's energy efficiency level is rated on a scale of 0 to 100. A rating of 0 represents a home with major air leakage, no insulation and extremely high energy consumption. A rating of 100 represents a house that is airtight, well insulated, sufficiently ventilated and requires no purchased energy on an annual basis.

The result of this study was an agreement by the applicant to propose the following in the townhouse project at the subject site:

Foundation	R12 insulation under entire slab
Above Wall Grade Construction	2x6 studs @ 16"o.c. with R20 batt insulation and R20 headers
Roof Construction	Engineered truss system @ 24"o.c. with R40 batt insulation
Door Specification	Solid wood (front) Steel with polyurethane insulation core (others)
Window Specification	Double glazed, soft coat low-e, argon fill, insulated spacer, slider windows with vinyl frames
Space Heating System	Natural gas with 95% of heat retained within the home
Domestic Hot Water	30 gallon natural gas storage tank
Predicted EnerGuide Rating	82 – exceeds current Building Code standard
Build Green Rating	108 points - Silver
Solar system	Pre-duct all townhouse units for future installation of a solar hot water system

The EnerGuide rating is based on the building specifications listed above, in addition to the use of EnerGuide household appliances and light fixtures. It is anticipated that additional energy savings can be found in units that limit wall exposure to the outdoors, such as townhouses sandwiched between others and located in more sheltered areas of the site.

Staff have reviewed the applicant's proposal to commit to achieving an EnerGuide rating of 82 and confirms it exceeds the current BC Building Code, which results in a EnerGuide rating of 78-79. The applicant has also agreed to covenants being registered on title to secure the as-built result of the townhouses be constructed to meet the minimum 82 EnerGuide rating.

The annual operation of these energy efficient townhouses can save homeowners \$246 per unit, resulting in a energy savings of 8.6GJ (2,400 kWh) per year. This is a reduction of about 15%, resulting in a green house gas reduction of 0.20 tonnes per unit.

In response to the second point of the Committee referral, City staff is working on an interim policy for energy efficiency for townhouse developments and will bring forward report to Planning Committee for consideration.

  
Wayne Craig  
Director of Development

WC:dj