



## **Building Balance Consulting Inc**

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### **Aquila Development GHG Analysis**

An analysis was performed to compare the energy use and greenhouse gas emissions (GHG) of a typical development of this property on Daffodil Drive with the proposed rezoning of this land for higher density development.

In the current zoning, this property would allow for the development of ten 7500 sqft 2-storey single-detached houses. In the remainder of this document, this development is referred to as the *Typical Development* and the houses in this development, the *Typical House*.

The proposed development consists of 36 units of 2000 sqft 2-storey semi-detached units (duplexes). In the remainder of this document, this development is referred to as the *Proposed Development* and the units in this development, the *Proposed Unit*.

As of February 28, 2021, the District of West Vancouver's (DWV) energy requirement is Step Code 5 or Step Code 3 with their low carbon energy system. The latter option is more common so this option was used for the *Typical Development*. The *Proposed Development* meets Step 5 for compliance though also has the low carbon energy system.

The energy performance results for the two types of homes is shown in the following table:

	<b><i>Typical House</i></b>	<b><i>Proposed Unit</i></b>
Floor Area (sqft)	7500	2000
Step Code Compliance	Step 3 with low carbon system	Step 5
Annual Energy Consumption (GJ/year)	106	39
Annual GHG (kg CO <sub>2</sub> )	1398	119
GHG Intensity (kg CO <sub>2</sub> /m <sup>2</sup> )	2.20	0.74

The *Proposed Unit* uses much less energy and emits much less GHG both because it is a smaller home and because it is part of a duplex. Also, its GHG intensity is only 25% of DWV's low carbon system GHG intensity of 3.0 kg CO<sub>2</sub>/m<sup>2</sup>.

The energy performance results for the whole development are shown in the following table:

	<b><i>Typical Development</i></b>	<b><i>Proposed Development</i></b>
# of Units	10 single-detached houses	36 semi-attached units
Annual Energy Consumption (GJ/year)	1060	1404
Annual GHG Emissions (tonnes CO <sub>2</sub> )	14.0	4.3

The *Proposed Development* generates less than one third of the GHG's that the *Typical Development* generate while providing homes for almost four times the population.



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