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Letter of Rationale – Revision 01

Township of Esquimalt Board of Variance
Re: 455 Sturdee St. (Strata Lot B)

Township of Esquimalt - Board of Variance Committee
c/o Development Services Dept.
Township of Esquimalt Municipal Hall
1229 Esquimalt Road
Esquimalt, BC, V9A 3P1

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Revised August 21, 2020

RE: Proposed Variance for 455 Sturdee Street
Strata Lot B, Suburban Lot 48, Esquimalt District Strata Plan EPS5951

Dear Esquimalt Board of Variance,

On behalf of our clients, Graham and Amanda Tarling, who are the registered owners of 455 Sturdee Street, Strata Lot B, we present for your consideration two proposed relaxations. The first relates to Building Height for a low-sloped roof [Zoning Bylaw 2050 Section RS-3 36.6.(a)] and the second to Lot Coverage [Zoning Bylaw 2050 Section RS-3 36.8.(a)].

BUILDING HEIGHT [Zoning Bylaw 2050 Section RS-3 36.6.(a)]:

Building height for a low-sloped roof, is to be measured to the highest point of the roof as defined in the Zoning Bylaw 2050 Section 15.(1) . We do not seek to increase the height beyond that which would be allowed for a roof with a pitch that of 3:12 or higher, where building height would be measured to the midpoint between eaves and the highest ridge as defined in the Zoning Bylaw Section 15.(2). In fact our proposal is for a roof with a highest

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ridge elevation that is significantly lower than would be expected and allowable for sloping roof with a pitch of 3:12. We have requested a relaxation of 0.3m in height, with an additional 75mm allowance for construction tolerances, as it is necessary to include some wiggle room to ultimate maximum limits to take into consideration build-ups of materials and installation details on site. Our proposal has the support of all of the neighbouring owners, as documented in their letters of support.

Rationale for Requested Building Height Variance:

1.1 Due to the Tsunami Hazard Zone designation of the site [DVP 00094], residential dwellings must have a minimum habitable floor elevation of 9.0m geodetic, with the bottom of floor joists situated at or above that 9.0m elevation. As such, the main floor of the house should not lower than we have proposed.

1.2 The house has been designed as a high-performance and low-embodied carbon home to address climate change. It exceeds the building code requirements for insulation by a sizable margin, targeting Step Code 4 or 5. We are using assemblies similar to those we have successfully used on other certified Passive Houses in the past, and minimizing our use of vinyl products, spray foam insulation, and rigid insulation, all common building materials with high embodied carbon. At this point we are not proposing to certify as a Passive House, and are still in the process of working with our energy advisor and Certified Passive House Consultant to finalize our heating demand calculations in the PHPP and to determine our final performance relative to the step code. High performance houses with super insulated envelopes, by default have thicker assemblies, thus increasing our overall height. As indicated on the attached building section (drawing sheet A501), we have proposed the following assemblies:

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a. Walls: R48 effective, compared to BCBC 2018 requirement of R15.8 (RSI 2.78) [Table 9.36.2.6.A Zone 4]
b. Roofs: R46 effective, compare to BCBC 2018 requirement of R26.5 (RSI 4.67) [Table 9.36.2.6.A Zone 4]
c. Floor: R48 effective, compared to BCBC 2018 requirement of R26.5 (RSI 4.67) [Table 9.36.2.6.A Zone 4]

1.3 As part of our passive heating strategy, we have provided comfortable ceiling heights to allow for sufficient solar heat gain in heating (winter) months and for that sunlight to penetrate deep into the floor plate to assist with passive daylighting. The ceiling heights do not push beyond the limits of standard residential construction, with 3.0m (9.8') at the first level, and a low point of under 2.5m (8') in ceiling height on the upper floor. It is our firm belief that homeowners willing to invest in targeting high levels of performance should not be penalized in the livability of their home, through concessions in ceiling height, due to the additional thickness of the required assemblies.

1.4 As mentioned in the introduction of this letter, the high point of our proposed roof at the ridge is significantly lower than would be allowed without a variance if we were to increase our roof slope to a pitch of 3:12, thus allowing maximum height to be measured from the midpoint between eaves and the highest ridge as defined in the Zoning Bylaw Section 15.(2). The attached building section on drawing sheet A501 includes a red hatched line to illustrate this point, outlining the allowable buildable envelope for a 3:12 sloped roof with the exact same floor plan as we have proposed. The height of the 3:12 roof dwarfs our proposed non-conforming roofline. Additional built elements that would be allowed to exceed the maximum roof height of 7.3m, and our proposed variance, without requiring variances are also illustrated on section A501

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1.5 We conducted view studies from each of the neighbouring properties and have determined that the minor increase in height requested as part of this variance, has a negligible impact on the views or shading of said properties. Through this exercise, we were also able to illustrate how much more imposing the roofline for a house with a 3:12 pitched roof with the same footprint, might be, while complying with maximum height limitations for the property.

1.6 We have support from all of the owners of the neighbouring houses within the Board of Variance notification area, and have included their letters of support with our application.

Please see the attached drawings prepared to illustrate the extent of our proposed variance, and which compare it to other rooflines, indicated by the red transparent masses seen in the 3D views, that would be considered compliant with the current bylaws regarding height and setbacks.

LOT COVERAGE [Zoning Bylaw 2050 Section RS-3 36.8.(a)]:

Lot coverage is measured to the exterior face of siding. As describe above, we are proposing a high-performance house with super-insulated walls resulting in an effective R-value which greatly exceeds code and conventional construction standards. The additional thickness of our walls beyond that of a typical code-level wall increases our lot coverage beyond the allowable 30%. An identical house with the same floor plan, floor area, and design, but varied only in that it used conventional wall assemblies meeting code-levels of performance would not require a

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relaxation for lot coverage. We have requested a relaxation 1.6% lot coverage (11.3m2) to accommodate our super-insulated walls as the homeowner seeks to reduce the environmental impact of their new house.

Rationale for Requested Lot Coverage Variance:

2.1 A code compliant, R16 effective wall with similar rainscreen and cladding details would be at most 238mm (9 3/8") thick. Our proposed R48 effective wall assembly is 495mm (1'-7 ½") thick, which is 257mm (10 1/8") thicker than the baseline code compliant wall. This additional 257mm thickness is attributed entirely to additional insulation as our comparison has considered all other finishes and rainscreen details to be identical. The lot coverage of that additional 257mm around the perimeter of the house contributes to 13.4m2 (144.2 SF) of lot coverage. Our proposed relaxation requests 11.3m2 (121.3 SF), which is less than the lot coverage area that can be attributed to our additional wall thickness.

2.2 The Township of Esquimalt has identified a goal to become carbon neutral by 2050, and to support sustainable developments. Likewise, our clients are committed to building a high-performance and sustainable home to address climate change. As described in item 1.2 above, we are proposing the use of highly insulated and air-tight assemblies that will consume drastically less heating and cooling energy than a conventional home, in order to hit our performance targets. Homeowner's willing to take on the additional costs and complexities that come with sustainable initiatives should not be penalized for leading the way, and forced to reduce the size of their livable space of other design features to less than would be allowed for a conventional home due to the additional thickness of the assemblies.

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Please see the attached site plan and wall thickness illustration on page A101 which demonstrates the lot coverage resulting from the additional insulation in our wall assembly.

Thank you for your consideration. Please do not hesitate to contact me with any questions you might have (aholden@oneseed.ca).

Regards,

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JULY 21, 2020

Attn:

Township of Esquimalt - Board of Variance Committee
c/o Development Services Dept.
Township of Esquimalt Municipal Hall
1229 Esquimalt Road
Esquimalt, BC, V9A 3P1

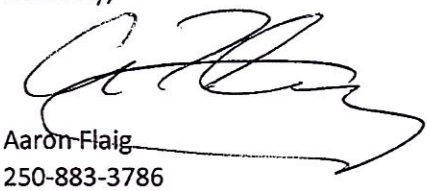
RE: PROPOSED VARIANCE FOR ROOF HEIGHT AT 455 STURDEE ST (Strata Lot B)

Our property (457 Sturdee Street, Strata Lot C) is directly to the west of the applicant's lot with a shared side property line.

We have reviewed the proposed design for the new house at 455 Sturdee Street, and are aware that the proposed roofline would extend above the maximum building height for a low-sloped roof by 0.3m (plus 75mm for construction tolerances) along its upper ridge at the south. We recognize that the roof could be significantly higher without requiring a variance if they were to use a3:12 sloped roof. We have no concerns with the proposed variance.

We submit this letter in support of the proposed Board of Variance application, and hope you will consider it favourably.

Sincerely,



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