



Canadian
Home Builders'
Association

SEA TO SKY

September 24, 2007

Resort Municipality of Whistler
4325 Blackcomb Way
Whistler B.C. V0N 1B4

Attention: Bob MacPherson

Dear Mr. MacPherson

Re: Non-Conforming Space

1.0 Introduction

1.1 The CHBA

One of the objectives of the Sea to Sky Chapter of the Canadian Home Builders Association (CHBA) is to meet with the Resort Municipality of Whistler to address the issue of non-conforming spaces in many of Whistler's homes. Anecdotally, the CHBA estimates that 70-80 % of Whistler homes contain some form of non-conforming space, and it is our view that this is an issue that RMOW should look at resolving.

As the voice of the local residential construction industry, the CHBA has an interest in ensuring that residential construction is properly permitted, inspected and approved. As such, we are committed to pursuing regulatory reform on the issue of non-conforming space. We propose that the RMOW move away from the concept of density as a gross floor area (GFA) calculation. Our proposal is to reform the existing system by adopting the concept of density as a volume calculation.

1.2 Objective of Paper

The objective of this paper is to present a volume-based approach to density in the context of Zoning Bylaw 303, RS1 Zone (Single Family Residential One). In this paper, "zoning" and the "zoning bylaw" refers to Zoning Bylaw 303. While our discussion here is limited to RS1, our proposal could be extended and applied to all single-family and duplex zones, and perhaps even some multi-family zones.

It is our intention to demonstrate the feasibility of adopting a volume-based density regulation. If the RMOW wishes to pursue this proposal, the CHBA respectfully requests that we are included as a partner in the development and review process and that

all stakeholders, including designers, builders and the general public, have an opportunity to comment.

We do not propose that the RMOW authorize the construction of larger houses by increasing density.

Rather, we propose that the RMOW change the way it defines density. By converting density to a volume (within which floors may or may not exist), each house would have a volume above average finished ground-level consistent with the intent of the existing zoning bylaw (site coverage, height, and floor area). This new concept of density would create streetscapes with a variety of house shapes and sizes, but such houses would have similar volumes throughout (if developed to maximum volumes).

2.0 Current Situation

2.1 Current Zoning Bylaw

The existing zoning bylaw attempts to regulate density through restrictions on the gross floor area (GFA) of a house. But density in this respect can mean two different things:

- (a) volume (or mass) of the house; or
- (b) area of floor plate within the house.

From a visual perspective, volume is a more accurate measure of density.

The existing zoning bylaw indirectly regulates volume in single-family zones through height calculation and site coverage restrictions. As long as these restrictions are met, a house may contain extensive unused volume (with the potential to become floor area after inspection). This potential is present on most lots, as site coverage and height restrictions are almost never so restrictive as to limit the development of additional volume within a gross floor area conforming house.

For illustrative purposes, let's consider an example: A 928.6 square metre RS1-zoned lot would have a site coverage maximum of 35% and a maximum floor space ratio of 35% or 325 m² maximum GFA. Under current regulations, the owner could construct a one-storey, 325 m² (3497 sf) 7.6 metre (25 ft) high house. After a final occupancy permit is issued, the owner could then develop an entire second floor within the existing house. The total GFA of the house would be 650 m² (6994 sf), albeit half of this area would be non-conforming space and completely outside of the municipal permitting process.

The current system allows for void spaces and over-height crawlspaces to be constructed and permitted, with the requirement that a covenant is registered on title restricting use or development of such space. However, the covenant appears to be ineffective as many homeowners develop these spaces and many purchasers buy houses with non-conforming space, notwithstanding registered covenants.

2.2 Enforcement of Zoning Restrictions

It is extremely difficult to enforce GFA restrictions, as municipal officials require entry into the house to ascertain whether an infraction has occurred within the existing building mass. The RMOW simply does not have the resources to fairly enforce the GFA restrictions. In the end, the municipality is only able to enforce the GFA restrictions based on a complaints system (ie. residents must report infractions by their neighbours). It is our experience the RMOW is aware that development of non-conforming spaces may occur after final occupancy but it simply lacks the resources to enforce the GFA regulations in a fair and consistent manner.

In our view, inconsistent enforcement has created a culture of nonchalance in respect of non-conforming space.

2.3 Examples of Non-Conforming Space

Non-conforming space refers to space developed by, or at the direction of, homeowners after issuance of a final occupancy permit, for which no new building permit has been issued, and which may or may not exceed the lot's maximum GFA.

Some examples of non-conforming space are:

- (a) Over-height crawlspaces;
- (b) Attic space (which may be opened up and developed);
- (c) Bonus space over the garage (where an extra floor may be installed over the existing garage);
- (d) Vaulted spaces (where an additional floor may be installed).

The non-conforming space is often below buildings, sometimes the result of over-excavation of steeply sloping sites (either necessary for bearing or done by design to allow the development of non-conforming space after final occupancy.) During construction, there is little concern for avoiding over-height crawlspace as section 219 covenants exempt this space from floor space ratio calculations. The opportunity is then presented to the homeowner to develop this space, after occupancy, into non-conforming space incorporated into the house.

2.4 Consequences of Non-Conforming Space

There are social, institutional and safety consequences arising from the development of non-conforming space in houses:

1. Life Safety

The development of non-conforming space occurs outside of the municipal permit process. As the RMOW has no formal notice of its existence, municipal officials are unable to inspect such space for compliance with building and fire code regulations.

Ultimately, this is a life safety matter and, in our view, deserving of special attention. Some examples of risks to human safety include: inadequately ventilated sleeping rooms; no smoke detectors; no carbon monoxide alarms; and inadequate access and egress.

2. Inaccurate Municipal Records

The municipality has not issued permits in respect of non-conforming space and is therefore unable to regulate it. Accordingly, non-conforming space is not captured in municipal assessments, and ultimately, there may be a loss of property tax revenue.

3. Contravention of Local Laws

There may be homeowners who develop non-conforming space in their houses without considering it to be a genuine contravention of municipal zoning regulations. However, there are also those homeowners who choose to live within the spirit of the law and do not develop non-conforming space in their houses (due to ethics or fear of enforcement.) This creates an unfair playing field from neighbour to neighbour and affects the use and enjoyment of the neighbourhood by those complying with the zoning bylaw's intent.

Designers are placed in the awkward position of designing houses that contain areas that may potentially be developed into non-conforming spaces. Builders are also placed in the awkward position of building houses that contain areas that may potentially be developed into non-conforming spaces. While homeowners are prepared to take responsibility in the event of enforcement proceedings, it is our experience that some of them seem unconcerned or unfazed that their actions may in fact contravene the zoning bylaw.

4. Uncertainty in Selling Process

There is uncertainty by realtors when listing and selling properties with non-conforming spaces.

5. Uncertainty in Fire Insurance Coverage

There is uncertainty whether insurance proceeds would cover non-conforming spaces in the event of damage from fire or other insured loss.

6. Visual Impact on Streetscapes

Excessively large homes complying with floor space calculations stand out as being massive, and interrupt the scale of the neighborhood intended by the zoning regulations.

3.0 Proposed Change

3.1 Benefits

CHBA proposes that the RMOW amend its zoning bylaws to define density as three-dimensional volume instead of two-dimensional gross floor area. The change to volume density would result in the following benefits:

- More visual conformity of streetscapes;
- Higher level of compliance with zoning regulations;
- Abolishment of new covenants and removal of some existing ones on single-family homes;
- Bringing some, not all, of existing non-conforming spaces back into the municipal permitting process;
- Improved compliance with building code safety requirements through permitting.

3.2 Other Municipalities

Volume restrictions have been used to some extent in other municipalities in the Lower Mainland, where volumetrics are defined by side yards, height, grade and intersecting lines to allow for sloping roofs. Our approach is not with a volumetric regulation, but with a maximum volume that can be manipulated creatively to avoid similar home shapes that 'fill' the allowed volumetric.

These municipalities require survey information to confirm finished grades and height. At present, Whistler only requires survey information to verify building location on lots, not to confirm building height or finished grades (leading to different elevations on plans and as-builts). The RMOW may consider further survey requirements with this proposal.

3.3 Potential Control Mechanisms

Our objective is to replace existing GFA calculations with a volume above finished ground-level calculation. In effect, the zoning regulations could contain a formula similar to floor space ratio (FSR), but instead a "volume site factor" (VSF) with a maximum relating to the existing maximum GFA. In effect, the calculation will yield a given volume moldable into any shape within existing setback and height restrictions. There would be a maximum corresponding to the present maximum 325 m² and 465 m² GFA's for given lot areas.

Creating pliable volume, rather than a dimensioned volumetric, allows for innovative design as well as avoids the kind of cookie cutter houses that exist when dimensioned volumetrics govern. The formula for calculating permitted volume originates in our existing two dimensional density restrictions with a reasonable height for floor to floor and roof spaces factored in.

Average finished ground level requires definition. It could simply be a weighted average of the perimeter grade around the entire building. Finished ground level would be calculated at 1.2 m beyond the face of the building to ensure that berming is not employed to circumvent the regulations.

Further, in regulated flood plains, where no space may be developed below the flood construction level, and the building is forced above grade, the above ground finished volume should be considered only from above the minimum flood construction level.

There remains an exemption for exterior covered spaces to be unlimited. This seems to be a desirable allowance, as our climate calls for covered areas to allow the use of the landscape year around. Further, volume below grade has not been limited as it does not affect the visual appearance of the building.

The volume site factor has been determined based on a two-storey house with a gable roof and 3.3m floor-to-floor height or floor to roof height (3.3 m allows for some exposed crawl space and roof structure thickness.) The peaked roof would have an average height of 1.7m above the exterior walls (example: 12/12 pitch on a 6.8 m wide space) and would be considered to occur on the second floor only (over half of the floor area.) All volume (except garage and other minor exceptions) above finished ground level (except as noted above for designated flood areas) will be included in the gross volume, regardless of whether or not it is crawl space. This encourages the home to respond to site conditions.

A three-storey house would need to conform to height restrictions that would likely require some of the building to be less than three storeys. Overall volume efficiency can be increased by designing more storeys, minimizing site disruption and footprint. Incidentally, 'Whistler Green' favours two or three storey homes over one-storey for efficiency and minimized site disruption/footprint. If a one-storey building is constructed, the volume efficiency will be reduced, making it less desirable for a developer wanting a larger area. So basing the volume on the average leaves room for efficiencies to be increased or decreased, based on a homeowner's wants and needs while leaving design flexible.

While volume efficiency could be increased through the exclusive use of flat roofs, it is not significant enough to warrant an overall decrease in allowable volume in these cases.

3.3 Determination of Volume Site Factor and Maximum Volumes

All calculations are based on the present allowable GFA, multiplied by height to obtain a volume. Calculations are shown in long form then reduced for explanatory purposes. While the explanation may seem complicated, the bottom line is a simple calculation based on the volume site factor – a multiplier for the site area to determine above ground house volume. The term site area refers to the area of the lot in plan view.

* *RSI Present FSR = 35%*

- **Proposed Gross Volume Above Finished Ground Level**
 = 35% X Lot Area X 3.3m (floor plates only) + 35% X .5(upper storey roof only) X 1.7m (vaulted or attic volume)
 = 35% X (3.3m + (.5 X 1.7m) X site area
 = 1.45m X site area = allowable above grade volume for site.
Volume Site Factor = 1.45 m

- **Maximum Volume for 3m Side Setbacks**, based on site area of 928.6m²
 = 1.45 X 928.6 = 1346.5 m³, round up to **1347 m³**

- **Maximum Volume for 6m Side Setbacks**, based on site area of 1328.6m²
 = 1.45 X 1328.6 = 1926.5 m³, round up to **1927 m³**

- **Auxiliary Dwelling Volume**

The maximum gross floor area remains in place and a maximum volume clause is added, based on the potential for the suite to be on one storey with a vaulted roof. The additional volume restriction may not be necessary, as it is only a further limitation to existing regulations.

- **Auxiliary Building with Suite Combined Volume**

Maximum combined volume, including garage and other uses for an auxiliary building is based on a two-storey building that must fit within the 5m present height restriction. This allows only for 2.7m floor to floor on the lower level, and an average exterior wall height on the second level of 2m, with vaulted ceilings taking the second level average height up to 3.5m high. This includes garage and below finished ground volume.

$$55\text{m}^2 \times 2.7\text{m} + 55\text{m}^2 \times 3.5\text{m} = \underline{341 \text{ m}^3}$$

- **Garage Volume or Auxiliary Building Volume Without Suite**

A 4m average roof height is assumed. To avoid two-storey open spaces, the volume is limited to an interior height of 4.5m.

$$70 \text{ m}^2 = 70 \times 4\text{m} = \underline{280 \text{ m}^3}$$

3.4 Proposed Zoning Bylaw Changes

This new set of regulations would require additional definitions, changes to parking regulations, amendments to RS1 Zoning and auxiliary building density regulations. Existing definitions are expected to remain. While RS1 only is addressed in this example, the concept could be taken further to include all single family and duplex zones, and perhaps some multi-family zones.

Only the portions of the bylaw requiring revision are shown. Intent, permitted uses, and site coverage retain the same wording entirely. Reference numbers relate to existing Bylaw numbering.

Areas governed by Land Use Contracts may not be affected by this proposed change unless the contract directly refers to the Zoning Bylaw as amended.

Section 2 DEFINITIONS

“Gross volume” means the volume of all buildings on a parcel measured above average finished ground level and measured to the exterior of outside wall sheathing, top of roof surface, top of roof deck, not including: volume of garage, volume below a designated flood construction level that may not be developed nor used, chimneys, crickets, overhangs, sunshades, decks, deck guards, sills, belt courses, and exterior columns.

“Combined volume” means the auxiliary building volume including garage volume and volume below finished ground level where the height from ground cover or slab to floor above is more than 1.5 metres.

“Average finished ground level” is the weighted average of all finished ground levels around the perimeter of a building. *(Further definition required)*

“Finished ground level” means the ground level measured 1.2 metres perpendicular to the exterior of the building walls.

“Volume site factor” means the figure obtained when the gross volume is divided by the parcel area.

Section 5 GENERAL REGULATIONS

5.3.1 Change the existing 5.3.1 to exclude specifically the RS1 zone.

Add a section after 5.3.1:

5.3.2 Auxiliary Buildings in the RS1 Zone

The maximum permitted combined volume for an auxiliary building per principal dwelling unit is as follows:

- (a) 280 cubic metres for detached dwelling.
- (b) Notwithstanding 5.3.2 (a) of this Bylaw, the maximum permitted combined volume for an auxiliary building containing an auxiliary residential dwelling unit is 341 cubic metres.

Change numbering system that follows accordingly.

Section 6 PARKING AND LOADING REGULATIONS

Table 6A – Add the following:

Residential use in the RS1 zone	2 spaces per dwelling unit with a gross volume of 882 cubic metres or less, 3 spaces per dwelling unit greater than 882 cubic metres but less than 1347 cubic metres, and 4 spaces per dwelling unit in excess of 1347 cubic metres.
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Section 11 RESIDENTIAL ZONES

RS1 Zone (Single Family Residential One)

Density

- 1.2.1 The maximum permitted gross volume of a detached dwelling is 1927 cubic metres, or a volume site factor of 1.45 metres, whichever figure is lower.
- 1.2.2. Notwithstanding subsection 1.2.1 in this zone, the maximum permitted gross volume of a detached dwelling situated on lands within a bare land strata plan is the figure obtained when the total area of a bare land strata plan (exclusive of those portions intended to provide access routes) is multiplied by a volume site factor of 1.45 and divided by the maximum total number of bare land strata lots in that plan, and regardless of any provision herein, the maximum volume of a detached dwelling shall not exceed 1927 cubic metres.
- 1.2.3. For auxiliary parking use contained in a principal or auxiliary building or structure, the maximum combined volume is 280 cubic metres with interior height not exceeding 4.5 metres and the maximum floor area is 70 square metres.
- 1.2.4. Notwithstanding any other regulations contained in this section, an additional 224 cubic metres of gross volume up to a maximum 90 square metres of gross floor area may be added to a dwelling unit or an auxiliary building for employee use and rental, provided that the volume site factor on a property does not exceed 1.45. This bonus density is subject to the

owner entering into an employee housing agreement with the Municipality for the auxiliary residential dwelling unit, the terms of which shall be the Municipality's standard charge terms for employee housing covenants as of the date on which the building permit is issued.

- 1.2.5. Notwithstanding s. 5.3.2 (a), the maximum combined volume of an auxiliary building containing both auxiliary parking use and an auxiliary residential dwelling unit is 341 cubic metres.

Site Dimensions

- 1.4.1 The minimum required parcel area, usable site area and frontage are as follows:

House Gross Volume	Minimum Parcel Area	Minimum Usable Site Area	Minimum Frontage
Less than 1347 cubic metres	same	same	same
Greater than 1347 cubic metres	same	same	same

- 1.4.2 Where a detached dwelling is sited on a parcel having a frontage of less than 24 metres, the maximum permitted gross volume of the detached dwelling is 1347 cubic metres. Where a detached dwelling is sited on a parcel having a frontage of 24 metres or more, the maximum permitted gross volume of the detached dwelling is 1927 cubic metres, subject to compliance with the other requirements of this bylaw regarding permitted gross volume and gross floor area.

Setbacks

- 1.6.2. The minimum permitted side setback is as follows:

Gross Volume Of Detached Dwelling	Minimum Side Setback
Less than 1347 cubic meters	3 metres
Greater than 1347 cubic metres	6 metres

- 1.6.3 Same

- 1.6.4 (a) Same
 (b) Same
 (c) A distance from any other detached dwelling calculated as the sum of the following distances for each dwelling:

Gross Volume Of Detached Dwelling	Distance
Less than 1347 cubic metres	3 metres
Greater than 1347 cubic metres	6 metres

- 1.6.5 Except where s. 11.1.2.4 applies, no addition shall be made to a detached dwelling in existence at the date of adoption of this Bylaw which increases the above grade volume of that dwelling beyond 1347 cubic metres unless the entire dwelling including the addition is sited with a minimum setback of six metres on each side of the detached dwelling.
- 1.6.6 Same
- 1.6.7 Same
- 1.7 Off Street Parking – same wording here, Sec. 6 revised to refer to volume, not area.

Other Regulations

- 1.8.1 The minimum permitted volume of a detached dwelling is 163 cubic metres.
- 1.8.2 Same
- 1.8.3 Same
- 1.8.4 Same - leave the gross floor area maximum for a suite – we can further limit the volume by adding 1.8.5.
- 1.8.5 An auxiliary residential dwelling unit shall contain a combined volume not greater than 405 cubic metres.
- 1.8.6 In no case shall the gross volume of the auxiliary residential dwelling unit exceed 40 percent of the above grade volume on a parcel.

3.5 Proposed Building Bylaw Changes

The fee calculation schedule could be revised to relate to the volume calculation for RS1 zoned single-family homes to eliminate the need for a total gross floor area calculation.

To encourage owners to obtain permits for work already done, the RMOW could adopt a policy of not posting stop work orders on projects for which work has occurred at some

time prior to adoption of this bylaw. This would allow applicants to proceed to obtain approvals without having to pay double building permit fees.

4.0 Effects of Proposed Changes

4.1 Visually Consistent Development

Volume limitations are ineffective in the current Zoning Bylaw, which has a combination of generous site coverage and height restrictions that far surpass what is reasonable for the allowable floor area. Changing density regulations from two-dimensional GFA to three-dimensional volume would encourage more visually consistent development from lot to lot.

4.2 Permitting Of Existing Non-Conforming Spaces

The adoption of the proposed regulations would allow some, not all, of the existing non-conforming spaces to be brought back into the permitting process. The benefits would include:

- Better records within the municipality,
- Better life safety building compliance, and
- More accurate records for assessment rolls.

4.3 Easier Enforcement

Any work done within the allotted building volume would be authorized. This means that over-density construction would take place outside the original permitted volume (ie. outside the envelope) and would be much easier to identify. Enforcement of the new bylaw from adoption would create an atmosphere of compliance. The community would understand a “no tolerance” policy to contraventions.

4.4 Eliminating Covenants (Void Space and Over-Height Crawlspace)

The RMOW could eliminate section 219 covenants for all new RS1 construction. In addition, these covenants could be removed for existing non-conforming spaces that are brought back into the permitting process.

4.5 Green Building Strategies

Our proposal is in line with many green building strategies, such as:

- Home sizes would not be increased,
- Infill would be possible,
- Volume efficiencies would be increased by lower site coverage, and

- Excessive vaulted spaces (which are very inefficient) would be discouraged, while making reasonable allowance for vaulted areas to create architectural interest from the interior and exterior.

4.6 Education

Some education would be required for RMOW staff, designers, and contractors to understand and work with the new regulations.

4.7 Determining Compliance

The new regulations may bring about the need for third-party verification of planned volume and/or as-built volume on complicated sites. Where density appears to be close to the maximum volume, a survey or registered professional certification could be required. However, where the house is clearly within the maximum volume and does not exceed the present gross floor space ratio, the owners could avoid the expense of certification.

4.8 Conformance/ Variances For Existing Buildings

The proposed regulations would allow most buildings constructed prior to adoption of this bylaw with maximum GFA to fit the formula, unless they were constructed as extreme examples of additional volume. Any extreme examples would be existing non-conforming with respect to volume; permits could be obtained for work within the new permitted volume only. Some research would need to follow regarding Development Permits, Board of Variance and reconstructing (due to damage) any pre-existing non-conforming homes.

5.0 Conclusion

If adopted, our proposal would benefit all stakeholders: the Resort Municipality (Planning Department and Building Department), Whistler Fire Service, contractors, designers, homeowners, and renters.

Some of the major benefits would be:

- Increased compliance with the Zoning Bylaw,
- Increased compliance with the Building Code and safety requirements,
- Easier enforcement of regulations due to more obvious infractions outside the building envelope,
- More visually uniform streetscapes through volume density restrictions that do not presently exist,
- Accurate Municipal records and assessment rolls through increased permitting.

While the CHBA has made great efforts to present a viable proposal, review of our proposal by municipal staff and legal counsel will spark questions, concerns and further discussion. The CHBA believes that questions and concerns are best addressed through a review process with all stakeholders. We would like to partner with the RMOW in the advancement of this review process.

The CHBA is sincere in initiating resolution to a long-standing development and liability concern for community, the RMOW, builders, designers, and enforcement staff. We understand that much further effort is required to bring a bylaw change to fruition. We appreciate your consideration of our proposal and look forward to a final form workable to all concerned.

Following your review of the preceding proposal, we offer to meet with you and your staff to answer any questions or concerns that might arise. We look forward to hearing from you.

Yours truly,

Matheo Durfeld, President
CHBA, Sea to Sky Chapter