



AREA CALCULATION AND TRACING OVERLAY REQUIREMENTS

Authority - Director of Planning
Effective May 10, 2004
Amended September 8, 2021

Issue

The City's By-laws often regulate by controlling various building and site areas. Floor space ratio and site coverage are two examples. The regulations have evolved in sophistication and the documentation requirements have kept pace. This document clarifies the current requirement for tracing overlays which are the principle tool used to demonstrate compliance with area-based regulations.

Purpose

It is the objective of Development Services to continually review and improve service to both our applicants and the public. Therefore, to address some of the difficulties with regard to area calculations, Development Services staff have developed this document which:

- provides clear information for client customers; and
- outlines two options for presenting area calculations, along with a single standard for accompanying tracing overlays.

Through the application of this initiative, it is our hope that staff review time will be reduced; by-law compliance will be demonstrable; and client customers will be provided with clear, reasonable and predictable decisions.

Procedure

There are two options for presenting area calculations and a single standard for accompanying tracing overlays*. The two options are:

- Manually verifiable area calculations; and
- BC Land Surveyor certified area calculations (typically practical only for large development proposals).

***Note:** This procedure deals only with presentation requirements and not with by-law interpretations. It is the applicants' responsibility to ensure their proposals comply with the by-law and to fully document compliance in a manner verifiable by the general public. The City staff function is to confirm the applicants' area submissions in the most service-oriented and cost-effective manner.

Requirements - Manually Verifiable Area Calculations (Example On Page 4)

- (1) Areas must be broken down into regular geometric shapes utilizing perimeter dimensioning. Poly shapes and/or shapes using hypothetical internal dimensioning cannot be accepted since these are unverifiable.
- (2) The net area should be computed using the subtractive method:
 - a) A box encompassing the gross subject area (floor plate) is described, which will likely include some adjacent external areas.
 - b) Utilizing perimeter dimensioning, subject to adjacent external areas that are to be excluded from floor area.
 - c) Utilizing detailed internal dimensioning, subtract storage areas, balconies, etc., that can be excluded from floor area.
- (3) A table of calculations must accompany all area-overlay submissions. The table must include the length, width, total area and identification of each block in the area summation.

Notes: All excludable areas (uses) are noted in relevant by-laws. Some areas are further clarified within publicly-accessible Council-approved Design Guidelines and General Administration Bulletins; these include:

- Balcony Enclosure Guidelines;
- Bulk Storage - Residential Developments (Admin. Bulletin); and
- Floor Space Exclusion for additional Wall Thickness to Control Building Envelope Leaks (Admin. Bulletin).

If an area in question cannot be identified as excludable in a relevant by-law, it must be included in floor area.

By-law definitions (found in Section 2 of the Zoning and Development By-law) will take precedence over any other definition source. Terms that are not specifically defined in the relevant by-laws are administered on the basis of past practice, in accordance with the intent of the by-law.

Requirements - BC Land Surveyor Certified Area Calculations (Example On Page 5)

- (1) A table calculation is not required, and polygon shapes are acceptable; however, detailed dimensioning as described in the Manually Verifiable Area Calculation section above must be provided for any irregular shaped areas.
- (2) The Surveyor's and Architect's signature and seal must appear on the submitted overlays confirming accuracy and corrections.

Notes: The BC Land Surveyor's standing will be accepted only as assurances for the area calculation. Defining by-law regulated areas (identifying which areas are excluded or included) in accordance with the relevant by-laws must be fully documented in both the BC Land Surveyor Certified Area or the Manually Verifiable Area calculations.

The City reserves the right to require Manually Verifiable Calculations on an audit basis and/or in response to specific questions raised by City staff or the general public.

Requirements - Tracing Overlays (Applicable To Both Options)

Overlays may be required for all “regulated by area” by-law requirements which include, but are not limited to:

- FSR - total
- FSR - restricted use
- FSR - location by storey

- Site coverage - total
- Site coverage - impervious surface
- Site coverage - aggregate area

- Areas used to determine Parking requirements - by use classification
- Areas used to determine Loading requirements - by use classification
- Areas used to determine Bicycle requirements - by use classification

Plans and overlays (examples on Pages 4 and 5) meeting the following requirements must be submitted in support of manually verifiable area calculations *and* BC Land Surveyor-certified area calculations.

An area-overlay-submission must be submitted on **translucent** paper or other material satisfactory to the Director of Planning. Prints are not acceptable. Separate area-overlay submissions may be required to demonstrate compliance with separate sections of the Zoning and Development By-law and Parking By-law. Example: Wall Thickness to Control Building Envelope Leaks. (Please see Administrative Bulletin for submission requirements.)

Dimensioning used on the area-overlay-submissions must be identical to those on all plans submitted for approval. Detailed perimeter dimensioning is required.

Dimensioning used to demonstrate compliance at the Development Permit stage will be used to confirm the subsequent Building Application plans are identical. *Inconsistencies can cause significant delays.*

All “regulated by area” elements must be clearly dimensioned on the overlays and plans.

Comments and Examples

Acceptable Area Overlay examples demonstrating a single use floor area. All dimensions shown are reproduced on the architectural plans submitted for approval. (The example has been photo reduced. Application submissions must be done in an acceptable scale.)

Floor Area Overlay - Used in Manually Verifiable Calculation

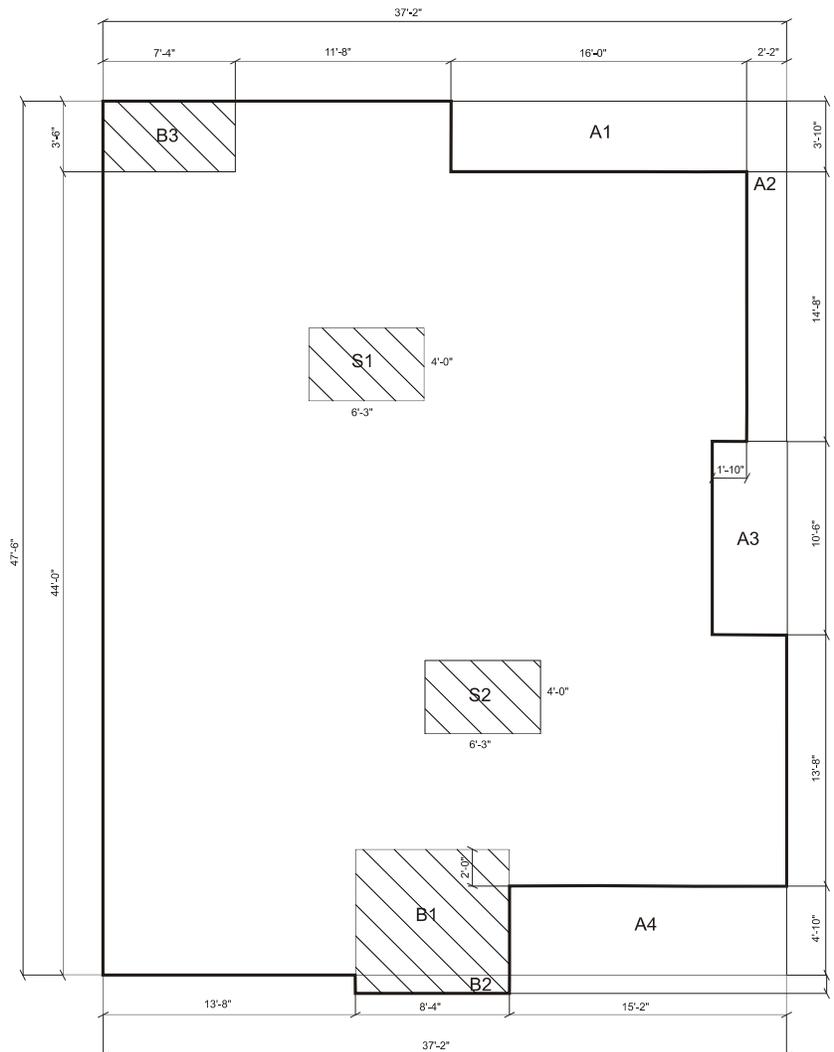


Table of Calculations - Used in Manually Verifiable Calculation

2nd Floor Final Area = 1,416

2nd Floor				
Gross Perimeter Area	37.164	X	47.5	= 1,765.3
Area deductions	A1 16	X	3.833	= 61.328
	A2 2.167	X	18.5	= 40.09
	A3 4	X	10.5	= 42
	A4 15.167	X	4.833	= 73.302
	B1 8.333	X	6.833	= 56.939
	B3 7.333	X	3.5	= 25.666
	S1 6.25	X	4	= 25
	S2 6.25	X	4	= 25
Subtotal				349.3
Total Net Area				1,416

2nd Floor Balcony Area				
	B1 8.333	X	6.833	= 56.939
	B2 8.333	X	1	= 8.333
	B3 7.333	X	3.5	= 25.666
Total				90.938

Floor Area Overlay and Tables of Calculations

BC Land Surveyor Certified Area Calculations

Total net floor area: 1,416 sq. ft.
Total balcony area: 248.5 sq. ft.

BC Land Surveyor
Signature & Seal

Architect
Signature & Seal

