

STUDY ON MASSING FOR SINGLE FAMILY NEIGHBOURHOODS

Why Are We Proposing Changes to the Zoning Bylaw?

1. HOUSING FABRIC IN 2015

CONCERNS OVER RECENT TRENDS IN NEW HOME CONSTRUCTION INFILLING EXISTING NEIGHBOURHOODS HAVE PROMPTED COUNCIL TO DIRECT CITY STAFF TO STUDY PROVISIONS IN THE EXISTING ZONING BYLAW CONTROLLING THE BULK AND MASSING OF BUILDINGS.

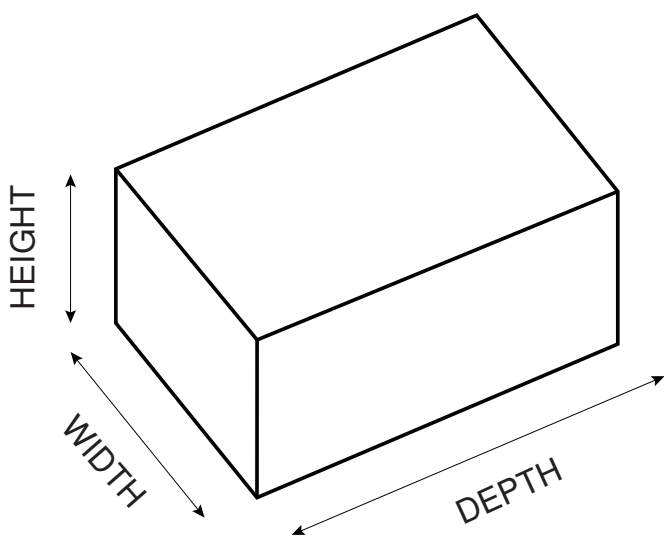
THE PURPOSE OF THESE PUBLIC WORKSHOPS IS TO GATHER INSIGHT AND OPINIONS FROM CONCERNED RESIDENTS AND INDUSTRY STAKEHOLDERS IN ORDER TO ENSURE THAT THE PROPOSED MODIFICATIONS TO THE ZONING BYLAW ARE RESPONSIVE TO THE OVERALL OBJECTIVE OF MAKING NEW HOUSES MORE COMPATIBLE WITH EXISTING NEIGHBORS.

- 1. HIGH MASSING MINIMIZES LIGHT AND AIR BETWEEN HOUSES
- 2. SIDEWALL HEIGHT COMPARED TO NEIGHBOURING HOUSES



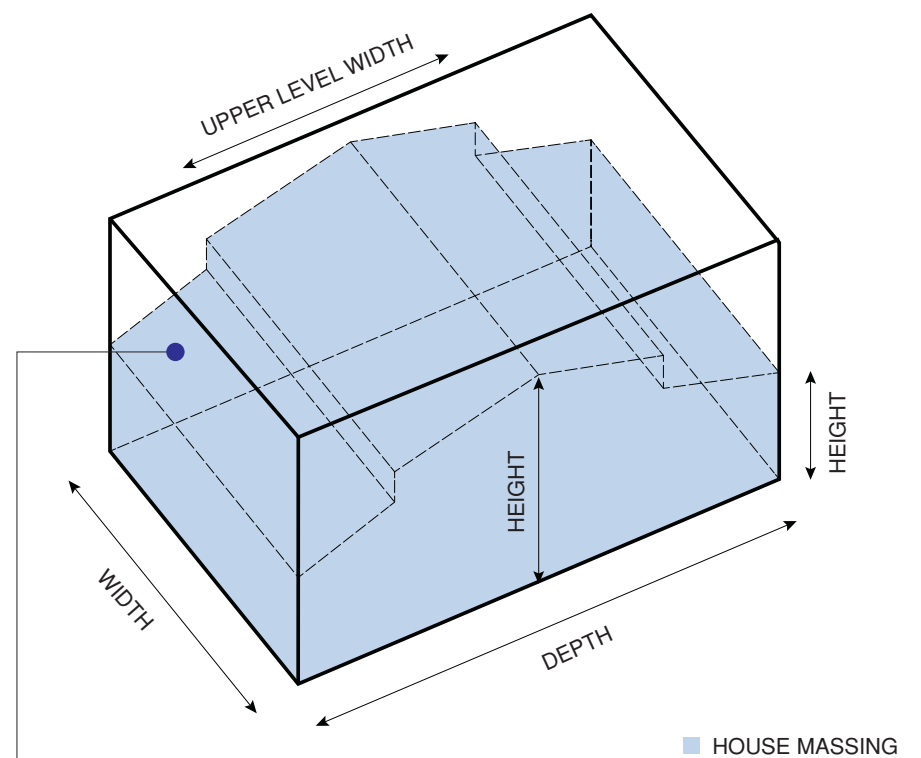
2. DEFINE MASSING

VOLUMETRIC EXPRESSION OF THE BUILT FORM IN RELATION TO THE SIZE AND SHAPE OF BUILDING.



3. PROPOSAL GOAL

TO REFINE CONTROLS ON MASSING TO MAKE NEW HOME CONSTRUCTION MORE COMPATIBLE WITH EXISTING NEIGHBOURS.



- 1. REDUCED OVERALL HEIGHT
- 2. REDUCE WIDTH AT UPPER LEVELS
- 3. REDUCE SIDEWALL HEIGHT

Relation Between Interior Height and Building Massing: Effect of Maximum Ceiling Height

1. INTERIOR CEILING HEIGHT

DROPPED CEILINGS ARE CURRENTLY BEING USED TO PRESERVE 5.0M INTERIOR CEILING HEIGHT RESULTING IN HIGH WALLS THAT LOOK LIKE TWO STOREYS, WHICH MAKE HOUSES LOOK MORE MASSIVE.

THE PROPOSED BYLAW AMENDMENTS WILL TIE THE INTERIOR CEILING HEIGHT TO STRUCTURAL ELEMENTS WITHIN THE BUILDING, ELIMINATING USE OF DROPPED CEILINGS. ANY FLOOR AREAS EXCEEDING THE MAXIMUM INTERIOR CEILING HEIGHT AS PROPOSED BY THE BYLAW AMENDMENTS WILL BE COUNTED TWICE TOWARDS THE MAXIMUM FLOOR AREA.

A. EXISTING ZONING BYLAW ALLOWANCE



B. POTENTIAL BYLAW TYING 5.0M INTERIOR CEILING HEIGHT TO STRUCTURE



C. STAFF RECOMMENDED BYLAW TYING 3.7M INTERIOR CEILING HEIGHT TO STRUCTURE

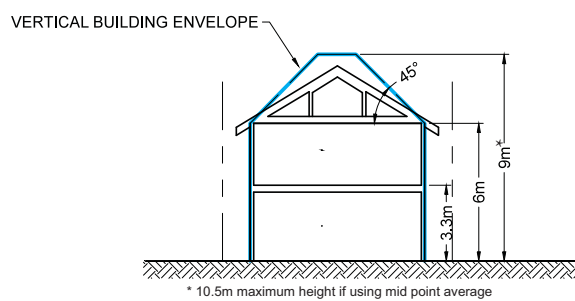


Proposed Vertical Building Envelopes

1. VERTICAL BUILDING ENVELOPES

THE PURPOSE OF THE VERTICAL BUILDING ENVELOPE IS TO DEFINE WHERE PERMISSIBLE FLOOR AREA MAY BE DISTRIBUTED, DIRECTING THE HIGHEST PORTIONS AND UPPER FLOORS TOWARD THE CENTER OF THE HOUSE AWAY FROM THE SIDE BOUNDARIES AND NEIGHBOURS. THIS HAS THE EFFECT OF SHAPING THE HOME IN ORDER TO IMPROVE THE SEPARATION AND ACCESS TO DAYLIGHT BETWEEN NEIGHBOURS.

A. LOT WIDTH ≤ 10M

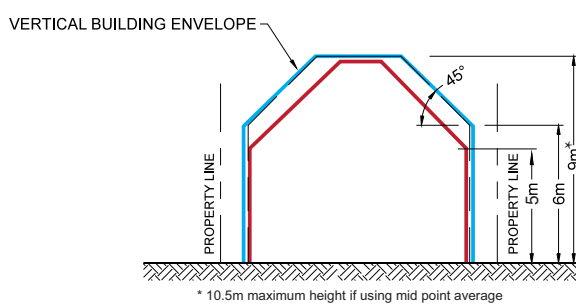


1. ZONING BYLAW 8500, UNCHANGED IN PROPOSED JUNE 16TH AMENDMENT

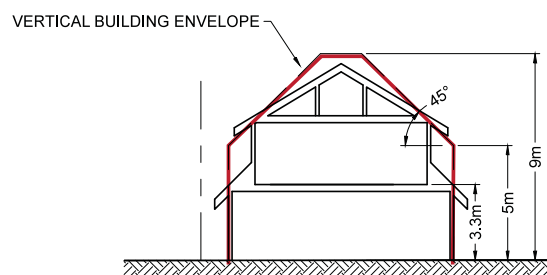
■ ZONING BYLAW 8500

ACKNOWLEDGING THE DIMENSIONAL CONSTRAINTS FOR DEVELOPMENT ON NARROWER LOTS, CITY STAFF DID NOT PROPOSE ANY CHANGES TO THE VERTICAL BUILDING ENVELOPE FOR LOTS HAVING WIDTHS LESS THAN OR EQUAL TO 10M.

B. LOT WIDTH > 10M ≤ 12M

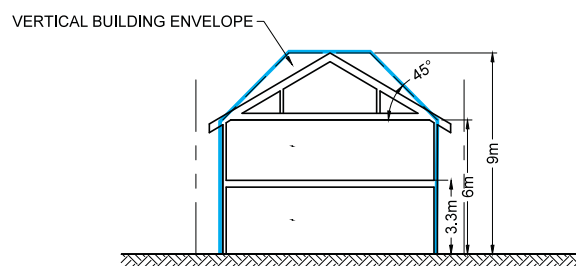


1. VERTICAL BUILDING ENVELOPES



2. VERTICAL BUILDING ENVELOPE RECOMMENDED BY STAFF ON JUNE 16TH

■ ZONING BYLAW 8500
■ JUNE 16TH PROPOSAL

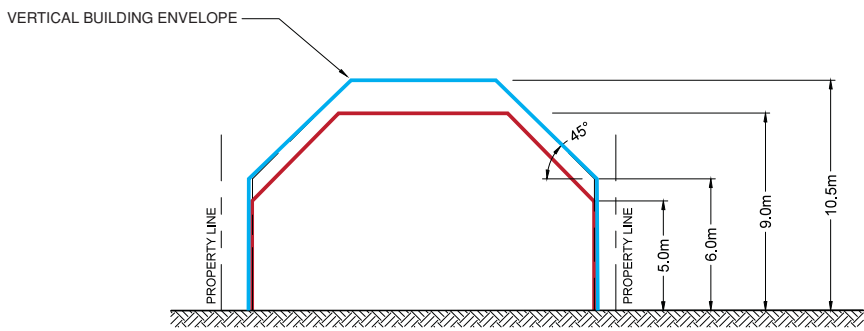


3. EXISTING VERTICAL BUILDING ENVELOPE

AFTER RECEIVING MULTIPLE COMMENTS ON THE EFFECT OF THE PROPOSED VERTICAL BUILDING ENVELOPE CHANGE ON LOTS WITH WIDTHS BETWEEN 10M AND 12M, A POTENTIAL ALTERATION TO THE PROPOSED AMENDMENT AS PRESENTED ON JUNE 16 WOULD BE TO RETAIN THE EXISTING BUILDING ENVELOPE PROVISIONS FOR LOTS LESS THAN 12M WIDE.

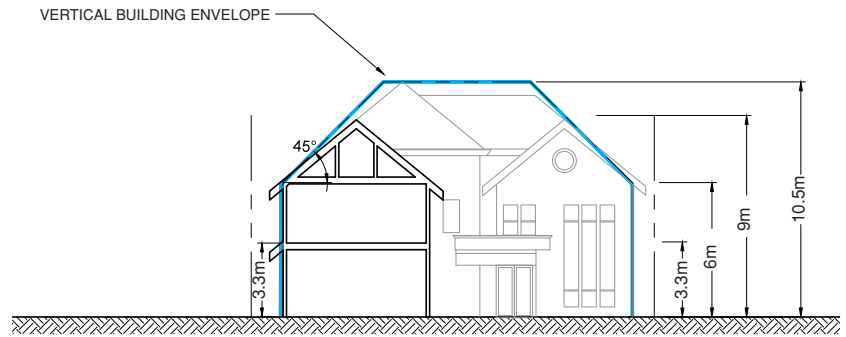
Proposed Vertical Building Envelopes:

C. LOT WIDTH > 12M ≤ 18M

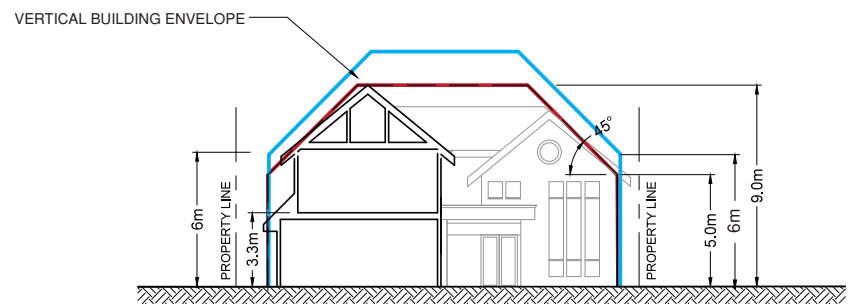


1. VERTICAL BUILDING ENVELOPES

- ZONING BYLAW 8500
- JUNE 16TH PROPOSAL



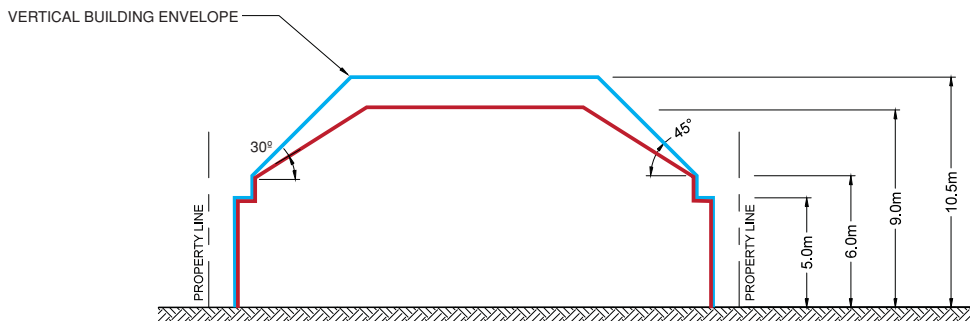
2. VERTICAL BUILDING ENVELOPE ZONING BYLAW 8500



3. VERTICAL BUILDING ENVELOPE JUNE 16TH, NO PROPOSED CHANGE

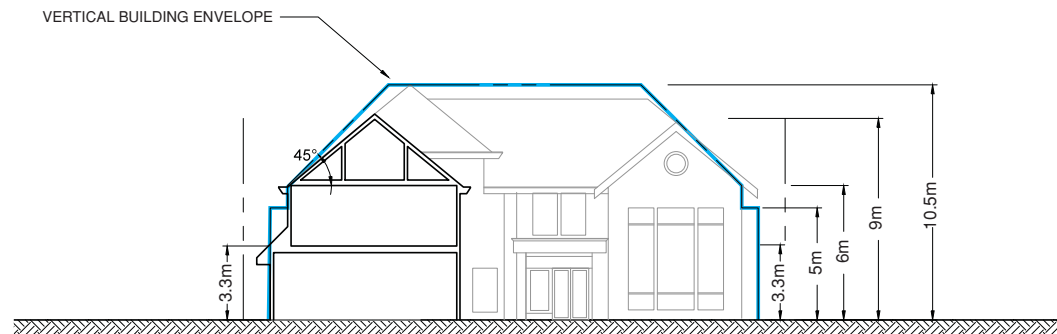
THERE ARE NO CONTEMPLATED MODIFICATIONS TO THE VERTICAL BUILDING ENVELOPE TO LOTS WITH WIDTHS OF GREATER THAN 12M AND LESS THAN AND EQUAL TO 18M AS PROPOSED IN THE ZONING BYLAW AMENDMENT ON JUNE 16.

D. LOT WIDTH > 18M

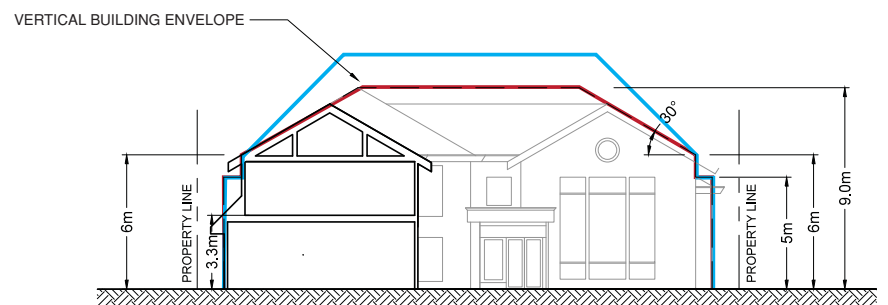


1. VERTICAL BUILDING ENVELOPES

- ZONING BYLAW 8500
- JUNE 16TH PROPOSAL



2. VERTICAL BUILDING ENVELOPE ZONING BYLAW 8500



3. VERTICAL BUILDING ENVELOPE JUNE 16TH, NO PROPOSED CHANGE

THERE ARE NO CONTEMPLATED MODIFICATIONS TO THE VERTICAL BUILDING ENVELOPE TO LOTS WITH WIDTHS OF GREATER THAN 18M AS PROPOSED IN THE ZONING BYLAW AMENDMENT ON JUNE 16.

Accessory Building

Proposed Setbacks

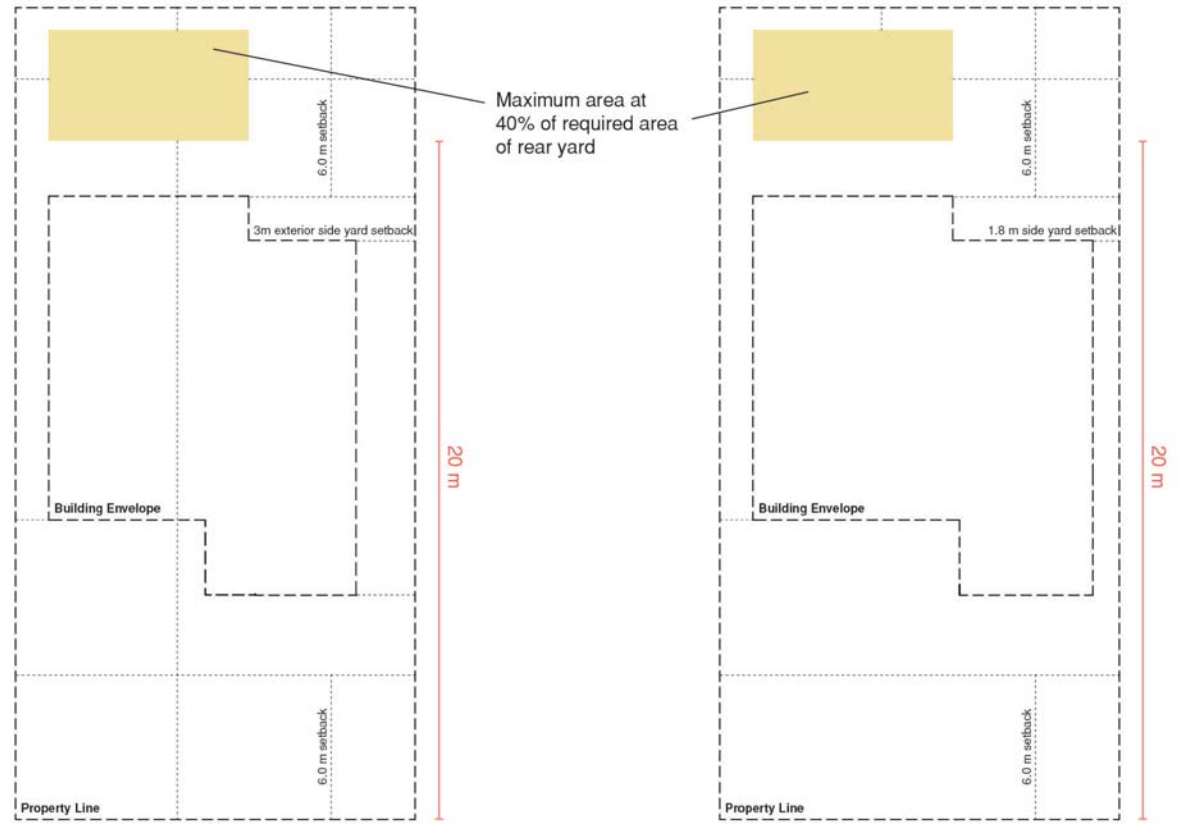
PROPOSED SETBACKS FROM ADJACENT STREETS

1. Accessory Building greater than 10 m²

- 1. LOTS LESS THAN 12.5M REQUIRE 3.0M SETBACK
- 2. LOTS GREATER THAN 12.5M AND LESS THAN 15.5M REQUIRE 4.5M SETBACK
- 3. LOTS GREATER THAN OR EQUAL TO 15.5M REQUIRE 7.5M SETBACK

Proposed Changes to limit massing of detached accessory buildings:

- 1 Size of detached Accessory Building limited to 40% of the area of the required rear yard up to a maximum of 70 square meters.
- 2 Maximum Height for sloped roofs to highest peak is 4.0 m.
- 3 Maximum Height for flat roofs is 3.0 m.
- 4 Location for accessory building within the rear yard as per drawing.



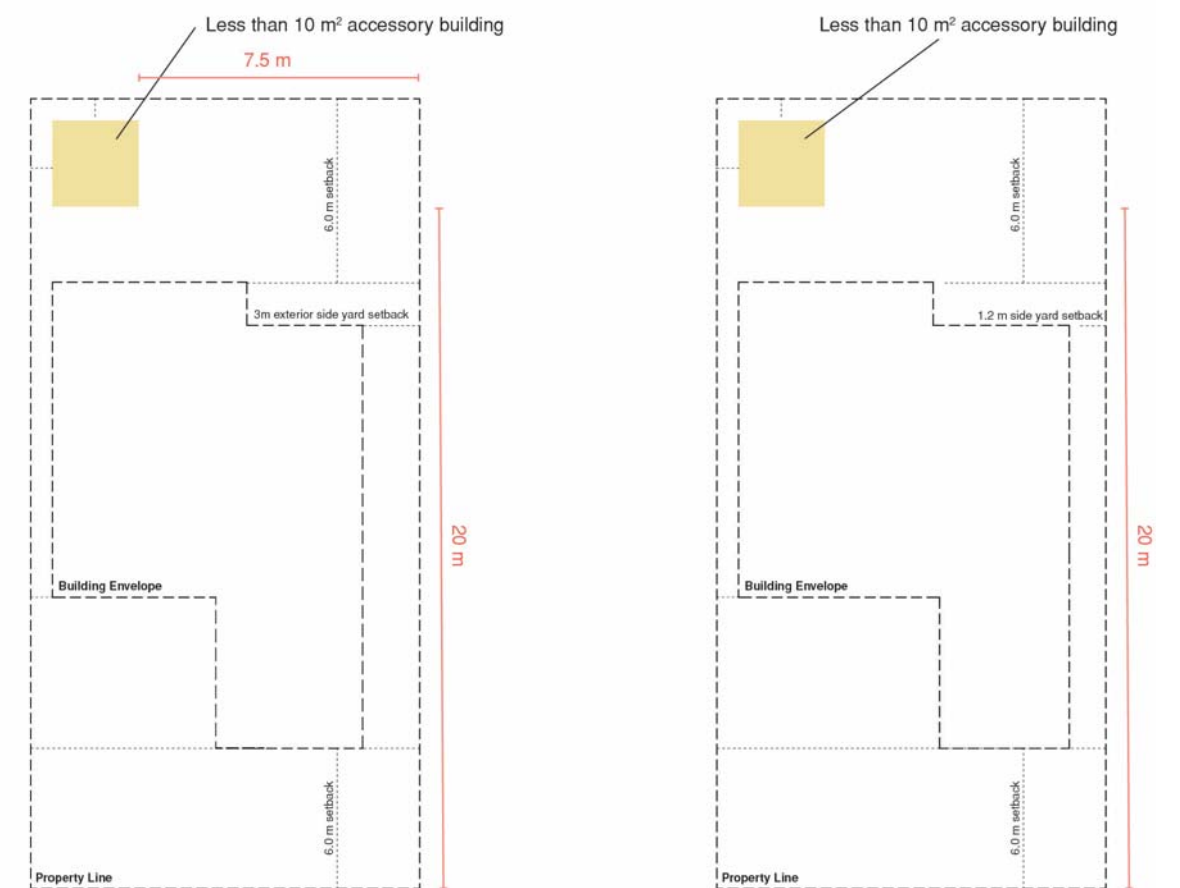
Exterior side yard scenario

Interior side yard scenario

2. Accessory Building less than 10 m²

These accessory buildings do not require building permit, but their height and location within the rear yard will be defined by the following measures:

- 1 Maximum Height is 3.0m for sloped roofs
- 2 Maximum Height is 2.5m for flat roofs
- 3 Location in rear yard shall be as per drawing



Exterior side yard scenario

Interior side yard scenario

Exterior side yard scenario

Interior side yard scenario

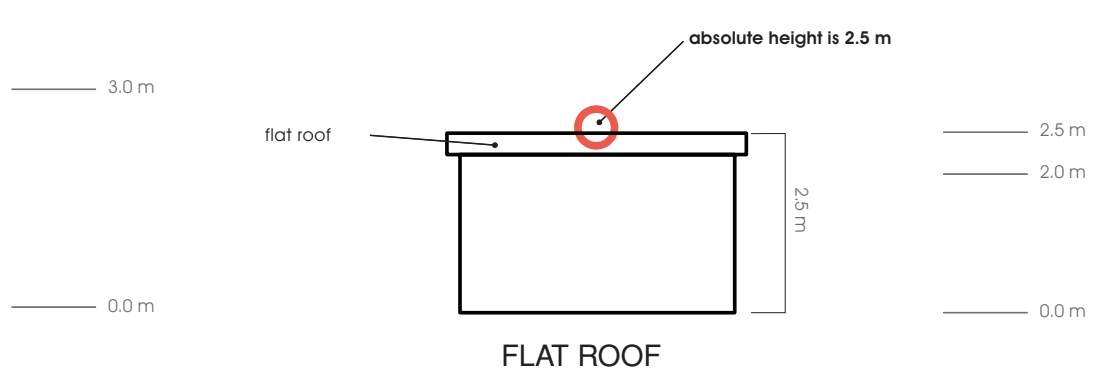
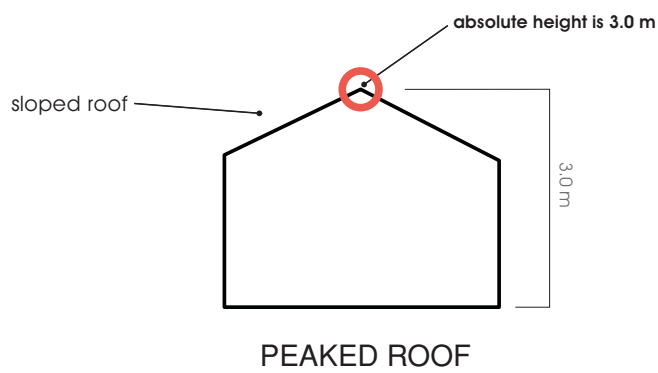
Accessory Building and Garage

Height Requirements

1. Accessory Building less than 10 m²

Accessory buildings less than 10 m² do not require a building permit, but their height and location within the rear yard will be defined by the following measures:

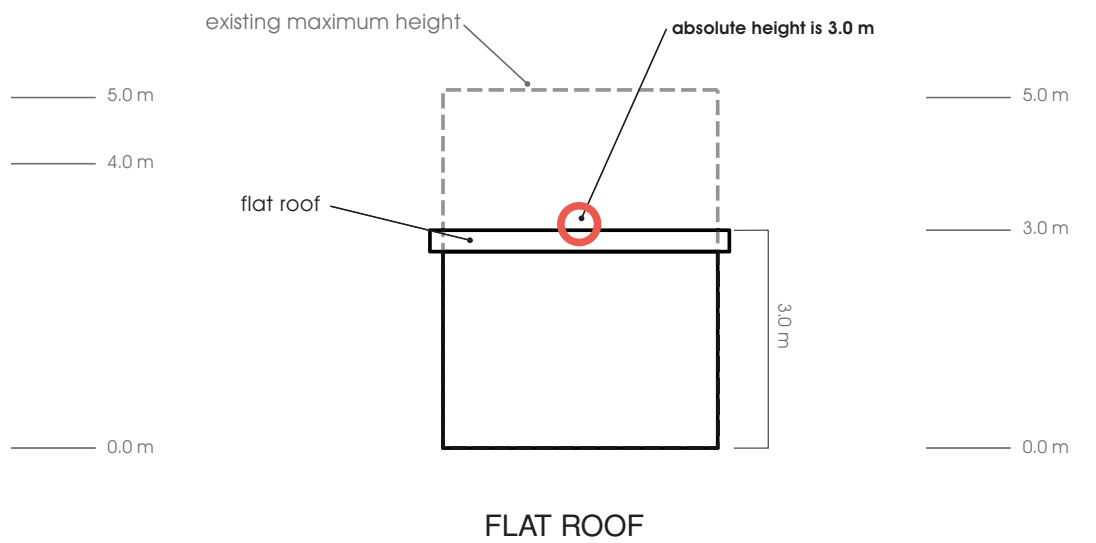
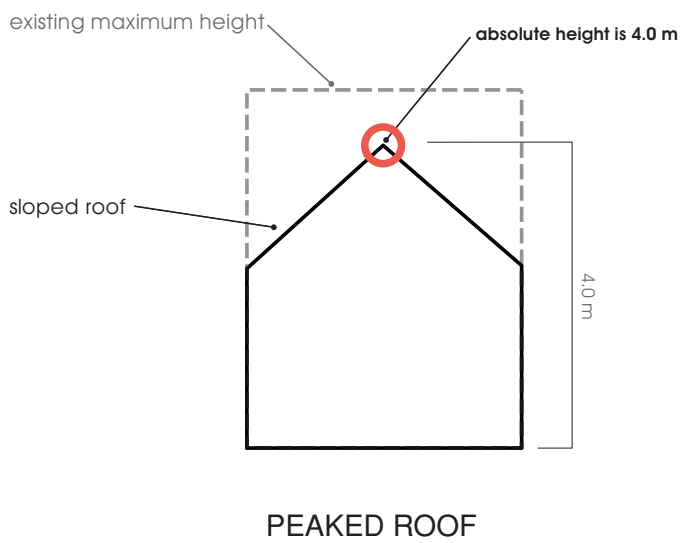
- 1 Maximum Height is 3.0m for sloped roofs
- 2 Maximum Height is 2.5m for flat roofs



2. Accessory Building greater than 10 m²

Proposed Changes to limit massing of detached accessory buildings greater than 10 m² requiring a building permit:

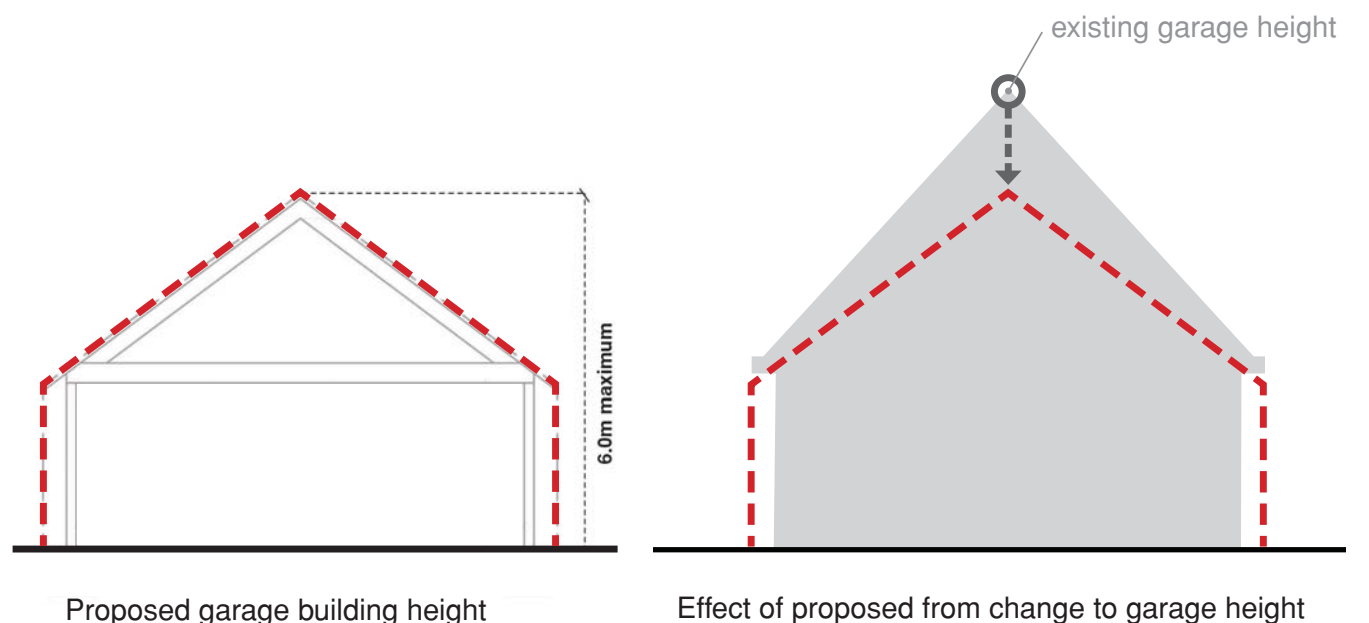
- 1 Maximum Height for sloped roofs to highest peak is 4.0 m.
- 2 Maximum Height for flat roofs is 3.0 m.



3. Attached Garage Height

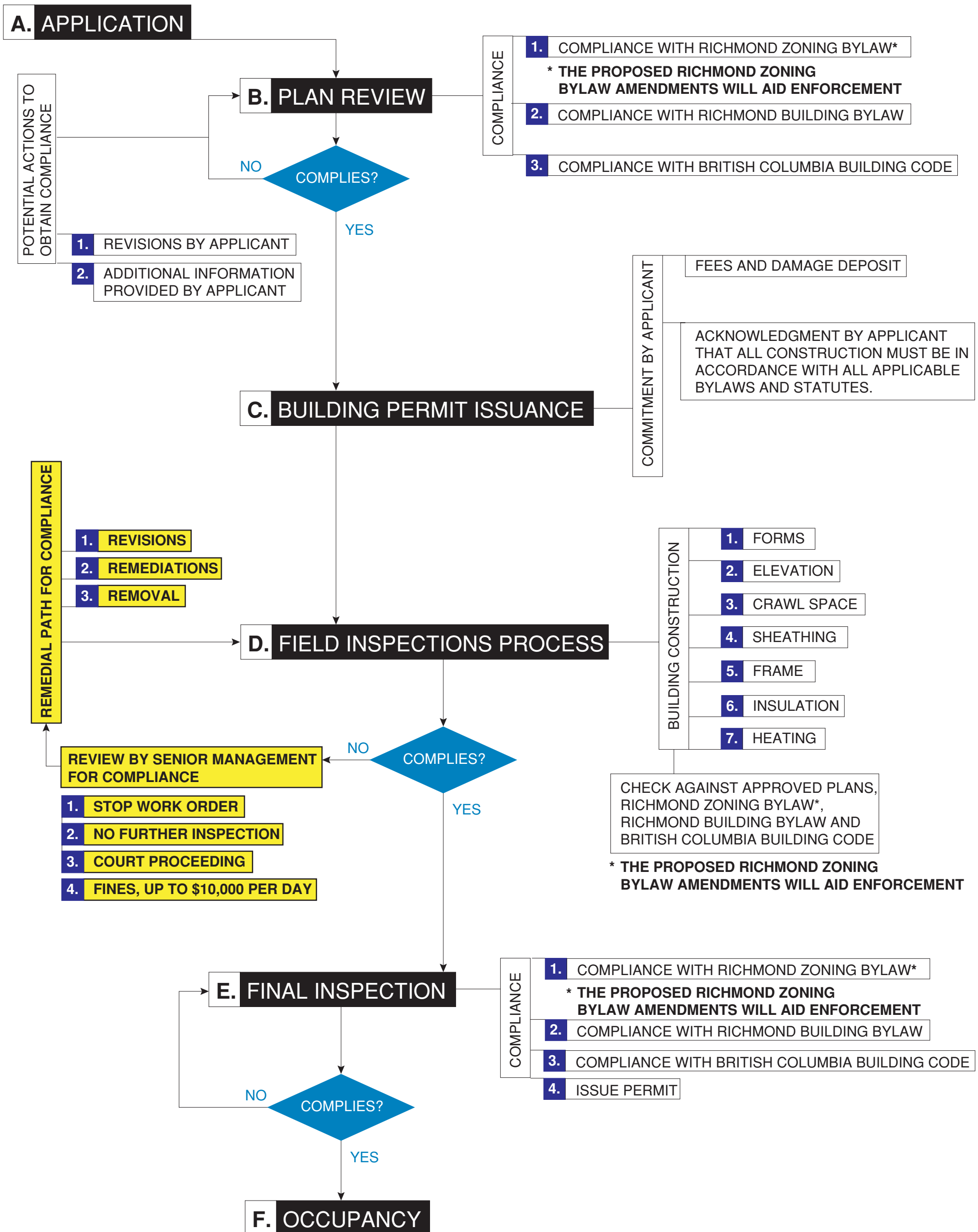
Proposed Changes to Attached Garage Construction:

- 1 Maximum Height to highest peak of sloped roof at 6.0 m
- 2 Maximum Height of flat roof at 4.5 m



Enforcement By Building Approvals: Building and Zoning Regulations

■ NEW PROCESS



STUDY ON MASSING FOR SINGLE FAMILY NEIGHBOURHOODS

Enhanced Building Permit Application Checklist: Submission Requirements to be presented in Document

A. DOCUMENTATION REQUIREMENTS

* ITEMS CRITICAL FOR INTERIOR CEILING HEIGHT CHECK
** ITEM CRITICAL FOR COMPLIANCE TO VERTICAL BUILDING ENVELOPE

- | | | |
|------------------------------------|--|---|
| 1. ADMINISTRATIVE ITEMS | <ul style="list-style-type: none"> A. OWNER OR OWNER'S AGENT (FREEHOLD OR AUTHORIZATION) B. HOMEOWNER PROTECTION OFFICE (HPO) FORM C. CONFIRMATION OF INSURANCE COVERAGE BY A REGISTERED PROFESSIONAL (SCHEDULE E) D. OWNER'S UNDERTAKINGS (SCHEDULE F) E. BUSINESS LICENSE F. TWO (2) COMPLETE DRAWING SETS | <ul style="list-style-type: none"> 1. DRAWINGS MUST BE SCALE TO SCALE 2. DRAWINGS MUST BE CLEARLY DIMENSIONED 3. SITE PLAN 4. PLANS SHOW HEIGHTS AND AREAS 5. BUILDING SECTIONS 6. SECTIONS SHOWING INTERIOR CEILING HEIGHTS* 7. SECTION SHOWING ALL INTERIOR VOID SPACES* 8. ENERGY DETAILS AND CALCULATIONS 9. SITE SURVEY 10. ELEVATIONS 11. CONSTRUCTION DETAILS 12. ELEVATIONS MUST SHOW PROPOSED VERTICAL BUILDING ENVELOPE** |
| 2. LOT SERVICES | <ul style="list-style-type: none"> A. PROVIDE DAMAGE DEPOSIT (PUBLIC WORKS) B. INDICATE ROAD IMPROVEMENTS C. INDICATE DRIVEWAY AS NEW, EXISTING OR RELOCATED D. INDICATE WATER SERVICE TYPE E. INDICATE SANITARY SEWER OR SEPTIC TANK F. INDICATE STORM SEWER OR DITCH | |
| 3. SOIL CONDITIONS | <ul style="list-style-type: none"> A. INDICATE SOIL CONDITIONS AND AMOUNTS OF PEAT, CLAY, FILL B. PROVIDE SOIL REPORT IF NECESSARY C. PROVIDE ASSURANCE OF SUBSURFACE INVESTIGATION (SCHEDULE D) D. CONFIRMATION OF INSURANCE COVERAGE BY A REGISTERED PROFESSIONAL (SCHEDULE E) E. INDICATE METHANE GAS / HOG FUEL AMOUNT F. SOILS COMPACTION REPORT G. PROVIDE DEMOLITION CARD | |
| 4. LAND TITLE AND COVENANTS | <ul style="list-style-type: none"> A. PROVIDE LAND TITLE RECORD B. NOISE EXPOSURE FORECAST (NEF) AREA IF APPLICABLE C. DEFERRED DEMOLITION | |
| 5. PROPERTY INFORMATION | <ul style="list-style-type: none"> A. PROVIDE CORRECT PERMIT NUMBERS B. PROVIDE LEGAL DESCRIPTION OF LOT C. INDICATE IF SUBDIVISION D. PROVIDE SERVICING AGREEMENT E. PROVIDE FINAL APPROVAL FOR DEMOLITION F. INDICATE RIGHTS OF WAY (ROW) / EASEMENTS / SERVICES G. PROVIDE HERITAGE STATUS IF APPLICABLE H. INDICATE ENVIRONMENTALLY SENSITIVE AREAS (ESA) IF APPLICABLE I. PROVIDE RIPARIAN MANAGEMENT AREA (RMA) IF APPLICABLE | |

B. BRITISH COLUMBIA BUILDING CODE COMPLIANCE

- | | |
|------------------------------|--|
| 1. BCBC PART 9 REVIEW | <ul style="list-style-type: none"> A. INDICATE UNPROTECTED OPENINGS B. PROVIDE STAIR DESIGN INCLUDING RISER, WIDTH, RAILS C. PROVIDE MEANS OF EGRESS INCLUDING DOOR SIZE, HALLWAY WIDTH, NUMBER OF WINDOWS IN BEDROOMS D. INDICATE SMOKE AND CARBON MONOXIDE ALARMS E. IDENTIFY SAFETY GLASS IN ENVELOPE OPENINGS F. SECURE HOT WATER HEATER AND SOLAR HOT WATER IF APPLICABLE G. IDENTIFY HEATING TYPE FOR BUILDING H. VENTILATION TO COMPLY WITH BCBC SECTION 9.32 I. ENERGY EFFICIENCY TO COMPLY WITH BCBC SECTION 9.36 J. MINIMUM ATTIC ACCESS COMPLIANCE (20" x 28") K. INDICATE FUME SEPARATION IN GARAGE L. PROVIDE CONSTRUCTION DETAILS INCLUDING RAINSCREEN AND CULTURED STONE M. PROVIDE SOFFIT VENT NOTE |
| 2. STRUCTURAL REVIEW | <ul style="list-style-type: none"> A. PROVIDE STRUCTURAL ENGINEERING DESIGN B. PROVIDE GEOTECHNICAL ENGINEERING REPORT IF APPLICABLE C. PROVIDE ACOUSTICAL ENGINEERING REPORT IF APPLICABLE D. IF NO ENGINEER CONSULTED, DESIGN IS PRESCRIBED BY PART 9 OF BCBC E. PROVIDE INFORMATION ON UNIFORM LOADS ACROSS STRUCTURE AND POINT LOADS F. IDENTIFY SHEAR WALLS, LINTELS, BUILT-UP BEAM SPANS, JOIST SPANS F. IDENTIFY STRIP FOOTING (8" x 20") AND PAD FOOTINGS F. INDICATE LARGE SPAN OPENINGS F. PROVIDE ROOF OF OR TRUSS LAYOUT UP TO 40' SPAN F. INDICATE BEARING PRESSURE LESS THAN 800 PSF |

STUDY ON MASSING FOR SINGLE FAMILY NEIGHBOURHOODS

Enhanced Building Permit Application Checklist: Submission Requirements to be presented in Document

C. RICHMOND BYLAW REQUIREMENTS

1. ZONING REQUIREMENTS


- A. PROVIDE FLOOR AREA RATIO (FAR) CALCULATIONS
- B. PROVIDE GARAGE AREA
- C. PROVIDE TOTAL AREA OF COVERED OPENINGS
- D. PROVIDE TOTAL AREA OF PROJECTIONS INTO REQUIRED YARDS
- E. PROVIDE BOARD OF VARIANCE (BOV) RULING IF APPLICABLE
- F. PROVIDE DEVELOPMENT PERMIT (DP) / DEVELOPMENT VARIANCE PERMIT (DVP) IF APPLICABLE
- G. INDICATE LETTER OF CREDIT IS RECEIVED
- H. INDICATE SECONDARY SUITE
- I. FULFILL LANDSCAPE REQUIREMENTS
- J. PROVIDE LOT COVERAGE CALCULATIONS
- K. INDICATE LOT DIMENSIONS, SET BACKS AND BUILDING SEPARATIONS
- L. INDICATE MAXIMUM BUILDING HEIGHT
- M. INDICATE RESIDENTIAL VERTICAL ENVELOPE COMPLIANCE
- N. INDICATE FENCE HEIGHT
- O. INDICATE ALL ACCESSORY BUILDINGS OVER 10M² IN AREA

2. SITE PLAN

- A. INDICATE PROPERTY ZONE OR LAND-USE CONTRACT
- B. INDICATE LAND USE
- C. PROVIDE TOPOGRAPHICAL PLAN WITH TREES, MATERIAL COVERAGE, GRADE
- D. INDICATE LOT DIMENSIONS, AREA, SETBACKS, LOT COVERAGE AND BUILDING SEPARATIONS
- E. INDICATE AVERAGE GRADE, ELEVATION STAMP / MINIMUM FLOOD CONTROL LEVEL (FCL)
- F. ENSURE SPOT ELEVATIONS AND HEIGHTS ARE IDENTICAL ON ALL FLOOR PLANS
- G. PROVIDE PERIMETER DRAINS FOR ALL IMPERVIOUS SURFACES AND OVERALL SITE DRAINAGE
- H. INDICATE AND DIMENSION ALL ROOF OVERHANGS ON SITE PLAN

D. EXTERNAL CONFIRMATION BY APPLICANT INDICATING ZONING BYLAW COMPLIANCE

1. ZONING REGULATION SUMMARY, TO BE FILLED BY APPLICANT



City of Richmond
Zoning Regulation Summary
Building Approvals Division
6911 No. 3 Road, Richmond, BC V6Y 2C1
Tel: 604-276-4000 Fax: 604-276-4063

www.richmond.ca

Property Information:

- Street Address: _____
- Legal Description: _____
- Lot Area: _____ m²

Zoning Bylaw Analysis

- Proposed Use: _____ Zone: _____
- Density Floor Area Ratio (F.A.R.):
 Permitted F.A.R.: _____ % x _____ = _____ m²
Lot Area
 _____ % x _____ = _____ m²
Remainder of Lot Area
Total F.A.R. Permitted: _____ m²

Exemptions:

All Exterior Covered Areas (Max. 10 % of Floor Area)	Area: Entry/Staircase	Total Garage Area (Vehicle Parking Area Only)
1. _____ m ²	_____ m ²	_____ m ²
2. _____ m ²		
3. _____ m ²		

Main Floor Area: _____ m²
(Excluding garage/carport to a max. of 50 m²)

Upper Floor Area: _____ m²

½ Storey Area: _____ m²

Total Building Floor Areas: _____ m²

Plus Covered Area: (Over 10%) _____ m²

Plus Entry/Stair: (Over max. 10 m²) _____ m²

Plus Garage: (Over 50 m²) _____ m²

Total Proposed F.A.R.: _____ m²

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- Maximum Lot Coverage:**
 Permitted: _____ % x _____ = _____ m²
Lot Area
 Proposed: _____ m²
- Landscaped Area:**
 Required: _____ % x _____ = _____ m²
Lot Area
 Proposed: _____ m²
- Building Height:**
 Permitted: _____ m Proposed: _____ m
 Finished Average Grade: _____ m High Point of the Building: _____ m
 Show the "residential vertical lot width and depth envelopes" on the elevations.
 Sections show different interior ceiling heights.
 Sections show interior void space.
- Secondary Suite Area:** Maximum 40% of floor area, or 90 m² whichever lesser.
(If applicable)
 Suite Area: _____ m²
 Suite to be "roughed-in" for future completion: Yes

Building Designer (Print name) _____ Date: _____

Signature _____

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Thank you for attending this public workshop to share thoughts, ideas and comments about the form of our residential neighbourhoods.

For further information please visit:

<http://www.richmond.ca/plandev/planning2/projects/buildingmassingstudy.htm>

In order to express your thoughts and views on the material presented and discussed in this workshop, please take with you a Comment Form and return to City Hall, attention Mr. Gavin Woo, Senior Manager of Building Approvals **by July 15.**

