

# Drawing Requirements – R1 SSMUH

The purpose of this information guide is to provide additional information on building permit drawing submissions for new buildings under the R1 SSMUH that came into effect on July 1<sup>st</sup>, 2024.

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*“The information contained within this guide is for convenience only and does not serve to substitute or supersede applicable City Bylaws, governing Provincial / Federal Codes, and laws. Any references to Bylaws, Codes and laws pertain to those effective at the time of this guide’s creation or revision. If the date on this guide exceeds three (3) years, the information contained may be outdated- in such circumstance, refer to the current Bylaws, Codes and laws. Building Owners are responsible for ensuring that any existing or proposed construction, and other works, comply with all applicable Bylaws, Codes and laws.”*

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## Other Information Related to this Topic

“Step 3” reference is specific to the type of development and form you are considering constructing on a lot as outlined on the [New Home Construction | City of Burnaby](#) webpage:





- Step 3a – single-family and duplex dwellings
- Step 3b – 2 residential buildings on a single lot
- Step 3c – multiplexes (buildings with 3 or more primary dwelling units)
- Step 3d – cottage courts or cottage clusters
- Step 3e – rowhouses
- Step 3f – Part 3 buildings
- Step 3g – apartment style buildings (Part 9)

## Introduction

In order to expedite the plan checking process, it is recommended that the following additional information is included on the building permit drawings for all R1 SSMUH applications to demonstrate code compliance and should be submitted at the time of permit application. The information herein is not intended to be an exhaustive list as each project varies, but rather as a guide to assist the applicant in preparing a relatively complete drawing submission to reduce the number of review iterations in the future.

## Drawing Requirements

| Drawing Title  | Details / Contents  |
|--|---|
| <b>Cover Sheet – Technical Data Summary</b><br>(Zoning Analysis) | Cover sheet on the drawings with the project statistics provided, including but not limited to: <ul style="list-style-type: none"> <li>▪ Total site area;</li> <li>▪ Permitted and proposed:</li> <li>▪ Total floor space;</li> <li>▪ Building Height(s);</li> <li>▪ Front, Back and Side Yard Setbacks;</li> <li>▪ FSR Statement, including accessory uses, amenities and FSR exclusions (e.g., enclosed balconies or bulk storage.)</li> <li>▪ Required and proposed parking spaces</li> </ul>  |
| <b>Topographical and Survey Plans</b>                            | <ul style="list-style-type: none"> <li>▪ Prepared, signed, and sealed by a BC Land Surveyor</li> <li>▪ The PID (The Property Identifier Number)</li> <li>▪ Legal description (found on tax notice)</li> <li>▪ Street address, street name(s) and location, as well as location and width of any lane(s)</li> <li>▪ Dimensions of site and site area, including north arrow</li> <li>▪ Location and dimensions of all existing buildings on the site</li> <li>▪ Front and rear yard depth at each corner of the proposed buildings</li> <li>▪ Setbacks must be taken from the established building line (where applicable)</li> <li>▪ Location and elevations at the top and bottom of any existing retaining walls at regular intervals of approximately every 3 meters (10' 0")</li> <li>▪ Ultimate property line</li> <li>▪ Lane dedications, registered easements, encroachments, and rights-of-way must be indicated on the surveys.</li> <li>▪ Location of existing street crossings</li> <li>▪ Existing grades at each of the four corners of the site</li> <li>▪ Existing grades at each corner of the existing and/or proposed principle building envelope (based on Zoning and Development Bylaw requirements)</li> <li>▪ Existing grade levels at the four corners of the proposed accessory building envelope</li> <li>▪ Elevations along the center line of the lane opposite the center line of the accessory building envelope (if lane paved, elevations must also be shown along the centerline of the gutter)</li> <li>▪ Indicate location of all existing trees, refer to the Protection of Trees By-law 995811</li> <li>▪ Location, height, and diameter of all stumps 20 cm (8") caliper or greater;</li> <li>▪ Location of all existing permit sized trees (including adjacent property trees within 2 m (6.56') of the property line and trees on any City Street or lane allowance adjacent to the site);</li> </ul> |

| Drawing Title   | Details / Contents  |
|---|---|
|   | <ul style="list-style-type: none"> <li>Tree grades (existing tree base elevations) for those permit sized trees affected by development;</li> <li>The drip line (crown of trees or extent of tree branches) and species or type of permit sized trees</li> <li>For 3 meters (10'0") adjacent to the property and extending to the opposite side of the street(s) or lane(s) and or registered rights-of-way___0 at 3-meter (10'0") increments, provide the center line elevation of all trees(s), lane(s) and/or registered rights-of-way, as well as sidewalk(s), curb(s) and gutter(s) at 3 meter (10'0") increments.</li> </ul>  |
| <p><b>Site Plan</b></p> <p>Trees<br/></p> <p>Plumbing<br/></p> <p>Solid Waste<br/></p> <p>Electrical<br/></p> | <ul style="list-style-type: none"> <li>Address and street name(s)</li> <li>Legal description (found on tax notice)</li> <li>North arrow</li> <li>Dimensions of site and site area</li> <li>Location and dimensions of all buildings (principal, infill, and accessory)</li> <li>Required yards, setbacks and building lines.</li> <li>Size and location of all off-street parking</li> <li>Access to parking, including all curbs and paving materials.</li> <li>Size of maneuvering aisles</li> <li>Location of fire hydrants and their distance from the subject site</li> <li>Fire access routes or lanes</li> </ul><br><ul style="list-style-type: none"> <li>Location of existing trees, as noted in the Survey and tree barriers.</li> <li>Indicate the trees for removal.</li> <li>Indicate the location of replacement trees and continuous tree planting area size.</li> </ul><br><ul style="list-style-type: none"> <li>Sewer, water, and gas lines on the property</li> <li>Drainage plan, if applicable</li> <li>Existing and proposed grade elevations around all sides of the property lines where the front yard setback line and rear setback line intersect. (NOTE: Setbacks must be taken from the established Building Line, where applicable)</li> <li>Treatment of open areas, courtyards, pedestrian areas, etc.</li> </ul><br><ul style="list-style-type: none"> <li>Plan location of garbage facilities for storage.</li> <li>Plan location of garbage facilities for site pick-up.</li> </ul><br><ul style="list-style-type: none"> <li>Location of existing BC Hydro infrastructure (e.g., power poles, transformers, etc.)</li> <li>Location of electrical box (PMT or LPT), when required by BC Hydro, Dimension size and clearances in accordance with BC Hydro requirements.</li> </ul> |

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|---|---|
| <p><b>Firefighting Access Plan</b><br/>(to be included as part of the Architectural Drawings, signed, sealed and dated by a Registered Architect)</p> | <p><u>For Part 3 SSMUH (Step 3f):</u></p> <ul style="list-style-type: none"> <li>▪ Response points</li> <li>▪ Driveway width, length, turning radius, overhead clearance, gradient, design load, turnaround</li> <li>▪ Fire department principal entrances</li> <li>▪ Location of fire department connection and hydrants</li> <li>▪ Distance from the fire truck access to main entrance and/or each individual unit; all other firefighting facilities.</li> <li>▪ Location of annunciator panel and lock box</li> <li>▪ The above information should be on a single page of drawing for easy reference</li> </ul>  |
| <p><b>Floor Plans</b></p>   | <p><u>For Steps 3a, 3b, 3c, 3d, 3e and 3f:</u></p> <ul style="list-style-type: none"> <li>▪ On a single page per floor showing location and fire-resistance rating of fire separations (including firewalls)</li> <li>▪ Legend – 0 to 4 hrs – Color coded with dashed black and white marking in accordance with the following Fire Separation Legend: (The colour coding is for easy references during plan checking and inspection and the dashed black and white marking is for archiving using black and white scanning)</li> <li>▪ Radon pipes</li> <li>▪ Mirrored duplexes are required to show the same level of information on both sides (denoting “mirrored” is insufficient)</li> </ul> <p><u>Additional for Part 3 SSMUH (Step 3g):</u></p> <ul style="list-style-type: none"> <li>▪ Travel distance measurements</li> <li>▪ Occupant load – individual area/room and total</li> <li>▪ Location of exit including capacity</li> <li>▪ Identification of CO vestibules</li> <li>▪ Standpipe locations</li> <li>▪ Alternative solutions proposed – title and location</li> <li>▪ Accessibility – including adaptable units</li> </ul> |
| <p><b>Building Cross Sections</b></p>   | <ul style="list-style-type: none"> <li>▪ Horizontal and vertical fire separations including firewalls.</li> <li>▪ Legend – 0 to 4 hours – colour coded with dashed black and white marking</li> <li>▪ Cross over floors (if applicable)</li> </ul>  |
| <p><b>Elevations</b></p>  | <ul style="list-style-type: none"> <li>▪ Spatial separation calculations</li> </ul>   |
| <p><b>Plumbing &amp; Mechanical Drawings</b><br/>(Signed, sealed and dated by</p>   | <p><u>For Steps 3c, 3d, 3e, 3f and 3g – Onsite Services / Civil:</u></p> <ul style="list-style-type: none"> <li>▪ Storm, sanitary and water piping</li> <li>▪ Show slope and grade</li> <li>▪ Provide size of piping</li> <li>▪ Fixture load of these pipes, provide storm litre load</li> </ul>  |

| Drawing Title   | Details / Contents   |
|---|--|
| <p>P.Eng. with permit to practice number)</p>                                       | <ul style="list-style-type: none"> <li>▪ Show water meter as per Engineering requirements</li> <li>▪ Provide pipe material(s)</li> <li>▪ Pipe bedding requirements</li> <li>▪ Show all interceptors and sumps</li> <li>▪ Cross connection requirements – Premise Isolation</li> </ul> <p><u>For Steps 3c, 3d, 3e, 3f and 3g – Plumbing / Mechanical:</u></p> <ul style="list-style-type: none"> <li>▪ Highlight (bolded) all plumbing fixtures.</li> <li>▪ Number of fixtures and hydraulic loads of fixtures - per suite, per floor, per building (water, sanitary and storm)</li> <li>▪ Pipe design details including material, size, slope and hydraulic load (fixture units or litres) for water, sanitary, venting and storm systems.</li> <li>▪ List of backflow devices with size and location</li> <li>▪ Isometric drawings for the plumbing system – refer to Plumbing Code for examples</li> <li>▪ Shut-offs at each dwelling (separate for primary &amp; secondary suites)</li> <li>▪ Indicate sump and pump locations</li> <li>▪ Parkade Drainage Treatment System (PDTS) if there is any covered parking area</li> <li>▪ Water meter location and specification – contact Engineering Department</li> <li>▪ Venting and pressurization</li> <li>▪ Heat loss calculation</li> <li>▪ Indicate any gas appliances</li> </ul> <p><u>For all Steps if sprinklers are required / provided:</u></p> <ul style="list-style-type: none"> <li>▪ Submit sprinkler drawings</li> <li>▪ Hydraulic calculations</li> <li>▪ Fire Suppression Schedule B</li> </ul> |
| <p><b>Electrical Drawings</b></p>   | <p><u>For Steps 3c, 3d, 3e, 3f and 3g:</u></p> <ul style="list-style-type: none"> <li>▪ Electrical load calculation – showing both usage space requirements and all other connected loads including all mechanical loads</li> <li>▪ One line diagram</li> <li>▪ Hydro service – underground or overhead</li> <li>▪ ASHRAE compliance details including allowance for EV charging</li> </ul> <p>Electrical room location</p>  |
| <p><b>Energy Simulation Report</b><br/>(Signed, sealed and dated by P.Eng. with</p> | <p>Where design for 9.33.3.1(2) proposed to not include any form of mechanical cooling and intends on demonstrating compliance through the use of passive cooling strategies, the following method shall be followed:</p> <ol style="list-style-type: none"> <li>1. Identify a space in the home to be the refuge room.             <ol style="list-style-type: none"> <li>a. The refuge room shall be modelled as a house, per 2.2(a) to 2.2(f).</li> </ol> </li> </ol>   |

| Drawing Title                 | Details / Contents   |
|-------------------------------|--|
| permit to<br>practice number) | <ol style="list-style-type: none"> <li data-bbox="646 359 1372 468">b. Conduct a whole building energy simulation on the refuge room and submit a summary report, including inputs, and assumptions, and results.               <ol style="list-style-type: none"> <li data-bbox="743 478 1295 548">i. Report must be signed and sealed by a Registered Professional.</li> <li data-bbox="743 558 1308 667">ii. Software must be capable of conduction calculations at hourly or smaller time increments.                   <ol style="list-style-type: none"> <li data-bbox="841 678 1404 856">1. See Engineers and Geoscientists of British Columbia's <i>Professional Practice Guidelines – Whole Building Energy Modelling Services</i> for guidance on software requirements.</li> <li data-bbox="841 867 1409 976">2. HOT2000 is not an approved software to demonstrate compliance with 9.33.3.1 and a passively cooled refuge room.</li> </ol> </li> <li data-bbox="743 978 1276 1012">iii. Weather file shall be for Burnaby B.C.</li> <li data-bbox="743 1022 1398 1163">iv. The simulation shall not consider window ventilation, the use of blinds or any other user-operated passive cooling strategy as those are user driven and not reliable during heat events.</li> <li data-bbox="743 1173 1409 1243">v. Fixed external shading devices may be included in calculations.</li> </ol> </li> </ol> <p data-bbox="451 1274 1419 1339">Results must be demonstrated that at no time during the cooling season does the dry bulb temperate of the refuge room exceed 26C.</p> |

## Notes:

Each project is unique and may have additional specific requirements. Further documents and drawings may be required during the review of your application. All building permit submission drawings must be:

- To scale, legible and must be double lined (except site plans).
- In accordance with the requirements from Div. C, Section 2.2 of the Building Code.
- Compliant with the current British Columbia Building Code (BCBC) and Burnaby Zoning Bylaw R1 District in its entirety and specified as such on the drawings.

## Preparing your Drawings and Documents for Submission

All permit applications have specific requirements that will consist of documents (such as schedules, forms and reports) and drawings (such as structural, architectural, mechanical etc.) specific information pertaining to your application can be found:

[New Home Construction | City of Burnaby](#)

### In-Person Applications:

- Completed Submission Checklist specific to the Building Type.
- Not providing completed, required documentation will result in the denial of your application.
- All required physical documents and drawings must be dated, signed and wet sealed. \*Digital signatures are not accepted for in-person applications.
- Three (3) sets of complete drawings are required.
- Drawings should be grayscale only, as color conflicts with the city mark-up of the approved drawings.
- The drawings shall be submitted on sheets no larger than 24 inches by 36 inches (600 x 1000mm).

### Electronic Application Requirements:

- Complete and sign all necessary forms electronically, not providing completed required documentation, which may result in the denial of your application.
- Do not combine multiple or different document types, this will delay your application.
- Do not lock, apply passwords or include any other document restrictions
- Documents and drawings are to be submitted as separate files:
  - If your drawing has more than one (1) page, do not separate the pages into different files. For example, if your structural drawings have six (6) pages, upload all six pages as one file - do not upload each page separately.
  - Upload documents (schedules, forms and reports) as individual files.
- Drawing packages should be submitted by discipline (for example architectural, structural, mechanical)
- Submit all drawings and documents in vector PDF format (scanned paper drawings will not be accepted.)

- Drawings must have a blank space in the title block on the same location on each page, relative to the size of the column for staff to apply the City’s stamp.
- Drawings are required to be compliant with the current British Columbia Building Code (BCBC) in its entirety and specified as such on the drawings.
- Drawings must be provided under the acceptable industry standards on a legible scale (for example everything on the same page must be the same scale and all pages must be formatted the same way in a package.)
- All drawings and documents that contain a digital seal must be digitally signed in accordance with a professional body or association when required.

**Adding Professional Seals and Digital Signatures:**

**For Professionals** – architects, engineers, and surveyors must adhere to the digital authentication requirements from their respective associations:

- [The Architectural Institute of BC \(AIBC\)](#)
- [Engineers and Geoscientists British Columbia](#)
- [The Association of BC Land Surveyors \(ABCLS\)](#)

Every sheet of drawings and Letters of Assurance must display:

- An image of the professional’s seal / stamp issued by their association,
- The professional’s signature adjacent to or across the professional seal, and
- The date at the time of seal.

In addition, every document that is required to be digitally authenticated must contain a digital certificate endorsed by the professional’s association (i.e., Notarius for architects and engineers, and/or Juricert for surveyors).

Only 1 (one) digital certificate per individual is required for a set of drawings and/or required documents. Do not apply your digital certificate to each page of a PDF file as the file size will significantly increase.

In general, it is the professionals’ responsibility to follow the guidelines set forth by their corresponding association and ensure the following:



- Electronic stamping is not an acceptable equivalent to digitally signing a document; a digital certificate is mandatory for staff to verify authentication of submitted drawings or documents.
- Scanned or photocopied seals (“wet”) and signatures without digital certificate will not be accepted.
- Do not certify (“lock”) your documents prior to submission- this will prevent our staff from applying subsequent stamps or signatures.
- Clearly provide Permit to Practice number where applicable for engineers (every sheet for drawings, at a conspicuous location for other types of documents).

**For Non-Professionals** – For owners or agents not involved in a technical role, their signatures on digital administrative documents are not required to be provided the same digital authentication as professionals. Scanned forms with the owner's or agent's handwritten signature are acceptable. However, using an electronic signing tool is recommended.

## For More Information

If you have any question, please contact the Building Division at 604-294-7130 or [permits@burnaby.ca](mailto:permits@burnaby.ca).