

Q&A from January 27, 2021 Builder Forum Series on Ventilation and Step Code
Presented by Township of Langley and Focal Engineering

Q: Hi, will there be recording available?

TOL: Yes, a recording is now available. It can be found on our Resources and Education webpage, tol.ca/gblearn under the Builder Forum Series dropdown.

Q: What are the current rebates being offered for heat pumps

TOL: Visit <https://betterhomesbc.ca/> for the most up-to-date information on heat pump rebates. Also, if you have questions particular to Township rebates such as our mid-construction blower door test, energy evaluation, or Step 4/5 rebates, feel free to contact greenbuildings@tol.ca or visit tol.ca/Greenbuildings for more information.

Q: Relating to passively cooled buildings, following the guidance of using the City of Vancouver Energy Modelling Guidelines, ASHRAE 55-2010 and the Abbotsford weather file, how does one determine the overheating limits for a project in Langley? The ASHRAE standard does not provide clear guidance on how to determine overheating limits from a weather file. If it is possible to share how the overheating limits are determined, based on the weather file, it would be beneficial. Showing the calculation of these limits would make it very transparent.

TOL: All new Part 3 residential buildings in Langley that are passively cooled shall not exceed the 80% acceptability limits for Naturally Conditioned spaces, as outlined in ASHRAE 55-2010 Section 5.3, for more than 200 hours per year for any zones. Please use the 80% acceptability limit with Abbotsford weather file, as specified in the below table:

Month	80% Acceptability Limit
May	25.3
Jun	26.3
Jul	27.0
Aug	26.9
Sep	26.0

Q: Any idea what is currently required by Architects and designers in terms of submissions to the plan review of Energy Efficiency Step Code compliance?

TOL: For Part 3 Step Code projects, the following are required as part of all new building permit applications:

- Energy Intensity Report
- Part 3 Step Code Energy Design Report
- Energy statement on all permit drawings
- Energy modeling report
- Thermal bridging Calculations for Effective Envelope performance.

For Part 3 non-Step Code projects, the following are required as part of all new building permit applications:

- Part 3 Design Intent letter

- Energy statement on all permit drawings
- Prescriptive forms (NECB checklist, ASHRAE Compliance forms)
- Trade-off Report (if applicable, e.g. COMCheck/NEBC Simple Trade-off Report)
- Energy modeling report (if applicable, for performance-path projects)

For Part 9 building requirements and more information on Part 3 requirements, please visit our Green Building: Builders webpage tol.ca/buildgreen and open the dropdown menu titled **Building Permit Application Documents**.

Q: Can you share the weblinks to all these events?

TOL: The City of Abbotsford's upcoming Step Code Café on February 23, 2021 can be registered for here: <http://beeid.org/88fde234d497>
To be notified of upcoming Green Buildings events, please register for our Green Buildings email list by emailing greenbuildings@tol.ca that you would like to join our email list.

Q: Question from an EA: The newest version of hot2000 has an updated weather library. This library has a more detailed division by location, which can be applied to different parts of Langley. Will the "Abbotsford" weather file requirements stay the same for all of Langley, or can we use the latest Hot2000 procedures to identify which location to use?

TOL: To be consistent through out the Township, we will be requesting the Abbotsford weather file for all projects in the Township. Please also note that, for TEDI adjustment calculations, you have to use HDD of 2700, which is as per BC Building Code Appendix C (for Langley location).

Q: Why is natural gas burning in new buildings not being banned immediately

TOL: The Township has recently adopted the Climate Action Strategy which has a multitude of environment related objectives, including reductions in GHGs. Please, see <https://www.tol.ca/at-your-service/sustainability/climate-action/> for further details.

Q: To meet Step Code must you install an HRV/ERV? Starting at Step 3?

Focal: While the Step Code doesn't explicitly say that H/ERVs are required at a certain step, we recommend considering them for all steps, especially 2+ when the TEDI requirement kicks in. If you're looking to improve the TEDI result on a project, heat recovery (or higher efficiency H/R) can be one of the more cost-effective measures to consider. There are also added benefits to using these ventilation units beyond energy savings, such as better indoor air quality.

Q: How about a manually operated make up air close to the kitchen exhaust hood

Focal: Yes! This is the example we touched on with slide 35. A solution that we've seen for reducing energy usage is having two systems in a commercial kitchen. The main one provides constant ventilation to the space, while a secondary system turns on when appliances are being used and the range hoods are exhausting high volumes from the space. The secondary system also has a dedicated makeup air unit to balance the incoming/ outgoing air that is interconnected to the range hood and uses an efficient heating system (like a heat pump).

Q: hi,any new energy rebate

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Q: Does ventilation have that much of an impact on HOT2000 energy modeling?

Focal: The impact of ventilation on TEDI will vary between projects, however, as we shared on slide 19 it typically ranges from 25% to 50% of the TEDI “donut”. It is project-specific because it depends on the design and the relationship between ventilation, infiltration and envelope performance. This is the same regardless of the software used, and for Part 9 or Part 3 buildings.

Q: Where can I find the guideline for desinging the flow rate in order to avoid over ventilated?

Focal: Slide 10 provides a flow chart that gives you an overview of which codes and standards are used in determining ventilation rates. For a specific project, we'd recommend reaching out to your designer of record for further discussion.

