

City of Vancouver's Energy Requirements for Alterations Projects

IMPORTANT - Is your project exempt from the energy checklist process?

Check to see if your project can be exempted from the energy checklist process. Review the Energy Checklist Exemption form included at the end of this document.

How to use this document

- i) From the Alterations Projects section on page 2, determine which Checklist applies to your project. Note that "Additions" are also required to perform an energy upgrade to the original building, and are to use the "Alteration to Existing Buildings" energy checklist.
- ii) Download and open the appropriate energy Checklist using excel software. All files and links are compatible with Mac systems using "Excel for Macs". If you are using a Mac and are having trouble, check your settings.
- iii) Within the energy checklist, read and follow the information provided on the "Info, Intro and Instructions" tab of the excel checklist.

Training Videos - January 2016

Starting in January 2016, the City of Vancouver has provided training videos for applicants needing to complete the energy checklists for permit applications. The training videos are accessible via the following link:

- [Access the energy checklist Training Videos](#)

ASHRAE 90.1-2010 Standard (and User's Manual)

Energy requirements for commercial buildings and residential buildings greater than three storeys are provided by Vancouver's Building Bylaw which references the energy standard known as ASHRAE 90.1-2010. Note that this standard does not apply to work done within residential suites.

For building industry individuals/firms requiring this referenced standard, the following link can be used to access the ASHRAE web page where the Standard and associated User's Manual may be purchased.

- [Access the ASHRAE Store to purchase 90.1-2010 Standard and User's Manual](#)

Permit Application and Energy Documentation Submission Process

- i) Submit your completed energy documents per the instructions within the "Info, Intro and Instructions" tab of the Checklist.
- ii) Effective January 11, 2016, a set of completed energy documents is required at the building permit application stage. A completed energy package must include the following documents in hard copy format for permit application then, in digital format (excel, pdf) when dealing with the plan reviewer, and must reflect the project's scope of work;
 - i. The appropriate energy checklist (one of either the Residential Suite, First TI or Part 11 TI)
 - ii. The appropriate ASHRAE forms (Building Envelope, HVAC, SWH, and/or Lighting)
 - iii. If Lighting is part of the scope of work, include a reflected ceiling plan of the lighting layout.
- iii) When saving your documents in digital format for final submission, make sure you include the project address and permit number in the file's names, ex: "123 552W 10th - BP-2017-xxxxx - Checklist" and/or "123 552W 10th - BP-2017-xxxxx - Light"
- iv) Your entire set of documentation will be reviewed, and if approved, a building permit will be issued. Documents requiring revisions are typically accepted by the reviewer directly via email however two sets of the finalized lighting layout drawings must be submitted in hard copy format.

Alterations Projects (includes Field Review & TIPs)

Alterations to a Residential Suite (applies to interior work only)

Applicants for alterations within a residential suite need only complete the requirements found within the following checklist, and may ignore the remainder of this page. Follow the processes outlined on page 1.

- [Download the Energy Checklist for Alterations to Residential Suites](#)  (630 KB)

First TI (new construction TI)

For alterations within a non-residential suite, and never previously occupied: Alterations within a space not previously occupied are considered an extension of the original new construction and are to be treated like new construction. The scope of work must comply with the relevant sections within ASHRAE 90.1-2010 energy standard. First TI projects must complete and submit the following checklist at building permit application:

- [Download the ASHRAE 90.1-2010 Checklist for First TIs](#)  (630 KB)

Part 11 TI

For alterations within a non-residential suite, and previously occupied: Alterations within a space previously occupied are considered alterations to existing buildings and therefore classified Part 11 TIs. The scope of work for a Part 11 TI must comply with the "Alterations" portion within each relevant section of the ASHRAE 90.1-2010 energy standard. A Part 11 TI must complete and submit the following checklist and all associated energy documents at building permit application:

- [Download the Energy Checklist for Alterations to Existing Buildings](#)  (610 KB)

A Part 11 TI is required to comply with the alteration requirements of ASHRAE 90.1-2010 **as well as** the City of Vancouver **Energy Upgrade Mechanism** requirements within Part 11. These Part 11 requirements can be reviewed using the following "simplified" version of the 2014 Building By-Law;

- [Download a simplified version of the Part 11 Energy Upgrade Mechanism process](#)  (542 KB)
- [Download the "mini 90.1" reference guide for the energy upgrade menu options](#)  (909 KB)

ASHRAE Compliance Documentation (PDF and Excel)

The following link takes you to the City of Vancouver web page where you will be able to download all the relevant ASHRAE compliance documents listed within either Checklist. There is also an information sheet for each section as well as samples. Note that **Lighting** has the option of forms in either pdf or excel format. Follow the samples and tutorial videos. Remember to include existing hard wired lighting in your calculations. Lighting controls are a mandatory requirement.

- [Web page for ASHRAE 90.1-2010 Compliance Documentation and Information Sheets](#)

Energy Statements on Drawings

Use the following file to assist you with the Energy Statements on Drawings requirement. Note that Part 11 TI projects do not need to apply energy statements on drawings.

- [Download the building Energy Design Statements for ASHRAE projects](#)  (150 KB)

Building Address : _____

Tenancy Address : _____

Building Permit

Application No.: _____

Energy Checklist Process: Applicability

Some project types do not need to complete the energy checklist process. Projects where the entire scope of work is limited to any of the following, are exempted from the energy checklist and submission process.

How to apply for an exemption from the energy checklist process

Print out this exemption form and complete it by indicating the scope of work(s) applicable to your project. Submit the completed form with your building permit application package.

IMPORTANT: Applying the Energy Checklist Exemption to an ineligible project will result in the building permit application being rejected on the basis of insufficient energy documentation.

Exempted Project Types

- Alarm System Installation/Retrofit
- Electric Vehicle Charging Station Installation/Retrofit
- Elevator Upgrade (including associated lighting systems and motor)
- Heat Pump Installation/Retrofit
- Parkade: Resurfacing/Water Membrane Retrofit
- Photovoltaic Installation/Retrofit
- Reducting (ductwork and diffusers only)
- Repiping (piping only)
- Seismic Upgrade
- H-Frame Removal Project
- Interior Demolition: Must meet 2 conditions;
 - 1. Resulting space is not occupiable without a future tenant improvement and building permit, and
 - 2. No building energy component system(s) is/are being designed for future occupancy.
- Re & Re: Scope of work involves the removal and replacement of items, specifically appliances, tubs, basins, sinks, and associated fixtures, as well as toilets, and exhaust fans (<1 HP). Projects that include millwork, alterations to interior walls, and the overhauling of kitchens or washrooms is not considered Re & Re work.
- Site/External Alterations: Scope of work is exterior to the building envelope's energy components and independent of the building's operations. Ex: Cladding systems, canopy/awning, site work such as soil remediation, drainage systems, surface parking lot work, kiosk upgrades, patio expansions (without light, power, heat systems etc).
- Tenant Equipment (with the exception of kitchen air system equipment > 5,000 cfm): Scope of work is entirely limited to the installation/alteration/removal of tenant equipment that does not involve the energy components of building operation systems. Ex: Racking systems, commercial or retail equipment (ex: spray booths, computers, phone systems, laundromat equipment, medical equipment).

Any project where the scope of work:

- i) triggers the Part 11 Energy Upgrade mechanism, and/or
- ii) involves **energy components of the building's systems**, such as building envelope insulation, exterior doors or glazing/skylights, motors (>1 HP), burners, coils, heat exchangers, transformers, receptacles, lights, and/or controls for HVAC/Lighting/Service Water Heating systems,

is required to complete the energy checklist and submission process.