



SOLAR HOT WATER AND PHOTOVOLTAIC PANELS - INSTALLATION GUIDELINES FOR RESIDENTIAL ZONES

*Authority - Director of Planning
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1 Background

This bulletin provides a summary of the permit processes and the design considerations for the installation of roof-mounted solar hot water and photovoltaic (PV) panels in residential zones. Consultation with City staff should occur prior to the installation of any panel system. Owners, or their agents, must obtain permits as required for work done on their property. It is also the responsibility of the owner to ensure that the location and design of the panel system takes into consideration the system's access to sunlight, the effect of surrounding trees and vegetation, and the development potential of adjacent lots.

2 Enquiry and Permit Process

Applicants should begin the enquiry process at the Building and Development Services Centre.

2.1 Zoning and Development By-law and Design Guidelines Review

Building and Development Services Centre counter staff will determine whether the proposal is outright or conditional development under the zoning for the site.

In the case of outright development, such as single family homes and garages in RS-1, RS-1A, RS-1B, RS-2, RS-4, RS-6 and RS-7, and single family homes and garages built under the outright density provisions of the by law in RS-3, R-3A, and RS-5, there are no design guidelines. In these cases, panel installations which are within the permitted overall height of the existing building will not require a Development Permit review, and may be processed as a Building Permit.

In the case of conditional development, such as single family homes built under the conditional density provisions in RS-3, RS-3A, and RS-5, one-and-a-half storey laneway houses in RS zones, as well as residential development in most RT and RM zones, design guidelines are applicable. In these cases, panel installations will be subject to a design review. If design issues can be resolved through a pre-application review with Planning staff, then a combined Development and Building Permit (DB) issuance process may be used.

It is noted that the *RS-5 (Also Applies to RS-3 and RS-3A) Design Guidelines* for conditional development were adopted by City Council on July 20, 1993. Houses existing at that time, including pre-1940s character houses, are considered to be existing outright development. The design guidelines would not apply to these houses, including panel installations, unless additions at conditional density are, or have been, provided.

Buildings listed on the *Vancouver Heritage Register (VHR)* or in a Heritage Conservation Area may not be appropriate for panel installations. In these cases, further consultation with Planning and Heritage staff will be required.

2.2 Building Code Review

If you are unsure about the structural integrity of your roof, or if it is in need of repair, it is recommended to engage a Professional Engineer to verify its condition and suitability for a panel installation. It may be necessary to upgrade the roof structure before mounting solar hot water or photovoltaic panels.

A Building Permit, including Letter of Assurance from a Professional Engineer, is always required for solar hot water panel installations. Staff at the Building and Development Services Centre can provide direction and confirmation as to whether a Building Permit will be required for PV panel installations, and if a Letter of Assurance, or a comfort letter, from a Professional Engineer is to be submitted. These requirements may be waived for PV panel installations to one and two family dwellings that meet specific criteria for low-risk installations. A Building Permit, including Letter of Assurance, or a comfort letter, from a Professional Engineer, will remain a requirement for projects that do not meet the criteria, as determined by staff.

An Electrical Permit is always required for PV panel installations.

3 Design Considerations

Many residential zones are subject to design guidelines that address a range of architectural and urban design issues. As outlined in Section 2 of this bulletin, design guidelines are applicable in the case of conditional development only. Most design guidelines were written before the wide spread use of roof-mounted solar energy technologies, however, they do contain criteria on roof form and materials that seek consistency with the traditional neighbourhood character and streetscape. Staff will seek to strike a reasonable balance between the design guidelines criteria and the technical requirements of panel installations.

In reviewing panel installations to conditional development, staff may recommend locating panels towards the rear of a site where there is little or no effect on the streetscape. However, street-facing locations will be considered where rear locations significantly compromise the effectiveness or performance of the panels due to the solar orientation of the existing building. Panels should be installed parallel to the roof pitch for sloped roofs to ensure the installation is well integrated with the existing roof form.

4 Contacts and Links

Development and Building Services Centre

Phone: 604-873-7611 Address: Ground floor, 515 West 10th Avenue, Vancouver.

[Solar Photovoltaic Panel Permit Category Criteria - To determine BP requirements for 1 and 2 family dwellings](#)

[Comfort Letter for Solar Retrofits on 1 and 2 Family Dwellings](#)

[Retro-fits for Solar Panels \(PV\) in Single and Multiple Family Dwellings and Commercial Buildings - DB and BU Application Submission Requirements](#)

[Retro-fits for Solar Hot Water Heating Systems in One and Two-Family Dwellings - DB Application Submission Requirements](#)