Laneway Homes

Electrical Clearance from the Existing BC Hydro High Voltage Overhead Conductors and Transformers and Electrical Load Calculations

The purpose of this information guide is to provide guidance to homeowners and contractors on the City of Burnaby's requirements for electrical clearances from existing BC Hydro High Voltage Overhead Conductors and Load Calculations for Laneway Home Building Permit Applications

"The Canadian Electrical Code, Part I (CE Code) contains minimum safe clearance requirements for the high voltage overhead conductors and dielectric liquid-filled transformers, this guide clarifies that it is necessary to identify and evaluate the clearances from existing BC Hydro high voltage overhead conductors and pole-mounted dielectric liquid-filled transformers for newly constructed buildings or buildings subjected to Construction1 only for work impacting area near conductor and transformer in the City of Burnaby

Background

As the power supply authority, BC Hydro traditionally provided overhead services to its Burnaby customers. As a result of the introduction of the laneway homes, there are many existing BC Hydro high voltage installations throughout the city that might conflict with clearance requirements of the current CE Code for laneway home development.

Rule 26-014 of the CE Code requires that dielectric liquid-filled equipment not be located within 6 m of any combustible surface or material on a building, any door or window, or any ventilation inlet or outlet. This Rule, however, allows this equipment to be located within 6m of any item listed above, provided that "a wall or barrier with non-combustible surfaces or material is constructed between the equipment and that item".

As BC Hydro pole-mounted dielectric liquid-filled transformers already exist on streets and alleys, every newly constructed building or building being altered must be evaluated for compliance with the required clearances. This evaluation must be carried out to ensure that a risk of explosion to the existing BC Hydro transformers will not adversely affect the adjacent buildings.

Also, Rule 36-110 of the CE Code mandates minimum clearances of high voltage conductors from the adjacent buildings and structures. Although Table 33 of the CE Code specifies the minimum 3m horizontal clearance from such conductors to the buildings, the intent of the CE Code requirement is not limited to purely horizontal measurements; rather it reflects a need to provide a safe means of guarding live parts and exposed conductors from a potential direct or indirect human contact.

Therefore, such safe clearance from the existing high voltage BC Hydro conductors must be evaluated for all newly constructed buildings and buildings subjected to Construction. In addition, if a service load exceeding 200 Amps to the property is required, an agreement with BC Hydro is needed prior to building permit application.

Building Permit Submission Requirements

1. To capture potential clearance concerns and to address them, a special checklist (see attached) must be completed and submitted by the applicant for a building permit.

2. Where the clearance of the dielectric liquid-filled transformers does not comply with the requirements of the CE Code (i.e.is less than 6m), the designer of record must demonstrate that a barrier with non-combustible surface or material is constructed between the existing BC Hydro transformers and doors, windows, ventilation openings or combustible surfaces of the building that are located within 6 m of the transformers. Where compliance with this condition is not practicable, a solution must be sought from BC Hydro.

3. Where the clearance from the existing BC Hydro high voltage conductors and the newly constructed building or building that is subjected to Construction does not meet the provisions of the CE Code, the Registered Professional of record must demonstrate that either the conductors are isolated by elevation or barriers or that the conductors are adequately relocated to meet the CE Code requirements. Where compliance with this condition is not practicable, a solution must be sought from BC Hydro.

4. A detailed load calculation and a one-line diagram for electrical distribution are required for the entire property.

5. If the calculated load is higher than 200 Amps for the entire property, then a written confirmation from BC Hydro is required prior to the submission of the building permit application. If the Hydro approval is not provided your application will be denied.

For further questions relating to City of Burnaby's requirements, please contact the Building Division by telephone at 604-294-7130.

City of Burnaby
Building Division, Planning and Development Department
4949 Canada Way, Burnaby BC V5G 1M2
Phone:604-294-7130 Fax: 604-294-7986

ELECTRICAL CHECKLIST
LANEWAY HOMES

Date: _____

Building Permit _____

CLEARANCE FROM EXISTING BC HYDRO OVERHEAD DIELECTRIC LIQUID-FILLED TRANSFORMERS AND HIGH VOLTAGE CONDUCTORS TO LANEWAY HOMES

This Checklist is required to be completed by a qualified person familiar with the construction; the electrical equipment and hazards involved.

NOTE: *To be completed by a Registered Professional - Electrical Engineer or a Licensed Electrical Contractor retained to undertake electrical design under the electrical permit.*

PROJECT ADDRESS:	

Yes	N/A	
☐	☐	The clearance from the existing BC Hydro high voltage conductors has been evaluated and safe clearance will be provided for the laneway home in accordance with the City of Burnaby Information Guide.

If any part of your development, construction or building is planned in proximity to the existing BC Hydro electrical works (e.g., it is intended to be within 3m of a property line that abuts a street or lane), please contact BC Hydro and request information regarding BC Hydro works adjacent to the property. It is important to ensure any potential impact or risks from your proposed development, construction or building will be assessed and addressed.

Due to the possibility of severe hazard of electrical shock or fire, unqualified persons must not attempt to measure the distances.

Yes	
☐	The detailed load calculation and a one-line diagram for electrical distribution for the entire property has been submitted.

COMPANY _____

PHONE _____ **E-MAIL** _____

Print Name: _____

CEL Certificate: _____
FSR Certificate Number (For Licensed Electrical Contractor)

Signature _____

Date _____

For Registered Professional Stamp