

Underground transformation options for space constrained urban developments

This document depicts the various underground transformation options available for space constrained urban developments. **It's very difficult to obtain municipal approval for installations on public property.** Please contact your local municipality if transformation on private property is not feasible.

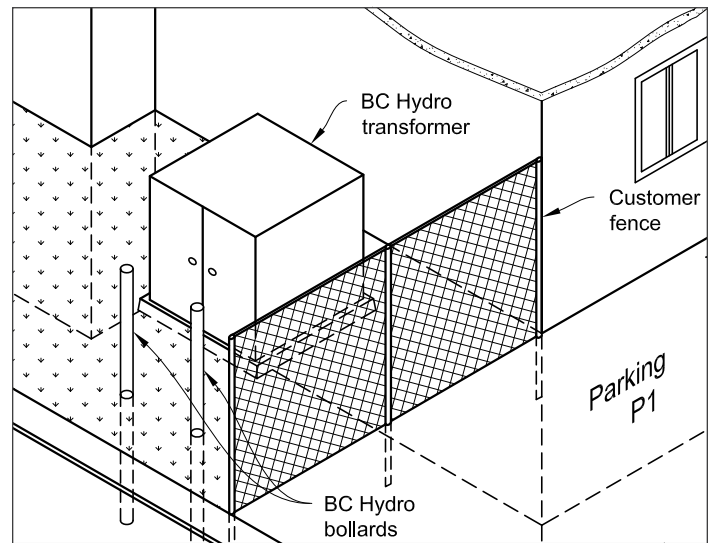
BC Hydro recommends the developer engage with an electrical consultant early in the building design process to ensure adequate space to meet the electric service requirements.

This document is to be used as a reference for discussion purposes within the design process; the **BC Hydro Standard's and/or Primary Guide** must be referred to for specific design criteria.

OPTIONS:

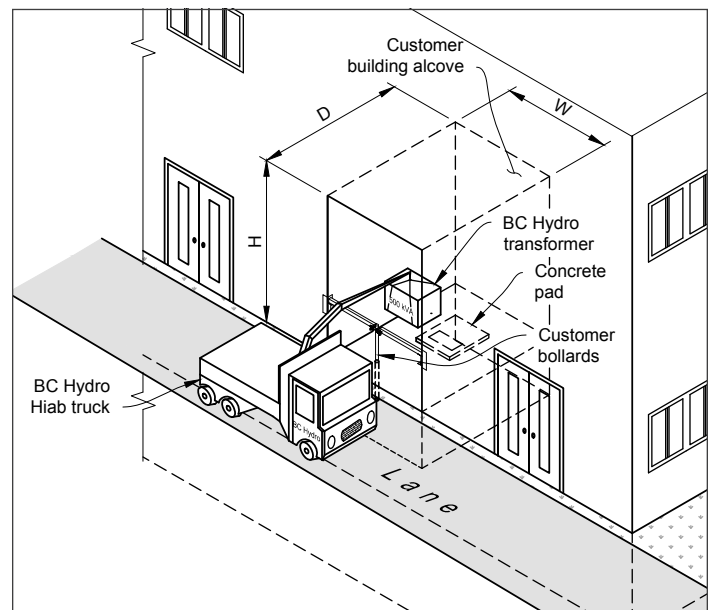
1 Pad-mounted transformer (PMT) on private property next to customer building

- Ideal for buildings which are **not** built to the property lines
- Refer to **ES54 F3-07**
- PMT must be $\geq 1\text{m}$ from the building
- Minimum 3m unobstructed area in front of PMT
- Any conductive structure within 3m of PMT pad must be bonded to customer ground loop
- Refer to ES54 U2-02 for mechanical protection requirements
- Refer to access requirements below



2 PMT inside building alcove

- Option for buildings which are built to the property lines
- PMT can be placed on top of soil or building slab
- Refer to **ES54 F3-06** for building on top of soil or **ES54 F3-08** for building on top of building slab (including parkades)
- PMT size dictates the required alcove dimensions
- Refer to access requirements below



3 Primary service

- a. Economically feasible for medium and larger sized developments
- b. Avoids any BC Hydro transformation on the building frontage
- c. Customer is responsible for the transformation
- d. For indoor primary services, BC Hydro requires access to the customer vault via an exterior door at grade or vehicular access in a parkade, no lower than parkade level 1.
- e. Refer to the BC Hydro **Primary Guide: Requirements for Customer-Owned Primary Services Supplied at 4kV to 35 kV** for details

ACCESS REQUIREMENTS:

A PMT located on private property must be located on a BC Hydro right-of-way where it can be accessed from a road or drivable surface suitable for a boom truck. The path to the transformer must remain unobstructed for the life of the installation. A 3.0m area immediately in front of the transformer is required for safe operation. The typical maximum distance from a drivable surface to the centre point of a PMT is 3.0m. The maximum distance may vary depending upon locally available equipment.

All drivable surfaces must meet the access lane live load requirements on page 4 of ES54 U1-02. Drawings showing that the drivable surface meets such requirements must be submitted to BC Hydro Design for review and acceptance.

The customer must consult the local municipality to determine ownership, maintenance and repair responsibilities for drivable surfaces located on public property. BC Hydro does not take responsibility for any damage that may occur to the drivable surface during installation or replacement of the PMT.

