

Newell Substation Upgrade

Open House

February 27, 2024

Agenda

- Power Lingo
- Newell Substation Overview
- Project Alternatives Considered
- Project Overview
- Feeder Building Site Options and Renderings
- Schedule

Power Lingo

Substation

- Transfers power from the high-voltage “transmission system” to the local “distribution system” which powers your homes and businesses.

Transformer

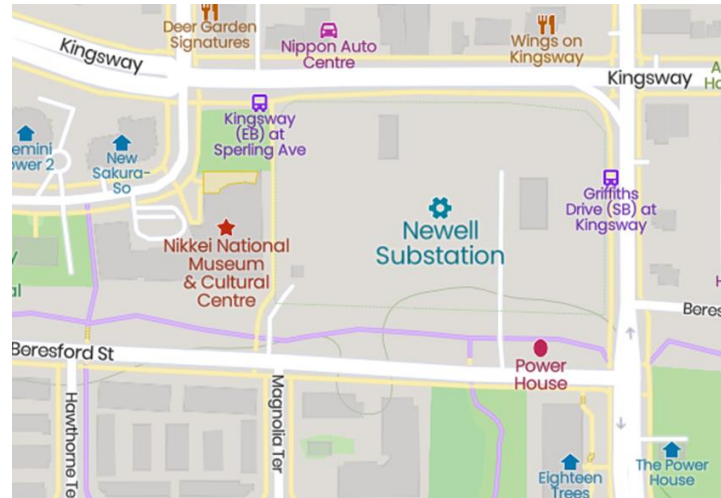
- Lowers voltages so that power can be distributed safely to your homes and businesses through lower-voltage “distribution” power lines.

Feeders

- Connect the substation to the lower-voltage “distribution” power lines that provide electricity to the community.

Newell Substation Overview

- Supplies over 59,000 homes and business as well as other substations
- Located at the southwest corner of Kingsway and Griffiths Drive in Burnaby
- Built in stages from 1946 to 1955; operating reliably for almost 70 years
- Key part of electrification initiative moving forward
- Project objectives:
 - improve worker safety
 - replace aging equipment
 - address increasing demand for electricity



Alternatives Considered

Do Nothing

- Not acceptable as project objectives are not addressed

Upgrade Outdoor Feeder Equipment

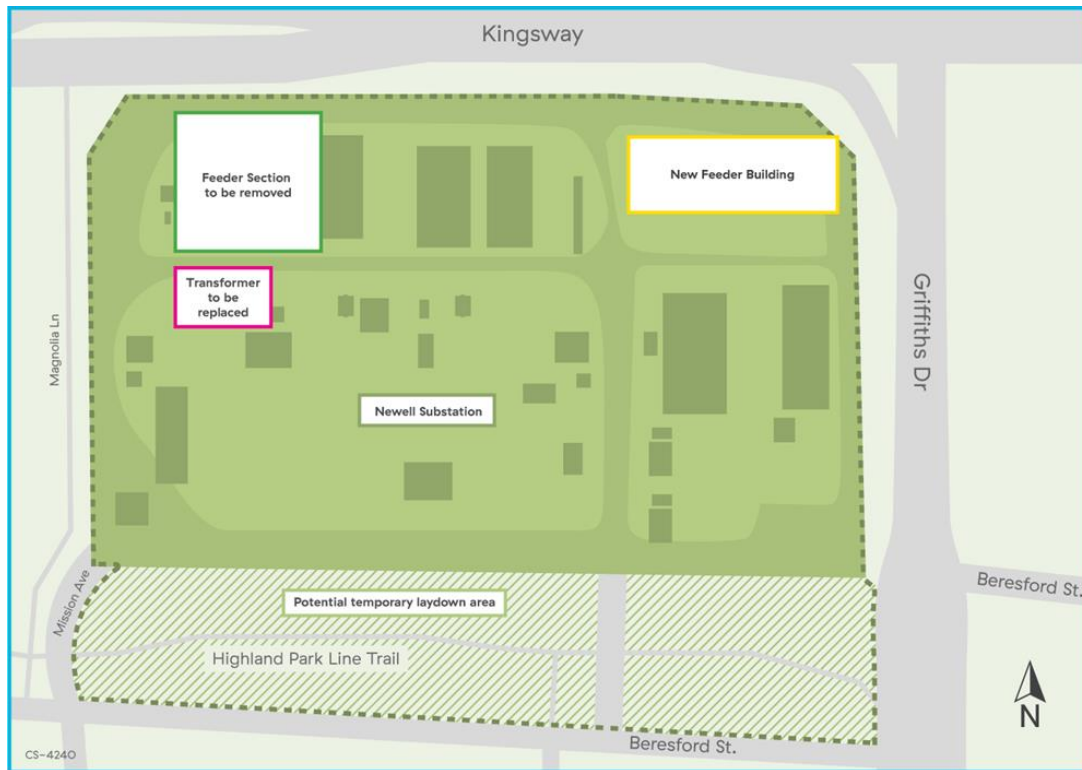
- Partially addresses reliability risks
- Seismic and safety requirements not met
- Cannot install the number of feeders needed

Replace outdoor feeder equipment with a new feeder building

- Addresses reliability and safety risks as well as increasing demand for electricity

In all alternatives, Transformer 1 had to be replaced

Project Scope



Feeder Building Site Options

- The northeast and southeast corners of the substation were considered for the new feeder building
- The northeast corner was selected after considering:

• Safety	• Constructability
• Ability to connect to existing equipment	• Environment
• Cost	• Community impacts

- The northeast location:
 - keeps the building within the existing fence line
 - doesn't have permanent impacts to the greenspace south of the fence line
 - is further from residences
 - is more cost effective

Project Overview

Site Preparation	• Construction activities (laydown/parking) south of the existing fence
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Transformer replacement	• New foundation • Remove existing transformer • Install new transformer • Upgrades in existing control room
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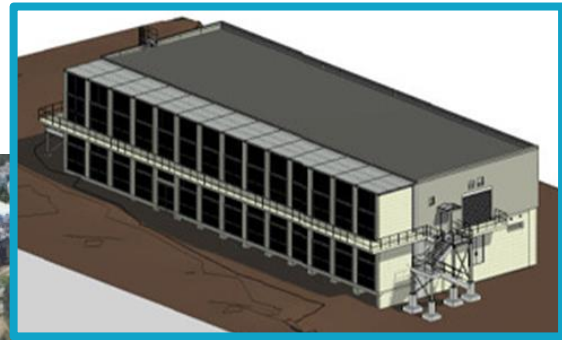
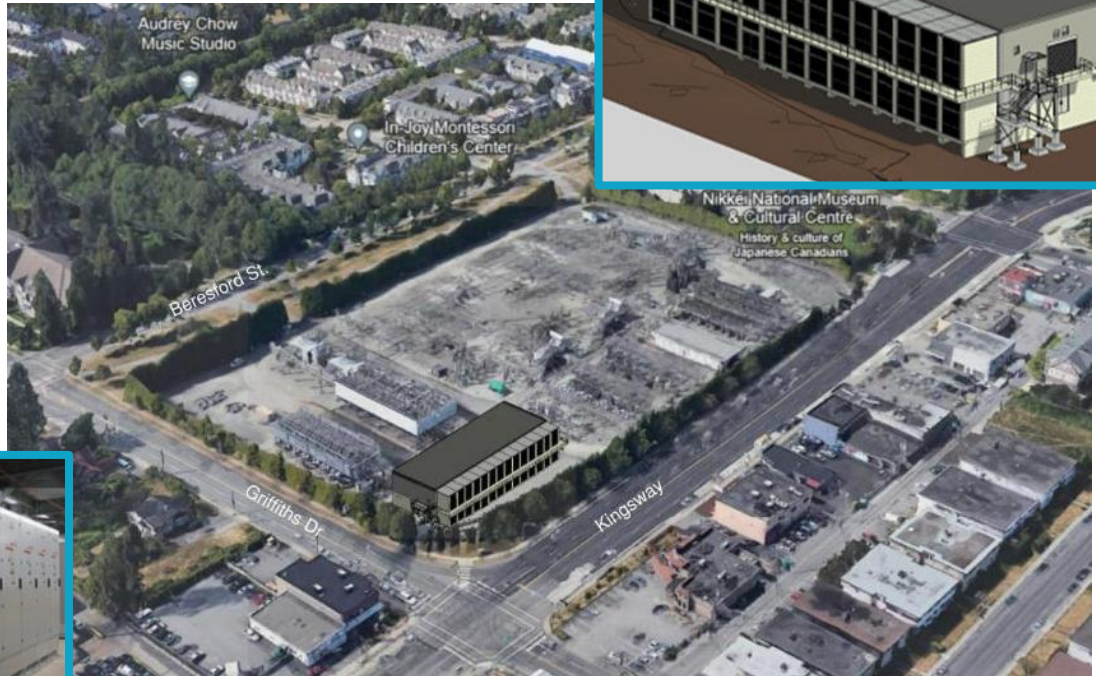
New building and equipment	• Construct a 2-storey, indoor feeder building • Install indoor equipment • Install new underground infrastructure connecting new building to existing system (includes work under Griffiths Drive) • Connect to City water, sanitary, and storm systems
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Project Overview

Demolition	• Remove feeder section and associated equipment • Demolish existing concrete footings • Remove old transformer and associated equipment
Landscaping	• Plant trees • Other landscaping as needed

- Most work will be within the substation fence.
- Some land outside the fence on the south side of the substation may be used for temporary construction activities (e.g., laydown, parking).

New Building - Design



New Building - Design



Schedule

Key Dates	Activity
2024 to 2025	• Confirm required regulatory approvals • Complete studies and design work
2025	• Start construction
2029	• Target in-service date for new building

This schedule will be refined, and additional detail provided, as planning advances.

Thank you!

- We'll continue to keep you informed as the project advances
- Please contact us toll free at 1 866 647 3334 or at projects@bchydro.com if you have any additional questions or comments