CITY OF NEW WESTMINSTER:

Spring 2025 Virtual Builder & Designer Breakfast

Prepared by:
Sue Chung and Ryan Coleman, Energy Save New West
Laura Sampliner, Karin Johnson, and Sarah Maleska, City of New Westminster

Prepared for:
Builder & Designer Breakfast

June 18th, 2025

Land Acknowledgement

We recognise and respect that New Westminster is on the unceded and unsurrendered land of the Halkomelem speaking peoples. We acknowledge that colonialism has made invisible their histories and connections to the land. As a City, we are learning and building relationships with the people whose lands we are on.

Housekeeping

This webinar is being recorded.

Please identify yourself by name, and profession.
e.g. Sue/Project Manager

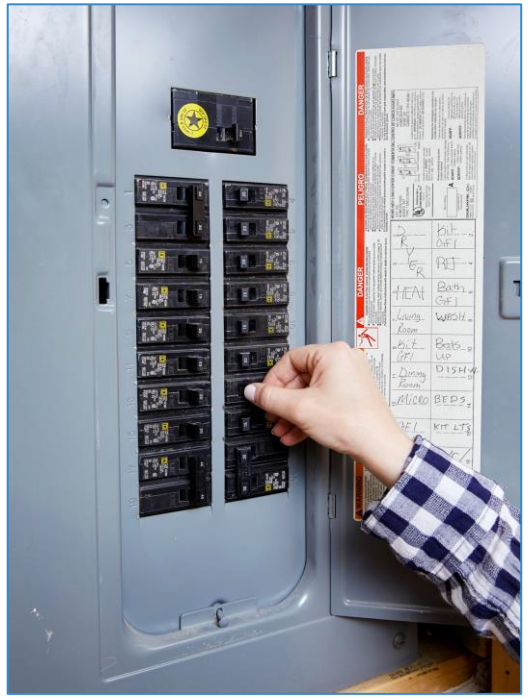
Please remain muted unless you need to speak.

Q & A time will follow presentation.

During the presentation, use the chat box to ask questions.

Agenda

1. Welcome
2. Keynote Presentation on:
   "Electrical Load Strategies for New Construction and Retrofits"
   - Special Guest – Ben Giudici, Riverside Energy System
3. **Electric Utility:** Presentation by Marc Rutishauser
4. City Updates
5. Energy Save New West Updates
6. Close



Keynote Presentation

Today's Keynote Speaker

Mr. Ben Giudici, P. Eng

Director, Riverside Energy Systems

Ben spent 12 years with BC Hydro in power systems design and operation as a protection and control specialist, and 21 years as a Thompson Rivers University faculty member in electronics and engineering, before joining Riverside Energy Systems as a director in 2009.

He is keenly interest in solar PV and storage, electrical design for zero energy buildings, and has been heavily involved in systems design, installation, and training for building professionals in these areas for over 16 years.

He holds degrees in electrical engineering, is registered as a Professional Engineer in BC and is a part-time faculty member in the BCIT Zero Energy Building program.

Electric Utility: Interactive Discussion

New Westminster Electrical Utility

Extension Policy and Standard Charges

New Westminster

Introduction

Marc Rutishauser, P.Eng – Deputy Director of Electrical Services

Electrical Department Divisions

Electrical Design and Planning – In-house Engineering and Project Management

Electrical Operations – Electrical Utility Construction, Maintenance and Operations

Electrical Services – Maintenance of City-Owned Assets, Utility Metering

CNW Electrical Extension Policy

Extension costs (Any addition or upgrade to the City's electrical distribution system required for a new service) are to be fully paid by the applicant. From the Terms and Conditions:

12. Extension

If an application for service requires an extension, the City may, at its sole discretion, either refuse to provide the extension or provide the extension subject to the following conditions:

a) the applicant shall be responsible for 100% of the costs incurred by the City in providing the extension; and

(b) the applicant shall pay the City its estimated costs of providing the extension, as determined by the City, prior to the City commencing work on the extension.

Amendment No.7151, 2007: all new developments be served underground.

BYLAW NO. 7151, 2007

10. (1) All Multi-family, Commercial and Mixed use, and newly constructed Single Family and Duplex building shall be designed to provide for underground services including electrical, telephone and cable-television".

CNW Electrical Extension Types

Single Family Dwellings – Standard Charges

- $9371 Extension Cost for service up to 400Amps.
- Secondary voltage service - 120/240V, Single-phase.
- LPT (Low-Profile Transformer) may be needed, installed on City property.

Subdivisions, Townhomes, Small Commercial – At Cost

- Extension cost as estimated by the City.
- Secondary voltage service – 120/240V Single-Phase or 120/208V Three-Phase.
- PMT (Pad-Mounted Transformer) or LPT owned by the City on developed property.

Multi-Unit Residential, Commercial, Industrial – At Cost

- Extension costs as estimated by the City.
- Primary voltage service – 12.47kV/25kV rated
- Transformer (Unit-Substation) to be provided and owned by development

CNW Extension Policy Compared to B.C. Hydro

Key Similarities

- Extension Costs as estimated by the Utility
- LPTs and PMTs often required as part of the development
- Process is comparable – CNW will begin work on extension design and costs once electrical details are submitted.
- CNW follows B.C. Hydro standards and design guidelines.

Key Differences

- CNW does **NOT** provide a contribution to help offset extension costs
- Mandatory underground extensions even for single family dwellings
- CNW applies standard charges for single family services up to 400A
- B.C. Hydro provides larger secondary services – Utility owned transformers up to 1500 kVA, CNW does not provide transformers larger than 500 kVA

Typical Single Family Home Extension

Development Details

- Three units – Main Suite , Basement Suite, Laneway House.
- 3 electrical meters in multi-positioned meter base rated up to 400 Amps.
- Calculated electrical code demand between 200 and 360 Amps.

Utility Extension Facts

- Underground service extension with new underground service box connected to a dip on a pole or an LPT.
- Underground Telus or Shaw extension also required, and will be built in a joint-trench with electrical.
- Standard charge of $9371 from CNW, developer to pay Telus or Shaw separately for the work.
- Service cable from meter base to City service box is owned by developer (not B.C. Hydro practice)

Typical Duplex Extension

Development Details

- Four units – 2 Main Suite , 2 Basement Suite.
- 4 meters in multi-positioned meter base, or 2 x 2 meters in multi-positioned meter base.
- Calculated electrical code demand between 200 and 360 Amps.

Utility Extension Facts

- Underground service extension with new underground service box connected to a dip on a pole or an LPT.
- Underground Telus or Shaw extension also required, and will be built in a joint-trench with electrical.
- Extension cost as estimated by the City.
- Two separate services if the duplex is divided into 2 properties.

Typical Townhome Extension

Development Details

- 10 units.
- 10 separate electrical meters, 1 additional common meter.
- Calculated electrical code demand between 400 and 800 Amps.

Utility Extension Facts

- Underground service extension to an LPT or PMT and conduits installed for future undergrounding of adjacent power lines.
- Underground Telus or Shaw extension also required, and may be built in a joint-trench with electrical (developer to choose).
- Extension cost as estimated by the City.
- LPT or PMT on private property.

CNW Other Standard Charges

Overhead Service Upgrade – Residential Only

- $933 for an upgrade up to 200 Amps
- An existing residential overhead service can be upgraded to 200 Amps, commercial overhead service upgrades will need to be underground.

Disconnection and Reconnection of Service for Maintenance

- $608 between 8:00 A.M. and 4:00 P.M. Monday to Friday
- $870 between 4:00 P.M. and 12:00 P.M. Monday to Friday
- At cost any other time

Temporary Service Connections

- $960 for an overhead connection
- $1039 for an underground connection
- At cost if any modifications are needed to the distribution system

Net Metering

- Net Metering Program approved by council in June 2016
- Allows net metering systems below 50kW to be connected to the City's Distribution Grid.
- Requires an interconnection agreement with the City certifying that the installation meets CSA C22.2 No.107.1-01.
- Energy generated is credited back to the customer's account at their normal rate.
- If more energy generated than consumed at year's end, credit will be paid back to the customer.

More information and guidelines can be found here:

https://www.newwestcity.ca/services/electrical-utility#electrical-net-metering-program

Contact

Website: https://www.newwestcity.ca/services/electrical-utility

Email: electricaldesign@newwestcity.ca

Phone: 604 527-4528

Questions?

Energy Save New West Updates

Recent Case Study

819 Milton Street

Project Summary

- **Building Type:** 4-unit Multi-plex (non-MURB)
- **Energy Step Code:** Level 3
- **EnerGuide Rating:** 109 GJs
- **Energy Performance:** Overall 40% Better than Typical New House (181GJ)
- **Rated GHG Emissions:** 1.9 tonnes/year
- **Air Tightness:** 1.78 ACH @ 50 Pa

Key Features

- **Effective R-Values:** RSI 4.93 (main walls) & RSI 4.93 (roof/ceilings)
- **Windows:** USI 1.2, SHGC 0.3
- **Heating & Cooling:** Ground source heat pump (COP 3.22)
- **DHW Heating:** Instantaneous natural gas condensing water system (UEF 0.95)

Embodied Carbon Analysis Pilot: Call to Action

About the Pilot

This pilot is designed to help builders measure and understand embodied carbon in their new home construction projects. Selected participants will receive:

- Free access to calculation services and guidance on embodied carbon
- A summary report outlining the project's embodied carbon and potential reduction strategies

Why participate?

- Stay ahead of your competitors and learn more about embodied carbon in new construction
- Enhance your reputation as a sustainability-minded builder
- Contribute to the growing knowledge base that will inform future building programs and incentives

Embodied Carbon: Material Emissions

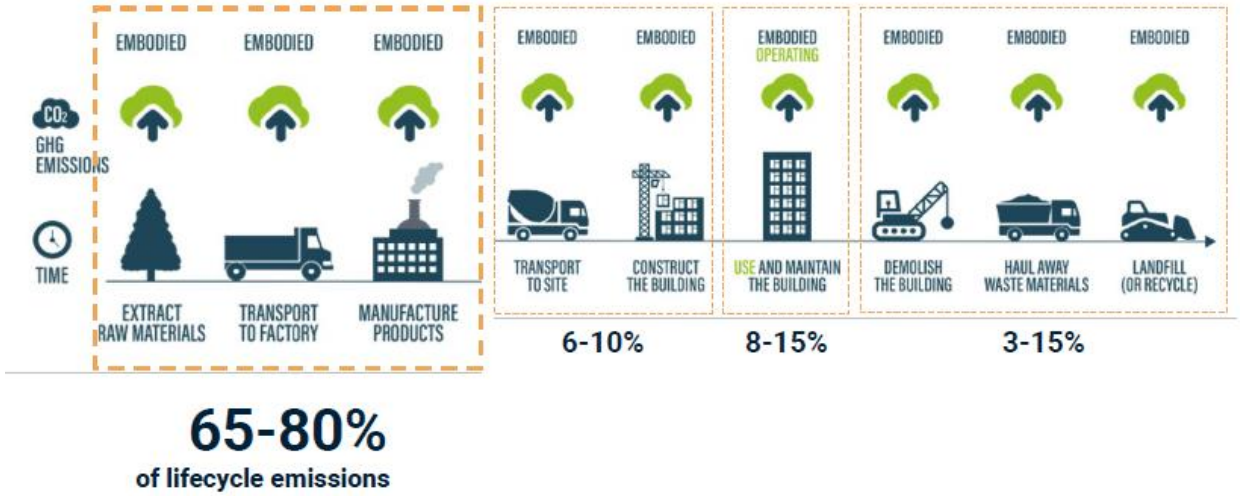


Image Credit: Builder for Climate Action (2022 Fall ESNW Builder & Designer Breakfast Keynote)

Questions/comments/thoughts?

THANK YOU

Sue Chung, Ryan Coleman
Program Coordinator
Energy Save New West
rcoleman@newwestcity.ca
604-515-3818

Laura Sampliner, Karin Johnson, & Sarah Maleska
Climate Action Division
City of New Westminster
climateaction@newwestcity.ca