



**To:** General Purposes Committee

**Date:** March 10, 2022

**From:** Peter Russell, MCIP RPP  
Director, Sustainability and District Energy

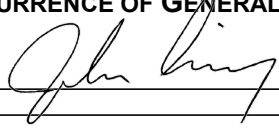

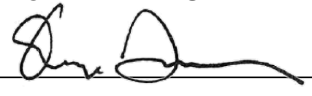
**File:** 10-6600-10-04/2019-Vol 01

**Re: City Centre District Energy Utility Bylaw No. 9895, Amendment Bylaw No. 10112**

**Staff Recommendation**

That the City Centre District Energy Utility Bylaw No. 9895, Amendment Bylaw No. 10112, presented in the “City Centre District Energy Utility Bylaw No. 9895, Amendment Bylaw No. 10112” report dated March 10, 2022, from the Director, Sustainability and District Energy, be introduced and given first, second, and third readings.

Peter Russell, MCIP RPP  
Director, Sustainability and District Energy  
(604-276-4130)

REPORT CONCURRENCE		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Development Applications	<input checked="" type="checkbox"/>	
Law	<input checked="" type="checkbox"/>	
<b>REVIEWED BY SMT</b>	<b>INITIALS:</b>	<b>APPROVED BY CAO</b>
		

## Staff Report

### Origin

The purpose of this report is to recommend expansion of the City Centre District Energy Utility (CCDEU) service area to include a mixed residential, retail, and office development located at 5740, 5760, and 5800 Minoru Boulevard, associated with rezoning application RZ 18-807640.

This report supports Council's Strategic Plan 2018-2022 Strategy #2 A Sustainable and Environmentally Conscious City:

*Environmentally conscious decision-making that demonstrates leadership in implementing innovative, sustainable practices and supports the City's unique biodiversity and island ecology.*

*2.1 Continued leadership in addressing climate change and promoting circular economic principles.*

*2.2 Policies and practices support Richmond's sustainability goals.*

In February 2018, as directed by LIEC Board and as endorsed by Council, LIEC executed a Memorandum of Understanding (MOU) with Corix Utilities Inc. (Corix) to conduct feasibility analysis to design, build, finance, and operate a district energy utility in Richmond's City Centre area.

While this CCDEU feasibility analysis has been progressing, staff identified the opportunity to secure a customer base for the immediate implementation of GHG emissions reduction through the rezoning and/or OCP amendment application process. To date, 11 development applicants have committed to construct and transfer low carbon energy plants to the City or LIEC at no cost to the City or LIEC through either of these processes, so that LIEC can provide immediate service to these customers. Council adopted the CCDEU Bylaw No. 9895 in September 2018 to secure the commitment from developments. See Attachment 1 for a brief summary of the currently committed spaces under the CCDEU Bylaw along with an overview of the other DEU service areas.

### Analysis

A staff report for the rezoning and OCP amendment application for 5740, 5760, and 5800 Minoru Boulevard (RZ 18-807640) was brought forward to Public Hearing on September 20, 2020 where the corresponding Official Community Plan Bylaw 7100, amendment Bylaws 10136 and 10137 and Richmond Zoning Bylaw 8500, Amendment Bylaw 10138 were given second and third reading.

The four-tower, residential, retail, and office development is estimated to include a total floor area of approximately 523,297ft<sup>2</sup> consisting of approximately 332,740 ft<sup>2</sup> residential space, 23,282 ft<sup>2</sup> retail space, 159,587 ft<sup>2</sup> office space, and 7,688 ft<sup>2</sup> indoor community amenity space.

Expanding the CCDEU service area to include a development of this type results in the following direct benefits:

- Immediate reduction of greenhouse gas (GHG) emissions compared to business as usual;
- Expansion of LIEC’s customer base under a positive stand-alone business case while the City Centre strategy develops;
- Providing financial and environmental stability to customers; and
- Increasing the community’s energy resiliency.

The rezoning considerations for this development include a requirement for a legal agreement that, if the City elects, would require the developer to transfer ownership of the development’s centralized low carbon energy plant to the City or LIEC at no cost to the City or LIEC.

LIEC staff conducted a business case analysis for owning and operating this development’s energy plant which yielded positive results. Staff used the rate structure applicable for developments under the CCDEU Bylaw service area, which is competitive with the conventional energy costs providing the same level of service.

The LIEC Board of Directors recommends expanding the CCDEU Bylaw service area to include the mixed-use development located at 5740, 5760, and 5800 Minoru Boulevard.

### **Financial Impact**

The centralized energy system will be designed and constructed by developers at their cost. Costs incurred by LIEC for engineering support and operations and maintenance will be funded from LIEC capital and operating budgets. All LIEC costs will be recovered from customers’ fees.

### **Conclusion**

Expanding services in the City Centre area to include the mixed residential, retail, and office development proposed at 5740, 5760, and 5800 Minoru Boulevard (RZ 18-807640) will allow for immediate expansion of LIEC’s customer base and enhanced opportunities for connectivity to future low-carbon district energy systems in Richmond’s City Centre. In addition, the inclusion of the subject development in the City Centre district energy system will increase the community’s energy resiliency by taking advantage of the system’s ability to utilize different fuel sources and the future fuel switching capability of the technology.



Peter Russell, MCIP RPP  
Director, Sustainability and District Energy  
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PR:cd

Att. 1: District Energy in Richmond  
Att. 2: Map of Current and Future District Energy Utility Areas in Richmond

## District Energy in Richmond

Richmond’s 2041 Official Community Plan (OCP) establishes a target to reduce greenhouse gas (GHG) emissions 33 per cent below 2007 levels by 2020 and 80 per cent by 2050. The OCP also aims to reduce energy use 10 per cent below 2007 levels by 2020. The City identified district energy utilities (DEUs) as a leading strategy to achieve the City’s GHG reduction goals.

The City incorporated Lulu Island Energy Company Ltd. (LIEC) in 2013 for the purposes of carrying out the City’s district energy initiatives. LIEC owns and operates the Alexandra District Energy (ADEU) and Oval Village District Energy (OVDEU) Utilities and advances new district energy opportunities. Table 1 below provides a summary of the developments connected under the DEU service areas to-date.

Table 1 – District Energy Utility Service Areas

	Buildings To-Date	Residential Units To-Date	Floor Area	
			To-Date	Build-out
Alexandra District Energy Utility	13	2,200	2.3M ft <sup>2</sup>	4.4M ft <sup>2</sup>
Oval Village District Energy Utility	11	2,541	2.9M ft <sup>2</sup>	6.4M ft <sup>2</sup>
City Centre District Energy Utility	11 <sup>(1)</sup>	3,388 <sup>(1)</sup>	5.0Mft <sup>2</sup> <sup>(1)</sup>	48M ft <sup>2</sup>
DEU-Ready Developments <sup>(2)</sup>	17	4,524	5.3M ft <sup>2</sup>	N/A
<b>Total Connected Floor Area</b>			<b>5.8M ft<sup>2</sup> <sup>(3)</sup></b>	<b>58.8M ft<sup>2</sup></b>

(1) Commitments secured from upcoming developments in the City Centre; first connection occurred in January 2022.

(2) DEU-Ready developments are designed to connect to the City Centre district energy system at a future point.

(3) The “To-Date Connected Floor Area” figure corresponds to constructed developments currently served by a DEU.

### Alexandra District Energy Utility (ADEU)

ADEU provides heating and cooling services to ten residential buildings in the ADEU service area, the large commercial development at “Central at Garden City”, the Richmond Jamatkhana temple and Fire Hall No. 3, comprising over 2,200 residential units and over 2.3 million square feet of floor area. While some electricity is consumed for pumping and equipment operations, most of this energy is currently produced locally from the geo-exchange fields in the greenway corridor and West Cambie Park, and highly efficient air source heat pumps.

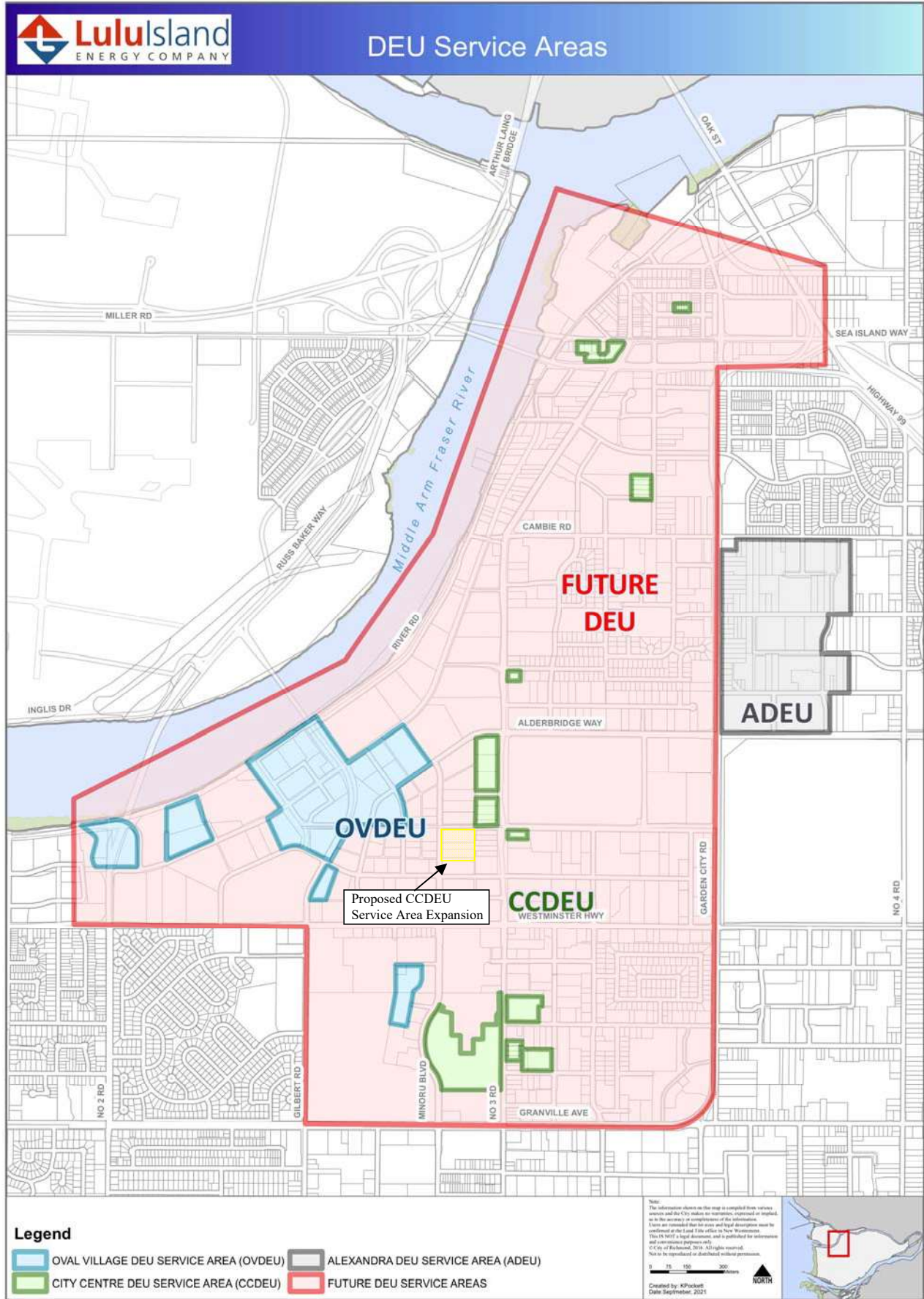
### Oval Village District Energy Utility (OVDEU)

OVDEU services 11 buildings in the OVDEU service area, containing 2,541 residential units. Energy is currently supplied from the two interim energy centres with natural gas boilers which combined provide 11 MW of heating capacity. LIEC recently received a \$6.2 million grant from the CleanBC Communities Fund for the design and construction of the sewer heat recovery technology and a permanent energy centre for OVDEU. The project has been initiated; once completed (estimated 2025), the system will be able to produce up to 80% of low-carbon energy from the Gilbert Trunk sanitary force main sewer.

### City Centre District Energy Utility (CCDEU)

To date 11 developments, comprising of approximately 5.0 million square feet of residential, commercial, and hotel uses, have committed to construct and transfer low carbon energy plants to the City or LIEC at no cost. LIEC will operate and maintain these energy plants and provide heating and cooling services to these developments. The first development in this service area connected in January 2022, comprising approximately 630,000 ft<sup>2</sup> and over 550 residential units.

Map of Current and Future District Energy Utility Areas in Richmond



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**City Centre District Energy Utility Bylaw No. 9895  
Amendment Bylaw No. 10112**

The Council of the City of Richmond enacts as follows:

1. The **City Centre District Energy Utility Bylaw No. 9895** is further amended:
  - (a) by deleting Schedule A (Boundaries of Service Area) in its entirety and replacing it with a new Schedule A attached as Schedule A to this Amendment Bylaw; and
  - (b) by deleting Schedule E (Energy Generation Plant Designated Properties) in its entirety and replacing it with a new Schedule E attached as Schedule B to this Amendment Bylaw.
2. This Bylaw is cited as “**City Centre District Energy Utility Bylaw No. 9895, Amendment Bylaw No. 10112**”.

FIRST READING

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SECOND READING

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THIRD READING

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ADOPTED

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CITY OF RICHMOND
APPROVED for content by originating dept. <i>PR</i>
APPROVED for legality by Solicitor <i>BRB</i>

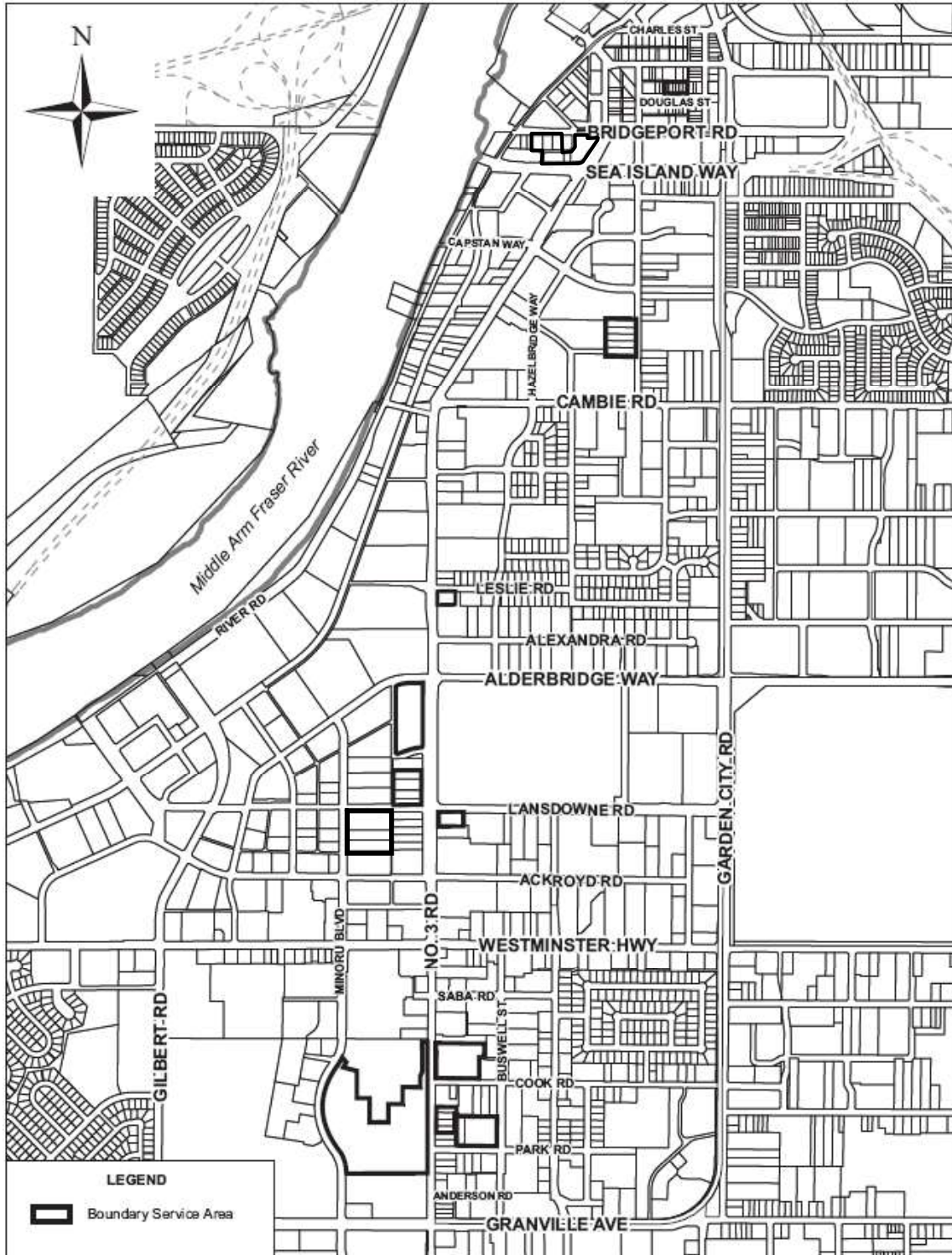
\_\_\_\_\_  
MAYOR

\_\_\_\_\_  
CORPORATE OFFICER

**Schedule A to Amendment Bylaw No. 10112**

**SCHEDULE A to BYLAW NO. 9895**

**Boundaries of Service Area**



**Schedule B to Amendment Bylaw No. 10112**

***SCHEDULE E to BYLAW NO. 9895***

***Energy Generation Plant Designated Properties***

