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**TO:** Committee of the Whole                      **MEETING:** July 9, 2019

**FROM:** Sharon Horsburgh  
Sustainability Coordinator                      **FILE:** 1280-01

**SUBJECT:** CleanBC Communities Fund Grant Application for Electric Vehicle Charging Stations

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### **RECOMMENDATIONS**

1. That the Board approve the ten electric vehicle charging station locations identified in this report for the CleanBC Communities Fund grant application.
2. That the Board allocate \$222,222 in the 2020 budget from the Corporate Climate Action Reserve Fund for the installation of ten public electric vehicle charging stations, subject to receipt of a \$162,222 CleanBC Communities Fund grant to reimburse the Corporate Climate Action Reserve Fund.
3. That the Board direct staff to prepare a bylaw to create a new service area for the ongoing operations, maintenance and procurement of electric vehicle charging stations.
4. That the proposed 2020 budget contain \$25,000 for annual operating, maintenance and replacement costs for the electric vehicle charging station service.

### **SUMMARY**

On February 26, 2019, the Community Energy Association (CEA) made a presentation to the Board requesting the Regional District of Nanaimo (RDN) be the lead applicant on a CleanBC Communities Fund grant application to install EV charging stations across the mid-Island. The CEA is a non-profit society whose mission is to build capacity and to accelerate action on climate and energy collaboratively with local governments. In response to the CEA's delegation, the Board passed the following motions:

1. *That the Regional District of Nanaimo act as the lead applicant for a CleanBC Communities Fund application on behalf of multiple mid-island municipalities and regional districts. Community Energy Association will coordinate the other local governments and the application submission.*
2. *That ten Level 2 charging stations, to a maximum cost of \$60,000, be located at Regional District facilities and that use of the charging stations be free to the public at this time. Community Energy Association will assist with location selection.*

3. *That the Regional District of Nanaimo submit a letter of support for Community Energy Association's application to the Emotive Community Outreach Incentive Program on behalf of mid-island communities.*

The third part of this motion refers to a separate grant application made by the CEA, and is not the subject of this report.

The specific locations of the ten stations will be required by CleanBC after Phase 1 approval of the grant application, expected in the fall 2019. An assessment prioritized the ten locations and is shown in Table 2.

As this is a proposed new service, a service area must be established under Section 338 of the *Local Government Act* to tax for annual operating, maintenance and replacement costs of the EV stations. The annual cost estimate is shown in Table 3.

## BACKGROUND

The Regional Growth Strategy and the Board Strategic Plan 2019-2022 set goals to prepare for climate change and to reduce energy consumption. Expanding the network of public charging stations supports the transition to EV adoption, making it easier for individuals to switch from a carbon emitting vehicle powered by an internal combustion engine to a zero emission EV powered by British Columbia's 98% clean electricity.

Municipal partners provided input to the CEA to develop the grant application. The project area encompasses the mid-island communities including the RDN, north to Campbell River and west to Tofino and Ucluelet. The RDN is the named lead local government, while the CEA will manage the project on behalf of all twelve local governments. If the RDN receives the grant, the project will result in the installation of 28 new Level 2 (L2) EV charging stations across the mid-island. This will increase the current public EV charging station capacity from 70 to 98 EV charging stations. Details of the network within the RDN are shown in Attachment 1 – Map of RDN Existing and Proposed EV Charging Stations.

The total project cost for all 28 EV charging stations in the Mid-Island EV Charging Network project is \$687,500. As shown in Table 1 below, the total project cost for 10 EV charging stations in the RDN is \$222,222. CleanBC funds 73% of successful applications (\$162,222 for the RDN), and 27% is the responsibility of the local government (\$60,000 from the RDN). In addition, the City of Nanaimo allocated funding for four EV charging stations at City facilities through a separate CleanBC application.

**Table 1 – RDN Electric Vehicle Project Financial Commitments**

Local Government	No. Stations	Total Project Cost	CleanBC Contribution (73%)	RDN Contribution (27%)
RDN	10	\$222,222	\$162,222	\$60,000

If approved, the installation of the ten EV stations will begin in 2020. Usage data will be collected for one year to evaluate the suitability of each location, user pay options and long-term maintenance. A future report will be provided to the Board on the outcome of this project.

### ***Electric Vehicle Charging Station Location Assessment***

A map of the EV charging station locations in the RDN is shown in Attachment 1 – Map of RDN Existing and Proposed EV Charging Stations. Civic land ownership was required for this grant stream. A total of sixteen locations were considered based on a 2012 inventory of future EV charging station locations and input from municipal staff. While geographical distribution is a key consideration, additional factors including site access and technical feasibility were also considered for locations, resulting in the following selection criteria:

- Civic land ownership - only civic lands,
- Equity - distribution among members jurisdiction,
- Accessibility - ease of access and proximity to other services, and
- Technical considerations, such as utility connection and associated costs.

The locations were ranked from 1 to 3 with 1 containing all or a majority of the selection criteria. Ten priority locations are recommended within the Growth Containment Boundary with the exception of Area B Gabriola Island (Table 2) Details of all assessed locations are provided (Attachment 2 - Detailed EV Charging Station Location Assessment).

**Table 2 – Recommended EV Charging Station Locations**

# EV	Electoral Area	Location
1	B	Descanso Bay Regional Park
2	E	Nanoose Place Community Centre
3	F	Errington Community Park
4	G	French Creek Marina, RDN pump station
5	H	Lighthouse Community Hall / Lighthouse Country Regional Trail
	Municipality	Location
6	District of Lantzville	Huddleston Park
7	City of Nanaimo	Service and Resource Centre
8	City of Parksville	Parksville City Hall
9	City of Parksville	Oceanside Place Arena
10	Town of Qualicum Beach	Qualicum Beach Museum

The assessment noted several gaps in the public network (shown on Attachment 1 – Map of RDN Existing and Proposed EV Charging Stations) could not be addressed through this grant application. In particular, an EV charging station in the Cedar Village Centre would be a highly suitable location near amenities and fill a service gap; however, no RDN-owned facilities are located in the immediate area. To further address geographical gaps in the network, a future consideration may be to expand the existing RDN EV Charging Station Rebate Program to civic locations that are leased to community groups.

The leadership of the private sector (e.g. Petro Canada) in expanding their investment in EV charging stations will be reported back to the Board in future reports.<sup>1</sup>

## **SERVICE AREA CONSIDERATIONS**

A Memorandum of Understanding (MOU) between the RDN and the CEA establishes roles and responsibilities for this project. The CEA is responsible for project management, including developing a Request for Proposal and negotiating a contract with vendors to procure and install ten EV charging stations for the RDN. The CEA will also be responsible for providing periodic reports to CleanBC and the partners, as well as monitoring and evaluating the project through to completion. In exchange, the CEA will receive a Project Management fee of approximately \$55,500 from the RDN. The RDN will administer the funds transfer from CleanBC to the CEA on behalf of the other eleven local governments. The CEA has a MOU with each of the participating local governments. The RDN's terms and conditions for quality of service and installation will be required through these agreements.

Currently, the RDN has no service in place to address the installation and ongoing management of the proposed EV charging stations. Operation, electricity costs, maintenance, asset management replacement costs and administrative costs are required to establish a sustainable service model. Based on information from a network supplier, the average Level 2 charging station energy usage in BC is 2,778 kWh per year. With the annual cost of hydro per kilowatt hour being roughly 0.13 cents, the estimated energy costs are \$365 per station for operation. From an asset management perspective, the average capital cost to purchase new EV charging stations is estimated at \$10,000 with a lifespan of roughly 10 years. Based on this standard, an estimate of \$1,000 per station should be set aside annually to cover maintenance and replacement. This results in a cost of \$25,000 per year to cover operations, maintenance, administration and replacement for the EV charging network and will be included in the proposed 2020 budget.

## **ALTERNATIVES**

1. That the Board approve the ten electric vehicle charging station locations identified in this report for the CleanBC Communities Fund grant application.
2. That the Board allocate \$222,222 in the 2020 budget from the Corporate Climate Action Reserve Fund for the installation of ten public electric vehicle charging stations, subject to receipt of a \$162,222 CleanBC Communities Fund grant to reimburse the Corporate Climate Action Reserve Fund.
3. That the Board direct staff to prepare a bylaw to create a new service area for the ongoing of operations, maintenance and procurement of EV charging stations.
4. That the proposed 2020 budget contain \$25,000 for annual operating, maintenance and replacement costs for the EV Charging Station Service.
5. Provide alternate direction.

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<sup>1</sup> <https://www.petro-canada.ca/en/personal/fuel/alternative-fuels/ev-fast-charge-network>

## FINANCIAL IMPLICATIONS

The CleanBC Communities Fund model requires a local government to pass a resolution or adopt a bylaw to identify the source of their funding contribution. The local government must also demonstrate in their application that funds have been committed to operate, maintain and plan for replacement of the EV stations. A new service area is required for the ongoing operations, maintenance and replacement.

The RDN total project cost of \$222,222 may be allocated in the 2020 budget from the Corporate Climate Action Reserve Fund<sup>2</sup>. The current balance of this fund is \$497,422, which receives an annual provincial grant from the Climate Action Revenue Incentive Program (CARIP). The grant provides 100 percent of the carbon tax paid by the local government to be invested in climate action.

As outlined above, costs for the operation, maintenance and replacement costs for the new EV charging station service will be finalized and presented to the Board for consideration during the 2020 Financial Plan.

A summary of annual estimated costs to maintain the EV stations at RDN facilities is shown in Table 3.

**Table 3 – Annual Estimated Costs for EV Charging Stations**

<b>Annual Estimated Costs</b>	<b>\$</b>
Operations	3,783
Electricity costs	3,650
Maintenance & replacement costs	10,000
Asset Management & future expansion	3,783
Administration Costs	3,784
<b>Total</b>	<b>\$25,000</b>

## STRATEGIC PLAN IMPLICATIONS

This project is aligned with the 2019 – 2022 Board Strategic Plan under:

Goal 1: to “be leaders in climate change adaptation and mitigation and become net zero by 2032” by contributing to a regional network of public EV charging stations; making it easier for individuals to switch from a carbon-using and emitting powered vehicle to zero emission vehicles.

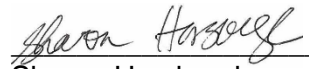
Action 1.3: to “Develop a regional strategy for electric vehicle charging”.

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<sup>2</sup> Corporate Climate Action Reserve Fund Establishing Bylaw No. 1650, 2011

This report addresses CEA's request to the RDN based on current EV charging locations and availability. As EV technology is rapidly advancing, a proposed regional EV charging strategy will be developed in the fall in consultation with member municipalities and electoral areas, and will include:

- Opportunities for the RDN to accelerate the uptake of EVs along with the private sector response.
- Consultation with the development community and other communities involved in EV charging station advancement.
- A best management practices guide for local governments outlining options on how to advance EV charging infrastructure.
- Recommended locations for new EV charging stations.

  
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July 2, 2019

Reviewed by:

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- G. Garbutt, General Manager, Strategic and Community Development
- P. Carlyle, Chief Administrative Officer

Attachments:

1. Map of RDN Existing and Proposed EV Charging Stations
2. Detailed EV Charging Station Location Assessment