



CORPORATION OF THE TOWNSHIP OF ESQUIMALT

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Date	Ver.	Action By	Action	Result
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REQUEST FOR DECISION

DATE: January 13, 2021 Report No. APC-21-006
TO: Chair and Members of the Advisory Planning Commission; Design Review Committee
FROM: Tricia deMacedo, Policy Planner and Bill Brown, Director of Development Services
SUBJECT:

Electric Vehicle-Ready New Residential Construction Regulations

RECOMMENDATION:

That the Advisory Planning Commission receive staff report APC-21-006 for information and provide Council with a recommendation to approve the EV-ready new residential construction regulations as proposed.

RELEVANT POLICY:

Climate Emergency Declaration 2019
Climate Action Charter
Official Community Plan
Parking Bylaw, 1992, No. 2011

STRATEGIC RELEVANCE:

Healthy, Livable and Diverse Community - Develop and implement strategies that reduce impact on the environment consistent with our Climate Action Charter goals.

BACKGROUND:

Electric vehicle (EV) sales in BC are being supported by the Provincial and Federal government through rebate programs and annual targets for sales. The Zero Emissions Vehicle (ZEV) Act, passed in 2019, requires automakers to meet increasing annual levels of EV sales reaching 10% of new light-duty vehicle sales by 2025, 30% by 2030 and 100% by 2040. The Act is meant to ensure that automakers increase the number and type of EVs that they sell in B.C. to meet consumer demand. Already in Esquimalt we have observed the rapid uptake of EVs; the number of EVs registered to Esquimalt residents has doubled in the past year, from 136 to 282 according to ICBC data. As the provincial requirements for sales targets increases, we can expect to see many more EVs owned by Esquimalt residents.

Local government can support the uptake of EVs through ensuring that EV owners have access to both public and private charging options. As most EVs are charged at home, residential charging options are crucial to uptake of EVs. This is especially important in multi-unit buildings. As the cost of retrofitting these parking stalls is cost-prohibitive and in the case of condo buildings with multiple owners, can be legally complicated.

For this reason, many local governments are now mandating 100% of residential parking stalls be supplied with the infrastructure that could support an EV charger. In most cases, builders are required to ensure the parking spaces have, at minimum, adequate electrical capacity, a dedicated circuit, and conduit run to the stall. Some local governments also require the wiring and outlet; regulations rarely require a complete charging station at each space.

Supporting active transportation and public transportation mode shifts is a key component of any climate action plan, along with encouraging the uptake of electric vehicles. As such, Community Energy Association has recommended the Township of Esquimalt consider policy changes that would help remove this barrier to EV ownership in the recent Climate Emergency Response Report:

“Consider updating the Parking Bylaw to include electric vehicle supply equipment (EVSE) requirement for all new residential buildings. Other local governments are working on establishing best practices for similar charging requirements for commercial buildings, and these can be adopted at a later date”.

A subsequent staff report to Council in September of 2020 identified this as one of the key priority actions for the Township to undertake in their Climate Action program. At that time Council directed staff to “prepare the necessary amendments to the Parking Bylaw, 1992, No.2011 to require electric vehicle (EV) ready construction in all new residential buildings to come into force by July 1, 2021.”

PURPOSE OF APPLICATION:

The Township is amending Parking Bylaw, 1992, No. 2011 to include requirements for all new residential development to have electric vehicle (EV) ready charging infrastructure beginning in July of 2021.

CONTEXT:

“EV-Ready, is considered a parking stall that is provided with conduit and an energized outlet capable of providing power to an electric vehicle charging station. It is a measure used to futureproof a development to easily accommodate a future EV charging station.” (Capital Region Local Government Electric Vehicle (EV) + Electric Bike (E-Bike))

Infrastructure Backgrounder, Watt Consulting, 2018).

Central Saanich, Saanich and Victoria have already passed 'EV-ready' building requirements for new construction and View Royal is poised to do so in the month. All of these municipalities have chosen 100% electrification of residential stalls with differing levels of requirements for commercial stalls.

Past Esquimalt Councils have also been supportive of measures to regulate EV charging capacity; at the regular Council meeting of February 27, 2017 Council made a motion to "look at options to move from 'encouraging' all new construction to be EV ready, to embedding EV ready infrastructure into a policy and bylaw that requires at minimum Level 2 charging stations for high density developments."

Staff are preparing amendments to the parking bylaw to require that new residential construction be EV ready using the best management practice of electrifying 100% of required stalls. The table below indicates the number of energized outlets that the Township would require in all new residential construction. It should be noted that this does not include any requirement to install the charging unit itself, just the energized outlet. Existing buildings would not be required to upgrade. The bylaw amendments will be scheduled to take effect for any new applications after July 1, 2021.

Use, Building or Structure	Required Parking Spaces	Minimum Number of Energized Electric Vehicle Outlets
Single Family Dwelling	1 space per dwelling unit	1 per required parking space
Single Family Bed and Breakfast	3 spaces per dwelling unit	1 Energized Electric Vehicle Outlet.
Two Family Dwellings	1 space per dwelling unit	1 per required parking space
Townhouse and Low Density Apartment zones	2 spaces per dwelling unit	1 per required parking space
Medium and High Density Apartment zones	1.3 spaces per dwelling unit	1 per required parking space
Senior Citizens Apartment	0.5 spaces per dwelling unit	1 per required parking space
Liveaboards and Floating Homes	1 space per dwelling unit	1 per required parking space

Some of the other requirements for the proposed bylaw amendments include:

- All Energized Electric Vehicle outlets must be able to support, at a minimum, a Level 2 electric charging level. Level 2 chargers are those chargers which use a connection to a 240 V outlet, like dryer and oven outlets. It takes around 8-12 hours to fully charge an EV battery from 'empty'. They are the most common charger used in homes and commercial areas.
- Energized Electric Vehicle Outlets must be labelled for electric vehicle charging only.
- Energized Electric Vehicle Outlet should be assigned to an individual vehicle parking stall and be located no further than 1.0 m from that stall.

In addition, the bylaw will include performance management standards for load sharing to enable all vehicles sharing a circuit to charge in a reasonable length of time (Schedule A) . This performance management standard has been provided by the CRD and is being used in most other municipal EV ready bylaws.

Esquimalt staff participated in the 'industry engagement' portion of Saanich's public engagement on their strategy; builders and developers were overwhelmingly supportive of the proposed residential requirements but more concerned about commercial EV charging regulations. For this reason, staff propose to start with residential requirements only in the Township.

COMMENTS FROM OTHER DEPARTMENTS:

The bylaw amendments, once completed, will be circulated to staff in other relevant departments for their comments.

ISSUES:

1. Rationale for Selected Option

Adopting EV-ready building requirements for new buildings is a straightforward bylaw update that Development Services staff can undertake in the short-term by using the examples from Victoria and Saanich as well as technical information prepared for the CRD. Requiring capacity for sufficient charging infrastructure in new buildings will "future-proof" those buildings and ensure future EV owners will be able to charge their vehicles at home. Ensuring adequate capacity now is significantly cheaper than retrofitting parking stalls and garages later.

2. Organizational Implications

Staff will prepare amendments to the existing Parking Bylaw, 1992, No. 2011 and any other technical information needed to establish performance standards for EV charging infrastructure. Significant work has been done on establishing the technical requirements for charging capacity, including where energy management systems are being used, by the CRD, Saanich and Victoria. Staff will be able to use this previous experience to duplicate it for the Township. This can be managed within existing staff work time.

3. Financial Implications

There are no financial implications to the municipality for establishing this change in policy. Installation costs to the developer have been estimated in a report procured by the City of Richmond, to range from \$561 per stall to \$2610 per stall, equipped with Level 2 energized infrastructure. These costs are significantly cheaper than the cost to install the infrastructure after construction is completed. The use of energy management systems ('load sharing') has been found to significantly reduce the cost of installing chargers by reducing the amount of electrical capacity required overall.

Retrofit costs were found to average \$6800 per charging unit in a multi-unit building. Costs for single family retrofit would be much cheaper if the electrical capacity was adequate.

4. Sustainability & Environmental Implications

The Climate Emergency Response Report contains details on the environmental and climate

implications of each action including the potential GHG reductions. The GHG reduction due to EV-ready new construction was estimated to be 2 to 4 percent of the community emissions by 2030 or approximately 2200-4400 tonnes of CO₂e.

5. Communication & Engagement

Public engagement is a critical piece of all climate action initiatives. Updating Township website and social media with information on any of these actions can be done as part of regular business. Additional notice regarding amendments to the Parking Bylaw will occur as a courtesy to the development community but a public hearing is not required for these amendments.

ALTERNATIVES:

1. That the Advisory Planning Commission receive staff report APC-21-006 for information and provide Council with a recommendation to approve the EV-ready new residential construction regulations as proposed.
2. That the Advisory Planning Commission provide an alternative recommendation to Council.