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**General Purposes Committee**

**Council Chambers, City Hall  
6911 No. 3 Road**

**Monday, June 21, 2021  
4:00 p.m.**

Pg. #      ITEM

MINUTES

**GP-4**      *Motion to adopt the **minutes** of the meeting of the General Purposes Committee held on June 7, 2021.*



NEXT COMMITTEE MEETING DATE

July 5, 2021, (tentative date) at 4:00 p.m. in Council Chambers

ENGINEERING AND PUBLIC WORKS DIVISION

1. **2020 CLIMATE ACTION REVENUE INCENTIVE PROGRAM AND 2021 PROGRAM CANCELLATION UPDATE**  
(File Ref. No. 10-6125-07-02) (REDMS No. 6678982)

**GP-7**

**See Page GP-7 for full report**

*Designated Speaker: Poroshat Assadian and Norm Connolly*

STAFF RECOMMENDATION

- (1) *That, as outlined in the staff report titled, “2020 Climate Action Revenue Incentive Program and 2021 Program Cancellation Update” dated May 21, 2021, from the Director, Sustainability and District Energy:*

- (a) *The “City of Richmond Corporate GHG Emissions and Carbon Credits for 2020” (Attachment 1), the “Carbon Emission Provincial Reporting Worksheet for 2020” (Attachment 2), and “Climate Action Revenue Incentive (CARIP) Public Report for 2020” (Attachment 3) be posted on the City’s website for public information;*
- (b) *Letters be sent to the Minister of Environment and Climate Change Strategy, the Minister of Municipal Affairs, and all Richmond Members of the Legislative Assembly (MLAs), expressing the City of Richmond’s concerns with the cancellation of the Climate Action Revenue Incentive Program, as discussed in this report;*
- (c) *The resolution in Attachment 5 be endorsed and sent to the Union of British Columbia Municipalities (UBCM) for their consideration at the UBCM 2021 Convention.*



## COMMUNITY SERVICES DIVISION

- 2. **2021 UBCM COMMUNITY EXCELLENCE AWARDS**  
(File Ref. No. 01-0083-01) (REDMS No. 6666815)

GP-47

See Page GP-47 for full report

*Designated Speaker: Jason Kita*

### STAFF RECOMMENDATION

*That the City’s entries for the Union of BC Municipalities (UBCM) Community Excellence Awards be endorsed, including:*

- (1) *Excellence in Governance: City of Richmond Affordable Housing Strategy 2017-2027;*
- (2) *Excellence in Service Delivery: Works Yard – Recycling Depot Upgrades;*
- (3) *Excellence in Asset Management: Water Demand Management Program; and*
- (4) *Excellence in Sustainability: High Reclaimed Asphalt Paving (RAP) Pilot Program.*



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ITEM

ADJOURNMENT





## General Purposes Committee

Date: Monday, June 7, 2021

Place: Council Chambers  
Richmond City Hall

Present: Mayor Malcolm D. Brodie, Chair  
Councillor Chak Au  
Councillor Carol Day (by teleconference)  
Councillor Alexa Loo (by teleconference)  
Councillor Bill McNulty (by teleconference)  
Councillor Linda McPhail (by teleconference)  
Councillor Harold Steves (by teleconference)  
Councillor Michael Wolfe (by teleconference)

Call to Order: The Chair called the meeting to order at 4:00 p.m.

### AGENDA ADDITION

It was moved and seconded  
*That Possible Renaming of Trutch Avenue be added to the agenda as Item No. 3.*

**CARRIED**

### MINUTES

It was moved and seconded  
*That the minutes of the meeting of the General Purposes Committee held on May 17, 2021, be adopted as circulated.*

**CARRIED**

### NEXT COMMITTEE MEETING DATE

June 21, 2021, (tentative date) at 4:00 p.m. in Council Chambers

# General Purposes Committee

## Monday, June 7, 2021

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### DELEGATION

1. Jacqueline Gijssen, Project Director, Social Purpose Real Estate Collaborative, with the aid of a PowerPoint presentation (copy on file, City Clerk's Office), noted the following:
  - BC has some of the least affordable housing markets in the world;
  - non-profits, social enterprises, and small businesses are all impacted;
  - there is loss of community spaces;
  - everyone is affected;
  - a new BC wide study was conducted that involved a research report, online surveys, workshops, community events and a final report;
  - many challenges such as affordability, tenure, and suitability play a role; and
  - increasing the supply of affordable secure housing, advocating for the sector, funding and financing, designing spaces for social purpose, are all ideas for action.

### COMMUNITY SAFETY DIVISION

2. **APPLICATION TO AMEND LIQUOR PRIMARY LIQUOR LICENCE # 307706 FROM MONKEY 9 BREWING PUB CORP DOING BUSINESS AS: MONKEY 9 BREW PUB - 180 - 14200 ENTERTAINMENT BLVD.**

(File Ref. No. 12-8275-30-001) (REDMS No. 6665266)

It was moved and seconded

- (1) *That the application from Monkey 9 Brewing Pub Corp., doing business as, Monkey 9 Brew Pub, for an amendment to Liquor Primary Licence # 307706 to request an increase to the occupant capacity by 260 persons at 180 – 14200 Entertainment Blvd., be supported for:*
  - a) *Total person capacity to be amended and set at 460 persons;*
  - b) *No changes to the hours of service currently set at Monday to Sunday, from 10:00 AM to 2:00 AM; and*
- (2) *That a letter be sent to the Liquor and Cannabis Regulation Branch, which includes the information attached as Appendix A, advising that Council recommends the approval of the licence amendment for the reasons that this amendment has been determined, following public consultation, to be acceptable in the area and community.*

2.

**General Purposes Committee**  
**Monday, June 7, 2021**

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The question on the motion was not called as in reply to queries from Committee, Bert Hick, Rising Tide, advised that the requested licence is comparable to other bowling centres and similar to that of a golf course and the liquor service is an added amenity to the main activity of bowling.

The question on the motion was then called and it was **CARRIED**.

3. **POSSIBLE RENAMING OF TRUTCH AVENUE**

(File Ref. No.)

Discussion took place on the potential to change the name of Trutch Avenue due to the challenging background of the name.

As a result of the discussion, the following **referral motion** was introduced:

It was moved and seconded

*That the matter of Trutch Avenue be referred to staff to:*

- (a) analyze the situation and meaning of the name;*
- (b) provide options with the possibility of renaming the road; and*
- (c) notify the residents of Trutch Avenue of the analysis being undertaken.*

The question on the referral motion was not called as discussion took place on potential replacement names for the street and procedures for residents to come forward to change road names if necessary.

The question on the referral motion was then called and it was **CARRIED**.

## ADJOURNMENT

It was moved and seconded

*That the meeting adjourn (4:33 p.m.).*

**CARRIED**

Certified a true and correct copy of the Minutes of the meeting of the General Purposes Committee of the Council of the City of Richmond held on Monday, June 7, 2021.

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Mayor Malcolm D. Brodie  
Chair

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Sarah Goddard  
Legislative Services Associate




# City of Richmond

## Report to Committee

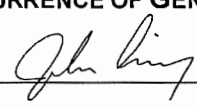

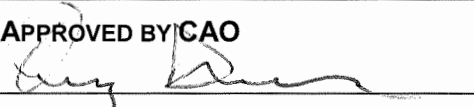
**To:** General Purposes Committee **Date:** May 21, 2021  
**From:** Peter Russell, MCIP RPP **File:** 10-6125-07-02/2021-Vol 01  
 Director, Sustainability and District Energy  
**Re:** **2020 Climate Action Revenue Incentive Program and 2021 Program Cancellation Update**

### Staff Recommendation

1. That, as outlined in the staff report titled, “2020 Climate Action Revenue Incentive Program and 2021 Program Cancellation Update” dated May 21, 2021, from the Director, Sustainability and District Energy:
  - a. The “City of Richmond Corporate GHG Emissions and Carbon Credits for 2020” (Attachment 1), the “Carbon Emission Provincial Reporting Worksheet for 2020” (Attachment 2), and “Climate Action Revenue Incentive (CARIP) Public Report for 2020” (Attachment 3) be posted on the City’s website for public information;
  - b. Letters be sent to the Minister of Environment and Climate Change Strategy, the Minister of Municipal Affairs, and all Richmond Members of the Legislative Assembly (MLAs), expressing the City of Richmond’s concerns with the cancellation of the Climate Action Revenue Incentive Program, as discussed in this report;
  - c. The resolution in Attachment 5 be endorsed and sent to the Union of British Columbia Municipalities (UBCM) for their consideration at the UBCM 2021 Convention.

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

Att. 5

REPORT CONCURRENCE		
<b>ROUTED TO:</b> Finance Parks Services Engineering Public Works Transportation Intergovernmental Relations	<b>CONCURRENCE</b> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<b>CONCURRENCE OF GENERAL MANAGER</b> 
<b>SENIOR STAFF REPORT REVIEW</b>	<b>INITIALS:</b> 	<b>APPROVED BY CAO</b> 

## Staff Report

### Origin

The City of Richmond is committed to maintaining carbon neutral corporate operations, first achieved in 2013. The purpose of this report is to update Council on the 2020 corporate greenhouse gas (GHG) emissions and carbon neutrality activities, and to also update Council on the cancellation of the CARIP program, and to identify concerns and related next steps.

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

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

Council signed the BC Climate Action Charter in September 2008, voluntarily committing the City to annual corporate GHG emissions reporting and taking the necessary actions to achieve carbon neutral operations. In 2013, Council adopted the "*Towards Carbon Neutrality: Implementation Strategy*," which put in place an effective framework and defined the following four key steps for meeting carbon neutrality commitments: measure, reduce, compensate (or offset) and report. The City is reducing its GHG emissions through the implementation of the 2013 Green Fleet Action Plan, Energy Management Program (for civic buildings and infrastructure), the Richmond Carbon Market program and other initiatives.

In a letter dated May 11, 2021, addressed to all mayors and regional district chairs from jurisdictions signatory to the Climate Action Charter, the Minister of Municipal Affairs, The Honourable Josie Osborne, announced that the Climate Action Revenue Incentive Program (CARIP) will be ending effective this year. Staff were not anticipating this announcement given the positive outcomes the program has achieved locally and provincially. There was no consultation with local governments prior to the announcement. The City can expect to receive its final grant in the coming months. The Province also noted that local governments will be required to complete and submit the 2020 Carbon Tax Calculation Form only for 2021, and that the form must be submitted by August 6, 2021.

### Analysis

#### Carbon Neutral Operations in 2020

Staff anticipate that the City will again be eligible for a "Level 3 Achievement of Carbon Neutrality". Formal determination is typically announced at the Union of British Columbia Municipalities' annual conference. Attachment 1 shows total corporate GHG emissions from direct and contracted sources in 2020, and determination of continued carbon neutral status. While the province has reduced reporting requirements for 2020, staff have prepared full reports for Council consistent with those presented in previous years. This includes Attachment 2, which details the City's corporate GHG emissions and carbon credits for 2020, and Attachment 3 (CARIP Public Report) detailing the range corporate and community-wide environmental, climate mitigation and climate adaptation initiatives and leadership undertaken by the City in 2020, and proposed for 2021.

### Climate Action Charter and CARIP Funding

The Climate Action Revenue Incentive Program (CARIP) is a program that provides local governments that have signed the B.C. Climate Action Charter with an annual grant equal to 100 percent of the carbon taxes that the municipality has paid to support its operations (see Attachment 4 for a copy of the Climate Action Charter). The Province's annual summary reports on the CARIP program state that in order to be eligible for this funding, "local governments are required to be Charter signatories, report publicly on their plans and progress toward meeting their corporate and community-wide climate action goals, and complete an annual CARIP survey summarizing their actions." In 2020, the Province provided \$8,433,750 to the 187 local government signatories to the Charter for the 2019 reporting year. In recent years, the City of Richmond has received \$230,000 on average annually through CARIP, for a cumulative total of \$2.5 million since 2009, when the program was initiated.

In a letter dated May 11, 2021 Minister Osborne specifically referenced Section 5 of the Climate Action Charter stating that "since the 2008 inception of the Climate Action Charter (the Charter), almost every local government in B.C. has signed the Charter, committing to take action and develop strategies in order to achieve the following three goals:

- Work toward becoming carbon neutral in their local government corporate operations
- Measure and report on their community greenhouse gas (GHG) emissions profile
- Create complete, compact, energy-efficient rural and urban communities"

The City has met these expectations and has submitted CARIP reports every year since reporting began in 2010, and has achieved carbon neutral operations every year since 2013.

The scope of the Climate Action Charter is not restricted to Section 5, as Sections 2 and 3 of the Charter state that "the Parties acknowledge that" both the Province and local governments have "an important role in addressing climate change" and that "the interrelationship between each Order of Government's respective jurisdictions and accountabilities with respect to communities, and activities related to and within communities, creates both a need and an opportunity to work collaboratively on climate change initiatives." Section 6 further states that one of the purposes for which the Parties commit to working together is "to build local government capacity to plan and implement climate change initiatives."

The announcement of the end of the CARIP program is remarkable since it coincides with recent amendments to the *Climate Change Accountability Act* that add a sectoral GHG emissions reduction target of 59 to 64% below 2007 levels by 2030 for buildings and communities. Achieving this target, will not only require expanded cooperation between the Province and local governments, but also significant new investments into the development and implementation of comprehensive climate action initiatives and regulatory programs by local governments.

### Use of CARIP Funding

Over the past decade, this CARIP funding has been essential to the research, development and implementation of most of Richmond's climate action initiatives. Of note, the City has been successful in maximizing opportunities to leverage CARIP funding as a matching contribution

when applying to utility, foundation, Federation of Canadian Municipalities (FCM) and federal government funding programs. CARIP funding has been used for the following purposes:

- **Incentives for community energy efficiency and GHG reductions**, including \$500,000 from BC Hydro and FortisBC alone to support initiatives such as the Building Benchmarking Challenge, the Energy Efficient Spray Valve for Small Restaurants, and the Richmond Carbon Marketplace;
- **Community capacity building**, including \$59,000 in BC Hydro matching funding, to help local homebuilders gain skills needed to achieve Energy Step Code requirements;
- **Research and policy development**, including early work on better-than-Code requirements that helped initiate work on the BC Energy Step Code, and work on EV parking infrastructure requirements for new residential development that informed Richmond's leadership policy within this area. The City also used CARIP funds to leverage a further \$130,000 from the BC Real Estate Foundation and BC Hydro, in order to assess local government implementation of building energy benchmarking, reporting and disclosure, helping bring about the Provincial government's commitment in 2020 to implement building energy reporting and disclosure at time of sale;
- **Project feasibility studies**, including \$250,000 in additional FCM grants to conduct feasibility studies for the Library Cultural Centre greenhouse gas reduction project, as well as \$77,000 in matching funding from FCM to conduct a city-wide assessment of smaller-scale sewer heat recovery opportunities. CARIP funding also leveraged additional funds to analyze the solar photovoltaic potential on an array power system proposed at Fire Hall #1;
- **Capital Projects**, including a \$750,000 grant from FCM leveraged by CARIP funding for the Library Cultural Centre greenhouse gas reduction project; and
- **Student interns and short-term staff support** to assist staff in implementing climate action, environmental sustainability and district energy initiatives.

CARIP funding has enabled the City to implement a wide range of policy development, program implementation, capacity building and low-carbon infrastructure projects, and has leveraged a considerably greater amount in total investment. Some of the most important work funded through the CARIP program has been research and program development initiatives that have delivered benefits at the provincial scale, including early policy development and costing analysis on what became the Energy Step Code and the Province's forthcoming building energy labelling initiative, and what has become the regional standard for local government policy on electric vehicle charging infrastructure requirements in new residential construction.

#### Provincial Funding Opportunities post-CARIP

The May 11, 2021 letter from Minister Osborne states that the Province will be providing ongoing funds for climate action through alternate programs. As new funding programs become available, City staff would pursue these opportunities. Programs in the announcement included:

- \$110 million in combined provincial and federal funding to help local governments and Indigenous communities develop energy efficiency and clean energy projects;
- \$18 million for new active transportation infrastructure;
- New investments in public transit; and

- \$11 million in undefined additional funding for local governments.

While the above Provincial funding opportunities will contribute to shared objectives of reducing GHGs locally and across the Province, staff are concerned with the loss of stable and predictable funding for the full range of climate action initiatives that the City has managed well for the benefit of Richmond residents and businesses.

### Financial Implications

The unexpected end to CARIP funding at the end of the current fiscal year will reduce revenue by approximately \$230,000 in 2022. If the CARIP program, or a successor to it, is not in place for 2022, staff intend to bring forward an Additional Level request for the 2022 operating budget for Council consideration. Without stable funding in this area, the City is at risk of not meeting its climate action objectives, leveraging senior government funding, and limited in completing research and analysis needed for new programs and/or capital projects.

### Advocacy for Reinstatement of Provincial Funding

In order to meet their respective GHG reduction targets, both local governments and the Province need to swiftly develop a new, improved successor to CARIP. The Minister of Municipal Affairs has signalled that the provincial government is open to discussing a new funding program for local governments to support climate action, but no plans or details are available for review. In light of this situation, staff advise that letters be sent to the Minister of Environment and Climate Change Strategy, the Minister of Municipal Affairs, and all Richmond MLAs, requesting that Provincial staff engage with local government representatives directly in order to co-develop a successor program to CARIP by 2022.

Staff also recommend that a resolution calling for an improved replacement to the CARIP program be forwarded to UBCM for their consideration at their annual convention, which is to be held virtually during the week of September 14-17, 2021. Developed in consultation with staff from other municipalities, the resolution in Attachment 5 emphasizes the shared concerns of BC local governments, in order to facilitate endorsements from other local governments.

### **Financial Impact**

The end to CARIP funding has no financial impact in the current fiscal year, but will reduce revenue by approximately \$230,000 in 2022.

### **Conclusion**

Richmond is a leader amongst BC municipalities in reducing community and corporate GHG emissions through its innovative corporate projects and programs and has achieved carbon neutral operations since 2013. The City has honoured the requirements of the B.C. Climate Action Charter and has ably leveraged the resulting CARIP funding so as to advance the Charter's wider objectives, greatly assisting both the City and the Province's efforts to achieve their respective GHG reduction targets.

May 21, 2021

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The unexpected cancellation of the CARIP Program defunds the development, implementation and administration of local government climate action programs. Local governments have a time-limited opportunity to engage with the Province in rapidly developing and implementing a CARIP replacement program prior to the 2022 fiscal year. The urgency and importance of this work can be communicated by sending a letter to Provincial Ministers and Richmond MLAs and by sponsoring a UBCM resolution on this matter.



Poroshat Assadian, B.Arch, CEM, LEED  
Corporate Energy Manager  
(604-244-1239)



Nicholas Heap  
Sustainability Project Manager  
(604-276-4267)

- Att. 1: City of Richmond Corporate GHG Emissions and Carbon Credits for 2020
- Att. 2: Carbon Emission Provincial Reporting Worksheet for 2020
- Att. 3: Climate Action Revenue Incentive (CARIP) Public Report for 2020
- Att. 4: B.C. Climate Action Charter
- Att. 5: Proposed UBCM resolution re: Provincial Climate Action Funding after CARIP

## City of Richmond Corporate GHG Emissions and Carbon Credits for 2020

### 2020 Corporate Carbon Emissions

The reported corporate emissions adhere to the BC Ministry of Environment's reporting methodology, and include GHG reductions resulting from the City's purchase of renewable natural gas. The 2020 total includes GHG emissions associated with traditional municipal services, including those that are contracted out (e.g. community recycling collection).

With the emergence of the COVID-19 pandemic in 2020, the City of Richmond proactively responded to provincial health guidelines by introducing measures at civic facilities to minimize (or eliminate) chances for exposure to the virus for local residents and City staff. The overall impact from COVID-19 energy use and GHG emissions in civic buildings presents a mixed picture. For example, the closure of City recreation facilities for most of 2020 resulted in a reduction in City services and on-site staffing, which was counter-balanced by an increase in other City services in response to the pandemic. Other measures with respect to increased ventilation (air changes) resulted in higher levels of energy use and an increase in emissions for some buildings. The overall use of the City's fleet dropped in 2020, relative to the previous year, resulting in emissions savings. Corporate emissions in 2020 were over 34% lower than in 2007.

Through the replacement of aging facilities with less GHG emission-intensive equipment, and continued operational improvements at key facilities, it is anticipated that emissions at corporate buildings will continue to be reduced as planned projects are implemented in upcoming years.

**Table 1: 2020 Corporate Emission Sources**

	<b>Tonnes CO<sub>2</sub>e</b>	<b>Quantification Method</b>
Emissions from services delivered directly by the City.	4,529	Derived from metered energy consumption and associated GHG emissions from stationary sources (buildings, lighting, and pumps – except police services energy use) and corporate mobile sources (fleet – except construction related fuel use) used directly by the City.
Emissions from contracted services delivering services on the City's behalf.	2,173	The BC government standard methodology and guidance for estimated contracted emissions. Fuel usage values and Option 3 (Vehicle / Equipment Type and Hours of Usage) were used to determine the contracted emissions value.
<b>TOTAL</b>	<b>6,702</b>	

### 2020 Corporate and Community Carbon Credits (Offset Projects)

In accordance with BC Government Carbon Neutral protocols, the City completed the necessary reporting, quantification and verification of one corporate project outside of the City's traditional services boundary. Emission credits from diverted household organic waste contributed significantly to offsetting the City's corporate emissions footprint in 2020. The reported total diverted organics for 2020 corresponds to 8,159 tonnes of avoided GHG emissions. In previous

years, the City received emission credits from preservation of Sun Hor Lum Conservation Area, and via the Richmond Carbon Market. Credits from these sources were last quantified in 2018 and 2017 respectively, and will be reassessed for additional emission credits in a future reporting year as required. See information below related to past emissions credits from these sources.

**Table 2: Anticipated Emission Credits (Offsets) for the 2020 Reporting Year**

Offsets	Tonnes CO <sub>2</sub> e	Quantification Method
Household Organic Waste Composting – Municipally Collected <sup>(1)</sup>	8,159	BC Government Option 1 GHG Reduction Projects reporting method.
Surplus GHG emission credits from 2019 Reporting Year	4,935	As per BC Government reporting protocol.
<b>Total projected credits</b>	<b>13,094</b>	
Estimated surplus carry forward for 2021 (see below discussion)	6,392	

(1) Official figure for the City of Richmond provided by Metro Vancouver’s household organic waste report.

With the above figures, staff anticipate that the City will again be eligible for a “Level 3 Achievement of Carbon Neutrality”. Formal determination is typically announced at the Union of British Columbia Municipalities’ annual conference. It is estimated that the City will carry forward approximately 6,392 tonnes of GHG (tCO<sub>2</sub>e) emission offsets for use in future reporting years if the program is reinstated.

Sources of Carbon Emission Credits in Previous Years

- **Sun Hor Lum Conservation Area Credits:** The City achieved emissions credits for the 2011 purchase and preservation of the Sun Hor Lum Conservation Area in Northeast Richmond. Preserving this natural habitat and ensuring that the land was not developed for agricultural purposes preserves the carbon stored in the peat soil and provides benefits to Richmond and the region. Analysis and quantification of the carbon storage and sequestration benefits of the Sun Hor Lum Conservation Area resulted in the City claiming 3,244 tonnes of avoided GHG emissions for the period of time the City has owned the site, between 2012 and 2018. The carbon storage and sequestration benefits that were quantified as part of the City's due diligence and conservation management planning are in addition to the ecological benefits that the City and region enjoy from the preservation of this ecosystem. It is believed that this work will help to inform other jurisdictions in the region on the importance of conserving and enhancing bog environments. The City is able to claim additional emissions credits for carbon sequestration from the Sun Hor Lum Conservation site, if the area is preserved and maintained in its natural state for the long term. Additional credits were not quantified in the current reporting year because the City already has a surplus of credits. Staff will assess and report additional credits from this source in future years.
- **Richmond Carbon Market:** Council endorsed the Richmond Carbon Market (RCM) program in 2017 as a tool to purchase carbon offsets from Richmond-based emissions reduction projects. The City currently maintains an open bid for interested parties. To date, Council approved the

execution of purchase and transfer agreements with Pacific Gateway Hotel and Lafarge Canada. Pacific Gateway Hotel carbon credits were derived from a building energy efficiency project completed in 2015, and credits from Lafarge Canada were derived from asphalt recycling operations at Mitchell Island. Credits were recorded in the 2017 reporting year, and when not fully used, have been carried forward. The Carbon Market has been an effective tool for identifying potential community partners with quantifiable GHG emissions reduction projects.

## Carbon Emission Provincial Reporting Worksheet for 2020

<b>Local Government Name:</b>	The City of Richmond
<b>Year:</b>	2020
<b>Contact Information:</b>	
<b>Name:</b>	Jerry Chong
<b>Position:</b>	Acting General Manager of Finance and Corporate Services
<b>Telephone Number:</b>	604-276-4064
<b>Email address:</b>	<a href="mailto:JChong@richmond.ca">JChong@richmond.ca</a>

<b>Stationary Emission Sources:</b>			
Building and Infrastructure Fuel	Unit of Measure	Quantity	Emissions (tCO <sub>2</sub> e)
Electricity	KWh	37,343,327	398
Natural Gas	GJ	55,572	2,771

<b>Mobile Emission Sources: Estimated</b>				
Vehicle Class	Vehicle Fuel	Unit of Measure	Quantity	Emissions (tCO <sub>2</sub> e)
Light Duty Vehicle	Gasoline	L	45,156	106
Light Duty Vehicle	Diesel	L	304	1
Light Duty Vehicle	Hydrogen	L	130	0
Light Duty Vehicle	Electricity	KWh	17,904	0
Light Duty Truck	Gasoline	L	222,113	528
Light Duty Truck	Diesel	L	5,891	16
Light Duty Truck	Propane	L	2,051	0
Heavy Duty Truck	Gasoline	L	44,475	101
Heavy Duty Truck	Diesel	L	137,270	361
Heavy Duty Truck	Propane	L	67,839	104
Off Road Vehicle	Gasoline	L	19,275	44
Off Road Vehicle	Diesel	L	26,488	76
Off Road Vehicle	Propane	L	14,388	22
Light Duty Truck - Contractor	Gasoline	L	7,540	18
Heavy Duty Truck - Contractor	Diesel	L	598,247	1,573
Heavy Duty Truck - Contractor	Propane	L	30,014	46
Estimated Contractor	Diesel/Gas	L		536
<b>Total Emissions (all Sources)</b>				<b>6,702</b>

<b>Credits: Estimated</b>				
Organic Waste Diversion	Baseline	Estimated tonnes	Estimated credits	
Diverted Household Organic	7,783	24,293	8,159	
Diverted Organic Waste (Waste Drop off Service)	4,709	4,450	0	
2019 Surplus Carbon Credits			4,935	
<b>Total Estimated Credits</b>			<b>13,094</b>	

<b>Total Estimated Balance</b>	<b>6,392</b>
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## Climate Action Revenue Incentive (CARIP) Public Report for 2020

### Local Government:

City of Richmond

### Report Submitted by:

Peter Russell

Director, Sustainability & District Energy

[prussell2@richmond.ca](mailto:prussell2@richmond.ca)

Phone: 604-276-4130

The City of Richmond has completed the 2020 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of BC. The CARIP report summarizes

actions taken in 2020 and proposed for 2021 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG), as well as general sustainability related initiatives.



April 21, 2021

### General Information

<b>Name of Local Government</b>	City of Richmond
<b>Member of Regional District (RD)</b>	Metro Vancouver
<b>Regional Growth Strategy (RGS) in region</b>	Yes
<b>Population</b>	227,406



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## 1. GENERAL REPORT INFORMATION

This 2020 Climate Action Revenue Incentive Program (CARIP) Public Report documents the actions that the City of Richmond has taken corporately and in the community to support the reduction of greenhouse gas (GHG) emissions and energy use, as well as other sustainability related initiatives. The actions are separated into seven main categories; Broad Planning, Buildings and Lighting, Energy Generation, Greenspace/Natural Resource Protection, Solid Waste, Transportation, Water and Wastewater, and Climate Adaptation. There is also an Innovative Actions category, which the City has inputted items. The categories are further divided into community and corporate related actions, with general climate action questions at the beginning of each category.

This report encompasses a majority of the action items that the City is involved in support of GHG emissions and energy use reduction, but does not cover all sustainability related initiatives that the City conducts or supports. The report represents a “snapshot” of City activities in the past year, and proposed actions for 2021.

## 2. BROAD PLANNING ACTIONS

Broad Planning refers to high level planning that sets the stage for GHG emissions reductions, including plans such as Official Community Plans, Integrated Community Sustainability Plans, Climate Action Plans or Community Energy Emissions Plans. Land use planning that focuses on Smart Growth principles (compact, complete, connected, and centred) plays an especially important role in energy and GHG reduction. Summarized below are the City of Richmond’s responses to the Provincial inquiries regarding broad planning issues, and summary of initiatives conducted in 2020 and planned in 2021.

General Questions - Broad Planning	
What is (are) your current GHG reduction target(s)?	Current OCP community emission reduction targets are 33% below 2007 levels by 2020, and 80% below 2007 levels by 2050. Updated Community Energy and Emissions Plan (2020-2050) in development with actions to meet revised targets: 50% below 2007 levels by 2030, and net zero GHG emissions by 2050.
Are you familiar with your local government's community energy and emissions inventory (e.g. <a href="#">CEEI</a> or another inventory)?	Yes

<p><b>What plans, policies or guidelines govern the implementation of climate mitigation in your community?</b></p> <ul style="list-style-type: none"> <li>• Community Energy and Emissions Plan</li> <li>• Integrated Community Sustainability Plan</li> <li>• Community-Wide Climate Action Plan</li> <li>• Official Community Plan</li> <li>• Regional Growth Strategy</li> <li>• Other: Ecological Network Management Plan, Riparian Response Strategy, Invasive Species Action Plan</li> </ul>	<p>Yes No No Yes Yes No Yes</p>
<p><b>Does your local government have a corporate GHG reduction plan?</b></p>	<p>Yes</p>

<p><b>Community-Wide Broad Planning Actions Taken in 2020</b></p>	
	<p>Brought forward a Report to Council (RTC) in January 2020 detailing results of 2019 community engagement on Richmond’s updated Community Energy &amp; Emissions Plan (CEEP 2020-2050). Council endorsed both RTC and proposed draft actions within eight Strategic Directions that together create the framework for the updated Plan.</p>
	<p>Conducted second phase of geospatial emissions modeling to gauge impact of proposed (CEEP 2020-2050) actions for retrofitting existing buildings, carbon neutral new buildings, zero emission vehicles, active transportation and transit, and compact / complete communities. This provided assurance to staff that deeper emission reduction targets for 2030 and 2050 could be achieved.</p>
	<p>Participated and co-sponsored development of a Building Electrification Road Map (BERM) for BC, in tandem with stakeholders from Province of BC, provincial regulated utilities, and other local governments.</p>
	<p>Engage development community on future BC Energy Step Code performance requirements for new buildings, specifically on fall 2020 Building Regulation Bylaw amendments, and a two-option Step Code approach to incentivize buildings to utilize low-carbon building mechanical systems.</p>
<p><b>Community-Wide Broad Planning Actions Proposed for 2021</b></p>	
	<p>Conduct final round of community and stakeholder engagement on proposed actions in updated Community Energy &amp; Emissions Plan (CEEP 2020-2050), and bring forward Plan for Council endorsement in 2021. Update GHG emission reduction targets in Richmond’s Official Community Plan to align with deeper emission targets per IPCC Global Warming Limit of 1.5 Celsius.</p>
	<p>Develop a Climate Action Strategy public document that communicates policy, program and infrastructure actions by City of Richmond on energy and emissions leadership on City buildings and fleet, and public infrastructure investments tied to climate adaptation and community resiliency.</p>
	<p>Collaborate with stakeholders to create an implementation plan for the Building Electrification Road Map (BERM) to advance low carbon building electrification in new and existing buildings.</p>
	<p>Create a Sustainability Progress Report capturing environmental leadership taken by City of Richmond from 2015 to 2020, bring forward report for Council endorsement, and have the report publicly available.</p>

	Engage developers of new commercial and industrial buildings on proposed minimum requirements for Level 2 EV charging infrastructure for employee and visitor parking stalls, and bring forward proposed Zoning Bylaw Amendments for Council endorsement.
	Respond to previous City Council referrals and develop proposed policy approach and potential incentives that could be applied to rooftop (or building-integrated) solar photovoltaic systems in new buildings.

<b>Corporate Broad Planning Actions Taken in 2020</b>	
	Began work on a comprehensive review of energy efficiency and GHG emission reduction opportunities in City facilities, and maintain City of Richmond’s corporate carbon neutral status.
	Secured Federal grants and City capital funding to expand the Richmond’s public electric vehicle (EV) charging network, with 24 new Level 2 charging ports to be added, as well as four new DC Fast Charging sites activated by the end of 2021.
	Developed accessibility design guidelines for parking stalls at the City’s new public EV charging locations, including a review of best practice examples from other North American jurisdictions.
	Responded effectively to Provincial public health guidelines, operational energy use and enhanced ventilation requirements in the City’s Corporate buildings, due to the COVID-2019 pandemic.
	Participated in Building Benchmark BC in conjunction with ten municipalities and submitted Energy Star Portfolio Manager data for 50 corporate buildings as part of measuring, tracking and disclosing energy usage from the City’s facilities (including weather-normalized electricity use intensity and greenhouse gas emissions metrics).
	Engaged industry stakeholders and implemented circular economy training for City staff to respond effectively to City of Richmond procurement requirements. A Circular Economy workshop was held in January 2020 with over 100 attendees to inform the City’s procurement policy changes and better understand constraints and opportunities identified by suppliers / vendors / contractors.
	Brought forward recommended changes to the City’s procurement policies integrating circular economic criteria, and consulted with City departments to develop proposed policy amendments. NOTE: The procurement policy changes were approved by City Council in March 2021.
<b>Corporate Broad Planning Actions Proposed for 2021</b>	
	Complete a City of Richmond Strategic Energy Management Plan (SEMP) and review with BC Hydro. Begin implementation of SEMPA actions following BC Hydro approval.
	Conduct a market review of energy management software, with the objective of improved data and operational performance. Develop a business case for updating or replacing the current energy management software used by the City of Richmond.
	Conduct engineering design, public works, installation and commissioning of the City’s new DCFC and Level 2 public EV charging points.
	Bring forward a High Performance Building Policy for Council consideration on new City of Richmond facilities, based upon thorough review of leading energy performance standards, low- or zero-emission operational emissions, and low-embedded carbon content in building materials, and

	enhanced wellness / occupant health.
	Continue to integrate detailed circular economy criteria into department procurement documents, and pursue opportunities to pilot test new or innovative approaches with a segment of suppliers.

### 3. BUILDINGS AND LIGHTING ACTIONS

Low-carbon buildings use the minimum amount of energy needed to provide comfort and safety for their inhabitants and tap into renewable energy sources for heating, cooling and power. These buildings can save money, especially when calculated over the long term. This category also includes reductions realized from energy efficient street lights and lights in parks or other public spaces. Below are the City of Richmond’s responses to the Provincial inquiries regarding building and lighting initiatives conducted in 2020 and planned for 2021.

<b>General Questions - Building and Lighting</b>	
The Province has committed to taking incremental steps to increase energy-efficiency requirements in the BC Building Code to make buildings net-zero energy ready by 2032. The BC Energy Step Code--a part of the BC Building Code--supports that effort	
<b>Is your local government aware of the <a href="#">BC Energy Step Code</a>?</b>	Yes
<b>Is your local government implementing the <a href="#">BC Energy Step Code</a>?</b>	Yes

<b>Community-Wide Building and Lighting Actions Taken in 2020</b>	
	Conducted seven Builder Breakfast webinar events in 2020, six of which were done virtually during the COVID-19 pandemic. City staff successfully pivoted to online engagement of Part 9 homebuilders, designers and contractors, with over 600 total participants attending from February to December 2020.
	Through our Builder Breakfast engagement, City staff polled builders on their preferences regarding proposed 2020 Step Code requirements for Part 9 residential buildings. This included a new two-option approach, where builders could qualify for a one-Step relaxation in requirements by installing a low carbon energy system.
	Engaged large building developers and energy modellers on proposed 2020 Energy Step Code requirements for hotels and motels. Two webinar workshops were held in June and July, in collaboration with UDI Pacific Region. The development community endorsed a two-option approach, where a hotel / motel could qualify for a one-Step relaxation in requirements by installing, or connecting to, a low carbon energy system.
	Received City Council endorsement of amendments to Richmond’s Building Regulation Bylaw on new Energy Step Code performance requirements for Part 9 residential buildings and Part 3 hotels and motels, effective December 15, 2020.
	Responded to Council Referral and conducted research, policy development and industry

	engagement in 2020 on proposed new incentives for single-detached and duplex homes that achieve the top performance levels of the BC Energy Step Code, including additional density bonus for achieving the certified Passive House standard.
	Received City Council endorsement of amendments to Richmond’s Building Regulation Bylaw and Zoning Bylaw, providing density incentives and building permit fee relaxations for single-detached and duplexes homes achieving the top Step Code performance levels, or the certified Passive House standard. Effective date for these Bylaw amendments: February 2021.
	Continued participation by City staff on the BC Energy Step Code Council, and serve as co-chairs on both Part 9 and Part 3 technical subcommittees.
	Conducted detailed analysis comparing Step Code thermal energy performance outcomes for Part 9 residential buildings (absolute TEDI, climate-adjusted TEDI, and % better thermal envelope). Using a Richmond dataset of modelled Step Code houses, the % better thermal envelope metric showed inferior thermal performance results in comparison to the absolute and climate adjusted metrics. City Council directed that a letter be sent to the Province of BC and Energy Step Code Council informing them of the results of the City’s analysis.
	Received City Council approval in January 2020 for Richmond’s participation in the Building Benchmark BC (BBBC) initiative, supported by ten municipalities and UBC. This voluntary program targets owners and managers of large commercial, industrial and multi-unit residential buildings to voluntarily benchmark and report their annual energy use and GHG emissions. Participating municipalities also submitted and disclosed benchmarking results for their corporate facilities.
<b>Community-Wide Building and Lighting Actions Proposed for 2021</b>	
	Engage Part 9 residential homebuilders on proposed Step Code requirements, and low-carbon energy system relaxations, to be adopted into Richmond’s Building Regulation Bylaw effective January 1, 2021. Include updated performance definition for a low carbon energy system.
	Continue participation on the Energy Step Code Council and technical subcommittees, and engage with staff from Province of BC on development of greenhouse gas intensity (GHGI) performance metrics that could be incorporated into the BC Building Code / Step Code as early as 2022.
	Develop a comprehensive training and capacity-building approach for a cohort of local Part 9 homebuilders, designers and trades, to help drive projects that reach the top levels of energy performance and emission reduction. A suite of subsidized courses and hands-on training will be considered, including collaboration with BCIT, Small Planet Supply, Passive House Canada and Zero Emission Building Exchange.
	Continue the successful virtual Builder Breakfast series in Richmond, as well as ‘tri-City’ Builder Breakfast events (piloted in 2020) with City of New Westminster and City of Surrey.
	Extend the successful Building Benchmark BC initiative to 2022, with the objective of increasing the number of buildings participating in this program (using grant funding from FCM, and contributions from partner municipalities).

<b>Corporate Building and Lighting Actions Taken in 2020</b>	
	Secured Council-approved additional capital funding for a low-carbon mechanical system upgrade to City of Richmond’s Library & Cultural Centre that will result in 65% reduction in GHG emissions from the previous natural gas heating system.
	Secured funding for Phase 4 of the City’s street lighting conversion project, with replacement of approximately 1280 street lighting fixtures with new, more energy efficient LED lights.
	Completed installation and commissioning of rooftop solar photovoltaic array at Fire Hall No. 1.
	Installed exhaust heat recovery at City Hall and South Arm Community Centre.
	Completed mechanical upgrading including the installation of heat pump rooftop and upgrading Direct Digital Control at the Thompson Community Centre.
<b>Corporate Building and Lighting Actions Proposed for 2021</b>	
	Secure funding for the lighting upgrade at the City hall and Community Safety Building. The project is sponsored by BC Hydro to reduce the overall utility cost and provide more efficient lighting system
	Complete LED Street Light Conversion Project - Phase 4 (395,545 kWh) in savings. The LED upgrade will reduce maintenance and operation costs by 50%, and improve the quality of light by focusing light directly where it is required, in a uniform way. LED lighting also has lower energy consumption and carbon footprint. The street light LED upgrade resulted in 46% savings in electricity.
	Participate at the BC Hydro Continuous Optimization Program to find the operational opportunities and reduce the operational cost
	Complete DDC upgrades at the Civic Works Yard, Steveston Tennis Shed And Britannia Heritage Complex.

#### 4. ENERGY GENERATION ACTIONS

A transition to renewable or low-emission energy sources for heating, cooling and power supports large, long-term GHG emissions reductions. Renewable energy including waste heat recovery (e.g. from biogas and biomass), geo-exchange, micro hydroelectric, solar thermal and solar photovoltaic, heat pumps, tidal, wave, and wind energy can be implemented at different scales, e.g. in individual homes, or integrated across neighbourhoods through district energy or co-generation systems. Below are the City of Richmond’s responses to the Provincial inquiries regarding energy generation, and summary of initiatives conducted in 2020 and planned in 2021.

<b>General Questions - Energy Generation</b>	
<b>Is your local government developing, or constructing a</b> <ul style="list-style-type: none"> <li>• district energy system</li> <li>• renewable energy system</li> <li>• none of the above</li> </ul>	<b>Yes</b> <b>Yes</b>
<b>Is your local government operating a</b> <ul style="list-style-type: none"> <li>• district energy system</li> </ul>	<b>Yes</b>

<ul style="list-style-type: none"> <li>renewable energy system</li> <li>none of the above</li> </ul>	Yes
<b>Is your local government connected to a district energy system that is operated by another energy provider?</b>	No
<b>Are you familiar with the 2018 <a href="#">List of Funding Opportunities for Clean Energy Projects Led by First Nations and Local Governments?</a></b>	Yes

<b>Community-Wide Energy Generation Actions Taken in 2020</b>	
	Continued to expand and connect new customers in the West Cambie neighbourhood to the Alexandra District Energy Utility (ADEU). In 2020, over 400,000 ft <sup>2</sup> of residential floor space were connected to the system. Total space now connected to ADEU = over 2,050,000 ft <sup>2</sup> of residential space and over 300,000 ft <sup>2</sup> non-residential space.
	Continued to develop and operate the Oval Village District Energy Utility (OVDEU) in the Oval Village area. Throughout 2020, the OVDEU had 10 connected buildings receiving energy. This totals 2,651,000 ft <sup>2</sup> and over 2,270 apartment units.
	Continued work with a private utility partner to develop plans and complete due diligence, feasibility analysis, and implementation plan for the design, finance, construction and operation of a City Centre District Energy Utility (CCDEU) which would encompass the entire city centre core.
	Progressed the interim servicing strategy in the City Centre area requiring developments to provide on-site low carbon energy generation plants designed for interconnection with the future City Centre District Energy Utility (CCDEU). To-date, eleven developments have been committed to the servicing strategy, totalling approximately 5,000,000 ft <sup>2</sup> . These developments are currently working through various stages of the development process and are estimated to obtain occupancy between 2021 and 2025.
	Continued to implement DEU infrastructure and developments using dedicated DEU operating funds and capital program, financed through customer rates.
<b>Community-Wide Energy Generation Actions Proposed for 2021</b>	
	Continue to connect buildings and expand the ADEU distribution system as development requires. Two new residential buildings (200,000 ft <sup>2</sup> ) are scheduled for connection in 2021.
	Continue Oval Village District Energy Utility construction and planning in partnership with a private utility partner, with continuous operational improvement and construction to accommodate long term growth. Detailed planning and design will also begin on the permanent energy centre which will use renewable sewer heat recovery technology to provide 80% of customer energy requirements.
	Design and planning for the upcoming connection of five new developments with a total of over 1,000,000 ft <sup>2</sup> of building gross floor area to the OVDEU system. These developments are scheduled to connect over the next 3 years, with the first connection in mid-2021.
	Continue securing on-site low carbon energy generation plants designed for interconnection with the future CCDEU system. Development schedules indicate that three applicable developments in the City Centre will go through rezoning in 2021. The three developments are estimated to total

approximately 1,560,000 ft <sup>2</sup> . Will be seeking approval for expansion of the CCDEU system to encapsulate all of the City Centre Area, potentially allowing for connection upwards of 48 million ft <sup>2</sup> of floor space to DE utilities.
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<b>Corporate Energy Generation Actions Taken in 2020</b>	
	Completed mechanical upgrading including the installation of heat pump rooftop and upgrading Direct Digital Control at the Thompson Community Centre.
<b>Corporate Energy Generation Actions Proposed for 2021</b>	
	Complete the deep mechanical upgrade at Library Cultural Centre that will result in reducing the GHG emission by over 60% from the previous heating system by installing heat pump and upgrading the DDC system.

## 5. GREENSPACE/NATURAL RESOURCE PROTECTION ACTIONS

Greenspace/Natural Resource Protection refers to the creation of parks and greenways, boulevards, community forests, urban agriculture, riparian areas, gardens, recreation/school sites, and other green spaces, such as remediated brownfield/contaminated sites as well as the protection of wetlands, waterways and other naturally occurring features. Below are the City of Richmond responses to the Provincial inquiry regarding “greenspace” management in the City, and summary of community initiatives conducted in 2020 and planned in 2021.

<b>General Questions – Greenspace</b>	
<b>Does your local government have urban forest policies, plans or programs?</b>	<b>Yes</b>
<b>Does your local government have policies, plans or programs to support local food production?</b>	<b>Yes</b>

<b>Community-Wide Greenspace Actions Taken in 2020</b>	
	424 trees were planted as part of development servicing agreements.
	243 trees were planted by Parks Operations in 2020. This includes trees planted on frontages and boulevards, and in parks.
	Community Gardens (urban agriculture): <ul style="list-style-type: none"> <li>• Cook School Park Community Gardens: 40 plots constructed for the local community in a medium to high density City Centre neighbourhood</li> <li>• Riverport Community Gardens: 17 plots constructed adjacent to a medium density waterfront development</li> </ul>
	Typical volunteer planting events were put on hold in 2020 due to the COVID-19 pandemic.
	Responded to 210 inquires from residents regarding invasive species.
	Participated in Provincial Invasive Species Action Month, providing education to the public on invasive species management and alternatives to pesticides.
	Continued Richmond Nectar Trail initiative which aims to connect large pollinator habitats to one

	another with smaller micro habitats in green spaces around the City. 27 sites registered with the program across the City.
	Facilitated the 2020 Bat Matters Conference with BC Community Bat Programs.
	Participated in and promoted the City Nature Challenge in partnership with the Richmond School Board.
	Encouraged two private entities to conduct a study to understand how Sandhill cranes are utilizing their properties and suggest outcomes to improve their survivability.
	Initiated the Climate Community Leaders Program.
	Participated in web conference for the Real Estate Board of Greater Vancouver and delivered information real estate agents on the City's Riparian Management Areas.
	Supported the delivery of British Columbia Sustainable Energy Association's Cool It! Climate Leadership Program to students in Richmond.
<b>Community-Wide Greenspace Actions Proposed for 2021</b>	
	Community Gardens (urban agriculture): <ul style="list-style-type: none"> <li>• Cook School Park Community Gardens Phase 2: 20 plots proposed</li> <li>• Branscombe House Community Gardens: 40-50 plots proposed</li> <li>• Garden City Lands Community Gardens: 200 plots proposed with option for additional 100</li> </ul>
	At this point no volunteer planting events are scheduled for 2021 due to the COVID-19 pandemic.
	Continue to enrol participants in the Richmond Nectar Trail program.
	Host 5 virtual sustainability-focussed workshop session covering topics such as organic food gardening, pesticide free pest control, composting, bee keeping, alternatives to traditional farming, and foraging.
	Obtain a "Canadian Bee City" designation from Bee City Canada and designation as "Bird Friendly City".

<b>Corporate Greenspace Actions Taken in 2020</b>	
	Alexandra Greenway: The implementation of a section of the Alexandra Greenway between Alderbridge Way and Alexandra Road took place in 2020. Intending to serve as both an active transportation and ecological corridor, it includes an asphalt, shared-use pathway, stormwater detention areas, and 109 total trees.
	Garden City Community Park: 39 trees were planted on a former residential parcel that was added to the park in 2020.
	Paulik Park Enhancements: 93 trees were planted.
	Woodwards Slough: 2020 saw the completion of planting at Woodward's Slough, a site identified for habitat compensation for a former highway-widening project. It included the provision of approximately 9,000 m <sup>2</sup> of riparian habitat and 3,300 m <sup>2</sup> of watercourse compensation. It will continue to be monitored by a qualified environmental professional, as per Fisheries and Oceans Canada (DFO) requirements.
	Completed erosion and sediment control and riparian enhancement planting of Woodward's Slough.

	Installed a “Bat Condo” capable of supporting up to 3000 bats within Terra Nova Rural Park.
	Hosted 2 sessions for operation departments to provide training on best management practices for spill response, attended by 25 staff.
	Participated on the Species and Environments at Risk, and Soil and Invasive Species Local Governments Working Group.
	Partnered with the Canadian Wildlife Federation to offer a 2-day Wetlandkeepers Course to City staff.
	Completed invasive species inventory on City dikes, RMA network, and roadways for purple loosestrife, wild chervil, and parrot’s feather.
	Completed the 3 <sup>rd</sup> water draw down at Mariners Village for the management of Brazilian elodea in a City owned water body.
	Continued to facilitate the Bath Slough Revitalisation Initiative, in efforts to revitalise one of Richmond’s oldest, natural watercourses to a viable and effective ecological corridor.
	Maintained the Terra Nova Pollinator Meadow and Bridgeport Pollinator Pasture to support local pollinator populations.
	Maintained Alternative Lawn seed mix demonstration plots for the public to see how lawns planted with alternative species to typical turf grass would look, in efforts to decrease the impact of Chafer beetle on private lawns.
	Assisted in developing RFP for Nature Park hydrogeological and biophysical study.
	Provided outreach regarding management of trees and the protection of Birds during nesting season.
	Provided access to City owned lands for Environment and Climate Change Canada’s “Gulls of the Salish Sea” study.
	Initiated a study to the feasibility of banning rodenticide on City owned lands.
	Assisting in the drafting of an erosion and sediment control bylaw.
	Continued Mitchell Island storm water monitoring program & received 75k in funding from the Federation of Canadian Municipalities to look at green infrastructure stormwater improvements. The program was also a finalist for a UBCM award.
	Presented with the Federation of Canadian Municipalities on a Middle Arm Brownfield remediation study.
	Retained a consultant to prepare a scope to assess soil experiments regarding invasive species persistence.
	Secured a Provincial Water Use License to allow activation of an actuator valve within Bath Slough Pump station and recharge Bath Slough with fresh water from the Fraser River.
	Presented to Contaminated Sites Approved Professionals Society on the Opportunities to support Local Government in the Contaminated Sites World.
	Presented to the Metro Vancouver Storm water Interagency Liaison Group (SILG) on the City’s award winning Mitchell Island Stewardship Initiative.

	Completed a Contaminated Sites Liability Assessment for City owned lands.
<b>Corporate Greenspace Actions Proposed for 2021</b>	
	Aberdeen Park – Phase 2 Construction: This project was originally planned for 2020, but was delayed due to the COVID-19 pandemic. Construction will occur in 2021, and see the addition of four major park elements: a Chinese exchange garden, public washroom, event pavilion, and children’s playground. The exchange garden and playground will expand upon existing planted areas, and include 25 trees and 771 shrubs.
	Alexandra Park Construction: This project was originally planned for 2020, but was delayed due to the COVID-19 pandemic. Construction of the 6-acre Phase 1 park will occur in 2021 and include a stormwater detention wetland, a 2 acre meadow, 85 trees, and 1,100 shrubs.
	Paulik Park Enhancements: 27 trees and 565 shrubs/groundcover plants to be added
	Railway Greenway: 180 trees will be planted.
	Richmond Nature Park Hydrogeological and Biophysical Study: This project was originally planned for 2020, but was delayed due to the COVID-19 pandemic. In 2021, a study will commence to improve understanding of the Richmond Nature Park’s current hydrogeological regime, how it is being affected by climate change, and the long term viability of bog preservation on site. As well, a comprehensive biophysical inventory will be completed, with special attention to the spread of invasive species.
	Tait Centre Park: This project was originally planned for 2020, but was delayed due to the COVID-19 pandemic. In 2021, construction will start on a 3-acre park located along the Middle Arm of the Fraser River that will include 56 trees, 1,200 shrubs, and large areas of native grasses. Native shrub and grass planting within the ESA setback along the river will also be included.
	Terra Nova Rural Park: 180 trees will be planted.
	Implement a ban on rodenticide use on City owned lands.
	Complete a 4 <sup>th</sup> water draw down at Mariners Village for the management of Brazilian elodea.
	Implement an update to the city’s Site Identification system that identifies potentially contaminated properties during the redevelopment permitting process.
	Partner with the Canadian Wildlife Federation to offer a field component of the Wetlandkeepers Course to City staff.
	Continue work on Phase 2 updates of the Riparian Response Strategy to better address multifamily, commercial and industrial development impacts adjacent to riparian areas.

## 6. SOLID WASTE ACTIONS

Reducing, reusing, recycling, recovering and managing the disposal of the residual solid waste minimizes environmental impacts and supports sustainable environmental management, greenhouse gas reductions, and improved air and water quality. Below are the City of Richmond responses to the Provincial inquiries regarding solid waste management in the City, and summary of initiatives conducted in 2020 and planned in 2021.

<b>General Questions – Solid Waste</b>	
<b>Does your local government have construction and demolition waste reduction policies, plans or programs?</b>	<b>Yes</b>
<b>Does your local government have organics reduction/diversion policies, plans or programs?</b>	<b>Yes</b>

<b>Community-Wide Solid Waste Actions Taken in 2020</b>	
	Completed renovation of Recycling Depot to improve operation, provide more convenient drop-off areas and expand accepted items to include fire extinguishers, lead acid batteries for vehicles, motor oil and antifreeze. In 2020 the Recycling Depot also saw an increase of 1,300 tonnes of material over 2019.
	COVID-19 safety measures were put in place to ensure the City could deliver uninterrupted service for the public, including litter collection, solid waste and recycling collection, large item pickup and Recycling Depot Services. This included an educational campaign on proper disposal of personal protective items to protect collection staff, the public and the environment.
	Received provincial approval on March 11, 2020 of the Single-Use Plastic and Other Items Bylaw No. 10000 with adoption of the bylaw postponed until 2021 due to COVID.
	Transitioned to a virtual platform for 7 of 10 Green Ambassador symposiums and Green Ambassadors supported 4 special events with an estimated 1,135 volunteer hours.
	Created an option to allow residents who use the Richmond Recycling app to opt out of mailed collection calendars to reduce printing and postage.
	Hosted community engagement activities including 7 workshops, 1 Depot tour and 2 virtual youth engagement sessions “Zero Heroes: Home Edition” with a total 325 participants. Also supported the Richmond Youth Foundation 2020 Case Competition on single-use items.
	Collaborated with FoodMesh to build a regional Food Recovery Network pilot program, bringing together local food businesses with charities and farmers to safely and easily divert food to those who could put it to good use.
	Implemented a new tagging system for residential collection to reduce contamination and provide residents with immediate feedback. The new tags include a detailed description on the issue and how to easily rectify or find more information on how to recycle correctly.
	Transitioned the “Let’s Recycle Correctly” campaign from newspaper ads to digital ads in both Chinese and English.
<b>Community-Wide Solid Waste Actions Proposed for 2021</b>	
	Enhance service at the Richmond Recycling Depot by expanding operations to seven days per week.
	Work to develop COVID-19 compatible Repair Fair events to promote repair and reuse in the community.
	Develop and undertake business engagement to advise business of the provincial approval for the Single-Use Plastic and Other Items Bylaw No. 10000 and next steps for implementation.
	Undertake a detailed review and scoping exercise to establish enhanced recycling for the commercial sector.

	Prepare an annual progress report to the community to identify progress towards established waste diversion goals, “Report 2020: Safe and Seamless Service Delivery.
	Continue to raise awareness about the issue of single-use plastic and the new ban, and leverage federal and provincial actions to strengthen the City’s implementation of single-use policy to reduce unnecessary waste.
	Undertake a pilot program to test the feasibility of the “Seabin” – a floating debris interception device – designed to capture floating debris in any water body.

<b>Corporate Solid Waste Actions Taken in 2020</b>	
	Provided on-request support for miscellaneous City Facility clean-ups by arranging collection for recycling or proper disposal of materials.
<b>Corporate Solid Waste Actions Proposed for 2021</b>	
	Look at the opportunity to pave a portion of the Recycling Depot with a recycled plastic aggregate.
	Develop RFPs for collection of recycling and garbage from the City Operations Yard, ensuring circular economy principles are incorporated.
	Investigate option to recover propane from canisters dropped-off for recycling at the Richmond Recycling Depot for reuse.

## 7. TRANSPORTATION ACTIONS

Transportation actions that increase transportation system efficiency emphasize the movement of people and goods, and give priority to more efficient modes, e.g. walking, cycling and public transit, can contribute to reductions in GHG emissions and more livable communities. Below are the City of Richmond responses to the Provincial inquiries regarding transportation system management in the City, and summary of initiatives conducted in 2020 and planned in 2021.

<b>General Questions – Transportation</b>	
<b>Does your local government have policies, plans or programs to support:</b>	
• Walking	Yes
• Cycling	Yes
• Transit Use	Yes
• Electric Vehicle Use	Yes
• Other (please specify)	Yes
<b>Does your local government have a Transportation Demand Management (TDM) strategy (e.g. to reduce single-vehicle occupancy trips, increase travel options, provide incentives to encourage individuals to modify travel behaviour)?</b>	Yes
<b>Does your local government integrate its transportation and land use planning?</b>	Yes

<b>Community-Wide Transportation Actions Taken in 2020</b>	
	Applied for and awarded Emotive Community Outreach Initiative Grant to promote electric vehicle awareness among youth.
	Received the first Solar Arc solar powered charging station in Canada. It can be also be utilized to provide emergency solar power for emergency operations. Beta testing has been completed. The Solar Arc will be installed at a public site in 2021.
	Completion of pilot program for public bike-share system in March 2020. Worked with local community organization to donate surplus bicycles for distribution to low income families across Richmond.
	Expanded active mobility network with completion of new multi-use pathways: <ul style="list-style-type: none"> <li>• Alderbridge Way (Fisher Gate-Shell Road)</li> <li>• Sexsmith Road (Beckwith Road-Charles St) with designation between cyclists and pedestrians</li> <li>• Odlin Road Neighbourhood Bikeway (western terminus of Odlin Rd-Brown Rd)</li> <li>• Cambie Road (River Road-No. 3 Road)</li> </ul>
	Expanded the active mobility network with the upgrade of the existing facilities: <ul style="list-style-type: none"> <li>• Saunders-Woodwards Neighbourhood Bikeway (Phase 2): modification of mid-block closure on Woodward Rd to accommodate through movement of cyclists and pedestrians</li> </ul>
	Expanded active mobility network with completion of protected on-street bike lanes as part of new River Parkway (Gilbert Road-Cambie Road).
	To encourage active transportation and promote cycling as a mode of transport: <ul style="list-style-type: none"> <li>• Provided free cycling education training courses to Grade 5-7 students at 4 elementary schools in Fall 2020</li> </ul>
	Completion of new pedestrian walkway on Viking Way (Cambie Road-Bridgeport Road).
	Installation of 2 special crosswalks (pedestrian-actuated overhead amber lights) to expand active mobility network and improve road safety.
	Completed upgrade of 9 pedestrian signals with installation of countdown timer.
	Enhanced signage and pavement markings along Imperial Landing Park pathways to better clarify which are multi-use and which are pedestrian-only.
	Amended Traffic Bylaw No. 5870 to permit cyclists to ride in crosswalks with elephant's feet markings.
	Upgraded pavement markings and signage at a number of intersections to improve the safety of cyclists: <ul style="list-style-type: none"> <li>• Westbound Bike Lane on Westminster Hwy: (1) delineators and green paint approaching Garden City Road; (2) bike stencils and bike lane lines across intersection at No. 4 Road; (3) bike stencils, green paint, bike lane lines, signage on either side of intersection at No. 5 Road</li> <li>• Southbound Bike Lane on Shell Road: bike stencils approaching Steveston Hwy</li> </ul>

	<ul style="list-style-type: none"> <li>• Great Canadian Way-Sea Island Way: green paint and elephants feet to crosswalks on northwest and southwest legs plus appropriate signage</li> <li>• Additional wayfinding signage at various locations</li> </ul>
	Upgrade of 13 bus stops to become accessible; when completed, 605 of 723 of active stops (83.7%) will be accessible, which is above the regional average.
	<p>Initiated feasibility studies to identify measures to improve bus speed and reliability in partnership with TransLink:</p> <ul style="list-style-type: none"> <li>• No. 3 Road (Cook Road-Steveston Highway)</li> <li>• Garden City Road (Sea Island Way-Cook Road)</li> <li>• Granville Ave (No. 3 Road-No. 4 Road)</li> <li>• other hot spot locations/corridors</li> </ul>
	Initiated update of City’s cycling network plan that will include updated designs for cycling infrastructure that reflect current trends and best practices, and prioritized implementation strategy.
	Supported regional Bike to Shop and Go by Bike events in Summer and Fall 2020 to encourage cycling for transportation.
	Completion of multi-year program to upgrade all City-owned traffic signals and special crosswalks to include APS (accessible pedestrian signal) features.
	Automation of pedestrian pushbuttons at 25 traffic signals in City Centre and along Railway Greenway (May 2020-Ongoing).
	<b>Community-Wide Transportation Actions Proposed for 2021</b>
	Install Level II and III Public EV charging stations utilizing the NRCAN Grant funding that was approved. (4 DCFC level 3 and 14 dual port level 2 Public chargers)
	Deploy EV outreach program educational toolkit, slide decks and lesson plans to K-12 in the Richmond School District that was created with youth involvement to help frame a unique and engaging approach using grant received from Emotive.
	Deploy the Solar Arc for solar powered EV charging for public charging.
	<p>Expand active mobility network with completion of new facilities:</p> <ul style="list-style-type: none"> <li>• Charles St (Sexsmith Road-entrance to Bridgeport Canada Line Station and Transit Exchange): multi-use pathway</li> <li>• Crosstown Neighbourhood Bikeway (Phase 3): curb bulges at Lucas Road-No.3 Road to facilitate the through movement of cyclists</li> <li>• Midtown Neighbourhood Bikeway (Phase 2): upgrade of pathway in Marrington Neighbourhood Park to accommodate pedestrians and cyclists</li> </ul>
	<p>Expand the active mobility network with the upgrade of the existing facilities:</p> <ul style="list-style-type: none"> <li>• Garden City Road (Lansdowne Road-Westminster Hwy): upgrade existing paved shoulder on west side to provide separate pedestrian walkway and southbound bike lane with physical separation between the facility and the roadway</li> </ul>

	<ul style="list-style-type: none"> <li>Westminster Hwy (No. 6 Road-No. 7 Road): reconstruct multi-use pathway to address sections in poor condition and add physical separation between the path and the roadway</li> <li>Railway Greenway: upgrade of 3 intersections to ultimate design (curb, gutter, expanded landing area, relocation of signal pole)</li> <li>Granville Ave (Garden City Road-Railway Ave): addition of delineator posts to provide physical protection between bike lane and adjacent travel</li> </ul>
	Launch pilot program of shared e-scooter system and permit private e-scooter operation as part of Province of BC electric kick scooter pilot project.
	Complete update of City's cycling network plan that will include input from the public and updated designs for cycling infrastructure that reflect current trends and best practices, and prioritized implementation strategy.
	Support regional Bike to Shop and Go by Bike events in Summer and Fall 2021 to encourage cycling for transportation.
	Provide free cycling education training courses to 50% of all Grade 6-7 students in elementary schools (with remaining 50% of schools planned for delivery in 2022).
	Upgrade of 20 bus stops to become accessible.
	Installation of 10-15 transit shelters and benches at bus stops.
	Implementation of new pedestrian pathways: <ul style="list-style-type: none"> <li>St. Edwards Drive (350m west of Cambie Road-Bird Road): north side</li> <li>Westminster Highway (Muir Road-150m east): north side</li> <li>River Road (No. 6 Road-Burdette Road): north side</li> </ul>
	Complete feasibility studies to identify measures to improve bus speed and reliability in partnership with TransLink.
	Installation of 6 bike counters to track usage of cycling facilities.
	Develop city-wide process/plan to address traffic safety related issues within school zones and adjacent roadways.
	Installation of special crosswalks (pedestrian actuated overhead or side-mounted flashing amber lights) to expand active mobility network and improve road safety at 4 locations.

<b>Corporate Transportation Actions Taken in 2020</b>	
	Acquired the City's first hydrogen fuel cell passenger vehicle (Toyota Mirai).
	Acquired the City 1 <sup>st</sup> 100% electric 5,000lb. forklift for the Recycle Depot.
	Received a matching CleanBC Heavy-Duty Vehicle Efficiency Program Incentives grant and installed three hydrogen fuel enhancements to reduce emissions and regens.
	Fleet acquired a Tier 4 Front End loader for the Recycling Depot. It will also be used to assist with snow response and Public Works operations.
	Increased car sharing services by 9 users.
	Replaced 29 units incorporating the City's Green Fleet Action Plan targets, including replacement of

	gas powered vehicles with hybrid, fully electric, one hydrogen unit and technologies that will assist in reducing carbon emissions.
	Implemented an electric generator pilot to utilize silent and clean energy technologies.
	City facilities received electrical and transformer upgrades to support building efficiency upgrades and electrical vehicle charging.
	Modified operation of City employee carpool program (approximately 60 participants) to enable continuation with appropriate protocols during COVID-19 pandemic
<b>Corporate Transportation - Actions Proposed for 2021</b>	
	Report out on the City's Green Fleet Action Plan targets and compile strategies to compose a new Green Fleet Action Plan.
	Expand propane pilot to include additional vehicles.
	Renew the City's E3 Fleet Certification.
	Replace 52 units incorporating the City's Green Fleet Action Plan targets, including the replacement of 29 gas-powered passenger vehicles with electric and/hybrid or plug-in hybrid vehicles.
	Create purchasing RFQ to request for the supply and delivery of fully electric and plug in hybrid pick up trucks to replace the City's aging light duty pick up trucks.
	Installing Level 2 (10 dual port Fleet EV chargers) at the City Works Yard, which includes an electrical service upgrade for ensuring adequate power supply.
	Transition from a pilot GPS program to a permanent, more robust system to assist with route planning, scheduling, winter operations reporting and to find efficiencies in fuel usage and work flows.
	Expanding fleet training utilizing in-house skill sets to customize driver and operator training to include methods to reduce fuel consumption, idling, and increase driver safety.
	Introduce a customized remote equipment ordering system to allow staff to order equipment from any location using any device instead of having to return to work offices to complete equipment orders.
	Continued operation of City employee carpool program (approximately 60 participants).

## 8. WATER AND WASTEWATER ACTIONS

Managing and reducing water consumption and wastewater is an important aspect of developing a sustainable built environment that supports healthy communities, protects ecological integrity, and reduces GHG emissions. Below are the City of Richmond responses to the Provincial inquiry regarding water and wastewater management in the City, and summary of initiatives conducted in 2020 and planned in 2021.

<b>General Questions - Water Conservation</b>	
<b>Does your local government have water conservation policies, plans or programs?</b>	<b>Yes</b>

<b>Community-Wide Water and Wastewater Actions Taken in 2020</b>	
	Issued 877 toilet rebates to homeowners that replaced old toilets with a low-flush toilets to reduce residential water use. The total incentive paid to homeowners through this program in 2020 was \$87,700.
	Partnered with BC Hydro in the fall of 2020 to provide a clothes washer rebate program to reduce home water use and electricity. To date 1,369 rebates have been issued to homeowners who replace their less efficient (water and electricity) washer for a new efficient model at a total cost of \$96,750 to the City. It is estimated that this program achieved annual savings in water and energy of 5,167,000 litres per year and 132,000 kilowatt hours per year, respectively.
	Sold 154 rain barrels through the City's Rain Barrel Program to Richmond residents, to help promote the use of rain water for gardening purposes and reduce the use of potable water in gardens.
	Reduced water pressure during from October to May to reduce the volume of leakage and extend the life of our water infrastructure. The City continues its timer-based pressure management program during off-peak hours in the summer months, further reducing leakage volume and extending the life of water infrastructure.
	The City continues its Volunteer Multi-Family Water Meter Program providing outreach and meter installation incentives to non-metered multi-family residences to encourage water conservation. To date, about 50% of all multi-family complexes have been metered. It is mandatory for all new multi-family complexes to have a water meter.
<b>Community-Wide Water and Wastewater Actions Proposed for 2021</b>	
	Continue the volunteer Multi-Family water meter program.
	Continue the toilet rebate program (\$100,000 in funding for 2020).
	Continue offering the water saving kits to homeowners with a newly installed water meter.
	Continue to participate in the joint clothes washer rebate program with BC Hydro if it is offered in 2021.
	Continue the City's Rain Barrel Program and promote the use of rain water for gardening and irrigation purposes.
	Distribute, if necessary, educational brochures on water restrictions, describing the stages and what they entail.
	Maintain updated water conservation information on the City's website for public use.

<b>Corporate Water and Wastewater Actions Taken in 2020</b>	
	Participated in the Metro Vancouver Regional Engineers Advisory Committees. The meetings revolve around networking with other municipalities and discussing initiatives, progresses, updates in policies and results.
	Implemented a timer-based pressure management program to decrease system pressures during off-peak hours in the summer months to reduce water loss to system leakage.

	Continued implementation of the grease management program through inspections and partnership with Metro Vancouver to combat fats, oils, and grease buildup in the sanitary system.
	Participated in Metro Vancouver’s Technical Subcommittees to address specific wastewater issues for the region.
<b>Corporate Water and Wastewater Actions Proposed for 2021</b>	
	Continue to take part in the Metro Vancouver Regional Engineers Advisory Committees and Technical Subcommittees.
	Contribute to Metro Vancouver’s Drinking Water guidelines, Liquid Waste Management Plans, and other water conservation and liquid waste management programs.

## 9. CLIMATE ADAPTION ACTIONS

This section of the CARIP survey is designed to collect information related to the types of climate impacts local governments are experiencing and how they are being addressed. Below are the City of Richmond responses to the Provincial inquiries regarding climate change adaption, and summary of initiatives conducted in 2020 and planned in 2021.

<b>Please identify the THREE climate impacts that are most relevant to your Local Government.</b>	
<ul style="list-style-type: none"> <li>• Warmer winter temperatures reducing snowpack</li> <li>• Extreme weather events contributing to urban and overland flooding</li> <li>• Sea level rise and storms causing coastal flooding and/or erosion</li> </ul>	
<b>In 2020 has your local government addressed the impacts of a changing climate using any of the following?</b>	
Risk and Vulnerability Assessments	Yes
Risk Reduction Strategies	Yes
Emergency Response Planning	Yes
Asset Management	Yes
Natural/Eco Asset Management Strategies	Yes
Infrastructure Upgrades (e.g. stormwater system upgrades)	Yes
Beach Nourishment Projects	No
Economic Diversification Initiatives	Yes
Strategic and Financial Planning	Yes
Cross-Department Working Groups	Yes
Official Community Plan Policy Changes	Yes
Changes to Zoning and other Bylaws and Regulations	Yes
Incentives for Property Owners (e.g. reducing storm water run-off)	Yes
Public Education and Awareness	Yes
Research	Yes

Mapping	Yes
Partnerships	Yes

<b>Climate Change Adaptation Actions Taken in 2020</b>	
Please elaborate on key actions and/or partnerships your local government has engaged in to prepare for, and adapt to a changing climate. Add links to key documents and information where appropriate.	
	City participating in TransLink's update of its 30-year strategic plan (Transport 2050).
	City participating in Metro Vancouver's update of its Regional Growth Strategy (Metro 2050).
	Transportation participating in cross-departmental working group on the City's Community Emissions and Energy Plan (CEEP) Renewal.
	Transportation partnering with TransLink in planning for RapidBus service between Richmond City Centre and the SkyTrain Expo Line.
	Completed construction of 650 m of south dike upgrade between Gilbert Road and No. 3 Rd.
	460 m of dikes were re-armoured with 3,672 tonnes of rip-rap as part of the City's Dike Maintenance Program in 2020.
	Completed re-construction of the Horseshoe Slough and Shell Road North Drainage Pump Stations.
	Secured an additional \$900,000 in senior government grants for dike improvements and master planning updates.
	Drafted Dike Master Plan Phase 4.
	Created a new informational video on Richmond's flood protection program to be presented on the City website and included with on-going public engagement.
	Developed a plan to update the City's drainage model with current information, and train applicable staff on use of the model.
	Participated in six public presentations promoting flood protection and providing information on the City's various flood protection initiatives.
	Revised dike layers on staff RIM to display dike maintenance regions, in addition to crest elevations, survey, inspection data and Dike Master Plan phases.
	Continued to investigate soil densification technologies for flood protection infrastructure.
	Worked with regional authorities (First Nations representatives, Provincial Government, and Municipalities) on flood protection and seismic guidelines planning for the Lower Mainland.
	Monitored and analyzed data from rain gauges, electronic river level sensors and electronic drainage infrastructure level sensors to assess climate change impacts on the City's drainage network. Real-time river level data is included on the City's webpage and can be found by accessing: <a href="https://www.richmond.ca/scadamaps/riverlevelmap.jpg">https://www.richmond.ca/scadamaps/riverlevelmap.jpg</a>
	Participated in Metro Vancouver's Stormwater Interagency Liaison Group meetings. The meetings allow municipalities to share knowledge, experience and expertise and provides guidance on sustainable stormwater management practices.

<b>Climate Change Adaptation Actions Proposed for 2021</b>	
	City continue to participate in TransLink’s update of its 30-year strategic plan (Transport 2050).
	City continue to participate in Metro Vancouver’s update of its Regional Growth Strategy (Metro 2050).
	Transportation continue to participate in cross-departmental working group on the City’s Community Emissions and Energy Plan (CEEP) Renewal.
	Transportation continue to partner with TransLink in planning for RapidBus service between Richmond City Centre and the SkyTrain Expo Line.
	Bring forward Dike Master Plan Phase 4 to Council for Public Engagement endorsement.
	Establish a plan for habitat compensation related to flood protection work.
	Continue collaboration with regional authorities on flood protection and seismic guideline planning for the Lower Mainland.
	Start construction on the south dike upgrade between No. 3 Road and 400 m west of No. 4 Road
	Start construction on the south dike upgrade between 200 m west of No. 9 Road and the Ewen Road Drainage Pump Station.
	Engage the public on the City’s accelerated flood protection program to support a 50-year implementation period.
	Begin design of the south dike upgrade between No. 4 Road and No. 5 Road.
	Begin design of the south dike upgrade between Graybar Road and Queens Road.
	Begin preliminary design of the south dike upgrade between No. 2 Road and Gilbert Road.
	Start construction on Steveston Hwy and No. 3 Road and Steveston Hwy and Gilbert Road Drainage Pump Stations.
	Complete the grant funded Seismic Flood Hazard Assessment which will standardize the acceptable level of seismic flood hazard across the City.
	Complete the grant funded drainage model update with updated rainfall data and drainage infrastructure.
	Establish a consolidated dike operation & maintenance manual.
	Develop a process to standardize SCADA reporting and data collection at drainage pump stations.
	Continue to investigate soil densification technologies for flood protection infrastructure.
	Continue collaboration with regional authorities on flood protection and seismic guidelines planning for the Lower Mainland.
	Perform drainage pump station design optimization for four drainage pump stations that are senior government grant funded.
	Continue negotiations with private owners to complete 1500m of flood protection upgrades.
	Continue to monitor and analyze data from existing rain gauges, electronic river level and electronic drainage infrastructure level sensors, while looking to install new rain gauges and sensors at strategic locations.
	Facilitated a dike inspection course.

	Continue to participate in Metro Vancouver’s Stormwater Interagency Liaison Group meetings.
	Complete re-construction of the No. 7 Road South Drainage Pump Station.

<b>The following are key resources that may be helpful to your local government in identifying climate impacts, as well as, strategies, actions and funding to deal with them. For those resources that you have used, please indicate whether they were useful in advancing your work in climate change adaptation?</b>	
<a href="#">Indicators of Climate Change for British Columbia</a>	Useful
<a href="#">Plan2Adapt</a>	Haven’t Used
<a href="#">Climate Projections for Metro Vancouver</a>	Useful
<a href="#">Climate Projections for the Capital Region</a>	Haven’t Used
<a href="#">Climate Projections for the Cowichan Valley Regional District</a>	Haven’t Used
<a href="#">Province of BC’s BC Adapts Video Series</a>	Haven’t Used
<a href="#">Preparing for Climate Change: Implementation Guide for Local Governments</a>	Useful
<a href="#">Public Infrastructure and Engineering Vulnerability Committee’s (PIEVC)</a>	Haven’t Used
<a href="#">Sea Level Rise Adaptation Primer</a>	Useful
<a href="#">BC Regional Adaptation Collaborative Webinars</a>	Haven’t Used
<a href="#">Retooling for Climate Change</a>	Haven’t Used
<a href="#">Water Balance Model</a>	Haven’t Used
<a href="#">Water Conservation Calculator</a>	Haven’t Used
<b>Funding:</b>	
<a href="#">National Disaster Mitigation Program (NDMP)</a>	Useful
<a href="#">Community Emergency Preparedness Fund (CEPF)</a>	Useful
<a href="#">Municipalities for Climate Innovation Program (MCIP)</a>	Useful
<a href="#">Climate Adaptation Partner Grants (FCM)</a>	Useful
<a href="#">Infrastructure Planning Grants (MAH)</a>	Haven’t Used
<a href="#">Federal Gas Tax Fund</a>	Useful

## 10. INNOVATIVE ACTIONS

This section provides the opportunity to showcase an innovative *Corporate and/or Community-Wide* GHG reduction and/or climate change adaptation activity that your local government has undertaken. Below is summary of two of the innovated initiatives that the City implemented in 2018.

<b>Community-Wide Innovation Action</b>	
	A K-12 educational program and toolkit was created with grant funding from Emotive BC with youth involvement to help frame a unique and engaging approach to promote the adoption of electric vehicles. The lesson plans encourage students to use their critical thinking skills and other core competencies to think about their actions to protect the environment. The program is highly adapted to many age and regional demographics and could be shared with other regional districts and potentially expanded provincially and beyond.
	The Richmond Green Ambassador program is coordinated by the City of Richmond in partnership

	<p>with the Richmond School District. This provides networking and volunteering opportunities for secondary school green teams and other like minded youth who are interested in environmental sustainability through community engagement. Green Ambassadors participate in monthly symposiums, giving them the opportunity to hone leadership and presentation skills and to learn about environmental sustainability, then apply what they have learned through green initiatives at their schools and volunteering at City events or activities. Each year, the Green Ambassadors also plan and host the annual REaDY Summit (Richmond Earth Day Youth Summit) to teach elementary school students about recycling and other sustainability initiatives such as water conservation, green transportation and wetlands protection.</p>
	<p>Environmental Programs has worked together with KPU professors to shape course projects through the Wilson School of Design that focus on the issues surrounding single-use items. City staff have been asked to guest lecture on January 29th and March 2nd on the proposed <i>Single-Use Plastic and Other Items Bylaw No. 10000</i> and highlight the importance for design students to understand repair and proper waste management issues before designing new alternative products or programs. Students will then apply the information learned as part of a single-use design project to help create and build real world designs that minimize waste and build circular solutions. City staff return for the mid-term and final project presentations to provide real-world/industry feedback.</p>
	<p>Implementing a fixed-base water meter reading network that provides a tool for helping property owners reduce leakage and adjust water consumption habits.</p>
	<p>Investigating microbial-induced soil densification for increased seismic resilience.</p>
	<p>Flood Protection Management Strategy 2019 recommends using a risk-based approach to flood protection and seismic planning.</p>

<b>Corporate Innovation Action</b>	

## 11. PROGRAMS, PARTNERSHIPS AND FUNDING OPPORTUNITIES

Local governments often rely on programs, partnerships and funding opportunities to achieve their climate action goals. Please share the names of programs and organizations that have supported your local government’s climate actions by listing each entry in the box below separated by a forward slash (e.g. program1/program2).

### Mitigation

<b>Mitigation Programs, Partnerships and Funding</b>	
	<p>TransLink (Regional Transportation Authority): provides funding support towards cycling education and promotion initiatives including Bike to Work/School Week, cycling education courses for</p>

	<p>elementary students, cycling education courses for adults, and community bike ride.</p> <p>TransLink (Regional Transportation Authority): provides capital funding on a 50-50 cost-share basis for the construction of pedestrian and cycling-related infrastructure including way finding, and for the upgrade of existing bus stops to become fully accessible.</p> <p>BikeBC (Ministry of Transportation &amp; Infrastructure): provides capital funding on a 50-50 cost-share basis for the construction of cycling-related infrastructure.</p> <p>ICBC: provides funding support towards the construction of pedestrian-related infrastructure including pathways and crosswalks.</p> <p>Transport Canada: contributed capital funding on a 50-50 cost-share basis for the construction of active transportation infrastructure as part of a larger road improvement project</p>
	<p>Disaster Mitigation and Adaptation Fund – Infrastructure Canada: The City of Richmond was approved \$13.78-million in grant funding in 2019 to complete structural flood mitigation work. This grant covers multiple years of mitigation work, as approved by Richmond City Council.</p>
	<p>Union of BC Municipalities – Community Emergency Preparedness Fund – The City of Richmond was approved \$750,000 in grant funding to complete structural flood mitigation work.</p>
	<p>Union of BC Municipalities – Community Emergency Preparedness Fund – The City of Richmond was approved \$150,000 in grant funding to complete flood mitigation planning work.</p>

**Adaptation**

<b>Adaptation Programs, Partnerships and Funding</b>	

**12. CONCLUSION**

This report highlights a wide range of initiatives that the City is undertaking to continue to advance sustainability corporately and in the community, with focus on reducing greenhouse gas emissions, and energy and resource use. This report does not encompass all of the sustainability related initiatives and actions that the City is involved in, but simply provides a “snapshot” of some of the key areas and work that the City has completed and is planning on completing. These efforts help to position the City as a leader in our region and beyond. The City has set aggressive sustainability targets on a range of fronts, including for greenhouse gas emissions reduction and waste diversion. The City will continue to pursue best practices and innovation to achieve its sustainability related goals, which are recognized as critical to Richmond’s Vision of “being the most appealing, livable and well-managed community in Canada”.

*B.C. Climate Action Charter*<sup>1</sup>

**THE BRITISH COLUMBIA CLIMATE ACTION CHARTER  
BETWEEN  
THE PROVINCE OF BRITISH COLUMBIA (THE PROVINCE)  
AND  
THE UNION OF BRITISH COLUMBIA MUNICIPALITIES (UBCM)  
AND  
SIGNATORY LOCAL GOVERNMENTS  
(THE PARTIES)**

**(1) The Parties share the common understanding that:**

- (a) Scientific consensus has developed that increasing emissions of human caused greenhouse gases (GHG), including carbon dioxide, methane and other GHG emissions, that are released into the atmosphere are affecting the Earth's climate;
- (b) the evidence of global warming is unequivocal and the effects of climate change are evident across British Columbia;
- (c) reducing GHG emissions will generate environmental and health benefits for individuals, families, and communities;
- (d) climate change and reducing GHG emissions are issues of importance to British Columbians;
- (e) governments urgently need to implement effective measures to reduce GHG emissions and anticipate and prepare for climate change impacts;
- (f) protecting the environment can be done in ways that promote economic prosperity; and
- (g) it is important to take action and to work together to share best practices, to reduce GHG emissions and address the impacts of climate change.

**(2) The Parties acknowledge that each has an important role in addressing climate change and that:**

- (a) The Province has taken action on climate change, including commitments made in the 2007 Speech from the Throne, the BC Energy Plan, and the Western Climate Initiative on climate change;
- (b) Local Governments have taken action on climate change, including planning livable, sustainable communities, encouraging green developments and transit oriented developments, and implementing innovative infrastructure technologies including landfill gas recapture and production of clean energy; and
- (c) these actions create the foundation for the Parties to be leaders in affecting climate change.

**(3) This Charter acknowledges that:**

- (a) The interrelationship between each Order of Government's respective jurisdictions and accountabilities with respect to communities, and activities related to and within communities, creates both a need and an opportunity to work collaboratively on climate change initiatives;

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<sup>1</sup>[https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/local-governments/planning-land-use/bc\\_climate\\_action\\_charter.pdf](https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/local-governments/planning-land-use/bc_climate_action_charter.pdf) Adopted by Richmond City Council on April 28, 2008.

(b) both Orders of Government have recognized a need for action, both see that the circumstances represent a Climate for Change in British Columbia, and both are responding; and

(c) the actions of each of the Parties towards climate change will be more successful if undertaken jointly with other Parties.

**(4) The Parties share the common goals of:**

(a) Fostering co-operative inter-governmental relations;

(b) aiming to reduce GHG emissions, including both their own and those created by others;

(c) removing legislative, regulatory, policy, or other barriers to taking action on climate change;

(d) implementing programs, policies, or legislative actions, within their respective jurisdictions, that facilitate reduced GHG emissions, where appropriate;

(e) encouraging communities that are complete and compact and socially responsive; and

(f) encouraging infrastructure and a built environment that supports the economic and social needs of the community while minimizing its environmental impact.

**(5) In order to contribute to reducing GHG emissions:**

(a) Signatory Local Governments agree to develop strategies and take actions to achieve the following goals:

(i) being carbon neutral in respect of their operations by 2012, recognizing that solid waste facilities regulated under *the Environmental Management Act* are not included in operations for the purposes of this Charter.

(ii) measuring and reporting on their community's GHG emissions profile; and

(iii) creating complete, compact, more energy efficient rural and urban communities (e.g. foster a built environment that supports a reduction in car dependency and energy use, establish policies and processes that support fast tracking of green development projects, adopt zoning practices that encourage land use patterns that increase density and reduce sprawl.)

(b) The Province and the UBCM will support local governments in pursuing these goals, including developing options and actions for local governments to be carbon neutral in respect of their operations by 2012.

**(6) The Parties agree that this commitment to working together towards reducing GHG emissions will be implemented through establishing a Joint Provincial-UBCM Green Communities Committee and Green Communities Working Groups that support that Committee, with the following purposes:**

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[https://www.richmond.ca/cityhall/council/agendas/council/2008/042808\\_minutes.htm](https://www.richmond.ca/cityhall/council/agendas/council/2008/042808_minutes.htm)

(a) To develop a range of actions that can affect climate change, including initiatives such as: assessment, taxation, zoning or other regulatory reforms or incentives to encourage land use patterns that promote increased density, smaller lot sizes, encourage mixed uses and reduced GHG emissions; development of GHG reduction targets and strategies, alternative transportation opportunities, policies and processes that support fast-tracking of green development projects, community gardens and urban forestry; and integrated transportation and land use planning;

(b) to build local government capacity to plan and implement climate change initiatives;

(c) to support local government in taking actions on becoming carbon neutral in respect of their operations by 2012, including developing a common approach to determine carbon neutrality for the purposes of this Charter, identifying carbon neutral strategies and actions appropriate for the range of communities in British Columbia and becoming reporting entities under the Climate Registry; and,

(d) to share information and explore additional opportunities to support climate change activities, through enhanced collaboration amongst the Parties, and through encouraging and promoting climate change initiatives of individuals and businesses within communities.

- (7) Once a common approach to carbon neutrality is developed under section (6)(c), Signatory Local Governments will implement their commitment in 5 (a) (i).
- (8) To recognize and support the GHG emission reduction initiatives and the climate change goals outlined in this Charter, Signatory Local Governments are invited by the other Parties to include a statement of their initiatives and commitments as an appendix to this Charter.
- (9) This Charter is not intended to be legally binding or impose legal obligations on any Party and will have no legal effect.

**Proposed UBCM Resolution re: Provincial Climate Action Funding After CARIP**

WHEREAS the Ministry of Municipal Affairs announced in May 2021, without consultation, the cancellation of the of the Climate Action Rebate Incentive Program (CARIP) without identifying any new funding for the development, implementation or administration of local government climate action programs, undermining the ability of local governments to participate in climate action initiatives;

AND WHEREAS 187 local governments in British Columbia have voluntarily signed onto the Climate Action Charter and by doing so have been able to access the Climate Action Rebate Incentive Program;

AND WHEREAS under the CleanBC Plan, the Province of British Columbia recently amended the *Climate Change Accountability Act* to include a sectoral GHG emissions reduction target of 59 to 64% below 2007 levels by 2030 for buildings and communities, requiring the development and implementation of comprehensive climate action initiatives and regulatory programs by local governments:

THEREFORE BE IT RESOLVED that UBCM ask the Ministry of Municipal Affairs and the Ministry of Environment and Climate Change to replace CARIP with a new, non-competitive funding program commencing in the 2022 fiscal year that provides equivalent or better funding to all local governments, enabling them to be effective and accountable partners with the Province.



# City of Richmond

## Report to Committee

**To:** General Purposes Committee **Date:** May 11, 2021  
**From:** Jason Kita **File:** 01-0083-01/2021-Vol  
 Director, Corporate Programs Management Group 01  
**Re:** **2021 UBCM Community Excellence Awards**

### Staff Recommendation

That the City's entries for the Union of BC Municipalities (UBCM) Community Excellence Awards be endorsed, including:

1. Excellence in Governance: City of Richmond Affordable Housing Strategy 2017-2027;
2. Excellence in Service Delivery: Works Yard – Recycling Depot Upgrades;
3. Excellence in Asset Management: Water Demand Management Program; and
4. Excellence in Sustainability: High Reclaimed Asphalt Paving (RAP) Pilot Program.

Jason Kita  
Director, Corporate Programs Management Group  
(604-276-4091)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Community Social Development	<input checked="" type="checkbox"/>	<i>Severna</i>
Facility Services & Project Development	<input checked="" type="checkbox"/>	
Public Works	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
<b>SENIOR STAFF REPORT REVIEW</b>	INITIALS: <i>JK</i>	APPROVED BY CAO <i>[Signature]</i>

## Staff Report

### Origin

The Union of BC Municipalities (UBCM) Community Excellence Awards recognize and celebrate UBCM members that have implemented projects or programs that demonstrate excellence in meeting the purposes of local government in BC. The awards are designed to profile promising practices and to encourage local governments to learn from the success of other members in order to implement changes in their own communities.

Entries for this year's awards submissions must include a resolution by Council indicating support for the entries to be considered for a 2021 award by August 13, 2021.

### Analysis

The City of Richmond is committed to a culture of continuous improvement and our vision “to be the most appealing, livable, and well-managed community in Canada.” One of the ways in which we measure our success in achieving our objectives is through the awards and recognition the City receives from its peers in local government and from others. The City of Richmond has a lengthy list of awards and other accolades received in recent years, which are recorded on the City’s website at: [www.richmond.ca/discover/about/awards](http://www.richmond.ca/discover/about/awards).

In particular, Richmond has received a number of awards from the UBCM through its Community Excellence Awards program. The UBCM is now accepting entries for its 2021 Community Excellence Awards in four categories. Staff have reviewed the award criteria and are recommending entries in the following categories:

#### **Excellence in Governance**

*Governance is the process of decision-making and the means by which decisions are implemented (or not implemented). This category includes projects/programs that utilize governance processes or policies that are outcomes-based and consensus oriented, support and encourage citizen participation in civic decision-making, are efficient, equitable and inclusive, open and transparent; and exemplify best practices in accountability, effectiveness, and long-term thinking. This may include projects focused on staff, elected officials and/or the community at large.*

#### **City of Richmond entry: City of Richmond Affordable Housing Strategy 2017-2027**

The City of Richmond Affordable Housing Strategy (2017-2027) confirms the City’s strong commitment to meeting the affordable housing needs of Richmond residents. As directed by the Strategy, the City plays a strong leadership role in affordable housing by stewarding action among local stakeholders, operating several housing programs, and leveraging City land and funding to achieve significant investments from the provincial and federal governments. Highlights from the implementation of the Affordable Housing Strategy include the opening of the 40-unit Alderbridge supportive housing building for people experiencing homelessness and the new Bridgeport Supportive Housing, which will provide an additional 40-units; the opening

of the new Richmond House Emergency Shelter, which provides 30 spaces for both men and women experiencing homelessness; the Pathways Affordable Housing development, which will provide 80 units of affordable housing for low and moderate income residents; the operation of the Richmond Emergency Response Centre, which provides shelter during the COVID-19 pandemic for Richmond residents experiencing homelessness; and the continued success of the City's Low End Market Rental program, which secured 385 new affordable housing units between 2018 and 2020.

### **Excellence in Service Delivery**

*Service delivery involves the actual production and provision of goods and services to the community, and should be integrated with community plans and aligned with financial plans. This category recognizes UBCM members that provide effective services in a proactive manner, demonstrate benefit to the community, and utilize performance measures, benchmarks and standards to ensure sustainable service delivery.*

#### **City of Richmond entry: Works Yard – Recycling Depot Upgrades**

The Works Yard Recycling Depot has been upgraded to improve usability and broaden the scope of its services. These upgrades promote greater recycling and support the City's established waste diversion targets and Council's commitment to the environment. It also provides the residents of the City of Richmond the opportunity to recycle items such as electronics, appliances, paint, fire extinguishers, paper, metal food and beverage containers, and much more. Configuration changes and site improvements of the Recycling Depot involved the updating of ageing infrastructure and improvement of operations by providing the following: an expanded site; a classroom for environmental programs; expansion of the hazardous waste materials area inclusive of tent covering; new steel awning spanning the centralized large recycling bins; new heavy equipment; and solar panels on the roof of the Recycling Depot structure for future power deployment of emergency power supply.

### **Excellence in Asset Management**

*Asset management is an integrated business approach that involves planning, finance, engineering and operations to effectively manage existing and new infrastructure in order to maximize benefits, reduce risk and provide satisfactory levels of service to community users in a sustainable manner. This category recognizes UBCM members that have developed a comprehensive system of asset management policies and practices, meeting and/or exceeding accepted best practices such as the International Infrastructure Management Manual, ISO 55000 or Asset Management for Sustainable Service Delivery: ABC Framework.*

#### **City of Richmond entry: Water Demand Management Program**

In light of climate change, risk of drought, and population increase, drinking water will continue to become an even more valuable resource. The City of Richmond completed the Universal Single-Family Water Meter Program in 2018 and the City continues to pursue and implement water demand management initiatives to reduce water consumption and costs. Since the water metering program started, population has increased by 26%; however, total water consumption

has decreased by 12%. Implementation of the City's fixed base meter reading system was completed in 2020, allowing the City to access information from water meters remotely and conduct real-time monitoring and analysis, including leak detection and notification. In addition to water metering, the City has a number of initiatives that manage water use and promote environmental sustainability such as water system pressure management, the Toilet and Clothes Washer Rebate Program, and Rain Barrel programs.

### **Excellence in Sustainability**

*Sustainability means meeting current needs without compromising the ability of future generations to meet their own needs. This category recognizes UBCM members that incorporate a long-term sustainability lens by considering the four pillars - cultural, social, economic and environmental issues - in planning, policy and practice.*

#### **City of Richmond entry: High Reclaimed Asphalt Paving (RAP) Pilot Project**

In 2020, the City of Richmond implemented a pilot project in collaboration with Lafarge Canada to use 40% Reclaimed Asphalt Pavement (RAP) on a four lane wide, 800 meters long stretch of No. 5 Road. This road is classified as a major arterial road and is frequented by commercial truck traffic. The RAP Pilot Project supports the Richmond City Council Strategic Plan 2018-2022 to create a sustainable and environmentally conscious City. It prioritizes leadership in sustainability and circular economy to reduce greenhouse gas emissions and waste. The City adopted an innovative and unique approach for this project by conducting robust regional stakeholder engagement, reducing the use of virgin aggregates, displacing fossil fuels, reducing waste, and applying 40% RAP percentage in a public road, instead of the typical 10% RAP. This approach places the City in a leadership role across Canada. Additionally, the City developed a draft accreditation system to identify best practices for producing high quality reclaimed asphalt products. Through effective collaboration, extensive research, and thorough planning, the pilot project was successfully implemented. The City is currently monitoring the performance of the 40% RAP and is planning to extend the pilot project to various road classifications into future years. The results will help staff standardize the implementation of RAP in future road paving projects and other asphalt applications (multi-use pathways, driveways, etc.) around the City.

#### **Financial Impact**

No financial impact.

#### **Conclusion**

One of the ways in which the City of Richmond measures our success in achieving our objectives is through the awards and recognition the City receives from its peers in local government and from others. The Union of BC Municipalities (UBCM) Community Excellence Awards recognize implemented projects or programs that demonstrate excellence in local government in BC. This provides a further opportunity for the City of Richmond to be

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recognized for its commitment to continuous improvement and excellence in municipal governance and service delivery.



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