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## Public Works and Transportation Committee

Anderson Room, City Hall  
6911 No. 3 Road

Wednesday, March 23, 2016  
4:00 p.m.

Pg. #      ITEM

### MINUTES

PWT-6

*Motion to adopt the **minutes** of the meeting of the Public Works and Transportation Committee held on February 17, 2016.*



### NEXT COMMITTEE MEETING DATE

April 20, 2016, (tentative date) at 4:00 p.m. in the Anderson Room

### PLANNING AND DEVELOPMENT DIVISION

1. **PROVINCIAL 2016/2017 BIKEBC PROGRAM SUBMISSION**  
(File Ref. No. 01-0150-20-THIG1) (REDMS No. 4925480)

PWT-11

**See Page PWT-11 for full report**

*Designated Speaker: Victor Wei*

### STAFF RECOMMENDATION

- (1) *That the submission for cost-sharing to the Province's 2016/2017 BikeBC Program for the River Drive multi-use pathway, as described in the report, titled "Provincial 2016/2017 BikeBC Program Submission" dated February 23, 2016, from the Director, Transportation, be endorsed; and*

- (2) *That, should the above application be successful, the Chief Administrative Officer and the General Manager, Planning and Development, be authorized to execute the funding agreement.*



2. **ICBC-CITY OF RICHMOND ROAD IMPROVEMENT PROGRAM – PROPOSED PROJECTS FOR 2016**

(File Ref. No. 01-0150-20-PSAF1) (REDMS No. 4930626)

PWT-16

See Page PWT-16 for full report

*Designated Speaker: Victor Wei*

STAFF RECOMMENDATION

- (1) *That the list of proposed road safety improvement projects, as described in Attachment 2 of the staff report titled “ICBC-City of Richmond Road Improvement Program – Proposed Projects for 2016,” dated February 25, 2016 from the Director, Transportation be endorsed for submission to the ICBC 2016 Road Improvement Program for consideration of cost sharing funding; and*
- (2) *That should the above applications be successful, the Chief Administrative Officer and General Manager, Planning and Development be authorized to negotiate and execute the cost-share agreements, and that the 5-Year Financial Plan (2016-2020) be amended accordingly.*



3. **ON-STREET MOTORCYCLE AND MOPED PARKING**

(File Ref. No. 10-6455-00) (REDMS No. 4928549)

PWT-21

See Page PWT-21 for full report

*Designated Speaker: Victor Wei*

STAFF RECOMMENDATION

- (1) *That on-street motorcycle and moped parking spaces located within six (6.0) metres of the far side of an intersection where on-street parking is allowed be established in the City Centre Parking Management Zone and the Steveston Village core; and*

- (2) *That staff be directed to bring forth an amendment to Traffic Bylaw No. 5870 to enable implementation of on street motorcycle and moped parking spaces as described in the staff report dated January 26, 2016, from the Director Transportation.*



## ENGINEERING AND PUBLIC WORKS DIVISION

4. **ANNUAL FLOOD PROTECTION REPORT 2015**

(File Ref. No. 10-6060-04-01) (REDMS No. 4903067 v. 3)

PWT-30

See Page PWT-30 for full report

*Designated Speaker: Lloyd Bie*

### STAFF RECOMMENDATION

*That the staff report titled “Annual Flood Protection Report 2015” (dated March 1, 2016, from the Director, Engineering) be received for information.*



5. **WATER USE RESTRICTION BYLAW AMENDMENT**

(File Ref. No. 10-6650-01) (REDMS No. 4918606 v. 4)

PWT-38

See Page PWT-38 for full report

*Designated Speaker: Lloyd Bie*

### STAFF RECOMMENDATION

- (1) *That the Metro Vancouver Water Shortage Response Plan amendments, as outlined in the “Water Use Restriction Bylaw Amendment” report, dated March 10, 2016 from the Director, Engineering, be endorsed; and*
- (2) *That Water Use Restriction Bylaw No. 7784, Amendment Bylaw No. 9530 be introduced and given first, second and third readings.*



6. **2016 CLOTHES WASHER REBATE PROGRAM**

(File Ref. No. 10-6060-01) (REDMS No. 4909410)

PWT-49

See Page PWT-49 for full report

*Designated Speaker: Lloyd Bie*

STAFF RECOMMENDATION

- (1) *That the City of Richmond partner with BC Hydro to the end of 2016 to offer rebates of up to \$200, equally cost shared between BC Hydro and the City, for the replacement of inefficient clothes washers with new high efficiency clothes washers;*
- (2) *That the scope of the existing Toilet Rebate Program funding be expanded to include clothes washer rebates; and*
- (3) *That the Chief Administrative Officer and General Manager, Engineering and Public Works, be authorized to execute an agreement with BC Hydro to implement the Clothes Washer Rebate Program.*



7. **STEVESTON DREDGING UPDATE**

(File Ref. No. 10-6060-01) (REDMS No. 4929465 v. 4)

PWT-52

See Page PWT-52 for full report

*Designated Speakers: Lloyd Bie and Mike Redpath*

STAFF RECOMMENDATION

- (1) *That funding for a 33% share of Steveston Harbour Phase II dredging costs plus \$66,467, for a total of up to \$516,500, be approved;*
- (2) *That funding for a 33% share, up to \$60,000, of No. 1 Road Strip dredging costs, be approved;*
- (3) *That \$400,000 in funding for complimentary dredging from the east edge of the Imperial Landings floats to the east edge of Britannia's Shipyards floats, be approved; and*
- (4) *That the Chief Administrative Officer and General Manager, Engineering and Public Works, be authorized to execute agreements with the appropriate parties to facilitate the dredging work.*



Pg. #      ITEM

8.    **PARIS CLIMATE AGREEMENT AND BC CLIMATE LEADERSHIP  
PLAN UPDATE**

(File Ref. No. 10-6125-07-02) (REDMS No. 4934692 v. 3)

PWT-65

**See Page PWT-65 for full report**

*Designated Speakers: Peter Russell and Nicholas Heap*

STAFF RECOMMENDATION

*That the staff report titled “Paris Climate Agreement and BC Climate Leadership Plan Update” dated March 4, 2016 from the Director, Engineering be received for information.*

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9.    **MANAGER’S REPORT**

ADJOURNMENT

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## Public Works and Transportation Committee

Date: Wednesday, February 17, 2016

Place: Anderson Room  
Richmond City Hall

Present: Councillor Chak Au, Chair  
Councillor Harold Steves  
Councillor Derek Dang  
Councillor Ken Johnston  
Councillor Alexa Loo

Also Present: Councillor Carol Day

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

### MINUTES

It was moved and seconded

*That the minutes of the meeting of the Public Works and Transportation Committee held on January 20, 2016, be adopted as circulated.*

**CARRIED**

### NEXT COMMITTEE MEETING DATE

March 23, 2016, (tentative date) at 4:00 p.m. in the Anderson Room

**Public Works & Transportation Committee**  
**Wednesday, February 17, 2016**

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**PLANNING AND DEVELOPMENT DIVISION**

**1. CITY OF RICHMOND - TRANSLINK TRAVELSMART PARTNERSHIP - UPDATE**

(File Ref. No. 01-0154-04) (REDMS No. 4793601 v. 4)

It was moved and seconded

- (1) That staff continue to monitor the TransLink TravelSmart pilot program and relevant activities, as described in the staff report titled "City of Richmond-TransLink TravelSmart Partnership – Update," dated January 25, 2016, from the Director, Transportation, and report back on the results following their completion; and*
- (2) That a copy of the above report be forwarded to the Richmond Council-School Board Liaison Committee for information.*

**CARRIED**

**2. TRANSLINK SOUTHWEST AREA TRANSPORT PLAN – UPDATE ON ADVISORY COMMITTEES**

(File Ref. No. 01-0154-04) (REDMS No. 4902112)

It was moved and seconded

*That the staff report providing an update on TransLink's Southwest Area Transport Plan, dated January 27, 2016, from the Director, Transportation, be received for information.*

**CARRIED**

**ENGINEERING AND PUBLIC WORKS DIVISION**

**3. BYLAW AMENDMENTS TO IMPLEMENT REQUIREMENTS FOR RECYCLING FROM SINGLE-FAMILY HOME DEMOLITIONS**

(File Ref. No. 10-6370-01; 12-8060-20-009516/009522/009523) (REDMS No. 4893304)

In response to queries from the Committee, Suzanne Bycraft, Manager, Fleet and Environmental Programs and Gavin Woo, Senior Manager, Building Approvals, provided the following information:

- the process to be followed if a homeowner elected to reuse, rather than recycle, all the materials from a home;
- in the event that a home were to be relocated, a demolition permit would be required for the foundation and the concrete must be recycled;
- WorkSafe BC has jurisdiction over the removal of hazardous materials, such as asbestos, from materials to be recycled; and

2.

## Public Works & Transportation Committee

Wednesday, February 17, 2016

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- WorkSafe BC would issue documentation to the contractor certifying that the material to be recycled does not contain hazardous substances.

The Committee noted that the bylaw does not promote the preservation of a home. Staff suggested that applications for demolition permits could be posted on the City website to inform contractors of opportunities to negotiate with homeowners to acquire the structures for relocation and reuse.

The Committee questioned the experience of other municipalities with respect to the success of similar bylaws in encouraging the recycling and reuse of materials from single-family home demolitions.

The Committee suggested that a third option allowing for repurposing or recycling through the relocation of the entire structure, be added to the Waste Disposal and Recycling Services Plan. Staff noted that the reuse of all or a portion of the house is provided for under the "re-use of recyclable materials" option.

In response to a question from the Committee, Victor Wei, Director, Transportation, advised that the cost, lane closure and traffic control required to relocate a house varies, depending upon the situation.

Staff advised that during consultation, industry stakeholders reported that a range of 50% to 90% of materials is currently recycled when a home is demolished. The industry is in its infancy and it is anticipated that the levels of recycled material will increase as the industry matures and experience is gained.

It was moved and seconded

***That:***

- (1) Demolition Waste and Recyclable Materials Bylaw No. 9516;***
- (2) Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 9522; and***
- (3) Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122, Amendment Bylaw No. 9523;***

***each be introduced and given first, second and third readings.***

Councillor Steves spoke against the motion, noting that the incentives to relocate and repurpose, rather than demolish, homes are insufficient.

**CARRIED**

Opposed: Cllr. Steves

#### 4. **SEWER HEAT RECOVERY IN RICHMOND UPDATE**

(File Ref. No.) (REDMS No. 4912811 v. 2)

Peter Russell, Senior Manager, Sustainability and District Energy, responded to a question from the Committee regarding the cost competitiveness of sewer heat, given the high capital cost of the infrastructure required.

3.



## Public Works & Transportation Committee

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John Irving, Director, Engineering advised that the payback period of district energy systems are generally in the range of 15 to 20 years.

It was moved and seconded

- (1) *That the staff report titled "Sewer Heat Recovery in Richmond Update," dated January 18, 2016, from the Director, Engineering, be received for information;*
- (2) *That the scope of work and budget for a Micro-Sewer Heat Recovery Study identified in the "Sewer Heat Recovery in Richmond Update," dated January 18, 2016, from the Director, Engineering, be approved with funding from the Carbon Tax Provision and included as an amendment to the Five Year Financial Plan (2016-2020) Bylaw;*
- (3) *That the application to the Federation of Canadian Municipalities, for up to 50 percent of eligible costs to complete Micro-Sewer Heat Recovery Study, be endorsed; and*
- (4) *That should the funding application be successful, the Chief Administrative Officer and the General Manager, Engineering and Public Works, be authorized to execute the agreement with the Federation of Canadian Municipalities on behalf of the City.*

**CARRIED**

### 5. **SOLAR FRIENDLY RICHMOND FRAMEWORK**

(File Ref. No. 10-6125-07-02) (REDMS No. 4869774 v. 4)

The Committee suggested that staff contact UBC Professor Dr. Stephen Sheppard and Robert McCullough from Oregon State regarding their research on the comparison of the cost effectiveness of solar power with the hydro-electric power that would be generated from the Site C Dam.

It was moved and seconded

*That the staff report titled "Solar Friendly Richmond Framework," dated January 28, 2016, from the Director, Engineering, be received for information.*

**CARRIED**

## ADJOURNMENT

It was moved and seconded

*That the meeting adjourn (4:31 p.m.).*

**CARRIED**

**Public Works & Transportation Committee**  
**Wednesday, February 17, 2016**

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Certified a true and correct copy of the Minutes of the meeting of the Public Works and Transportation Committee of the Council of the City of Richmond held on February 17, 2016.

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Councillor Chak Au  
Chair

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Carol Lee  
Recording Secretary



# City of Richmond

## Report to Committee

**To:** Public Works and Transportation Committee

**Date:** February 23, 2016

**From:** Victor Wei, P. Eng.  
Director, Transportation

**File:** 01-0150-20-  
THIG1/2016-Vol 01

**Re:** Provincial 2016/2017 BikeBC Program Submission

### Staff Recommendation

1. That the submission for cost-sharing to the Province's 2016/2017 *BikeBC Program* for the River Drive multi-use pathway, as described in the report, titled "Provincial 2016/2017 BikeBC Program Submission" dated February 23, 2016, from the Director, Transportation, be endorsed; and
2. That, should the above application be successful, the Chief Administrative Officer and the General Manager, Planning and Development, be authorized to execute the funding agreement.

Victor Wei, P. Eng.  
Director, Transportation  
(604-276-4131)

Att. 2

REPORT CONCURRENCE		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Finance	<input checked="" type="checkbox"/>	 FOR JOE ECKER
Parks	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
Intergovernmental Relations & Protocol	<input checked="" type="checkbox"/>	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> DW	<b>APPROVED BY CAO</b> 

## Staff Report

### Origin

The Province of BC's *BikeBC Program* is a 50-50 cost-share program between the Province and local governments to support the construction of new bike lanes, trails and pathways to promote cycling as a means of reducing traffic congestion and greenhouse gas emissions. As part of the Government of B.C.'s 10-year transportation plan (*B.C. on the Move*) released in March 2015, the Ministry of Transportation & Infrastructure (MoTI) committed \$6 million annually in BikeBC funding for a three-year period. Within this program, the City is eligible to apply to the *Cycling Infrastructure Partnership Program* (CIPP). This report presents the proposed submission from the City for consideration of cost-share funding under this program for the 2016/2017 funding cycle.

This report supports Council's 2014-2018 Term Goal #3 A Well-Planned Community:

3.3. *Effective transportation and mobility networks.*

This report supports Council's 2014-2018 Term Goal #5 Partnerships and Collaboration:

5.2. *Strengthened strategic partnerships that help advance City priorities.*

### Analysis

#### River Drive Multi-Use Pathway (No. 4 Road-Van Horne Way)

River Drive in this section is a narrow (6.0 m wide) two-lane roadway with gravel shoulders and an open watercourse on both sides. There are currently no pedestrian facilities on this section of River Drive, however, pedestrian and cycling facilities exist at either end of this section. The roadway also carries relatively higher volumes of truck traffic due to the adjacent industrial land uses. The City has received requests from residents of the Tait neighbourhood for a pedestrian connection to the Bridgeport Canada Line Station.

The project would comprise construction of a two-way paved 3.0 m wide asphalt pathway for pedestrians and cyclists on the south side of River Drive between No. 4 Road and Van Horne Way including pedestrian lighting (see Attachments 1 and 2). The project would address a gap and provide an improved pedestrian connection plus enhance access to the Canada Line Bridge for cyclists.

Council has recently approved the submission of the River Drive multi-use pathway for submission to TransLink for consideration of cost-share funding as part of its 2016 *Bicycle Infrastructure Capital Cost-Sharing (BICCS) Regional Needs Program*. That application was the first of a two-year accrual process over the 2016 and 2017 periods with up to \$250,000 being requested each year towards the total estimated cost of \$1,110,000. TransLink has not yet confirmed the funding the City may receive under the 2016 *BICCS Regional Needs Program*, which may be less than \$250,000. The project will not proceed in 2017 unless the City is successful with all external cost-share funding applications.

### Requested External Funding and Estimated Project Costs

Table 1 below summarizes the estimated project cost, the proposed internal funding sources and the requested external funding sources. Should the submission be successful, the City would enter into a funding agreement with the Province. The agreement is a standard form agreement provided by the Province and includes an indemnity and release in favour of the Province. Staff recommend that the Chief Administrative Officer and General Manager, Planning and Development be authorized to execute the agreement.

Table 1: Project to be Submitted to 2016 BikeBC Program

Project Name/Scope	Proposed City's Portion & Funding Source for 2016 <sup>(1)</sup>	Proposed BikeBC 2016/2017 Funding <sup>(2)</sup>	Est. Total Project Cost
River Drive (No. 4 Road-Van Horne Way): new multi-use pathway on south side including pedestrian lighting	N/A (to be considered as a 2017 capital project)	\$555,000	\$1,110,000

- (1) The City's portion (i.e., balance of remaining estimated cost after external grants) will be determined upon confirmation of the approved amounts to be received from external agencies.
- (2) The amount shown represents the maximum funding contribution to be received from the external agency based on the City's cost estimate for the project. The actual approved amount may be lower than requested. The actual invoiced amount follows project completion and is based on incurred costs.

### **Financial Impact**

The proposed cost to the City for the multi-use pathway on River Drive is anticipated to be \$277,500 based on successful cost-share applications to both the provincial 2016/2017 BikeBC program and TransLink (i.e., \$1,110,000 total cost less \$555,000 from BikeBC less two-year accrual of up to \$277,500 from TransLink), which will be considered during the 2017 capital budget process. Implementation of the pathway project is contingent upon all external cost-share applications being approved. The project would have an operating budget impact that would be incorporated as part of the annual budget process.

### **Conclusion**

The pedestrian and bicycle facility improvement project proposed for submission to the provincial 2016/2017 BikeBC cost-sharing program would support the goals of the Official Community Plan to improve community mobility and reduce greenhouse gas emissions by encouraging more cycling trips rather than driving. The potential receipt of external funding would enable the City to expedite the provision of sustainable transportation infrastructure and improve healthy and active travel options for the community.



Joan Caravan  
Transportation Planner  
(604-276-4035)

Att. 1: Proposed River Drive Multi-Use Pathway: Context Map  
Att. 2: Proposed River Drive Multi-Use Pathway



Proposed River Drive Multi-Use Pathway: Context Map





Proposed River Drive Multi-Use Pathway



Existing River Drive at Van Horne Way (looking east) with Proposed Pathway



Existing River Drive at Bandstra Driveway (looking east) with Proposed Pathway



# City of Richmond

## Report to Committee

**To:** Public Works and Transportation Committee

**Date:** February 25, 2016


**From:** Victor Wei, P. Eng.  
Director, Transportation

**File:** 01-0150-20-  
PSAF1/2016-Vol 01

**Re:** ICBC-City of Richmond Road Improvement Program – Proposed Projects for 2016

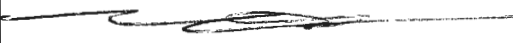

### Staff Recommendation

1. That the list of proposed road safety improvement projects, as described in Attachment 2 of the staff report titled "ICBC-City of Richmond Road Improvement Program – Proposed Projects for 2016," dated February 25, 2016 from the Director, Transportation be endorsed for submission to the ICBC 2016 Road Improvement Program for consideration of cost sharing funding; and
2. That should the above applications be successful, the Chief Administrative Officer and General Manager, Planning and Development be authorized to negotiate and execute the cost-share agreements, and that the 5-Year Financial Plan (2016-2020) be amended accordingly.



Victor Wei, P. Eng.  
Director, Transportation  
(604-276-4131)

Att. 2

REPORT CONCURRENCE		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Finance	<input checked="" type="checkbox"/>	 FOR JOE ERCEG
Engineering	<input checked="" type="checkbox"/>	
Law	<input checked="" type="checkbox"/>	
RCMP	<input checked="" type="checkbox"/>	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> DW	<b>APPROVED BY CAO</b> 



## Staff Report

### Origin

At the February 23, 2015 Council meeting, Council endorsed a number of proposed joint ICBC-City of Richmond road safety improvement projects for 2015. This report summarizes the projects implemented in 2015 with funding from ICBC and presents a list of projects proposed to be implemented with funding contributions from ICBC as part of the 2016 ICBC-City of Richmond *Road Improvement Program* partnership.

### Analysis

The City has been in partnership with ICBC in the *Road Improvement Program* since 1994. This partnership is a vital component of the City's traffic safety program as it enables the City not only to undertake more traffic safety enhancements than it could alone, but also to expedite some of these road safety improvement projects. Each year, a list of potential eligible capital projects is developed for inclusion in the *Road Improvement Program* based on community requests and input from the Traffic Safety Advisory Committee and other stakeholders.

#### 2015 ICBC/City of Richmond Road Improvement Projects

As shown in Attachment 1, a number of City projects substantially completed in 2015 will receive a total of \$162,500 in funding from ICBC's 2015 *Road Improvement Program*.

#### Proposed 2016 ICBC-City of Richmond Road Improvement Projects

Attachment 2 identifies a range of projects proposed for submission to the 2016 *Road Improvement Program* for funding contribution from ICBC that would provide benefits for all road users (i.e., motorists, cyclists, pedestrians, transit users). In continued support of one of Richmond RCMP's key community objectives to increase pedestrian safety and reduce fatalities and injuries, a majority of the proposed projects focus on pedestrian-related improvements, particularly at intersections. These projects include eight special crosswalks, five pedestrian signals on high volume arterial roadways, and several pedestrian walkways. The total estimated cost of these pedestrian-related projects is \$1.5 million.

ICBC's potential funding contribution to these projects will be determined by historical traffic crash rates at these locations and the estimated reduction in ICBC claim costs resulting from the proposed traffic safety improvements as well as eligibility of the project vis-à-vis the funding guidelines. The outcome of ICBC's review of the projects will be reported back as part of the 2017 ICBC *Road Improvement Program*.

Upon approval of a project by ICBC, the City would be required to enter into a funding agreement with ICBC. The agreement is provided by ICBC and generally includes an indemnity in favour of ICBC. Staff recommend that the Chief Administrative Officer and General Manager, Planning and Development be authorized to execute the funding agreements for the approved projects and that the 2016 Capital Plan and 5-Year Financial Plan (2016-2020) be amended accordingly to reflect the receipt of external grants.

**Financial Impact**

The total estimated cost of all the projects identified in Attachment 2 is \$5,876,500.

As indicated in Attachment 2, the City's portion of the costs of the projects are fully funded with the funding sources having been either previously approved by Council or approved as part of the 2016 Capital Budget. Several of the identified projects have additional external grants either approved or pending approval from other agencies such as TransLink. Should any submitted projects receive funding from ICBC, the City's portion of the total capital cost would be reduced accordingly.

**Conclusion**

ICBC is a significant long-time partner working with the City to promote traffic safety in Richmond. The traffic safety initiatives jointly implemented by ICBC and the City, including various road and traffic management enhancements, educational efforts and enforcement measures, have resulted in safer streets for all road users in Richmond. Therefore, staff recommend that Council endorse the various local road safety improvement projects for submission to the 2016 joint ICBC-City of Richmond *Road Improvement Program*.



Joan Caravan  
Transportation Planner  
(604-276-4035)

Att. 1: 2015 Road Improvement Projects receiving ICBC Funding  
Att. 2: Proposed 2016 City-ICBC Road Improvement Projects

## 2015 Road Improvement Projects receiving ICBC Funding

Location	Project Description	ICBC Contribution
Cook Road- No. 3 Road	WB Left Turn Traffic Signal Arrow	\$13,000
Garden City Road-Cook Road	NB Left Turn Traffic Signal Arrow	\$8,000
No. 3 Road-Park Road	SB Left Turn Traffic Signal Arrow	\$1,500
Shell Road-Alderbridge Way	WB Left Turn Traffic Signal Arrow	\$31,000
<ul style="list-style-type: none"> <li>• Shell Rd / Alderbridge Way</li> <li>• Bridgeport Road-Great Canadian Way</li> <li>• Sea Island Way-Garden City Road</li> <li>• Russ Baker Way-Cessna Drive</li> </ul>	Installation of UPS (Uninterrupted Power Supply) for traffic signals	\$2,500 \$2,500 \$2,500 \$2,500
Burkeville Area	Installation of 4 Speed Humps	\$4,000
Alberta Road at Henry Anderson Elementary School	Installation of 1 Pedestrian Zone Marker	\$500
Ferndale Road-Katsura Street	Installation of Stop Control Signage & Pavement Markings	\$1,500
<ul style="list-style-type: none"> <li>• Chatham Street-1<sup>st</sup> Avenue</li> <li>• Railway Avenue-Hollymount Gate</li> <li>• Elmbridge Way-WorkSafeBC Entrance</li> </ul>	Installation of Special Crosswalk	\$3,000 \$4,000 \$5,000
<ul style="list-style-type: none"> <li>• Francis Road-St Albans Road</li> <li>• Kwantlen Street-Kwantlen Polytechnic University Entrance</li> </ul>	Upgrade of Marked Crosswalk to Pedestrian Signal	\$8,000 \$5,000
Great Canadian Way-Van Horne Way	Upgrade of Pedestrian Signal to Full Traffic Signal	\$8,000
Steveston Hwy Corridor & Shell Road-Alderbridge Way	CCTV Camera Installations - Advanced Traffic Signal Management System	\$55,000
Minoru Blvd (Elmbridge Way-Alderbridge Way)	Construction of pedestrian pathway on east side	\$5,000
<b>Total</b>		<b>\$162,500</b>

## Proposed 2016 City-ICBC Road Improvement Projects

Proposed 2016 ICBC-City of Richmond Road Improvement Program Projects	Estimated Total Cost	Source & Amount of City Funds <sup>(1)</sup>		External Agency Funding <sup>(2)</sup>
Traffic calming measures in various locations pending results of traffic studies <sup>(3)</sup>	\$95,000	2016 Traffic Calming Program	\$95,000	-
Installation of pedestrian zone markers pending results of traffic studies <sup>(3)</sup> : <ul style="list-style-type: none"> <li>Azure Blvd school zone fronting Brighthouse Elementary School</li> <li>Cook Road school zone fronting Cook Elementary School</li> <li>Other locations to be determined<sup>(4)</sup></li> </ul>	\$5,000	2016 Traffic Calming Program	\$5,000	-
Installation of special crosswalks: <ul style="list-style-type: none"> <li>St Albans Road-Jones Road</li> <li>Garden City Road-Jones Road</li> <li>Shell Road-Bird Road</li> <li>No. 4 Road-Dayton Avenue</li> <li>Westminster Highway-Tiffany Blvd</li> <li>Williams Road-Deagle Road</li> <li>Williams Road-Lassam Road</li> <li>Granville Avenue-Bridge Street</li> <li>Other locations to be determined<sup>(4)</sup></li> </ul>	\$70,000 \$70,000 \$45,000 \$70,000 \$70,000 \$70,000 \$70,000 \$45,000 \$510,000	2015 Special Crosswalk Program 2016 Special Crosswalk Program	\$510,000	-
Installation of pedestrian signals: <ul style="list-style-type: none"> <li>Westminster Hwy-McCallan Road</li> <li>Blundell Road-Ash Street</li> <li>No. 2 Road-Colville Road</li> <li>No. 1 Road-Regent Street</li> <li>Gilbert Road-Lucas Road</li> <li>Other locations to be determined<sup>(4)</sup></li> </ul>	\$120,000 \$120,000 \$120,000 \$120,000 \$120,000 \$600,000	2016 Traffic Signal Program 2014 Active Transportation Program	\$120,000 \$240,000	\$240,000 TransLink (confirmed)
Installation of full traffic signal: <ul style="list-style-type: none"> <li>No. 2 Road-Blundell Centre Entrance</li> <li>Other locations to be determined<sup>(4)</sup></li> </ul>	\$80,000	2015 Traffic Signal Program	\$40,000	\$40,000 Developer Contribution (confirmed)
Video detection cameras & controllers: <ul style="list-style-type: none"> <li>Locations to be determined</li> </ul>	\$125,000	2015 Traffic Signal Program	\$125,000	-
Installation of UPS (Uninterrupted Power Supply) at traffic signals: Locations to be determined	\$30,000	2016 Traffic Signal Program	\$30,000	-
Installation of advance left-turn arrows at traffic signals: Locations to be determined	\$50,000	2016 Public Works Minor Capital - Traffic	\$50,000	-
Gilbert Road Widening (River Road-Lansdowne Road)	\$2,103,000	Roads DCC Credits	\$1,178,250	\$924,750 TransLink (confirmed)
Great Canadian Way (Bridgeport Road-Van Horne Way): multi-use pathway on west side	\$300,000	2016 Active Transportation Program	\$300,000	-
Westminster Highway (No. 8 Road-Nelson Road): multi-use pathway on south side	\$225,000	2015 Active Transportation Program	\$225,000	-
Dyke Road-Fraserwood Road: road widening and trail connection	\$1,000,000	2016 Roads DCC 2016 Parks DCC	\$500,000 \$500,000	-
Garden City Road-Odlin Road: southbound to eastbound left-turn lane	\$200,000	2016 Arterial Roadway Improvement Program	\$200,000	-
Construction of pedestrian path/sidewalk: <ul style="list-style-type: none"> <li>7<sup>th</sup> Avenue: Pleasant Street-Regent Street</li> <li>Seacote Road: Williams Road-150 m north</li> <li>River Road: Cambie Road-250 m west</li> <li>Bridgeport Road: Viking Way-No. 6 Road</li> <li>Other locations to be determined<sup>(4)</sup></li> </ul>	\$80,000 \$150,000 \$85,000 \$80,000 \$395,000	2015 Neighbourhood Walkway Program 2016 Neighbourhood Walkway Program 2016 Neighbourhood Walkway Program 2015 Arterial Roadway Improvement Program	\$80,000 \$150,000 \$85,000 \$80,000	-
Bus stop upgrade and/or construction of connecting sidewalk/pathway: <ul style="list-style-type: none"> <li>Multiple locations city-wide</li> </ul>	\$158,500	2016 Transit-Related Road Improvement Program	\$79,250	\$79,250 TransLink (pending)

(1) Should the submitted project receive funding from ICBC, the City's portion of the total cost would be reduced accordingly.

(2) The amount shown represents the maximum funding contribution to be received from the external agency based on the City's cost estimate for the project. The actual approved amount may be lower than requested. The actual invoiced amount follows project completion and is based on incurred costs. Should the project receive funding from an external agency, the City's portion of the total cost would be reduced accordingly.

(3) Implementation is subject to consultation with and support from affected residents.

(4) Additional locations may be identified for submission to ICBC prior to its annual program deadline.

PWT - 20



# City of Richmond


## Report to Committee

**To:** Public Works and Transportation Committee  
**From:** Victor Wei, P. Eng.  
Director, Transportation  
**Re:** On-Street Motorcycle and Moped Parking

**Date:** January 26, 2016  
**File:** 10-6455-00/Vol 01


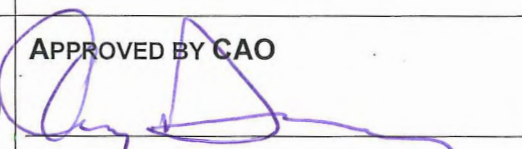
### Staff Recommendation

1. That on-street motorcycle and moped parking spaces located within six (6.0) metres of the far side of an intersection where on-street parking is allowed be established in the City Centre Parking Management Zone and the Steveston Village core; and
2. That staff be directed to bring forth an amendment to Traffic Bylaw No. 5870 to enable implementation of on street motorcycle and moped parking spaces as described in the staff report dated January 26, 2016, from the Director Transportation.



Victor Wei, P. Eng.  
Director, Transportation  
(604-276-4131)

Att. 4

REPORT CONCURRENCE		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Community Bylaws Roads & Construction	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	 FOR JOE ERCPG
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> DW	<b>APPROVED BY CAO</b> 



## Staff Report

### Origin

In March 2015, the Province of BC released “BC on the Move,” its new 10-Year Transportation Plan. The staff presented at the April 27, 2015 Council meeting noted that a component of the Plan is to enable municipalities to allow motorcycle parking near intersections and crosswalks. This report recommends that Traffic Bylaw No. 5870 be amended to establish on-street parking for motorcycles, mopeds and scooters near intersections and crosswalks as a means of encouraging the use of these lower impact travel modes.

### Findings of Fact

#### Provincial Motor Vehicle Act Amendment

On April 30, 2015, the Ministry of Transportation and Infrastructure amended a portion of the Motor Vehicle Act to include the following sections:

*189 (3) Despite subsection (1) (f), a municipality may provide by bylaw that, if authorized by a sign posted by the municipality, a person may park a cycle or motorcycle within 6 m of the approach of the approach side of a crosswalk if the cycle or motorcycle is*

*(a) of a size that, and*

*(b) parked so that*

*the cycle or motorcycle does not obstruct a motorist’s view of the crosswalk, flashing beacon, stop sign, traffic control signal or an intersection.*

*(3.1) If a municipality enacts a bylaw referred to in subsection (3), or a treaty first nation enacts a law having the same effect, a person may park a cycle or motorcycle in accordance with the bylaw or law.*

#### Current Provision of Motorcycle Parking in Richmond

Several on-street parking spaces for motorcycles were designated within the Steveston Village core (bounded by No. 1 Road, Bayview Street, 3<sup>rd</sup> Avenue, and Chatham Street) in 2013 as part of a pilot project. In addition, limited designated motorcycle parking is available at City-owned off-street parking lots where it has been requested.

The Traffic Bylaw currently prohibits the parking of a vehicle (which is defined to include a motorcycle) within six metres of a crosswalk, intersecting street, stop sign, or traffic control signal. There is also no provision for the establishment of on-street parking specifically for motorcycles near a crosswalk or intersection.

### Analysis

The City’s Official Community Plan (OCP) encourages the use of alternate transportation methods to single occupant vehicles. A proposed amendment to the Traffic Bylaw to allow on-street parking for motorcycles, mopeds and scooters near intersections and crosswalks would be

consistent with this objective as motorcycles, scooters and electric cycles offer alternatives to the automobile and have smaller footprints that produce fewer or zero emissions.

Based on data provided by ICBC, there were 110,000 motor vehicles registered in the City of Richmond as of December 31, 2015 versus 1,900 motorcycles and mopeds as of August 31, 2015. Given that the number of motorcycles and mopeds is less than two per cent of the number of passenger vehicles, there is an opportunity to expand the use of these modes of transportation.

#### Motorcycle Parking in Other Jurisdictions

In 2004, the City of Burnaby approved a staff report to establish on-street motorcycle parking spaces located at corner clearances at the far side of the intersection with others in City-owned off-street parking lots. Sixteen (16) spaces were established on Hastings Street only, with up to three (3) motorcycles allowed in each space. Each designated space is identified by signage (see Attachment 1). The parking regulations for the parking space are the same as those in the immediate surrounding area (e.g., time limit parking and/or metered pay parking). Current usage of the on-street motorcycle stalls is low due to free parking spaces in adjacent off-street lots.

Similarly, the City of Vancouver established a motorcycle parking program in 2012 that also provides designated parking spaces located at the corner clearances at the far side of an intersection in the direction of travel on the roadway (see Attachment 2) in the downtown area only. These spaces are regularly patrolled by City Parking Enforcement personnel. One motorcycle is allowed in each designated space. Each designated space is identified by specific signage and / or road markings. The parking regulations for these spaces are the same as surrounding traffic controls. There are approximately 230 designated motorcycle parking spaces, of which 100 are metered (see Attachment 3 for example signage).

#### Proposed Locations for On-Street Motorcycle and Moped Parking

Both Vancouver and Burnaby established a specific area for the installation of on-street motorcycle and moped parking rather than having a city-wide blanket policy. Staff propose that on-street motorcycle and moped parking spaces located at corner clearances initially be established in the City Centre Parking Management Zone (Attachment 4) and the Steveston Village core. It is estimated that up to 60 parking spaces for motorcycles could be created. As these locations correspond to where higher residential densities as well as the majority of shopping facilities and restaurants are located, on-street parking is therefore at a premium. Designated on-street parking for motorcycles, mopeds and scooters in these areas would encourage drivers to use vehicles other than automobiles when they are aware that dedicated spaces are available.

The proposed motorcycle parking spaces would be at corner clearances where parking is currently prohibited; thus, where applicable, there would be no impact on the number of pay parking or permit parking spaces in the area. Only registered motorcycles or mopeds, with a valid licence plate, would be able to park in the designated spaces.

Staff propose that these motorcycle parking spaces in pay parking areas initially be exempt from metered or permit zone fees, which would address enforcement concerns of Community Bylaws

regarding how to identify if motorcyclists have paid for parking given there is no place on the motorcycle to display the pay parking ticket or permit. Community Bylaws have received approval to implement pay by licence plate number or parking stall number programs and the 2016 Capital Budget includes the purchase of the required hardware to implement the program. Once the chosen program is initiated then the motorcycle parking stalls could be converted to pay parking stalls as in other jurisdictions and increase revenue for the City.

If approved, staff would monitor these locations to determine if expansion of the program is warranted. If the motorcycle parking stalls are converted to pay parking, staff will bring information on anticipated revenues forward in a future report.

#### Consultation with Richmond Parking Advisory Committee

Staff presented the proposed establishment of motorcycle and moped parking spaces at corner clearances to the Richmond Parking Advisory Committee for feedback at its February 24, 2016 meeting. The Committee was supportive of the initiative and suggested that the pavement markings to delineate the spaces be designed to encourage users to correctly park at a 45 degree angle to the curb.

#### Proposed Amendments to Traffic Bylaw No. 5870

An amendment to Traffic Bylaw No. 5870 is required to support the establishment of on-street motorcycle parking spaces located within six (6.0) metres of the far side of an intersection where on street parking is allowed. In addition, the following definitions would be added to Traffic Bylaw No. 5870:

*“Motorcycle” means a two wheeled self propelled gasoline engine vehicle, or a two wheeled scooter with either gas or electric motor or two wheeled Zero Emission Vehicle powered by an electric motor that is registered, licensed and insured. Drivers require a motorcycle driver’s licence and drivers must wear a helmet.*

*“Moped” (Limited Speed Scooters) means a low powered motorcycle or small scooter that relies on a small conventional gas powered motor (50 cc or less) or a small electric motor (1500 W or less). These vehicles can travel up to 70 Km/h and must be registered, licence and insured. A drivers licence is required and drivers must wear a helmet.*

*“Corner Clearance Parking Area” means an area on a street adjacent to the curb located between a crosswalk and the nearest legal parking space not signed for corner clearance motorcycle parking, and that the Director, Transportation had marked or metered and signed for corner clearance motorcycle parking.*

Staff intend to bring forth the proposed amendments in the second quarter of 2016.

#### **Financial Impact**

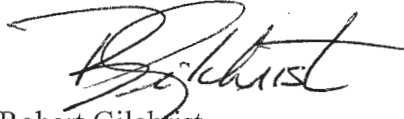
The total estimated cost to establish the proposed new on-street motorcycle/moped parking is \$21,000 for the installation of new pavement markings and new parking signs, which would



create approximately 60 parking spaces for motorcycle/moped parking in 2016. The proposed funding source is the current approved 2015 Minor Capital Account. If approved, the on-going budget impact is estimated to be \$3,226.00 commencing in 2017 plus a two to five per cent increase annually.

### **Conclusion**

The installation of on-street motorcycle and moped parking spaces is a proactive step toward reducing the number of automobile trips and GHG emissions. The program is consistent with the objectives of the OCP and will encourage residents to use a cleaner and cheaper method of transportation knowing that dedicated parking spaces will be available.



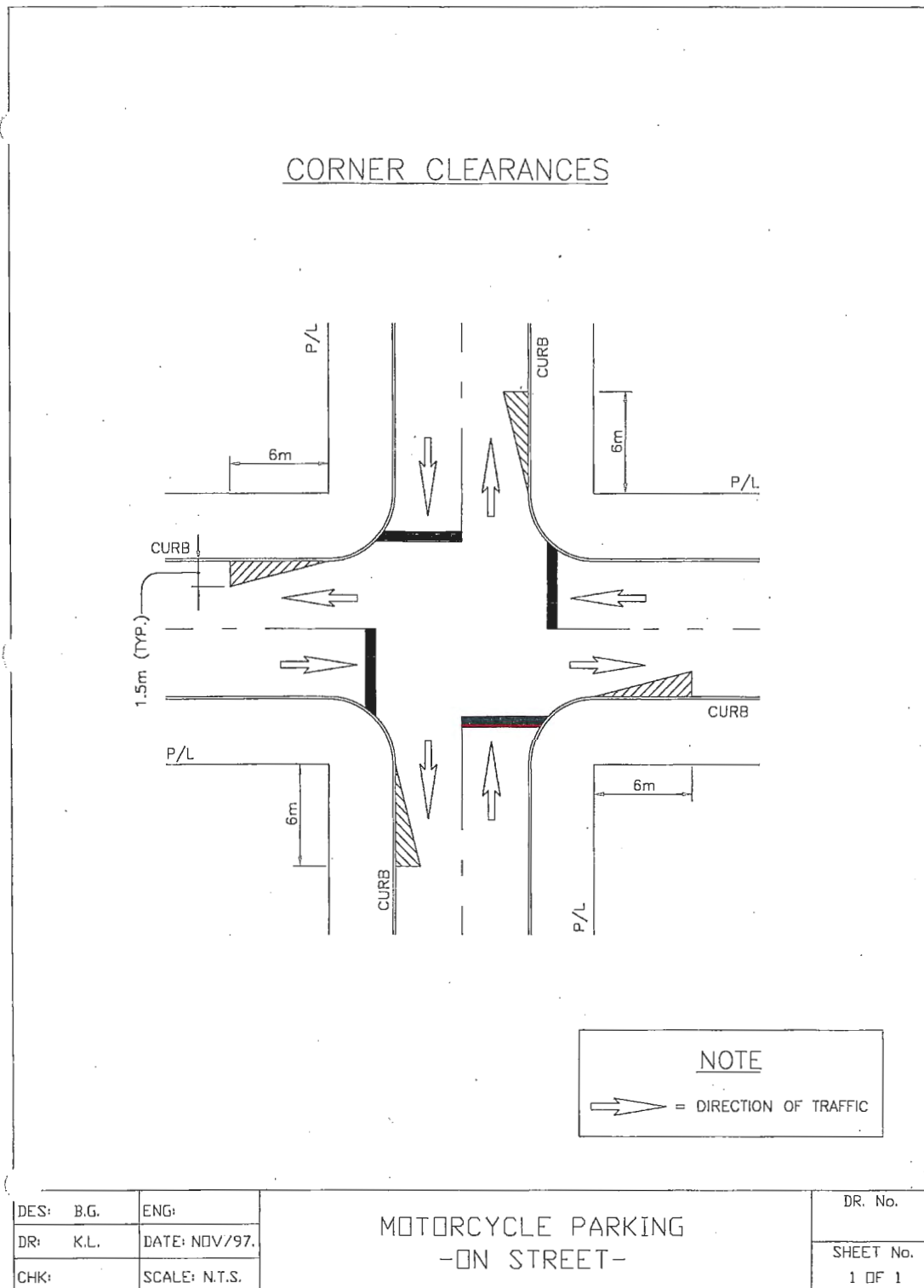
Robert Gilchrist  
Traffic Supervisor  
(604-247-4697)

RG:lce

City of Burnaby: Motorcycle Parking Signage



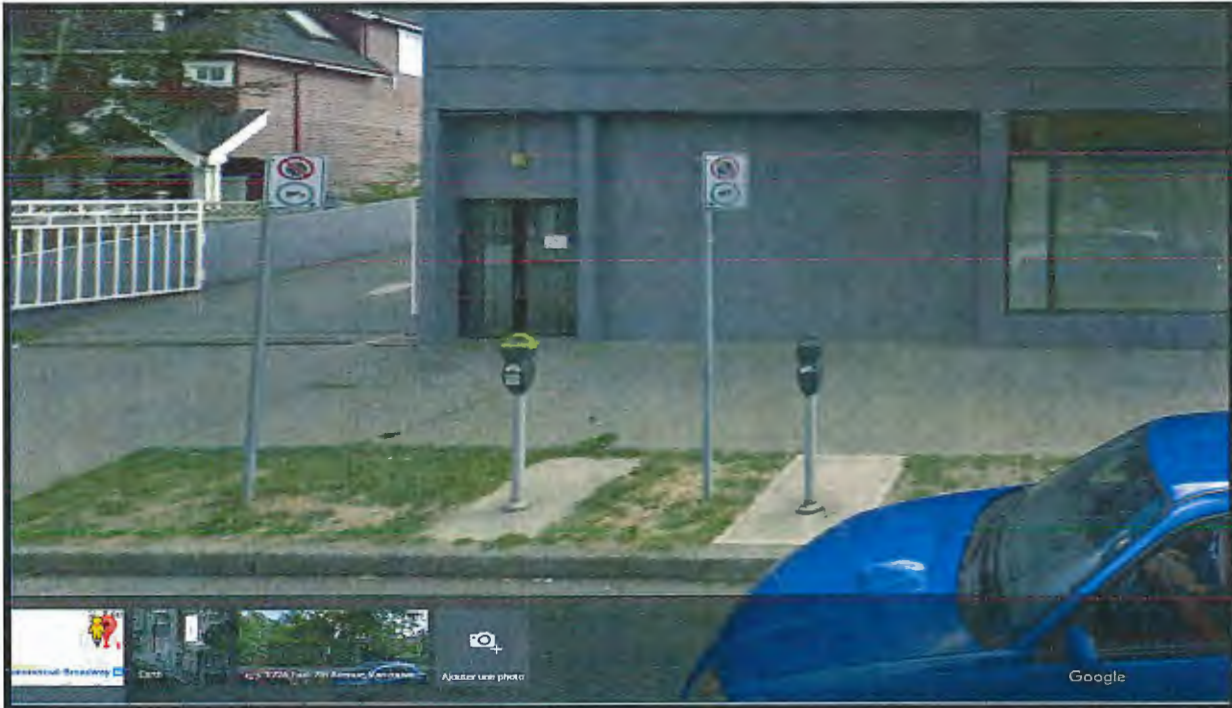
## City of Vancouver: On-Street Motorcycle Parking in Corner Clearances



Motorcycles would be parked within the areas marked by diagonal hatching



City of Vancouver: On Street Motorcycle Parking Signage



Metered Location

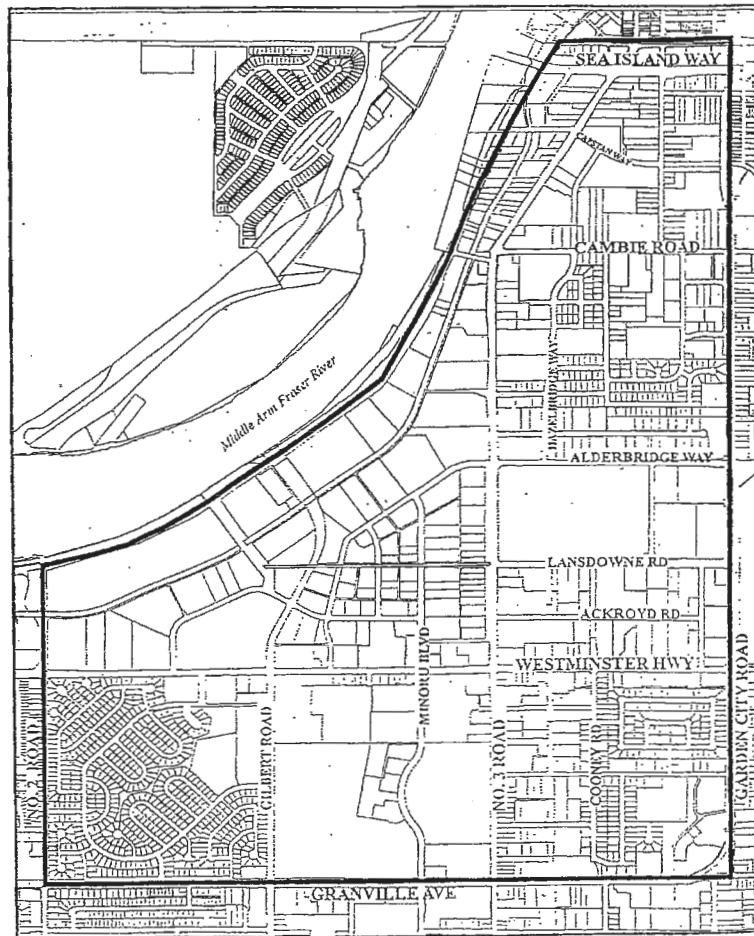


Free Parking Location

BYLAW NO. 5870

45

SCHEDULE K to BYLAW NO. 5870  
CITY CENTRE PARKING MANAGEMENT ZONE



3734514

November 13, 2012



# City of Richmond

## Report to Committee

**To:** Public Works and Transportation Committee  
**From:** John Irving, P.Eng. MPA  
Director, Engineering  
**Re:** Annual Flood Protection Report 2015

**Date:** March 1, 2016  
**File:** 10-6060-04-01/2016-  
Vol 01

### Staff Recommendation

That the staff report titled "Annual Flood Protection Report 2015" (dated March 1, 2016, from the Director, Engineering) be received for information.

**For** John Irving, P.Eng. MPA  
Director, Engineering  
(604-276-4140)

Att. 3

REPORT CONCURRENCE		
<b>ROUTED TO:</b>  Roads & Construction Sewerage & Drainage	<b>CONCURRENCE</b>  <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<b>CONCURRENCE OF GENERAL MANAGER</b>  
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b>  DW	<b>APPROVED BY CAO</b>  

## Staff Report

### Origin

The City of Richmond generally has flat topography that is largely at 1 m or higher above mean tide level. The City is protected from the Fraser River and the Straight of Georgia by a system that includes 49 km of dikes. Storm water is drained off Lulu Island via 600 km of drainage pipes, 320 km of ditches and canals and 39 storm water pumping stations.

The 2008 – 2031 Richmond Flood Protection Strategy is the City's guiding framework for ongoing upgrades and improvement of the City's flood protection system. Staff will update this strategy as part of the 2016 work program.

This annual report updates Council on the performance of the flood protection system through the 2015 storm and freshet seasons. It also reports drainage system improvements completed during 2015 as well as improvements planned for 2016.

This report supports Council 2014-2018 Term Goal #6, Quality Infrastructure Networks:

*Continue diligence towards the development of infrastructure networks that are safe, sustainable, and address the challenges associated with aging systems, population growth, and environmental impact.*

### Findings of Fact

#### Rainfall

- Approximately 1,146 mm of rain fell on the City of Richmond in 2015, which is 7.5% less than the average annual rainfall and 14% less than in 2014 (based on rainfall sensors located at City Hall).
- December was the wettest month of the year with 238 mm of rainfall, accounting for more than 20% of the annual total.
- The rainiest day of the year was on January 4, with 47 mm of rain in a 24-hour period. This rainfall event has a statistical return period of two years but is well below the single-day record of 74 mm from December 1979.
- The most intense storm of 2015 was on August 29 when rain gauges recorded a rainfall intensity of 69.6 mm/hr for a brief 5-minute period. This rainfall event has a statistical return period of over 25 years; however, this intensity was not sustained, as only 21 mm of rainfall was recorded for the day.
- There were two other significant rainfall events in 2015:
  - November 11, two-year return period event over a 12-hour period.
  - December 6, two-year return period event over a 24-hour period.

2015 was notable due to less than average total precipitation (see Attachment 1) combined with a higher than average rainfall intensity. Four storms in 2015 had statistical return periods greater than two years.

The City's storm water system is designed to accommodate a ten-year return period event. The drainage system performed well and no capacity-related flooding issues were identified in 2015. While the drainage system capacity was adequate for 2015, ongoing planning and upgrading are required to maintain the current level of service, considering ongoing climate change and urban growth.

### Freshet

Low snow pack (approximately 60% of normal) contributed to a shorter freshet with lower than normal peak Fraser River flows in 2015. By early June, Fraser River flow was receding from a peak of 7,950 m<sup>3</sup>/s (the peak in 2014 was 10,083 m<sup>3</sup>/s). This resulted in a negligible freshet flood risk in 2015 with no significant impacts on the City's dike and drainage system.

So far in 2016, the snow pack is 77% of normal in the Fraser Basin. This may be further impacted by the current El Nino cycle, which typically brings warmer-than-normal temperatures and an early spring. Staff will continue to monitor environmental conditions that impact the 2016 freshet and will report any significant changes to Council.

### King Tide and Storm Surge

The water levels surrounding Richmond are driven primarily by the tide cycles. King tides are extreme high tides that occur in summer and in winter. The impact of king tides is typically more significant in the winter when water levels are also impacted by winter storm surges.

A storm surge is caused when water levels are increased by wind and/or a low pressure weather system. The highest water levels experienced in Richmond generally occur when a king tide coincides with a storm surge. King tides and storm surges combined to create high water levels of 2.31 m geodetic on February 6<sup>th</sup> and 2.28 m on December 13<sup>th</sup>. These water levels are well below the typical dike elevation of 3.5 m.

### 2008 – 2031 Richmond Flood Protection Strategy

The 2008 – 2031 Richmond Flood Protection Strategy is the City's guiding framework for continuing upgrade and improvement of the City's flood protection system. In addition to the on-going drainage and diking projects related to this strategy, there was progress made this year on two major long-term initiatives.

In December 2015, the City received approval from the Province to begin survey and investigation for the construction of a dike on Steveston Island. The investigation is required to further develop the feasibility, impact and cost associated with building the Steveston Island Dike recommended in the Lulu Island Dike Master Plan – Phase 1.



Dike Master Plan – Phase 2 began in 2015. This phase of the plan includes the North West Dike and the Middle Arm Dike west of No. 6 Road. Staff will update Council with the findings of the Dike Master Plan – Phase 2 in 2016.

### Drainage System Performance

324 service requests related to drainage issues were recorded by Public Works in 2015. This is a slight decrease over 2014 when there were 330. Service requests were generally associated with local blockage issues. No significant flooding events were recorded and no capacity issues identified in 2015. Attachment 2 charts service requests related to drainage for the last eleven years.

### Drainage System Improvements

Staff are continuously upgrading and improving the City's drainage system to accommodate new development and climate change as directed by Council through the operating and capital budgets. Design work and construction are continually underway to replace aging drainage system pump stations as they reach the end of their service life. Drainage station upgrades are designed to meet the ten-year return period storm service level as well as accommodate future development and climate change. Work is underway on the following drainage pump stations:

- Bath Slough (design completed in 2015, construction to be completed in 2016)
- No. 2 Road North (design and construction to be completed in 2016)
- Horseshoe Slough (design work to be completed in 2016)
- No. 7 Road (design work to be started in 2016)

The City's drainage pumping capacity will be improved as each of these projects is completed. Attachment 3 charts pumping capacity improvements over the last eleven years.

The City completed drainage conveyance system improvements on Westminster Highway, from Nelson Road to McMillan Way. The City has also upgraded laneway drainage during 2015 at the following locations:

- 11000 Block Williams Road
- Dennis Crescent (East)
- Seabrook Crescent (East)
- Steveston Highway (6<sup>th</sup> Avenue to 7<sup>th</sup> Avenue)
- Swinton Crescent (West)
- Garry Street (East of 2<sup>nd</sup> Avenue)

In total, there were approximately \$4.2 million of drainage system upgrades completed in 2015.

### Dike Improvements

Since 2010, the City has performed a large number of dike improvements through capital programs and partnering with development adjacent to the dikes. Improvements have raised the dike to elevations between 4.0 m and 4.7 m geodetic, which is higher than the current Provincial

flood protection standard and will protect the City from medium and longer term sea level rise. The following is a list of key improvements that have been made:

- Dikes adjacent to Bath Slough Pump Station
- 11,000 Block Dike Road (south arm, west of No. 5 Road)
- 21,000 Block River Road (north arm, east of No. 8 Road)
- 21-22,000 Block South Dyke Road (south arm, east of Graybar Road)

### **Financial Impact**

None.

### **Conclusion**

2015 was a warm and dry year characterized by very low snow pack and a negligible freshet flood risk. Lower than average total precipitation combined with statistically high rainfall intensity in 2015 corresponds with climate change theory, and the City can expect this trend to continue. The City's ongoing program to improve drainage and diking infrastructure includes an allowance for climate change to maintain the current level of service into the future. Progress on Phase 2 of the Dike Master Plan and further investigation of the proposed Steveston Island Dike will contribute to the City's ongoing program to maintain dike elevations above climate change induced sea level rise.

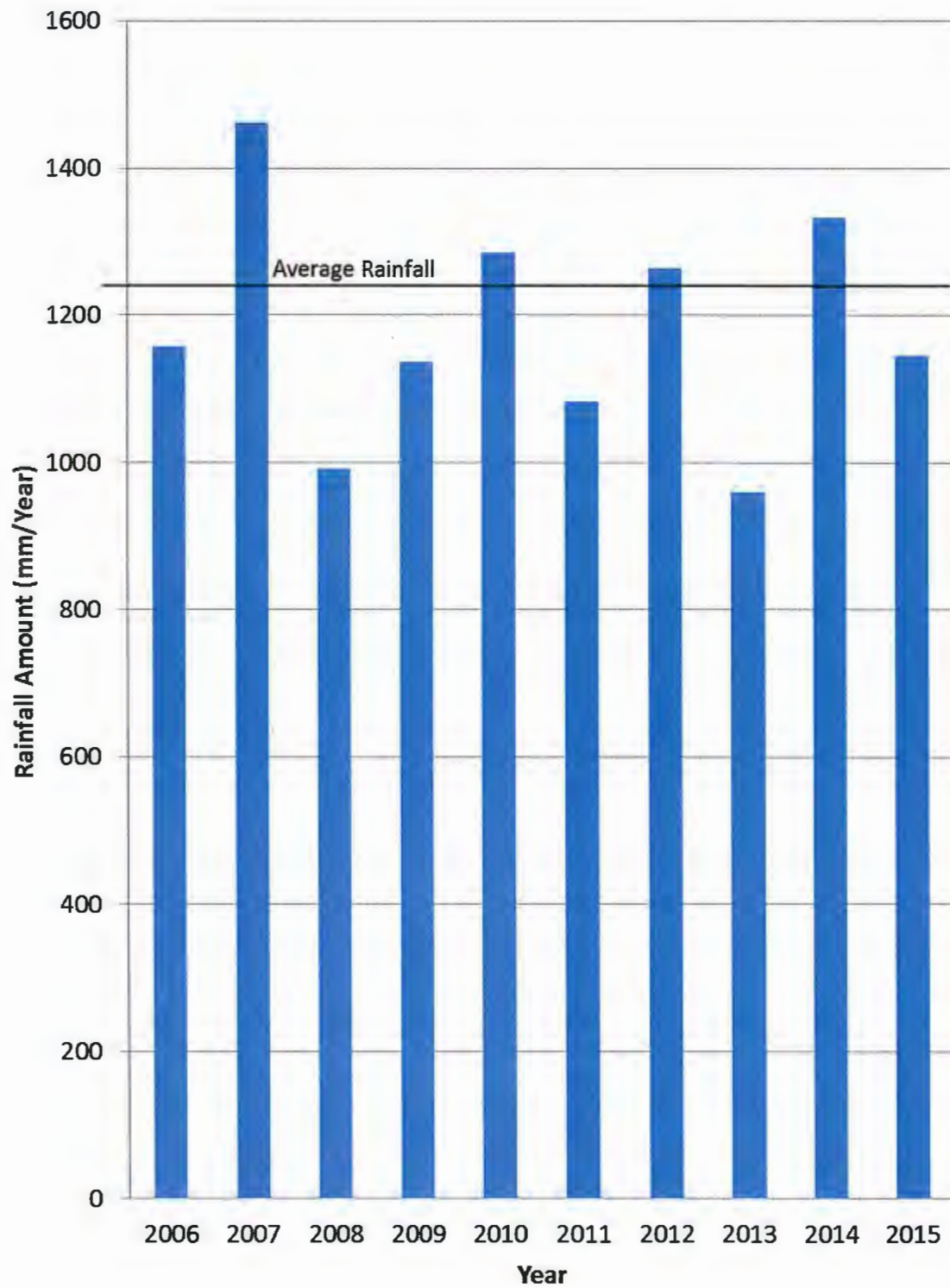


For Lloyd Bie, P.Eng.  
Manager, Engineering Planning  
(604-276-4075)

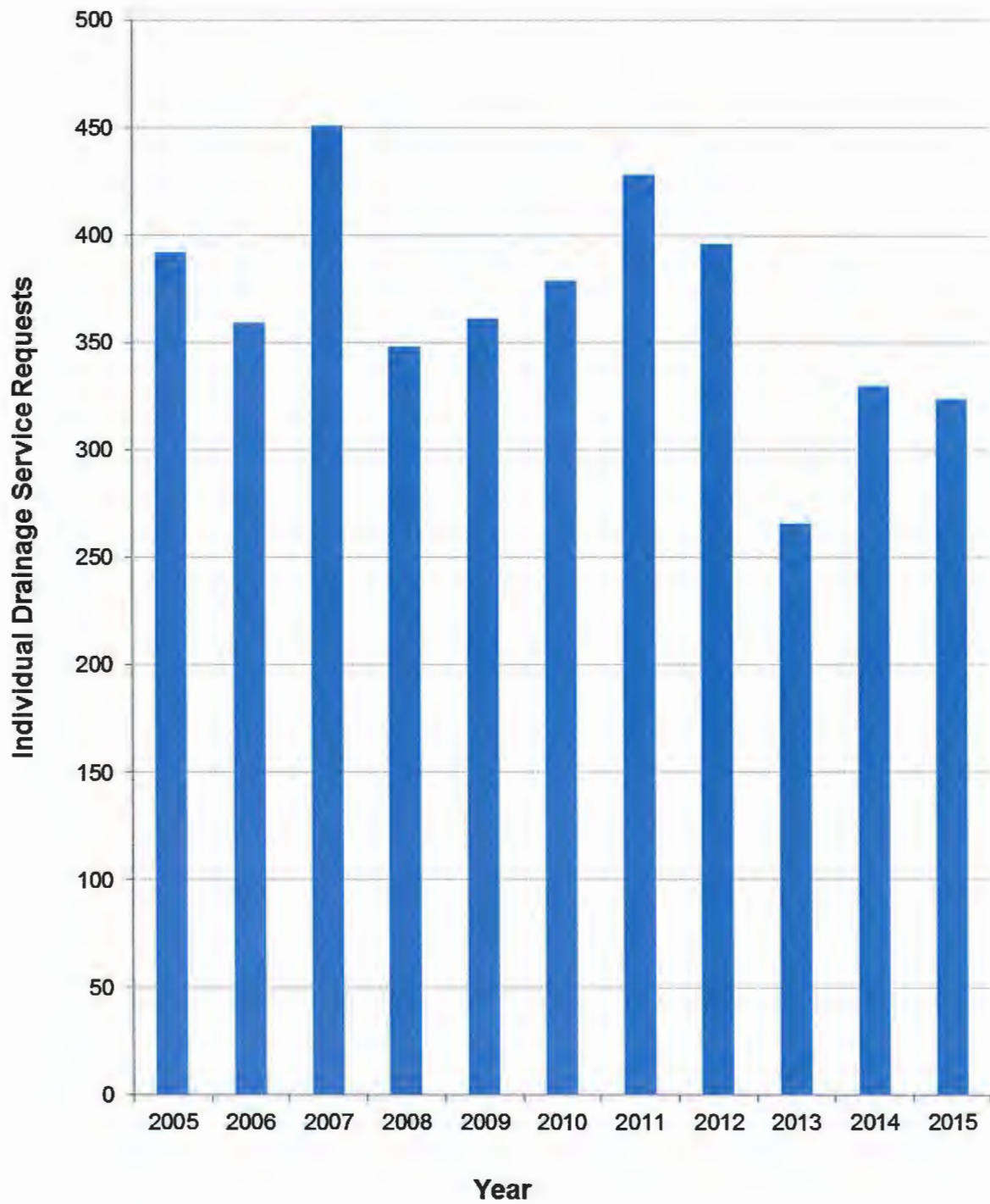
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- Att. 1: Annual Rainfall Data  
2: Annual Drainage Service Requests  
3: Drainage Pump Station Capacity 2005-2015

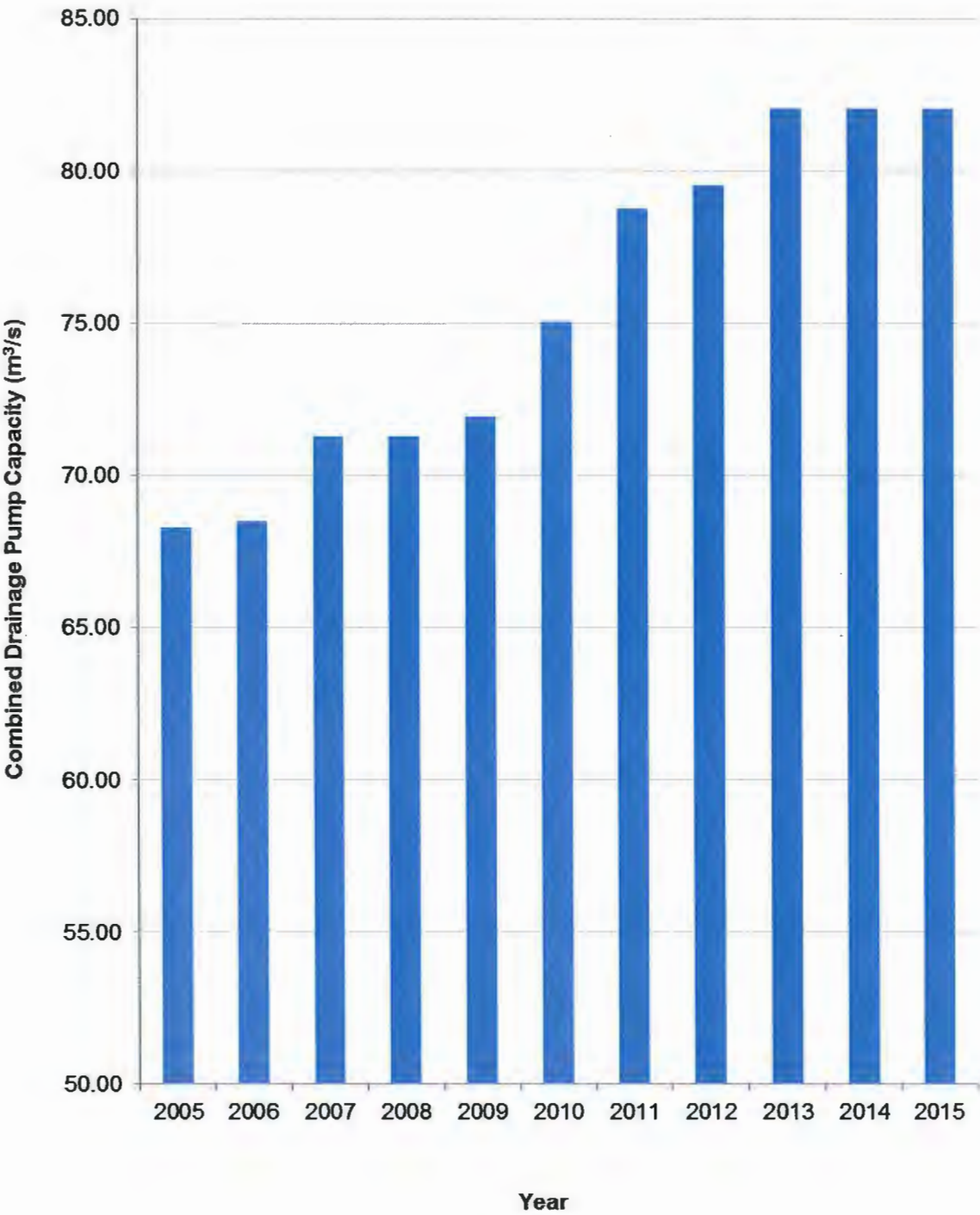
## Annual Rainfall Data



### Annual Drainage Service Requests



**Total Drainage Pump Station Pumping Capacity 2005-2015**





# City of Richmond

## Report to Committee

**To:** Public Works and Transportation Committee

**Date:** March 10, 2016

**From:** John Irving, P.Eng. MPA  
Director, Engineering

**File:** 10-6650-01/2016-Vol  
01

**Re:** Water Use Restriction Bylaw Amendment

### Staff Recommendation

1. That the Metro Vancouver Water Shortage Response Plan amendments, as outlined in the "Water Use Restriction Bylaw Amendment" report, dated March 10, 2016 from the Director, Engineering, be endorsed; and
2. That Water Use Restriction Bylaw No. 7784, Amendment Bylaw No. 9530 be introduced and given first, second and third readings.

for John Irving, P.Eng. MPA  
Director, Engineering  
(604-276-4140)

Att. 2

REPORT CONCURRENCE		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Water Services Community Bylaws Parks	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> DW	<b>APPROVED BY CAO</b> 

## **Staff Report**

### **Origin**

The Metro Vancouver Water Shortage Response Plan (WSRP) was prepared by Metro Vancouver and adopted by the City of Richmond in July 2011 as Water Use Restriction Bylaw No. 7784. The bylaw restricts water use during the summer months and in the event of a water shortage any time of the year. The WSRP is intended to manage discretionary uses of water while minimizing the impact on residents and avoiding unnecessary economic hardships on businesses.

In November 2015, the Greater Vancouver Water District (GVWD) Board approved a process to review and update the 2011 WSRP. The WSRP review and update process includes two phases. The first phase amends specific elements within the WSRP to address key implementation concerns raised by local governments, businesses and the public during the 2015 drought. The second phase includes a comprehensive technical review and stakeholder consultation program to produce an updated WSRP in time for the 2017 summer season.

This staff report presents the GVWD Board endorsed first phase amendments and the associated City of Richmond amendment bylaw (Attachment 1) to Council for endorsement.

### **Analysis**

The first phase amendments of the WSRP review and update process (Attachment 2) were endorsed by the GVWD Board at its meeting on February 26, 2016 and are outlined as follows:

- (a) Revise the activation period for Stage 1 of the WSRP from June 1 – September 30 to May 15 – October 15;
- (b) At Stage 2, allow water to be used by commercial cleaning services for aesthetic cleaning; and
- (c) At Stage 3, allow previously issued local government exemption permits to water new lawns or for treatment to control the European Chafer Beetle to remain valid.

The Stage 2 amendment endorsed by the GVWD Board allows commercial cleaning businesses (including pressure washing and window cleaning) to use water for aesthetic cleaning, but does not allow private cleaning for aesthetic purposes. This change effectively allows residents to hire contractors to perform cleaning services for their homes, while prohibiting residents who cannot afford contractors from performing the work on their own. This causes the issue of financial disparity and presents unfair treatment to low-income residents.

In addition, enforcement would become more challenging as enforcement officers would be required to determine if the cleaning service was performed commercially or privately prior to issuing a ticket.

Staff have been in contact with Metro Vancouver regarding the possibility for the City to allow both commercial and private cleaning for aesthetic purposes. Although it is Metro Vancouver's



preference for the City's bylaw to correspond with the WSRP, Metro Vancouver is not able to issue fines or penalties to municipalities applying discretion. Staff recommend allowing water to be used for aesthetic cleaning by both commercial and private entities at Stage 2 of the WSRP.

The proposed Water Use Restriction Bylaw No. 7784, Amendment Bylaw No. 9530, implements changes to correspond with the revised WSRP (with the exception of allowing both commercial and private water use for aesthetic cleaning in Stage 2) and further defines the restricted use of ornamental fountains in Stage 2 to provide more clarity.

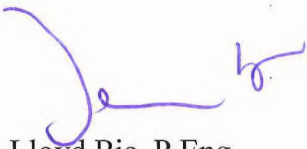
### **Financial Impact**

None.

### **Conclusion**

The WSRP has been an important and effective tool for managing water demand during times of shortages or emergencies. The proposed amendments to the WSRP further improve water demand management and promote water conservation while minimizing the impact on residents and avoiding unnecessary economic hardships on businesses

Staff recommend that the Metro Vancouver amendments to the WSRP (with the exception of allowing both commercial and private water use for aesthetic cleaning in Stage 2) be endorsed, and Water Use Restriction Bylaw No. 7784 be amended accordingly and to provide clarity by further defining the restricted use of ornamental fountains in Stage 2.

  
For Lloyd Bie, P.Eng.  
Manager, Engineering Planning  
(4075)

  
Corrine Haer, EIT  
Project Engineer  
(4026)

LB:ch

Att. 1: Water Use Restrictions Bylaw No. 7784, Amendment Bylaw No. 9530

Att. 2: Metro Vancouver report to Utilities Committee titled "Consultation Results and Proposed Amendments to the Water Shortage Response Plan" dated February 2, 2016





# City of Richmond

## Bylaw 9530

### Water Use Restrictions Bylaw No. 7784, Amendment Bylaw No. 9530

The Council of the City of Richmond enacts as follows:

1. The Water Use Restrictions Bylaw No. 7784, as amended, is further amended by:

(a) Deleting Section 1.1.4 in its entirety and substituting the following:

“1.1.4 If no **restriction stage** is in force on May 15<sup>th</sup> of any year, **Stage 1 Restrictions** come into force on that date without prior declaration of the **Commissioner** or announcement under section 1.1.2.”

(b) Deleting Section 2.2.1 (b) and 2.2.1 (c) in their entirety and substituting the following:

“(b) use a hose providing **water** to wash sidewalks, driveways, walls, roofs or other outdoor surfaces, unless the hose is equipped with an **automatic shut-off device** and the purpose of washing is:

- (i) to prepare a surface for painting, sealing, or similar treatment;
- (ii) to prevent or control fires;
- (iii) for health or safety of any **person**; or
- (iv) for **aesthetic cleaning**; or

(c) use **water** to fill, re-fill or operate ornamental fountains; or”

(c) Deleting Section 2.3.1 (d) in its entirety and substituting the following:

“(d) use **water** to fill or re-fill garden ponds, hot-tubs, or swimming pools.”

(c) Deleting Section 2.7 in its entirety and substituting the following:

#### “2.7 Exceptions to Water Use Restrictions – Stage 3

2.7.1 The **Stage 3 Restrictions** specified in subsection 2.3.1 do not apply to **watering**:

- (a) as permitted in clauses (b)(i) through (iv) and (c) of subsection 2.5.1;

- (b) flowers and vegetables at commercial gardens;
- (c) **water play parks** with user-activated switches;
- (d) the tee-off areas and putting greens of golf courses, provided that **water** is used only to the extent necessary to maintain the viability of the grass in those areas; and
- (e) as permitted in clause (a) of subsection 2.6.1.”

(d) Deleting Section 2.8 in its entirety and substituting the following:

**“2.8 Time Limit for Water Use Restrictions**

- 2.8.1 No **Restriction Stage** remains in force after October 15<sup>th</sup> of any year, unless the **Commissioner** makes a declaration under this section.
- 2.8.2 At any time before or after October 15<sup>th</sup> of any year, the **Commissioner** may, by letter to the **General Manager, Engineering & Public Works** declare that notwithstanding subsection 2.8.1, a **Restriction Stage** will remain in force or come into force after October 15<sup>th</sup>.”

(e) Deleting Section 3.1.1 in its entirety and substituting the following:

- “3.1.1 A **person** may, when **Stage 1 Restrictions** or **Stage 2 Restrictions** are in force, apply to the **General Manager, Engineering & Public Works** for a **permit** authorizing the **person** to **water** if:
  - (a) the **person** has installed a new lawn, either by placing sod or turf or by seeding, or new landscaping on a substantial part of the outdoor portion of the property; or
  - (b) the **person** is applying nematodes to a lawn to control the growth of European Chafer Beetle.

(f) Deleting sections 3.1.4 and 3.1.5 in their entirety and substituting the following:

- “3.1.4 Notwithstanding **Stage 1 Restrictions** or **Stage 2 Restrictions** or **Stage 3 Restrictions**, the holder of a valid **permit** is authorized to **water** in accordance with the terms and conditions of the **permit**.

- 3.1.5 A **permit** does not exempt the **permit** holder from **Stage 4 Restrictions**.”

(g) Adding the following definition in alphabetical order to Section 5.1:

- “**AESTHETIC CLEANING** means to clean for the purpose of making the impermeable surface more appealing.”

2. This Bylaw is cited as **“Water Use Restrictions Bylaw No. 7784, Amendment Bylaw No. 9530”**.

FIRST READING

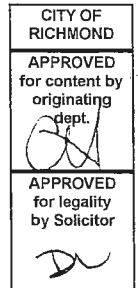
SECOND READING

THIRD READING

ADOPTED

\_\_\_\_\_  
MAYOR

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



To: Utilities Committee

From: Inder Singh, Director, Policy, Planning and Analysis, Water Services  
 Lisa Moffatt, Program Manager, Public Involvement, Water Services

Date: February 2, 2016 Meeting Date: February 11, 2016

Subject: **Consultation Results and Proposed Amendments to the Water Shortage Response Plan**

### RECOMMENDATION

That the GVWD Board:

- a) Receive for information the report titled "Consultation Results and Proposed Amendments to the Water Shortage Response Plan", dated February 2, 2016; and,
- b) Authorize amending the Water Shortage Response Plan as follows:
  - i) Amend Stage 2 to allow water to be used by commercial cleaning services for aesthetic cleaning; and,
  - ii) Amend Stage 3 to allow previously issued local government exemption permits to water new lawns or for treatment to control the European Chafer Beetle to remain valid.

### PURPOSE

To provide the Board with an update on the Water Shortage Response Plan (Plan) review process, including consultation results and proposed amendments to the Plan.

### BACKGROUND

In November 2015, the Board approved a process to review and update the 2011 Plan, and authorized amending the activation period for Stage 1 of the Plan from June 1 - September 30 to May 15 - October 15. The Plan review and update process includes two phases (Attachment 1). Phase 1 involves the amendment of specific elements within the Plan to address key implementation concerns raised by local governments, businesses, and the public during the summer of 2015. Phase 2 includes a comprehensive technical review and stakeholder consultation program to produce an updated Plan in time for the 2017 summer season.

This report provides a summary of the consultation undertaken through the fall of 2015, and outlines the proposed amendments in time for local governments to amend their bylaws ahead of the 2016 summer season.

### PLAN REVIEW AND CONSULTATION RESULTS

Metro Vancouver undertook a consultation program starting in the fall of 2015 and continuing through to February 2016 to receive input from local governments, the private sector, and the public on impacts they experienced with the implementation of the Plan during the 2015 season and suggestions to improve the plan. Input from local governments included discussions with the Regional Engineers Advisory Committee (REAC) and the REAC Water Subcommittee.

Metro Vancouver also facilitated a workshop with 27 local government staff representing 13 local governments including the City of Abbotsford, and met with individuals representing 26 local

businesses, 5 business associations, and one local university. Meetings were also held with pressure washers and window cleaners, golf, turf farm, landscape and nursery, pool and hot tub, and irrigation industries. Metro Vancouver is currently compiling a detailed report with all the feedback received regarding the Plan implementation.

A brief summary of the issues raised during the consultation meetings is provided below.

- **Disruption of Local Government Operations and Business Activities**

Local government staff and private sector participants reported that the public's scrutiny and monitoring of their activities when using water for activities permitted under the Plan resulted in disruptions to their businesses. At times, local government staff refrained from using water for routine and necessary operations, such as watering medians, sports fields, and trees. Some private sector participants were concerned about negative public perception of their services because of the framing of some campaign and media messages. Several participants even reported being harassed and physically threatened by people who believed they were operating illegally.

- **Financial Hardship**

Although the magnitude of the impacts varied across industries, all business sectors reported enduring some level of financial hardship, including revenue losses and staff layoffs. All private sector participants consulted were seeking the rationale used for restricting various water uses. Particularly, pressure washing and window cleaning participants felt they were unfairly targeted without justification and recognition of how the restrictions and negative publicity significantly affected their ability to conduct business and earn a living.

- **European Chafer Beetle Infestation**

All stakeholders consulted perceived that European Chafer Beetle problems were exacerbated this past fall because of missing the window to apply nematode treatment when the region moved to Stage 3 restrictions at the end of July 2015.

- **Monitoring and Enforcement Challenges**

A significant number of people called Metro Vancouver and local governments to report water use violations and wanted to know what could be done to better enforce the restrictions. Local government staff noted that inconsistency in monitoring and enforcing the restrictions resulted in confusion for residents and businesses, which hindered compliance with the regulations.

- **Plan Activation/Deactivation**

Concerns were raised regarding the short lead time provided by Metro Vancouver when declaring the activation of a new stage of the Plan, which challenged local government implementation and some business operations. Local governments normally require prior notification of 48 to 72 hours in order for the change to be communicated and implemented effectively. Businesses also reported that early communication regarding stage changes would have helped industry to better prepare their customers for potential changes to their business operations and practices.

Local government participants suggested revising plan wording to better define certain terms, including the rationale behind decision making for triggering each stage; explain the purpose and objectives of each stage; and support consistency of monitoring and enforcement across all local governments.



Local government and private participants asked that Metro Vancouver increase and broaden efforts related to promoting and educating residents and businesses about water conservation.

Private sector participants stressed the importance of working with Metro Vancouver as it updates the Plan to find solutions that achieve plan goals while allowing businesses to continue to operate. Some sectors also advocated to work with Metro Vancouver on developing communication and education materials about water efficient lawn and landscaping installation and maintenance.

Many residents and businesses also suggested there would be no need to be so restrictive if Metro Vancouver accessed and increased the supply of water available.

### **PROPOSED AMENDMENTS TO THE PLAN**

Based on the review and consultation results, which are summarized above, two further amendments to the existing Plan in addition to the extension of the Stage 1 activation period authorized by the Board in November 2015, are proposed ahead of summer 2016:

- Amend Stage 2 to allow water to be used by commercial cleaning services for aesthetic cleaning; and
- Amend Stage 3 to allow previously issued local government exemption permits to water new lawns or for treatment to control the European Chafer Beetle to remain valid.

A minimum number of amendments have been proposed, given a more extensive rewriting of the Plan is proposed for later this year, following further technical review and consultation.

### **Rationale for Proposed Amendments**

Reducing restrictions on businesses providing aesthetic cleaning services in Stage 2 will reduce undue financial hardship and disruption to their activity. In the current Plan impacts to most businesses in Stage 2 are partial, except for pressure washing and window cleaning businesses. These businesses are prohibited from using water for any aesthetic cleaning, which constitutes the majority of their business. Additionally, Stage 2 of the Plan allows certain aesthetic water uses such as washing cars and boats, which is similar to the services provided by pressure washing and window cleaning businesses. Allowing water to be used by commercial cleaning services for aesthetic cleaning in Stage 2 is consistent and equitable with other businesses allowed to operate at this stage.

Allowing sprinkling exemption permits issued in Stage 2 to continue being valid in Stage 3 until the permit expires, will prevent the public's loss of investment in new turf or nematode treatment for the purpose of reducing the spread of the European Chafer Beetle infestation. Metro Vancouver and local governments can constrain water used as a result of these permits by controlling permit parameters such as the permit duration, expiry, and allowable sprinkling times.

### **Amended Water Shortage Response Plan**

Subject to approval of the proposed Plan amendments by the Board, the approved amendments will be incorporated into a revised Water Shortage Response Plan dated February 2016. Local governments will be asked to make corresponding changes to their bylaws by May 15, 2016. In advance of summer 2016, Metro Vancouver will work with the local governments to develop a Support Guide to clarify the details of the Plan and assist local governments with effective communication and enforcement of the Plan.

## **ALTERNATIVES**

1. That the GVWD Board:
  - a) Receive for information the report titled “Consultation Results and Proposed Amendments to the Water Shortage Response Plan”, dated February 2, 2016; and,
  - b) Authorize amending the Water Shortage Response Plan as follows:
    - i) Amend Stage 2 to allow water to be used by commercial cleaning services for aesthetic cleaning; and,
    - ii) Amend Stage 3 to allow previously issued local government exemption permits to water new lawns or for treatment to control the European Chafer Beetle to remain valid.
2. That the Utilities Committee receive this report for information and provide alternative direction to staff.

## **FINANCIAL IMPLICATIONS**

The budget and staff resources to support the Plan review and adoption process are included in the 2016 GVWD budget.

## **SUMMARY / CONCLUSION**

In November 2015, the Board authorized amending the activation period for Stage 1 of the Plan from June 1 - September 30 to May 15 - October 15 and approved a process to review and update the Plan. This report summarizes results of the Phase 1 review, and proposes two further amendments to the Plan; to amend Stage 2 to allow water to be used by commercial cleaning services for aesthetic cleaning, and to allow previously issued lawn sprinkling exemption permits to remain valid if the Plan moves to Stage 3.

Subject to approval of the proposed Plan amendments by the Board, local governments will be requested to make the corresponding changes to their bylaws by May 15, 2016.

Attachment:

1. Water Shortage Response Plan Review Process – Work Plan

17153904

## Water Shortage Response Plan Review Process – Work Plan

	PLANNING Fall 2015	CONSULTATION Fall 2015	AMEND EXISTING PLAN Winter 2015/2016	DRAFT NEW PLAN Spring/Fall 2016	IMPLEMENT NEW PLAN Winter 2016/Spring 2017
KEY ACTIVITIES	<ul style="list-style-type: none"> <li>Develop WSRP Update strategy</li> <li>Compile stakeholder list</li> </ul>	<ul style="list-style-type: none"> <li>Municipal and staff workshops</li> <li>Private sector focus groups</li> <li>Online public feedback form</li> </ul>	<ul style="list-style-type: none"> <li>Present 2016 WSRP amendments to Board for approval</li> </ul>	<ul style="list-style-type: none"> <li>Technical review</li> <li>Prepare draft WSRP and model bylaw</li> <li>Ongoing municipal and private sector input</li> <li>Present new WSRP to Board for approval</li> </ul>	<ul style="list-style-type: none"> <li>Develop communication strategy and materials for new WSRP</li> <li>Municipal adoption and implementation of new WSRP</li> </ul>
DELIVERABLES	<ul style="list-style-type: none"> <li>Present WSRP Update strategy and revised Stage 1 activation period to Board for endorsement</li> </ul>	<ul style="list-style-type: none"> <li>Consultation report</li> <li>Draft 2016 WSRP amendments</li> <li>Draft 2016 WSRP Support Guide</li> </ul>	<ul style="list-style-type: none"> <li>2016 WSRP</li> <li>2016 WSRP Support Guide</li> </ul>	<ul style="list-style-type: none"> <li>New WSRP</li> <li>Draft model bylaw</li> </ul>	<ul style="list-style-type: none"> <li>Communication materials</li> </ul>



# City of Richmond

## Report to Committee

**To:** Public Works and Transportation Committee

**Date:** February 18, 2016

**From:** John Irving, P.Eng. MPA  
Director, Engineering

**File:** 10-6060-01/2016-Vol  
01

**Re:** 2016 Clothes Washer Rebate Program

### Staff Recommendation

1. That the City of Richmond partner with BC Hydro to the end of 2016 to offer rebates of up to \$200, equally cost shared between BC Hydro and the City, for the replacement of inefficient clothes washers with new high efficiency clothes washers;
2. That the scope of the existing Toilet Rebate Program funding be expanded to include clothes washer rebates; and
3. That the Chief Administrative Officer and General Manager, Engineering and Public Works, be authorized to execute an agreement with BC Hydro to implement the Clothes Washer Rebate Program.

**FOR** John Irving, P.Eng. MPA  
Director, Engineering  
(604-276-4140)

REPORT CONCURRENCE		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Finance	<input checked="" type="checkbox"/>	
Water Services	<input checked="" type="checkbox"/>	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> DW	<b>APPROVED BY CAO</b> 

## Staff Report

### Origin

BC Hydro and local governments have an interest in encouraging the conservation of water and energy. Through PowerSmart, BC Hydro offers a variety of incentive programs that encourage uptake of energy-efficient technologies, including energy-efficient appliances.

In 2014 and 2015, the City partnered with BC Hydro to implement the Clothes Washer Rebate Program. The program offered a rebate of up to \$200, which was equally cost shared between BC Hydro and the City.

BC Hydro is offering the Clothes Washer Rebate Program again in 2016 and is requesting that the City continue its participation.

The program supports the 2041 Official Community Plan (OCP), the Corporate Sustainability Framework, as well as the Community Energy and Emissions Plan, which includes “promoting building efficiency through outreach and education and providing incentives for building retrofit action.”

### Analysis

#### 2014/2015 Clothes Washer Rebate Program

To date, the Clothes Washer Rebate Program has issued 294 rebates at a total cost of \$20,200 to the City resulting in an estimated annual savings in water and energy of 1,655,600 liters per year and 53,800 kilowatt hours per year, respectively. Eleven municipalities, including the City of Abbotsford and the City of Vancouver, participated in the partnership program with BC Hydro in 2015.

#### 2016 Clothes Washer Rebate Program

The proposed Clothes Washer Rebate Program offered by BC Hydro will run during the spring and fall of this year. It is anticipated that all eleven municipalities that partook last year will participate in this year’s partnership program with BC Hydro.

BC Hydro has also partnered with Samsung and Home Depot, with each of these organizations offering to match BC Hydro’s rebate. The Samsung rebate will apply to eligible Samsung models, and the Home Depot rebate will apply to eligible models purchased at Home Depot. Including recommended City participation, the rebate for an eligible Samsung clothes washer purchased at Home Depot will be up to \$400.

This year’s program details are as follows:

- City partners with BC Hydro to offer a combined Clothes Washer Rebate Program, which will provide a rebate of up to \$200, equally cost shared between BC Hydro and the City, for the replacement of an inefficient clothes washer with a new high efficiency clothes washer;



- The proposed spring and fall campaign will run from May 1 to June 30 and October 1 to November 30 of this year.

Staff recommend that the City partner with BC Hydro to match rebate offers on high efficiency washing machines for the proposed dates and any future extensions that may be requested.

### *Roles and Responsibilities*

The City and BC Hydro roles and responsibilities are outlined in Table 1. BC Hydro will be responsible for carrying out program administration and associated activities, and the City will be responsible for providing matching funding to supplement the BC Hydro rebate and advertising the rebate program within Richmond.

Table 1: City and BC Hydro Roles and Responsibilities


City of Richmond	BC Hydro
<ul style="list-style-type: none"> <li>• Provide funding to supplement the BC Hydro rebate</li> <li>• Advertise the rebate offer locally</li> </ul>	<ul style="list-style-type: none"> <li>• Answer email and phone inquiries about the program</li> <li>• Receive and process online applications</li> <li>• Verify applicants' eligibility, as determined by the City</li> <li>• Provide rebate directly to applicants, and invoice the City for its portion</li> <li>• Provide post campaign reporting to the City</li> </ul>

### **Financial Impact**

Staff recommend that the rebates be funded from the approved Toilet Rebate Program. The Toilet Rebate Program has an annual budget of \$100,000, with \$91,400 remaining in 2016. The uptake on toilet and washing machine rebates has a high degree of variability. Staff will monitor participation and report back to Council if there is higher than anticipated participation. BC Hydro will be responsible for all costs associated with program administration.

### **Conclusion**

The City has an opportunity to continue partnering with BC Hydro to provide rebate incentives to residents for purchasing efficient clothes washers through the Clothes Washer Rebate Program. Staff recommend that the City continue to participate in this combined rebate program which provides a rebate of up to \$200, equally shared between BC Hydro and the City, and that the scope of the existing Toilet Rebate Program funding be expanded to include clothes washer rebates.

  
 For Lloyd Bie, P.Eng.  
 Manager, Engineering Planning  
 (4075)

  
 Corrine Haer, EIT  
 Project Engineer  
 (4026)



# City of Richmond

## Report to Committee

**To:** Public Works and Transportation Committee

**Date:** March 4, 2016

**From:** Mike Redpath,  
Senior Manager, Parks  
  
John Irving, P.Eng. MPA  
Director, Engineering

**File:** 10-6060-01/2016-Vol  
01

**Re:** Steveston Dredging Update

### Staff Recommendation

1. That funding for a 33% share of Steveston Harbour Phase II dredging costs plus \$66,467, for a total of up to \$516,500, be approved;
2. That funding for a 33% share, up to \$60,000, of No. 1 Road Strip dredging costs, be approved;
3. That \$400,000 in funding for complimentary dredging from the east edge of the Imperial Landings floats to the east edge of Britannia's Shipyards floats, be approved; and
4. That the Chief Administrative Officer and General Manager, Engineering and Public Works, be authorized to execute agreements with the appropriate parties to facilitate the dredging work.

Mike Redpath  
Senior Manager, Parks  
(604-247-4942)  
Att. 2

John Irving, P.Eng. MPA  
Director, Engineering  
(604-276-4140)

REPORT CONCURRENCE		
<b>ROUTED TO:</b>  Finance Department	<b>CONCURRENCE</b>  <input checked="" type="checkbox"/>	<b>CONCURRENCE OF GENERAL MANAGER</b> 
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b>  DW	<b>APPROVED BY CAO</b> 

## **Staff Report**

### **Origin**

In October 2012, Council approved, subject to matching funding, up to \$2M in funding from the Utility Provision for the dredging of Steveston Harbour.

On January 26, 2016, the Steveston Harbour Authority (SHA) sent a letter (Attachment 1) to Dave Semple, General Manager, Interagency Programs & Steveston Waterfront Major Initiatives. The letter notified the City that the SHA Board has passed a resolution to contribute up to \$550,000 to complete Phase II dredging in Steveston Harbour and requested matching funding from the City. The letter also requests that the City pass a resolution to contribute 33% of the funds required to complete the dredging of the No. 1 Road Strip, up to a maximum contribution of \$60,000.

Staff have identified a need to dredge 45,000 cubic meters of material from the Imperial Landing waterfront. This dredging is in addition to the Phase II dredging. This report updates Council on Steveston Harbour Dredging and makes recommendations for funding the planned dredging.

### **Findings of Fact**

Fraser River dredging was initially assigned as a federal responsibility by the British North America Act. Maintenance dredging on the river began in the 1880s and Public Works and Government Services Canada (PWGSC) started regular maintenance dredging in 1901. In 1982, the responsibility for maintenance dredging was passed from PWGSC to the Canadian Coast Guard (CCG). The CCG continued maintenance dredging until the 1998 Canada Marine Act transferred responsibility for dredging to commercial users and the commercial ports.

Subsequent to implementation of the 1998 Canada Marine Act, the Fraser River Port Authority chose to conduct maintenance dredging in the main channel of the Fraser River and received a one-time compensation of \$14.5 million from the Federal Government. The Vancouver Fraser Port Authority Historical Review of Lower Fraser River report (EBA, April 2013) indicates that “the settlement does not obligate the Port to dredge, although they continue to do so. Secondary channels are not included in this framework unless the cost of dredging is fully recovered.”

#### Local Channel Dredging and Ladner Steveston Local Channel Dredging Contribution Agreement

The CCG dredged secondary channels that had significant commercial vessel utilization until the 1998 Canada Marine Act was implemented. There has not been any federal government funding for the secondary channels since 1998.

In 2008, the Fraser River Port Authority, the North Fraser Port Authority and the Vancouver Port Authority combined to become the Fraser River Port Authority which is known as Port Metro Vancouver (PMV). PMV launched the Local Channel Dredging Contribution Program in 2009. This program allocates \$7 million over 10 years for long-term community-based dredging plans. PMV has limited contributions to \$500,000 per local channel over a 10-year period.

In 2013, the Province, PMV, the Corporation of Delta and the City of Richmond entered into the Ladner Steveston Local Channel Dredging Contribution Agreement to provide one-time cost sharing and immediate dredging in Ladner and Steveston under PMV's management.

Dredging of the western end of Steveston Harbour (Attachment 2) was completed in early 2014 at a cost of approximately \$1 million. The east end of the harbour still requires dredging. There is further Provincial and City funding available under the contribution agreement; however, PMV has exhausted its dredging funding for Steveston Harbour.

## **Analysis**

### Phase II Dredging

Funding dredging in Steveston Harbour has been an ongoing issue since the Federal Government downloaded responsibility for dredging as part of the 1998 Canada Marine Act. There is currently an opportunity to cost share Phase II dredging with the SHA, which has approved up to \$550,000 of funding for this purpose. An estimated 150,000 cubic meters of sediment removal is required in the eastern half of Cannery Channel in Phase II (Attachment 2). The estimated cost of the dredging is \$1.35M.

The SHA has requested that the City fund 33% (\$450,000) of Phase II dredging, which is in alignment with the Ladner Steveston Local Channel Dredging Contribution Agreement where the City agrees to pay 33% of the dredging costs.

The SHA notes that there are two previous dredging activities that were performed in Steveston Harbour:

- 2009 Steveston Harbour Entrance dredging at a total cost of \$125,000; and
- Interim Funding (between Phase I and Phase II dredging) at a total cost of \$74,599 for dumping fees, soundings and other dredging related activities.

The SHA requests that the City fund 33% of these activities (\$66,467) and that this sum be applied to Phase II dredging, beyond the requested 33% City share.

Staff recommend that the City fund a 33% share of the Phase II dredging as well as contribute \$66,467 in lieu of financial participation in the two previous activities, for a total contribution not to exceed \$516,500.

### Dredging Water Lot South of No. 1 Road

While the Department of Fisheries and Oceans – Small Craft Harbours (DFO-SCH) dredges the water lot adjacent to the No. 1 Road pier, additional dredging of the No. 1 Road Strip is required to access the water lot. The No. 1 Road pier is utilized by commercial fishing vessels, whale watching boats and other vessels year round and is considered by the SHA to be critical infrastructure. Dredging of the No. 1 Road Strip is estimated to cost \$180,000 and the SHA requests that the City fund 33% (\$60,000) of this dredging. This dredging should take place coincidentally with the Phase II dredging to take advantage of efficiencies that can be achieved.

Staff recommend that the City fund 33% of the cost of dredging the No. 1 Road strip, up to \$60,000.

#### Imperial Landing to Britannia Shipyards Water Lot Dredging

In 2014, during the first phase of the Steveston Channel dredging operations, Imperial Landing's waterfront was included as a "compliment" dredging site to accommodate special events such as the annual Ships to Shore and Maritime Festival. The dredge area included the waterfront directly in front of Imperial Landing's 600-foot long floating docks.

Staff recommend that dredging of the waterfront from the east edge of the Imperial Landing floats to the east edge of the Britannia Shipyards floats be performed concurrently with Phase II dredging to take advantage of efficiencies that can be achieved. This specific area in Steveston is outside of the navigable Cannery Channel and is not included in the Ladner Steveston Local Channel Dredging Contribution Agreement. The City's existing 600 feet of floating dock frontage at Britannia will accommodate a larger variety of vessels seeking moorage with deeper drafts and will increase the opportunities for visitations at major special events.

It is estimated that the Imperial Landing dredging will require the removal of up to 45,000 cubic meters from the surrounding areas at a cost of up to \$400,000 (Attachment 2).

#### Agreement

The existing Ladner Steveston Local Channel Dredging Contribution Agreement does not include terms that specifically include financial contributions from the SHA. It is anticipated that the existing agreement can be updated to include the SHA. If a new agreement is required, it will have similar terms to the existing agreement with respect to the management of the dredging project and the City's financial participation.

#### **Financial Impact**

In October 2012, Council approved funding up to \$2M for dredging, subject to matching funding. In October 2013, Council approved expenditures up to \$616,317 for Richmond's share of Phase I Dredging and complimentary dredging operations at Imperial Landing. Of the original \$2M of Council approved funding, \$1.47M remains and is available to fund up to \$980,000 of dredging as recommended in this report.

#### **Conclusion**

The Federal Government transferred responsibility for dredging to commercial users and the commercial ports through the 1998 Canada Marine Act. In 2013, the Province, PMV, the Corporation of Delta and the City of Richmond entered into the Ladner Steveston Local Channel Dredging Contribution Agreement to provide one-time cost sharing and immediate dredging in Ladner and Steveston under PMV's management. Phase I of dredging in Steveston Harbour was completed in 2014, depleting PMV funding for the harbour. The SHA has recently committed \$550,000 for the dredging of Steveston Harbour and has requested the City contribute up to \$516,500 toward Phase II dredging and \$60,000 toward dredging the No. 1 Road Strip. Staff recommend that the City fund these contributions and perform an additional \$400,000 of



March 4, 2016

- 5 -

complimentary dredging from the east edge of the Imperial Landing floats to the east edge of the Britannia Shipyards floats coincident with Phase II dredging to take advantage of efficiencies that can be achieved.



FoA  
Lloyd Bie, P.Eng.  
Manager, Engineering Planning  
604-276-4075

LB:lb

- Att. 1: SHA letter dated January 26, 2016  
2: Steveston Harbour Dredging Phase I and Phase II Works



January 26, 2016

## STEVESTON HARBOUR AUTHORITY

12740 Trites Road, Richmond, B.C. V7E 3R8 604-272-5539 Fax 604-271-6142

Dave Semple  
City of Richmond  
6911 No. 3 Road  
Richmond, BC V6Y 2C1

Dear Dave,

Re: Dredging of Steveston Cannery Channel – Phase II  
And Re: Dredging South of No. 1 Road Waterlot

We are writing this letter to address certain matters relating to the dredging of Steveston Harbour.

### 1. Dredging of Cannery Channel (2009-2014)

#### *(a) Dredging of Entrance in 2009*

As you are aware, Steveston Cannery Channel (the "Channel") is one of 14 local channels eligible for funding under Port Metro Vancouver's ("PMV") Local Channel Dredging Program (the "PMV Local Program"). The PMV Local Program provides that each local channel may receive up to \$500,000 in funding for dredging. In 2009, PMV provided \$125,000 in funding to dredge the entrance of Steveston Harbour, in an area that comprises a portion of the Channel. As this dredging activity preceded the 2014 Phase I dredging of the Channel, no matching funds were provided by the City of Richmond or the Province of BC.

#### *(b) Dredging of Western Half of Channel in 2014 (Phase I)*

In 2014, pursuant to the terms of a contribution agreement between the City of Richmond, PMV and the Province of BC, 142,000 m<sup>3</sup> of sediment was removed from the western half of the Channel. We note that the City of Richmond agreed to contribute matching funds (33%) towards Phase I. The actual contribution breakdown was as follows:

- Port Metro Vancouver: \$375,000
- Province of BC: \$375,000
- City of Richmond: \$336,317

**TOTAL: \$1,086,317**

We have been advised by Chris Hall that subsequent to the completion of dredging in Phase II, the Province of BC contributed an additional \$74,599 for post-dredging expenses, as no matching funds were available.

See the enclosed memo from PMV dated October 2015. A post-dredging map of the Channel is also enclosed.

*(c) Dredging of Eastern Half of the Channel (Phase II)*

As you are aware, approximately 150,000m<sup>3</sup> of sediment needs to be removed from the eastern half of the Channel in Phase II. The estimated total cost for Phase II is \$1.35 million. PMV will be sounding the Channel to confirm the depths and extent of Phase II after the freshet this spring.

Up until this week, we have funding commitments for Phase II as follows:

- Port Metro Vancouver: \$0
- Province of BC: \$319,000
- City of Richmond: We understand that the City will provide 33% of the total (\$450,000 based on \$1.35 million total cost). See attached letter dated May 29, 2014.
- Steveston Harbour Authority ("SHA"): \$100,000

**TOTAL: \$869,000**

Therefore, there has been a funding gap of approximately \$481,000 for Phase II which has prevented the project from moving forward. The SHA has been working to obtain funding from other federal departments and agencies, to no avail. The SHA board of directors is acutely aware of the crisis that sedimentation in the Channel has become, and at our board meeting this week has determined that it must step up to fill the federal funding gap.

We are pleased to advise that the SHA board of directors has unanimously passed a resolution to contribute up to \$550,000 to complete Phase II this year. Councillor Steves, the City's representative on our board, was present at the meeting and supported the resolution.

As previously discussed, it is critical that we complete the dredging of the Channel at the end of 2016.

*(d) Contribution from the City of Richmond for Phase II*

We are writing to formally request that the City of Richmond contribute 33% of the funding required to complete Phase II in 2016, as adjusted pursuant to the matters described below. The formula and historical contributions spreadsheets for Phase I and Phase II are complex. However, it is our view that the dredging of the entrance in 2009, Phase I in 2014 and Phase II in 2016, while conducted separately, should be regarded as a single project for funding calculation purposes.

(i) 2009 Dredging of the Entrance

As mentioned above, PMV contributed \$125,000 towards dredging of the entrance of the harbour in 2009 under the PMV Local Program. While the entrance comprises a portion of the Channel, the funding for the dredging of the entrance preceded the Phase I stage of dredging and so the City's 33% contribution to Phase I did not account for PMV's previous \$125,000 contribution. We request that the City of Richmond, in calculating its 33% contribution for Phase II, deem this \$125,000 contribution to be included in the dredging of the Channel. This adjustment would result in the City of Richmond contributing an additional \$41,625 towards Phase II.

(ii) Interim Funding between Phase I and Phase II

Chris Hall has advised that \$74,599 was spent on the Channel in the period beginning after dredging was completed in 2014. These funds were spent on dumping fees, soundings and other matters relating to the project. Because no matching funds were available from the City of Richmond or PMV during this time, the entire \$74,599 was provided by the Province of BC.

As these expenses were directly related to the dredging of the Channel, we request that the City of Richmond, in calculating its 33% contribution for Phase II, also deem this \$74,599 contribution to be included in the dredging of the Channel. This adjustment would result in the City of Richmond contributing an additional \$24,841.47 towards Phase II.

(iii) Summary of Request for City to Contribute to Phase II

While it is clear that the final numbers will depend on the soundings being conducted by PMV and further meetings with Chris Hall and the steering committee, we request that City Council will resolve to pass a resolution to commit to funding Phase II as follows:

- the City of Richmond will contribute an amount equal to 33% of the funds required to complete the dredging of the Channel in Phase II; plus
- \$41,625, being 33% of the funds provided by PMV to dredge the entrance to the harbour in 2009; plus



- \$24,841.47, being 33% of the funds provided by the Province of BC since Phase I was completed.

Please note that this proposal was discussed with Councillor Steves at our board meeting on January 20<sup>th</sup>.

We understand from Chris Hall that there are several months of work to do before dredging can commence this fall, including soundings, permit applications and committee meetings to determine specific dredging needs. Therefore, it is critical that City Council pass a resolution to contribute as noted above in order to move the process along as expeditiously as possible.

## 2. Dredging of Waterlot South of No. 1 Road

We refer to you the enclosed map showing the extreme siltation of the strip of waterlot between the Channel and the waterlot at the No. 1 Road pier (the "No. 1 Road Strip"). The No. 1 Road Strip is near the City's outfall at the end of No. 1 Road and has not been dredged in approximately 20 years. As with the Channel, no level of government has been willing to assume jurisdiction over the No. 1 Road Strip, although DFO-SCH dredges the actual waterlot adjacent to the No. 1 Road pier, and will continue to do so.

As you are aware, the No. 1 Road pier is a critical piece of infrastructure that is frequently used by large commercial fishing vessels, whale watching boats and other vessels, on a year-round basis. It is of no value to have the actual waterlot and Channel dredged if there is a wall of mud between them, as exists now.

The SHA is working with PMV and DFO-SCH to determine the historical soundings of the No. 1 Road Strip, the specific area in the No. 1 Road Strip that needs to be dredged in order to provide access to the No. 1 Road pier and the contamination (if any) of the sediment. We expect to have sample results of the sediment on the periphery of the No. 1 Road Strip shortly. However, it is clear that: (a) a portion of the No. 1 Road Strip needs to be dredged; and (b) it will save tens of thousands of dollars in mobilization expenses to dredge the No. 1 Road Strip if it is dredged concurrently with Phase II.

Our estimate is that in order to dredge the No. 1 Road Strip to sufficient levels, it would cost \$180,000.

We are currently in discussions with our local MLA to have the Province of BC provide up to \$60,000 to fund the dredging of the No. 1 Road Strip. The SHA would be willing to match this \$60,000 contribution if the City of Richmond does as well.

Therefore, we are requesting that City Council will resolve to pass a resolution to contribute 33% of the funds required to complete the dredging of the No. 1 Road Strip, up to a maximum of contribution of \$60,000.

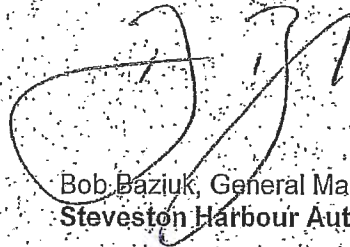
It is in the best interests of the City of Richmond, the SHA, the Province of BC and all harbour users to complete the dredging of the harbour in 2016 in a comprehensive manner so that the harbour will be usable for years to come.

Please contact Bob Baziuk should you have any questions and concerns.

Regards,



Robert Kiesman, Board Chairman  
Steveston Harbour Authority



Bob Baziuk, General Manager  
Steveston Harbour Authority

Cc: Robert Gonzalez, Deputy CAO, City of Richmond  
SHA Board of Directors

Enclosures





City of  
Richmond

6911 No. 3 Road,  
Richmond, BC V6Y 2C1  
www.richmond.ca

May 29, 2014

Community Services Department  
Telephone: 604-276-4009  
Fax: 604-276-4132

Steveston Harbour Authority  
c/o Bob Bazluk  
12740 Trites Road  
Richmond, BC V7E 3R8

Dear Bob:

Re: Steveston Channel Dredging

I am writing in regards to the Steveston Channel and the effort moving forward to get the channel dredged.

The City has identified that the dredging of the channel should be a combined effort and that it is imperative for Steveston in many ways. In the effort to help move forward the City of Richmond is prepared to contribute one-third of the funding. This is only in conjunction with the Federal and Provincial Government support providing the remaining two-thirds of the funding.

The City Council had a Special Council meeting on May 6, 2013 and confirmed the following resolutions:

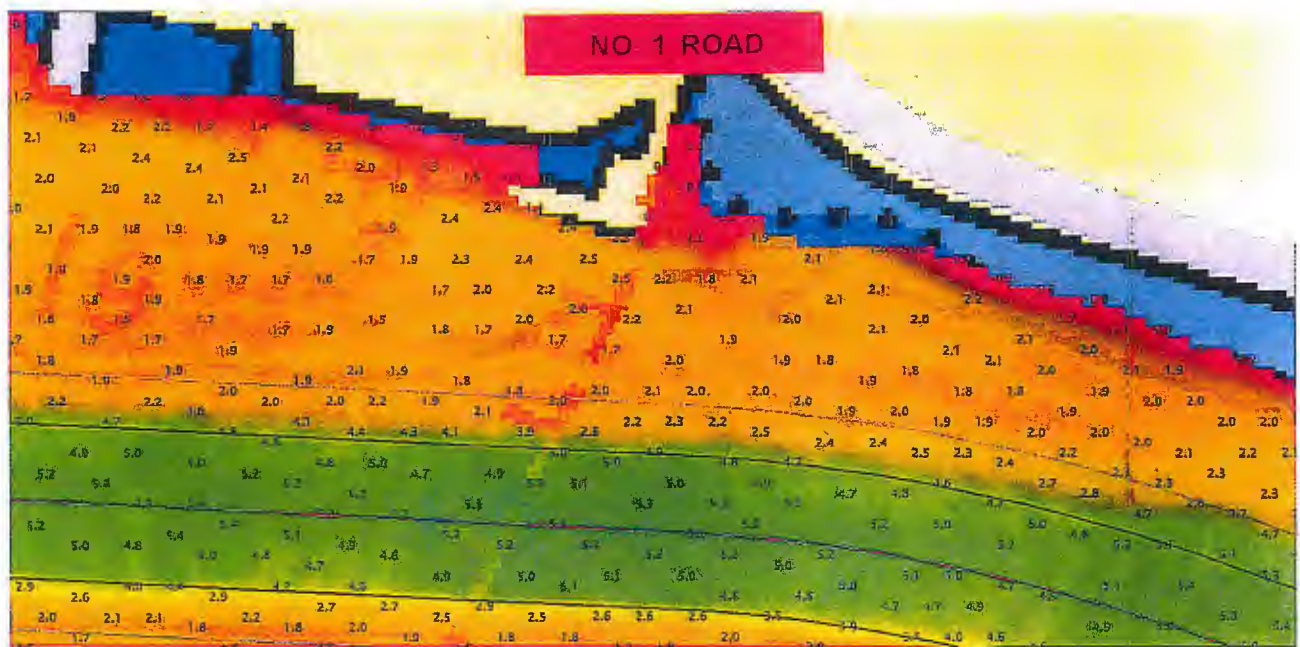
- (1) That the Ladner Steveston Local Channel Dredging Contribution Agreement as attached to the staff report titled "Ladner Steveston Local Channel Dredging Contribution Agreement 2013" from the Senior Manager, Parks and Director, Engineering dated April 10, 2013 be approved;
- (2) That the Chief Administrative Officer and the General Managers of Community Services and Engineering and Public Works be authorized to sign the Ladner Steveston Local Channel Dredging Contribution Agreement; and
- (3) That staff bring forward the finalized dredging budget and scope for consideration prior to any expenditure commitment.

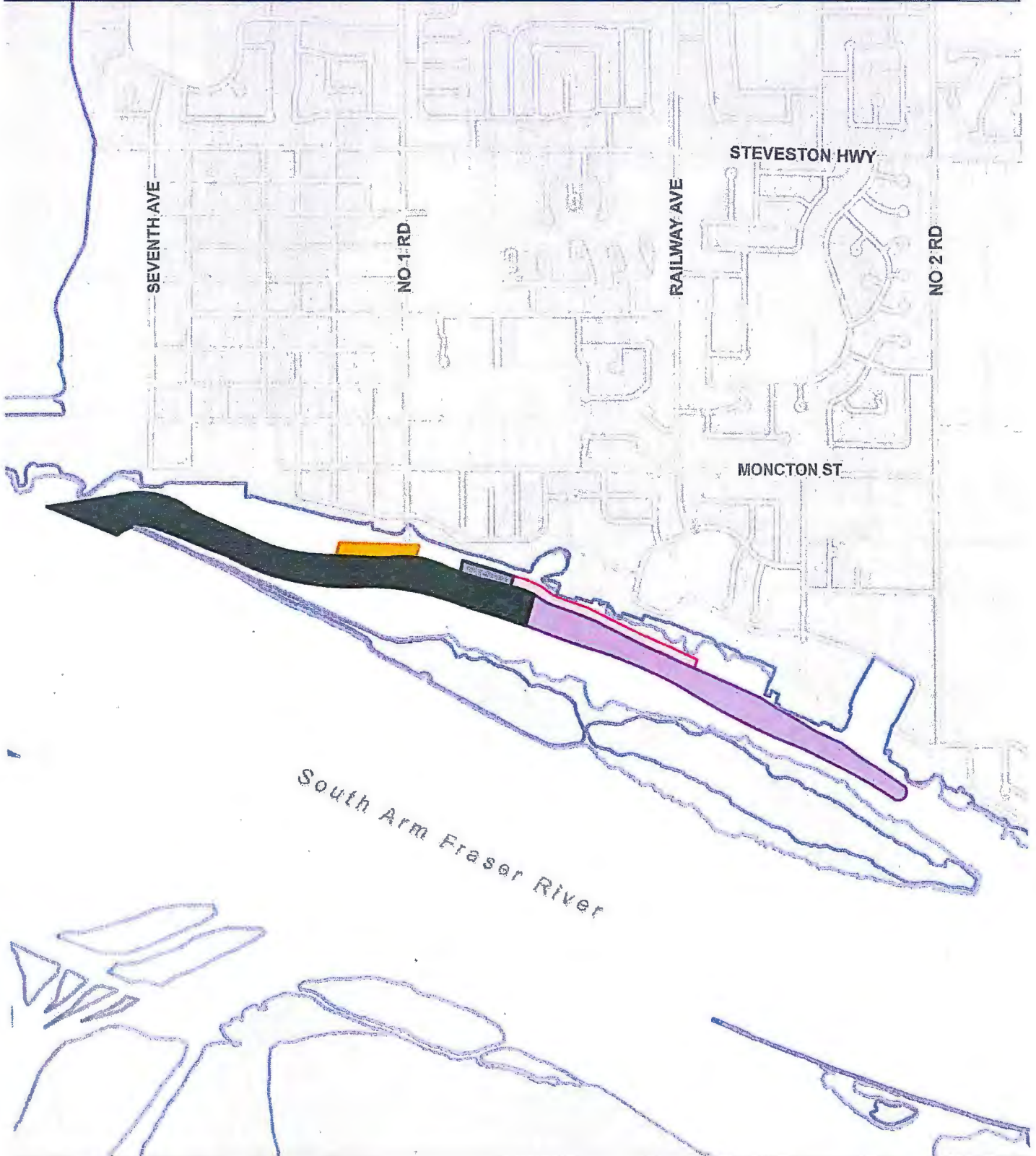
Thank you and we look forward to moving forward with the dredging.

Yours truly,

Dave Sample  
General Manager, Community Services



4243486








## Legend

### Completed Dredging Works

-  Steveston Harbour Dredging - Phase 1
-  Imperial Landing Dredging - Phase 1

### Recommended Dredging Works

-  Steveston Harbour Dredging - Phase 2
-  Imperial Landing Dredging - Phase 2
-  No 1 Road South Strip Dredging

Note:  
The information shown on this map is compiled from various sources and the City makes no warranties, expressed or implied, as to the accuracy or completeness of the information. Users are reminded that lot sizes and legal description must be confirmed at the Land Title Office in New Westminster. This is NOT a legal document, and is published for information and convenience purposes only.  
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0 50 100 200  
Meters

Created By: also  
Print Date: March 7, 2016  
Data Source: BDE Database 201  
Custom Layers

PWT - 64





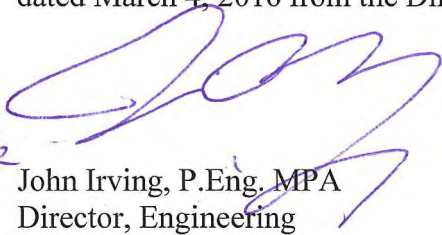
# City of Richmond

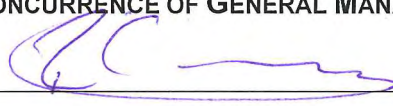


## Report to Committee

**To:** Public Works and Transportation Committee  
**From:** John Irving, P.Eng., MPA  
Director, Engineering  
**Date:** March 4, 2016  
**File:** 10-6125-07-02/2016-  
Vol 01  
**Re:** Paris Climate Agreement and BC Climate Leadership Plan Update

### Staff Recommendation

That the staff report titled "Paris Climate Agreement and BC Climate Leadership Plan Update" dated March 4, 2016 from the Director, Engineering be received for information.

FOR   
John Irving, P.Eng., MPA  
Director, Engineering  
(604-276-4140)

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER 	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 
APPROVED BY CAO 	

## Staff Report

### Origin

This report provides an update on the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) and the ongoing development of federal and provincial climate plans, following up on the stated interest of Committee members in late 2015 regarding the outcomes of the Paris Climate Conference. The report closes with comments on the relevance to the City of Richmond's climate and energy initiatives.

This report supports Council's 2014-2018 Term Goal #4 Leadership in Sustainability:

*Continue advancement of the City's sustainability framework and initiatives to improve the short and long term livability of our City, and that maintain Richmond's position as a leader in sustainable programs, practices and innovations.*

*4.1. Continued implementation of the sustainability framework.*

This report supports Council's 2014-2018 Term Goal #6 Quality Infrastructure Networks:

*Continue diligence towards the development of infrastructure networks that are safe, sustainable, and address the challenges associated with aging systems, population growth, and environmental impact.*

### Background

In 2010, Council adopted targets in Richmond's Official Community Plan to reduce community greenhouse gas (GHG) emissions 33% below 2007 levels by 2020, and 80% below 2007 levels by 2050. In 2014, Richmond adopted its Community Energy and Emissions Plan (CEEP). The CEEP outlines an array of strategies and actions for the City to reduce community energy use and GHG emissions. The CEEP recognizes that the City's community emissions reduction targets will only be achieved with "Big Breakthroughs," including: zero carbon transportation systems, entailing increased transit and active transportation mode share and near-universal adoption of zero carbon vehicles (e.g. plug-in electric and fuel cell vehicles); zero carbon new buildings; and deep energy improvements to most existing buildings. The CEEP recognizes that these breakthroughs are not achievable by City leadership alone; rather, they require provincial and federal regulatory changes and funding, market innovation, and increasing carbon pricing.

### Findings of Fact

#### *Global GHG Emissions*

Global GHG emissions totalled 35,700 million tonnes (Mt) of carbon dioxide equivalent (CO<sub>2</sub>e) in 2014, and that emissions growth has slowed since 2011. Global emissions in 2015 are expected to level off or even decline slightly, due to China's recent efforts to limit its coal consumption.<sup>1</sup> Data for emissions in 2011 – the latest year for which robust global data is

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<sup>1</sup> <http://www.nature.com/news/global-greenhouse-gas-emissions-set-to-fall-in-2015-1.18965>

available – indicates that over 55% of total GHG emissions were emitted by just five countries: China (27%), United States (17%), India (5%), Russia (5%), and Japan (4%). Canada is the 37th largest country by population and the 11th largest in terms of GDP, but was the ninth largest GHG emitter in 2011, producing 2% of global emissions.

### Paris Agreement

On December 12, 2015, 195 countries reached consensus on the terms of the Paris Agreement under the UN Framework Convention on Climate Change (UNFCCC). The first global agreement to reduce greenhouse gas emissions, the Paris Agreement, aims to hold the global average temperature to “well below two degrees Celsius above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.”<sup>2</sup>

To achieve this goal, each Party to the Agreement shall set its own emission reduction targets – referred to as Intended Nationally Determined Contributions (INDCs). By the conclusion of the Paris conference, 188 countries had formally submitted INDCs to the UNFCCC. Before the Paris conference began, it was already known that the INDCs submitted could only be expected to limit the global average temperature increase to 2.7°C to 3.7°C, far above the 1.5°C to 2.0°C maximum target. However, the Paris Agreement is designed to facilitate the “ratcheting up” of commitments over time. Under the agreement, each Party is required to monitor and report their emissions, to review and renew their INDC every five years (commencing in 2023), and to ensure that no future national plan is less ambitious than existing ones, creating “a firm floor and foundation for higher ambition.”<sup>3</sup>

The Paris Agreement shall be opened for signatures (i.e. statements of intent by Parties to ratify the agreement) on April 22, 2016 (Earth Day). In order to enter into force, the Agreement requires formal ratification by at least 55 countries contributing at least 55% of global GHG emissions. This is currently anticipated to occur in 2018.

### *Canada GHG Emissions*

In 2013, the latest year for which complete emissions data is available, Canada emitted 726 Mt CO<sub>2</sub>e of which British Columbia emitted 9% of total emissions. As of 2013, Canada’s greenhouse gas emissions were 18% above 1990 levels, the base year for the Kyoto Protocol, and 3% below 2005 levels, the base year for Canada’s targets under the Copenhagen Accord and the new Paris Agreement.

### Canada Climate Change Policy

Canada’s INDC under the Paris Agreement, announced in May 2015, sets a target of reducing the country’s GHG emissions by 30% below 2005 levels by 2030. The new federal government did not change the INDC prior to the Paris conference, noting the lack of time available and the importance of setting an achievable INDC. Canada previously set a greenhouse gas reduction

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<sup>2</sup> *Paris Agreement*, Article 2: <http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

<sup>3</sup> <http://newsroom.unfccc.int/unfccc-newsroom/finale-cop21/>

target of 17% below 2005 GHG emission levels by 2030 under the 2009 Copenhagen Accord, but no federal plan to achieve this target was developed. Canada also set an emission reduction target of 6% below 1990 GHG emission levels by 2008-2012, under the Kyoto Protocol, but formally withdrew from the treaty in 2011.

The new federal government committed to working with the provinces to establish a “pan-Canadian framework on climate change” within 90 days of the Paris Agreement, and met with provincial and territorial First Ministers in Vancouver on March 3, 2016. The federal government states that this “clean growth framework” under development “will be science-based and will build on actions the provinces and territories have already taken”, and will aim to ensure that provincial climate strategies collectively achieve Canada’s INDC.<sup>4</sup>

#### BC Climate Action Plan (2008) and BC GHG emissions: 2007-2011

In 2007, the provincial government passed the Greenhouse Gas Reduction Targets Act, committing BC to reduce emissions 33% below 2007 levels by 2020, and 80% below 2007 levels by 2050. In 2008, the province released a Climate Action Plan which outlined an array of climate action commitments, and set an additional interim GHG reduction target of 6% below 2007 levels by 2012. This plan led to the introduction of the revenue-neutral carbon tax, carbon neutral provincial operations, the Climate Action Accord for Local Governments, and a range of funding programs (e.g. electric vehicle charging and vehicle rebates). The province’s carbon tax been recognized as a best practice by the OECD and the World Bank.<sup>5</sup>

In 2014, the province’s climate action progress report noted that BC’s GHG emissions have “remained relatively stable during the economic recovery rather than resuming their prior growth path,” indicating that “policies, behaviour change, and efficiency are having an impact.”<sup>6</sup> The Pembina Institute notes that BC’s “per-capita fossil fuel consumption has dropped relative to the rest of Canada” even as BC’s economy has “outperformed the Canadian average.”

According to both the Provincial and Federal Governments, (whose emission inventory numbers differ), BC’s total GHG emissions declined significantly between 2008 and 2011. Using its own data available in 2014, the province announced that once 1.013 MT CO<sub>2</sub>e of offsets from the forestry sector were included, BC achieved its interim target of a 6% emissions reduction below 2007 levels by 2012.<sup>7</sup> Since then however, both the Federal Government and the Province Government have indicated that BC’s emissions are trending upwards again. BC’s emission inventory indicate that emissions in 2013 were only 2.8% below 2007 levels,<sup>8</sup> while according to the latest federal government data, BC’s GHG emissions may be approaching 2007 levels once more.<sup>9</sup>

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<sup>4</sup> <http://pm.gc.ca/eng/news/2016/02/10/prime-minister-meet-indigenous-leaders-and-host-first-ministers-meeting>

<sup>5</sup> <http://www.pembina.org/blog/climate-action-supports-a-diverse-bc-economy>

<sup>6</sup> *Climate Action in BC: 2014 Progress Report*.

<sup>7</sup> *Climate Action in BC: 2014 Progress Report*.

<sup>8</sup> BC. *Summary of B.C. Greenhouse Gas Emissions: 1990-2013*. Spreadsheet.

<http://www2.gov.bc.ca/gov/content/environment/climate-change/reports-data/provincial-ghg-inventory-report-bc-spir>. Accessed February 1, 2016.

<sup>9</sup> Canada. *National Inventory Report 1990-2013: Greenhouse Gas Sources and Sinks in Canada. Part 3, Table A1-20*. [http://unfccc.int/national\\_reports/annex\\_i\\_ghg\\_inventories/national\\_inventories\\_submissions/items/8812.php](http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8812.php)



In May 2015, the province announced the formation of a Climate Leadership Team, tasked with providing recommendations to inform the province's development of a new Climate Leadership Plan. This Team's recommendations were released in December 2015. The province has noted that it will consider these recommendations, and that it intends to release a final version of the Climate Leadership Plan in March 2016.

In September 2015, Council directed that a letter be sent to the Province, outlining important elements that should be included in the Climate Leadership Plan, and in December 2015, Council endorsed the Call for Action on Energy and Climate in the Building Sector. The January 20, 2016 email to Council from Minister Polak notes that the province will be attending "each of BC's local government association meetings over the coming months" to discuss the Climate Leadership Plan. Staff shall update Council when details of these meetings are announced.

In response to Council's letter, the City received an email from BC Environment Minister Mary Polak on January 20, 2016 requesting information on the City's future plans for climate action in order to inform "the federal process to develop a pan-Canadian framework for combatting climate change." Staff shall update Council when information on meeting dates becomes available.

#### City of Richmond Climate Action

Richmond's 2014 Community Energy and Emissions Plan (CEEP) set out emission reduction measures organized around five themes:

- Neighbourhoods and Buildings
- Mobility and Access
- Resilient Economy
- Sustainable Infrastructure and Resources
- Climate Change Leadership

The *Community Energy and Emissions Plan 2015 Update*, presented to the Public Works and Transportation Committee on November 18, 2015, highlights key achievements under the CEEP that have been made since the plan was adopted. Overall, the City has actively implemented energy efficiency and emission reduction measures through a range of corporate initiatives including:

- **District Energy:** The expansion of the Alexandra District Energy Utility and the launching of the Oval Village District Energy Utility, both of which will increase energy security, provide cost-competitive energy, and reduce emissions for connected buildings;
- **Energy Programs for Existing Buildings:** The launch of the innovative "EnergySave Richmond" suite of programs to achieve community-wide reductions, including the Smart Thermostats Pilot Program, Building Energy Challenge, and Richmond Carbon Marketplace, and promoting utility Power Smart energy efficiency programs; The integration of energy and emissions considerations into the Hamilton Area Plan, setting a precedent for other area plans;
- **Car Sharing:** Facilitating the introduction and expansion of car sharing in Richmond;

- **Active Transportation:** Expanding and improving Richmond's network of bicycle routes on major and local roads as well as off-street facilities like the Railway Greenway and the Middle Arm Greenway;
- **Transit System Investments:** Continually upgrading bus stops to provide accessibility, transit shelters and benches throughout the city, to help Richmond's community travel more comfortably and safely;
- **Pedestrian Environment Improvements:** Expanding pedestrian infrastructure, including recent walkways on Minoru Boulevard and Shell Road East as well as implementing eight new special crosswalks and three pedestrian signals to enhance safety;
- **Solid Waste Diversion:** Implementing new waste diversion programs, including expanded Blue Box and Blue Cart programs, and the multifamily Green Cart program, to reduce emissions from the waste sector and achieve the City's waste diversion goal of 70% by 2015. The City achieved the 70% target in 2014, one year in advance of the 2015 target date. Council has also directed that future single-family home demolitions must achieve at least 70% waste diversion.

The City also leads by example when it comes to the City's operations, including:

- **Green Fleet:** Adopting the Green Fleet Action Plan in 2013 and the Sustainable High Performance Building Policy in 2014;
- **Carbon Neutrality:** Achieving carbon neutral corporate operations from 2013 to 2015.
- **Green Buildings:** Recently adopting an update High Performance Building Policy and building the City's three new fire halls, City Centre Community Centre and the Minoru Complex to achieve the LEED Gold standard.
- **Energy Efficiency:** Saving over 38.0 GWh of energy (equal to the annual energy consumption of 950 Richmond single-family homes), through increased efficiency in the City's corporate operations, providing approximately \$1,800,000 in total operational costs and reducing GHG emissions by 6,000 t CO<sub>2</sub>e (equivalent to 1,850 Richmond cars).

Finally, the City continues to advocate for action by senior levels of government, including providing input on key directions needed in the BC Climate Leadership Plan to help local governments meet their community energy and emissions targets.

#### *City of Richmond GHG emissions*

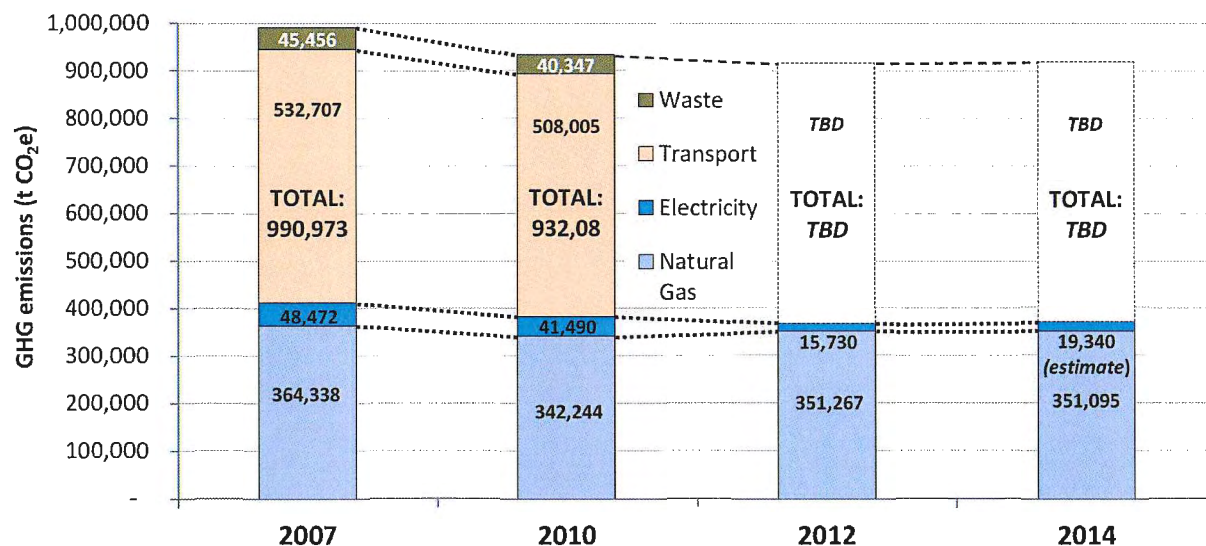
The province prepares the Community Energy and Emissions Inventory (CEEI) for local governments. The latest complete inventory is for the year 2010.<sup>10</sup> Based on the latest information received from CEEI, emissions in 2010 were 933,085 t CO<sub>2</sub>e (i.e. 0.93 MT CO<sub>2</sub>e), a 6% decline from the 2007 estimate of 990,973 t CO<sub>2</sub>e.<sup>11</sup> The province and BC Hydro have also

<sup>10</sup> Provincial staff report that limited staff resources and continuing difficulties in apportioning accurate estimates for transportation sector emissions have delayed the release of complete emission inventories for 2012 and 2014. Building sector emissions totals provided by CEEI to Richmond staff for the years 2007 and 2010 differ slightly from the latest public release of CEEI data. Data received from CEEI January 2016.

<sup>11</sup> As such, the City of Richmond achieved the province's interim 2012 target without the use of offsets.

provided staff with 2012 and 2014 data for total Richmond electricity and natural gas consumption only (i.e. the buildings sector),<sup>12</sup> which indicate that the combined emissions for this sector have remained relatively constant over the past half-decade.

**Figure 1: Estimated total community GHG emissions<sup>13</sup> for the City of Richmond 2007-2012, per CEEI data available as of January 5, 2016.**



Between 2007 and 2014, BC Statistics estimates Richmond's population to have increased by 14%. During this time, however, natural gas consumption has actually declined by 4% (a 13% decrease on a per capita basis), while electricity consumption only increased by 1% (a 9% per capita decline). The City's policies compact urban development policies, combined with the numerous energy programs including district energy, are influencing this result. Total community GHG emissions from natural gas also declined by 4% during this time, while GHG emissions from electricity use declined by a remarkable 60% (because of higher use of zero-emission electricity generation sources during this time).<sup>14</sup> The City's success in diverting community solid waste from landfills appears to have played a significant role in declining waste sector emissions, which were down 9% (16% on a per capita basis) between 2007 and 2010.

Finally, city staff are reviewing transportation sector emissions, as staff believe the actual decline in transportation sector emissions in 2010 was greater than indicated in provincial reporting.

<sup>12</sup> Excluding large industry. Data provided by CEEI to Richmond staff in December 2015 and January 2016, and by BC Hydro in January 2016.

<sup>13</sup> Excluding large industry.

<sup>14</sup> BC Hydro plans to increase the GHG-intensity of its electricity in 2016 and 2017, as the province mandates that no more than 93% of electricity demand be met with zero-GHG electricity. If BC Hydro achieves its targets, Richmond's total GHG emissions would increase by approximately 13,000 t CO<sub>2</sub>e, assuming electricity consumption equalled that in 2014. Source: BC Hydro 2014 Annual Report, p.17

## *Implications for the City of Richmond*

According to the *Fifth Assessment Report* of the Intergovernmental Panel on Climate Change (IPCC), over the coming century Richmond will experience shifts to local temperature, precipitation patterns and sea level that exceed what has been experienced to date, even if the Paris Agreement fully succeeds in its objectives. Data from the multiple climate model simulations cited by the IPCC<sup>15</sup> suggest that the Metro Vancouver area will warm slightly more than the global average, such that local average temperatures in 2100 would be either ~3°C or ~5°C higher than in pre-industrial times (i.e. ~2°C or ~4°C higher than the present day). A continued shift towards wetter winters and longer dryer summers, together with greater extremes in rainfall and drought events is very likely.<sup>16</sup> Over the course of the 21<sup>st</sup> century, sea level rise is expected to continue: the province recommends that long-term planning should assume 1 metre of sea level by the year 2100.

With regard to the direct impact of sea level rise, the City of Richmond's *2008-2031 Flood Protection Strategy* and *Dike Master Plan* as funded by the City's pioneering Drainage and Dike Utility improves upon the one-meter planning target recommended by the province: with full implementation Richmond shall mitigate up to 1.2m of local sea level rise. The City of Richmond is unique within BC both for its drainage and diking utilities, and for the climate adaptation policies and programs they fund.

Expected secondary impacts of climate change include changes to vegetation (altering the quality and types of wildlife habitat found in Richmond), and an increased likelihood of new invasive species (notably including endemic disease vectors and/or disease organisms). There will be changes to the timing, length and predictability of growing seasons that will likely bring changes to the types of crops grown locally. Similarly, increases in the frequency and severity of storm and drought events may require changes to civic infrastructure to reduce potential impacts. As a culturally diverse community that is home to many businesses reliant on international trade, shifts in international and interprovincial population movements, trade patterns and resulting security concerns resulting directly or indirectly from climate change are also likely to impact the community.

In order to mitigate the root cause of these impacts the GHG reduction targets adopted within the city's OCP and CEEP, while ambitious, are consistent with those set by the province in 2007. They are also broadly consistent with achieving the targets of the Paris Agreement. A continued focus on the implementation of identified measures, and identifying additional emission reduction opportunities as they arise will be essential to meet these targets.

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<sup>15</sup> The Coupled Model Intercomparison Project Phase 5 (CMIP5), which constitutes the climate change projections used by the IPCC in the Fifth Assessment Report - incorporates all qualifying climate model outputs available as of 15 March 2013. Outputs for the Representative Concentration Pathway (RCP) scenario 4.5 cited in this report are the product of data produced by 42 different climate models developed by 21 different research institutions worldwide. The outputs of each model are given equal weighting. Source: IPCC, 2013. *Fifth Assessment Report. Annex I: Atlas of Global and Regional Climate Projections*. Pp. 1313-1315 and Table AI.1. [https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5\\_AnnexI\\_FINAL.pdf](https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_AnnexI_FINAL.pdf)

<sup>16</sup> IPCC, 2013. *Fifth Assessment Report: Summary for policymakers*. p.23.

The current federal reduction target will need to be revised over time to meet the intent of the Paris Agreement. While the limited implementation of GHG reductions policies and programs by senior levels of government has been an issue in recent years, there now appears to be greater potential for progress as pan-Canadian discussions resume. City staff will continue to monitor the development of the BC Climate Leadership Plan, and plan to work together with other local governments on the province's Energy Efficiency Working Group in providing comment on the draft plan. Staff shall provide an update to Council once the province's draft plan has been released and reviewed.

### **Financial Impact**

None.

### **Conclusion**

The Paris Agreement has not “solved” the issue of climate change, but it provides the strongest, broadest basis for global action on climate change. National and provincial level emission reduction commitments are a first step towards limiting global average warming to the levels that would achieve the targets set out in the Agreement, but continued and concerted action at all levels of government will be required in order to limit the impact of climate change.

This report summarizes current GHG emissions and reduction targets at the global, national, provincial and local level, and summarizes the actions that have been taken by the City of Richmond to increase energy efficiency and reduce GHG emissions within the City's own operations and throughout the community. Results to date are encouraging; despite an overall population increase of 14% since 2007, Richmond's overall consumption of natural gas has decreased by 4%, and electricity use has increased by only 1%. GHG emissions declined by 6% to 2010, and have remained relatively flat within the building sector (the only sector with more recent data) to 2014.

Going forward and in the context of Richmond's growing population, intensifying the City's focus on implementation will be essential to achieve the City's targets for energy efficiency and GHG emission reductions.



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

NH:nh