



Public Works and Transportation Committee

**Anderson Room, City Hall
6911 No. 3 Road**

**Wednesday, November 21, 2018
4:00 p.m.**

Pg. # ITEM

MINUTES

PWT-4 *Motion to adopt the **minutes** of the meeting of the Public Works and Transportation Committee held on October 17, 2018.*



NEXT COMMITTEE MEETING DATE

December 19, 2018, (tentative date) at 4:00 p.m. in the Anderson Room

ENGINEERING AND PUBLIC WORKS DIVISION

- 1. UPDATE ON 2018/2019 SNOW AND ICE RESPONSE PREPARATIONS**
(File Ref. No. 10-6360-13) (REDMS No. 5996535 v. 3)

PWT-8

See Page PWT-8 for full report

Designated Speaker: Larry Ford

STAFF RECOMMENDATION

That the staff report titled “Update on 2018/2019 Snow and Ice Response Preparations”, dated October 10, 2018, from the Director, Public Works Operations, be received for information.



2. **NON-STORMWATER DISCHARGE PROCESS IMPROVEMENTS**

(File Ref. No. 10-6160-08) (REDMS No. 5999379 v. 6)

PWT-16

See Page PWT-16 for full report

Designated Speaker: Chad Paulin

STAFF RECOMMENDATION

- (1) *That the Pollution Prevention and Cleanup Bylaw No. 8475, Amendment Bylaw No. 9950, which introduces the new Non-Stormwater Discharge Permit, standards, and application fee, be introduced and given first, second, and third readings; and*
- (2) *That the Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 9951, which quantifies the Non-stormwater Discharge application fee, be introduced and given first, second, and third readings.*



3. **BRAZILIAN ELODEA AND PARROT'S FEATHER MANAGEMENT UPDATE**

(File Ref. No. 10-6160-07-01) (REDMS No. 5989405 v. 7)

PWT-32

See Page PWT-32 for full report

Designated Speaker: Chad Paulin

STAFF RECOMMENDATION

That the report titled "Brazilian Elodea and Parrot's Feather Management Update" from the Director, Engineering dated October 22, 2018 be received for information.



PLANNING AND DEVELOPMENT DIVISION

4. **UPDATE ON THE CITY CENTRE TRANSPORTATION PLAN**

(File Ref. No. 10-6500-01) (REDMS No. 6024535 v. 3)

PWT-44

See Page PWT-44 for full report

Designated Speaker: Victor Wei

STAFF RECOMMENDATION

That the report titled “Update on the City Centre Transportation Plan” dated November 13, 2018 from the Director, Transportation, be received for information.

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5. **GEORGE MASSEY TUNNEL – UPDATE ON INDEPENDENT TECHNICAL REVIEW**

(File Ref. No. 10-6350-05-08) (REDMS No. 6029512)

PWT-59

[See Page PWT-59 for full report](#)

Designated Speaker: Victor Wei

STAFF RECOMMENDATION

That staff be directed to report back upon the release of the Independent Technical Review of the George Massey Tunnel corridor with any further recommendations with a view to advancing the development and implementation of a mutually supportable solution to address congestion along the Highway 99 in a timely manner.

☐

6. **MANAGER’S REPORT**

ADJOURNMENT

☐



Public Works and Transportation Committee

Date: Wednesday, October 17, 2018

Place: Anderson Room
Richmond City Hall

Present: Councillor Chak Au, Chair
Councillor Harold Steves
Councillor Derek Dang
Councillor Carol Day (entered at 4:02 p.m.)
Councillor Alexa Loo

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 September 19, 2018, be adopted as circulated.

CARRIED

NEXT COMMITTEE MEETING DATE

November 21, 2018, (tentative date) at 4:00 p.m. in the Anderson Room

COMMUNITY SERVICES DIVISION

1. **CITY BUILDINGS – ENHANCED ACCESSIBILITY DESIGN GUIDELINES AND TECHNICAL SPECIFICATIONS**
(File Ref. No. 06-2050-01) (REDMS No. 5869509 v. 14)

Public Works & Transportation Committee
Wednesday, October 17, 2018

It was moved and seconded

That the proposed "City of Richmond Enhanced Accessibility Design Guidelines and Technical Specifications" presented as Attachment 1 of this report, and as described in the report dated September 12, 2018, from the Senior Manager, Capital Buildings Project Development and Manager, Community Social Development, be endorsed and used in planning for future corporate facilities.

CARRIED

ENGINEERING AND PUBLIC WORKS DIVISION

2. SUSTAINABILITY INITIATIVES IN RICHMOND'S CITY CENTRE

(File Ref. No. 10-6060-01) (REDMS No. 5912334 v. 13)

It was moved and seconded

That the staff report titled, "Sustainability Initiatives in Richmond's City Centre", dated October 9, 2018 from the Director, Engineering, be received for information.

CARRIED

3. MUNICIPAL ACCESS AGREEMENT WITH FREEDOM MOBILE INC.

(File Ref. No. 10-6060-01) (REDMS No. 5974056 v. 2)

In reply to a query from Committee, Lloyd Bie, Manager, Engineering Planning, noted that the City would not incur any infrastructure costs associated with the proposed agreement.

Councillor Day entered the meeting (4:02 p.m.)

It was moved and seconded

That the Chief Administrative Officer and the General Manager, Engineering & Public Works be authorized to execute, on behalf of the City, a Municipal Access Agreement between the City and Freedom Mobile Inc. containing the material terms and conditions set out in the staff report titled, "Municipal Access Agreement with Freedom Mobile Inc.", dated September 11, 2018 from the Director, Engineering.

CARRIED

Public Works & Transportation Committee
Wednesday, October 17, 2018

4. **DCC RESERVE FUND EXPENDITURE BYLAWS – DCC FRONT-ENDER AGREEMENTS FOR 4588 DUBBERT STREET AND 4133 STOLBERG STREET**

(File Ref. No. 03-1000-08-033; 12-8060-20-009847/009783) (REDMS No. 5973005 v. 4; 5772449; 5612345)

In reply to a query from Committee, Mr. Bie stated that the proposed works will be completed under the front-ender agreement; therefore the developer will have borne the costs of the works prior to their DCC reimbursement.

It was moved and seconded

- (1) *That DCC Reserve Fund Expenditure (4588 Dubbert Street) Bylaw No. 9847 be introduced and given first, second and third readings; and*
- (2) *That DCC Reserve Fund Expenditure (4033, 4099 and 4133 Stolberg Street and 9388 Cambie Road) Bylaw No. 9783 be introduced and given first, second and third readings.*

CARRIED

5. **PROPOSED 2019 PAVING PROGRAM**

(File Ref. No.) (REDMS No. 5977176)

It was moved and seconded

That the staff report titled, “Proposed 2019 Paving Program,” dated September 14, 2018, from the Director, Engineering be received for information.

CARRIED

6. **2018 SUBMISSION TO THE INVESTING IN CANADA INFRASTRUCTURE PROGRAM GREEN INFRASTRUCTURE – ENVIRONMENTAL QUALITY SUB-STREAM: HAMILTON AREA SANITARY SEWER AND PUMP STATION**

(File Ref. No. 10-6060-01) (REDMS No. 5998958)

It was moved and seconded

- (1) *That the submission to the Investing in Canada Infrastructure Program Green Infrastructure – Environmental Quality Sub-Stream requesting funding for up to 73.33% of the \$1,700,000 cost for the Hamilton Area Sanitary Sewer and Pump Station project be endorsed;*

Public Works & Transportation Committee
Wednesday, October 17, 2018

- (2) *That the Chief Administrative Officer and the General Manager of Engineering and Public Works be authorized to enter into funding agreements with the Government of Canada and/or the Province of BC for the above mentioned project should it be approved for funding by the Government of Canada; and*
- (3) *That, should the above mentioned project be approved for funding by the Government of Canada, the Consolidated 5 Year Financial Plan (2019-2023) be updated accordingly.*

CARRIED

7. MANAGER'S REPORT

None.

ADJOURNMENT

It was moved and seconded
That the meeting adjourn (4:06 p.m.).

CARRIED

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 Wednesday, October 17, 2018.

Councillor Chak Au
Chair

Sarah Goddard
Legislative Services Coordinator



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: Tom Stewart, ASCT.
Director, Public Works Operations
Date: October 10, 2018
File: 10-6360-13/2018-Vol
01
Re: Update on 2018/2019 Snow and Ice Response Preparations

Staff Recommendation

That the staff report titled "Update on 2018/2019 Snow and Ice Response Preparations", dated October 10, 2018, from the Director, Public Works Operations, be received for information.

Tom Stewart
Director, Public Works Operations
(604-233-3301)

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Communications	☒	
Parks Services	☒	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

The weather across Lulu and Sea Islands can vary significantly and change quickly. Our coastal environment makes Richmond more susceptible to fog and frost. This requires staff to continually monitor conditions of the entire area to ensure a speedy and appropriate response, and provides safe roadways to the travelling public. This report provides information about the City's 2018/2019 snow and ice preparations.

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.

6.1. Safe and sustainable infrastructure

Analysis

Public Works has implemented numerous changes over the past several years to enhance the City's readiness and response efforts. These changes include: policy amendments, equipment review and upgrades, enhancement to public communications/public involvement, record keeping and overall response planning.

Policy Amendments

Traffic Control and Regulation Bylaw 5870 was amended by Council on April 10, 2017, to require commercial, industrial, multi-family or single family property owners or occupiers to clear snow and ice from sidewalks adjacent to their property. Through an annual coordinated communications campaign (e.g. social media, news release, website content), staff will educate the public of Bylaw 5870. The Bylaw was amended to improve safety and convenience for pedestrians. Section 6.1 of the amended Bylaw reads:

The owner or occupier of any parcel of real property which is developed for, or used in whole or in part for, commercial, industrial, multi-family or single family dwelling use shall remove all snow and ice from any sidewalk adjacent to such parcel for a distance that coincides with the property line of his real property, not later than 10:00 a.m. of everyday, including Sunday.

In the 2017/2018 winter, Community Bylaws issued 373 warnings to non-compliant properties through complaints or proactive actions by officers. We have been advised this coming winter, tickets will be issued to non-compliant properties instead of warnings.

In response to public concerns about the lack of salting and plowing on residential streets, Council approved an amendment to Bylaw 7013 (Roadways – Ice and Snow Removal) to identify and add third priority routes. These routes include the designated collector roads and roads of local significance in residential subdivisions. This initiative will help improve vehicle access from within subdivisions to the major collector roads. This year, two pieces of equipment have been added and

will be dedicated for salting these roads. However, it should be noted that third priority routes will only be cleared if first and secondary routes have been fully attended to and resources permit.

Equipment

The City has six road temperature sensors that are monitored 24-hours a day by the City's Public Works Dispatcher and provide early indications of potential road frost or freezing conditions. Each sensor is strategically located under roadway asphalt throughout the City to provide real time information concerning road conditions. Public viewing of these road temperature sensors is available through the City's website at www.richmond.ca/services/rdws/weather/roadtemps.htm. Sensor locations are illustrated in Attachment 1.

The global positioning system (GPS) was installed on the City's dump trucks in 2016 as part a pilot program and became an important tool last year for snow and ice response as well as for operations management and planning. Truck locations were available in real time which allowed sanding/salting and plowing activities to be reallocated to the closest vehicle in response to areas of concern brought forward. The system also recorded the truck's locations and activities which provided valuable information in relation to claims made against the City relative to the City's operational response.

Two small insert salters have been purchased for one tonne dump trucks which will allow salting of the designated collector roads and roads of local significance in residential subdivisions (third priority routes) and will allow the tandem salters and plows to attend to first and second priority routes. A complete list of equipment dedicated for snow response is provided in Attachment 2.

Public Outreach

Public involvement within the community is vital during the winter season. The City participates in the following programs, working jointly with the public and participating community associations:

- **Snow Angels Program:** This program was introduced in 2010 and connects local volunteer organizations with elderly citizens and residents with mobility/health challenges during a snowfall event. Assistance involves shovelling snow from sidewalks and/or walkways. A Snow Angels registry is accessible on the City's website and can also be obtained by calling Parks Programs, Public Works Dispatch, City Hall, or any of the community centres. . The program is activated in the event of a significant snow fall (defined as an accumulation of 5+ centimetres of snow) and is dependent on the severity of the storm and volunteer resources. The City plays a role in coordinating and promoting the Snow Angels program, but the volunteers are recruited, screened and managed by each association participating in the registry. In the 2017/2018 winter, the Snow Angels program was activated twice.
- **Good Neighbour Program:** This program encourages everyone to clear the walkways around their property and help others who may face challenges. This neighbour-helping-neighbour campaign simply encourages residents to watch for people in their neighbourhood that could use help removing snow from their sidewalks and driveways and offer them a helping hand.

Communications Strategy

A comprehensive communication strategy has proven to be valuable in delivering accurate, timely and relevant information to the public. The City's various departments with the guidance of Corporate Communications have established communications protocols and key messaging which will reinforce the snow response communications program. Participating departments include Public Works, Parks, Corporate Communications and Marketing, Customer Service, Community Bylaws, Emergency Programs and Richmond Fire-Rescue.

By using a cross-functional approach, each division's important messages are delivered in a coordinated fashion over a variety of pre-determined mediums. The messaging is delivered in both a proactive, planned manner as well as reactive, when extreme weather occurs and circumstances require it. The communications strategy includes, but is not limited to, using the following mediums:

- Social media (the City's Twitter and Facebook accounts: tweeting, retweeting, sharing information from credible sources, i.e., weather warnings and safety tips)
 - Media relations (news releases, media interviews)
 - City's website (dedicated web pages, news pages)
 - City's intranet for employees
- Social Media: Social media is a large part of the overall communication strategy. Staff utilize the City's primary Facebook (@CityofRichmondBC) and Twitter (@Richmond_BC) accounts to provide ongoing tips and timely updates leading up to and during snow and ice events. These updates include weather forecasts, what preparations are underway for current and upcoming events, current conditions and the status of any road closures due to debris, etc. Staff will continue to incorporate the use of photos and videos through its social media channels. Staff also post to the City's @RichmondBCAlert Twitter account which is only used to provide emergency-related messages to residents (including emergency updates during snow or other weather events).
 - News Releases: News releases have been prepared to address common extreme weather/snow and ice topics and will issued to the media (and posted on the City's website) as events occur. Some examples include clearing leaves from storm drains, personal winter preparedness, and how the City is preparing for extreme weather events.
 - Website: The City's website provides considerable information about snow response including news releases, snow response route map and frequently asked questions. This information can be found at www.richmond.ca/services/rdws/weather/cityprepares.htm.

2018/2019 Weather Forecast

Richmond's geography often results in specific and variable weather patterns that differ considerably from other Metro Vancouver cities. Richmond-specific weather information and long range forecasts are received and monitored daily. According to NorthWest Weather.net, the 2018/2019 winter forecast is as follows:

October 5, 2018 - All signs are pointing towards a weak-to-moderate El Nino developing early this winter. This means winter will not be as cold or snowy as the previous two winters as El Nino winters tend to be fairly dry and warm. Extensive periods of warm and dry weather may occur with

brief cold and wet weather periods and brief downturns or severe storms. One to two arctic outbreaks can be expected with the first one possible in November. Typically the effects of El Nino commence by January, so there is a chance we may not see any arctic outbreaks after that.

Operational Preparations

Operational preparations for the upcoming winter began in late September including equipment overhauls, equipment training for staff and meetings to coordinate efforts amongst departments. Training is crucial for preparation and is always an integral part of the groundwork for each winter season to ensure a sufficient number of personnel are available to respond to inclement weather events.

The City of Richmond's salt supplies have been secured for the upcoming winter season. There are currently 1,050 metric tonnes available under contract and an additional 2,200 metric tonnes on reserve. In addition to the salt storage at the Public Works Yard, a second location (Sidaway site) will be stocked with salt for the reloading of trucks during snow events. This secondary location will reduce travel times and increase efficiencies for equipment working on the east side of Richmond.

Through a centralized control centre, staff closely monitor and record equipment locations, route start and completion times, and salt distribution. The addition of GPS monitoring to City vehicles involved in response operations enabled improved tracking and operations management. Overall, this allows staff to respond accurately to enquiries and to better track expenditures that can be used to forecast costs for future events.

2017/2018 Winter Season Summary

During the past winter season, Richmond experienced five snow events and twenty-seven ice/frost events of varying duration and severity that accumulated 47 cm of snow at YVR. The City pre-treated and/or de-iced 23,261 lane kilometres and plowed and salted 4,905 lane kilometers of first, second and third priority roads.

Financial Impact

Year	Annual Budget	Actuals 3rd Quarter	Variance
2017	\$ 1,043,170	\$ 1,163,126	-\$ 119,956
2018	\$ 1,282,900	\$ 665,790	\$ 617,110
2017 Major Road Network	\$ 172,400	\$ 246,320	-\$ 73,920
2018 Major Road Network	\$ 120,800	\$ 181,667	-\$ 60,867

The 2018 budget currently has \$617,110 remaining at this time. Any surplus funds will be placed in the Snow and Ice Reserve to address any future over runs due to unforeseen snow events. Should there be a severe winter and additional funds required, staff will report back to Council.

Conclusion

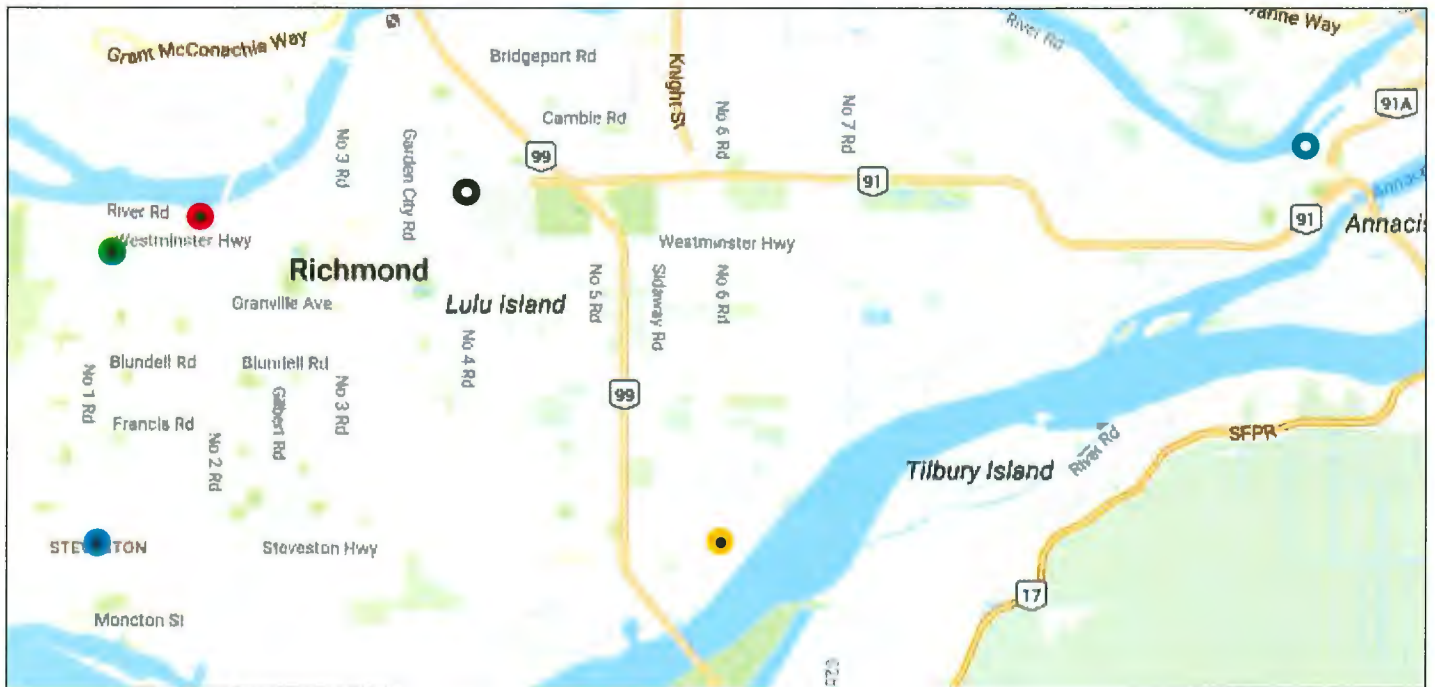
Preparations for the 2018/2019 snow and ice season by all required departments are well underway and will be completed in time for the upcoming winter.

A handwritten signature in black ink, appearing to read 'L. Ford', is positioned above the printed name.

Larry Ford
Manager, Roads & Construction Services
(604-244-1209)

Att. 1: City of Richmond – Road Temperature Sensor Locations
Att. 2: City of Richmond – Snow Response Equipment

City of Richmond – Road Temperature Sensor Locations



Road Temperature Sensors:

- Armoury
- No. 6 Road South
- Oval
- Queensborough
- Steveston
- Forsyth

City of Richmond – Snow Response Equipment

Number of Units	Description
4	Single-axle dump trucks with flinks and belly plows
1	One-tonne flat deck truck with insert/brine tank
7	Tandem dump trucks with insert and plough attachments
2	One-tonne dump trucks with insert
1	Crane truck with insert
6	F550S with snow plows
1	Flusher truck (brine)
4	Mobile snow blowers
4	Backhoes
2	Front-end wheel loader
2	Bobcat skid steers
3	Hydro excavators
2	John Deere Ride-ons with plows
1	Grader
1	Kabota with plow
1	Brine production and handling system
2	Brine applicator inserts
1050 tonnes	Salt



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: John Irving
Director, Engineering
Date: October 25, 2018
File: 10-6160-08/2018-Vol
01
Re: Non-Stormwater Discharge Process Improvements

Staff Recommendation

1. That the Pollution Prevention and Cleanup Bylaw No. 8475, Amendment Bylaw No. 9950, which introduces the new Non-Stormwater Discharge Permit, standards, and application fee, be introduced and given first, second, and third readings; and
2. That the Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 9951, which quantifies the Non-stormwater Discharge application fee, be introduced and given first, second, and third readings.

John Irving
Director, Engineering
(604-276-4140)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Law Building Approvals	☒ ☒	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

Staff assessed the City's system of managing Non-Stormwater Discharge Agreements, regulated by the *Pollution Prevention and Clean-up Bylaw No. 8475*, and identified customer service and cost saving opportunities compared to the current system. This report summarizes the steps staff have taken to evaluate the current system and outlines proposed changes for Council consideration.

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.

6.1 Safe and sustainable infrastructure.

6.2. Infrastructure is reflective of and keeping pace with community need.

This report supports Council's 2014-2018 Term Goal #8 Support Economic Development

Review, develop and implement plans, policies, programs and practices to increase business and visitor appeal and promote local economic growth and resiliency

8.2 Opportunities for economic growth and development are enhanced.

Background

The City's stormwater system consists of open and closed drainage infrastructure that is designed to collect untreated surface water from impervious surfaces such as roads and parking lots, and direct it to the Fraser River to prevent local flooding. The City's open watercourses are an integral part of this storm drainage system. Open watercourses are less expensive to maintain than closed pipes, can store higher volumes of water and provide valuable riparian habitat for plants and animals to support a healthy ecosystem.

The topography of Lulu Island is generally flat with a shallow groundwater table that moves very slowly compared to other areas in the Lower Mainland. The island was once covered with extensive peat bogs that left an abundance of organic material in the soil. This combination has resulted in high organic activity that naturally consumes the dissolved oxygen in rainwater soon after it percolates into the ground. This oxygen-poor groundwater allows anaerobic bacteria to leach metals (specifically iron and manganese) from the mineral soil, which makes the water slightly acidic. Background conditions have naturally elevated metals concentrations throughout Richmond surface and groundwater systems as the groundwater naturally enters and interacts with the open drainage system.

The City protects its open drainage ecosystems pursuant to the *Pollution Prevention and Clean-up Bylaw No. 8475*, which prohibits any polluting substances from entering the City's storm drainage system, open drainages, or soil. The City accommodates the need to accept water originating from construction dewatering through Part 6.1.2.1 of the *Pollution Prevention and Clean-up Bylaw No. 8475* and requires:

- Written confirmation from a Qualified Environmental Professional that groundwater concentrations will comply with the *BC Approved Water Quality Guidelines* (for the Protection of Aquatic Life) when discharged;
- A water quality monitoring and response plan;
- A drainage system capacity analysis by a Professional Engineer; and
- Proof that the project has been denied a permit to discharge into the Metrovan sanitary waste disposal system.

The Owner then enters into a legal agreement with the City, that defines the proposed discharge terms, following Staff's review.

Analysis

Staff assessed the current application and agreement process in consultation with various internal and external stakeholders. Key findings and proposed changes intended to improve the City's administrative efforts and reduce costs for development projects are summarized below.

Legal Agreements

The Owner of the source parcel must currently enter into a legal agreement with the City confirming the terms of the proposed groundwater discharge. Final agreements are executed by the General Manager of Engineering and Public Works and the Owner as per the *Pollution Prevention and Clean-up Bylaw No. 8475* and, and provide indemnity for the City as it relates to dewatering activities. Agreements are typically tenured for two-years however, amendments are often required during this term to accommodate variables such as construction delays.

Feedback collected during the assessment suggests that a legal agreement may not be the most effective instrument to facilitate construction dewatering and staff propose replacing the legal agreement with a permit and new fee. A permit would still function to limit the City's liability and hold the Owner responsible to comply with all applicable environmental laws but could limit the administrative burden of legal agreements. Amendments can also be more easily facilitated by staff with a permit revision process. The Owner would still be required to prepare and to submit the same supporting information for staff review as in the current agreement process.

Water Quality Standards

For City capital construction projects and other construction, builders must currently ensure that the discharge water quality concentrations meet the *BC Approved Water Quality Guidelines*. Feedback has identified that meeting these guidelines requires the use of complex filtration systems to reduce concentrations including the naturally occurring background metals. These

complex filtration systems are often required most of the construction phase and can cost up to \$500,000 for larger developments. Treatment systems also require the use of chemicals referred to as flocculants that can be introduced into the City's open and closed drainage system.

Staff retained a Qualified Environmental Professional to assess suitable alternatives to the *BC Approved Water Quality Guidelines* that maintain environmental protection standards and consider the natural background metals concentrations. Staff recommend updating the discharge criteria requirements from all of the standards in the *BC Approved Water Quality Guidelines*, to the select parameters listed below. Monitoring for these parameters in the field will maintain environmental protection standards.

Minimum Discharge Criteria

pH	6.5 - 9.0
Temperature	< or = to 19°C
Dissolved Oxygen	< or = to 5.0 mg/L
Turbidity	< or = to 8 NTU and < or = to 50 NTU during storm events

Staff also recommend new environmental objectives to compliment these four parameters that considers the possible presence of additional contaminants of concern from historical site uses such as gas dispensers. If the Owner cannot provide evidence, pursuant to the *BC Contaminated Sites Regulations* that contamination is unlikely at a site, the Owner must meet the applicable *BC Contaminated Sites Regulation* and/or the *BC Water Quality Guidelines* for all potential contaminants of concern at the source parcel.

Users of the current non-stormwater discharge management system anticipate the proposed changes to reduce the water treatment costs for City capital projects and the development of uncontaminated properties by as much as 75%, while still protecting the local watercourses and infrastructure.

Field Monitoring & Cost Recovery

Staff currently manage non-compliance discharge concerns on a complaint basis due to the complex treatments systems and testing requirements involved but propose increasing compliance monitoring capabilities. Each of the proposed Minimum Discharge Criteria parameters can be easily measured in the field with environmental field monitoring equipment.

The current system does not impose a fee for the Owner. Staff recommends implementing a \$3,000 application fee to cover the costs of site inspections and field sampling equipment for the duration of a two year permit.

Staff also propose updates to the *Pollution Prevention and Clean-up Bylaw No. 8475* that will improve cost recovery initiatives in the event releases require immediate City resources to mitigate such as cleaning out closed drainage pipes.

The table below outlines all of the proposed bylaw amendments to the *Pollution Prevention and Clean-up Bylaw No. 8475* and the *Consolidated Fees Bylaw No. 8636*.

Summary of Proposed Bylaw Amendments

Update the Pollution Prevention and Clean-up Bylaw No. 8475 to include the new Non-Stormwater Discharge process

- Elimination of the current Non-Stormwater Discharge Agreements, and replacement with a new Non-Stormwater Discharge Permit.
 - Replacement of the current discharge standards with new Richmond-specific Minimum Discharge Criteria for turbidity, temperature, pH, and dissolved oxygen that would have to be met for all discharges.
 - Addition of a signed statement from the project Qualified Environmental Professional certifying the quality of the proposed non-stormwater discharge and additionally confirming that the proposed non-stormwater discharge meets the Minimum Discharge Criteria.
 - Introduction of the Non-Stormwater Discharge Permit application fee and City-lead remediation cost recovery mechanisms.
-

Update the Consolidated Fees Bylaw No. 8636 to include a Non-Stormwater Discharge Permit Application fee

- Quantification of a new Non-Stormwater Discharge Permit Application fee established in the Pollution Prevention and Clean-up Bylaw No. 8475 amendment.

Stakeholder Consultation

Consultation efforts in 2018 included presentations to internal and external stakeholders, Senior Government, the Development Community and technical professionals. Staff received positive support from each collaborative session and secured formal endorsement from the Urban Development Institute Liaison Committee regarding the proposed changes.

Technical information was also forwarded via email to the City's Advisory Committee on the Environment, the provincial Ministry of Environment and Climate Change Strategy and the Federal Department of Fisheries.

Implementation

Pending Council's approval of the proposed amendments in this report, staff will finalize updated application forms and publish a new Info Bulletin for applicants.

Staff will also prepare letters for all current Non-Stormwater Discharge Agreement holders, informing them of the updates, and inviting them to apply for the new discharge criteria, should they wish.

Financial Impact

None. The proposed changes will reduce costs for City capital projects and development without compromising environmental standards.

Conclusion

Richmond's open watercourses are an integral part of the City's Ecological Network and convey non-stormwater discharges from development. The proposed changes to the the City's non-stormwater discharge system will improve customer service, reduce dewatering costs, provide a cost recovery mechanism and protect the City's open drainage network from harmful pollutants.



Chad Paulin
Manager, Environment
(604-247-4672)



Warren Mills
Environmental Coordinator
(604-247-4694)



**Pollution Prevention and Clean-Up Bylaw No. 8475,
Amendment Bylaw No. 9950**

The Council of the City of Richmond enacts as follows:

1. Pollution Prevention and Clean-Up Bylaw No. 8475, as amended, is further amended at section 1.1.1 by deleting the definitions of “**agreement**”, “**application**”, “**general manager**”, “**qualified environmental professional**” and “**responsible person**”, and inserting the following in alphabetical order:

APPLICANT	means the person who has applied for a Permit.								
ENVIRONMENTAL LAWS	means all applicable federal, provincial, and City laws, statutes, regulations, ordinances, bylaws, and codes, all applicable policies, standards, protocols, orders, directives, and decisions issued, rendered or promulgated by any ministry, federal or provincial department, or judicial, administrative, or regulatory agency or body, whatsoever relating to fisheries, public health and safety, occupational health and safety, the protection or preservation of the environment , or the manufacture, operation, processing, distribution, use, treatment, storage, disposal, release , transport, handling, or remediation of contaminants, all as may be amended or replaced from time to time, including, but not limited to, the <i>Environmental Management Act</i> , S.B.C. 2003 c. 53, the <i>Canadian Environmental Protection Act</i> , 1999 S.C. 1999, c. 33, and the <i>Fisheries Act</i> , R.S.C. 1985, c. F-14 (as may be amended or replaced from time to time), and all applicable principles of common law and equity.								
GENERAL MANAGER	means the General Manager, Engineering and Public Works, and his or her respective designates and authorized agents.								
MINIMUM DISCHARGE CRITERIA	means the following minimum criteria that any permitted non-stormwater discharge must meet: <table><tr><td>pH</td><td>6.5 - 9.0</td></tr><tr><td>Temperature</td><td>< or = to 19°C</td></tr><tr><td>Dissolved Oxygen</td><td>< or = to 5.0 mg/L</td></tr><tr><td>Turbidity</td><td>< or = to 8 NTU, and < or = to 50 NTU during storm events</td></tr></table> Notes: NTU- Nephelometric Turbidity Units C- Celsius mg/L- milligrams per Litre	pH	6.5 - 9.0	Temperature	< or = to 19°C	Dissolved Oxygen	< or = to 5.0 mg/L	Turbidity	< or = to 8 NTU, and < or = to 50 NTU during storm events
pH	6.5 - 9.0								
Temperature	< or = to 19°C								
Dissolved Oxygen	< or = to 5.0 mg/L								
Turbidity	< or = to 8 NTU, and < or = to 50 NTU during storm events								

NON-STORMWATER DISCHARGE QUALITY DECLARATION	means a statutory declaration or letter, in the form provided by the City from time to time or in form otherwise satisfactory to the City , signed and sealed by a Qualified Environmental Professional , certifying the findings of site investigation work as to the quality of the proposed non-stormwater discharge and confirmation that the proposed non-stormwater discharge meets the minimum discharge criteria .
QUALIFIED ENVIRONMENTAL PROFESSIONAL	means an applied scientist or technologist registered and in good standing in British Columbia with an appropriate professional organization constituted by provincial statute, insured against professional liability arising from errors and omissions occurring in the performance of professional services, acting under that association's code of ethics, and subject to disciplinary action by that association, including but not limited to agrologists, biologists, engineers, foresters, geoscientists and technologists.
PERMIT	means an authorization by the City to allow non-stormwater discharge to enter a drainage system or watercourse .
PERMITTEE	means the holder of a Permit .
RESPONSIBLE PERSON	means the person who has possession, charge, or control of a polluting substance when a spill of such polluting substance occurs, or is at imminent risk of occurring."

2. Pollution Prevention and Clean-Up Bylaw No. 8475, as amended, is further amended by deleting Part Six: Non-Stormwater Discharge Management and replacing it with the following:

"PART SIX: NON-STORMWATER DISCHARGE MANAGEMENT

6.1 Provisions for Non-Stormwater Discharge

6.1.1 Non-Stormwater Discharge Permit

No person shall allow any **non-stormwater discharge** to enter any **drainage system** or any **watercourse** without first making an application for and obtaining a **Permit**, and every such **discharge** shall be undertaken in accordance with all requirements and regulations of this bylaw, the terms and conditions of the **Permit**, and all applicable **environmental laws**.

6.1.2 Application Requirements

6.1.2.1 Unless exempted by the **General Manager**, an application for a **Permit** must:

- (a) be made in the form provided from time to time by the **City**;

- (b) be made by the **owner** of the source **parcel**, or by an agent of the **owner**, provided that such agent has been granted written authority to act on behalf of the **owner**;
 - (c) include the applicable fees as specified in the *Consolidated Fees Bylaw No. 8636*;
 - (d) include written confirmation from the **owner** that the **owner** will waive, release, remise, indemnify, and save harmless the **City** and its elected officials, agents, employees, officers, and servants from and against all claims, demands, losses, costs (including legal costs), damages, actions, suits, or proceedings whatsoever brought by reason of, or arising from, the issuance of the **Permit** by the **City**, or the breach of any of the terms and conditions of the **Permit** by the **owner** or by those for which the **owner** is responsible at law, or the proposed **discharge** of **non-stormwater discharge** by or on behalf of the **owner**;
 - (e) be accompanied by one of the following:
 - (i) a **non-stormwater discharge quality declaration** satisfactory to the **City**; or
 - (ii) a copy of the written approval of the proposed **discharge** from the applicable federal or provincial regulatory authority as required by the applicable **environmental laws**;
 - (f) be accompanied by proof of insurance in an amount and on the terms satisfactory to the **City**;
 - (g) be accompanied by a **water quality monitoring and response plan** satisfactory to the **City**;
 - (h) be accompanied by a capacity analysis of the **drainage system** and, based on the capacity analysis, a letter signed and sealed by an appropriate **Qualified Environmental Professional** (being a professional engineer) confirming that the **drainage system** has capacity to accommodate the flow rate of the proposed **discharge**;
 - (i) if required by the **City**, be accompanied by evidence satisfactory to the **City** that the **owner** has been denied a permit to **discharge** the **non-stormwater discharge** into the sanitary waste disposal system servicing the **parcel**, if any; and
 - (j) be accompanied by any supporting documentation requested by the **City** relevant to the matters referred to in subsections (e), (g), (h) and/or (i) above.
- 6.1.2.2 An application will be deemed to have been abandoned if the **Applicant** fails to fully and completely respond to a request by the **General Manager** for documentation or information under this bylaw within 6 months of the date the request is made. Once abandoned, all application fee(s) collected will be forfeited to the **City**. If the **Applicant** wishes to proceed with a **discharge** after any such abandonment, the **Applicant** must, unless exempted in writing by the **General Manager**, submit a new

application for a **Permit** and must pay an additional non-refundable application fee as specified in the *Consolidated Fees Bylaw No. 8636*.

- 6.1.2.3 If it is determined by the **General Manager** that any **discharge of non-stormwater discharge** has occurred without a valid **Permit**, all work must cease and the appropriate **Permit** application must be immediately submitted with a non-refundable application fee of twice the amount as specified in the *Consolidated Fees Bylaw No. 8636*.

6.1.3 Permit Issuance

- 6.1.3.1 Subject to section 6.1.3.2, the **General Manager** may issue a **Permit** upon being satisfied that:

- (a) the proposed **discharge of non-stormwater discharge** complies with this bylaw and all applicable **environmental laws**;
- (b) the proposed **discharge of non-stormwater discharge** can be carried out safely, without undue nuisance or interference to adjacent **parcels** or the public, or damage or injury to persons or property;
- (c) the **Applicant** has complied with the applicable requirements of section 6.1.2; and
- (d) the **Applicant** has paid to the **City** all applicable fees required under the *Consolidated Fees Bylaw No. 8636*.

- 6.1.3.2 The **General Manager** may refuse to issue a **Permit** if the requirements of section 6.1.3.1 have not been met or the **General Manager** is of the opinion that the proposed **discharge of non-stormwater discharge** will or is reasonably likely to:

- (a) endanger, damage, or otherwise adversely affect any adjacent **parcel**, structure, highway, easement, utility works and services or right-of-way, whether privately or publicly owned;
- (b) foul, obstruct, destroy, impede, divert, or otherwise adversely affect any **watercourse** or **drainage system**, whether privately or publicly owned;
- (c) contravene any applicable **environmental laws**;
- (d) threaten the health, safety, or welfare of the public or be otherwise contrary to the public interest;
- (e) cause a federal, provincial or municipal authority to incur excessive costs to provide public utilities, works, or services to the subject **parcel**, or an adjoining or reasonably adjacent **parcels**.

6.2 Non-Stormwater Discharge Regulations

6.2.1 In addition to any terms and conditions contained in a **Permit**, no person shall cause or permit the **discharge** of **non-stormwater discharge** except in accordance with the following requirements, unless exempted in writing by the **General Manager**:

- 6.2.1.1 the **Permittee** shall engage a **Qualified Environmental Professional** to supervise and monitor the **discharge**;
- 6.2.1.2 the **Permittee** conducts water quantity monitoring to confirm and ensure that the **discharge** does not exceed the allowable flow rate set out in the capacity analysis referred to in subsection 6.1.2.1(h) of this **Bylaw**, and, if requested by the **City**, provides a copy of the monitoring results signed and sealed by a **Qualified Environmental Professional** to the **City**;
- 6.2.1.3 the **Permittee** conducts continuous monitoring of water levels in the pipe, box culvert or ditch receiving the **discharge** and if water levels overload the pipe or box culvert or exceed the maximum hydraulic gradeline of the ditch, as specified in the capacity analysis of the **drainage system** referred to in subsection 6.1.2.1(h) of this **Bylaw**, the **Permittee** shall:
 - (a) immediately discontinue the **discharge**;
 - (b) report to the **City** that the **drainage system** is over capacity;
 - (c) retain the water from the **discharge** on the subject **parcel** until the **drainage system** is no longer over capacity; and
 - (d) only resume the **discharge** once the **drainage system** is no longer over capacity and the **discharge** will not cause it to become over capacity.
- 6.2.1.4 the **Permittee** complies with the **water quality monitoring and response plan** and, if requested by the **City** provide a copy of the monitoring results to the **City**;
- 6.2.1.5 the **discharge** complies with the **minimum discharge criteria**;
- 6.2.1.6 the **Permittee** complies with all applicable **environmental laws**;
- 6.2.1.7 the **Permittee** shall obtain any and all approvals and authorizations required, in addition to the **Permit**, by any applicable governmental authority, public utility or other governmental agency; and
- 6.2.1.8 the **Permittee** shall immediately report to the **City** any emergency or the existence of any condition which prevents the operation of any treatment system required in relation to the water being **discharged**.

6.3 Permit Expiry

6.3.1 Every **Permit** issued under this bylaw shall expire and cease to authorize any **discharge** of **non-stormwater discharge** twenty-four (24) months following the date of issue or upon such earlier date as may be specified in the **Permit** unless an expiry date for a different term is specified in the **Permit** or a renewal has been issued in accordance with section 6.3.2..”

3. Pollution Prevention and Clean-Up Bylaw No. 8475, as amended, is further amended by deleting the word ‘**agreement**’ from where it appears in sections 7.1.1 and 9.1.1 and replacing it with the word “**Permit**”.
4. Pollution Prevention and Clean-Up Bylaw No. 8475, as amended, is further amended by deleting section 8.1.1 and replacing it with the following:

“8.1.1 Where the **City** has determined that there has been a possible contravention of this bylaw which poses a possible threat to the environment or the health or safety of individuals, and immediate action is required to remedy the situation, the **City** may immediately take whatever action the **City** considers necessary to remedy the situation without the necessity of full compliance with the provisions of this bylaw at the time it is undertaken, and the expense of doing so, plus a reasonable sum as determined by the **General Manager** as a charge for the **City's** overhead, shall be paid by the **owner**. If not paid within 90 days, the expense, with interest at the prescribed rate and costs, shall be recovered in the same manner and with the same remedies as municipal taxes.”

5. Pollution Prevention and Clean-Up Bylaw No. 8475, as amended, is further amended by inserting the following as a new “PART NINE: ENFORCEMENT” and renumbering the remaining Parts and sections:

“PART NINE: ENFORCEMENT

9.1 Suspension of a Permit

9.1.1 The **General Manager** may suspend any **Permit** where, in the opinion of the **General Manager** there is a contravention of or non-compliance with the terms and conditions of the **Permit**, this bylaw, or any other relevant **City** bylaw. The **Permit** shall remain suspended and will cease to authorize the **discharge** of **non-stormwater discharge** until, in the opinion of the **General Manager**, compliance is obtained.

9.1.2 Where a **Permit** is suspended, the **General Manager** will cause written notice of suspension to be delivered to the **Permittee** and to the **owner** of the subject **parcel** by registered mail and to be posted on the subject **parcel** where possible.

9.1.3 Sections 9.1.1 and 9.1.2 are without prejudice to any other remedies available to the **City** under this bylaw, any other law, or in equity.

9.2 Non-compliance

9.2.1 If a **Permittee** or the **owner** of the subject **parcel** contravenes a provision of this bylaw or a term of a **Permit**:

- 9.2.1.1 such person shall immediately cease any and all contravening actions;
- 9.2.1.2 the **General Manager** may notify the **Permittee** or the **owner** in writing of such contravention; and
- 9.2.1.3 the **General Manager** may instruct the **Permittee** or the **owner** to correct the contravention by a date specified in the notice. If the correction of the contravention will not be completed by the date specified in the notice, the **Permittee** or the **owner** as instructed by the **General Manager** must inform the **General Manager** of such and immediately take all reasonable steps to begin to correct the contravention.

9.2.2 If a **Permittee** or the **owner** of the subject **parcel** fails to cease any and all contravening actions and/or correct a contravention referenced in section 9.2.1 by the date specified in the notice, or otherwise instructed by the **General Manager**:

- 9.2.2.1 the **City** may carry out such works and undertake such actions as the **City** deems necessary to correct the contravention;
- 9.2.2.2 the **General Manager** may revoke or suspend the relevant **Permit**, if any; and
- 9.2.2.3 in the event that any person having received notice fails to correct a contravention within the time specified in the notice, the **City** or its appointed agents may enter upon the subject **parcel** or any part thereof and carry out the works required to remedy the contravention, and the expense of doing so, plus a reasonable sum as determined by the **General Manager** as a charge for the **City's** overhead, shall be paid by the **owner**. If not paid within 90 days, the expense, with interest at the prescribed rate and costs, shall be recovered in the same manner and with the same remedies as municipal taxes.

9.2.3 Other than in case of emergency (in the opinion of the **General Manager**), in which case no notice is required, the **City** will give ten days' written notice to the **Permittee** of the **City's** intention to carry out works pursuant to section 9.2.2.

9.2.4 If the **City** carries out works pursuant to section 8.1.1 or 9.2.2, the **Permittee** or the **owner** of the subject **parcel** will reimburse the **City** for the **City's** cost of carrying out such works, within ten days of receiving a written request by the **City** for such reimbursement.

9.2.5 The **City** will not be liable for any damage, loss or expense of any nature or kind whatsoever, arising out of or in connection with the issuance of a **Permit**, or the **discharge** of **non-stormwater discharge**, or any other action by the **City** under this bylaw or a **Permit**.

9.2.6 In the event of damage to **City** or privately-owned **drainage system, watercourses**, highways, lands, or other **City** property or privately-owned property or facilities, resulting from a

discharge of non-stormwater discharge operation, the **Permittee**, or an agent of the **Permittee**, will promptly and properly repair the damage to the satisfaction of the **General Manager.**”

6. This Bylaw is cited as “**Pollution Prevention and Clean-Up Bylaw No. 8475, Amendment Bylaw No. 9950**”.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating dept. 
APPROVED for legality by Solicitor 

MAYOR

CORPORATE OFFICER



**CONSOLIDATED FEES BYLAW NO. 8636,
AMENDMENT BYLAW NO. 9951**

The Council of the City of Richmond enacts as follows:

1. The **Consolidated Fees Bylaw No. 8636**, as amended, is further amended by adding Schedule A attached to and forming part of this bylaw to "SCHEDULE – POLLUTION PREVENTION AND CLEAN-UP" to Consolidated Fees Bylaw No. 8636.
2. This Bylaw is cited as "**Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 9951**".

FIRST READING

SECOND READING

THIRD READING

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating dept. <i>C-P.</i>
APPROVED for legality by Solicitor <i>[Signature]</i>

MAYOR

CORPORATE OFFICER

POLLUTION PREVENTION AND CLEAN-UP BYLAW NO. 8475**Permit Application Fees**

Section 6.1.2

Description	Fee
<u>Application Fee</u>	\$3000.00



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: John Irving, P.Eng. MPA
Director, Engineering
Date: October 22, 2018
File: 10-6160-07-01/2018-
Vol 01
Re: **Brazilian Elodea and Parrot's Feather Management Update**

Staff Recommendation

That the report titled "Brazilian Elodea and Parrot's Feather Management Update" from the Director, Engineering dated October 22, 2018 be received for information.

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

REPORT CONCURRENCE		
ROUTED TO: Sewerage & Drainage	CONCURRENCE ☒	CONCURRENCE OF GENERAL MANAGER 
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

Staff have been managing two priority infestations of the invasive aquatic plant species Brazilian Elodea at Mariner's Village and Parrot's Feather at Shell Road in the City's drainage network. This report summarizes the City's management activities to date regarding these infestations and provides information on future management initiatives at each location.

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 that challenges associated with aging systems, population growth, and environmental impact.

6.1 Safe and sustainable infrastructure

Background

Council adopted the Enhanced Pesticide Management Program (EPMP) and the *Pesticide Use Control Bylaw No. 8514* in 2009 with the objective of eliminating the use of traditional pesticides for cosmetic purposes. The EPMP is comprised of five components including corporate reduction, education and community partnerships, senior government regulation, municipal regulation and cost/resource implication, and was a leading initiative in BC when adopted. Staff attribute the program's successful implementation and community acceptance to a strong framework of public consultation and education. Staff developed broad-based education workshops and dedicated communication resources to support the public and strengthen invasive species education and awareness in Richmond. The EPMP has been well-received in the community and feedback from the public has demonstrated a keen awareness of the Bylaw and willingness for voluntary compliance as a result.

The Invasive Species Action Plan was adopted by Council in 2015 pursuant to the EPMP. The Invasive Species Action Plan establishes a strategic, risk-based approach to prioritize immediate threats to civil infrastructure and human health by invasive species. There are currently eight priority invasive species listed in the Invasive Species Action Plan including Brazilian Elodea and Parrot's Feather that pose a risk to civil infrastructure and human health, in some cases. The Invasive Species Action Plan enables Richmond to adapt and respond to these shifts and mitigate threats. The City has been proactively managing the spread of invasive species on City lands and providing support on privately-owned lands. The Invasive Species Action Plan has secured approximately \$625,000 in Capital funding since 2015 and \$225,000 in provincial funding as part of the Province's Early Detection Rapid Response program in 2018. This funding has been used to treat a total of 7 ha of knotweed along civic infrastructure and 1 ha of Brazilian Elodea at Mariner's Village. All treatments involving the use of herbicide for knotweed are conducted in accordance with the provincial *Integrated Pest Management Act* and the City's *Public Health Protection Bylaw No. 6989* for public notification.

Analysis

Brazilian Elodea

Brazilian Elodea (Elodea) is a candidate species for the Province's Early Detection Rapid Response program and is recognized as a priority species under the City's Invasive Species Action Plan. Staff were notified by the Strata of Mariner's Village to the presence of Elodea in the water feature in 2014, which was likely the result of the improper disposal of aquarium contents. The Elodea has since spread throughout the water feature but has remained contained within this area to date.

Mariner's Village is a local condominium development located between 11291 and 11491 7th Avenue that consists of several single-family and multi-family dwellings. A water feature is located adjacent to the development on City property, situated between Mariner's Village and the west dike. The water feature is approximately 500 m long by approximately 25 m wide and forms part of the City's drainage system in the area.

City efforts in 2017 resulted in provincial funding in the sum of \$225,000 being dedicated to support the City with Elodea management efforts over the next three years. A portion of this money was used in February 2018 to dewater the northern portion of the water feature and successfully expose the plant to cold conditions. Staff regularly monitored the effects of the trial during the remainder of 2018 and completed the following initiatives:

1. Hosted a community Open House at the Steveston Community Center (in partnership with the Province) to inform residents of the City's priority invasive species and introduce the use of aquatic herbicides as a tool to manage Elodea;
2. Completed a post-treatment survey of the trial area to monitor the Elodea's response to the winter exposure (results outlined below); and
3. Procured a specialized suction dredge service provider to mechanically remove additional Elodea from the southern portion of the water feature.

Current State

Staff have continued to monitor the results of the winter exposure during 2018 and have noted significant results in the trial area. A pre-trial survey identified the total area of Elodea growth in the northern portion of the water feature to be 460 m². Survey results in 2018 suggest that the infestation has been reduced by approximately 85%. In addition, Staff have noted a healthy resurgence of native vegetation such as rushes and sedges in the trial area as a result of the soil turning efforts that has enhanced the avian habitat available for nesting and foraging.

An invasive species Open House was held at the Steveston Community Center in June 2018 in conjunction with provincial staff. Approximately 25 community members (largely residents of Mariner's Village) were in attendance to participate in a meaningful discussion regarding invasive species and the use of potential aquatic herbicides for persistent species such as Elodea. Participants were receptive to the use aquatic herbicides and appreciative of the City's efforts to date at Mariner's Village. Maintenance activities alone are expected to control the infestation on a seasonal basis but staff anticipate that a combination of mechanical and herbicide treatments may be necessary eradicate the plant.

Staff coordinated a mechanical removal program for the southern portion of the water feature in August 2018. Specialized suction dredge equipment was mobilized to treat an area of approximately 5,500 m². Crews completed a 16-day program that removed 850 bags of Elodea biomass (Attachment 1). Comments received by the City from the Mariner's Village residents during the program were all very positive.

Public Consultation

Staff committed to maintaining strong and effective communication with the residents of Mariner's Village as supported in the Invasive Species Action Plan. Staff hosted residents of Mariner's Village multiple times to collect their feedback on potential management strategies and have maintained an open dialogue their representatives as management efforts to treat the Elodea evolve. Mariner's Village residents have demonstrated a keen interest in assisting the City by actively engaging staff with helpful information and positive feedback since establishing regular communication in 2017.

Staff anticipate organizing an additional meeting with Mariner's Village residents to discuss dewatering the entire water feature in the winter of 2018/2019. Staff will collect feedback and make any necessary modifications to the proposed dewatering plan currently underway. Efforts will also be made to update communication resources such as the invasive species website to include information relating to the City's winter trial and management results.

Next Steps

Staff are proposing to drain the entire water feature (north and south of the foot bridge) this winter to stress the Elodea a second time and will use the existing weir to facilitate dewatering in the winter of 2018/2019 following consultation. All costs will be funded through the provincial grant funding.

Staff will be working with the Province in 2019 to initiate the Pesticide Use Permit (including a stakeholder consultation period) and secure this management option to treat the Elodea should the winter trials and mechanical removal efforts continue to yield re-growth.

Parrot's Feather

Parrot's Feather is a persistent aquatic plant similar to Elodea that has the ability to displace native aquatic vegetation and impede drainage in the City's open watercourse network. Parrot's feather was first detected at Garry Point Park in 2007 and is now established in most neighborhoods containing open drainage infrastructure. Management efforts are particularly challenging for this species because it has the ability to rapidly spread by plant fragments. Management options are currently limited to general maintenance practices including mechanical removal, which can inadvertently contribute to its spread by fragmenting and dispersing plant roots and stems. The potential use of aquatic herbicide as a management tool is also limited because there are currently no licenced products available in Canada to effectively target the species.

Staff continue to promote community stewardship initiatives such as the ‘Don’t Let it Loose’, ‘Choose Non-invasive’ and ‘Clean, Dry, Drain’ programs intended to educate residents and local businesses of the potential adverse effects of invasive species (Attachment 2). The City has also been conducting a series of management trials in various Richmond neighborhoods since 2013 to better understand plant physiology and reduce drainage maintenance costs. Trials have focused on studying the plants reaction to varying shading techniques and developing innovative restoration procedures that utilize geotextile fabric and clean river sand to discourage regrowth (Attachment 3). Results have been encouraging in smaller open drainages but staff have encountered some issues applying these methods to the City’s larger canals such as the Shell Road Canal.

Shell Road Canal is one of the City’s major open drainages that conveys water towards the Horseshoe Slough through a 450 ha catchment area. The canal has an average width of 6 m, is approximately 2.5 km long and makes up a portion of the Shell Road Recreational Trail. Parrot’s Feather is present throughout the canal but has been observed by staff to be most dense between Athabasca Drive and Williams Road. The City is currently reliant on mechanical removal as a primary management tool for the canal and have been coordinating maintenance programs on a three-year cycle (included in 2018), or on an as needed basis to protect infrastructure.

Current State

The same section dredge equipment was also deployed to the Shell Road Canal following Mariner’s Village to remove Parrot’s Feather biomass (Attachment 4). The equipment was mobilized to the area of the canal between Athabasca Drive and Anahim Drive, however, unfavorable substrate conditions and low water levels limited the crew’s progress. A total of 165 bags of Parrot’s Feather were still harvested from the canal with the section dredge equipment.

Results of the maintenance work will be monitored during the next growing in spring 2019.

Public Consultation

Staff continues to work with industry experts such as the Invasive Species Council of BC and the Provincial Government to identify advances in Parrot’s Feather management. Data collected from our field trials are shared with regional partners to strengthen relationships and promote invasive species management in the Lower Mainland. Staff updates communication resources to inform local residents of the challenges and outcomes of our industry-leading initiatives and maintain a 24-hour call line that residents can access to report invasive species sightings or to speak with a city representative.

In addition, all maintenance activities and trial events for managing Parrot’s Feather are supported through informative signage that aligns with the public education and awareness objectives listed in the Invasive Species Action Plan.

Next Steps

Staff will continue to coordinate general maintenance activities at the Shell Road Canal and will be carrying out a winter trial to excavate and expose the substrate in 2018/2019. Results will be monitored throughout 2019.

Financial Impact

None.

Conclusion

The City of Richmond continues to be a leader among local municipalities in the Lower Mainland regarding invasive species management. Field trials to manage the Elodea infestation at Mariner's Village have been encouraging to date, however, staff will pursue a pesticide use permit in 2019 as a longer-term strategy for the water feature. Staff will continue to monitor the Parrot's Feather infestation within the City's open drainage network and perform mechanical removal programs until more effective management tools become available.



Chad Paulin
Manager, Environment
(604-247-4672)

- Att. 1: Suction dredge program in the southern portion of the Mariner's Village water feature
- Att. 2: Invasive species stewardship initiatives
- Att. 3: Parrot's Feather geotextile trials at the Hamilton Neighborhood
- Att. 4: Section dredge equipment at the Shell Road Canal

Attachment 1. Suction dredge program in the southern portion of the Mariner's Village water feature

Before (August 20, 2018)



After (September 7, 2018)





Invasive Species Action Month

Don't Let it Loose

June 2015

FACT SHEET

Invasive species are moving across BC and Canada at a rapid pace:

- In Canada, invasive species include at least 27% of all vascular plants, 181 insects, 24 birds, 26 mammals, 2 reptiles, 4 amphibians, several fungi and molluscs, and 55 freshwater fish.
- The cost of invasive species to Canada is between \$16.6 billion and \$34.5 billion per year. Invasive species cause increased maintenance costs to public parks and private property, devaluing real estate.
- Just six invasive plants caused an estimated combined damage of at least \$65 million in 2008. With further spread, impacts will more than double to \$139 million by 2020.
- Some of the most serious invasive species were originally sold as pets or plants for water gardens and aquariums.



Releasing pets into the wild is both inhumane and dangerous:

- British Columbia is home to several introduced invasive pet species; pet owners release these species thinking it is a humane way to get rid of the animal.
- Although most released exotic pets will die from starvation or be killed by a predator or a car, however several species have the ability to thrive and reproduce in their new environment. Along with impacts on the environment, releasing invasive species has many economic and social impacts.
- Releasing an exotic pet into an unsuitable habitat is considered animal cruelty and charges can be laid (BC SPCA).
- Charges for neglecting a pet, including releasing it into the wild, can include a fine up to \$10,000 and/or up to 18 months in prison (BC SPCA).
- The following exotic pet and plant species are commonly released into the wild, and have had serious impacts on BC's native ecosystems and natural flora and fauna:

○ Red Eared Slider Turtles	○ Parrot Feather
○ European Rabbit	○ American Bullfrog
○ Goldfish	○ Brazilian Elodea
○ Eurasian Watermilfoil	○ Koi Carp
- Plants and animals should never be released into the wild: For information on actions to take visit www.bcinvases.ca and www.bcinvasesmonth.com
- Any sightings of these or other invasive species should be reported to the local invasive species committee. (<http://bcinvases.ca/about/partners/>).



TD Friends of the
Environment
Foundation

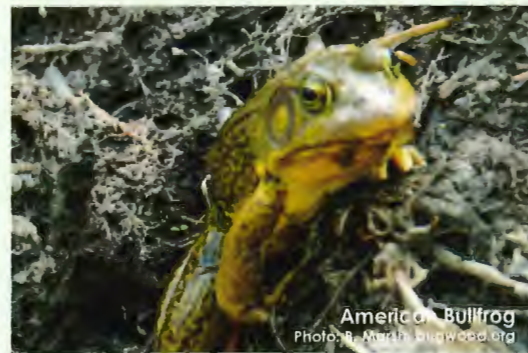


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PWT - 39

Clean Drain Dry Program

SUMMARY REPORT 2015



FOR MORE INFORMATION, CONTACT ISCBC:

www.bcinvasives.ca | info@bcinvasives.ca | 1-888-933-3722 | #100 - 197 North 2nd Ave., Williams Lake, BC V2G 1Z5 | ISCBC Charity Registration #856131578RR0001

PWT - 40
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grow me
instead 



This **Grow Me Instead Brochure** profiles BC's most unwanted horticultural plants, along with their **recommended alternatives**.

A Guide for British Columbia 2013

Attachment 3. Parrot's Feather geotextile trial at the Hamilton Neighborhood



Attachment 4. Section dredge equipment at the Shell Road Canal





City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: November 13, 2018

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

File: 10-6500-01/2018-Vol
01

Re: Update on the City Centre Transportation Plan

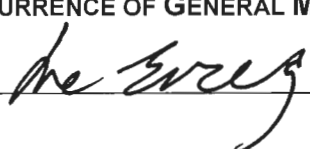
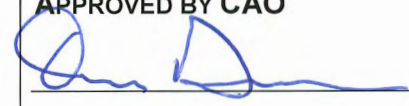
Staff Recommendation

That the report titled "Update on the City Centre Transportation Plan" dated November 13, 2018 from the Director, Transportation, be received for information.

for: 

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

Att. 5

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Development Applications Policy Planning	☒ ☒	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

At the September 19, 2018 Public Works and Transportation Committee meeting, discussion occurred regarding a proposed development in the City Centre and questions were raised with regard to traffic congestion in the area and measures to improve traffic flow. As a result, the following referral was made:

That staff provide an update on the City Centre Transportation Plan and its progress to Council.

This report responds to the referral.

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

Adhere to effective planning and growth management practices to maintain and enhance the livability, sustainability and desirability of our City and its neighbourhoods, and to ensure the results match the intentions of our policies and bylaws.

3.1. Growth and development that reflects the OCP, and related policies and bylaws.

3.3. Effective transportation and mobility networks.

Analysis

Vision and Goals of the City Centre Transportation Plan (CCTP)

The update of the City Centre Area Plan (CCAP) was completed in July 2008 with adoption of the Plan in 2009. To ensure that the City Centre's transportation system supports the planned growth, improves mobility and enhances the liveability of the downtown, an update to the City Centre Transportation Plan (CCTP) was completed in July 2008 in conjunction with the development of CCAP. The CCAP and CCTP are both founded on the principles of transit-oriented development and the creation of complete communities where residents have convenient access to retail and services and a private vehicle is seen as an option, not a necessity. For example, the CCAP designates specific streets as retail streets that require new developments to provide commercial uses at grade in order to create a pedestrian-oriented environment and support walking as one of the primary modes of travel.

The CCTP has the key objective of fostering a more balanced transportation system that emphasizes transit, cycling and walking as the preferred modes to meet future travel demand. The collective transportation system improvements (i.e., new and upgraded infrastructure, policy and programs, and supporting measures) are intended to support a change in lifestyle where one can live, work, shop, and play in a sustainable urban environment.

The CCTP shares the same Smart Growth goals as the CCAP but with a transportation-specific focus. These goals are supported by a number of objectives for each element of the transportation system and are intended to guide the development, prioritization and implementation of transportation system improvements in the City Centre.

- Build Community: Meet the mobility needs of a diverse community with an accessible, continuous and integrated transportation system while minimizing the need to travel far for daily services.
- Build Green: Improve, optimize and promote travel modes that reduce greenhouse gas emissions, encourage active, healthy living and allow more responsible and sustainable use of valuable urban space.
- Build Economic Vitality: Build upon the convenience of the Canada Line and an enhanced City Centre transportation system to maximize the accessibility of businesses and ensure the efficient movement of goods and services.
- Build a Legacy: Enhance the quality, convenience and safety of the transportation system while mitigating the negative impacts of traffic to create a sustainable and liveable downtown for future generations.

The current CCTP is used as a guiding document defining in detail the transportation plan components, their phasing plans and funding mechanisms to achieve the vision and ultimate build-out of the City Centre. Key success indicators describing how each transportation component in the future City Centre contributes to the overall vision are shown in Attachment 1.

Recent Key Improvements and Initiatives to Date

The next sections identify the objective of each transportation component and highlight recent projects, partnerships and initiatives that collectively advance those objectives and the overall goals of the CCTP.

Street Network

The objective is to redesign and complete the street network to balance the needs of all road users, create shorter blocks that increase accessibility to destinations and enhance connectivity between City Centre neighbourhoods. Attachment 2 identifies the key street improvements that have a higher priority as they are critical to achieving these objectives.

- Ackroyd Road Extension (No. 3 Road-Minoru Blvd): Opened in July 2016 (Figure 1). This relatively short but important addition creates a continuous street linking Ackroyd Road with Elmbridge Way. Measuring 2.2 km in length, this continuous road is now one of the longest east-west streets within the City Centre.
- Lansdowne Road Extension (Minoru Boulevard-Alderbridge Way): Opened in May 2017 (Figure 2). This project, which includes an off-street multi-use path on the north side as the precursor of the ultimate Lansdowne Greenway, received \$1.5 million in funding from the Federal Government's Asia-Pacific Gateway and Corridor Transportation Infrastructure Fund. The new link allows east-west traffic to travel along Lansdowne Road from Garden City Road to Hollybridge Way, completely bisecting the City Centre. The existing three-lane configuration is an interim condition that will be upgraded to the ultimate four-lane cross-section as development occurs. The realization of the Lansdowne Greenway as part of the ultimate cross-section will provide a continuous and protected pedestrian-cycling link between the Richmond Olympic Oval and the Garden City Lands.



Figure 1: Ackroyd Road Extension between No. 3 Road and Minoru Blvd



Figure 2: Lansdowne Road Extension between Minoru Blvd and Alderbridge Way

- Gilbert Road Widening (Lansdowne Road-River Road): Completed in Summer 2017. The widening from two to four lanes to provide better traffic flow includes on-street bike lanes and a centre median.
- River Parkway (Gilbert Road-Cambie Road): Construction was initiated in September 2018. The new 1.5-km long two-lane road along the former CP Rail corridor supports the CCAP vision for this area of improving public open space and access to the river with the establishment and extension of the Middle Arm Waterfront Park. The new roadway will provide a new continuous north-south route through the City Centre as an alternative to No. 3 Road. In addition, the new roadway will resolve the temporary realignment of River Road immediately east of Gilbert Road and south of the Dinsmore Bridge. Currently, this road transition is necessary to maintain network continuity and accommodate existing traffic flows in the interim.

The project includes protected bike lanes as well as improvements at Leslie Road (turning lanes, signalization and a new sidewalk) and Cambie Road (multi-use pathway on south side with crossing enhancements to connect to Aberdeen Station, turning lanes, and signalization). TransLink is providing \$2.55 million towards the cycling and pedestrian elements. Ultimately, the two-lane road connection will be replaced by a new four-lane road with off-street bike paths as adjacent development occurs.

- New East-West Streets: Through the development application process, a complete street grid with shorter blocks and streetscape enhancements are being pursued to support higher density land uses and provide more direct access for pedestrians, cyclists and transit (e.g., Ackroyd Road extension, Browngate Road, planned new roadways through the Richmond Centre site). Shorter blocks also help reduce vehicular circulation by increasing accessibility to destinations and thereby minimizing congestion.
- New North-South Streets: Again, through the development application process, a new north-south roadway (Cooney Road-Hazelbridge Way) will be extended through Lansdowne Mall as part of its redevelopment to offer another continuous alternative to No. 3 Road that will complement River Parkway. Further, the existing lane behind properties on the west side of No. 3 Road north of Lansdowne Road is being widened to become a street.

The above projects all contribute towards completing the City Centre street network, particularly for key streets, and improving accessibility via new streets and shorter blocks.

Transit

The objective is to establish a convenient and well-integrated transit network that enables transit to become the preferred travel choice for trips within the City Centre and medium to long distance trips to local and regional destinations. Attachment 3 identifies the transit network map with the Canada Line forming the backbone of transit service in the City Centre, supplemented by regional and local bus services to connect riders to the rest of Richmond and beyond.

- Capstan Canada Line Station: In November 2017, Council approved the release of up to \$3.5 million to TransLink to initiate design work for the new Canada Line Capstan Station including \$1,097,817 for Preliminary Design with the balance to be for Detailed Design. Since then, voluntary developer contributions to the Canada Line Capstan Station Reserve Fund have now reached the target amount of \$25.3 million (2010\$) plus CPI or approximately \$28.4 million (2018\$) for the station construction. City staff are currently working with TransLink staff to develop the integrated station design.
- Richmond-Brighthouse Bus Mall: At the time of the planning and design of the Canada Line, TransLink acquired sufficient property to enable construction of the Richmond-Brighthouse Station as well as a planned off-street bus exchange immediately south of the station. The phased development of the bus mall is underway (e.g., construction of the Mandarin residences and demolition of Scotiabank site), which will reduce congestion in the area associated with bus circulation and layovers as well as significantly improve bus-train connectivity and safety for transit users.
- Southwest Area Transport Plan: In March 2018, Council approved TransLink's Southwest Area Transport Plan, which serves as a blueprint for how TransLink can best allocate its

resources over the next decade to improve transit and transportation in the southwest area (Richmond, South Delta and Tsawwassen First Nation) in a way that is responsive to local needs and consistent with regional objectives. For the City Centre, implementation of the key transit recommendations will provide improved service frequency and reliability for local and regional routes, improved service to industrial areas and business parks outside the City Centre, and new/improved service to neighbourhoods (e.g., Tait neighbourhood north of Bridgeport Road).

- **TransLink 10-Year Investment Plan:** The City is working with TransLink to support increased service frequencies of the Canada Line and buses serving Richmond as part of Phases One and Two of the 10-Year Investment Plan. Procurement is underway for 24 new Canada Line cars with delivery expected by the end of 2020. The cars will be paired to create 12 2-car trains, which will increase the Canada Line's rolling stock from 20 2-car trains to 32 2-car trains. In turn, the Canada Line's capacity will increase from the existing 6,100 passengers per hour per direction (pphpd) to over 8,000 pphpd (31% increase). Frequency of the trains on the Richmond-Brighouse-Waterfront line during peak hours would increase from every 6 minutes to every 3.75 minutes.
- **Mobility Hubs:** Multi-modal mobility hubs are key transportation network nodes designed to seamlessly integrate multiple travel modes, supportive infrastructure, and place-making strategies with the aim of creating pedestrian-oriented centres that help to maximize first-to-last kilometre connectivity without need for private vehicles. Mobility Hubs are being secured on key mixed use development sites (e.g., Richmond Centre) to enhance connectivity between transit and alternate modes and further promote the desired modal shift.
- **Transit Amenities:** The roll-out of a new 20-year contract for the provision of street furniture began in 2017 with at least 16 transit shelters to be added annually to meet at least a total of 200 shelters city-wide by Year 10 in 2026. There are currently 83 transit shelters in place, up from 48 shelters prior to the new contract, plus 365 benches (300 with advertising and 65 without advertising) and litter-recycling receptacles at select bus stops with sufficient space (Figure 3). Of the additional 35 new transit shelters, nine are located within the City Centre.

Collectively, these partnerships support strategies whereby:

- Higher density, mixed use developments around transit stations and villages enable a car-free lifestyle;
- A complete street network allows greater access to transit;
- Frequent and convenient routes are provided between transit stations, villages and key activity centres in the City Centre and to local and regional destinations; and
- Transit users are provided with an attractive and more comfortable environment including the future capability of better certainty on bus arrival times.



Figure 3: New Transit Shelter Design

Census data for Richmond indicates that the transit mode share for journey to work trips increased from 11.8% in 2006 to 19.1% in 2016. During this same time period, the vehicle mode share (driver or passenger) decreased from 82.2% to 74.2%.

Cycling and Walking

The objective for cycling is to establish a safe, continuous and convenient network of bike routes that serve cyclists of all ages and abilities encourages more people to cycle more often. The complementary objective for walking is the creation of a culture of walking allows people to move in comfort, safety and dignity along shorter blocks that are pedestrian-oriented and accessible. Attachment 4 identifies the cycling network map while Attachment 5 indicates the key walking corridors.

- Separated Cycling Facilities: Through the City's annual capital program and the development application process, existing and new cycling facilities on major streets will continue to be upgraded to enhance safety by providing physical separation from adjacent vehicle traffic (e.g., conversion of on-street painted bike lane to off-street bike path as shown in Figure 4).
- Public Bike-Share Pilot: The pilot program for public bike-share became operational in mid-October 2018 with a small scale launch of 75 bicycles located at 15 stations, primarily in the City Centre plus Steveston. Staff will monitor operations during Winter 2018 and oversee the anticipated expansion of service in early Spring 2019 in advance of the peak Spring/Summer cycling season and report back at the end of pilot program in late 2019.
- End-of-Trip Facilities: Beyond the required short- and long-term bicycle parking spaces required per the Zoning Bylaw, the City is also securing end-of-trip facilities (e.g., showers, lockers, change rooms) as these measures further support the desired modal shift to sustainable travel options.
- Pedestrian Facilities: Through the City's annual capital program and the development application process, existing gaps in the City Centre pedestrian network are being filled to ensure an accessible and connected system with an appealing streetscape (e.g., walkway on River Road between Oval Way and Brighthouse Way).



Figure 4: Off-Street Bike Path on Northbound Garden City Road

Shorter city blocks improve pedestrian access to destinations. To enhance the streetscape, existing large setbacks that force pedestrians to cross surface parking lots are being transformed through the development application process to street-facing building fronts that have continuous weather protection. With respect to cycling, the shift to protected facilities, particularly on major streets, will reduce conflicts, improve safety and further encourage cycling as a legitimate and viable transportation choice.

Supporting Measures

Supporting measures comprise policies and programs that make the transportation system smarter, manage travel demand and encourage a shift to more sustainable travel modes.

- **Car-Share:** Access to car-share services can not only allow households to reduce their vehicle ownership but also provides an incentive to reduce driving and rely more on alternative travel modes. Currently, three car-share providers operate in the City Centre. Modo the Car Co-op (Modo) has a total of eight vehicles. Three of its eight vehicles are located in reserved on-street parking spaces near each of the Bridgeport, Lansdowne and Richmond-Brighouse Canada Line stations. The remaining five vehicles are located in reserved off-street parking areas (i.e., two at City Hall, two at the City Centre Community Centre and one at Richmond General Hospital). Zipcar has an off-street reserved parking space at Richmond Centre and Car2go has reserved off-street parking spaces at Kwantlen Polytechnic University.

In response to customer requests, Modo is expanding to additional reserved on-street parking spaces in locations of the city that are beyond walking distance of the Canada Line and other destinations to support first/last mile trips, such as to/from surrounding multi-family residential areas. The provision of car-share vehicles and off-street reserved parking spaces are also being secured in new developments (e.g., South Street on No. 3 Road opposite Lansdowne Mall).

- **Electric Vehicles:** The use of electric vehicles (EVs) aligns with the City's commitment to reduce energy use and greenhouse gas emissions. Publicly available Level 2 EV charging stations in the City Centre include City Hall (Figure 5), the Richmond Olympic Oval and Fire Hall No. 1. In December 2017, Council adopted an amendment to the Zoning Bylaw requiring that all new residential parking spaces feature an energized outlet capable of providing Level 2 EV charging. An on-street charging station has been secured in the Capstan Village area through the development process.
- **Transit Passes:** The provision of transit passes to employees and residents of new developments are being secured through the development application process as an incentive to use sustainable modes and reduce driving.



Figure 5: EV Charging Station at City Hall

Transportation demand management measures like car-share and bike-share services have the potential to reduce private vehicle ownership and use. Ideally, with more transportation choices, it will be possible and even desirable for residents to have only one or perhaps no car at all. As a complement to a reduced reliance on private vehicles, encouraging the use of EVs helps ensure that those trips made by cars have a reduced impact on the environment. If an effective range of non-car mobility choices, infrastructure, services, and supporting initiatives are in place, the car-free lifestyle becomes feasible and public investments in the Canada Line and the transit system, as well as the City's commitment to sustainability, are maximized.

Next Steps

Looking forward, transportation improvement highlights in the City Centre over the next one to two years include the following:

- River Parkway: Completion of the roadway, including the upgrades at Leslie Road and Cambie Road, is anticipated in early 2020.
- B-Line Transit Service: In 2019, as part of their 10-Year Investment Plan, TransLink will initiate a study to implement a new B-Line service between Richmond-Brighouse Station and Metrotown Station in Burnaby.
- Capstan Canada Line Station: Once the preferred design of Capstan Station is confirmed, staff will seek Council approval to release the remaining funds to activate construction by TransLink and completion within 30 months per the City-TransLink Capstan Station Funding Agreement.
- Richmond-Brighouse Bus Mall: Initiation of construction of the bus mall in 2019 with completion anticipated in 2020.
- City Centre Cycling Network Plan: The scope of work comprises an update of the existing plan to ensure it reflects current needs, best practices with respect to design and policy, and continues to support the long-term mobility objectives as identified in the CCAP. An implementation strategy, conceptual designs and cost estimates are also included.
- Electric Vehicle Charging Stations: Existing Level 2 charging stations at City Hall and the Richmond Olympic Oval will be expanded to include a fast charging Level 3 station.

Financial Impact

None.

Conclusion

The progressive implementation of the City Centre Transportation Plan will continue to support and keep pace with the population and employment growth envisioned in the City Centre Area Plan. Collectively, the measures will foster a shift to sustainable travel modes and a reduced reliance on private vehicles, which, in turn, reduces the demand for increased road capacity.

New developments in the City Centre help advance the vision and objectives of the CCTP. As such, it is important that the City continue to adhere to the CCTP and its principles of transit-oriented development and complete communities. The key directions for each component of the transportation system encourage alternative transportation use and increase transportation system efficiency thereby reducing greenhouse gas emissions and the traffic burden on City Centre streets, as opposed to perpetuating an unsustainable expansion of road capacity and the associated negative effects of a car-oriented environment on safety, health, air quality, and livability.



Donna Chan, P. Eng., PTOE
Manager, Transportation Planning
(604-276-4126)



Joan Caravan
Transportation Planner
(604-276-4035)

JC:jc

- Att. 1: Key Success Indicators for the City Centre Transportation Plan
- Att. 2: City Centre Transportation Plan: Key Street Improvements
- Att. 3: City Centre Transportation Plan: Transit Network Map
- Att. 4: City Centre Transportation Plan: Cycling Network Map
- Att. 5: City Centre Transportation Plan: Key Walking Corridors Map

Key Success Indicators for the City Centre Transportation Plan

**Street Network**

A redefined street network balances the needs of all road users and a completed street grid creates shorter blocks that increase accessibility to destinations and support City Centre Area Plan land use objectives

**Transit**

A convenient and complete transit network enables transit to become the preferred travel choice for medium to long distance trips within the City Centre and to local and regional destinations beyond Richmond

**Walking**

The creation of a culture of walking allows people to move in comfort, safety and dignity along shorter blocks that are pedestrian-oriented and accessible

**Cycling**

A safe, continuous and convenient network of bike routes that serve cyclists of all ages and abilities encourages more people to cycle more often

**Driving & Parking**

Driving is considered an option, not a routine choice and parking is better managed to minimize its footprint on the urban environment

**Goods Movement & Emergency Services**

Goods movement is efficiently accommodated and special traffic management systems minimize the response times of emergency service providers

**Supporting Measures**

Policies and programs are in place that make the transportation system smarter, manage travel demand and encourage a shift to more sustainable travel modes

City Centre Transportation Plan: Key Street Improvements



City Centre Transportation Plan: Transit Network Map



City Centre Transportation Plan: Cycling Network Map



City Centre Transportation Plan: Key Walking Corridors Map





City of Richmond

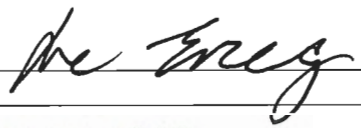
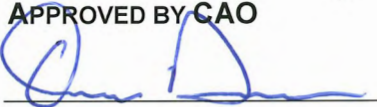
Report to Committee

To: Public Works and Transportation Committee
From: Victor Wei, P. Eng.
Director, Transportation
Date: November 15, 2018
File: 10-6350-05-08/2018-
Vol 01
Re: George Massey Tunnel – Update on Independent Technical Review

Staff Recommendation

That staff be directed to report back upon the release of the Independent Technical Review of the George Massey Tunnel corridor with any further recommendations with a view to advancing the development and implementation of a mutually supportable solution to address congestion along the Highway 99 in a timely manner.

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

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Intergovernmental Relations & Protocol	☒	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

On November 1, 2017, the Ministry of Transportation and Infrastructure (the Ministry) announced that the independent technical review (the Review) of the George Massey Tunnel corridor had commenced. In June 2018, various media reported that the Minister of Transportation and Infrastructure (the Minister) indicated that the report would be received by the end of June, considered over Summer 2018 and a decision made on potential next steps in Fall 2018, at which time the report would likely be released to the public.

On November 14, 2018, the Mayor and senior staff met with Minister Claire Trevena for an update on the status of the Review. This report provides an overview of the meeting.

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:

Continue development and utilization of collaborative approaches and partnerships with intergovernmental and other agencies to help meet the needs of the Richmond community.

Analysis

Meeting with Minister and Release of Review

The Minister advised that the independent technical review (the Review) of the George Massey Tunnel corridor, delivered to the Ministry in June 2018, would be released to the public by the end of 2018. The Review will provide:

- potential crossing improvement options; and
- greater detail regarding the process followed leading to the previously proposed 10-lane bridge.

Given that the previous project was cancelled, the Minister advised that any future crossing improvement option would not include a 10-lane bridge. The Ministry recognizes the significant negative impacts that the scale of such a project would have on the host communities, particularly for Richmond (e.g., proposed 3-level Steveston Highway-Highway 99 Interchange).

With the release of the Review, the Ministry will undertake technical briefings with stakeholders (e.g., Richmond, Delta, TransLink, Metro Vancouver) and engagement with the community. The goal is to work collaboratively to develop a solution to address congestion at the crossing and along the Highway 99 corridor that has the collective support of the region. The preferred option would also address corridor-wide issues regarding transit connections, impacts to local roadways, the scale of the interchanges, and the interface at the Oak Street Bridge.

Next Steps

Following the release of the Review and the planned technical briefings with the Ministry, staff propose to report back on the Review conclusions and provide Council with any further recommendations to advance the development and implementation of a mutually supportable solution in a timely manner.

Financial Impact

None.

Conclusion

The City supports an improved crossing at the George Massey Tunnel location, preferably in the form of an improved tunnel, to address traffic congestion in the area as it negatively impacts the region's economy and quality of life for its residents. In support of the Minister's expressed commitment to develop a solution that has the collective support of the region, staff would report back upon the release of the Independent Technical Review of the George Massey Tunnel corridor with any further recommendations to ensure the timely implementation of the preferred option.



Joan Caravan
Transportation Planner
(604-276-4035)

JC:jc