

Public Works and Transportation Committee

Anderson Room, City Hall 6911 No. 3 Road Thursday, May 21, 2015 4:00 p.m.

Pg. # ITEM

MINUTES

PWT-5

Motion to adopt the minutes of the meeting of the Public Works and Transportation Committee held on Wednesday, April 22, 2015.

NEXT COMMITTEE MEETING DATE

Wednesday, June 17, 2015, (tentative date) at 4:00 p.m. in the Anderson Room

DELEGATIONS

PWT-10

- (1) Goran Oljaca, Director, Engineering and Construction, Water Services, Metro Vancouver to speak on the Seymour-Capilano Twin Tunnels.
- (2) Achilles Mallari, Operations Manager, Sierra Waste Services, will be in attendance to provide an overview of Sierra Waste Services' operations in Richmond.

PLANNING AND DEVELOPMENT DIVISION

1. STREET FURNITURE PROGRAM

(File Ref. No. 10-6360-03-03) (REDMS No. 4491651 v. 4)

PWT-24

See Page **PWT-24** for full report

Designated Speaker: Victor Wei

STAFF RECOMMENDATION

- (1) That staff be directed to issue a Request for Proposals for the supply, installation and maintenance of a city-wide street furniture program that includes advertising, as described in the staff report dated May 4, 2015, from the Director, Transportation; and
- (2) That staff report back on the responses to the above Request for Proposals with a recommendation prior to December 1, 2015.

ENGINEERING AND PUBLIC WORKS DIVISION

2. **ALEXANDRA DISTRICT ENERGY UTILITY EXPANSION PHASE 4** (File Ref. No. 10-6600-10-02) (REDMS No. 4557795 v. 5)

PWT-44

See Page PWT-44 for full report

Designated Speaker: Alen Postolka

STAFF RECOMMENDATION

That funding of up to \$7.6 million through borrowing from the Utility General Surplus be approved for capital expenditure for design, construction and commissioning of the Phase 4 expansion of the Alexandra District Energy Utility and that the Five Year Financial Plan (2015-2019) be amended accordingly.

3. SMART THERMOSTATS PILOT PROGRAM

(File Ref. No. 10-6125-07-02) (REDMS No. 4565860)

PWT-53

See Page PWT-53 for full report

Designated Speaker: Brendan McEwen

Publi	ic Wor	ks & Transportation Committee Agenda – Thursday, May 21, 2015
Pg. #	ITEM	
		STAFF RECOMMENDATION
		That the development and implementation of a "Smart Thermostats Pilot Program" for homes be endorsed.
	4.	2014 ANNUAL WATER QUALITY REPORT (File Ref. No. 10-6375-01) (REDMS No. 4550012)
PWT-57		See Page PWT-57 for full report
		Designated Speaker: Bryan Shepherd
		STAFF RECOMMENDATION
		That the staff report titled "2014 Annual Water Quality Report," dated April 28, 2015, from the Director, Public Works be received for information.
	5.	BI-WEEKLY GARBAGE COLLECTION (File Ref. No. 10-6405-03-01) (REDMS No. 4567623)
PWT-149		See Page PWT-149 for full report

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Designated Speaker: Suzanne Bycraft

STAFF RECOMMENDATION

- (1) That City garbage collection service for single-family dwellings be changed from weekly to every other week (bi-weekly) commencing the first quarter of 2016, with recycling services (i.e. Blue Box and Green Cart) continuing to be provided on a weekly basis;
- (2) That, as part of implementation of bi-weekly collection service, the City provide one garbage cart per household to residents in single-family dwellings, where residents have the opportunity to select the cart size of their choice;
- (3) That the Chief Administrative Officer and General Manager, Engineering and Public Works be authorized to negotiate and execute an amendment to Contract T.2988, Residential Solid Waste & Recycling Collection Services, to service, acquire, store, assemble, label, deliver, replace and undertake related tasks for the garbage carts, and related operational service changes associated with this program;

	Public Wor	ks &	Transportation Committee Agenda – Thursday, May 21, 2015
Pg. #	ITEM		
		(4)	That an amendment to the City's Five Year Financial Plan (2015 – 2019) to include capital costs of \$2.6 million with \$2.3 million funding from the City's General Solid Waste and Recycling Provision and \$300,000 from the City's General Utility Surplus, be approved; and
		(5)	That appropriate bylaw amendments be brought forward as part of the 2016 solid waste and recycling utility budget process and amending rates, to enact this service.

6. MANAGER'S REPORT

ADJOURNMENT



Public Works and Transportation Committee

Date:

Wednesday, April 22, 2015

Place:

Anderson Room

Richmond City Hall

Present:

Councillor Harold Steves, Vice-Chair

Councillor Derek Dang Councillor Ken Johnston Councillor Alexa Loo

Absent:

Councillor Chak Au

Also Present:

Councillor Carol Day

Councillor Linda McPhail

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 Wednesday, March 18, 2015, be adopted as circulated.

CARRIED

NEXT COMMITTEE MEETING DATE

Thursday, May 21, 2015, (tentative date) at 4:00 p.m. in the Anderson Room

PLANNING & DEVELOPMENT DIVISION

1. RELEASE OF PROVINCE OF BRITISH COLUMBIA 10-YEAR TRANSPORTATION PLAN: BC ON THE MOVE

(File Ref. No. 01-0150-20-THIG1) (REDMS No. 4537163)

In reply to a query Committee, Donna Chan, Manager, Transportation Planning, advised that staff continue to liaise with the Ministry of Transportation and Infrastructure with regard to the George Massey Tunnel Replacement Project in an effort to ensure it proceeds in line with Councilapproved project objectives.

It was moved and seconded

That staff be directed to continue to liaise with the provincial Ministry of Transportation and Infrastructure to:

- (1) identify any provincial highway and cycling improvement projects within Richmond to be funded as part of the 10-Year Transportation Plan;
- (2) seek that the George Massey Tunnel Replacement Project proceeds in line with the previously Council-approved project objectives; and
- (3) pursue any cost-share opportunities for new cycling infrastructure projects or other local road improvements in Richmond.

CARRIED

2. PROVINCIAL 2014-2015 BIKEBC PROGRAM SUBMISSION (File Ref. No. 01-0150-20-THIG1) (REDMS No. 4543539)

It was moved and seconded

- (1) That the submission for cost-sharing to the Province's 2014-2015 BikeBC Program for Phase 1 of the Crosstown Neighbourhood Bike Route, as described in the staff report titled Provincial 2014-2015 BikeBC Program Submission, dated March 27, 2015, from the Director, Transportation, be endorsed; and
- (2) That should the above applications be successful, the Chief Administrative Officer and the General Manager, Planning and Development, be authorized to execute the funding agreement.

CARRIED

ENGINEERING AND PUBLIC WORKS DIVISION

3. REPORT 2014: RECYCLING AND SOLID WASTE MANAGEMENT - LEADERSHIP AND EXCELLENCE TO ACHIEVE GOALS

(File Ref. No. 10-6375-05) (REDMS No. 4544434)

Suzanne Bycraft, Manager, Fleet and Environmental Programs, highlighted that the City was awarded the Gold Quill Award by the International Association of Business Communicators for its Green Cart Program. Also, she noted that a press release could be issued, in addition to providing information on the award on the City's website.

It was moved and seconded

That the annual staff report titled Report 2014: Recycling and Solid Waste Management - Leadership and Excellence to Achieve Goals, dated March 30, 2015, from the Director, Public Works Operations, be endorsed and made available to the community through the City's website and through various communication tools including social media channels and as part of community outreach initiatives.

CARRIED

4. **2015 LIQUID WASTE MANAGEMENT PLAN BIENNIAL REPORT** (File Ref. No. 10-6060-03-01) (REDMS No. 4539736)

It was moved and seconded

That the "2015 Liquid Waste Management Plan Biennial Report," presented as Attachment 1 to the staff report titled 2015 Liquid Waste Management Plan Biennial Report, dated March 23, 2015, from the Director, Engineering, be submitted to Metro Vancouver.

CARRIED

5. RIVER GREEN DISTRICT ENERGY UTILITY BYLAW NO. 9134, AMENDMENT BYLAW NO. 9239

(File Ref. No. 10-6600-10-01; 12-8060-20-009239) (REDMS No. 4540591 v. 8)

In reply to queries from Committee, Alen Postolka, Manager, District Energy, advised that the River Green District Energy Utility (RGDEU) rate is structured to provide end users with annual energy costs that are less than or equal to conventional system energy costs, based on the same level of service. He advised that the Alexandra District Energy Utility differs from the RGDEU in that it provides space heating, cooling and domestic hot water heating through an ambient temperature system, while the RGDEU provides space heating and domestic hot water heating through a high temperature system. Also, Mr. Postolka noted that a graph demonstrating greenhouse gas emissions savings as a result of district energy utilities would be provided to Council.

It was moved and seconded

- (1) That the name for the River Green District Energy Utility be renamed to the Oval Village District Energy Utility; and
- (2) That the River Green District Energy Utility Bylaw No. 9134, Amendment Bylaw No. 9239 be introduced and given first, second and third readings.

CARRIED

LULU ISLAND ENERGY CORPORATION

6. OVAL VILLAGE DISTRICT ENERGY UTILITY UPDATE

(File Ref. No. 10-6600-10-03) (REDMS No. 4546385 v. 3)

In reply to queries from Committee, Mr. Postolka commented on the Oval Village District Energy Utility's rate structure, noting that, in the unlikely event a customer does not use their system, only a Capacity Charge, which is the fixed portion, would be incurred.

It was moved and seconded

That the report titled Oval Village District Energy Utility Update, dated April 1, 2015, from the Chief Executive Officer and Chief Financial Officer, Lulu Island Energy Company, be received for information.

CARRIED

7. MANAGER'S REPORT

(i) Port Metro Vancouver Advocacy for the Replacement of the George Massey Tunnel

The Vice-Chair circulated materials related to Port Metro Vancouver's advocacy for the replacement of the George Massey Tunnel (copy on file, City Clerk's Office), noting that it would be valuable for staff to examine the materials and report back. Also, the Vice-Chair requested that all members of Council receive a copy of said materials.

As a result, the following **referral** was introduced:

It was moved and seconded

That the materials related to Port Metro Vancouver's advocacy for the replacement of the George Massey Tunnel be referred to staff for analysis and report back.

CARRIED

(ii) Engineering and Public Works Division Updates

Lloyd Bie, Manager, Engineering Planning, highlighted that the Seymour-Capilano Twin Tunnels project is complete and operational.

Romeo Bicego, Manager, Sewerage and Drainage, noted that staff commenced a pilot program in partnership with a local farming family and Harvest Power on the use of compost material.

Robert Gonzalez, General Manager, Engineering and Public Works, highlighted that the Capital Works Open House was well received with over 300 attendees.

Lesley Douglas, Manager, Environmental Sustainability, noted that Canadian National Railway has advised that they are ceasing the recycling of railroad ties in Richmond.

Also, she commented on the Earth Day Youth Summit, noting that 180 students, 90 of which were from Richmond, attended and participated in various workshops.

Ms. Douglas provided background information regarding the Bath Slough Revitalization Initiative, highlighting that, in partnership with a public artist from Emily Carr University of Art and Design, work will be completed to transition much of the park into a pollinator pasture (wild flower meadow) that will be highly beneficial to the Richmond's ecological network.

ADJOURNMENT

It was moved and seconded That the meeting adjourn (4:22 p.m.).

CARRIED

	CAMMED
	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, April 22, 2015.
Councillor Harold Steves Vice-Chair	Hanieh Berg Committee Clerk

5.

4558506 **PWT - 9**



Richmond, BC

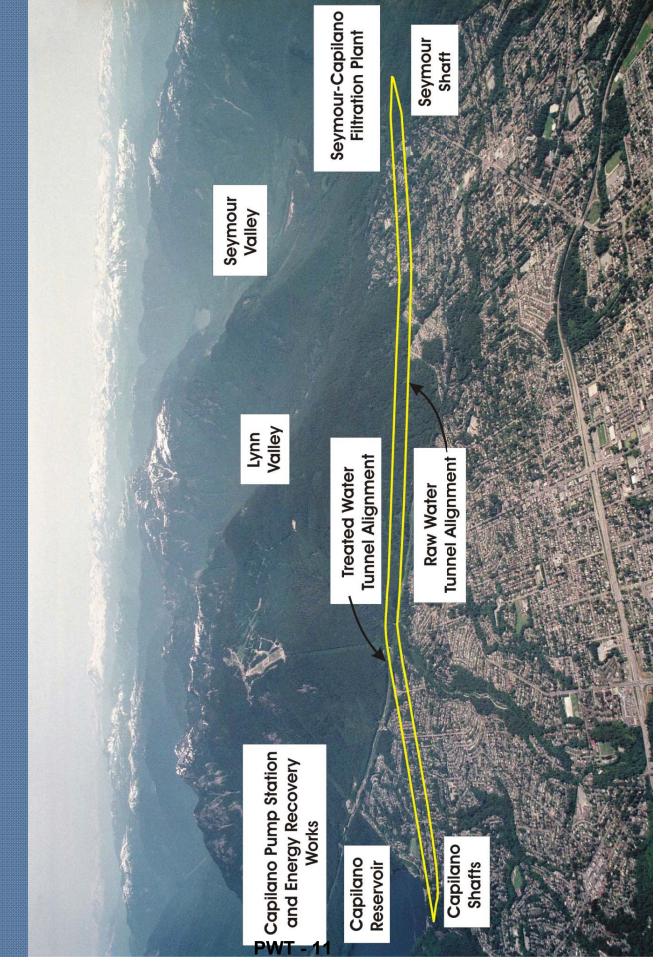
May 21, 2015

Goran Oljaca

Director, Engineering & Construction, Water Services



FULL COMMISSIONING



CAPILANO RAW WATER PUMP STATION

•Partial commissioning in 2007 & 2010

Final commissioning February - March 2015

•8 X 2000 hp pumps, one of the largest municipal pump stations in Canada



CAPILANO ENERGY RECOVERY FACILITY AND BREAK HEAD TANK

- Turbine installation completion January 2015
- Commissioning of BHT in April 2015
- •Final turbine wet commissioning June 2015



SEYMOUR-CAPILANO FILTRATION PLANT

Commissioned with Seymour source water in late 2009

Official opening Spring 2010

introduction of Capilano Source water March – May 2015 Several projects/tasks recently completed to prepare for



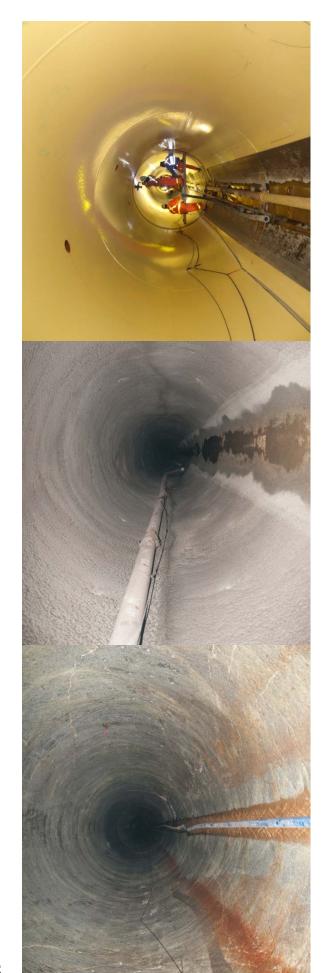




SEYMOUR-CAPILANO TWIN TUNNELS

Substantial completion December 2014

Surface restoration to be completed by end of May 2015



SCFP COMMISSIONING PLAN

1. Disinfection

2. Tunnels Filling and Flushing

3. Commissioning of Capilano RWPS

4. Commissioning of Capilano ERF/BHT

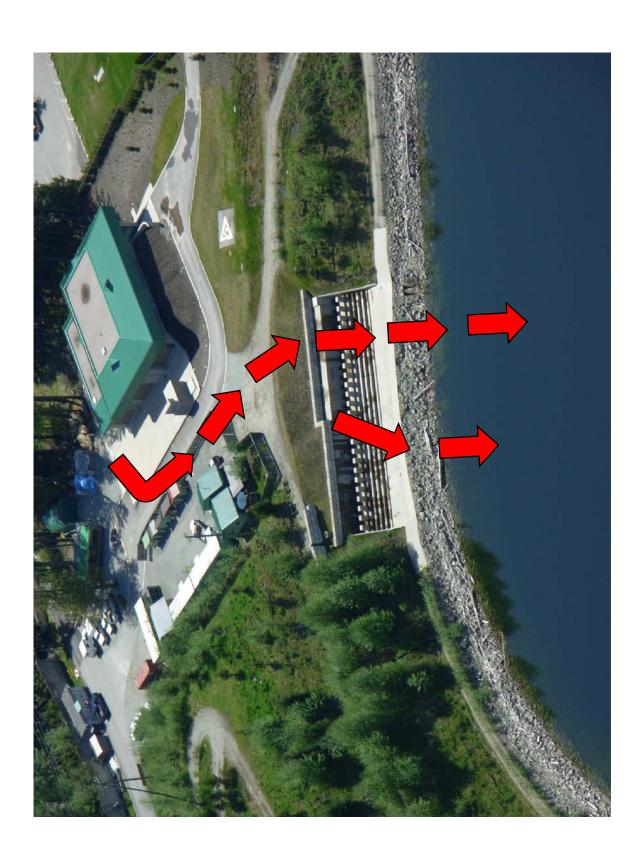
COMPLETE

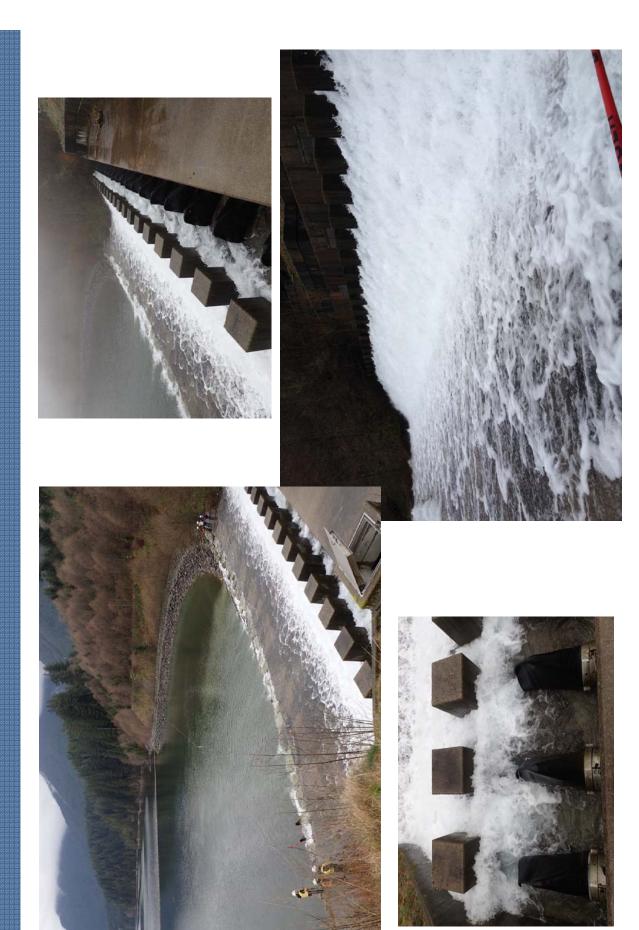


Filling and flushing complete

Both tunnels in service delivering water immediately after flushing







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CRITERIA FOR FEEDING TWT WATER TO DISTRIBUTION

Samples during TWT Flushing

SCFP Clearwell Sample

- Turbidity
- UVT
- o pH
- Chlorine Free Residual
- Total Coliform
- Conductivity



- Turbidity o UVT ОрН
- O Chlorine Free Residual
- Total Coliform
- Conductivity

WATER QUALITY BENEFITS

Turbidity Removal

Improved primary disinfection

pH adjustment/corrosion control

Lower chlorine dosages for secondary disinfection

SUMMARY

Completion of a decade-long infrastructure upgrade

State-of-the-art treatment facility

 With Twin Tunnels up to 1.8 billion litres of drinking water will be treated at this facility every day

Delivery to residents, businesses and institutions







Report to Committee

To:

Public Works & Transportation Committee

Date:

May 4, 2015

From:

Victor Wei, P. Eng.

File:

10-6360-03-03/2015-

Vol 01

Re:

Street Furniture Program

Director, Transportation

Staff Recommendation

1. That staff be directed to issue a Request for Proposals for the supply, installation and maintenance of a city-wide street furniture program that includes advertising, as described in the staff report dated May 4, 2015, from the Director, Transportation; and

2. That staff report back on the responses to the above Request for Proposals with a recommendation prior to December 1, 2015.

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

Att. 4

REPORT CONCURRENCE				
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER		
Finance Engineering Roads & Construction Environmental Programs Purchasing		Je Eneg		
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS:	APPROVED BY CAO		

Staff Report

Origin

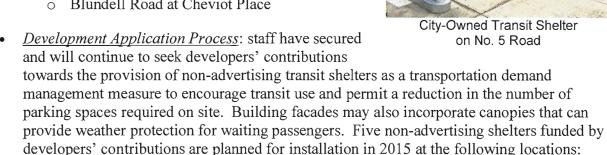
The City's existing five-year agreement with Pattison Outdoor Advertising (Pattison) for the provision of transit shelters with advertising will expire on December 1, 2015. This report outlines the proposed process to review and evaluate any new sponsorship opportunities for the provision of street furniture throughout the city prior to that date.

Findings of Fact

Current Provision of Transit Shelters

Transit shelters are an important passenger amenity to encourage transit use and, in turn, reduce reliance on private vehicles in support of the mobility-related goals and objectives of the Official Community Plan (OCP). Attachment 1 identifies the location and ownership of the existing 67 transit shelters in Richmond. The City currently provides transit shelters via three avenues as described below:

- Pattison Contract: Pattison funds the installation and maintenance of transit shelters with advertising, which are typically installed on streets with high traffic volumes in order to maximize advertising revenue. There are currently 48 Pattison-owned shelters in Richmond. Between 90 and 45 days prior to the termination date of the existing agreement, Pattison must submit a plan to the City establishing a schedule for the removal of the shelters during the post-term period, which is a minimum of six months. Within six months of the termination date, the City must determine if Pattison's exclusive advertising rights will apply during the post-term period.
- City Capital Program: the annual Transit-Related Amenity Improvement Program funds the installation of non-advertising transit shelters and other amenities (e.g., benches), which are also eligible for 50-50 costsharing with TransLink under its annual Transit-Related Road Improvement Program (TRRIP). Two non-advertising shelters were installed in early January 2015 in the 8500-block of No. 5 Road (i.e., midpoint between Blundell Road and Kingsbridge Drive). A further two non-advertising shelters are planned for installation in 2015 at the following locations:
 - Steveston Highway at Ransford Gate
 - Blundell Road at Cheviot Place



- o No. 5 Road at Steveston Highway
- o No. 1 Road at Westminster Highway
- Williams Road at Dunoon Place
- Garden City Road at Bennett Road
- o Entertainment Boulevard

In addition, the following external agencies provide transit shelters at bus stops in Richmond within their respective jurisdictions:

- <u>TransLink</u>: at 10 bus bays within the Bridgeport Station Exchange.
- <u>YVR</u>: at one bus stop served by the Night Bus outside the domestic terminal.
- <u>Ministry of Transportation & Infrastructure</u>: at two bus stops on the Highway 99 off- and onramps at Steveston Highway.

Table 1: Inventory of Transit Shelters

Process	Existing	Planned
City-Owned	6	6-10/yr
Private Sector	48	To be
Provider	40	<u>de</u> termined
External Agency	13	-
Total	67	>6-10/yr

Table 1 summarizes the existing and planned (over the next five years) inventory of transit shelters in Richmond.

Current Agreement for Provision of Transit Shelters with Advertising

The City's current five-year (December 2010-December 2015) contract with Pattison for the supply, installation and maintenance of selected street furniture elements features the following major terms:

- Installation of nine new transit shelters, primarily along No. 3 Road.
- Of the existing 39 Pattison shelters, refurbishment of the 10 oldest shelters and repainting of the remaining 29 transit shelters.
- Provision of a litter receptacle that incorporates a cage for the placement of recyclable containers at all transit shelters.
- Provision of three multiple publication newsracks (MPNs), each with five individual boxes and one recycling box, with one each placed at the three Canada Line stations on No. 3 Road.
- Ten percent of all advertising panels per month available for use by the City at no advertising cost.
- Guaranteed annual payment to the City plus a percentage of net advertising revenue.

The provision of the new and upgraded shelters, litter receptacles and MPNs was completed within the first two years of the agreement. The current 48 shelters throughout the city generate a guaranteed annual payment to the City from Pattison of \$60,000 plus 14 per cent of net advertising revenue over the five-year term; this combined amount has averaged \$63,000 per year over the past four years. Staff within the Finance Department audit Pattison's financial statements to verify the City's revenue payments.





New Pattison Shelter

Refurbished Pattison Shelter

These 48 shelters are located in the City Centre and along major arterials with high traffic volumes, which may or may not have any correlation to bus stop locations with high levels of passenger boardings. The on-going challenge of requesting Pattison to install transit shelters on streets with lower traffic volumes within the existing five-year term was a primary impetus for the City to establish its own program with complete latitude as to potential locations.

Additional Privately-Owned Street Furniture within City Right-of-Way

In addition to transit shelters, bus stop benches placed within City right-of-way also generate revenue. The City has two contracts with Goodwill Advertising (291 benches) and Key Bench Advertising Ltd. (74 benches) for the installation and maintenance of bus stop benches with advertising, both of which are renewed on an annual basis. The total of 365 benches throughout the city generates \$20.00 each in annual rental revenue. Both companies upgraded and replaced all of their benches in Richmond during 2011-2012; only 17 older style Goodwill benches remain, which staff will request be replaced.



Upgraded Goodwill Bench

Staff are satisfied with the service of the companies, both of which are proactive in approaching the City to request the placement of additional benches in Richmond. Over the past five years, the total number of benches with advertising at bus stops has increased by nearly 50 benches from 316 in March 2010 to 365 in January 2015.

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Analysis

Review of Models for Provision of Street Furniture

The forthcoming expiry of the Pattison contract offers an opportunity to review alternative options for the provision of transit shelters and other street furniture, such as stand-alone benches and litter receptacles, with a view to enhancing the public realm and supporting OCP targets with respect to increasing transit mode share and reducing greenhouse gas emissions.

Generally, larger cities can attract private sector models that feature a broad suite of street furniture elements due to the correspondingly larger advertising market potential. Smaller cities that have public transit service typically can support only the provision of transit shelters or benches with advertising with all other street furniture elements (e.g., benches not at bus stops, litter receptacles, bike racks, etc) being funded and maintained by the local government.

As summarized in Attachment 2, Metro Vancouver municipalities typically have long-term contracts with a private sector provider who supplies, installs and maintains transit shelters with advertising panels. In larger cities, these contracts include other street furniture elements such as benches and litter receptacles.

Only the City of Burnaby owns and maintains all of its transit shelters, both with and without advertising. At the time of the expiry of its last transit shelter contract with Pattison in 2011, the City opted to separate the provision of shelters from the advertising contract. The 80 Pattison shelters with advertising in place at that time were removed and the City committed \$1.76 million towards the phased replacement of those shelters with City-owned shelters over a two-year term. A separate request for proposals (RFP) was issued to manage the advertising program, which was awarded to CBS Outdoor. The City has also contracted Pattison to maintain all of the shelters. Burnaby staff estimate that the anticipated advertising revenue will recover the initial capital investment in approximately 10 years.

Burnaby made the initial \$1.76 million capital investment solely for the replacement of the existing 80 Pattison shelters. Burnaby has now replaced these shelters and has indicated that the next phase of its transit shelter program will be to refurbish the 70 older City-owned shelters that do not have advertising. The priorities for replacement will be based on passenger boarding information and condition of the shelter. Funding for refurbishing is anticipated to be secured through the annual capital budget process. At this time, Burnaby does not anticipate increasing the total number of transit shelters in the city; thus, the key thrust of its program was to secure City ownership of all existing transit shelters rather than expansion of its transit shelter program via a long-term contract with a private sector provider as is typical in other municipalities.

The City of Burnaby did not increase staff resources to manage the transit shelter program and staff emphasize that its administration can be resource intensive in terms of staff time, especially during the first two years of the program when all of the Pattison shelters needed to be replaced in a timely manner to minimize loss in service to residents.

Potential Models for Street Furniture Program for Richmond

The following three guiding principles guided staff in developing the possible operating models:

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- <u>Guiding Principle 1 Passenger Safety and Comfort</u>: transit shelters are important passenger amenities that provide weather protection, a more comfortable and safer waiting area particularly at night due to shelter lighting, and improved visibility of a bus stop.
- <u>Guiding Principle 2 Urban Design & Aesthetics</u>: the shelters and associated amenities should complement and enhance the surrounding environment with consideration given to the impact of potentially increasing the amount of advertising in the public realm.
- <u>Guiding Principle 3 Potential Revenue and Cost</u>: capital and operating budget impacts as well as the potential to increase revenue to the City from additional advertising opportunities, some of which could be used to offset maintenance costs.

There are currently 716 active bus stops in Richmond and, of these, 294 have boarding activity equal to at least 25 passengers per day, which is a typical threshold to prompt consideration of the installation of a transit shelter. Of these 294 bus stops, 59 currently have a transit shelter, although a number of these bus stops without shelters may have a form of weather protection (e.g., adjacent building canopies, Canada Line guideway). Notwithstanding that some locations may not be able to accommodate a shelter due to right-of-way constraints, there remains a considerable potential (i.e., around 250 additional bus stops based on current boardings) for increasing the number of transit shelters across the city. Attachment 3 identifies the 294 bus stops that have boarding activity equal to at least 25 passengers per day and whether or not the stop currently has a transit shelter.

Based on staff's review and research, the three models described below for the provision of transit shelters are feasible. Under all three models, the City would seek to:

- replace the existing 39 older style Pattison shelters with newer models that include an
 integrated bench and lighting (LED plus optional ability to provide solar power) plus a litterrecycling receptacle;
- increase the number of new transit shelters with benches, lighting and receptacles provided across the city, including a minimum number to be installed annually in areas that are deemed not commercially viable (i.e., transit ridership is high but drive-by traffic volumes are not sufficiently high to qualify for a shelter with advertising);
- include an option in the RFP for providing stand-alone benches (i.e., outside of a shelter) as
 part of any new contract with a private business for the supply of transit shelters, which
 would require the removal of all existing benches with advertising by the existing two
 contractors; and
- include an option in the RFP for the private sector supplier to also maintain City-owned shelters.

All three models also assume that the current policy whereby advertising in the public realm is permitted only on transit shelters and benches at bus stops is maintained. Although there was limited response to the City's RFP issued in April 2009 for a city-wide street furniture program at the time of the expiry of the previous Pattison contract, it remains unclear if Richmond's advertising market potential could attract a private sector operator that would supply a suite of

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¹ The boarding threshold is based on a review of the policies and guidelines of various North American cities and transit authorities regarding the trigger for the provision of a transit shelter. Agencies using this figure include Surrey (BC), Greater Sudbury (ON), St. Paul-Minneapolis (MN), Raleigh (NC), and Orange County Transportation Authority (CA). In addition, a report published by the Transportation Research Board (TCRP Report 19, *Guidelines for the Location and Design of Bus Stops*) recommends a minimum of 25 boardings per day for suburban locations.

street furniture beyond transit shelters and litter receptacles based on the amount of advertising currently permitted. The City would likely need to expand the forms of advertising allowed in the public realm, such as digital billboards, if the objective is to generate sufficient revenue for the operator to offset the costs of providing a broader suite of street furniture. However, at the time of the last RFP in 2009 and Council's consideration of the City's agreement with Pattison, Council expressed little interest in introducing advertising billboards in Richmond. Staff further note that *Sign Regulation Bylaw 5560* currently does not permit billboards to be erected in the city.

Model 1: <u>Private Street Furniture Program plus City-Owned Shelters with No Advertising</u> (Existing Model)

This model reflects the existing agreement but with the potential to increase the number of new shelters with advertising and/or expand the scope of street furniture elements provided as part of the contract (e.g., benches) in return for a longer term (i.e., 20 years). As in the past, a preferred candidate would be selected via an RFP process. The City would continue to fund, install and maintain its own transit shelters with no advertising and thus be able to place shelters where transit ridership is high but traffic volumes are low.

Model 2: City-Owned Street Furniture Program with Contracted Advertising Program

This model is similar to the Burnaby model and would allow the City to have full control over the location of transit shelters and potentially increase its share of advertising revenue. Initially, the City would incur both capital and operating budget impacts associated with the replacement of the Pattison shelters and receptacles with City-owned items plus their on-going maintenance. To avoid disruption to passengers, the existing Pattison contract would need to be extended to allow for funding approval through the Capital Program process and the subsequent procurement and installation of the City-owned shelters. An RFP would be issued to seek an external agency to manage an advertising program for the transit shelters, with the potential to expand the number of shelters with advertising beyond those that replace the existing Pattison shelters.

Model 3: Private Street Furniture Program and/or City-Owned Shelters with Advertising

This model is a hybrid of Models 1 and 2 whereby there is a private sector provider of shelters plus the City installs its own shelters but the City also permits advertising on its shelters with the advertising program managed by the same private sector business selected via the RFP process. While City-owned shelters would typically be installed in locations where a privately supplied shelter would be deemed commercially unfeasible due to lower traffic volumes, nevertheless there may be a potential business case for advertising on these shelters as the private operator would not need to account for the recovery of capital and/or operating costs. Correspondingly, the City would expect a higher share of the advertising revenue from these shelters than from the shelters provided by the private sector.

Estimated Impacts of Procurement Models

Table 2 identifies the differences among the three models in terms of shelter ownership and the extent of advertising on the shelters. Table 3 summarizes the estimated impacts and trade-offs amongst the three models based on the identified criteria. Essentially, the key differences are:

- the extent of advertising permitted on transit shelters (i.e., status quo of private sector shelters only versus expansion to City-owned shelters); and
- initial and long-term revenues and costs, with Model 2 incurring significant initial financial investments and staff resources, and considerable on-going higher

Table 2: Shelter Advertising & Ownership Models

Model	Shelters Advert		Shelters without Advertising	
in the second se	Private	City	City	Private
1	✓	-	✓	√
2	-	✓	√	-
3	✓	✓	✓	✓

maintenance costs off-set by the potential for increased advertising revenue that would recover these costs and generate new revenue over the long-term through a new advertising contract with terms more favourable to the City.

Table 3: Summary of Impacts of Models

Criterion	Comments
Passenger Comfort	 All three models are comparable with respect to expanding the number of transit shelters provided across the city, whether privately or City-owned.
Urban Design & Aesthetics	 Model 1: advertising on transit shelters would be limited to those provided by the private sector. Models 2 & 3: advertising on transit shelters would be expanded to include City-owned shelters. All three models would allow non-advertising transit shelters to be provided
Potential Revenue/ Cost	 Model 1: comparable to the current status quo. Model 2: relative to Models 1 and 3, there is a significant initial capital cost to replace the existing Pattison shelters and receptacles. Over the long-term, there are higher maintenance costs but also a potential to realize increased advertising revenue via a separate contract. Management of the private sector contracts would have a considerable impact on staff resources on an on-going basis. Model 3: relative to Model 1, there is a potential to realize increased advertising revenue that could be directed to offset the maintenance costs of City-owned shelters.

Preferred Procurement Model

Based on the above the analysis, staff recommend that Model 3 be pursued via an RFP process, as this approach provides the City with the most avenues for the provision of transit shelters as summarized in Table 2. Relative to Model 1, Model 3 offers the additional opportunity of Cityowned shelters with advertising and, overall, offers the most flexibility to the City and does not preclude the potential selection of Model 2 following the RFP process. Staff do not recommend pursuing Model 2 alone at this time in order to allow potential private sector proponents to provide bids to the City on all options of shelter ownership and the extent of advertising on the shelters.

Staff further recommend that a 20-year term be sought for any new contract to maximize the potential benefits to the City as private sector operators require a sufficient length of time to amortise their costs and project sufficient sales into the future to recover all costs and generate a profit. Typical contract terms, as shown in the regional summary in Attachment 2, range between 15 and 20 years.

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Estimated Quantities of Street Furniture

Table 4 identifies the desired target quantities of street furniture to be specified in the RFP that would be provided with the optional element of stand-alone benches with advertising that are separate from a transit shelter.

Street Furniture Element		Advertising?	Estimated Current #	Est # in Year 1	Target # by Year 10 of 20-Yr Term	Avg Growth Rate Over 20- Yr Term
Transit	Privately Owned	Yes	48	56	200	7 9 per veer
Transit Shelter with Bench	Privately Owned	No	0	36	200	7-8 per year
	City-Owned	Yes	0	2	50	2-3 per year
	Total		48	58	250	10 per year
Litter Receptacle with Recycling at each Transit Shelter		No	48	58	250	10 per year
Option: Stand-alone Bench separate from Transit Shelter ⁽¹⁾		Yes	365	365	600	10-12 per year

Table 4: Estimated Quantities of Street Furniture Elements

The target numbers of privately owned transit shelters by Year 10 (under a 20-year contract term) are based on the City's goal to provide a shelter at each bus stop with at least 25 boardings per day (i.e., typical threshold to prompt consideration of the installation of a transit shelter as noted in Footnote 1) and staff's estimate of Richmond's advertising market potential. The latter is also informed by Pattison's proposal made to the City as part of the street furniture RFP process five years ago wherein Pattison proposed a total of 98 shelters over a 20-year term. The City's 20 year target of 200 privately-owned transit shelters with advertising translates to approximately one shelter for every 1,000 residents. This per capita figure is consistent with other local municipalities that have 20-year third party transit shelter contracts (i.e., both the City of Surrey and City of Vancouver have secured rates approximately equal to one transit shelter per 1,000 residents).

The RFP for this model will include the City's desire that the 150 additional privately owned shelters be installed by Year 10 of the proposed 20-year contract term, so that passengers may experience the benefit of a transit shelter for a substantial period of time as well as to increase the length of time to receive advertising revenue, which would help make the targets more easily achievable. While this approach may result in some reduction in revenue for the City as there is a higher upfront investment on the part of the provider, staff believe that the more important factor is achieving as soon as possible a higher amount of coverage available from transit shelters for passengers.

The target number for City-owned shelters is based on the anticipated rate of developers' contributions and funding level of the City's annual Transit-Related Amenity Improvement Program. The target number of litter receptacles matches that of the number of transit shelters and the target number of benches with advertising is based on the existing growth rate experienced over the past five years.

All transit shelters would have the following features: integrated bench, LED lighting (with the option of roof-top solar panels), advertising panel, City logo, and street name. Benches must

⁽¹⁾ Would require the removal of all existing benches with advertising by the existing two contractors.

have a back and arms, and litter receptacles must provide for recycling with the container design to be approved by the City.

Issuance of Request for Proposals

Staff propose that an RFP be issued that allows proponents to bid on Model 3 with the optional elements of: (a) stand-alone benches separate from transit shelters; and (b) the maintenance of City-owned shelters. Key information that will be sought from potential proponents in the RFP includes the following:

- Quantities and design of each type of street furniture element to be provided over the term of the contract including the timing of roll-out (i.e., within first 10 years of the contract).
- Guaranteed minimum or fixed percentage monthly revenue share for the City for each of the shelter types (i.e., privately owned and with or without advertising, and City-owned with advertising) and optional elements.
- Proportion of transit shelter advertising available for public service announcements.
- Adherence to City-specified standards for maintenance, placement and design of shelters and litter receptacles as well as refurbishment and replacement standards and schedules.

Staff anticipate that the RFP will be issued by late Spring 2015 with proposals received by early summer 2015. Following a staff evaluation process, it is anticipated that the successful proponent will be selected in Fall 2015, with a staff report recommending the award of any new contract being presented to Council prior to the expiry of the existing contract.

Public Consultation

Following issuance of the RFP, staff propose to seek public feedback regarding transit usage, the relative importance of the three identified guiding principles and suggested bus stop locations in Richmond where a shelter is desired by transit users (see Attachment 4 for potential survey questions). This feedback would be collected via the City's online discussion platform at LetsTalkRichmond.ca after raising community awareness of this initiative through media releases, the City's website, social media messaging, and local newspaper notices. Staff will consider the feedback during evaluation of the proponents' responses as well as subsequent negotiations with proponents prior to developing a recommendation to Council. The public feedback received will aid staff in the development of the criteria for evaluating the RFP proponents, as well as identifying additional locations for bus transit shelters and any other comments received on the new transit shelter program. Should the City receive multiple responses to the RFP from different private sector operators, then a second round of consultation would occur to seek public feedback on the various design options in the proposals. Again, this feedback would be considered by staff prior to developing the final recommendation to Council.

Financial Impact

None at this time. A new street furniture contract has the potential to increase revenues to the City vis-à-vis the current contract through the negotiation of more favourable terms to the City in return for a longer contract term as well as a limited expansion of opportunities for advertising. Staff will report back on the financial aspects of any new contract as part of the recommendation to Council regarding the award of the contract.

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Conclusion

The City's current contract for the provision of transit shelters with advertising will expire on December 31, 2015. Accordingly, a Request for Proposals will be prepared for the supply, installation and maintenance of a city-wide street furniture program that includes advertising. Staff anticipate reporting back in Fall 2015 with a recommendation for the award of any new contract with the primary objective of providing enhanced and expanded transit amenities in support of the City's mobility goals and targets in the most cost-effective manner.

Joan Caravan Transportation Planner (604-276-4035) Sonali Hingorani, P.Eng. Transportation Engineer (604-276-4049)

JC:jc

Att. 1: Location of Existing Transit Shelters in Richmond

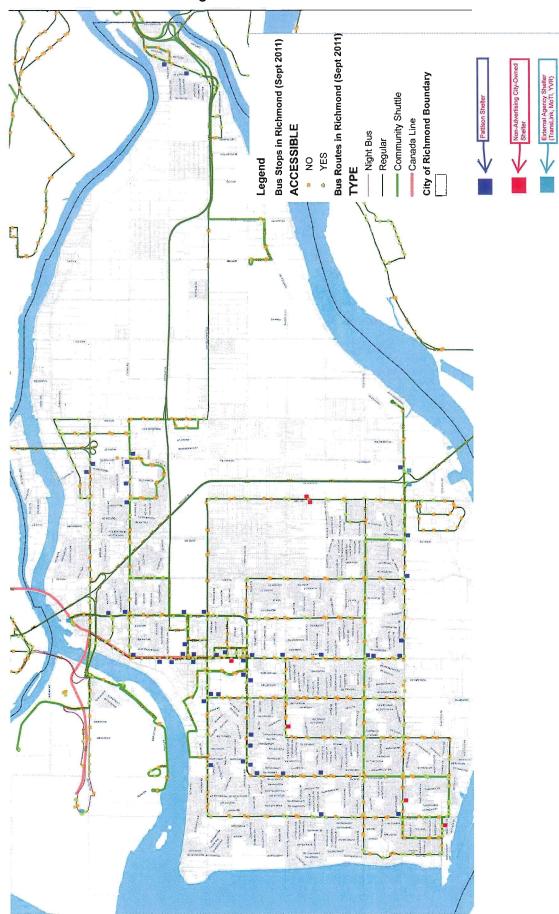
Att. 2: Sample of Transit Shelter Programs in Metro Vancouver Municipalities

Att. 3: Existing Bus Stops with Boarding Activity Equal to or Greater than 25 Passengers/Day

Att. 4: Potential Questions for Public Survey regarding Transit Shelters in Richmond

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Location of Existing Transit Shelters in Richmond



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Sample of Transit Shelter Programs in Metro Vancouver Municipalities

Municipality	Provider	Term	Comments
Vancouver	CBS Outdoor- JC Decaux	20 years (awarded in 2002)	 Elements to be provided over term include: transit shelters (900, of which 675 with advertising), benches, litter and recycling receptacles (1,400), multiple publication newsracks (104), modular information kiosks, bike lockers, bike racks (235), automated public toilets (up to 17), pedestrian-oriented map stands (210)
			Advertising permitted on transit shelters only
			 Advertising revenue expected to be over \$47 million during the 20 year life of the contract 10% (90) of transit shelters reserved for free public service advertising by the City
Surrey	Pattison Outdoor	20 years (awarded in 2009)	 Elements to be provided over term include: transit shelters with advertising (total to reach 480), stand-alone benches (700 with no advertising), litter and recycling receptacles (1,500), multiple publication newsracks, bike racks (1,500), pedestrian-oriented map stands (25) Approximately 10 new shelters installed annually Criteria for installation of new transit shelter: Minimum of 25 passenger boardings/day
			Minimum of 10,000 vehicles/day passing location
			100 advertising panels reserved for free use by City
			 Key Bench has separate contract for transit stop benches with advertising Pattison has separate contract for digital sign program (i.e., free-standing electronic message boards with advertising): Four signs currently in place and two additional signs approved for installation
New Westminster	Pattison Outdoor	15 years (awarded in 2008)	 Elements to be provided over term include: transit shelters with advertising (minimum of one new shelter per year) Allvision Canada/Titan have separate 20-year contract for digital sign program: approximately \$2 million/year in revenue expected to be generated 10% of program content supplied free to City for events, emergency announcements, public awareness
Burnaby	City of Burnaby	n/a	 City took over from Pattison Outdoor in 2011 when existing contract expired Pattison removed 80 shelters and City has been phasing in new shelters via capital reserve funding Contracted back Pattison for maintenance Contracted CBS Outdoor for advertising sales Administration of program and contracts involves hundreds of hours of staff time
Delta	Pattison Outdoor	15 years (awarded in 2004)	 Elements to be provided over term include: transit shelters with advertising (including 6 non-advertising shelters), benches, litter and recycling receptacles Allowance for an increase of two shelters, two benches and four waste receptacles annually Percentage based revenue share equal to 20% of net advertising revenues, which is expected to equate to approximately \$3.3 million over the 15-year term
West Vancouver	Pattison Outdoor	20 years (awarded in 2011)	 Elements to be provided over term include: transit shelters with advertising (approximately 30 new shelters) City to receive share of advertising revenues estimated at \$2 million over the 20-year contract
District of North Vancouver	Pattison Outdoor	20 years (awarded in 2014)	Elements to be provided over term include: transit shelters with advertising District will not consider moving or electronic signs
Port Coquitlam	Pattison Outdoor	5 years (awarded in 2010)	 Elements to be provided over term include: transit shelters with advertising (21) Contract has option for further 5-year renewal City receives 25% of advertising revenue with a guaranteed \$130 per month per shelter City also funds its own program for non-advertising transit shelters

Bus Stop Location	Passengers Boarding/Day	Shelter?
RICHMOND-BRIGHOUSE STN BAY 2: NB NO. 3 RD STN ENTRANCE	2,587	Y
RICHMOND-BRIGHOUSE STN BAY 4A: SB NO. 3 RD FS SABA RD	2,137	N
RICHMOND-BRIGHOUSE STN BAY 7: SB NO. 3 RD FS COOK RD	2,014	Y
RICHMOND-BRIGHOUSE STN BAY 3: NB NO. 3 RD NS SABA RD	1,704	N
BRIDGEPORT STN BAY 8	1,534	Y
BRIDGEPORT STN BAY 3	1,498	Y
BRIDGEPORT STN BAY 7	1,349	Y
NB NO. 3 RD NS CAMBIE RD	898	Y
RICHMOND-BRIGHOUSE STN BAY 1: NB NO. 3 RD FS COOK RD	868	N
BRIDGEPORT STN BAY 4	852	Y
BRIDGEPORT STN BAY 5	821	Y
RICHMOND-BRIGHOUSE STN BAY 5: WB COOK RD NS STAPLES D/W	753	Y
NB NO. 3 RD NS PARK RD	577	N
BRIDGEPORT STN BAY 9	530	Υ
BRIDGEPORT STN BAY 11	507	Υ
BRIDGEPORT STN BAY 6	501	Y
SB NO. 3 RD FS WESTMINSTER HWY	419	N
WB WESTMINSTER HWY FS NO. 3 RD	410	N
RICHMOND-BRIGHOUSE STN BAY 6A: EB COOK RD @ MED OFFICE	387	N N
EB WESTMINSTER HWY FS GILBERT RD	386	Y
EB CAMBIE RD NS HAZELBRIDGE WAY	380	N
BRIDGEPORT STN BAY 10	378	Y
WB CHATHAM ST NS 2 AV	374	N
	358	N N
WB COOK RD FS GARDEN CITY RD		
RICHMOND-BRIGHOUSE STN BAY 6: EB COOK RD @ RBC	343	N
SB NO. 3 RD FS LANSDOWNE RD	341	Y
NB NO. 3 RD FS ACKROYD RD	334	Y
EB GRANVILLE AV FS MOFFATT RD	332	Y
WB CAMBIE RD FS NO. 5 RD	317	Y
SB NO. 3 RD AT LESLIE RD	313	Y
SB NO. 3 RD NS GRANVILLE AV	298	Y
NB GARDEN CITY RD FS BLUNDELL RD	282	N
NB NO. 3 RD FS LANSDOWNE RD	278	Y
NB NO. 3 RD NS WILLIAMS RD	272	Y
SB HWY 99 ONRAMP FS STEVESTON HWY	262	Y
WB CAMBIE RD FS BARGEN DR	243	N
WB CAMBIE RD FS JACOMBS RD	242	Y
BRIDGEPORT STN BAY 5A	241	Y
NB NO. 3 RD FS BLUNDELL RD	225	Y
RICHMOND-BRIGHOUSE STN BAY 5A: NB COOK RD FS BUSWELL ST	219	N
NB NO. 3 RD FS RYAN RD	217	Y
EB GRANVILLE AV FS MINORU BLVD	217	N
EB CHATHAM ST FS 2 AV	216	Υ
WB CAMBIE RD AT 12300 BLOCK	216	Υ
WB WILLIAMS RD FS NO. 4 RD	214	N
SB NO. 3 RD FS CAMBIE RD	214	N
RIVERPORT RECREATION COMPLEX	212	N
NB RAILWAY AV FS BLUNDELL RD	200	Y
WB STEVESTON HWY FS SEAWARD GATE	195	N
EB GRANVILLE AV FS GILBERT RD	195	N
WB CAMBIE RD FS NO. 4 RD	195	N
NB NO. 1 RD FS FRANCIS RD	194	Y
NB HWY 99 OFFRAMP NS STEVESTON HWY	192	Y
NB NO. 1 RD FS STEVESTON HWY	189	Y
	189	Y
NB GARDEN CITY RD FS LANSDOWNE RD		
NB NO. 3 RD FS JONES RD	188	N Y
EB GRANVILLE AV FS RAILWAY AV	182	
EB WESTMINSTER HWY NS FORSYTH CRES	182	N
NB RAILWAY AV FS LINFIELD GATE	180	Y
WB CAMBIE RD FS SHELL RD	179	N

Bus Stop Location	Passengers Boarding/Day	Shelter?
EB BRIDGEPORT RD FS SWEDEN WAY	175	Υ
NB NO. 3 RD FS LESLIE RD	172	N
NB INSTITUTIONAL ACCESS NS CESSNA	171	N
NB GARDEN CITY RD FS WILLIAMS RD	170	N
WB CAMBIE RD FS HAZELBRIDGE WAY	158	<u>N</u>
WB BRIDGEPORT RD FS NO. 5 RD	157	<u>N</u>
EB LANSDOWNE RD FS COONEY RD	156	N
WB CAMBIE RD FS STOLBERG ST	155	N Y
EB BLUNDELL RD AT CHEVIOT PL WB BRIDGEPORT RD FS MCLENNAN AV	154 154	N Y
NB GARDEN CITY RD AT JONES RD	153	N N
EB CAMBIE RD FS JACOMBS RD	148	
NB RAILWAY AV FS COLBECK RD	146	Yestemes see
NB NO. 5 RD FS STEVESTON HWY	143	N N
NB NO. 3 RD FS FRANCIS RD	143	Y
WB WILLIAMS RD FS SHELL RD	142	N
EB WESTMINSTER HWY FS NO. 2 RD	141	N
NB NO. 3 RD FS GENERAL CURRIE RD	139	N
WB BRIDGEPORT RD FS SWEDEN WAY	138	Y
NB RAILWAY AV FS WILLIAMS RD	138	N
NB RAILWAY AV FS FRANCIS RD	138	Υ
SB NO. 3 RD FS ALDERBRIDGE WAY	137	Ÿ
NB GARDEN CITY RD FS GENERAL CURRIE RD	137	N
EB WESTMINSTER HWY FS MCLEAN AV	136	N
EB CAMBIE RD FS NO. 5 RD	134	N
EB CAMBIE RD FS VIKING WAY	134	N
NB NO. 1 RD FS BLUNDELL RD	134	N
NB GARDEN CITY RD FS BENNETT RD	129	N
NB NO. 1 RD FS TUCKER AV	123	N N
EB WESTMINSTER HWY FS HWY 91	122	N N
EB CAMBIE RD FS SAINT EDWARDS DR	122	N N
WB STEVESTON HWY FS MORTFIELD GATE EB COOK RD FS PIMLICO WAY	119 116	N N
EB GRANVILLE AV FS NO. 2 RD	115	Y
NB GARDEN CITY RD FS FRANCIS RD	114	N
WB WESTMINSTER HWY NS HWY 91	114	N
NB GARDEN CITY RD FS CAMBIE RD	114	Y
EB GRANVILLE AV FS LEDWAY RD	112	Y
WB BRIDGEPORT RD FS SHELL RD	110	N
WB WILLIAMS RD FS ARAGON RD	108	N
NB NO. 1 RD FS CHATHAM ST	108	N
NB NO. 1 RD FS YOUNGMORE RD	108	N
EB GRANVILLE AV FS LYNAS LANE	107	Υ
EB BRIDGEPORT RD FS NO. 5 RD	105	N
WB WILLIAMS RD FS SEACOTE RD	105	N
EB COOK RD FS BUSWELL ST	102	N
EB MONCTON ST NS NO. 2 RD	101	N
EB WESTMINSTER HWY FS LYNAS LANE	101	N N
NB NO. 1 RD AT OSMOND AV	99	N
WB BRIDGEPORT RD FS NO. 4 RD	99	N N
WB STEVESTON HWY FS NO. 5 RD NB NO. 3 RD FS ALDERBRIDGE WAY	98 98	N N
EB GRANVILLE AV FS AZURE GATE	98	N N
WB CAMBIE RD FS VIKING WAY	95	N
EB MONCTON ST FS NO. 1 RD	95	N N
NB NO. 1 RD FS GRANVILLE AV	95	N N
WB WILLIAMS RD FS ASH ST	94	N N
WB GRANVILLE AV FS NO. 4 RD	94	N N
	ı 3 -	1.9
NB GARDEN CITY RD FS DAYTON AV	94	N

Bus Stop Location	Passengers Boarding/Day	Shelter?
NB NO. 1 RD FS RICHMOND ST	88	N
NB NO. 1 RD FS MORESBY DR	87	N
WB HORSESHOE WAY FS NO. 5 RD	86	N
NB NO. 2 RD FS DANUBE RD	86	N
NB NO. 5 RD FS SEACLIFF RD	85	N
NB NO. 3 RD FS BENNETT RD	85	Υ
EB WESTMINSTER HWY FS ELMBRIDGE WAY	83	N
WB WESTMINSTER HWY FS MCLEAN AV	82	Y
NB GILBERT RD FS BAMBERTON DR	82	N
WB STEVESTON HWY NS COPPERSMITH PL	80	N
SB SEACOTE RD NS SEAPORT AV	79	N
WB CAMBIE RD NS GARDEN CITY RD	79	N
EB WESTMINSTER HWY FS HWY 91 OFFRAMP	77	N
EB WILLIAMS RD FS NO. 1 RD	76	N
WB WESTMINSTER HWY FS MINORU BLVD	75	N
EB CAMBIE RD FS NO. 4 RD	74	N
WB LANSDOWNE RD NS KWANTLEN ST	74	N
NB NO. 1 RD FS PACEMORE AV	74	N_
EB CAMBIE RD FS GARDEN CITY RD	74	N
EB WESTMINSTER HWY FS ALDERBRIDGE WAY	73	N
SB NO. 3 RD FS BROWNGATE RD	73	N
NB NO. 2 RD FS WALLACE RD	72	N
NB NO. 3 RD FS SAUNDERS RD	71	N
EB WILLIAMS RD FS FRESHWATER DR	71	N
NB NO. 2 RD NS BLUNDELL RD	71	N
EB BRIDGEPORT RD FS SHELL RD	70	N
EB WESTMINSTER HWY FS GILLEY RD	70	N
EB WILLIAMS RD FS SPRINGMONT DR	69	N
WB STEVESTON HWY NS HWY 99	69	Υ
WB GRANVILLE AV FS MINORU BLVD	69	Υ
WB COOK RD FS COONEY RD	69	N
EB WESTMINSTER HWY FS MINORU BLVD	68	N
EB PARK RD NS BUSWELL ST	68	N
NB SPRINGMONT DR FS SPRINGMONT GATE	68	N
NB NO. 2 RD FS WILLIAMS RD	68	N
EB WILLIAMS RD FS 4 AV	67	N
EB WESTMINSTER HWY FS RIVERDALE DR	65	N
EB CAMBIE RD FS ODLIN CRES	64	N
NB GARDEN CITY RD FS GLENALLAN GATE	64	N
NB NO. 4 RD FS AMETHYST AV	64	N
WB CAMBIE RD FS SEXSMITH RD	63	N
NB RAILWAY AV FS MAPLE RD	63	N
NB RAILWAY AV FS WOODWARDS RD	63	N
NB GARDEN CITY RD FS SAUNDERS RD	63	N
EB CAMBIE RD FS BARGEN DR	63	N
EB MONCTON ST FS RAILWAY AV	61	N
WB GRANVILLE AV AT MOFFATT RD	61	N
NB GILBERT RD FS BLUNDELL RD	61	N
WB WESTMINSTER HWY FS GILBERT RD	59	Y
WB STEVESTON HWY FS ROSELAND GATE	58	Y
WB CAMBIE RD AT 10200 BLOCK	58	N
NB NO. 3 RD FS ROSEWELL AV	58	N
SB NO. 3 RD NS GENERAL CURRIE RD	57	N
NB GILBERT RD FS WILLIAMS RD	57	N
NB COONEY RD FS WESTMINSTER HWY	56	N
SB GARDEN CITY RD FS BLUNDELL RD	54	N
NB NO. 3 RD FS STEVESTON HWY	54	N
EB STEVESTON HWY FS TRIMARAN GATE	54	N
EB WESTMINSTER HWY FS TIFFANY BLVD	53	Υ

Bus Stop Location	Passengers Boarding/Day	Shelter?
EB CAMBIE RD AT 12400 BLOCK	53	N
NB GARDEN CITY RD FS WESTMINSTER HWY	52	Υ
NB NO. 6 RD AT MAYCREST WAY	52	N
WB KING RD FS NO. 5 RD	52	N
NB 7 AV FS CHATHAM ST	51	N
NB NO. 3 RD AT BROADMOOR BLVD	51	N N
EB GORDON WAY AT 21300 BLOCK	50	N N
EB BLUNDELL RD FS MOFFATT RD	50	N N
EB STEVESTON HWY NS SEAWARD GATE	50	N N
SB NO. 6 RD FS MAYCREST WAY	50 50	N N
SB GARDEN CITY RD FS WESTMINSTER NB NO. 1 RD FS GEORGIA ST	50	N N
SB NO. 6 RD FS INTERNATIONAL PL	49	N N
EB GRANVILLE AV FS LIVINGSTONE GATE	49	N N
EB WILLIAMS RD FS FORTUNE AV	49	N
NB NO. 5 RD FS WILLIAMS RD	48	N
NB NO. 2 RD FS WOODWARDS RD	47	N
NB NO. 2 RD FS FRANCIS RD	47	N N
SB NO. 6 RD FS MAYFIELD PL	47	N N
EB BLUNDELL RD FS NO. 2 RD	47	N
SB NO. 3 RD FS BLUNDELL RD	46	N
SB KNIGHT STREET BRIDGE AT MITCHELL ISLAND	46	N
EB HORSESHOE WAY NS NO. 5 RD	45	N
WB BRIDGEPORT RD FS VIKING WAY	44	N
SB NO. 4 RD FS ALEXANDRA RD	44	N
NB GILBERT RD FS LUCAS RD	44	N
EB WESTMINSTER HWY FS MCCALLAN RD	44	N
SB NO. 2 RD FS BLUNDELL RD	43	N
NB NO. 4 RD FS FRANCIS RD	43	N
NB GILBERT RD NS KIMBERLEY DR	43	N
NB NO. 1 RD FS FUNDY GATE	42	N
NB NO. 1 RD FS WILLIAMS RD	42	N
NB GARDEN CITY RD FS CAPSTAN WAY	42	Υ
NB NO. 2 RD FS MAPLE RD	42	N
WB BRIDGEPORT RD FS MCLEOD RD	42	N
SB NO. 6 RD NS WIRELESS WAY	41	N
NB 7 AV FS RICHMOND ST	41	N
WB BRIDGEPORT RD FS SMITH ST	41	N N
NB GILBERT RD FS FRANCIS RD	41	N N
EB STEVESTON HWY NS NO. 1 RD	41	N
SB NO. 1 RD FS FRANCIS RD	40	N N
EB MONCTON ST FS EASTHOPE AV EB BRIDGEPORT RD AT MCLENNAN AV	40	N
EB STEVESTON HWY FS RAILWAY AV	40	N N
SB GARDEN CITY RD FS CAMBIE RD	39	N
WB STEVESTON HWY FS SWINTON CRES	39	N N
WB BLUNDELL RD AT 18300 BLOCK	39	N N
SB NO. 6 RD FS CAMBIE RD	39	N N
WB STEVESTON HWY FS SHELL RD	39	N N
SB GRAYBAR RD FS WESTMINSTER HWY	39	N N
SB GARDEN CITY RD FS ALDERBRIDGE WY	38	N N
WB RIVER RD FS HOLLYBRIDGE WAY	38	N
EB BLUNDELL RD FS GILBERT RD	38	N
WB BLUNDELL RD FS NO. 3 RD	38	N
WB GRANVILLE AV FS GILBERT RD	37	N
SB GILBERT RD FS WESTMINSTER HWY	36	N
WB BLUNDELL RD FS NELSON RD	36	N
NB NO. 4 RD AT DAYTON AV	36	N
SB NO. 4 RD FS ODLIN RD	36	N
EB BRIDGEPORT RD FS SEXSMITH RD	36	N

Bus Stop with Transit Shelter

Bus Stop Location	Passengers Boarding/Day	Shelter?
NB NO. 2 RD FS STEVESTON HWY	35	N
SB NO. 3 RD FS JONES RD	35	N
WB CAMBIE RD FS NO. 6 RD	34	N
EB HWY 91 OFFRAMP AT WESTMINSTER HWY	34	N
EB BLUNDELL RD FS MINLER RD	34	N
EB WILLIAMS RD FS GARDEN CITY RD	34	N
NB NO. 4 RD FS BLUNDELL RD	34	N
SB NO. 1 RD FS WESTMINSTER HWY	33	N
EB CAMBIE RD AT STOLBERG ST	33	N
WB WESTMINSTER HWY NS GILLEY RD	33	Υ
EB BRIDGEPORT RD FS NO. 4 RD	32	N
NB GILBERT RD FS MANG RD	32	N
NB VIKING WAY FS CAMBIE RD	32	N
EB WILLIAMS RD FS 2 AV	32	N
EB GRANVILLE AV FS NO. 3 RD	31	N
EB WESTMINSTER HWY AT 6400 BLOCK	31	N
NB SPRINGMONT GATE FS STEVESTON HWY	31	N
NB 7 AV NS REGENT ST	31	N
NB NO. 3 RD FS LUCAS RD	31	N
NB KWANTLEN ST FS LANSDOWNE RD	30	N
EB STEVESTON HWY FS RANSFORD GATE	30	Υ
NB VIKING WAY FS VIKING PL	30	N
WB LANSDOWNE RD FS COONEY RD	30	Υ
WB HWY 91 ONRAMP FS WESTMINSTER HWY	30	N
NB NO. 6 RD AT MAYFIELD PL	29	N
SB NO. 3 RD FS WILLIAMS RD	29	N
SB NO. 6 RD FS COMMERCE PKY	29	N
SB NO. 1 RD FS BLUNDELL RD	29	N
NB GILBERT RD FS BROADMOOR BLVD	28	N
SB NO. 3 RD FS CAPSTAN WAY	28	N
SB NO. 3 RD AT RYAN RD	28	N
EB STEVESTON HWY FS CONSTABLE GATE	27	N
NB GILBERT RD NS AZURE RD	27	N
NB VIKING WAY FS BRIDGEPORT RD	27	N
NB NO. 5 RD AT KINGSBRIDGE DR	27	N
EB WILLIAMS RD FS NO. 4 RD	27	N
WB WESTMINSTER HWY FS ALDERBRIDGE WAY	27	N
WB KING RD NS SEACOTE RD	26	N
NB HAMMERSMITH WY FS SILVERSMITH PL	26	N
NB NO. 1 RD FS PETERSON GATE	26	N
EB WESTMINSTER HWY FS GIBBONS DR	26	N
WB CAMBIE RD FS VANGUARD RD	26	N
NB NO. 6 RD FS WESTMINSTER HWY	26	N
NB SPRINGMONT DR FS SPRINGHILL CRES	26	N
NB GARDEN CITY RD FS ODLIN RD	26	N
NB NO. 3 RD FS SUNNYMEDE GATE	25	N
SB NO. 1 RD FS OSMOND AV	25	N
SB RAILWAY AV FS BLUNDELL RD	25	N
NB SPRINGMONT DR FS SPRINGSIDE PL	25	N
SB GARDEN CITY RD FS LANSDOWNE RD	25	N
NB NO. 5 RD FS BLUNDELL RD	25	N
EB MILLER RD FS RUSS BAKER WAY	25	N
WB VULCAN WAY NS SWEDEN WAY	25	N
SB NO. 1 RD FS YOUNGMORE RD	25	N

Proposed Questions for Public Survey re Transit Shelters in Richmond (1) Are you a Richmond: Resident? Employee? Neither (2) Which statement best describes your current status: I work full-time I work part-time I am a university student I am an elementary/secondary student I am retired None of the above Yes No (3) Do you hold a valid driver's licence? (4) Do you have regular access to a motor vehicle to make a journey? Yes No (5) From Monday to Friday, how often do you use the bus, on average? (tick one only) Every weekday 3-4 weekdays 1-2 weekdays at least one weekday a month less than one weekdays a month (6) On weekends, how often do you use the bus, on average? (tick one only) Every weekend 2-3 weekends a month 1 weekend a month less than one weekend a month (7) What is the most important reason that you use the bus? (tick up to three only) A vehicle is not available I am unable to drive Cost of parking at destination Difficulty of parking at destination To avoid driving in traffic Public transport is the cheapest option Public transport is the fastest option Public transport is the most reliable option Public transport is better for the environment Public transport is provides time to relax / work / read / listen to music Normally don't use public transport (8) How important is it to you that a bus stop has a shelter? (tick one only) Not important Somewhat important Somewhat unimportant Very important Indifferent

Proposed Questions for Public Survey re Transit Shelters in Richmond

(9)		e rank the relative importance of the following guiding principles for the provision of transit shelters? se rank 1 to 3)
		Passenger comfort (weather protection, comfortable and safe waiting area, lighting, improved visibility of a bus stop)
		Urban design and aesthetics (shelters and associated amenities should complement and enhance the surrounding environment)
		Potential revenue and cost (capital and operating costs to the City, potential revenue to City from additional advertising opportunities)
(10)	Where	e are your top three bus stop locations in Richmond where a transit shelter is needed?
	1 st	Location:
		Location:
		Location:
(11)	Do yo	ou have any other comments regarding factors that the City should consider in evaluating options for
	the pr	ovision of transit shelters?



Report to Committee

To:

Public Works and Transportation Committee

Date:

May 7, 2015

From:

John Irving, P.Eng. MPA

Director, Engineering

File:

10-6600-10-02/2015-

Vol 01

Re:

Alexandra District Energy Utility Expansion Phase 4

Staff Recommendation

That funding of up to \$7.6 million through borrowing from the Utility General Surplus be approved for capital expenditure for design, construction and commissioning of the Phase 4 expansion of the Alexandra District Energy Utility and that the Five Year Financial Plan (2015-2019) be amended accordingly.

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

REPORT CONCURRENCE							
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER					
Finance Development Applications	<u> 전</u>	66					
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	Initials:	APPROVED BY CAO					

Staff Report

Origin

In January 2011, Council endorsed the Alexandra District Energy Utility Bylaw No. 8641 Amendment Bylaw No. 8688. The adoption of Amendment Bylaw No. 8688 established the ADEU service area over the majority of the Alexandra Neighbourhood.

At the Regular Council Meeting of July 28, 2014, Council endorsed that the funding for the ADEU Phase 3 expansion be borrowed from the Water Utility General Surplus. All borrowed amounts will be repaid with interest, and are incorporated into the financial model.

At the Regular Council Meeting of February 10, 2015, Council approved, as a part of the 2015 Capital Budget, a \$12.1M capital expenditure for the ADEU Expansion Phase 3 (2015), of which \$10.5M is funded from the Water Utility General Surplus.

The purpose of this report is to seek Council approval for the funding of the ADEU Phase 4 expansion through borrowing from the Utility General Surplus, in order to allow servicing of new developments in the Alexandra District Energy Utility (ADEU) Service Area.

This initiative aligns with Council's Term Goal #8 Sustainability:

8.1 Continued implementation and significant progress towards achieving the City's Sustainability Framework, and associated targets.

Background

Phases 1 and 2 of the ADEU were established in partnership with Oris Geo Energy Ltd. The partnering agreement was limited to providing heating and cooling services to Oris Developments' projects, Alexandra Gate and Remy.

Council subsequently adopted the Alexandra District Energy Utility Bylaw No. 8641 and Amendment Bylaw No. 8688 on January 24, 2011, which expanded the service area to include the western portion of the Alexandra neighbourhood. This gave the ADEU the potential to encompass 3100 units and 1.1 million sq. ft. of commercial space at build out, over an estimated 10 to 15 year period.

In 2010, Council approved \$6M of borrowing from the City's Water Utility Reserve to fund the design and construction of ADEU Phases 1 and 2. ADEU Phases 1 and 2 were commissioned in July 2012; the system currently provides energy to three developments (Mayfair Place, Remy and Omega) with over 860 residential units.

In 2014, Council approved \$12.3M of borrowing from the City's Water Utility General Surplus to fund design and construction of the ADEU Phase 3 expansion. The 2015 portion of the project is currently under construction and scheduled to connect next two customers Alexandra Court by Polygon and Jamatkhana Temple in May and June respectively. Connection of five more developments under Phase 3 expansion will follow. The 2015 portion of Phase 3 expansion construction is scheduled to be completed in November 2015.

4557795 **PWT - 45**

Analysis

SmartCentres and New Developments

ADEU was established on the concept that all capital and operating costs would be recovered through revenues from user fees. Council adopted an objective to provide end users with annual energy costs that are competitive with conventional system energy costs based on the same level of service. The primary strategy for phasing construction of the ADEU is to match service capacity closely with demand at any given stage. In this way, capital expenditures that don't immediately generate revenue are minimized and payback periods are reduced.

The 2015 scope of the Phase 3 expansion includes:

- expansion of the energy centre to accommodate equipment requirements for the full build out;
- extension of the distribution piping to service new customers south of Odlin Rd up to the Alexandra Court;
- increasing the heating and cooling capacity to service new customers in the north and south loop via geo-exchange field along the eastern edge of the West Cambie Neighbourhood Park; and
- increasing the heating and cooling capacity to service new customers in the north and south loop via boilers and cooling towers.

Based on the most current construction schedule provided by SmartCentres, the construction of an on-site energy plant for servicing the SmartCentres, a concept adopted by Council last year, needs to start immediately in order to meet the accelerated schedule.

Furthermore, since the approval of the Phase 3 expansion in July 2014, timing for some of the developments has been revised by developers and two new developments will need to be connected as early as January 2016 - Oxford Lane Townhomes by Townline and Fire Hall No. 3. The current timelines and building sizes are summarized in Table 1 and mapped in Attachment 1. To service these developments, an extension of the distribution piping is required.

Table 1: Development Timing in the ADEU Service Area (read in conjunction with Att. 1)

	Floor Area (ft²)	Use	Occupancy Date*
Alexandra Court	503,000	Residential	May 2015
Jamatkhana Temple	26,500	Institutional	June 2015
Oxford Lane	64,000	Residential	January 2016
Fire Hall No. 3	23,000	Municipal	2016
9500 Cambie	108,000	Residential	2016
Alexandra Gate	194,000	Residential	2016
SmartCentres	286,000	Commercial	2016
Jingon	132,000	Residential	2017
Polygon East	262,000	Residential	2018

^{*} Note: Occupancy typically occurs over the course of several months after occupancy is issued.

Funding

It is estimated that \$7.6 million (inclusive of design, project management and contingency) would be required for the ADEU Phase 4 expansion, which will include:

• installation of the satellite energy plant, including air source heat pumps, natural gas boilers and distribution piping to service SmartCentres;

-4-

- extension of distribution piping to service Oxford Lane Townhomes development;
- extension of distribution piping to service Fire Hall No. 3;
- replacement of water based fluid with glycol propylene fluid in the distribution piping;
- upgrade energy metering;
- SCADA system upgrade.

The full amount of funding will be required in 2015, since the construction is expected to be implemented over the next two years.

Development Projections and Business Case

Staff have reviewed the development projections with the Phase 3 design consultant as part of the Phase 3 expansion detailed design. The projections are based on prospective results based on assumptions about future conditions and courses of action. The development schedule in the ADEU area is relatively well-defined to 2018. Developers have provided the City with preliminary drawings and modeling reports which include calculations of gross floor area and peak and annual energy demands. After 2018, the forecast is less certain: there are five parcels in the Northwest corner of the neighbourhood that are expected to be developed into residential buildings between 2019 and 2023, however, there is no other information available about these properties. Furthermore, the rate of development is subject to market conditions. After the connectable area for these parcels was calculated based on the lot area multiplied with the floor area ratio as per the 2041 OCP, the total floor area connected to the ADEU at the full build out is now estimated to be 4.65 million square feet.

The business case was updated with the new estimated connected floor areas and related capital costs estimates for the full build out. The comparison of the business cases is summarized in the Table 2 below. Financial calculations for the payback periods are detailed in Attachment 2.

Table 2: Financial Summary

To the second se	Business Case as reported to Council Dec 10, 2012	Business Case as reported to Council July 28, 2014	Most current Business Case
Capital Cost (Phase 4)	N/A	N/A	\$7.6M
Full Build Out Area	3.18M sq.ft.	3.44M sq.ft.	4.65M sq.ft.
Capital Cost (full build-out)	\$24.3M	\$23.3M	\$31.1M
NPV (discounted at 6.0%)	\$1.35M	\$4.76M	\$15.5M
IRR	6.54%	8.01%	10.17%
Payback	21 years	19 years	17 years
Estimated GHG Savings		9500 tonnes over 12 years	9500 tonnes over 12 years

Note: No land costs have been attributed to the costs of the project since it is located on City owned park land or as part of private developments.

This initiative also aligns with Council's sustainability goal of making progress towards achieving the City's Sustainability Framework and associated targets. On average, ADEU is expected to save more than 800 tonnes of CO₂ every year, the equivalent of taking 170 passenger vehicles permanently off the road. Cumulative GHG emissions reductions are detailed in Attachment 3.

Financing Strategy

The ADEU was approved on the basis that it would be financially self-sustaining. At the current size of the system, the incremental cost to connect a new customer is high due to the need for new energy generation and distribution facilities. Over time, capital costs on a per building basis will decrease as the same infrastructure can be used to connect new buildings. The City has the option to fund capital costs internally or externally. Over the course of the full build out of the ADEU, the City will have numerous decision points for optimizing financing strategies in order to achieve its objectives.

For the Phase 4 expansion capital costs, staff recommend that up to \$7.6M in funding be approved from the Utility General Surplus. Internal borrowing is recommended due to many variables including the timespan of construction, servicing requirements, and the availability of funding. All borrowed amounts will be repaid with interest and are incorporated into the financial model.

4557795 **PWT - 48**

Financial Impact

Staff recommend that \$7.6 million in funding be approved through borrowing from the Utility General Surplus for capital expenditure of design, construction and commissioning for the Phase 4 expansion of Alexandra District Energy Utility. The cash flows scheduled for this borrowing and payback are detailed in Attachment 2.

Conclusion

Construction in the Alexandra District Energy Utility service area is continuing at a fast pace with a number of developments pursuing aggressive construction schedules. Based on the current information provided by the developers, the ADEU Phase 4 expansion is needed to provide service to new customers. Operational improvements are also needed, in order to provide the level of service expected.

Alen Postolka, P.Eng., CEM, CP

Acting Senior Manager, Sustainability

and District Energy

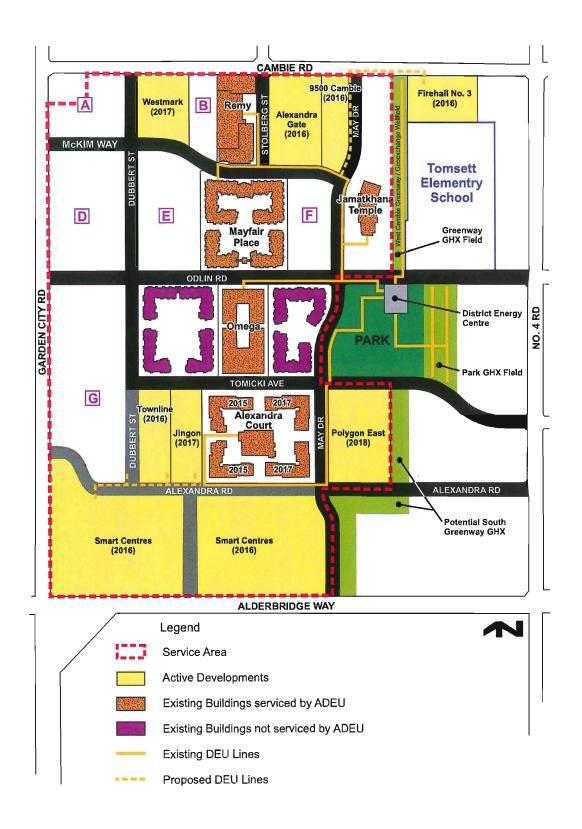
(604 276 4283)

Doru Lazar, P.Eng., PMP Senior Project Manager

(604-276-8695)

May 4, 2015 - 7 -

Attachment #1- Alexandra Neighbourhood and ADEU Service Area Development



Attachment # 2- ADEU Financial Analysis Model (to build-out)

(Preliminary draft based on current assumptions. Financial Model is subject to change as these facts and assumptions change.)

	***************************************	·	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	········ 99		2000000.00	ecennos norbus numer	(A	ll dollar f	igur	es are in	tho	ousands	of d	ollars)	*******	COPPER CONCORNACION S	.,,,,,,,,,	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	· · · · · · · · · · · · · · · · · · ·	V-100'S E-1018-ZEA E-100
		Y	ear 1	١	Year 2 Year 3			Year 4		Year 5		Year 10		Year 15		Year 20		Year 25		Year 30	
	arra quenum	2	2011		2012		2013		2014		2015		2020		2025		2030		2035		2040
TOTAL REVENUE		\$	•	\$	72	\$	479	\$	640	\$	974	\$	4,216	\$	7,482	\$	9,104	\$	11,076	\$	13,475
TOTAL EXPENSES		\$		\$	6	\$	181	\$	472	\$	899	\$	1,474	\$	2,269	\$	2,739	\$	3,307	\$	3,994
DEBT INTEREST EXPENSE		\$	-	\$	-	\$	-	\$	-	\$	-	\$	583	\$	1,510	\$	440	\$	109	\$	
PROJECTED OPERATION INCOME (LOSS) BEFORE AMORTIZATION		\$	-	\$	65	\$	298	\$	169	\$	76	\$	2,159	\$	3,704	\$	5,925	\$	7,660	\$	9,481
Principal Payment		\$	•	\$	-	\$	-	\$		\$		\$	721	\$	4,224	\$	1,353	\$	109	\$	•
PROJECTED CASHFLOW		\$	•	\$	65	\$	298	\$	169	\$	76	\$	1,438	(\$	521)	\$	4,571	\$	7,552	\$	9,481
Cumulative Project Cashflow		\$	-	\$	65	\$	363	\$	531	\$	607	\$	6,931	\$	5,341	\$	10,040	\$	42,718	\$	86,564
Internal Rate of Return (IRR) over 30 y	ears:	1		<u> </u>		ļ				<u> </u>				<u></u>		ļ		ļ			
CAPITAL INVESTMENT*		(\$	2,300)	(\$	2,066)	\$	-	(\$	1,634)	(\$ 1	18,100)	\$	-	\$	-	\$	-	\$	-	\$	-
Annual Cash Inflow from Operation		\$		\$	65	\$	298	\$	169	\$	76	\$	2,159	\$	3,704	\$	5,925	\$	7,660	\$	9,481
Net Annual Cashflow of Investment		(\$	2,300)	(\$	2,001)	\$	298	(\$	1,465)	(\$ ·	18,024)	\$	2,159	\$	3,704	\$	5,925	\$	7,660	\$	10,465
CUMULATIVE DEBT LOAD		\$	2,518	\$	4,813	\$	5,054	\$	7,023	\$	26,379	\$	37,224	\$	23,733	\$	2,686	(\$	0)	(\$	0)
CUMULATIVE PROJECTED NET INCOME		(\$	50)	(\$	91)	\$	101	\$	163	(\$	185)	\$	4,035	\$	15,382	\$	36,508	\$	67,619	\$	109,266
	IRR:		10.17%				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					0		διτομος 							
	NPV:	\$	15,520				***************************************	<u></u>	···········								***************************************				
Payback	Period:	17	year	(tir	ne to rec	ove	r origina	ıl inv	estment	of \$	25.7 M fr	om	operatio	n ind	come)						

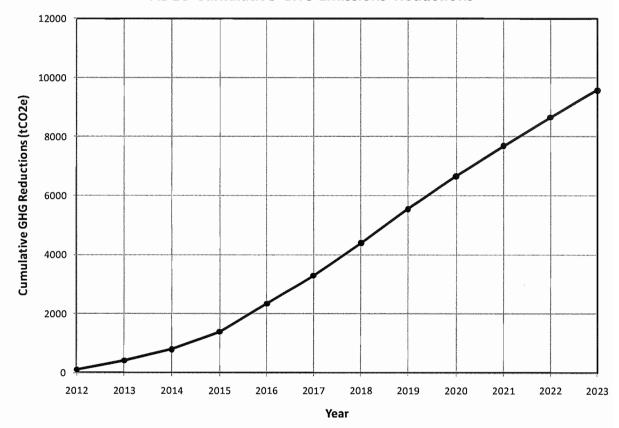
The projections are based on prospective results based on assumptions about future conditions and courses of action. The current model assumes internal borrowing for Phase 4 at an interest rate of 5% over 15 years.

4557795 **PWT - 51**

^{*}Includes an estimation of the remaining value of capital equipment.

Attachment #3- ADEU Cumulative GHG Emissions Reductions

ADEU Cumulative GHG Emissions Reductions





Report to Committee

To:

Public Works and Transportation Committee

Date:

April 27, 2015

From:

John Irving, P.Eng. MPA Director, Engineering

File:

10-6125-07-02/2015-

Vol 01

Re:

Smart Thermostats Pilot Program

Staff Recommendation

That the development and implementation of a "Smart Thermostats Pilot Program" for homes be endorsed.

Yohn Irving, P.Eng. MPA Director, Engineering

(604-276-4140)

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

Staff Report

Origin

This report proposes a Smart Thermostats Pilot Program as part of City efforts to reduce energy and emissions in Richmond.

This program supports Council's Term Goal #8 Sustainability:

To demonstrate leadership in sustainability through continued implementation of the City's Sustainability Framework.

Analysis

Background

Richmond's Climate Action Commitments

Richmond's 2041 OCP includes aggressive targets to reduce the community's energy use 10 per cent by 2020, and to reduce community GHG emissions 33 per cent by 2020 and 80 per cent by 2050. Additionally, the City has a target to reduce energy use 10 per cent by 2020. The 2014 Community Energy and Emissions Plan (CEEP) identifies that residential buildings account for over 22 percent of Richmond's GHG emissions, and that significant energy improvements to most existing buildings are necessary for Richmond to meet the City's emissions reduction targets. Accordingly, Strategy #3 in the CEEP is to "Improve the Performance of the Existing Building Stock," and includes the following actions:

- Action 7: Promote building efficiency through outreach and education
- Action 8: Provide incentives for building retrofit action
- Action 9: Develop a residential energy conservation program to support housing affordability

Additionally, as a signatory to the Climate Action Charter, the City has committed to being "carbon neutral" in its corporate operations. Carbon neutrality is achieved by reducing emissions, and balancing remaining emissions with carbon credits. The Joint Provincial-UBCM Green Communities Committee has established protocols for how local governments can generate carbon balancing credits by supporting energy projects in their communities.

City Action to Promote Energy Improvements

Different home energy improvement programs are available to Richmond households, through BC Hydro's PowerSmart suite of programs, FortisBC's energy programs, and other organizations. These programs will typically offer households cash incentives and rebates for adopting energy efficiency measures, as well as provide guidance on appropriate energy measures for various households depending on the equipment and construction of their home.

As part of implementing the CEEP and pursuing community GHG reduction targets, the City has promoted energy conservation programs, complementing energy utilities' own outreach and

promotions. The City's efforts include operating the Richmond Building Energy Challenge, outreach at events, web and social media, and printed promotions. Moreover, the City has provided financial consumer incentives as part of some of its programs, such as the Clothes Washer Rebate Program.

About Smart Thermostats

"Smart" or "learning" thermostats are a new technology that can help save energy while improving a home's comfort. Smart thermostats:

- Use motion sensors or other technologies to determine when users are away, and thereby "self-program" temperature setbacks to optimize energy savings
- Have internet connectivity
- Use web interfaces and user feedback to provide information and encourage better energy decision making

Smart thermostats thus differ from "programmable thermostats," which cannot self-program and typically have less interactive features. Firms currently offering smart thermostats include Nest, Ecobee, and Honeywell.

Studies from different jurisdictions across North America indicate that households that implement smart thermostats save an average of 11 per cent on their heating energy use; further analysis is needed to confirm savings levels that can be expected locally.

Smart thermostats currently cost approximately \$250 each. Assuming an 11 per cent savings on natural gas heating, City staff estimate that investing in a smart thermostat entails a 4.6 year simple payback period for the average single detached home, without any subsidy. Likewise, this average home would save approximately 3.7 tonnes of carbon dioxide (a greenhouse gas) from entering the atmosphere, assuming a 10 year lifespan of the thermostat.

Pilot Program Design

The proposed pilot program promotes the smart thermostat, in order to advance the City's climate action goals. The goals of the program are to:

- test and demonstrate the energy and GHG savings of smart thermostats
- compare the performance of different smart thermostat technologies
- identify barriers to adoption of the thermostats
- evaluate opportunities for an expanded smart thermostats program
- determine if "carbon balancing" credits can be generated via the program, to count towards the City's carbon neutral commitments
- evaluate the performance of different smart thermostat products

Through the pilot program, the City will provide participants with an incentive of half the price of the thermostat. The pilot will serve a maximum of 150 Richmond participants, targeting existing ground-oriented housing (e.g. detached, attached, and/or townhousing). Participants will be recruited and pre-screened to ensure eligible housing, and then assigned households

thermostats. Disbursement of incentives will occur when Richmond participants provide proof of payment and installation of eligible thermostats, along with energy data and survey responses necessary to evaluate the pilot program.

The City of Vancouver is intending to move forward with a similar program, and City staff will coordinate with Vancouver staff on an administrative level to maximize efficiencies.

The following table outlines key milestones for the pilot program:

Action	Timeline
Initiate participant recruitment	May/June 2015
Screen applicants	June – October 2015
Customer purchase and install complete	October 2015
Surveying and data collection	October 2015 – December 2016
Final reporting and analysis	April 2017

Financial Impact

This program is funded in the 2015 operating budget as part of the broader Neighbourhood Retrofit Programs initiative.

Conclusion

Increasing uptake of sustainable energy improvements in existing buildings is critical to the City of Richmond meeting its climate and energy goals. This report proposes a pilot Smart Thermostat incentive program for ground-oriented homes.

Brendan McEwen

Manager, Sustainability

(604-247-4676)

BM:bm



Report to Committee

To:

Public Works and Transportation Committee

Date: April 28, 2015

File:

10-6375-01/2015-Vol

0.

From:

Re:

Tom Stewart, AScT.

Director, Public Works

2014 Annual Water Quality Report

Staff Recommendation

That the staff report titled "2014 Annual Water Quality Report", dated April 28, 2015, from the Director, Public Works be received for information.

Tom Stewart, AScT. Director, Public Works 604-233-3301

Att. 2

REPORT CONCURRENCE

CONCURRENCE OF GENERAL MANAGER

REVIEWED BY STAFF REPORT /
AGENDA REVIEW SUBCOMMITTEE

APPROVED BY CAO

Staff Report

Origin

In 2001, the Province of British Columbia enacted the Drinking Water Protection Act, which provided the Minister of Health with the authority to implement and enforce standards for water supply systems in British Columbia. In May 2003, regulations to be implemented under the Drinking Water Protection Act were adopted by the legislature as the Drinking Water Protection Regulation. These acts were modernized on April 29, 2014 under Bill 18 – 2014: the Water Sustainability Act. This report enables the City to meet its obligations for public reporting.

Analysis

The Drinking Water Protection Regulation requires water purveyors in BC to possess an operating permit, which in effect confirms that the Drinking Water Officer for the area has approved the water supply. The Drinking Water Officer is given the authority to monitor water purveyors to ensure they are providing safe drinking water through compliance with the British Columbia Drinking Water Protection Regulation (BCDWPR), and any other conditions of the operating permit.

Under the BCDWPR, the City of Richmond is required to:

- Develop and maintain a process to notify the Medical Health Officer and the Drinking Water Officer of situations or conditions that render or could render the water unfit to drink;
- Implement and maintain a plan for collecting, shipping and analyzing water samples in compliance with the direction set by the Drinking Water Officer; and
- Implement and maintain a plan for reporting monitoring results to the Drinking Water Officer and to water users.

Richmond thrives on its ability to provide water for not only Richmond Fire-Rescue in the event of a fire, but for residents and businesses seeking a glass of the world's finest tap water. To ensure a consistent supply, the capital watermain replacement program is a proactive approach to avoiding breaks and has proved to be a reliable and valuable tool in water distribution management. In 2014, Public Works staff attended to 20 watermain breaks. Repairs for a single watermain break can amount to \$100,000 plus damages to private properties and service disruptions to businesses and residents.

Highlights of the 2014 Annual Water Quality Report include:

- Richmond residents enjoyed high-quality, reliable drinking water.
- 1,993 water samples were collected to ensure water quality and passed with outstanding results.
- Test results confirm high quality water and demonstrate continuous improvement.
- 35.8 M cubic metres of water were purchased in 2014 compared to 36.9M cubic metres in 2013.
- Richmond's tap water stations are used in many community events providing potable water to the public and promoting tap water usage

4550012

• The educational programs Project WET and "H2Whoa!", where elementary students learn about the benefits of water conservation, represents the partnership between Richmond School Board and Public Works

These and many other initiatives are detailed in the attached "2014 Annual Water Quality Report".

Financial Impact

None.

Conclusion

The 2014 Annual Water Quality Report has been reviewed and endorsed by the Medical Health Officer of Vancouver Coastal Health Authority for the City of Richmond and satisfies Provincial requirements under the Drinking Water Protection Act.

Bryan Shepherd

Manager, Water Services

604-233-3334

BS:nk

Att. 1: 2014 Annual Water Quality Report Summary

2: 2014 Annual Water Quality Report

City of Richmond

2014 Annual Water Quality Report Summary

In 2014, Richmond residents enjoyed high-quality and reliable drinking water. Water Services staff collected 1,993 water samples from 39 sampling sites to ensure water quality.

Richmond is dedicated to promoting the value of municipal tap water, maximizing opportunities for use of tap water in municipal facilities and developing strategies for making tap water the "water of choice" in our community.



Taking a water sample

Water quality sampling



Tap water station



Project WET



Leak detection

How does Richmond provide high-quality tap water?

- By testing all 39 water quality sites on a regular basis.
- By continuous preventative maintenance and monitoring.
- By providing the water system with the highest degree of care to ensure that it's an inhospitable environment for any harmful bacteria or toxins.
- By proactive watermain replacement and maintenance projects.

Multi-Barrier Approach

Richmond recognizes that in order to provide the highest quality water, several methods must be used to ensure its superiority – hence the "Multi-Barrier Approach".

The "Multi-Barrier Approach" includes:

- disinfection of the water at the source:
- water quality monitoring capabilities at six PRV sites;
- weekly microbiological testing;
- system operators that are certified by the Environmental Operators Certification Program of BC;
- employment of maintenance practices that are of the highest standard.

Heterotrophic Plate Count (HPC)

- The HPC indicates the presence of nutrients that could facilitate the growth of harmful bacteria such as Ecoli.
- HPCs indicate the presence of nutrients in the water system.
- By reducing the HPC levels, the possibility of bacteriological re-growth is reduced.
- The minimal positive chlorine residual in our water also disinfects and eliminates harmful substances within our distribution system.

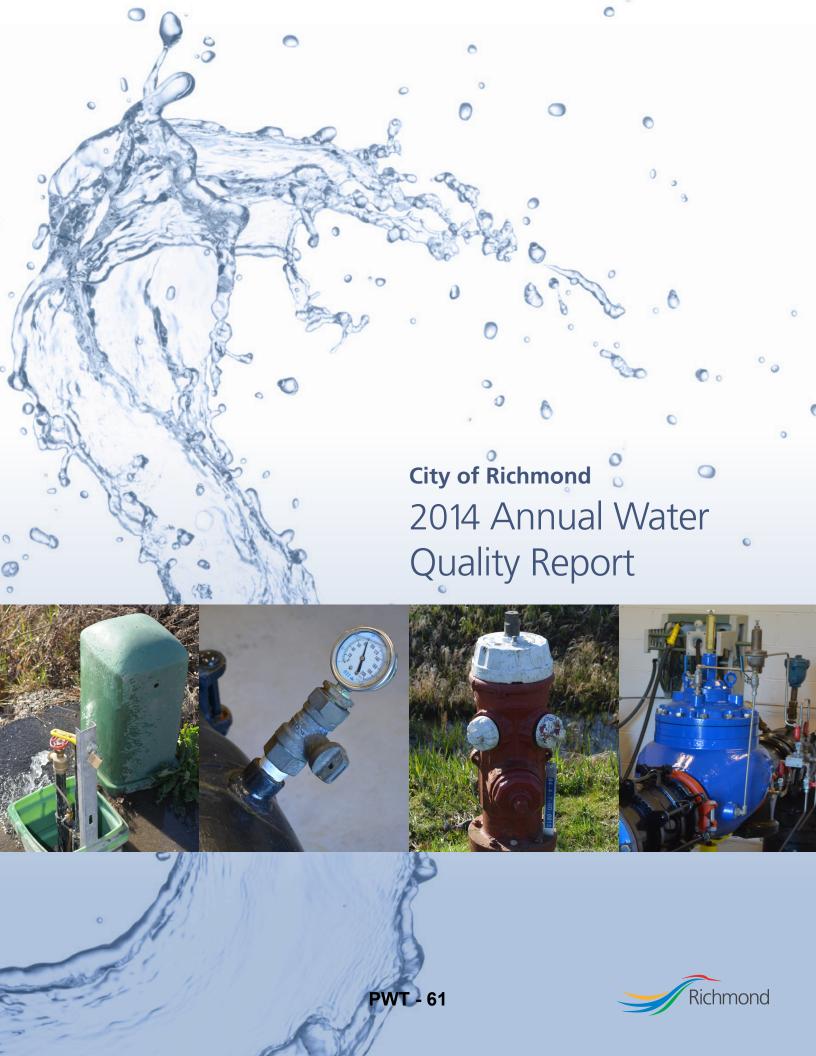
2014 Results

- Provided 35.8 million cubic metres of the highest quality drinking water to nearly 207,500 Richmond residents. Staff anticipate that this decrease from 2013 (36.9 million cubic metres) is because of the leak detection program, the water meter program, the water conservation programs and the water education offered to Richmond residents.
- Conducted 1,993 microbiological tests.
- Maintained 14 pressure reducing value (PRV) stations.
- Maintained 4,729 fire hydrants to ensure water is available during an emergency.
- Repaired 20 watermain breaks without compromising the integrity of the water distribution system.
- Discovered and repaired 44 non-visible underground leaks through Richmond's leak detection program.
- Hosted over 300 students from Richmond elementary schools as part of the annual educational program: Project WET.

Summary

Richmond residents will continue to enjoy drinking water that is fresh, reliable and of high-quality. It is without a doubt that the City of Richmond consistently excels at providing tap water of excellent quality, and Richmond does all this for a cost that is 1,000 times less than the price of one litre of bottled water.





Richmond is dedicated to promoting the value of municipal tap water, maximizing opportunities for use of tap water in municipal facilities and developing strategies for making tap water the "water of choice" in our community.

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Executive Summary

The purpose of this report is to fulfill the requirements set out in the *British Columbia Drinking Water Protection Act (BCDWPA)* by giving an overview of the water distribution system, describing the maintenance conducted, detailing some of the unique features of the system and providing the results of Richmond's water quality testing program.

Test results confirm high-quality water and demonstrate continuous improvement. Richmond's water system is provided with the highest degree of care to ensure that it's an inhospitable environment for any harmful bacteria or toxins. Also, Water Utility funding contributes to proactive watermain replacement and maintenance projects that will ensure the overall health of the system well into the future.

In 2014, the City of Richmond's Water Services staff undertook the following:

- provided 35.8 million cubic metres of the highest quality drinking water to nearly 207,500 Richmond residents. Staff anticipate that this decrease from 2013 (36.9 million cubic metres) is because of the leak detection program, the water meter program, the water conservation programs and the water education offered to Richmond residents;
- conducted 1,993 microbiological tests from 39 test locations;
- maintained 14 pressure reducing valve (PRV) stations;
- maintained 4,729 fire hydrants to ensure water is available during an emergency;
- repaired 20 watermain breaks without compromising the integrity of the water distribution system;
- discovered and repaired 44 non-visible underground leaks through Richmond's leak detection program using noise loggers measuring sound frequencies in the targeted pipe allowing any leaks to be heard and recorded;
- hosted over 300 students from Richmond elementary schools as part of the annual educational program: Project WET;
- organized the "H2Whoa!" theatrical presentations at 15 Richmond elementary schools, teaching students in grades K-7 all about water, the water cycle and water conservation;
- repaired 290 service connections;
- installed 5,400 metres of new watermain.

The City of Richmond's Water Services section takes its role as a water purveyor very seriously and is proud to be the guardian of such a precious resource.

Introduction

In 2002, the City of Richmond implemented a Drinking Water Quality Monitoring Program. This program was developed with input from the Vancouver Coastal Health Authority and is in accordance with the *British Columbia Drinking Water Protection Act (BCDWPA)*, the *Water Quality Monitoring and Reporting Plan* for Metro Vancouver and member municipalities and the *Guidelines for Canadian Drinking Water Quality (GCDWQ)*.

The Vancouver Coastal Health Authority requires the City of Richmond to provide the *Annual Drinking Water Quality Report* so that Richmond can maintain its operating permit. Richmond's Medical Health Officer reviews the report and upon request, the report is made public. It provides important information concerning Richmond's water distribution system and water quality.

The conditions set out in the *British Columbia Drinking Water Protection Act (BCDWPA)* require that all water systems in BC be classified as a Level I through IV facility. Richmond's system is classified as a Level III facility so all staff are responsible for possessing a valid Level I to Level III Equipment Operators Certification Program (EOCP) certificate. To obtain and maintain a level of certification, staff successfully complete the annual training. This is done to ensure that staff are able to respond appropriately and immediately to problems prior to becoming a risk to health or property.

As a water purveyor, Richmond complies with provincial legislation, including the *British Columbia Drinking Water Protection Act (BCDWPA)*, and the *British Columbia Drinking Water Protection Regulations (BCDWPR)*. Information is also compared to the federal *Guidelines for Canadian Drinking Water Quality (GCDWQ)*. Under these various pieces of legislation the City of Richmond is required to:

- develop a process to notify the Medical Health Officer of any condition that could render unsafe drinking water;
- implement a sampling program that adequately represents all areas within the City;
- meet the requirements of the British Columbia Drinking Water Protection Act (BCDWPA), and ensure test results are immediately available to the Medical Health Officer:
- receive an annual construction permit for the construction, installation and extension of the water distribution system;
- ensure that the City's water distribution system is classified under the criteria for the Environmental Operators Certification Program (EOCP) and that Water Services staff are certified to the same level as the distribution system;
- produce an annual public report detailing the results of the City's water quality monitoring program.

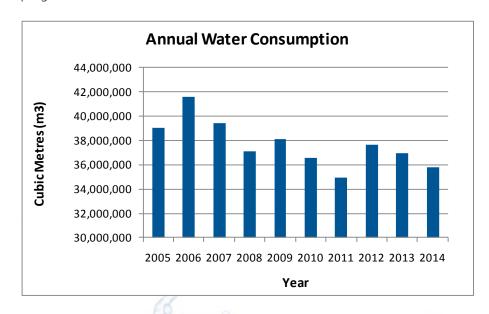
Water leads to overall greater health by flushing out wastes and bacteria that can cause health problems and is the primary mode of transportation for all nutrients in the body and is essential for proper circulation.

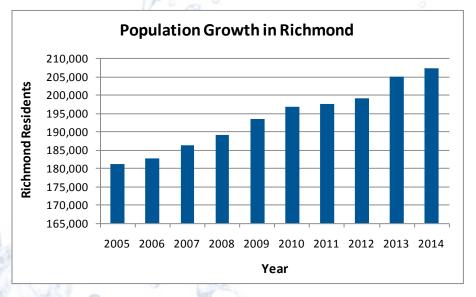


Today, around 3,800 cubic kilometres of fresh water is withdrawn annually from the world's lakes, rivers and aquifers. This is twice the volume extracted 50 years ago.

Metro Vancouver Water District

In 2014, the City of Richmond purchased 35.8 million cubic metres of drinking water from the Metro Vancouver Water District. Staff anticipate that this decrease from 2013 (36.9 million cubic metres) is because of the leak detection program, the water meter program, the water conservation programs and the water education offered to Richmond residents.





Three watersheds supply regional water: Capilano Reservoir, Seymour Reservoir, and Coquitlam Reservoir. The Capilano and Seymour reservoirs combined, supply approximately 70% of the water for the region. The Coquitlam Reservoir supplies the remaining approximate 30%. Richmond receives the majority of its water from the Capilano and Seymour reservoirs.

Water from these reservoirs can be directed through a series of valves and transmission watermains to any city or municipality within the Metro Vancouver region. Source water is provided directly from the watersheds by Metro Vancouver. Source water is tested for a number of microbiological, chemical, and physical parameters.

During periods of turbidity (cloudy water), a reservoir may be taken out of service if turbidity levels become elevated. Water is then supplied by the remaining reservoirs. The plant has the capacity to filter up to 1.8 billion litres of water per day.



Metro Vancouver Watersheds



A leaking service line or pipe in your home can add up to serious water waste. A small hole in a pipe (1.5 mm) wastes 280,000 litres of water in a three-month period. That is enough water to do about 900 loads of laundry.



You should replace your old toilet with a high efficiency 4.8 lpf model (HET), or a dual 3/6 lpf model. Older models can use as much as 13 to 26 litres of water per flush. The City of Richmond's Toilet Rebate Program is a great incentive to promote water conservation.

Water Distribution System Overview

The City of Richmond's water distribution system begins at 14 separate connection points along Metro Vancouver's transmission mains. At each connection point there is a City owned pressure reducing valve (PRV) chamber. The City's responsibility for water quality begins at this chamber and ends at the residential or commercial property line.

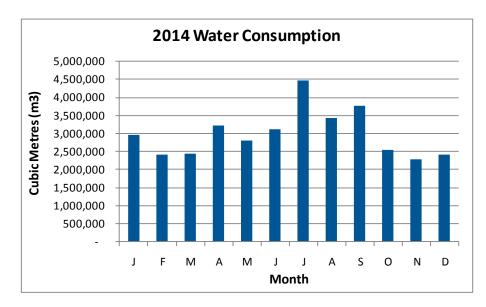
Table 1 – Overview of Richmond's Water Distribution Network

Water Assets	2014
Hydrants	4,729
Valves	10,739
PRV chambers	14
Pigging chambers	11
End caps	504
Watermains	629 km
Service connections	30,397



Pressure Reducing Valves (PRV)

The Water Services section maintains 14 pressure reducing valve (PRV) stations throughout Richmond. PRV stations decrease the pressure of Metro Vancouver's water feed to one that is manageable for Richmond's water distribution system. The stations are connected to a supervisory control and data acquisition (SCADA) system that provides information to the Works Yard such as water pressure, quality and volume. This allows for certified Water Services staff to react to problems quickly and effectively 24 hours a day, seven days a week.



The graph above indicates the monthly water consumption in Richmond. It is estimated that most municipalities in North America lose anywhere from 12% to 15% of their potable water to undiscovered, underground leakage. The Water Loss Management Program allows City Engineering and Water Services staff to determine the total amount of water consumed through normal operational programs and practices such as single-family residential, multi-family residential and commercial metering programs. While combining these programs with watermain flushing, parks and median irrigation, and Richmond Fire Rescue water usage, it is reasonable to assume that the unidentified portion of the annual water consumption is attributed to water loss within the distribution system.



Documenting information from the chart recorder



The addition of chlorine to our drinking water has greatly reduced the risk of waterborne diseases.



Maintaining the PRV station



Exterior of the Blundell PRV station

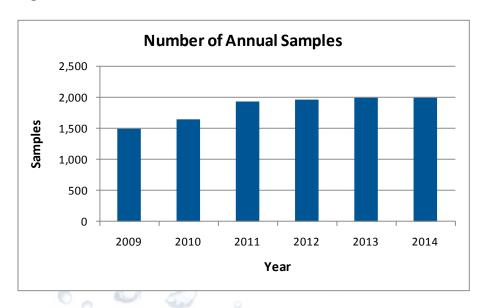


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A single lawn sprinkler spraying 19 litres per minute uses more water in just one hour than a combination of 10 toilet flushes, two 5-minute showers, two dishwasher loads, and a full load of clothes.

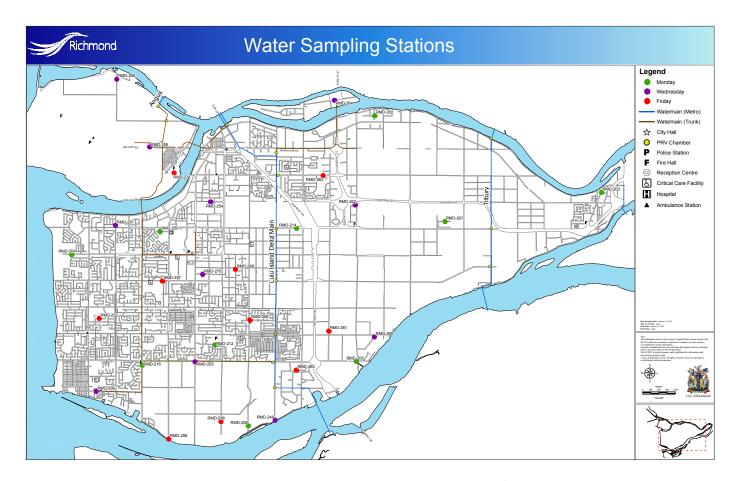
Water Quality Monitoring

In 2014, the City of Richmond collected samples on a weekly basis at 39 dedicated sampling sites. These sites are strategically located throughout the City to give a good representation of the City's water quality across the distribution network. In 2014, 1,993 water samples were collected by Richmond Water Services staff and sent for analysis at Metro Vancouver laboratories. These sample results were reviewed by the Vancouver and Richmond Coastal Health Authority to ensure the drinking water met the standards outlined in the *British Columbia Drinking Water Protection Regulations (BCDWPR)*.





Testing water quality



Bacteriological Tests

The City of Richmond and Metro Vancouver conduct bacteriological tests for total coliform, fecal coliform and heterotrophic plate counts (HPC). The presence of these organisms in drinking water indicates that the water may be contaminated and may contain potentially harmful bacteria, viruses or parasites.

Multi-Barrier Approach

Richmond recognizes that in order to provide the highest quality water, several methods must be used to ensure its superiority.

The "Multi-Barrier Approach" includes:

- disinfection of the water at the source;
- water quality monitoring capabilities at six PRV sites;
- weekly microbiological testing;
- system operators that are certified by the Environmental Operators
 Certification Program (EOCP) of BC;
- employment of maintenance practices that are of the highest standard.

Total Coliforms

Total coliform bacteria reproduce in water, soil or digestive systems of animals. The presence of total coliforms indicates water may have been contaminated and that the disinfection process is inadequate.



Tap water costs \$.0008 cents per litre or \$0.80 per 1,000 litres. Bottled water is \$2-4 per litre depending on the point of purchase. In fact, bottled water is more expensive per volume than gasoline.



While 78% of British Columbians would fix an internet outage within a few hours or a day, only 50% would fix a leaky faucet within the same timeframe.



Testing setup



Samples from each testing site

In distribution systems where more than 10 samples are collected in a given sampling period, as is the case in Richmond, no consecutive samples from the same site or no more than 10% of samples should show the presence of total coliform bacteria.

Testing for total coliforms should be carried out in all drinking water systems. The number, frequency and location of samples for total coliform testing will vary according to the type and size of the system and jurisdictional requirements.

Provincial standards state that no sample can contain more than 10 total coliforms per 100 millilitres, and that 90 percent of samples in a 30-day period must have zero coliform organisms.

Fecal Coliforms

Fecal coliforms are present in large numbers in the feces and intestinal tracts of humans and other warm-blooded animals, and can enter water bodies from human and animal waste. They are key indicators of sewage contamination. Due to diseases and parasites, which are spread through sewage, provincial standards state there can be no detectable fecal coliforms per 100 ml sample.

2014 Results

In 2014, 1,993 water samples were collected by City staff and analyzed by Metro Vancouver laboratory staff. All final results met drinking water requirements for fecal and total coliforms. The City of Richmond was in compliance with *British Columbia Drinking Water Protection Regulations (BCDWPR)* for bacteria in 2014.

Heterotrophic Plate Count

Heterotrophic Plate Counts (HPC) tests measure aerobic heterotrophic bacteria. This test indicates the presence of nutrients that could facilitate the growth of harmful bacteria such as Ecoli, and in determines changes in water quality during treatment and distribution. HPC tests indicate the onset of bacterial re-growth within the distribution system commonly due to stagnant water contained in dead end and low flow watermains. By reducing the HPC levels, the possibility of bacteriological re-growth is essentially reduced because the pipes are an inhospitable environment for bacteria to grow. The minimal amount of positive chlorine residual in our water also disinfects and eliminates harmful substances within our distribution system. In 2014, none of the 1,993 samples exceeded regulated levels for HPC's at >500 CFU/mls.

Failed Samples

The standard response to a failed water sample is:

- re-sample at the site;
- flush the watermain extensively;
- re-sample;
- the watermain is then isolated to one feed until test results confirm compliance with the British Columbia Drinking Water Protection Regulations (BCDWPR).

Physical Parameters

Water in Richmond's distribution system is tested for the physical parameters of turbidity and temperature at the same time as bacteriological testing. Information is also collected on the taste and odour of Richmond's water by actively tracking water quality complaints.

Turbidity

Metro Vancouver is responsible for the quality of Richmond's source water. Turbidity is a measure of water clarity and cloudiness. Turbidity is measured in Nephelometric Turbidity Units (NTU). The guideline allows for turbidity levels up to 5 NTUs providing that source water protection, monitoring, and water treatment requirements are met including increased levels of residual chlorine. Turbidity is a concern because increased turbidity compromises the drinking water disinfection process.

In general, sites with elevated turbidity are located in sections of the distribution network where there is low demand on the water system or where dead-end watermains exist. The increase may be attributed to sediment disturbance in the distribution system. During the year, when sampling indicates a turbidity level greater than >5 NTU's, affected watermains in the test area are flushed, and re-tested until a satisfactory result is obtained.

Temperature

High temperatures in the distribution system can affect the residual level of chlorine and can contribute to bacterial re-growth. Typically, the temperature of drinking water in the distribution system rises during summer months. Samples exceeded the aesthetic guideline of 15°C 85 times out of 1,993 some with temperatures as high as 20°C were recorded. The majority of these elevated temperatures were recorded during the summer months.

Taste and Odour

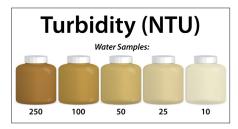
Taste and odour are only monitored in response to customer complaints. Records indicate that nine complaints were received regarding taste and two complaints were received regarding odour in 2014. These complaints generally relate to high levels of residual chlorine in that part of the system at that particular time. Residents who complained about taste or odour problems were advised to flush their internal system. If the problem was not resolved, Water Services staff were dispatched to the location until a satisfactory result was obtained and verified through laboratory analysis.

Chemical Parameters

The City of Richmond, in partnership with Metro Vancouver, tests for the following chemical parameters: chlorine residual, trihalomethanes (THM), haloacetic acids (HAA), and pH. Periodic testing is also performed to determine heavy metals levels in the water system.



Lawns need only
25 millimetres of water per
week, including rain. Longer,
infrequent watering will help
to develop deeper, healthier
roots. Keep your grass two
to two and half inches high
and you will help the soil
retain moisture and reduce
evaporation from sunlight
and wind.



Turbidity chart



Worldwide, there are 1.1 billion people (18%) of the world's population who lack access to safe drinking water.



Testing the sample

Free Chlorine Residual

Chlorine residual is a measurement of the disinfecting agent remaining in the distribution system at the point of delivery to the customer. Ensuring proper levels of chlorine in the distribution system is essential in protecting Richmond's water supply from bacteriological contamination or re-growth. In recent years, the City has made great progress in improving chlorine residuals by implementing various flushing programs.

Disinfection By-Products

Disinfection by-products are potentially harmful compounds produced by the reaction of a water disinfectant (such as chlorine or ozone) with naturally occurring organic matter in water. Two common chlorination by-products are Trihalomethanes (THMs) and Haloacetic Acids (HAAs). In drinking water, THMs can enter the human body via multiple routes of exposure. These include ingestion by consuming water and inhalation and skin absorption from showering and bathing. Under the Guidelines for Canadian Drinking Water Quality (GCDWQ), the maximum acceptable concentration (MAC) for THMs is 100 parts per billion (ppb). The 100 ppb level for THMs is based on an annual average of samples. High levels on a particular day are not of concern unless they are consistently high over a period of time. Typically, THM levels will be highest in the summer and lowest in the winter months. Futhermore, under the GCDWD, the maximum acceptable concentration (MAC) for HAAs is 0.08 mg/L. In 2014, the City utilized the Metro Vancouver laboratory to perform quarterly tests for HAAs and THMs. These were carried out at representative sampling sites in accordance with a joint Metro Vancouver/Richmond monitoring plan. In 2014, all results were within acceptable levels as defined in the GCDWQ. (Appendix 5)

The pH Value

The measurement of acidity is known as pH. A pH below 7.0 is considered acidic, above 7.0 is considered basic, with 7.0 being neutral. It is recognized that acidic water will accelerate the corrosion of metal pipes, often causing blue-green staining in household fixtures.

The Seymour-Capilano filtration plant includes pH adjustment and corrosion control in its treatment processes.

Metals

The City's water quality program also includes testing for metals, such as copper, iron, lead, and zinc. All results were within GCDWQ limits for 2014. Complete test results are included in Appendix 6.

Mobile Emergency Response Unit

Water Services staff are trained to operate the water treatment trailer for use during a major emergency where Richmond's water is contaminated. The treatment trailer is capable of producing 55,000 litres of potable water per day from non-potable sources. It is maintained and continuously tested by Water Services staff to ensure that the water is safe to serve Richmond residents in an emergency situation.



Mobile Emergency Response Unit

You should recycle unused water. While waiting for hot water to flow when preparing for a shower, catch the cool water in a bucket or water can. Later it could be used for your plants, pets or cleaning.

Public Notification

At the direction of the Medical Health Officer, water quality advisories will be issued to the general public if necessary. Similarly, the notification will be issued to the general public for any work being done that will affect the quality of their drinking water. An example is included in Appendix 7.

Table 2 – Agency Notification for Situations Drinking Water Safety

Situation	Notifying Agency	Agency Notified	Time Frame For Notification
Fecal positive sample	City of Richmond Metro Vancouver Lab	City of Richmond / Medical Health Officer	Immediate
Chemical/biological contamination	City of Richmond Metro Vancouver Lab	City of Richmond / Medical Health Officer	Immediate
Turbidity > 5 NTU	City of Richmond Metro Vancouver Control Centre Metro Vancouver Lab	City of Richmond / Medical Health Officer	Immediate
Disinfection failure primary or secondary disinfection	City of Richmond Metro Vancouver Control Centre Metro Vancouver Lab	City of Richmond / Medical Health Officer	Immediate, where BC DWPR or GCDWQ guidelines may not be met
Loss of pressure due to high demand	City of Richmond Metro Vancouver Control Centre	Medical Health Officer City of Richmond Metro Vancouver Control Centre	Immediate
Watermain break where the pressure drops below 20 psi	City of Richmond Metro Vancouver Control Centre	Medical Health Officer City of Richmond	Immediate



Only three in 10 (27%)
British Columbians say they
don't use their toilet as a
convenient garbage bin. Hair,
food and dead pests are the
most common items being
flushed. Do not use the toilet
as a garbage can. Tissues and
other items are often flushed
away instead of going
into appropriate disposal
containers. Unnecessary
flushing of the toilet even
once a day can waste up to
1,000 litres of water per year.

Water Conservation Programs

The City of Richmond continues to succeed in reducing annual water consumption despite a growing population. Since 2010, population has grown by 5% and overall water consumption has decreased by 4%. This equates to a total annual savings of over \$900,000. This can be explained by corporate and community wide initiatives including water metering, pressure management, the toilet rebate program and the City's leak reduction program.

Reduction of water system pressure in lower demand periods such as the winter season extends water infrastructure service life and also reduces system water loss.

In 2014, a facility water audit was completed on 10 City owned buildings; this report identified potential water conservation initiatives such as replacement of constant flush urinals, high volume toilets and showerheads, reduction of toilet flush cycle times, and installation of faucet aerators. Staff have initiated installation of the recommended conservation measures in 2015. The leak reduction program also identifies multi-family properties with high water use and has a goal of significantly reducing the total amount of water lost at these properties.

Universal Single-Family Water Meter Program

The universal single-family water meter program is in progress and will be completed in four years. Advanced notification is provided to flat rate customers prior to meter installation. Water meters are a fair and equitable way of charging residents for water and will reduce the overall water consumption throughout the City.

Multi-Family Water Meter Program

The volunteer multi-family water meter program allows residents to pay for the actual amount of water they use, rather than being billed on the flat-rate system. To date, 130 multi-family complexes have been completed, comprising of 8,128 units.



Leak detection



The City of Richmond rain barrel program continues to assist residents by reducing the amount of water used for irrigation during the summer months.



Measuring the psi



Single-family water meter



Freshwater lakes and rivers, ice and snow, and underground aquifers hold only 2.5% of the world's water. By comparison, saltwater oceans and seas contain 97.5% of the world's water supply.



Rain barrel



Rain barrel filter

Toilet Rebate Program

The City of Richmond's Toilet Rebate Program provides a utility account rebate of \$100 to homeowners who install a low-flush toilet. Single and multi-family homeowners are eligible to apply for a lifetime maximum of two rebates per household. Industrial, commercial and other non-residential properties are not eligible at this time.

The purpose of the toilet rebate program is to encourage homeowners to replace high volume toilets with low-flush toilets to conserve water and to reduce costs. Homeowners enjoy a reduction in their utility bill while contributing to a sustainable water conservation initiative. In 2014, there were 849 rebates submitted.

Clothes Washer Rebate Program

Through a partnership program with BC Hydro, residents could receive a rebate of up to \$200, equally cost shared between BC Hydro and the City of Richmond for the replacement of an inefficient clothes washer with a new high efficiency one. The clothes washer rebate program encourages homeowners to conserve water and energy.

Rain Barrel

Rain barrels are excellent outdoor water-saving devices that collect and store rainwater from rooftops for lawn and garden use. Rain water is an excellent water source for lawns, plants and gardens. For water metered households, using rainwater will reduce the amount of tap water used for your garden therefore decreasing the utility bill.

Rain barrels are available for purchase at the City's Recycling Depot by Richmond residents only. Installation instructions are included. In 2014, 89 rain barrels were sold.

SYSTERN rain barrel features:

- unique shape and neutral color suitable for any home and garden;
- 208 litre (55 gallon) capacity;
- mosquito mesh keeps out bugs and leaves;
- BPA free;
- made from recycled content;
- UV stabilizer is added to resist deterioration from sunlight;
- overflow hose can be linked to another SYSTERN or can be directed away from the house.

Water Education Programs

Project WET

Project WET is an interactive elementary school water education program aimed at teaching students about the importance of water. Largely targeted for grades four through seven, this program is designed to educate students on the importance of water quality and supply.

Project WET is an exciting partnership program between the City of Richmond and the Richmond School District No. 38. The acronym "WET" stands for "Water Education Team". Touring from station to station, the objective is to promote higher-level thinking skills while learning about the fundamentals of water. In 2014, over 300 students participated in the program.

During the tour to the Works Yard, students can expect to learn many exciting areas of water and drainage systems such as:

- water sampling and quality testing;
- technological changes;
- the importance of fire hydrants and how they work;
- tap water stations and the value of Richmond's high-quality tap water;
- the uses of water mains, automatic flushing units, valves and meters;
- inspection camera technology;
- storm sewer pipes and systems;
- pump stations and how they work;
- how our dykes help to keep our island afloat;
- Richmond's emergency water treatment trailer.



Project WET



You can survive about a month without food, but only five to seven days without water.

Project WET









About 70% of the earth is covered in water.



Tap water station



Drinking high-quality tap water



Staff volunteering at the Public Works Open House



"H2Whoa!" performance by DreamRider Theatre

Tap Water Initiative

In 2010, Metro Vancouver initiated its tap water campaign. The intent of this initiative is to encourage tap water consumption by the public and highlight public drinking fountains so that the public can refill water bottles or simply get a drink of water. On April 14, 2009 Mayor Malcolm Brodie endorsed this campaign indicating that the City of Richmond is dedicated to promoting the value of municipal tap water, maximizing opportunities for use of tap water in municipal facilities and developing strategies for making tap water the "water of choice".

To support this initiative, Richmond's Water Services section is proud to maintain several tap water stations that are used at numerous community events to provide the public with potable tap water and to promote tap water usage as an alternative to bottled water consumption. Samples are tested upon installation ensuring good quality water for the public to enjoy.

Public Works Open House

The Water Services section plays a large role in the annual Public Works Open House that takes place in May. This is an opportunity for staff to show residents some of the critical services that are provided such as maintaining our infrastructure. Likewise, staff showcase the work that is done on a daily basis to ensure the safety and health of the community. This event draws attention to the importance of public works in community life.

"H2Whoa!" Theatrical Presentation by DreamRider Productions

The City of Richmond Water Services section organized "H2Whoa!" theatrical presentations at Richmond elementary schools. "H2Whoa!" teaches students in grades K-7 all about water, the water cycle and water conservation.

The focus of this presentation is on positive actions and educating family and friends on the use of water, the need to protect it and its importance to everyday living. In addition, at the request of the City of Richmond Water Services, information regarding Richmond's high quality and very drinkable tap water was included in the script. In 2014, 15 Richmond elementary schools viewed the educational production.



Booth preparation at the Public Works Open House

PWT - 82

Conclusion

In 2014, Richmond residents enjoyed high-quality drinking water. From the protected watersheds to the local taps, both Metro Vancouver and the City of Richmond focus immensely on safe and high-quality drinking water.

Test results confirm high-quality water and demonstrate continuous improvement. Richmond's water system is provided with the highest degree of care to ensure that it's an inhospitable environment for any harmful bacteria or toxins. The City of Richmond's Water Services section takes its role as a water purveyor very seriously and is proud to be the guardian of such a precious resource.

Water Services staff continue to employ best management practices in the operation and maintenance of the water system. Certified by the Equipment Operators Certification Program (EOCP), staff meet all requirements of the *British Columbia Drinking Water Protection Act* (*BCDWPA*) and are well equipped to operate and maintain all aspects of the water system from source to property line

The City appreciates the good working relationship with Vancouver Coastal Health Authority and acknowledges them as important partners in maintaining high quality drinking water throughout the City of Richmond.

Sincerely,

Bryan Shepherd

Manager, Water Services
City of Richmond
604-233-3334
bshepherd@richmond.ca

Appendices

APPENDIX 1: REFERENCES

APPENDIX 2: WATER SAMPLING SITES

APPENDIX 3: 2014 WATER QUALITY RESULTS

APPENDIX 4: SCADA AND PRESSURE TESTING SITES

APPENDIX 5: 2014 THM AND HAA TEST RESULTS

APPENDIX 6: 2014 HEAVY METAL TESTING RESULTS AND VINYL CHLORIDE RESULTS

APPENDIX 7: SAMPLE DRINKING WATER QUALITY ADVISORY

APPENDIX 8: SPECIFIC EMERGENCY RESPONSE PLANS

APPENDIX 1: REFERENCES

- 1. Health Canada Drinking Water Guidelines www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/index_e.html
- 2. Provincial Drinking Water Protection Act (2003) www.qp.gov.bc.ca/statreg/reg/D/200_2003.htm#section8
- **3.** Greater Vancouver Regional District Source Water Quality and Supply www.gvrd.ca/water/index.htm
- **4.** Richmond Health Services (Regional Health Authority) www.rhss.bc.ca/bins/index.asp
- **5.** British Columbia Water Works Association www.bcwwa.org/
- **6.** American Water Works Association www.awwa.org/
- 7. Metro Vancouver www.metrovancouver.org
- **8.** City of Richmond www.richmond.ca/discover/about/demographics.htm

APPENDIX 2: WATER SAMPLING SITES

	SAMPLING STATION NUMBER	WATER SAMPLING SITES
	RMD-202	1500 Valemont Way
	RMD-203	23260 Westminster Highway
	RMD-204	3180 Granville Avenue
	RMD-205	13851 Steveston Highway
	RMD-206	4251 Moncton Street
MONDAY	RMD-208	13200 No. 4 Road
NON	RMD-212	Opposite 8600 Ryan Road
	RMD-214	11720 Westminster Highway
	RMD-216	11080 No. 2 Road
	RMD-267	17240 Fedoruk Road
	RMD-275	5180 Smith Crescent
	RMD-276	22271 Cochrane Drive
	RMD-257	6640 Blundell Road
	RMD-258	7000 Blk. Dyke Road
	RMD-259	10020 Amethyst Avenue
	RMD-260	11111 Horseshoe Way
	RMD-261	9911 Sidaway Road
Α	RMD-262	13799 Commerce Pkwy
TUESDAY	RMD-263	12560 Cambie Road
1	RMD-264	13100 Mitchell Road
	RMD-266	9380 General Currie Road
	RMD-268	13800 No. 3 Road
	RMD-277	Opp. 11280 Twigg Place
	RMD-278	6651 Fraserwood Place
	RMD-279	Opp. 20371 Westminster Highway
	RMD-249	23000 Block Dyke Road
	RMD-250	6071 Azure Road
	RMD-251	5951McCallan Road
	RMD-252	9751 Pendleton Road
	RMD-253	11051 No 3 Road
₽	RMD-254	5300 No. 3 Road
ESD	RMD-255	6000 Blk. Miller Road
WEDNESDAY	RMD-256	1000 Blk. McDonald Road
>	RMD-269	14951 Triangle Road
	RMD-270	8200 Jones Road
	RMD-271	3800 Cessna Drive
	RMD-272	751 Catalina Crescent
	RMD-273	Opp. 8331 Fairfax Place
	RMD-274	10920 Springwood Court

APPENDIX 3: 2014 WATER QUALITY RESULTS

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-266	GRAB	9380 General Currie Rd.	12-Feb-14	0.8	<1	<2	2	<1	0.18
RMD-205	GRAB	13851 Steveston Hwy.	21-Feb-14	0.77	<1	<2	2	<1	0.1
RMD-203	GRAB	23260 Westminster Hwy.	21-Feb-14	0.58	<1	<2	2	<1	0.18
RMD-272	GRAB	751 Catalina Cres.	24-Feb-14	0.71	<1	<2	2	<1	0.09
RMD-266	GRAB	9380 General Currie Rd.	26-Feb-14	0.77	<1	<2	2	<1	0.13
RMD-214	GRAB	11720 Westminster Hwy.	10-Jan-14	0.53	<1	<2	3	<1	0.17
RMD-203	GRAB	23260 Westminster Hwy.	10-Jan-14	0.54	<1	2	3	<1	0.39
RMD-277	GRAB	Opp. 11280 Twigg Place	15-Jan-14	0.71	<1	<2	3	<1	0.13
RMD-259	GRAB	10020 Amethyst Ave.	15-Jan-14	0.73	<1	<2	3	<1	0.13
RMD-214	GRAB	11720 Westminster Hwy.	17-Jan-14	0.67	<1	<2	3	<1	0.11
RMD-251	GRAB	5951McCallan Rd.	20-Jan-14	0.63	<1	<2	3	<1	0.18
RMD-255	GRAB	6000 Blk. Miller Rd.	20-Jan-14	0.6	<1	<2	3	<1	0.41
RMD-253	GRAB	11051 No 3 Rd.	20-Jan-14	0.61	<1	<2	3	<1	0.11
RMD-258	GRAB	7000 Blk. Dyke Rd.	22-Jan-14	0.68	<1	<2	3	<1	0.12
RMD-216	GRAB	11080 No. 2 Rd.	24-Jan-14	0.73	<1	<2	3	<1	0.12
RMD-214	GRAB	11720 Westminster Hwy.	24-Jan-14	0.73	<1	2	3	<1	0.11
RMD-203	GRAB	23260 Westminster Hwy.	24-Jan-14	0.64	<1	<2	3	<1	0.34
RMD-271	GRAB	3800 Cessna Drive	27-Jan-14	0.84	<1	<2	3	<1	0.12
RMD-253	GRAB	11051 No 3 Rd.	27-Jan-14	0.8	<1	<2	3	<1	0.13
RMD-253	GRAB	11051 No 3 Rd.	3-Feb-14	0.8	<1	<2	3	<1	0.19
RMD-264	GRAB	13100 Mitchell Rd.	5-Feb-14	0.82	<1	<2	3	<1	0.2
RMD-266	GRAB	9380 General Currie Rd.	5-Feb-14	0.87	<1	<2	3	<1	0.23
RMD-257	GRAB	6640 Blundell Rd.	5-Feb-14	0.79	<1	<2	3	<1	0.15
RMD-216	GRAB	11080 No. 2 Rd.	7-Feb-14	0.58	<1	<2	3	<1	0.2
RMD-208	GRAB	13200 No. 4 Rd.	7-Feb-14	0.47	<1	2	3	<1	0.19
RMD-203	GRAB	23260 Westminster Hwy.	7-Feb-14	0.72	<1	<2	3	<1	0.19
RMD-251	GRAB	5951McCallan Rd.	11-Feb-14	0.71	<1	<2	3	<1	0.21
RMD-271	GRAB	3800 Cessna Drive	11-Feb-14	0.77	<1	<2	3	<1	0.21
RMD-255	GRAB	6000 Blk. Miller Rd.	11-Feb-14	0.74	<1	<2	3	<1	0.27
RMD-253	GRAB	11051 No 3 Rd.	11-Feb-14	0.83	<1	<2	3	<1	0.18
RMD-263	GRAB	12560 Cambie Rd.	12-Feb-14	0.75	<1	<2	3	<1	0.18
RMD-264	GRAB	13100 Mitchell Rd.	12-Feb-14	0.76	<1	<2	3	<1	0.25
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	12-Feb-14	0.64	<1	<2	3	<1	0.41
RMD-259	GRAB	10020 Amethyst Ave.	12-Feb-14	0.79	<1	<2	3	<1	0.19
RMD-251	GRAB	5951McCallan Rd.	17-Feb-14	0.95	<1	<2	3	<1	0.13
RMD-254	GRAB	5300 No. 3 Rd.	17-Feb-14	1.2	<1	<2	3	<1	0.13
RMD-269	GRAB	14951 Triangle Rd.	17-Feb-14	0.68	<1	<2	3	<1	0.16
RMD-277	GRAB	Opp. 11280 Twigg Place PWT - 8	19-Feb-14	1	<1	<2	3	<1	0.24

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	19-Feb-14	0.67	<1	<2	3	<1	0.12
RMD-260	GRAB	11111 Horseshoe Way	19-Feb-14	1.1	<1	<2	3	<1	0.16
RMD-257	GRAB	6640 Blundell Rd.	19-Feb-14	0.8	<1	<2	3	<1	0.17
RMD-206	GRAB	4251 Moncton St.	21-Feb-14	0.88	<1	<2	3	<1	0.1
RMD-216	GRAB	11080 No. 2 Rd.	21-Feb-14	0.91	<1	<2	3	<1	0.1
RMD-208	GRAB	13200 No. 4 Rd.	21-Feb-14	0.85	<1	<2	3	<1	0.1
RMD-202	GRAB	1500 Valemont Way	21-Feb-14	0.45	<1	<2	3	<1	0.27
RMD-276	GRAB	22271 Cochrane Drive	21-Feb-14	0.62	<1	<2	3	<1	0.1
RMD-275	GRAB	5180 Smith Cres.	21-Feb-14	0.71	<1	<2	3	<1	0.13
RMD-251	GRAB	5951McCallan Rd.	24-Feb-14	0.78	<1	<2	3	<1	0.11
RMD-271	GRAB	3800 Cessna Drive	24-Feb-14	0.79	<1	<2	3	<1	0.13
RMD-255	GRAB	6000 Blk. Miller Rd.	24-Feb-14	0.78	<1	<2	3	<1	0.19
RMD-256	GRAB	1000 Blk. McDonald Rd.	24-Feb-14	0.72	<1	<2	3	<1	0.1
RMD-253	GRAB	11051 No 3 Rd.	24-Feb-14	0.64	<1	<2	3	<1	0.11
RMD-257	GRAB	6640 Blundell Rd.	26-Feb-14	0.74	<1	<2	3	<1	0.11
RMD-259	GRAB	10020 Amethyst Ave.	26-Feb-14	0.71	<1	<2	3	<1	0.14
RMD-263	GRAB	12560 Cambie Rd.	26-Feb-14	0.77	<1	<2	3	<1	0.13
RMD-277	GRAB	Opp. 11280 Twigg Place	26-Feb-14	0.77	<1	<2	3	<1	0.12
RMD-212	GRAB	Opp. 8600 Ryan Rd.	28-Feb-14	0.75	<1	<2	3	<1	0.1
RMD-208	GRAB	13200 No. 4 Rd.	28-Feb-14	0.78	<1	<2	3	<1	0.14
RMD-205	GRAB	13851 Steveston Hwy.	28-Feb-14	0.66	<1	<2	3	<1	0.1
RMD-202	GRAB	1500 Valemont Way	28-Feb-14	0.71	<1	<2	3	<1	0.09
RMD-214	GRAB	11720 Westminster Hwy.	28-Feb-14	0.74	<1	<2	3	<1	0.1
RMD-271	GRAB	3800 Cessna Drive	3-Mar-14	0.75	<1	<2	3	<1	0.13
RMD-272	GRAB	751 Catalina Cres.	3-Mar-14	0.77	<1	<2	3	<1	0.12
RMD-256	GRAB	1000 Blk. McDonald Rd.	3-Mar-14	0.76	<1	<2	3	<1	0.11
RMD-269	GRAB	14951 Triangle Rd.	3-Mar-14	0.7	<1	<2	3	<1	0.15
RMD-278	GRAB	6651 Fraserwood Place	5-Mar-14	0.56	<1	<2	3	<1	0.15
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	5-Mar-14	0.74	<1	<2	3	<1	0.1
RMD-266	GRAB	9380 General Currie Rd.	5-Mar-14	0.73	<1	<2	3	<1	0.1
RMD-257	GRAB	6640 Blundell Rd.	5-Mar-14	0.76	<1	<2	3	<1	0.13
RMD-216	GRAB	11080 No. 2 Rd.	7-Mar-14	0.68	<1	<2	3	<1	0.08
RMD-208	GRAB	13200 No. 4 Rd.	7-Mar-14	0.8	<1	<2	3	<1	0.1
RMD-205	GRAB	13851 Steveston Hwy.	7-Mar-14	0.58	<1	<2	3	<1	0.1
RMD-255	GRAB	6000 Blk. Miller Rd.	10-Mar-14	0.7	<1	<2	3	<1	0.2
RMD-212	GRAB	Opp. 8600 Ryan Rd.	3-Jan-14	0.64	<1	<2	4	<1	0.15
RMD-208	GRAB	13200 No. 4 Rd.	3-Jan-14	0.7	<1	<2	4	<1	0.24
RMD-214	GRAB	11720 Westminster Hwy.	3-Jan-14	0.61	<1	2	4	<1	0.35
RMD-272	GRAB	751 Catalina Cres. PWT - 8	88 6-Jan-14	0.75	<1	<2	4	<1	0.24

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-270	GRAB	8200 Jones Rd.	6-Jan-14	0.53	<1	<2	4	<1	0.21
RMD-206	GRAB	4251 Moncton St.	10-Jan-14	0.58	<1	<2	4	<1	0.18
RMD-208	GRAB	13200 No. 4 Rd.	10-Jan-14	0.43	<1	<2	4	<1	0.17
RMD-249	GRAB	23000 Blk. Dyke Rd.	10-Jan-14	0.41	<1	6	4	<1	0.39
RMD-254	GRAB	5300 No. 3 Rd.	13-Jan-14	0.85	<1	<2	4	<1	0.16
RMD-269	GRAB	14951 Triangle Rd.	13-Jan-14	0.45	<1	<2	4	<1	0.22
RMD-263	GRAB	12560 Cambie Rd.	15-Jan-14	0.68	<1	<2	4	<1	0.13
RMD-278	GRAB	6651 Fraserwood Place	15-Jan-14	0.59	<1	<2	4	<1	0.71
RMD-266	GRAB	9380 General Currie Rd.	15-Jan-14	0.78	<1	<2	4	<1	0.11
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	15-Jan-14	0.61	<1	<2	4	<1	0.1
RMD-206	GRAB	4251 Moncton St.	17-Jan-14	0.69	<1	<2	4	<1	0.4
RMD-216	GRAB	11080 No. 2 Rd.	17-Jan-14	0.69	<1	<2	4	<1	0.12
RMD-208	GRAB	13200 No. 4 Rd.	17-Jan-14	0.72	<1	<2	4	<1	0.12
RMD-271	GRAB	3800 Cessna Drive	20-Jan-14	0.67	<1	<2	4	<1	0.13
RMD-272	GRAB	751 Catalina Cres.	20-Jan-14	0.88	<1	<2	4	<1	0.14
RMD-256	GRAB	1000 Blk. McDonald Rd.	20-Jan-14	0.54	<1	<2	4	<1	0.15
RMD-254	GRAB	5300 No. 3 Rd.	20-Jan-14	0.76	<1	<2	4	<1	0.21
RMD-277	GRAB	Opp. 11280 Twigg Place	22-Jan-14	0.7	<1	<2	4	<1	0.12
RMD-259	GRAB	10020 Amethyst Ave.	22-Jan-14	0.73	<1	<2	4	<1	0.12
RMD-266	GRAB	9380 General Currie Rd.	22-Jan-14	0.8	<1	<2	4	<1	0.11
RMD-257	GRAB	6640 Blundell Rd.	22-Jan-14	0.73	<1	<2	4	<1	0.16
RMD-204	GRAB	3180 Granville Ave.	24-Jan-14	0.9	<1	<2	4	<1	2.1
RMD-206	GRAB	4251 Moncton St.	24-Jan-14	0.6	<1	<2	4	<1	0.12
RMD-208	GRAB	13200 No. 4 Rd.	24-Jan-14	0.71	<1	<2	4	<1	0.16
RMD-249	GRAB	23000 Blk. Dyke Rd.	24-Jan-14	0.55	<1	<2	4	<1	0.3
RMD-275	GRAB	5180 Smith Cres.	24-Jan-14	0.59	<1	<2	4	<1	0.27
RMD-251	GRAB	5951McCallan Rd.	27-Jan-14	0.81	<1	<2	4	<1	0.13
RMD-272	GRAB	751 Catalina Cres.	27-Jan-14	0.84	<1	<2	4	<1	0.13
RMD-256	GRAB	1000 Blk. McDonald Rd.	27-Jan-14	0.72	<1	<2	4	<1	0.13
RMD-254	GRAB	5300 No. 3 Rd.	27-Jan-14	0.85	<1	<2	4	<1	0.16
RMD-206	GRAB	4251 Moncton St.	31-Jan-14	0.73	<1	<2	4	<1	0.17
RMD-216	GRAB	11080 No. 2 Rd.	31-Jan-14	0.76	<1	<2	4	<1	0.13
RMD-212	GRAB	Opp. 8600 Ryan Rd.	31-Jan-14	0.78	<1	<2	4	<1	0.11
RMD-208	GRAB	13200 No. 4 Rd.	31-Jan-14	0.83	<1	<2	4	<1	0.14
RMD-205	GRAB	13851 Steveston Hwy.	31-Jan-14	0.54	<1	<2	4	<1	0.15
RMD-271	GRAB	3800 Cessna Drive	3-Feb-14	0.7	<1	<2	4	<1	0.15
RMD-272	GRAB	751 Catalina Cres.	3-Feb-14	0.83	<1	2	4	<1	0.17
RMD-255	GRAB	6000 Blk. Miller Rd.	3-Feb-14	0.83	<1	6	4	<1	0.3
RMD-256	GRAB	1000 Blk. McDonald Rd. PWT - 8	9 3-Feb-14	0.78	<1	<2	4	<1	0.16

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-263	GRAB	12560 Cambie Rd.	5-Feb-14	0.78	<1	2	4	<1	0.2
RMD-277	GRAB	Opp. 11280 Twigg Place	5-Feb-14	0.86	<1	<2	4	<1	0.23
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	5-Feb-14	0.75	<1	<2	4	<1	0.39
RMD-261	GRAB	9911 Sidaway Rd.	5-Feb-14	0.57	<1	<2	4	<1	0.4
RMD-259	GRAB	10020 Amethyst Ave.	5-Feb-14	0.78	<1	44	4	<1	0.24
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	5-Feb-14	0.73	<1	<2	4	<1	0.18
RMD-258	GRAB	7000 Blk. Dyke Rd.	5-Feb-14	0.76	<1	2	4	<1	0.19
RMD-204	GRAB	3180 Granville Ave.	7-Feb-14	0.68	<1	<2	4	<1	0.19
RMD-206	GRAB	4251 Moncton St.	7-Feb-14	0.83	<1	<2	4	<1	0.2
RMD-205	GRAB	13851 Steveston Hwy.	7-Feb-14	0.52	<1	<2	4	<1	0.2
RMD-214	GRAB	11720 Westminster Hwy.	7-Feb-14	0.75	<1	<2	4	<1	0.22
RMD-276	GRAB	22271 Cochrane Drive	7-Feb-14	0.66	<1	2	4	<1	0.27
RMD-275	GRAB	5180 Smith Cres.	7-Feb-14	0.74	<1	<2	4	<1	0.17
RMD-273	GRAB	Opp. 8331 Fairfax Place	11-Feb-14	0.61	<1	<2	4	<1	0.2
RMD-252	GRAB	9751 Pendleton Rd.	11-Feb-14	0.59	<1	<2	4	<1	0.17
RMD-274	GRAB	10920 Springwood Court	11-Feb-14	0.67	<1	<2	4	<1	0.17
RMD-272	GRAB	751 Catalina Cres.	11-Feb-14	0.86	<1	2	4	<1	0.21
RMD-256	GRAB	1000 Blk. McDonald Rd.	11-Feb-14	0.76	<1	<2	4	<1	0.21
RMD-254	GRAB	5300 No. 3 Rd.	11-Feb-14	0.83	<1	<2	4	<1	0.18
RMD-270	GRAB	8200 Jones Rd.	11-Feb-14	0.72	<1	<2	4	<1	0.17
RMD-269	GRAB	14951 Triangle Rd.	11-Feb-14	0.62	<1	<2	4	<1	0.21
RMD-277	GRAB	Opp. 11280 Twigg Place	12-Feb-14	0.73	<1	<2	4	<1	0.26
RMD-278	GRAB	6651 Fraserwood Place	12-Feb-14	0.62	<1	<2	4	<1	0.4
RMD-261	GRAB	9911 Sidaway Rd.	12-Feb-14	0.53	<1	<2	4	<1	0.24
RMD-260	GRAB	11111 Horseshoe Way	12-Feb-14	0.67	<1	<2	4	<1	0.18
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	12-Feb-14	0.61	<1	<2	4	<1	0.17
RMD-258	GRAB	7000 Blk. Dyke Rd.	12-Feb-14	0.72	<1	<2	4	<1	0.16
RMD-257	GRAB	6640 Blundell Rd.	12-Feb-14	0.69	<1	<2	4	<1	0.15
RMD-204	GRAB	3180 Granville Ave.	14-Feb-14	0.95	<1	<2	4	<1	0.17
RMD-206	GRAB	4251 Moncton St.	14-Feb-14	0.72	<1	<2	4	<1	0.19
RMD-216	GRAB	11080 No. 2 Rd.	14-Feb-14	0.84	<1	<2	4	<1	0.2
RMD-212	GRAB	Opp. 8600 Ryan Rd.	14-Feb-14	1	<1	<2	4	<1	0.21
RMD-208	GRAB	13200 No. 4 Rd.	14-Feb-14	1	<1	<2	4	<1	0.18
RMD-205	GRAB	13851 Steveston Hwy.	14-Feb-14	0.55	<1	<2	4	<1	0.19
RMD-202	GRAB	1500 Valemont Way	14-Feb-14	0.6	<1	<2	4	<1	0.4
RMD-214	GRAB	11720 Westminster Hwy.	14-Feb-14	1	<1	<2	4	<1	0.18
RMD-249	GRAB	23000 Blk. Dyke Rd.	14-Feb-14	0.48	<1	<2	4	<1	0.36
RMD-276	GRAB	22271 Cochrane Drive	14-Feb-14	0.69	<1	<2	4	<1	0.56
RMD-272	GRAB	751 Catalina Cres. PWT - 9	17-Feb-14	1	<1	<2	4	<1	0.11

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-256	GRAB	1000 Blk. McDonald Rd.	17-Feb-14	0.91	<1	<2	4	<1	0.16
RMD-270	GRAB	8200 Jones Rd.	17-Feb-14	0.95	<1	<2	4	<1	0.19
RMD-253	GRAB	11051 No 3 Rd.	17-Feb-14	1.1	<1	2	4	<1	0.17
RMD-263	GRAB	12560 Cambie Rd.	19-Feb-14	1.1	<1	<2	4	<1	0.18
RMD-264	GRAB	13100 Mitchell Rd.	19-Feb-14	1	<1	<2	4	<1	0.23
RMD-262	GRAB	13799 Commerce Pkwy.	19-Feb-14	0.74	<1	<2	4	<1	0.17
RMD-261	GRAB	9911 Sidaway Rd.	19-Feb-14	0.69	<1	<2	4	<1	0.13
RMD-259	GRAB	10020 Amethyst Ave.	19-Feb-14	0.91	<1	<2	4	<1	0.18
RMD-266	GRAB	9380 General Currie Rd.	19-Feb-14	0.91	<1	<2	4	<1	0.14
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	19-Feb-14	0.96	<1	<2	4	<1	0.16
RMD-258	GRAB	7000 Blk. Dyke Rd.	19-Feb-14	0.93	<1	<2	4	<1	0.17
RMD-204	GRAB	3180 Granville Ave.	21-Feb-14	1	<1	<2	4	<1	0.89
RMD-212	GRAB	Opp. 8600 Ryan Rd.	21-Feb-14	1	<1	<2	4	<1	0.11
RMD-214	GRAB	11720 Westminster Hwy.	21-Feb-14	0.97	<1	<2	4	<1	0.11
RMD-267	GRAB	17240 Fedoruk	21-Feb-14	0.76	<1	<2	4	<1	0.19
RMD-249	GRAB	23000 Blk. Dyke Rd.	21-Feb-14	0.62	<1	<2	4	<1	0.16
RMD-252	GRAB	9751 Pendleton Rd.	24-Feb-14	0.69	<1	<2	4	<1	0.13
RMD-250	GRAB	6071 Azure Rd.	24-Feb-14	0.23	<1	<2	4	<1	0.1
RMD-270	GRAB	8200 Jones Rd.	24-Feb-14	0.68	<1	<2	4	<1	0.15
RMD-269	GRAB	14951 Triangle Rd.	24-Feb-14	0.61	<1	2	4	<1	0.1
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	26-Feb-14	0.74	<1	<2	4	<1	0.14
RMD-260	GRAB	11111 Horseshoe Way	26-Feb-14	0.73	<1	<2	4	<1	0.11
RMD-261	GRAB	9911 Sidaway Rd.	26-Feb-14	0.63	<1	2	4	<1	0.12
RMD-262	GRAB	13799 Commerce Pkwy.	26-Feb-14	0.59	<1	<2	4	<1	0.14
RMD-264	GRAB	13100 Mitchell Rd.	26-Feb-14	0.78	<1	<2	4	<1	0.13
RMD-278	GRAB	6651 Fraserwood Place	26-Feb-14	0.67	<1	2	4	<1	0.21
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	26-Feb-14	0.7	<1	<2	4	<1	0.2
RMD-204	GRAB	3180 Granville Ave.	28-Feb-14	0.77	<1	<2	4	<1	1.2
RMD-206	GRAB	4251 Moncton St.	28-Feb-14	0.74	<1	<2	4	<1	0.11
RMD-216	GRAB	11080 No. 2 Rd.	28-Feb-14	0.53	<1	<2	4	<1	0.1
RMD-267	GRAB	17240 Fedoruk	28-Feb-14	0.66	<1	<2	4	<1	0.12
RMD-249	GRAB	23000 Blk. Dyke Rd.	28-Feb-14	0.6	<1	<2	4	<1	0.21
RMD-276	GRAB	22271 Cochrane Drive	28-Feb-14	0.62	<1	<2	4	<1	0.09
RMD-275	GRAB	5180 Smith Cres.	28-Feb-14	0.69	<1	<2	4	<1	0.38
RMD-203	GRAB	23260 Westminster Hwy.	28-Feb-14	0.76	<1	<2	4	<1	0.13
RMD-251	GRAB	5951McCallan Rd.	3-Mar-14	0.78	<1	<2	4	<1	0.11
RMD-252	GRAB	9751 Pendleton Rd.	3-Mar-14	0.68	<1	<2	4	<1	0.11
RMD-274	GRAB	10920 Springwood Court	3-Mar-14	0.63	<1	<2	4	<1	0.1
RMD-255	GRAB	6000 Blk. Miller Rd. PWT - 9	3-Mar-14	0.86	<1	<2	4	<1	0.18

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-254	GRAB	5300 No. 3 Rd.	3-Mar-14	0.81	<1	<2	4	<1	0.11
RMD-270	GRAB	8200 Jones Rd.	3-Mar-14	0.75	<1	<2	4	<1	0.13
RMD-253	GRAB	11051 No 3 Rd.	3-Mar-14	0.74	<1	<2	4	<1	0.11
RMD-263	GRAB	12560 Cambie Rd.	5-Mar-14	0.74	<1	<2	4	<1	0.12
RMD-264	GRAB	13100 Mitchell Rd.	5-Mar-14	0.74	<1	2	4	<1	0.14
RMD-277	GRAB	Opp. 11280 Twigg Place	5-Mar-14	0.61	<1	<2	4	<1	0.14
RMD-262	GRAB	13799 Commerce Pkwy.	5-Mar-14	0.69	<1	<2	4	<1	0.13
RMD-261	GRAB	9911 Sidaway Rd.	5-Mar-14	0.63	<1	<2	4	<1	0.12
RMD-260	GRAB	11111 Horseshoe Way	5-Mar-14	0.78	<1	<2	4	<1	0.16
RMD-259	GRAB	10020 Amethyst Ave.	5-Mar-14	0.71	<1	<2	4	<1	0.13
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	5-Mar-14	0.72	<1	<2	4	<1	0.11
RMD-258	GRAB	7000 Blk. Dyke Rd.	5-Mar-14	0.67	<1	<2	4	<1	0.14
RMD-204	GRAB	3180 Granville Ave.	7-Mar-14	0.65	<1	<2	4	<1	1.4
RMD-206	GRAB	4251 Moncton St.	7-Mar-14	0.71	<1	<2	4	<1	0.1
RMD-212	GRAB	Opp. 8600 Ryan Rd.	7-Mar-14	0.69	<1	<2	4	<1	0.11
RMD-214	GRAB	11720 Westminster Hwy.	7-Mar-14	0.65	<1	<2	4	<1	0.16
RMD-267	GRAB	17240 Fedoruk	7-Mar-14	0.67	<1	<2	4	<1	0.1
RMD-276	GRAB	22271 Cochrane Drive	7-Mar-14	0.6	<1	4	4	<1	0.15
RMD-203	GRAB	23260 Westminster Hwy.	7-Mar-14	0.77	<1	<2	4	<1	0.11
RMD-251	GRAB	5951McCallan Rd.	10-Mar-14	0.72	<1	<2	4	<1	0.12
RMD-271	GRAB	3800 Cessna Drive	10-Mar-14	0.78	<1	<2	4	<1	0.11
RMD-272	GRAB	751 Catalina Cres.	10-Mar-14	0.71	<1	<2	4	<1	0.13
RMD-269	GRAB	14951 Triangle Rd.	10-Mar-14	0.64	<1	<2	4	<1	0.13
RMD-253	GRAB	11051 No 3 Rd.	10-Mar-14	0.64	<1	2	4	<1	0.16
RMD-263	GRAB	12560 Cambie Rd.	12-Mar-14	0.65	<1	<2	4	<1	0.16
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	12-Mar-14	0.72	<1	<2	4	<1	0.14
RMD-261	GRAB	9911 Sidaway Rd.	12-Mar-14	0.73	<1	<2	4	<1	0.1
RMD-260	GRAB	11111 Horseshoe Way	12-Mar-14	0.77	<1	4	4	<1	0.13
RMD-259	GRAB	10020 Amethyst Ave.	12-Mar-14	0.81	<1	<2	4	<1	0.15
RMD-266	GRAB	9380 General Currie Rd.	12-Mar-14	0.61	<1	<2	4	<1	0.13
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	12-Mar-14	0.79	<1	<2	4	<1	0.13
RMD-258	GRAB	7000 Blk. Dyke Rd.	12-Mar-14	0.76	<1	<2	4	<1	0.09
RMD-257	GRAB	6640 Blundell Rd.	12-Mar-14	0.7	<1	<2	4	<1	0.14
RMD-202	GRAB	1500 Valemont Way	13-Mar-14	0.65	<1	<2	4	<1	0.18
RMD-203	GRAB	23260 Westminster Hwy.	13-Mar-14	0.66	<1	<2	4	<1	0.09
RMD-251	GRAB	5951McCallan Rd.	17-Mar-14	0.77	<1	<2	4	<1	0.11
RMD-271	GRAB	3800 Cessna Drive	17-Mar-14	0.67	<1	<2	4	<1	0.14
RMD-272	GRAB	751 Catalina Cres.	17-Mar-14	0.71	<1	<2	4	<1	0.13
RMD-255	GRAB	6000 Blk. Miller Rd. PWT - 9	2 17-Mar-14	0.73	<1	4	4	<1	0.32

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-254	GRAB	5300 No. 3 Rd.	17-Mar-14	0.67	<1	<2	4	<1	0.12
RMD-269	GRAB	14951 Triangle Rd.	17-Mar-14	0.64	<1	2	4	<1	0.13
RMD-253	GRAB	11051 No 3 Rd.	17-Mar-14	0.71	<1	<2	4	<1	0.15
RMD-260	GRAB	11111 Horseshoe Way	19-Mar-14	0.72	<1	<2	4	<1	0.15
RMD-259	GRAB	10020 Amethyst Ave.	19-Mar-14	0.74	<1	<2	4	<1	0.15
RMD-216	GRAB	11080 No. 2 Rd.	21-Mar-14	0.68	<1	<2	4	<1	0.11
RMD-212	GRAB	Opp. 8600 Ryan Rd.	21-Mar-14	0.73	<1	<2	4	<1	0.09
RMD-205	GRAB	13851 Steveston Hwy.	21-Mar-14	0.63	<1	<2	4	<1	0.12
RMD-202	GRAB	1500 Valemont Way	21-Mar-14	0.72	<1	<2	4	<1	0.1
RMD-203	GRAB	23260 Westminster Hwy.	21-Mar-14	0.8	<1	<2	4	<1	0.1
RMD-266	GRAB	9380 General Currie Rd.	9-Apr-14	0.74	<1	<2	4	<1	0.12
RMD-257	GRAB	6640 Blundell Rd.	9-Apr-14	0.75	<1	<2	4	<1	0.1
RMD-205	GRAB	13851 Steveston Hwy.	10-Apr-14	0.72	<1	<2	4	<1	0.13
RMD-212	GRAB	Opp. 8600 Ryan Rd.	10-Apr-14	0.67	<1	<2	4	<1	0.11
RMD-216	GRAB	11080 No. 2 Rd.	10-Apr-14	0.71	<1	<2	4	<1	0.11
RMD-255	GRAB	6000 Blk. Miller Rd.	14-Apr-14	0.71	<1	<2	4	<1	0.15
RMD-204	GRAB	3180 Granville Ave.	3-Jan-14	0.64	<1	2	5	<1	0.26
RMD-206	GRAB	4251 Moncton St.	3-Jan-14	0.46	<1	<2	5	<1	0.35
RMD-216	GRAB	11080 No. 2 Rd.	3-Jan-14	0.59	<1	<2	5	<1	0.15
RMD-205	GRAB	13851 Steveston Hwy.	3-Jan-14	0.41	<1	<2	5	<1	0.2
RMD-202	GRAB	1500 Valemont Way	3-Jan-14	0.48	<1	<2	5	<1	0.3
RMD-249	GRAB	23000 Blk. Dyke Rd.	3-Jan-14	0.49	<1	<2	5	<1	0.18
RMD-276	GRAB	22271 Cochrane Drive	3-Jan-14	0.4	<1	<2	5	<1	0.21
RMD-275	GRAB	5180 Smith Cres.	3-Jan-14	0.6	<1	<2	5	<1	0.21
RMD-203	GRAB	23260 Westminster Hwy.	3-Jan-14	0.7	<1	<2	5	<1	0.22
RMD-251	GRAB	5951McCallan Rd.	6-Jan-14	0.59	<1	<2	5	<1	0.22
RMD-274	GRAB	10920 Springwood Court	6-Jan-14	0.57	<1	<2	5	<1	0.18
RMD-250	GRAB	6071 Azure Rd.	6-Jan-14	0.53	<1	2	5	<1	0.22
RMD-271	GRAB	3800 Cessna Drive	6-Jan-14	0.76	<1	<2	5	<1	0.22
RMD-255	GRAB	6000 Blk. Miller Rd.	6-Jan-14	0.6	<1	2	5	<1	0.37
RMD-256	GRAB	1000 Blk. McDonald Rd.	6-Jan-14	0.44	<1	<2	5	<1	0.24
RMD-254	GRAB	5300 No. 3 Rd.	6-Jan-14	0.69	<1	2	5	<1	0.22
RMD-253	GRAB	11051 No 3 Rd.	6-Jan-14	0.63	<1	<2	5	<1	0.24
RMD-263	GRAB	12560 Cambie Rd.	8-Jan-14	0.63	<1	30	5	<1	0.22
RMD-264	GRAB	13100 Mitchell Rd.	8-Jan-14	0.67	<1	<2	5	<1	0.22
RMD-277	GRAB	Opp. 11280 Twigg Place	8-Jan-14	0.6	<1	2	5	<1	0.22
RMD-262	GRAB	13799 Commerce Pkwy.	8-Jan-14	0.17	<1	<2	5	<1	0.21
RMD-278	GRAB	6651 Fraserwood Place	8-Jan-14	0.41	<1	4	5	<1	0.48
RMD-261	GRAB	9911 Sidaway Rd. PWT - 9	3 8-Jan-14	0.32	<1	<2	5	<1	0.22

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-260	GRAB	11111 Horseshoe Way	8-Jan-14	0.65	<1	6	5	<1	0.22
RMD-259	GRAB	10020 Amethyst Ave.	8-Jan-14	0.64	<1	12	5	<1	0.21
RMD-266	GRAB	9380 General Currie Rd.	8-Jan-14	0.69	<1	<2	5	<1	0.17
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	8-Jan-14	0.56	<1	<2	5	<1	0.2
RMD-258	GRAB	7000 Blk. Dyke Rd.	8-Jan-14	0.43	<1	<2	5	<1	0.17
RMD-257	GRAB	6640 Blundell Rd.	8-Jan-14	0.61	<1	<2	5	<1	0.19
RMD-216	GRAB	11080 No. 2 Rd.	10-Jan-14	0.54	<1	<2	5	<1	0.21
RMD-212	GRAB	Opp. 8600 Ryan Rd.	10-Jan-14	0.57	<1	<2	5	<1	0.16
RMD-205	GRAB	13851 Steveston Hwy.	10-Jan-14	0.23	<1	<2	5	<1	0.22
RMD-202	GRAB	1500 Valemont Way	10-Jan-14	0.42	<1	<2	5	<1	0.33
RMD-267	GRAB	17240 Fedoruk	10-Jan-14	0.31	<1	<2	5	<1	0.22
RMD-251	GRAB	5951McCallan Rd.	13-Jan-14	0.83	<1	4	5	<1	0.17
RMD-250	GRAB	6071 Azure Rd.	13-Jan-14	0.66	<1	<2	5	<1	0.18
RMD-271	GRAB	3800 Cessna Drive	13-Jan-14	0.8	<1	<2	5	<1	0.17
RMD-255	GRAB	6000 Blk. Miller Rd.	13-Jan-14	0.91	<1	<2	5	<1	0.24
RMD-256	GRAB	1000 Blk. McDonald Rd.	13-Jan-14	0.61	<1	<2	5	<1	0.15
RMD-253	GRAB	11051 No 3 Rd.	13-Jan-14	0.72	<1	<2	5	<1	0.21
RMD-264	GRAB	13100 Mitchell Rd.	15-Jan-14	0.65	<1	<2	5	<1	0.14
RMD-262	GRAB	13799 Commerce Pkwy.	15-Jan-14	0.35	<1	<2	5	<1	0.2
RMD-261	GRAB	9911 Sidaway Rd.	15-Jan-14	0.41	<1	<2	5	<1	0.26
RMD-260	GRAB	11111 Horseshoe Way	15-Jan-14	0.68	<1	<2	5	<1	0.12
RMD-258	GRAB	7000 Blk. Dyke Rd.	15-Jan-14	0.67	<1	<2	5	<1	0.09
RMD-257	GRAB	6640 Blundell Rd.	15-Jan-14	0.63	<1	<2	5	<1	0.1
RMD-204	GRAB	3180 Granville Ave.	17-Jan-14	0.77	<1	<2	5	<1	0.21
RMD-212	GRAB	Opp. 8600 Ryan Rd.	17-Jan-14	0.71	<1	2	5	<1	0.11
RMD-205	GRAB	13851 Steveston Hwy.	17-Jan-14	0.58	<1	<2	5	<1	0.16
RMD-202	GRAB	1500 Valemont Way	17-Jan-14	0.47	<1	<2	5	<1	0.29
RMD-267	GRAB	17240 Fedoruk	17-Jan-14	0.5	<1	<2	5	<1	0.17
RMD-249	GRAB	23000 Blk. Dyke Rd.	17-Jan-14	0.65	<1	<2	5	<1	0.33
RMD-276	GRAB	22271 Cochrane Drive	17-Jan-14	0.53	<1	<2	5	<1	0.29
RMD-275	GRAB	5180 Smith Cres.	17-Jan-14	0.65	<1	<2	5	<1	0.28
RMD-203	GRAB	23260 Westminster Hwy.	17-Jan-14	0.63	<1	<2	5	<1	0.3
RMD-252	GRAB	9751 Pendleton Rd.	20-Jan-14	0.69	<1	<2	5	<1	0.12
RMD-274	GRAB	10920 Springwood Court	20-Jan-14	0.77	<1	<2	5	<1	0.13
RMD-250	GRAB	6071 Azure Rd.	20-Jan-14	0.7	<1	<2	5	<1	0.26
RMD-270	GRAB	8200 Jones Rd.	20-Jan-14	0.7	<1	<2	5	<1	0.23
RMD-269	GRAB	14951 Triangle Rd.	20-Jan-14	0.52	<1	<2	5	<1	0.17
RMD-263	GRAB	12560 Cambie Rd.	22-Jan-14	0.71	<1	<2	5	<1	0.14
RMD-279	GRAB	Opp. 20371 Westminster PWT - 94	22-Jan-14	0.49	<1	<2	5	<1	0.45

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-260	GRAB	11111 Horseshoe Way	22-Jan-14	0.65	<1	<2	5	<1	0.15
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	22-Jan-14	0.69	<1	<2	5	<1	0.12
RMD-212	GRAB	Opp. 8600 Ryan Rd.	24-Jan-14	0.7	<1	<2	5	<1	0.14
RMD-205	GRAB	13851 Steveston Hwy.	24-Jan-14	0.43	<1	<2	5	<1	0.16
RMD-202	GRAB	1500 Valemont Way	24-Jan-14	0.48	<1	<2	5	<1	0.31
RMD-267	GRAB	17240 Fedoruk	24-Jan-14	0.58	<1	<2	5	<1	0.14
RMD-276	GRAB	22271 Cochrane Drive	24-Jan-14	0.41	<1	<2	5	<1	0.28
RMD-252	GRAB	9751 Pendleton Rd.	27-Jan-14	0.75	<1	<2	5	<1	0.15
RMD-250	GRAB	6071 Azure Rd.	27-Jan-14	0.75	<1	2	5	<1	0.19
RMD-255	GRAB	6000 Blk. Miller Rd.	27-Jan-14	0.89	<1	<2	5	<1	0.37
RMD-270	GRAB	8200 Jones Rd.	27-Jan-14	0.75	<1	<2	5	<1	0.13
RMD-269	GRAB	14951 Triangle Rd.	27-Jan-14	0.56	<1	<2	5	<1	0.21
RMD-204	GRAB	3180 Granville Ave.	31-Jan-14	0.73	<1	<2	5	<1	0.31
RMD-202	GRAB	1500 Valemont Way	31-Jan-14	0.66	<1	<2	5	<1	0.28
RMD-214	GRAB	11720 Westminster Hwy.	31-Jan-14	0.82	<1	<2	5	<1	0.13
RMD-267	GRAB	17240 Fedoruk	31-Jan-14	0.65	<1	<2	5	<1	0.18
RMD-249	GRAB	23000 Blk. Dyke Rd.	31-Jan-14	0.61	<1	<2	5	<1	0.23
RMD-276	GRAB	22271 Cochrane Drive	31-Jan-14	0.58	<1	<2	5	<1	0.23
RMD-275	GRAB	5180 Smith Cres.	31-Jan-14	0.69	<1	<2	5	<1	0.28
RMD-203	GRAB	23260 Westminster Hwy.	31-Jan-14	0.64	<1	<2	5	<1	0.27
RMD-251	GRAB	5951McCallan Rd.	3-Feb-14	0.8	<1	6	5	<1	0.14
RMD-254	GRAB	5300 No. 3 Rd.	3-Feb-14	0.75	<1	2	5	<1	0.2
RMD-270	GRAB	8200 Jones Rd.	3-Feb-14	0.78	<1	<2	5	<1	0.15
RMD-269	GRAB	14951 Triangle Rd.	3-Feb-14	0.57	<1	<2	5	<1	0.19
RMD-262	GRAB	13799 Commerce Pkwy.	5-Feb-14	0.74	<1	<2	5	<1	0.22
RMD-278	GRAB	6651 Fraserwood Place	5-Feb-14	0.57	<1	<2	5	<1	0.32
RMD-260	GRAB	11111 Horseshoe Way	5-Feb-14	0.85	<1	<2	5	<1	0.18
RMD-212	GRAB	Opp. 8600 Ryan Rd.	7-Feb-14	0.67	<1	4	5	<1	0.22
RMD-202	GRAB	1500 Valemont Way	7-Feb-14	0.58	<1	<2	5	<1	0.21
RMD-267	GRAB	17240 Fedoruk	7-Feb-14	0.53	<1	<2	5	<1	0.21
RMD-250	GRAB	6071 Azure Rd.	11-Feb-14	0.72	<1	<2	5	<1	0.2
RMD-262	GRAB	13799 Commerce Pkwy.	12-Feb-14	0.51	<1	<2	5	<1	0.21
RMD-267	GRAB	17240 Fedoruk	14-Feb-14	0.34	<1	<2	5	<1	0.22
RMD-275	GRAB	5180 Smith Cres.	14-Feb-14	0.75	<1	<2	5	<1	0.57
RMD-203	GRAB	23260 Westminster Hwy.	14-Feb-14	0.94	<1	<2	5	<1	0.65
RMD-252	GRAB	9751 Pendleton Rd.	17-Feb-14	0.95	<1	2	5	<1	0.17
RMD-274	GRAB	10920 Springwood Court	17-Feb-14	0.97	<1	<2	5	<1	0.19
RMD-250	GRAB	6071 Azure Rd.	17-Feb-14	0.9	<1	<2	5	<1	0.17
RMD-271	GRAB	3800 Cessna Drive PWT - 9	5 17-Feb-14	0.99	<1	<2	5	<1	0.1

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-255	GRAB	6000 Blk. Miller Rd.	17-Feb-14	1	<1	2	5	<1	0.19
RMD-278	GRAB	6651 Fraserwood Place	19-Feb-14	0.63	<1	<2	5	<1	0.52
RMD-273	GRAB	Opp. 8331 Fairfax Place	24-Feb-14	0.71	<1	<2	5	<1	0.5
RMD-274	GRAB	10920 Springwood Court	24-Feb-14	0.73	<1	<2	5	<1	0.12
RMD-254	GRAB	5300 No. 3 Rd.	24-Feb-14	0.76	<1	LA	5	<1	0.11
RMD-273	GRAB	Opp. 8331 Fairfax Place	3-Mar-14	0.45	<1	<2	5	<1	0.15
RMD-250	GRAB	6071 Azure Rd.	3-Mar-14	0.69	<1	<2	5	<1	0.11
RMD-202	GRAB	1500 Valemont Way	7-Mar-14	0.69	<1	<2	5	<1	0.11
RMD-249	GRAB	23000 Blk. Dyke Rd.	7-Mar-14	0.61	<1	<2	5	<1	0.12
RMD-275	GRAB	5180 Smith Cres.	7-Mar-14	0.66	<1	<2	5	<1	0.09
RMD-252	GRAB	9751 Pendleton Rd.	10-Mar-14	0.6	<1	<2	5	<1	0.1
RMD-274	GRAB	10920 Springwood Court	10-Mar-14	0.73	<1	<2	5	<1	0.13
RMD-256	GRAB	1000 Blk. McDonald Rd.	10-Mar-14	0.72	<1	<2	5	<1	0.16
RMD-254	GRAB	5300 No. 3 Rd.	10-Mar-14	0.7	<1	<2	5	<1	0.13
RMD-270	GRAB	8200 Jones Rd.	10-Mar-14	0.81	<1	<2	5	<1	0.19
RMD-264	GRAB	13100 Mitchell Rd.	12-Mar-14	0.77	<1	<2	5	<1	0.11
RMD-277	GRAB	Opp. 11280 Twigg Place	12-Mar-14	0.7	<1	<2	5	<1	0.11
RMD-262	GRAB	13799 Commerce Pkwy.	12-Mar-14	0.71	<1	<2	5	<1	0.12
RMD-278	GRAB	6651 Fraserwood Place	12-Mar-14	0.58	<1	<2	5	<1	0.12
RMD-204	GRAB	3180 Granville Ave.	13-Mar-14	0.79	<1	<2	5	<1	0.34
RMD-206	GRAB	4251 Moncton St.	13-Mar-14	0.77	<1	<2	5	<1	0.12
RMD-216	GRAB	11080 No. 2 Rd.	13-Mar-14	0.85	<1	<2	5	<1	0.13
RMD-212	GRAB	Opp. 8600 Ryan Rd.	13-Mar-14	0.83	<1	<2	5	<1	0.11
RMD-208	GRAB	13200 No. 4 Rd.	13-Mar-14	0.8	<1	<2	5	<1	0.1
RMD-205	GRAB	13851 Steveston Hwy.	13-Mar-14	0.7	<1	<2	5	<1	0.12
RMD-214	GRAB	11720 Westminster Hwy.	13-Mar-14	0.65	<1	<2	5	<1	0.09
RMD-267	GRAB	17240 Fedoruk	13-Mar-14	0.65	<1	<2	5	<1	0.11
RMD-249	GRAB	23000 Blk. Dyke Rd.	13-Mar-14	0.64	<1	<2	5	<1	0.13
RMD-276	GRAB	22271 Cochrane Drive	13-Mar-14	0.64	<1	2	5	<1	0.1
RMD-275	GRAB	5180 Smith Cres.	13-Mar-14	0.6	<1	2	5	<1	0.12
RMD-252	GRAB	9751 Pendleton Rd.	17-Mar-14	0.63	<1	<2	5	<1	0.11
RMD-250	GRAB	6071 Azure Rd.	17-Mar-14	0.68	<1	<2	5	<1	0.22
RMD-256	GRAB	1000 Blk. McDonald Rd.	17-Mar-14	0.65	<1	<2	5	<1	0.14
RMD-270	GRAB	8200 Jones Rd.	17-Mar-14	0.69	<1	8	5	<1	0.11
RMD-263	GRAB	12560 Cambie Rd.	19-Mar-14	0.52	<1	<2	5	<1	0.11
RMD-264	GRAB	13100 Mitchell Rd.	19-Mar-14	0.6	<1	<2	5	<1	0.13
RMD-262	GRAB	13799 Commerce Pkwy.	19-Mar-14	0.76	<1	2	5	<1	0.18
RMD-278	GRAB	6651 Fraserwood Place	19-Mar-14	0.59	<1	<2	5	<1	0.15
RMD-261	GRAB	9911 Sidaway Rd. PWT - S	6 19-Mar-14	0.66	<1	<2	5	<1	0.1

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-258	GRAB	7000 Blk. Dyke Rd.	19-Mar-14	0.64	<1	<2	5	<1	0.1
RMD-257	GRAB	6640 Blundell Rd.	19-Mar-14	0.73	<1	<2	5	<1	0.1
RMD-204	GRAB	3180 Granville Ave.	21-Mar-14	0.75	<1	<2	5	<1	1.3
RMD-206	GRAB	4251 Moncton St.	21-Mar-14	0.71	<1	<2	5	<1	0.09
RMD-208	GRAB	13200 No. 4 Rd.	21-Mar-14	0.65	<1	2	5	<1	0.23
RMD-214	GRAB	11720 Westminster Hwy.	21-Mar-14	0.76	<1	2	5	<1	0.11
RMD-267	GRAB	17240 Fedoruk	21-Mar-14	0.64	<1	<2	5	<1	0.1
RMD-249	GRAB	23000 Blk. Dyke Rd.	21-Mar-14	0.66	<1	<2	5	<1	0.11
RMD-275	GRAB	5180 Smith Cres.	21-Mar-14	0.77	<1	<2	5	<1	0.09
RMD-272	GRAB	751 Catalina Cres.	24-Mar-14	0.72	<1	<2	5	<1	0.11
RMD-255	GRAB	6000 Blk. Miller Rd.	24-Mar-14	0.7	<1	<2	5	<1	0.21
RMD-254	GRAB	5300 No. 3 Rd.	24-Mar-14	0.58	<1	<2	5	<1	0.09
RMD-269	GRAB	14951 Triangle Rd.	24-Mar-14	0.65	<1	<2	5	<1	0.11
RMD-253	GRAB	11051 No 3 Rd.	24-Mar-14	0.61	<1	<2	5	<1	0.11
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	27-Mar-14	0.72	<1	<2	5	<1	0.09
RMD-259	GRAB	10020 Amethyst Ave.	27-Mar-14	0.69	<1	<2	5	<1	0.09
RMD-266	GRAB	9380 General Currie Rd.	27-Mar-14	0.77	<1	<2	5	<1	0.1
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	27-Mar-14	0.67	<1	<2	5	<1	0.1
RMD-257	GRAB	6640 Blundell Rd.	27-Mar-14	0.71	<1	<2	5	<1	0.09
RMD-205	GRAB	13851 Steveston Hwy.	28-Mar-14	0.66	<1	2	5	<1	0.11
RMD-202	GRAB	1500 Valemont Way	28-Mar-14	0.7	<1	<2	5	<1	0.09
RMD-214	GRAB	11720 Westminster Hwy.	28-Mar-14	0.74	<1	<2	5	<1	0.09
RMD-203	GRAB	23260 Westminster Hwy.	28-Mar-14	0.83	<1	<2	5	<1	0.09
RMD-251	GRAB	5951McCallan Rd.	31-Mar-14	0.66	<1	<2	5	<1	0.12
RMD-272	GRAB	751 Catalina Cres.	31-Mar-14	0.77	<1	<2	5	<1	0.13
RMD-255	GRAB	6000 Blk. Miller Rd.	31-Mar-14	0.65	<1	<2	5	<1	0.48
RMD-254	GRAB	5300 No. 3 Rd.	31-Mar-14	0.73	<1	<2	5	<1	0.13
RMD-262	GRAB	13799 Commerce Pkwy.	2-Apr-14	0.69	<1	<2	5	<1	0.16
RMD-261	GRAB	9911 Sidaway Rd.	2-Apr-14	0.67	<1	<2	5	<1	0.11
RMD-260	GRAB	11111 Horseshoe Way	2-Apr-14	0.79	<1	2	5	<1	0.12
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	2-Apr-14	0.74	<1	2	5	<1	0.1
RMD-206	GRAB	4251 Moncton St.	4-Apr-14	0.68	<1	<2	5	<1	0.14
RMD-216	GRAB	11080 No. 2 Rd.	4-Apr-14	0.72	<1	<2	5	<1	0.08
RMD-212	GRAB	Opp. 8600 Ryan Rd.	4-Apr-14	0.73	<1	<2	5	<1	0.09
RMD-205	GRAB	13851 Steveston Hwy.	4-Apr-14	0.65	<1	<2	5	<1	0.08
RMD-203	GRAB	23260 Westminster Hwy.	4-Apr-14	0.52	<1	<2	5	<1	0.09
RMD-251	GRAB	5951McCallan Rd.	7-Apr-14	0.6	<1	<2	5	<1	0.19
RMD-254	GRAB	5300 No. 3 Rd.	7-Apr-14	0.7	<1	<2	5	<1	0.1
RMD-269	GRAB	14951 Triangle Rd. PWT - 9	7 7-Apr-14	0.75	<1	<2	5	<1	0.11

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-253	GRAB	11051 No 3 Rd.	7-Apr-14	0.66	<1	2	5	<1	0.1
RMD-263	GRAB	12560 Cambie Rd.	9-Apr-14	0.72	<1	<2	5	<1	0.11
RMD-262	GRAB	13799 Commerce Pkwy.	9-Apr-14	0.7	<1	<2	5	<1	0.13
RMD-260	GRAB	11111 Horseshoe Way	9-Apr-14	0.65	<1	<2	5	<1	0.13
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	9-Apr-14	0.67	<1	2	5	<1	0.12
RMD-214	GRAB	11720 Westminster Hwy.	10-Apr-14	0.79	<1	<2	5	<1	0.1
RMD-203	GRAB	23260 Westminster Hwy.	10-Apr-14	0.77	<1	<2	5	<1	0.35
RMD-208	GRAB	13200 No. 4 Rd.	10-Apr-14	0.7	<1	6	5	<1	0.11
RMD-206	GRAB	4251 Moncton St.	10-Apr-14	0.68	<1	<2	5	<1	0.09
RMD-251	GRAB	5951McCallan Rd.	14-Apr-14	0.77	<1	2	5	<1	0.09
RMD-250	GRAB	6071 Azure Rd.	14-Apr-14	0.73	<1	<2	5	<1	0.12
RMD-271	GRAB	3800 Cessna Drive	14-Apr-14	0.68	<1	<2	5	<1	0.08
RMD-272	GRAB	751 Catalina Cres.	14-Apr-14	0.7	<1	<2	5	<1	0.08
RMD-256	GRAB	1000 Blk. McDonald Rd.	14-Apr-14	0.63	<1	<2	5	<1	0.09
RMD-254	GRAB	5300 No. 3 Rd.	14-Apr-14	0.63	<1	<2	5	<1	0.08
RMD-269	GRAB	14951 Triangle Rd.	14-Apr-14	0.68	<1	<2	5	<1	0.09
RMD-253	GRAB	11051 No 3 Rd.	14-Apr-14	0.71	<1	<2	5	<1	0.09
RMD-214	GRAB	11720 Westminster Hwy.	16-Apr-14	0.68	<1	2	5	<1	0.18
RMD-203	GRAB	23260 Westminster Hwy.	16-Apr-14	0.57	<1	<2	5	<1	0.2
RMD-206	GRAB	4251 Moncton St.	16-Apr-14	0.69	<1	<2	5	<1	0.13
RMD-251	GRAB	5951McCallan Rd.	29-Dec-14	0.99	<1	NA	5	<1	0.14
RMD-267	GRAB	17240 Fedoruk	3-Jan-14	0.32	<1	<2	6	<1	0.18
RMD-273	GRAB	Opp. 8331 Fairfax Place	6-Jan-14	0.48	<1	<2	6	<1	0.25
RMD-252	GRAB	9751 Pendleton Rd.	6-Jan-14	0.49	<1	2	6	<1	0.19
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	8-Jan-14	0.44	<1	<2	6	<1	0.32
RMD-204	GRAB	3180 Granville Ave.	10-Jan-14	0.72	<1	<2	6	<1	1.3
RMD-276	GRAB	22271 Cochrane Drive	10-Jan-14	0.34	<1	<2	6	<1	0.33
RMD-275	GRAB	5180 Smith Cres.	10-Jan-14	0.52	<1	<2	6	<1	0.32
RMD-273	GRAB	Opp. 8331 Fairfax Place	13-Jan-14	0.52	<1	<2	6	<1	0.28
RMD-252	GRAB	9751 Pendleton Rd.	13-Jan-14	0.71	<1	<2	6	<1	0.16
RMD-274	GRAB	10920 Springwood Court	13-Jan-14	0.61	<1	NA	6	<1	0.2
RMD-272	GRAB	751 Catalina Cres.	13-Jan-14	0.78	<1	<2	6	<1	0.19
RMD-270	GRAB	8200 Jones Rd.	13-Jan-14	0.68	<1	<2	6	<1	0.22
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	15-Jan-14	0.61	<1	14	6	<1	0.72
RMD-273	GRAB	Opp. 8331 Fairfax Place	20-Jan-14	0.61	<1	<2	6	<1	0.19
RMD-262	GRAB	13799 Commerce Pkwy.	22-Jan-14	0.33	<1	<2	6	<1	0.14
RMD-278	GRAB	6651 Fraserwood Place	22-Jan-14	0.32	<1	<2	6	<1	0.4
RMD-261	GRAB	9911 Sidaway Rd.	22-Jan-14	0.1	<1	<2	6	<1	0.19
RMD-273	GRAB	Opp. 8331 Fairfax Place PWT - 9	8 27-Jan-14	0.66	<1	<2	6	<1	0.15

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-274	GRAB	10920 Springwood Court	27-Jan-14	0.75	<1	<2	6	<1	0.14
RMD-252	GRAB	9751 Pendleton Rd.	3-Feb-14	0.75	<1	4	6	<1	0.16
RMD-274	GRAB	10920 Springwood Court	3-Feb-14	0.66	<1	<2	6	<1	0.15
RMD-250	GRAB	6071 Azure Rd.	3-Feb-14	0.72	<1	<2	6	<1	0.2
RMD-273	GRAB	Opp. 8331 Fairfax Place	17-Feb-14	0.94	<1	<2	6	<1	0.6
RMD-250	GRAB	6071 Azure Rd.	10-Mar-14	0.73	<1	<2	6	<1	0.11
RMD-277	GRAB	Opp. 11280 Twigg Place	19-Mar-14	0.68	<1	<2	6	<1	0.11
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	19-Mar-14	0.5	<1	<2	6	<1	0.13
RMD-266	GRAB	9380 General Currie Rd.	19-Mar-14	0.7	<1	<2	6	<1	0.1
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	19-Mar-14	0.69	<1	<2	6	<1	0.1
RMD-276	GRAB	22271 Cochrane Drive	21-Mar-14	0.59	<1	<2	6	<1	0.1
RMD-251	GRAB	5951McCallan Rd.	24-Mar-14	0.7	<1	<2	6	<1	0.12
RMD-252	GRAB	9751 Pendleton Rd.	24-Mar-14	0.69	<1	<2	6	<1	0.11
RMD-250	GRAB	6071 Azure Rd.	24-Mar-14	0.8	<1	<2	6	<1	0.1
RMD-256	GRAB	1000 Blk. McDonald Rd.	24-Mar-14	0.76	<1	<2	6	<1	0.12
RMD-270	GRAB	8200 Jones Rd.	24-Mar-14	0.65	<1	<2	6	<1	0.13
RMD-263	GRAB	12560 Cambie Rd.	27-Mar-14	0.78	<1	2	6	<1	0.09
RMD-264	GRAB	13100 Mitchell Rd.	27-Mar-14	0.71	<1	<2	6	<1	0.09
RMD-262	GRAB	13799 Commerce Pkwy.	27-Mar-14	0.73	<1	2	6	<1	0.11
RMD-278	GRAB	6651 Fraserwood Place	27-Mar-14	0.58	<1	<2	6	<1	0.1
RMD-261	GRAB	9911 Sidaway Rd.	27-Mar-14	0.63	<1	<2	6	<1	0.2
RMD-260	GRAB	11111 Horseshoe Way	27-Mar-14	0.71	<1	<2	6	<1	0.08
RMD-258	GRAB	7000 Blk. Dyke Rd.	27-Mar-14	0.76	<1	<2	6	<1	0.09
RMD-206	GRAB	4251 Moncton St.	28-Mar-14	0.68	<1	<2	6	<1	0.43
RMD-216	GRAB	11080 No. 2 Rd.	28-Mar-14	0.7	<1	<2	6	<1	0.1
RMD-212	GRAB	Opp. 8600 Ryan Rd.	28-Mar-14	0.64	<1	<2	6	<1	0.11
RMD-208	GRAB	13200 No. 4 Rd.	28-Mar-14	0.72	<1	<2	6	<1	0.1
RMD-249	GRAB	23000 Blk. Dyke Rd.	28-Mar-14	0.61	<1	<2	6	<1	0.15
RMD-276	GRAB	22271 Cochrane Drive	28-Mar-14	0.6	<1	<2	6	<1	0.1
RMD-252	GRAB	9751 Pendleton Rd.	31-Mar-14	0.59	<1	<2	6	<1	0.13
RMD-271	GRAB	3800 Cessna Drive	31-Mar-14	0.78	<1	<2	6	<1	0.14
RMD-256	GRAB	1000 Blk. McDonald Rd.	31-Mar-14	0.66	<1	<2	6	<1	0.14
RMD-270	GRAB	8200 Jones Rd.	31-Mar-14	0.65	<1	<2	6	<1	0.15
RMD-269	GRAB	14951 Triangle Rd.	31-Mar-14	0.69	<1	<2	6	<1	0.12
RMD-253	GRAB	11051 No 3 Rd.	31-Mar-14	0.72	<1	<2	6	<1	0.1
RMD-264	GRAB	13100 Mitchell Rd.	2-Apr-14	0.68	<1	<2	6	<1	0.12
RMD-277	GRAB	Opp. 11280 Twigg Place	2-Apr-14	0.73	<1	<2	6	<1	0.14
RMD-278	GRAB	6651 Fraserwood Place	2-Apr-14	0.66	<1	<2	6	<1	0.11
RMD-279	GRAB	Opp. 20371 Westminster PWT - 9	9 2-Apr-14	0.75	<1	<2	6	<1	0.08

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-259	GRAB	10020 Amethyst Ave.	2-Apr-14	0.64	<1	<2	6	<1	0.09
RMD-266	GRAB	9380 General Currie Rd.	2-Apr-14	0.67	<1	<2	6	<1	0.09
RMD-257	GRAB	6640 Blundell Rd.	2-Apr-14	0.59	<1	<2	6	<1	0.12
RMD-204	GRAB	3180 Granville Ave.	4-Apr-14	0.75	<1	<2	6	<1	0.77
RMD-208	GRAB	13200 No. 4 Rd.	4-Apr-14	0.71	<1	<2	6	<1	0.1
RMD-214	GRAB	11720 Westminster Hwy.	4-Apr-14	0.8	<1	<2	6	<1	0.11
RMD-271	GRAB	3800 Cessna Drive	7-Apr-14	0.66	<1	<2	6	<1	0.09
RMD-272	GRAB	751 Catalina Cres.	7-Apr-14	0.8	<1	<2	6	<1	0.18
RMD-255	GRAB	6000 Blk. Miller Rd.	7-Apr-14	0.71	<1	<2	6	<1	0.18
RMD-256	GRAB	1000 Blk. McDonald Rd.	7-Apr-14	0.69	<1	<2	6	<1	0.12
RMD-264	GRAB	13100 Mitchell Rd.	9-Apr-14	0.66	<1	<2	6	<1	0.12
RMD-277	GRAB	Opp. 11280 Twigg Place	9-Apr-14	0.69	<1	<2	6	<1	0.12
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	9-Apr-14	0.75	<1	<2	6	<1	0.1
RMD-261	GRAB	9911 Sidaway Rd.	9-Apr-14	0.63	<1	<2	6	<1	0.11
RMD-259	GRAB	10020 Amethyst Ave.	9-Apr-14	0.69	<1	<2	6	<1	0.09
RMD-258	GRAB	7000 Blk. Dyke Rd.	9-Apr-14	0.77	<1	<2	6	<1	0.1
RMD-202	GRAB	1500 Valemont Way	10-Apr-14	0.62	<1	<2	6	<1	0.13
RMD-275	GRAB	5180 Smith Cres.	10-Apr-14	0.75	<1	<2	6	<1	0.33
RMD-276	GRAB	22271 Cochrane Drive	10-Apr-14	0.61	<1	<2	6	<1	0.09
RMD-267	GRAB	17240 Fedoruk	10-Apr-14	0.71	<1	<2	6	<1	0.09
RMD-204	GRAB	3180 Granville Ave.	10-Apr-14	0.66	<1	<2	6	<1	0.24
RMD-252	GRAB	9751 Pendleton Rd.	14-Apr-14	0.76	<1	<2	6	<1	0.1
RMD-270	GRAB	8200 Jones Rd.	14-Apr-14	0.71	<1	6	6	<1	0.17
RMD-202	GRAB	1500 Valemont Way	16-Apr-14	0.6	<1	<2	6	<1	0.13
RMD-275	GRAB	5180 Smith Cres.	16-Apr-14	0.59	<1	<2	6	<1	0.1
RMD-276	GRAB	22271 Cochrane Drive	16-Apr-14	0.55	<1	<2	6	<1	0.16
RMD-205	GRAB	13851 Steveston Hwy.	16-Apr-14	0.59	<1	<2	6	<1	0.15
RMD-260	GRAB	11111 Horseshoe Way	16-Apr-14	0.73	<1	<2	6	<1	0.11
RMD-208	GRAB	13200 No. 4 Rd.	16-Apr-14	0.71	<1	<2	6	<1	0.11
RMD-266	GRAB	9380 General Currie Rd.	16-Apr-14	0.73	<1	<2	6	<1	0.09
RMD-212	GRAB	Opp. 8600 Ryan Rd.	16-Apr-14	0.61	<1	2	6	<1	0.12
RMD-257	GRAB	6640 Blundell Rd.	16-Apr-14	0.63	<1	<2	6	<1	0.09
RMD-204	GRAB	3180 Granville Ave.	16-Apr-14	0.68	<1	<2	6	<1	0.11
RMD-251	GRAB	5951McCallan Rd.	28-Apr-14	0.51	<1	<2	6	<1	0.13
RMD-255	GRAB	6000 Blk. Miller Rd.	28-Apr-14	0.45	<1	<2	6	<1	0.19
RMD-269	GRAB	14951 Triangle Rd.	28-Apr-14	0.54	<1	<2	6	<1	0.14
RMD-260	GRAB	11111 Horseshoe Way	30-Apr-14	0.78	<1	<2	6	<1	0.14
RMD-266	GRAB	9380 General Currie Rd.	14-May-14	0.61	<1	<2	6	<1	0.13
RMD-251	GRAB	5951McCallan Rd. PWT - 10	0 8-Dec-14	0.79	<1	<2	6	<1	0.11

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-277	GRAB	Opp. 11280 Twigg Place	10-Dec-14	0.77	<1	<2	6	<1	0.41
RMD-260	GRAB	11111 Horseshoe Way	10-Dec-14	0.7	<1	<2	6	<1	0.12
RMD-257	GRAB	6640 Blundell Rd.	10-Dec-14	0.73	<1	<2	6	<1	0.1
RMD-216	GRAB	11080 No. 2 Rd.	11-Dec-14	0.71	<1	<2	6	<1	0.09
RMD-208	GRAB	13200 No. 4 Rd.	11-Dec-14	0.78	<1	4	6	<1	0.1
RMD-251	GRAB	5951McCallan Rd.	15-Dec-14	0.87	<1	<2	6	<1	0.11
RMD-271	GRAB	3800 Cessna Drive	15-Dec-14	0.83	<1	<2	6	<1	0.1
RMD-272	GRAB	751 Catalina Cres.	15-Dec-14	0.75	<1	<2	6	<1	0.09
RMD-253	GRAB	11051 No 3 Rd.	15-Dec-14	0.73	<1	2	6	<1	0.12
RMD-216	GRAB	11080 No. 2 Rd.	23-Dec-14	1.1	<1	NA	6	<1	0.16
RMD-208	GRAB	13200 No. 4 Rd.	23-Dec-14	1.2	<1	NA	6	<1	0.13
RMD-202	GRAB	1500 Valemont Way	23-Dec-14	0.39	<1	NA	6	<1	0.13
RMD-214	GRAB	11720 Westminster Hwy.	23-Dec-14	0.87	<1	NA	6	<1	0.17
RMD-260	GRAB	11111 Horseshoe Way	23-Dec-14	0.96	<1	NA	6	<1	0.2
RMD-266	GRAB	9380 General Currie Rd.	23-Dec-14	1	<1	NA	6	<1	0.18
RMD-276	GRAB	22271 Cochrane Drive	23-Dec-14	0.66	<1	NA	6	<1	0.11
RMD-257	GRAB	6640 Blundell Rd.	23-Dec-14	1.1	<1	NA	6	<1	0.11
RMD-273	GRAB	Opp. 8331 Fairfax Place	29-Dec-14	0.2	<1	NA	6	<1	0.16
RMD-250	GRAB	6071 Azure Rd.	29-Dec-14	0.98	<1	NA	6	<1	0.27
RMD-271	GRAB	3800 Cessna Drive	29-Dec-14	0.98	<1	NA	6	<1	0.1
RMD-255	GRAB	6000 Blk. Miller Rd.	29-Dec-14	0.94	<1	NA	6	<1	0.31
RMD-269	GRAB	14951 Triangle Rd.	29-Dec-14	0.82	<1	NA	6	<1	0.19
RMD-253	GRAB	11051 No 3 Rd.	29-Dec-14	0.9	<1	NA	6	<1	0.14
RMD-264	GRAB	13100 Mitchell Rd.	30-Dec-14	0.91	<1	NA	6	<1	0.19
RMD-277	GRAB	Opp. 11280 Twigg Place	30-Dec-14	0.94	<1	NA	6	<1	0.15
RMD-259	GRAB	10020 Amethyst Ave.	30-Dec-14	0.98	<1	NA	6	<1	0.13
RMD-266	GRAB	9380 General Currie Rd.	30-Dec-14	1	<1	NA	6	<1	0.1
RMD-257	GRAB	6640 Blundell Rd.	30-Dec-14	0.83	<1	NA	6	<1	0.13
RMD-273	GRAB	Opp. 8331 Fairfax Place	3-Feb-14	0.61	<1	<2	7	<1	0.47
RMD-273	GRAB	Opp. 8331 Fairfax Place	10-Mar-14	0.67	<1	<2	7	<1	0.86
RMD-274	GRAB	10920 Springwood Court	17-Mar-14	0.65	<1	<2	7	<1	0.12
RMD-274	GRAB	10920 Springwood Court	24-Mar-14	0.73	<1	<2	7	<1	0.11
RMD-271	GRAB	3800 Cessna Drive	24-Mar-14	0.51	<1	<2	7	<1	0.12
RMD-277	GRAB	Opp. 11280 Twigg Place	27-Mar-14	0.68	<1	2	7	<1	0.09
RMD-204	GRAB	3180 Granville Ave.	28-Mar-14	0.64	<1	2	7	<1	0.45
RMD-267	GRAB	17240 Fedoruk	28-Mar-14	0.59	<1	2	7	<1	NA
RMD-275	GRAB	5180 Smith Cres.	28-Mar-14	0.72	<1	<2	7	<1	0.08
RMD-273	GRAB	Opp. 8331 Fairfax Place	31-Mar-14	0.68	<1	<2	7	<1	1.3
RMD-274	GRAB	10920 Springwood CourtPWT - 1	01 31-Mar-14	0.7	<1	<2	7	<1	0.1

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-250	GRAB	6071 Azure Rd.	31-Mar-14	0.71	<1	<2	7	<1	0.08
RMD-263	GRAB	12560 Cambie Rd.	2-Apr-14	0.74	<1	<2	7	<1	0.09
RMD-258	GRAB	7000 Blk. Dyke Rd.	2-Apr-14	0.69	<1	<2	7	<1	0.1
RMD-202	GRAB	1500 Valemont Way	4-Apr-14	0.65	<1	<2	7	<1	0.1
RMD-267	GRAB	17240 Fedoruk	4-Apr-14	0.65	<1	<2	7	<1	0.1
RMD-276	GRAB	22271 Cochrane Drive	4-Apr-14	0.68	<1	<2	7	<1	0.11
RMD-275	GRAB	5180 Smith Cres.	4-Apr-14	0.64	<1	<2	7	<1	0.09
RMD-273	GRAB	Opp. 8331 Fairfax Place	7-Apr-14	0.59	<1	<2	7	<1	0.77
RMD-252	GRAB	9751 Pendleton Rd.	7-Apr-14	0.64	<1	<2	7	<1	0.15
RMD-250	GRAB	6071 Azure Rd.	7-Apr-14	0.71	<1	<2	7	<1	0.18
RMD-270	GRAB	8200 Jones Rd.	7-Apr-14	0.69	<1	<2	7	<1	0.15
RMD-278	GRAB	6651 Fraserwood Place	9-Apr-14	0.61	<1	<2	7	<1	0.15
RMD-249	GRAB	23000 Blk. Dyke Rd.	10-Apr-14	0.51	<1	<2	7	<1	0.14
RMD-274	GRAB	10920 Springwood Court	14-Apr-14	0.71	<1	<2	7	<1	0.1
RMD-263	GRAB	12560 Cambie Rd.	16-Apr-14	0.64	<1	<2	7	<1	0.12
RMD-264	GRAB	13100 Mitchell Rd.	16-Apr-14	0.67	<1	<2	7	<1	0.16
RMD-262	GRAB	13799 Commerce Pkwy.	16-Apr-14	0.51	<1	2	7	<1	0.13
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	16-Apr-14	0.6	<1	2	7	<1	0.18
RMD-249	GRAB	23000 Blk. Dyke Rd.	16-Apr-14	0.67	<1	<2	7	<1	0.14
RMD-267	GRAB	17240 Fedoruk	16-Apr-14	0.54	<1	2	7	<1	0.13
RMD-261	GRAB	9911 Sidaway Rd.	16-Apr-14	0.49	<1	<2	7	<1	0.1
RMD-259	GRAB	10020 Amethyst Ave.	16-Apr-14	0.7	<1	<2	7	<1	0.12
RMD-216	GRAB	11080 No. 2 Rd.	16-Apr-14	0.54	<1	2	7	<1	0.13
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	16-Apr-14	0.72	<1	<2	7	<1	0.12
RMD-258	GRAB	7000 Blk. Dyke Rd.	16-Apr-14	0.56	<1	<2	7	<1	0.13
RMD-251	GRAB	5951McCallan Rd.	22-Apr-14	0.69	<1	2	7	<1	0.1
RMD-256	GRAB	1000 Blk. McDonald Rd.	22-Apr-14	0.7	<1	<2	7	<1	0.13
RMD-208	GRAB	13200 No. 4 Rd.	25-Apr-14	0.75	<1	<2	7	<1	0.1
RMD-273	GRAB	Opp. 8331 Fairfax Place	28-Apr-14	0.55	<1	<2	7	<1	0.19
RMD-252	GRAB	9751 Pendleton Rd.	28-Apr-14	0.55	<1	<2	7	<1	0.11
RMD-271	GRAB	3800 Cessna Drive	28-Apr-14	0.67	<1	<2	7	<1	0.12
RMD-256	GRAB	1000 Blk. McDonald Rd.	28-Apr-14	0.62	<1	<2	7	<1	0.13
RMD-254	GRAB	5300 No. 3 Rd.	28-Apr-14	0.68	<1	<2	7	<1	0.1
RMD-253	GRAB	11051 No 3 Rd.	28-Apr-14	0.64	<1	<2	7	<1	0.1
RMD-263	GRAB	12560 Cambie Rd.	30-Apr-14	0.71	<1	<2	7	<1	0.13
RMD-262	GRAB	13799 Commerce Pkwy.	30-Apr-14	0.54	<1	<2	7	<1	0.11
RMD-278	GRAB	6651 Fraserwood Place	30-Apr-14	0.56	<1	<2	7	<1	0.1
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	30-Apr-14	0.59	<1	<2	7	<1	0.09
RMD-259	GRAB	10020 Amethyst Ave. PWT - 10	2 30-Apr-14	0.65	<1	<2	7	<1	0.11

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-266	GRAB	9380 General Currie Rd.	30-Apr-14	0.66	<1	<2	7	<1	0.14
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	30-Apr-14	0.71	<1	<2	7	<1	0.1
RMD-257	GRAB	6640 Blundell Rd.	30-Apr-14	0.67	<1	<2	7	<1	0.1
RMD-206	GRAB	4251 Moncton St.	2-May-14	0.63	<1	<2	7	<1	0.15
RMD-208	GRAB	13200 No. 4 Rd.	2-May-14	0.71	<1	<2	7	<1	0.14
RMD-205	GRAB	13851 Steveston Hwy.	2-May-14	0.59	<1	<2	7	<1	0.12
RMD-214	GRAB	11720 Westminster Hwy.	2-May-14	0.69	<1	<2	7	<1	0.14
RMD-264	GRAB	13100 Mitchell Rd.	14-May-14	0.69	<1	<2	7	<1	0.17
RMD-277	GRAB	Opp. 11280 Twigg Place	14-May-14	0.76	<1	<2	7	<1	0.15
RMD-262	GRAB	13799 Commerce Pkwy.	14-May-14	0.75	<1	<2	7	<1	0.19
RMD-259	GRAB	10020 Amethyst Ave.	14-May-14	0.63	<1	<2	7	<1	0.13
RMD-255	GRAB	6000 Blk. Miller Rd.	17-Nov-14	0.81	<1	4	7	<1	0.14
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	19-Nov-14	0.67	<1	2	7	<1	0.17
RMD-261	GRAB	9911 Sidaway Rd.	19-Nov-14	0.63	<1	<2	7	<1	0.26
RMD-259	GRAB	10020 Amethyst Ave.	19-Nov-14	0.73	<1	<2	7	<1	0.12
RMD-266	GRAB	9380 General Currie Rd.	19-Nov-14	0.72	<1	<2	7	<1	0.11
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	19-Nov-14	0.73	<1	2	7	<1	0.14
RMD-208	GRAB	13200 No. 4 Rd.	21-Nov-14	0.83	<1	<2	7	<1	0.08
RMD-271	GRAB	3800 Cessna Drive	24-Nov-14	0.7	<1	<2	7	<1	0.15
RMD-272	GRAB	751 Catalina Cres.	24-Nov-14	0.86	<1	<2	7	<1	0.16
RMD-260	GRAB	11111 Horseshoe Way	26-Nov-14	0.89	<1	2	7	<1	0.14
RMD-259	GRAB	10020 Amethyst Ave.	26-Nov-14	0.89	<1	<2	7	<1	0.1
RMD-266	GRAB	9380 General Currie Rd.	26-Nov-14	0.95	<1	<2	7	<1	0.11
RMD-257	GRAB	6640 Blundell Rd.	26-Nov-14	0.75	<1	8	7	<1	0.09
RMD-216	GRAB	11080 No. 2 Rd.	27-Nov-14	0.73	<1	<2	7	<1	0.09
RMD-255	GRAB	6000 Blk. Miller Rd.	1-Dec-14	0.83	<1	<2	7	<1	0.33
RMD-270	GRAB	8200 Jones Rd.	1-Dec-14	0.8	<1	<2	7	<1	0.1
RMD-263	GRAB	12560 Cambie Rd.	3-Dec-14	0.82	<1	<2	7	<1	0.15
RMD-264	GRAB	13100 Mitchell Rd.	3-Dec-14	0.73	<1	<2	7	<1	0.13
RMD-277	GRAB	Opp. 11280 Twigg Place	3-Dec-14	0.78	<1	<2	7	<1	0.19
RMD-260	GRAB	11111 Horseshoe Way	3-Dec-14	0.79	<1	<2	7	<1	0.15
RMD-266	GRAB	9380 General Currie Rd.	3-Dec-14	0.77	<1	<2	7	<1	0.12
RMD-258	GRAB	7000 Blk. Dyke Rd.	3-Dec-14	0.73	<1	<2	7	<1	0.12
RMD-257	GRAB	6640 Blundell Rd.	3-Dec-14	0.75	<1	<2	7	<1	0.1
RMD-206	GRAB	4251 Moncton St.	5-Dec-14	0.79	<1	<2	7	<1	0.11
RMD-216	GRAB	11080 No. 2 Rd.	5-Dec-14	0.78	<1	<2	7	<1	0.09
RMD-212	GRAB	Opp. 8600 Ryan Rd.	5-Dec-14	0.91	<1	<2	7	<1	0.11
RMD-208	GRAB	13200 No. 4 Rd.	5-Dec-14	0.8	<1	<2	7	<1	0.1
RMD-267	GRAB	17240 Fedoruk PWT - 1 (3 5-Dec-14	0.47	<1	<2	7	<1	0.3

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-275	GRAB	5180 Smith Cres.	5-Dec-14	0.8	<1	<2	7	<1	0.18
RMD-203	GRAB	23260 Westminster Hwy.	5-Dec-14	0.79	<1	<2	7	<1	0.1
RMD-250	GRAB	6071 Azure Rd.	8-Dec-14	0.8	<1	<2	7	<1	0.46
RMD-272	GRAB	751 Catalina Cres.	8-Dec-14	0.73	<1	<2	7	<1	0.14
RMD-255	GRAB	6000 Blk. Miller Rd.	8-Dec-14	0.68	<1	<2	7	<1	0.48
RMD-256	GRAB	1000 Blk. McDonald Rd.	8-Dec-14	0.84	<1	<2	7	<1	0.1
RMD-254	GRAB	5300 No. 3 Rd.	8-Dec-14	0.8	<1	<2	7	<1	0.14
RMD-264	GRAB	13100 Mitchell Rd.	10-Dec-14	0.76	<1	<2	7	<1	0.11
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	10-Dec-14	0.61	<1	<2	7	<1	0.16
RMD-261	GRAB	9911 Sidaway Rd.	10-Dec-14	0.69	<1	4	7	<1	0.31
RMD-259	GRAB	10020 Amethyst Ave.	10-Dec-14	0.74	<1	<2	7	<1	0.11
RMD-266	GRAB	9380 General Currie Rd.	10-Dec-14	0.79	<1	<2	7	<1	0.11
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	10-Dec-14	0.8	<1	<2	7	<1	0.13
RMD-258	GRAB	7000 Blk. Dyke Rd.	10-Dec-14	0.65	<1	<2	7	<1	0.1
RMD-212	GRAB	Opp. 8600 Ryan Rd.	11-Dec-14	0.75	<1	2	7	<1	0.11
RMD-205	GRAB	13851 Steveston Hwy.	11-Dec-14	0.6	<1	<2	7	<1	0.16
RMD-202	GRAB	1500 Valemont Way	11-Dec-14	0.69	<1	2	7	<1	0.12
RMD-214	GRAB	11720 Westminster Hwy.	11-Dec-14	0.65	<1	<2	7	<1	0.13
RMD-275	GRAB	5180 Smith Cres.	11-Dec-14	0.66	<1	<2	7	<1	0.15
RMD-203	GRAB	23260 Westminster Hwy.	11-Dec-14	0.64	<1	<2	7	<1	0.15
RMD-252	GRAB	9751 Pendleton Rd.	15-Dec-14	0.77	<1	<2	7	<1	0.11
RMD-250	GRAB	6071 Azure Rd.	15-Dec-14	0.76	<1	2	7	<1	0.11
RMD-255	GRAB	6000 Blk. Miller Rd.	15-Dec-14	0.73	<1	<2	7	<1	0.3
RMD-256	GRAB	1000 Blk. McDonald Rd.	15-Dec-14	0.7	<1	<2	7	<1	0.11
RMD-254	GRAB	5300 No. 3 Rd.	15-Dec-14	0.68	<1	<2	7	<1	0.1
RMD-270	GRAB	8200 Jones Rd.	15-Dec-14	0.71	<1	<2	7	<1	0.12
RMD-264	GRAB	13100 Mitchell Rd.	17-Dec-14	0.91	<1	<2	7	<1	0.09
RMD-262	GRAB	13799 Commerce Pkwy.	17-Dec-14	0.47	<1	<2	7	<1	0.14
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	17-Dec-14	0.57	<1	<2	7	<1	0.26
RMD-261	GRAB	9911 Sidaway Rd.	17-Dec-14	0.5	<1	<2	7	<1	0.18
RMD-260	GRAB	11111 Horseshoe Way	17-Dec-14	1	<1	<2	7	<1	0.11
RMD-259	GRAB	10020 Amethyst Ave.	17-Dec-14	0.97	<1	<2	7	<1	0.08
RMD-266	GRAB	9380 General Currie Rd.	17-Dec-14	1.1	<1	<2	7	<1	0.09
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	17-Dec-14	0.99	<1	<2	7	<1	0.09
RMD-258	GRAB	7000 Blk. Dyke Rd.	17-Dec-14	1	<1	<2	7	<1	0.09
RMD-257	GRAB	6640 Blundell Rd.	17-Dec-14	1.1	<1	<2	7	<1	0.08
RMD-206	GRAB	4251 Moncton St.	19-Dec-14	0.92	<1	<2	7	<1	0.12
RMD-216	GRAB	11080 No. 2 Rd.	19-Dec-14	0.97	<1	<2	7	<1	0.13
RMD-212	GRAB	Opp. 8600 Ryan Rd. PWT - 1 0	1 9-Dec-14	0.98	<1	<2	7	<1	0.12

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-208	GRAB	13200 No. 4 Rd.	19-Dec-14	1	<1	<2	7	<1	0.14
RMD-205	GRAB	13851 Steveston Hwy.	19-Dec-14	0.49	<1	2	7	<1	0.15
RMD-214	GRAB	11720 Westminster Hwy.	19-Dec-14	0.83	<1	<2	7	<1	0.11
RMD-267	GRAB	17240 Fedoruk	19-Dec-14	0.55	<1	<2	7	<1	0.16
RMD-203	GRAB	23260 Westminster Hwy.	19-Dec-14	0.69	<1	<2	7	<1	0.14
RMD-251	GRAB	5951McCallan Rd.	22-Dec-14	0.92	<1	NA	7	<1	0.12
RMD-250	GRAB	6071 Azure Rd.	22-Dec-14	0.94	<1	NA	7	<1	0.12
RMD-271	GRAB	3800 Cessna Drive	22-Dec-14	1.2	<1	NA	7	<1	0.11
RMD-272	GRAB	751 Catalina Cres.	22-Dec-14	1.2	<1	NA	7	<1	0.09
RMD-255	GRAB	6000 Blk. Miller Rd.	22-Dec-14	1.2	<1	NA	7	<1	0.2
RMD-256	GRAB	1000 Blk. McDonald Rd.	22-Dec-14	1.2	<1	NA	7	<1	0.13
RMD-270	GRAB	8200 Jones Rd.	22-Dec-14	0.93	<1	NA	7	<1	0.1
RMD-269	GRAB	14951 Triangle Rd.	22-Dec-14	0.54	<1	NA	7	<1	0.16
RMD-253	GRAB	11051 No 3 Rd.	22-Dec-14	0.99	<1	NA	7	<1	0.11
RMD-263	GRAB	12560 Cambie Rd.	23-Dec-14	0.87	<1	NA	7	<1	0.15
RMD-204	GRAB	3180 Granville Ave.	23-Dec-14	1.1	<1	NA	7	<1	0.15
RMD-264	GRAB	13100 Mitchell Rd.	23-Dec-14	0.93	<1	NA	7	<1	0.17
RMD-206	GRAB	4251 Moncton St.	23-Dec-14	1.1	<1	NA	7	<1	0.12
RMD-212	GRAB	Opp. 8600 Ryan Rd.	23-Dec-14	1.1	<1	NA	7	<1	0.11
RMD-205	GRAB	13851 Steveston Hwy.	23-Dec-14	0.89	<1	NA	7	<1	0.13
RMD-261	GRAB	9911 Sidaway Rd.	23-Dec-14	0.55	<1	NA	7	<1	0.13
RMD-267	GRAB	17240 Fedoruk	23-Dec-14	0.68	<1	NA	7	<1	0.16
RMD-259	GRAB	10020 Amethyst Ave.	23-Dec-14	0.85	<1	NA	7	<1	0.19
RMD-249	GRAB	23000 Blk. Dyke Rd.	23-Dec-14	0.58	<1	NA	7	<1	0.59
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	23-Dec-14	1.1	<1	NA	7	<1	0.11
RMD-258	GRAB	7000 Blk. Dyke Rd.	23-Dec-14	1	<1	NA	7	<1	0.12
RMD-275	GRAB	5180 Smith Cres.	23-Dec-14	0.6	<1	NA	7	<1	0.17
RMD-203	GRAB	23260 Westminster Hwy.	23-Dec-14	0.91	<1	NA	7	<1	0.13
RMD-252	GRAB	9751 Pendleton Rd.	29-Dec-14	0.87	<1	NA	7	<1	0.19
RMD-274	GRAB	10920 Springwood Court	29-Dec-14	0.9	<1	NA	7	<1	0.17
RMD-272	GRAB	751 Catalina Cres.	29-Dec-14	0.97	<1	NA	7	<1	0.11
RMD-270	GRAB	8200 Jones Rd.	29-Dec-14	0.88	<1	NA	7	<1	0.14
RMD-263	GRAB	12560 Cambie Rd.	30-Dec-14	0.83	<1	NA	7	<1	0.11
RMD-262	GRAB	13799 Commerce Pkwy.	30-Dec-14	0.88	<1	NA	7	<1	0.17
RMD-278	GRAB	6651 Fraserwood Place	30-Dec-14	0.63	<1	NA	7	<1	0.15
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	30-Dec-14	0.59	<1	NA	7	<1	0.13
RMD-261	GRAB	9911 Sidaway Rd.	30-Dec-14	0.63	<1	NA	7	<1	0.13
RMD-260	GRAB	11111 Horseshoe Way	30-Dec-14	0.96	<1	NA	7	<1	0.14
RMD-268	GRAB	13800 No. 3 Rd. (off Gar (1974) - 1(5 30-Dec-14	0.95	<1	NA	7	<1	0.2

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-258	GRAB	7000 Blk. Dyke Rd.	30-Dec-14	0.94	<1	NA	7	<1	0.13
RMD-273	GRAB	Opp. 8331 Fairfax Place	17-Mar-14	0.7	<1	<2	8	<1	0.76
RMD-273	GRAB	Opp. 8331 Fairfax Place	24-Mar-14	0.65		<2	8		4
RMD-249	GRAB	23000 Blk. Dyke Rd.	4-Apr-14	0.59	<1	<2	8	<1	0.11
RMD-274	GRAB	10920 Springwood Court	7-Apr-14	0.68	<1	<2	8	<1	0.11
RMD-277	GRAB	Opp. 11280 Twigg Place	16-Apr-14	0.62	<1	<2	8	<1	0.17
RMD-278	GRAB	6651 Fraserwood Place	16-Apr-14	0.47	<1	<2	8	<1	0.12
RMD-252	GRAB	9751 Pendleton Rd.	22-Apr-14	0.73	<1	2	8	<1	0.09
RMD-272	GRAB	751 Catalina Cres.	22-Apr-14	0.74	<1	<2	8	<1	0.09
RMD-255	GRAB	6000 Blk. Miller Rd.	22-Apr-14	0.59	<1	<2	8	<1	0.14
RMD-254	GRAB	5300 No. 3 Rd.	22-Apr-14	0.64	<1	<2	8	<1	0.11
RMD-269	GRAB	14951 Triangle Rd.	22-Apr-14	0.54	<1	<2	8	<1	0.1
RMD-253	GRAB	11051 No 3 Rd.	22-Apr-14	0.68	<1	<2	8	<1	0.12
RMD-264	GRAB	13100 Mitchell Rd.	23-Apr-14	0.62	<1	<2	8	<1	0.14
RMD-277	GRAB	Opp. 11280 Twigg Place	23-Apr-14	0.66	<1	<2	8	<1	0.15
RMD-262	GRAB	13799 Commerce Pkwy.	23-Apr-14	0.64	<1	8	8	<1	0.14
RMD-278	GRAB	6651 Fraserwood Place	23-Apr-14	0.64	<1	<2	8	<1	0.11
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	23-Apr-14	0.65	<1	<2	8	<1	0.14
RMD-261	GRAB	9911 Sidaway Rd.	23-Apr-14	0.49	<1	<2	8	<1	0.1
RMD-260	GRAB	11111 Horseshoe Way	23-Apr-14	0.71	<1	<2	8	<1	0.18
RMD-259	GRAB	10020 Amethyst Ave.	23-Apr-14	0.45	<1	<2	8	<1	0.16
RMD-257	GRAB	6640 Blundell Rd.	23-Apr-14	0.67	<1	<2	8	<1	0.09
RMD-206	GRAB	4251 Moncton St.	25-Apr-14	0.66	<1	<2	8	<1	0.12
RMD-216	GRAB	11080 No. 2 Rd.	25-Apr-14	0.7	<1	<2	8	<1	0.17
RMD-205	GRAB	13851 Steveston Hwy.	25-Apr-14	0.57	<1	<2	8	<1	0.11
RMD-267	GRAB	17240 Fedoruk	25-Apr-14	0.54	<1	<2	8	<1	0.25
RMD-249	GRAB	23000 Blk. Dyke Rd.	25-Apr-14	0.53	<1	<2	8	<1	0.18
RMD-276	GRAB	22271 Cochrane Drive	25-Apr-14	0.49	<1	<2	8	<1	0.1
RMD-275	GRAB	5180 Smith Cres.	25-Apr-14	0.52	<1	<2	8	<1	0.11
RMD-203	GRAB	23260 Westminster Hwy.	25-Apr-14	0.57	<1	<2	8	<1	0.1
RMD-250	GRAB	6071 Azure Rd.	28-Apr-14	0.61	<1	<2	8	<1	0.16
RMD-272	GRAB	751 Catalina Cres.	28-Apr-14	0.51	<1	<2	8	<1	0.1
RMD-270	GRAB	8200 Jones Rd.	28-Apr-14	0.44	<1	2	8	<1	0.13
RMD-264	GRAB	13100 Mitchell Rd.	30-Apr-14	0.66	<1	<2	8	<1	0.13
RMD-277	GRAB	Opp. 11280 Twigg Place	30-Apr-14	0.77	<1	<2	8	<1	0.16
RMD-261	GRAB	9911 Sidaway Rd.	30-Apr-14	0.58	<1	<2	8	<1	0.14
RMD-258	GRAB	7000 Blk. Dyke Rd.	30-Apr-14	0.67	<1	<2	8	<1	0.11
RMD-216	GRAB	11080 No. 2 Rd.	2-May-14	0.64	<1	<2	8	<1	0.1
RMD-212	GRAB	Opp. 8600 Ryan Rd. PWT - 10	6 2-May-14	0.69	<1	<2	8	<1	0.15

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-202	GRAB	1500 Valemont Way	2-May-14	0.67	<1	<2	8	<1	0.16
RMD-275	GRAB	5180 Smith Cres.	2-May-14	0.46	<1	<2	8	<1	0.15
RMD-203	GRAB	23260 Westminster Hwy.	2-May-14	0.58	<1	<2	8	<1	0.1
RMD-251	GRAB	5951McCallan Rd.	5-May-14	0.72	<1	<2	8	<1	0.11
RMD-271	GRAB	3800 Cessna Drive	5-May-14	0.74	<1	<2	8	<1	0.1
RMD-272	GRAB	751 Catalina Cres.	5-May-14	0.7	<1	2	8	<1	0.11
RMD-255	GRAB	6000 Blk. Miller Rd.	5-May-14	0.68	<1	<2	8	<1	0.24
RMD-254	GRAB	5300 No. 3 Rd.	5-May-14	0.66	<1	<2	8	<1	0.12
RMD-269	GRAB	14951 Triangle Rd.	5-May-14	0.55	<1	<2	8	<1	0.1
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	7-May-14	0.7	<1	<2	8	<1	0.11
RMD-216	GRAB	11080 No. 2 Rd.	9-May-14	0.73	<1	2	8	<1	0.15
RMD-212	GRAB	Opp. 8600 Ryan Rd.	9-May-14	0.62	<1	<2	8	<1	0.21
RMD-208	GRAB	13200 No. 4 Rd.	9-May-14	0.72	<1	<2	8	<1	0.23
RMD-205	GRAB	13851 Steveston Hwy.	9-May-14	0.63	<1	<2	8	<1	0.12
RMD-202	GRAB	1500 Valemont Way	9-May-14	0.64	<1	<2	8	<1	0.13
RMD-214	GRAB	11720 Westminster Hwy.	9-May-14	0.67	<1	<2	8	<1	0.19
RMD-251	GRAB	5951McCallan Rd.	12-May-14	0.67	<1	<2	8	<1	0.13
RMD-255	GRAB	6000 Blk. Miller Rd.	12-May-14	0.61	<1	<2	8	<1	0.15
RMD-253	GRAB	11051 No 3 Rd.	12-May-14	0.58	<1	<2	8	<1	0.12
RMD-263	GRAB	12560 Cambie Rd.	14-May-14	0.73	<1	<2	8	<1	0.19
RMD-278	GRAB	6651 Fraserwood Place	14-May-14	0.55	<1	<2	8	<1	0.39
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	14-May-14	0.68	<1	<2	8	<1	0.25
RMD-261	GRAB	9911 Sidaway Rd.	14-May-14	0.55	<1	<2	8	<1	0.25
RMD-260	GRAB	11111 Horseshoe Way	14-May-14	0.63	<1	<2	8	<1	0.14
RMD-257	GRAB	6640 Blundell Rd.	14-May-14	0.75	<1	<2	8	<1	0.15
RMD-208	GRAB	13200 No. 4 Rd.	16-May-14	0.63	<1	2	8	<1	0.15
RMD-205	GRAB	13851 Steveston Hwy.	16-May-14	0.7	<1	<2	8	<1	0.13
RMD-203	GRAB	23260 Westminster Hwy.	16-May-14	0.71	<1	<2	8	<1	0.14
RMD-255	GRAB	6000 Blk. Miller Rd.	20-May-14	0.83	<1	<2	8	<1	0.54
RMD-251	GRAB	5951McCallan Rd.	2-Jun-14	1	<1	<2	8	<1	0.42
RMD-255	GRAB	6000 Blk. Miller Rd.	2-Jun-14	0.94	<1	<2	8	<1	0.6
RMD-262	GRAB	13799 Commerce Pkwy.	4-Jun-14	0.57	<1	<2	8	<1	0.11
RMD-251	GRAB	5951McCallan Rd.	9-Jun-14	1	<1	<2	8	<1	0.55
RMD-272	GRAB	751 Catalina Cres.	9-Jun-14	0.94	<1	<2	8	<1	0.55
RMD-255	GRAB	6000 Blk. Miller Rd.	9-Jun-14	0.9	<1	<2	8	<1	0.95
RMD-253	GRAB	11051 No 3 Rd.	9-Jun-14	0.87	<1	<2	8	<1	0.53
RMD-208	GRAB	13200 No. 4 Rd.	13-Jun-14	0.88	<1	<2	8	<1	0.51
RMD-214	GRAB	11720 Westminster Hwy.	13-Jun-14	0.9	<1	<2	8	<1	0.41
RMD-251	GRAB	5951McCallan Rd. PWT - 10	7 16-Jun-14	1.1	<1	<2	8	<1	0.45

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-255	GRAB	6000 Blk. Miller Rd.	16-Jun-14	0.65	<1	<2	8	<1	0.56
RMD-277	GRAB	Opp. 11280 Twigg Place	18-Jun-14	0.95	<1	<2	8	<1	0.47
RMD-266	GRAB	9380 General Currie Rd.	18-Jun-14	0.96	<1	<2	8	<1	0.4
RMD-257	GRAB	6640 Blundell Rd.	18-Jun-14	0.86	<1	<2	8	<1	0.5
RMD-253	GRAB	11051 No 3 Rd.	23-Jun-14	0.88	<1	<2	8	<1	0.36
RMD-263	GRAB	12560 Cambie Rd.	25-Jun-14	1	<1	<2	8	<1	0.68
RMD-214	GRAB	11720 Westminster Hwy.	27-Jun-14	0.87	<1	<2	8	<1	0.3
RMD-272	GRAB	751 Catalina Cres.	30-Jun-14	0.91	<1	<2	8	<1	0.43
RMD-254	GRAB	5300 No. 3 Rd.	30-Jun-14	0.98	<1	<2	8	<1	0.3
RMD-263	GRAB	12560 Cambie Rd.	2-Jul-14	1	<1	<2	8	<1	0.71
RMD-277	GRAB	Opp. 11280 Twigg Place	2-Jul-14	0.9	<1	<2	8	<1	0.55
RMD-262	GRAB	13799 Commerce Pkwy.	2-Jul-14	0.96	<1	<2	8	<1	0.5
RMD-214	GRAB	11720 Westminster Hwy.	4-Jul-14	1	<1	<2	8	<1	0.3
RMD-251	GRAB	5951McCallan Rd.	17-Nov-14	0.62	<1	<2	8	<1	0.12
RMD-272	GRAB	751 Catalina Cres.	17-Nov-14	0.8	<1	<2	8	<1	0.11
RMD-253	GRAB	11051 No 3 Rd.	17-Nov-14	0.81	<1	<2	8	<1	0.09
RMD-263	GRAB	12560 Cambie Rd.	19-Nov-14	0.78	<1	<2	8	<1	0.11
RMD-278	GRAB	6651 Fraserwood Place	19-Nov-14	0.5	<1	<2	8	<1	0.32
RMD-260	GRAB	11111 Horseshoe Way	19-Nov-14	0.69	<1	<2	8	<1	0.11
RMD-258	GRAB	7000 Blk. Dyke Rd.	19-Nov-14	0.71	<1	<2	8	<1	0.11
RMD-257	GRAB	6640 Blundell Rd.	19-Nov-14	0.75	<1	<2	8	<1	0.11
RMD-206	GRAB	4251 Moncton St.	21-Nov-14	0.69	<1	<2	8	<1	0.1
RMD-216	GRAB	11080 No. 2 Rd.	21-Nov-14	0.69	<1	<2	8	<1	0.1
RMD-202	GRAB	1500 Valemont Way	21-Nov-14	0.66	<1	<2	8	<1	0.11
RMD-276	GRAB	22271 Cochrane Drive	21-Nov-14	0.74	<1	<2	8	<1	0.13
RMD-255	GRAB	6000 Blk. Miller Rd.	24-Nov-14	0.75	<1	<2	8	<1	0.25
RMD-256	GRAB	1000 Blk. McDonald Rd.	24-Nov-14	0.81	<1	<2	8	<1	0.2
RMD-270	GRAB	8200 Jones Rd.	24-Nov-14	0.78	<1	<2	8	<1	0.13
RMD-253	GRAB	11051 No 3 Rd.	24-Nov-14	0.75	<1	<2	8	<1	0.13
RMD-263	GRAB	12560 Cambie Rd.	26-Nov-14	0.63	<1	<2	8	<1	0.11
RMD-264	GRAB	13100 Mitchell Rd.	26-Nov-14	0.89	<1	<2	8	<1	0.23
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	26-Nov-14	0.75	<1	<2	8	<1	0.18
RMD-261	GRAB	9911 Sidaway Rd.	26-Nov-14	0.52	<1	<2	8	<1	0.25
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	26-Nov-14	0.69	<1	<2	8	<1	0.58
RMD-258	GRAB	7000 Blk. Dyke Rd.	26-Nov-14	0.52	<1	<2	8	<1	0.13
RMD-212	GRAB	Opp. 8600 Ryan Rd.	27-Nov-14	0.76	<1	8	8	<1	0.12
RMD-208	GRAB	13200 No. 4 Rd.	27-Nov-14	0.83	<1	<2	8	<1	0.11
RMD-205	GRAB	13851 Steveston Hwy.	27-Nov-14	0.61	<1	<2	8	<1	0.21
RMD-202	GRAB	1500 Valemont Way PWT - 10	8 27-Nov-14	0.67	<1	<2	8	<1	0.13

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-214	GRAB	11720 Westminster Hwy.	27-Nov-14	0.71	<1	<2	8	<1	0.13
RMD-251	GRAB	5951McCallan Rd.	1-Dec-14	0.84	<1	<2	8	<1	0.1
RMD-250	GRAB	6071 Azure Rd.	1-Dec-14	0.8	<1	<2	8	<1	0.09
RMD-271	GRAB	3800 Cessna Drive	1-Dec-14	0.74	<1	<2	8	<1	0.15
RMD-272	GRAB	751 Catalina Cres.	1-Dec-14	0.85	<1	<2	8	<1	0.12
RMD-256	GRAB	1000 Blk. McDonald Rd.	1-Dec-14	0.8	<1	<2	8	<1	0.11
RMD-254	GRAB	5300 No. 3 Rd.	1-Dec-14	0.8	<1	<2	8	<1	0.1
RMD-269	GRAB	14951 Triangle Rd.	1-Dec-14	0.72	<1	<2	8	<1	0.37
RMD-253	GRAB	11051 No 3 Rd.	1-Dec-14	0.76	<1	<2	8	<1	0.09
RMD-262	GRAB	13799 Commerce Pkwy.	3-Dec-14	0.52	<1	<2	8	<1	0.37
RMD-278	GRAB	6651 Fraserwood Place	3-Dec-14	0.45	<1	<2	8	<1	0.34
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	3-Dec-14	0.68	<1	<2	8	<1	0.24
RMD-261	GRAB	9911 Sidaway Rd.	3-Dec-14	0.58	<1	<2	8	<1	0.35
RMD-259	GRAB	10020 Amethyst Ave.	3-Dec-14	0.73	<1	<2	8	<1	0.14
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	3-Dec-14	0.71	<1	<2	8	<1	0.22
RMD-205	GRAB	13851 Steveston Hwy.	5-Dec-14	0.49	<1	<2	8	<1	0.27
RMD-202	GRAB	1500 Valemont Way	5-Dec-14	0.77	<1	4	8	<1	0.12
RMD-214	GRAB	11720 Westminster Hwy.	5-Dec-14	0.8	<1	2	8	<1	0.12
RMD-249	GRAB	23000 Blk. Dyke Rd.	5-Dec-14	0.54	<1	<2	8	<1	0.24
RMD-276	GRAB	22271 Cochrane Drive	5-Dec-14	0.55	<1	<2	8	<1	0.16
RMD-273	GRAB	Opp. 8331 Fairfax Place	8-Dec-14	0.72	<1	2	8	<1	0.12
RMD-252	GRAB	9751 Pendleton Rd.	8-Dec-14	0.75	<1	<2	8	<1	0.14
RMD-274	GRAB	10920 Springwood Court	8-Dec-14	0.7	<1	<2	8	<1	0.1
RMD-271	GRAB	3800 Cessna Drive	8-Dec-14	0.72	<1	<2	8	<1	0.13
RMD-270	GRAB	8200 Jones Rd.	8-Dec-14	0.75	<1	<2	8	<1	0.17
RMD-269	GRAB	14951 Triangle Rd.	8-Dec-14	0.55	<1	2	8	<1	0.14
RMD-263	GRAB	12560 Cambie Rd.	10-Dec-14	0.76	<1	<2	8	<1	0.11
RMD-262	GRAB	13799 Commerce Pkwy.	10-Dec-14	0.63	<1	<2	8	<1	0.18
RMD-278	GRAB	6651 Fraserwood Place	10-Dec-14	0.48	<1	<2	8	<1	0.29
RMD-204	GRAB	3180 Granville Ave.	11-Dec-14	0.57	<1	<2	8	<1	0.95
RMD-206	GRAB	4251 Moncton St.	11-Dec-14	0.75	<1	<2	8	<1	0.12
RMD-267	GRAB	17240 Fedoruk	11-Dec-14	0.5	<1	<2	8	<1	0.28
RMD-249	GRAB	23000 Blk. Dyke Rd.	11-Dec-14	0.51	<1	<2	8	<1	0.29
RMD-276	GRAB	22271 Cochrane Drive	11-Dec-14	0.61	<1	<2	8	<1	0.23
RMD-273	GRAB	Opp. 8331 Fairfax Place	15-Dec-14	0.68	<1	<2	8	<1	0.19
RMD-274	GRAB	10920 Springwood Court	15-Dec-14	0.75	<1	<2	8	<1	0.15
RMD-269	GRAB	14951 Triangle Rd.	15-Dec-14	0.52	<1	<2	8	<1	0.1
RMD-263	GRAB	12560 Cambie Rd.	17-Dec-14	0.94	<1	<2	8	<1	0.09
RMD-277	GRAB	Opp. 11280 Twigg Place PWT - 1	09 17-Dec-14	0.96	<1	<2	8	<1	0.15

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-278	GRAB	6651 Fraserwood Place	17-Dec-14	0.52	<1	<2	8	<1	0.29
RMD-204	GRAB	3180 Granville Ave.	19-Dec-14	1.1	<1	<2	8	<1	0.82
RMD-202	GRAB	1500 Valemont Way	19-Dec-14	0.71	<1	<2	8	<1	0.1
RMD-249	GRAB	23000 Blk. Dyke Rd.	19-Dec-14	0.54	<1	<2	8	<1	0.63
RMD-276	GRAB	22271 Cochrane Drive	19-Dec-14	0.57	<1	2	8	<1	0.13
RMD-275	GRAB	5180 Smith Cres.	19-Dec-14	0.58	<1	<2	8	<1	0.17
RMD-273	GRAB	Opp. 8331 Fairfax Place	22-Dec-14	0.93	<1	NA	8	<1	0.21
RMD-252	GRAB	9751 Pendleton Rd.	22-Dec-14	0.87	<1	NA	8	<1	0.18
RMD-274	GRAB	10920 Springwood Court	22-Dec-14	0.99	<1	NA	8	<1	0.13
RMD-254	GRAB	5300 No. 3 Rd.	22-Dec-14	0.97	<1	NA	8	<1	0.1
RMD-277	GRAB	Opp. 11280 Twigg Place	23-Dec-14	0.84	<1	NA	8	<1	0.15
RMD-262	GRAB	13799 Commerce Pkwy.	23-Dec-14	0.61	<1	NA	8	<1	0.16
RMD-278	GRAB	6651 Fraserwood Place	23-Dec-14	0.54	<1	NA	8	<1	0.42
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	23-Dec-14	0.73	<1	NA	8	<1	0.21
RMD-256	GRAB	1000 Blk. McDonald Rd.	29-Dec-14	0.36	<1	NA	8	<1	0.4
RMD-250	GRAB	6071 Azure Rd.	22-Apr-14	0.63	<1	<2	9	<1	0.17
RMD-271	GRAB	3800 Cessna Drive	22-Apr-14	0.5	<1	<2	9	<1	0.11
RMD-266	GRAB	9380 General Currie Rd.	23-Apr-14	0.69	<1	<2	9	<1	0.13
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	23-Apr-14	0.64	<1	<2	9	<1	0.11
RMD-258	GRAB	7000 Blk. Dyke Rd.	23-Apr-14	0.7	<1	<2	9	<1	0.1
RMD-204	GRAB	3180 Granville Ave.	25-Apr-14	0.54	<1	2	9	<1	0.18
RMD-212	GRAB	Opp. 8600 Ryan Rd.	25-Apr-14	0.7	<1	<2	9	<1	0.12
RMD-202	GRAB	1500 Valemont Way	25-Apr-14	0.59	<1	<2	9	<1	0.13
RMD-214	GRAB	11720 Westminster Hwy.	25-Apr-14	0.64	<1	2	9	<1	0.1
RMD-204	GRAB	3180 Granville Ave.	2-May-14	0.63	<1	<2	9	<1	0.23
RMD-267	GRAB	17240 Fedoruk	2-May-14	0.59	<1	<2	9	<1	0.15
RMD-276	GRAB	22271 Cochrane Drive	2-May-14	0.61	<1	<2	9	<1	0.16
RMD-252	GRAB	9751 Pendleton Rd.	5-May-14	0.61	<1	<2	9	<1	0.18
RMD-274	GRAB	10920 Springwood Court	5-May-14	0.63	<1	<2	9	<1	0.11
RMD-250	GRAB	6071 Azure Rd.	5-May-14	0.65	<1	<2	9	<1	0.13
RMD-256	GRAB	1000 Blk. McDonald Rd.	5-May-14	0.67	<1	<2	9	<1	0.11
RMD-270	GRAB	8200 Jones Rd.	5-May-14	0.72	<1	<2	9	<1	0.1
RMD-253	GRAB	11051 No 3 Rd.	5-May-14	0.67	<1	<2	9	<1	0.11
RMD-263	GRAB	12560 Cambie Rd.	7-May-14	0.77	<1	<2	9	<1	0.13
RMD-262	GRAB	13799 Commerce Pkwy.	7-May-14	0.78	<1	12	9	<1	0.11
RMD-260	GRAB	11111 Horseshoe Way	7-May-14	0.73	<1	<2	9	<1	0.12
RMD-259	GRAB	10020 Amethyst Ave.	7-May-14	0.6	<1	<2	9	<1	0.13
RMD-266	GRAB	9380 General Currie Rd.	7-May-14	0.89	<1	<2	9	<1	0.13
RMD-268	GRAB	13800 No. 3 Rd. (off Gar (1974) - 11	0 7-May-14	0.6	<1	<2	9	<1	0.12

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-258	GRAB	7000 Blk. Dyke Rd.	7-May-14	0.59	<1	<2	9	<1	0.12
RMD-257	GRAB	6640 Blundell Rd.	7-May-14	0.77	<1	<2	9	<1	0.13
RMD-206	GRAB	4251 Moncton St.	9-May-14	0.7	<1	<2	9	<1	0.23
RMD-249	GRAB	23000 Blk. Dyke Rd.	9-May-14	0.45	<1	<2	9	<1	0.22
RMD-252	GRAB	9751 Pendleton Rd.	12-May-14	0.59	<1	<2	9	<1	0.13
RMD-250	GRAB	6071 Azure Rd.	12-May-14	0.66	<1	<2	9	<1	0.14
RMD-271	GRAB	3800 Cessna Drive	12-May-14	0.67	<1	<2	9	<1	0.11
RMD-254	GRAB	5300 No. 3 Rd.	12-May-14	0.67	<1	<2	9	<1	0.1
RMD-270	GRAB	8200 Jones Rd.	12-May-14	0.54	<1	2	9	<1	0.16
RMD-269	GRAB	14951 Triangle Rd.	12-May-14	0.53	<1	<2	9	<1	0.1
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	14-May-14	0.63	<1	<2	9	<1	0.16
RMD-206	GRAB	4251 Moncton St.	16-May-14	0.57	<1	<2	9	<1	0.16
RMD-216	GRAB	11080 No. 2 Rd.	16-May-14	0.66	<1	4	9	<1	0.13
RMD-202	GRAB	1500 Valemont Way	16-May-14	0.53	<1	<2	9	<1	0.14
RMD-214	GRAB	11720 Westminster Hwy.	16-May-14	0.71	<1	<2	9	<1	0.14
RMD-267	GRAB	17240 Fedoruk	16-May-14	0.64	<1	<2	9	<1	0.14
RMD-249	GRAB	23000 Blk. Dyke Rd.	16-May-14	0.37	<1	<2	9	<1	0.29
RMD-251	GRAB	5951McCallan Rd.	20-May-14	0.77	<1	14	9	<1	0.15
RMD-269	GRAB	14951 Triangle Rd.	20-May-14	0.71	<1	2	9	<1	0.16
RMD-250	GRAB	6071 Azure Rd.	20-May-14	0.75	<1	2	9	<1	0.18
RMD-251	GRAB	5951McCallan Rd.	26-May-14	0.71	<1	<2	9	<1	0.13
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	28-May-14	0.64	<1	<2	9	<1	0.1
RMD-216	GRAB	11080 No. 2 Rd.	30-May-14	0.82	<1	<2	9	<1	0.34
RMD-208	GRAB	13200 No. 4 Rd.	30-May-14	0.79	<1	<2	9	<1	0.3
RMD-214	GRAB	11720 Westminster Hwy.	30-May-14	0.87	<1	<2	9	<1	0.38
RMD-203	GRAB	23260 Westminster Hwy.	30-May-14	0.57	<1	<2	9	<1	0.1
RMD-250	GRAB	6071 Azure Rd.	2-Jun-14	0.82	<1	<2	9	<1	0.51
RMD-271	GRAB	3800 Cessna Drive	2-Jun-14	1	<1	LA	9	<1	0.43
RMD-272	GRAB	751 Catalina Cres.	2-Jun-14	0.91	<1	<2	9	<1	0.51
RMD-256	GRAB	1000 Blk. McDonald Rd.	2-Jun-14	1	<1	<2	9	<1	0.53
RMD-270	GRAB	8200 Jones Rd.	2-Jun-14	0.89	<1	<2	9	<1	0.6
RMD-269	GRAB	14951 Triangle Rd.	2-Jun-14	1	<1	<2	9	<1	0.53
RMD-263	GRAB	12560 Cambie Rd.	4-Jun-14	0.93	<1	<2	9	<1	0.52
RMD-277	GRAB	Opp. 11280 Twigg Place	4-Jun-14	0.98	<1	<2	9	<1	0.61
RMD-260	GRAB	11111 Horseshoe Way	4-Jun-14	1	<1	<2	9	<1	0.45
RMD-259	GRAB	10020 Amethyst Ave.	4-Jun-14	0.83	<1	<2	9	<1	0.43
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	4-Jun-14	1	<1	<2	9	<1	0.52
RMD-257	GRAB	6640 Blundell Rd.	4-Jun-14	0.92	<1	<2	9	<1	0.45
RMD-208	GRAB	13200 No. 4 Rd. PWT - 1	1 1 6-Jun-14	0.94	<1	<2	9	<1	0.74

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-214	GRAB	11720 Westminster Hwy.	6-Jun-14	1.1	<1	<2	9	<1	0.5
RMD-271	GRAB	3800 Cessna Drive	9-Jun-14	0.88	<1	<2	9	<1	0.59
RMD-277	GRAB	Opp. 11280 Twigg Place	11-Jun-14	0.97	<1	<2	9	<1	0.45
RMD-260	GRAB	11111 Horseshoe Way	11-Jun-14	0.92	<1	<2	9	<1	0.41
RMD-266	GRAB	9380 General Currie Rd.	11-Jun-14	1.1	<1	<2	9	<1	0.44
RMD-257	GRAB	6640 Blundell Rd.	11-Jun-14	0.94	<1	<2	9	<1	0.39
RMD-206	GRAB	4251 Moncton St.	13-Jun-14	0.73	<1	<2	9	<1	0.7
RMD-212	GRAB	Opp. 8600 Ryan Rd.	13-Jun-14	0.71	<1	<2	9	<1	0.57
RMD-250	GRAB	6071 Azure Rd.	16-Jun-14	0.72	<1	<2	9	<1	0.4
RMD-271	GRAB	3800 Cessna Drive	16-Jun-14	1.1	<1	<2	9	<1	0.48
RMD-272	GRAB	751 Catalina Cres.	16-Jun-14	0.85	<1	<2	9	<1	0.41
RMD-253	GRAB	11051 No 3 Rd.	16-Jun-14	0.74	<1	<2	9	<1	0.47
RMD-264	GRAB	13100 Mitchell Rd.	18-Jun-14	1	<1	<2	9	<1	0.52
RMD-260	GRAB	11111 Horseshoe Way	18-Jun-14	0.9	<1	<2	9	<1	0.5
RMD-259	GRAB	10020 Amethyst Ave.	18-Jun-14	0.71	<1	<2	9	<1	0.36
RMD-216	GRAB	11080 No. 2 Rd.	20-Jun-14	0.71	<1	<2	9	<1	0.47
RMD-214	GRAB	11720 Westminster Hwy.	20-Jun-14	1.1	<1	<2	9	<1	0.42
RMD-251	GRAB	5951McCallan Rd.	23-Jun-14	0.96	<1	<2	9	<1	0.43
RMD-250	GRAB	6071 Azure Rd.	23-Jun-14	1	<1	<2	9	<1	0.48
RMD-255	GRAB	6000 Blk. Miller Rd.	23-Jun-14	1	<1	<2	9	<1	0.68
RMD-254	GRAB	5300 No. 3 Rd.	23-Jun-14	0.92	<1	<2	9	<1	0.43
RMD-264	GRAB	13100 Mitchell Rd.	25-Jun-14	0.98	<1	<2	9	<1	0.66
RMD-277	GRAB	Opp. 11280 Twigg Place	25-Jun-14	0.99	<1	<2	9	<1	0.65
RMD-260	GRAB	11111 Horseshoe Way	25-Jun-14	0.89	<1	2	9	<1	0.38
RMD-259	GRAB	10020 Amethyst Ave.	25-Jun-14	1	<1	<2	9	<1	0.38
RMD-257	GRAB	6640 Blundell Rd.	25-Jun-14	0.84	<1	<2	9	<1	0.42
RMD-212	GRAB	Opp. 8600 Ryan Rd.	27-Jun-14	0.83	<1	<2	9	<1	0.28
RMD-208	GRAB	13200 No. 4 Rd.	27-Jun-14	0.94	<1	<2	9	<1	0.3
RMD-251	GRAB	5951McCallan Rd.	30-Jun-14	1.1	<1	<2	9	<1	0.34
RMD-253	GRAB	11051 No 3 Rd.	30-Jun-14	0.98	<1	<2	9	<1	0.29
RMD-250	GRAB	6071 Azure Rd.	30-Jun-14	1.1	<1	<2	9	<1	0.32
RMD-255	GRAB	6000 Blk. Miller Rd.	30-Jun-14	0.94	<1	<2	9	<1	0.54
RMD-260	GRAB	11111 Horseshoe Way	2-Jul-14	0.99	<1	<2	9	<1	0.35
RMD-266	GRAB	9380 General Currie Rd.	2-Jul-14	0.85	<1	<2	9	<1	0.35
RMD-257	GRAB	6640 Blundell Rd.	2-Jul-14	1.1	<1	<2	9	<1	0.39
RMD-216	GRAB	11080 No. 2 Rd.	4-Jul-14	0.8	<1	<2	9	<1	0.29
RMD-208	GRAB	13200 No. 4 Rd.	4-Jul-14	0.85	<1	<2	9	<1	0.3
RMD-251	GRAB	5951McCallan Rd.	7-Jul-14	0.98	<1	<2	9	<1	0.31
RMD-266	GRAB	9380 General Currie Rd. PWT - 11	2 9-Jul-14	0.96	<1	<2	9	<1	0.32

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-257	GRAB	6640 Blundell Rd.	9-Jul-14	1	<1	<2	9	<1	0.34
RMD-216	GRAB	11080 No. 2 Rd.	11-Jul-14	0.95	<1	<2	9	<1	0.3
RMD-214	GRAB	11720 Westminster Hwy.	11-Jul-14	0.88	<1	<2	9	<1	0.3
RMD-251	GRAB	5951McCallan Rd.	14-Jul-14	0.96	<1	<2	9	<1	0.42
RMD-272	GRAB	751 Catalina Cres.	14-Jul-14	1	<1	<2	9	<1	0.32
RMD-255	GRAB	6000 Blk. Miller Rd.	14-Jul-14	0.89	<1	<2	9	<1	0.63
RMD-277	GRAB	Opp. 11280 Twigg Place	16-Jul-14	0.92	<1	<2	9	<1	0.32
RMD-266	GRAB	9380 General Currie Rd.	16-Jul-14	0.93	<1	<2	9	<1	0.28
RMD-257	GRAB	6640 Blundell Rd.	16-Jul-14	0.88	<1	<2	9	<1	0.3
RMD-253	REPEAT	11051 No 3 Rd.	16-Jul-14	0.89	<1	<2	9	<1	0.26
RMD-214	GRAB	11720 Westminster Hwy.	18-Jul-14	0.83	<1	<2	9	<1	0.3
RMD-251	GRAB	5951McCallan Rd.	21-Jul-14	0.99	<1	<2	9	<1	0.36
RMD-255	GRAB	6000 Blk. Miller Rd.	21-Jul-14	0.78	<1	<2	9	<1	0.32
RMD-260	GRAB	11111 Horseshoe Way	23-Jul-14	0.91	<1	<2	9	<1	0.28
RMD-257	GRAB	6640 Blundell Rd.	23-Jul-14	0.98	<1	<2	9	<1	0.31
RMD-214	GRAB	11720 Westminster Hwy.	24-Jul-14	1.2	<1	<2	9	<1	0.26
RMD-251	GRAB	5951McCallan Rd.	28-Jul-14	0.81	<1	<2	9	<1	0.33
RMD-255	GRAB	6000 Blk. Miller Rd.	28-Jul-14	1.2	<1	<2	9	<1	0.43
RMD-266	GRAB	9380 General Currie Rd.	30-Jul-14	0.61	<1	<2	9	<1	0.31
RMD-251	GRAB	5951McCallan Rd.	11-Aug-14	0.78	<1	<2	9	<1	0.37
RMD-203	GRAB	23260 Westminster Hwy.	7-Nov-14	0.8	<1	<2	9	<1	0.1
RMD-255	GRAB	6000 Blk. Miller Rd.	10-Nov-14	0.94	<1	<2	9	<1	0.11
RMD-263	GRAB	12560 Cambie Rd.	12-Nov-14	0.79	<1	<2	9	<1	0.34
RMD-264	GRAB	13100 Mitchell Rd.	12-Nov-14	0.81	<1	<2	9	<1	0.19
RMD-277	GRAB	Opp. 11280 Twigg Place	12-Nov-14	0.81	<1	2	9	<1	0.18
RMD-262	GRAB	13799 Commerce Pkwy.	12-Nov-14	0.68	<1	<2	9	<1	0.19
RMD-278	GRAB	6651 Fraserwood Place	12-Nov-14	0.91	<1	<2	9	<1	0.16
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	12-Nov-14	0.73	<1	<2	9	<1	0.23
RMD-260	GRAB	11111 Horseshoe Way	12-Nov-14	0.82	<1	<2	9	<1	0.27
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	12-Nov-14	0.76	<1	<2	9	<1	0.15
RMD-257	GRAB	6640 Blundell Rd.	12-Nov-14	0.85	<1	<2	9	<1	0.13
RMD-271	GRAB	3800 Cessna Drive	17-Nov-14	0.8	<1	<2	9	<1	0.1
RMD-256	GRAB	1000 Blk. McDonald Rd.	17-Nov-14	0.67	<1	<2	9	<1	0.13
RMD-254	GRAB	5300 No. 3 Rd.	17-Nov-14	0.52	<1	<2	9	<1	0.13
RMD-264	GRAB	13100 Mitchell Rd.	19-Nov-14	0.74	<1	<2	9	<1	0.11
RMD-262	GRAB	13799 Commerce Pkwy.	19-Nov-14	0.49	<1	<2	9	<1	0.15
RMD-204	GRAB	3180 Granville Ave.	21-Nov-14	0.72	<1	<2	9	<1	0.45
RMD-205	GRAB	13851 Steveston Hwy.	21-Nov-14	0.61	<1	2	9	<1	0.32
RMD-214	GRAB	11720 Westminster Hwy PWT - 1 1	3 21-Nov-14	0.92	<1	<2	9	<1	0.11

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-249	GRAB	23000 Blk. Dyke Rd.	21-Nov-14	0.5	<1	10	9	<1	0.27
RMD-203	GRAB	23260 Westminster Hwy.	21-Nov-14	0.79	<1	<2	9	<1	0.09
RMD-252	GRAB	9751 Pendleton Rd.	24-Nov-14	0.75	<1	<2	9	<1	0.12
RMD-274	GRAB	10920 Springwood Court	24-Nov-14	0.78	<1	<2	9	<1	0.17
RMD-250	GRAB	6071 Azure Rd.	24-Nov-14	0.75	<1	<2	9	<1	0.15
RMD-254	GRAB	5300 No. 3 Rd.	24-Nov-14	0.77	<1	<2	9	<1	0.21
RMD-269	GRAB	14951 Triangle Rd.	24-Nov-14	0.52	<1	<2	9	<1	0.24
RMD-277	GRAB	Opp. 11280 Twigg Place	26-Nov-14	0.72	<1	6	9	<1	0.16
RMD-262	GRAB	13799 Commerce Pkwy.	26-Nov-14	0.68	<1	<2	9	<1	0.13
RMD-278	GRAB	6651 Fraserwood Place	26-Nov-14	0.58	<1	<2	9	<1	0.13
RMD-204	GRAB	3180 Granville Ave.	27-Nov-14	0.66	<1	<2	9	<1	0.35
RMD-267	GRAB	17240 Fedoruk	27-Nov-14	0.44	<1	<2	9	<1	0.27
RMD-249	GRAB	23000 Blk. Dyke Rd.	27-Nov-14	0.58	<1	<2	9	<1	0.16
RMD-276	GRAB	22271 Cochrane Drive	27-Nov-14	0.6	<1	<2	9	<1	0.16
RMD-275	GRAB	5180 Smith Cres.	27-Nov-14	0.63	<1	4	9	<1	0.3
RMD-203	GRAB	23260 Westminster Hwy.	27-Nov-14	0.65	<1	<2	9	<1	0.11
RMD-252	GRAB	9751 Pendleton Rd.	1-Dec-14	0.7	<1	<2	9	<1	0.13
RMD-274	GRAB	10920 Springwood Court	1-Dec-14	0.76	<1	<2	9	<1	0.1
RMD-204	GRAB	3180 Granville Ave.	5-Dec-14	1.1	<1	<2	9	<1	0.23
RMD-273	GRAB	Opp. 8331 Fairfax Place	14-Apr-14	0.65	<1	<2	10	<1	0.21
RMD-274	GRAB	10920 Springwood Court	22-Apr-14	0.59	<1	<2	10	<1	0.14
RMD-263	GRAB	12560 Cambie Rd.	23-Apr-14	0.67	<1	<2	10	<1	0.12
RMD-274	GRAB	10920 Springwood Court	28-Apr-14	0.65	<1	<2	10	<1	0.1
RMD-249	GRAB	23000 Blk. Dyke Rd.	2-May-14	0.56	<1	<2	10	<1	0.13
RMD-264	GRAB	13100 Mitchell Rd.	7-May-14	0.77	<1	<2	10	<1	0.15
RMD-277	GRAB	Opp. 11280 Twigg Place	7-May-14	0.85	<1	<2	10	<1	0.17
RMD-278	GRAB	6651 Fraserwood Place	7-May-14	0.61	<1	<2	10	<1	0.14
RMD-261	GRAB	9911 Sidaway Rd.	7-May-14	0.9	<1	<2	10	<1	0.09
RMD-204	GRAB	3180 Granville Ave.	9-May-14	0.66	<1	<2	10	<1	0.24
RMD-267	GRAB	17240 Fedoruk	9-May-14	0.65	<1	<2	10	<1	0.16
RMD-276	GRAB	22271 Cochrane Drive	9-May-14	0.55	<1	<2	10	<1	0.11
RMD-275	GRAB	5180 Smith Cres.	9-May-14	0.63	<1	<2	10	<1	0.14
RMD-203	GRAB	23260 Westminster Hwy.	9-May-14	0.51	<1	<2	10	<1	0.16
RMD-272	GRAB	751 Catalina Cres.	12-May-14	0.67	<1	<2	10	<1	0.1
RMD-256	GRAB	1000 Blk. McDonald Rd.	12-May-14	0.63	<1	<2	10	<1	0.11
RMD-258	GRAB	7000 Blk. Dyke Rd.	14-May-14	0.59	<1	<2	10	<1	0.11
RMD-204	GRAB	3180 Granville Ave.	16-May-14	0.67	<1	<2	10	<1	0.5
RMD-212	GRAB	Opp. 8600 Ryan Rd.	16-May-14	0.72	<1	<2	10	<1	0.12
RMD-275	GRAB	5180 Smith Cres. PWT - 1'	14 16-May-14	0.68	<1	<2	10	<1	0.12

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-252	GRAB	9751 Pendleton Rd.	20-May-14	0.69	<1	<2	10	<1	0.14
RMD-253	GRAB	11051 No 3 Rd.	20-May-14	0.77	<1	<2	10	<1	0.14
RMD-270	GRAB	8200 Jones Rd.	20-May-14	0.7	<1	<2	10	<1	0.17
RMD-254	GRAB	5300 No. 3 Rd.	20-May-14	0.66	<1	<2	10	<1	0.15
RMD-271	GRAB	3800 Cessna Drive	20-May-14	0.73	<1	<2	10	<1	0.14
RMD-256	GRAB	1000 Blk. McDonald Rd.	20-May-14	0.61	<1	14	10	<1	0.14
RMD-216	GRAB	11080 No. 2 Rd.	23-May-14	0.75	<1	<2	10	<1	0.14
RMD-203	GRAB	23260 Westminster Hwy.	23-May-14	0.73	<1	<2	10	<1	0.19
RMD-271	GRAB	3800 Cessna Drive	26-May-14	0.73	<1	<2	10	<1	0.14
RMD-272	GRAB	751 Catalina Cres.	26-May-14	0.61	<1	<2	10	<1	0.12
RMD-255	GRAB	6000 Blk. Miller Rd.	26-May-14	0.75	<1	<2	10	<1	0.2
RMD-256	GRAB	1000 Blk. McDonald Rd.	26-May-14	0.71	<1	<2	10	<1	0.15
RMD-254	GRAB	5300 No. 3 Rd.	26-May-14	0.68	<1	<2	10	<1	0.13
RMD-269	GRAB	14951 Triangle Rd.	26-May-14	0.64	<1	<2	10	<1	0.16
RMD-253	GRAB	11051 No 3 Rd.	26-May-14	0.7	<1	<2	10	<1	0.12
RMD-262	GRAB	13799 Commerce Pkwy.	28-May-14	0.79	<1	2	10	<1	0.25
RMD-260	GRAB	11111 Horseshoe Way	28-May-14	0.74	<1	<2	10	<1	0.11
RMD-259	GRAB	10020 Amethyst Ave.	28-May-14	0.71	<1	2	10	<1	0.13
RMD-266	GRAB	9380 General Currie Rd.	28-May-14	0.78	<1	<2	10	<1	0.12
RMD-257	GRAB	6640 Blundell Rd.	28-May-14	0.78	<1	<2	10	<1	0.11
RMD-206	GRAB	4251 Moncton St.	30-May-14	0.76	<1	<2	10	<1	0.54
RMD-212	GRAB	Opp. 8600 Ryan Rd.	30-May-14	0.83	<1	2	10	<1	0.52
RMD-205	GRAB	13851 Steveston Hwy.	30-May-14	0.59	<1	<2	10	<1	0.11
RMD-202	GRAB	1500 Valemont Way	30-May-14	0.58	<1	<2	10	<1	0.15
RMD-252	GRAB	9751 Pendleton Rd.	2-Jun-14	0.77	<1	<2	10	<1	0.49
RMD-254	GRAB	5300 No. 3 Rd.	2-Jun-14	0.85	<1	<2	10	<1	0.46
RMD-253	GRAB	11051 No 3 Rd.	2-Jun-14	0.97	<1	<2	10	<1	0.58
RMD-264	GRAB	13100 Mitchell Rd.	4-Jun-14	0.97	<1	<2	10	<1	0.5
RMD-278	GRAB	6651 Fraserwood Place	4-Jun-14	0.55	<1	<2	10	<1	0.15
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	4-Jun-14	0.62	<1	<2	10	<1	0.1
RMD-261	GRAB	9911 Sidaway Rd.	4-Jun-14	0.57	<1	<2	10	<1	0.13
RMD-266	GRAB	9380 General Currie Rd.	4-Jun-14	0.79	<1	<2	10	<1	0.52
RMD-258	GRAB	7000 Blk. Dyke Rd.	4-Jun-14	0.61	<1	<2	10	<1	0.4
RMD-206	GRAB	4251 Moncton St.	6-Jun-14	0.85	<1	<2	10	<1	0.69
RMD-216	GRAB	11080 No. 2 Rd.	6-Jun-14	0.84	<1	<2	10	<1	0.45
RMD-212	GRAB	Opp. 8600 Ryan Rd.	6-Jun-14	0.87	<1	<2	10	<1	0.48
RMD-252	GRAB	9751 Pendleton Rd.	9-Jun-14	0.73	<1	<2	10	<1	0.7
RMD-250	GRAB	6071 Azure Rd.	9-Jun-14	0.71	<1	2	10	<1	0.25
RMD-256	GRAB	1000 Blk. McDonald Rd. PWT - 1'	5 9-Jun-14	0.77	<1	<2	10	<1	0.65

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-254	GRAB	5300 No. 3 Rd.	9-Jun-14	0.6	<1	<2	10	<1	0.5
RMD-270	GRAB	8200 Jones Rd.	9-Jun-14	0.8	<1	26	10	<1	0.53
RMD-269	GRAB	14951 Triangle Rd.	9-Jun-14	0.65	<1	<2	10	<1	0.2
RMD-263	GRAB	12560 Cambie Rd.	11-Jun-14	0.99	<1	<2	10	<1	0.47
RMD-264	GRAB	13100 Mitchell Rd.	11-Jun-14	0.95	<1	<2	10	<1	0.66
RMD-204	GRAB	3180 Granville Ave.	13-Jun-14	0.67	<1	<2	10	<1	0.45
RMD-205	GRAB	13851 Steveston Hwy.	13-Jun-14	0.71	<1	<2	10	<1	0.12
RMD-275	GRAB	5180 Smith Cres.	13-Jun-14	0.72	<1	<2	10	<1	0.1
RMD-203	GRAB	23260 Westminster Hwy.	13-Jun-14	0.69	<1	<2	10	<1	0.1
RMD-252	GRAB	9751 Pendleton Rd.	16-Jun-14	0.67	<1	<2	10	<1	0.4
RMD-263	GRAB	12560 Cambie Rd.	18-Jun-14	0.94	<1	2	10	<1	0.39
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	18-Jun-14	0.83	<1	<2	10	<1	0.47
RMD-258	GRAB	7000 Blk. Dyke Rd.	18-Jun-14	0.76	<1	<2	10	<1	0.39
RMD-206	GRAB	4251 Moncton St.	20-Jun-14	0.87	<1	<2	10	<1	0.36
RMD-212	GRAB	Opp. 8600 Ryan Rd.	20-Jun-14	0.77	<1	<2	10	<1	0.36
RMD-208	GRAB	13200 No. 4 Rd.	20-Jun-14	0.92	<1	<2	10	<1	0.37
RMD-252	GRAB	9751 Pendleton Rd.	23-Jun-14	0.72	<1	<2	10	<1	0.42
RMD-271	GRAB	3800 Cessna Drive	23-Jun-14	0.95	<1	2	10	<1	0.46
RMD-256	GRAB	1000 Blk. McDonald Rd.	23-Jun-14	0.84	<1	<2	10	<1	0.37
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	25-Jun-14	0.85	<1	4	10	<1	0.38
RMD-258	GRAB	7000 Blk. Dyke Rd.	25-Jun-14	0.88	<1	<2	10	<1	0.33
RMD-206	GRAB	4251 Moncton St.	27-Jun-14	0.82	<1	2	10	<1	0.32
RMD-216	GRAB	11080 No. 2 Rd.	27-Jun-14	0.78	<1	<2	10	<1	0.32
RMD-270	GRAB	8200 Jones Rd.	30-Jun-14	0.64	<1	<2	10	<1	0.29
RMD-264	GRAB	13100 Mitchell Rd.	2-Jul-14	0.95	<1	<2	10	<1	0.56
RMD-259	GRAB	10020 Amethyst Ave.	2-Jul-14	0.87	<1	<2	10	<1	0.36
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	2-Jul-14	0.65	<1	<2	10	<1	0.61
RMD-258	GRAB	7000 Blk. Dyke Rd.	2-Jul-14	0.87	<1	<2	10	<1	0.33
RMD-206	GRAB	4251 Moncton St.	4-Jul-14	0.63	<1	<2	10	<1	0.33
RMD-212	GRAB	Opp. 8600 Ryan Rd.	4-Jul-14	0.79	<1	<2	10	<1	0.29
RMD-271	GRAB	3800 Cessna Drive	7-Jul-14	0.92	<1	<2	10	<1	0.58
RMD-272	GRAB	751 Catalina Cres.	7-Jul-14	0.88	<1	<2	10	<1	0.33
RMD-255	GRAB	6000 Blk. Miller Rd.	7-Jul-14	0.97	<1	<2	10	<1	0.61
RMD-254	GRAB	5300 No. 3 Rd.	7-Jul-14	0.87	<1	<2	10	<1	0.43
RMD-253	GRAB	11051 No 3 Rd.	7-Jul-14	0.85	<1	2	10	<1	0.4
RMD-263	GRAB	12560 Cambie Rd.	9-Jul-14	0.69	<1	<2	10	<1	0.38
RMD-277	GRAB	Opp. 11280 Twigg Place	9-Jul-14	0.81	<1	<2	10	<1	0.34
RMD-262	GRAB	13799 Commerce Pkwy.	9-Jul-14	1	<1	<2	10	<1	0.33
RMD-260	GRAB	11111 Horseshoe Way PWT - 11	6 9-Jul-14	0.96	<1	<2	10	<1	0.33

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-206	GRAB	4251 Moncton St.	11-Jul-14	0.91	<1	2	10	<1	0.33
RMD-208	GRAB	13200 No. 4 Rd.	11-Jul-14	0.88	<1	<2	10	<1	0.32
RMD-271	GRAB	3800 Cessna Drive	14-Jul-14	0.87	<1	<2	10	<1	0.38
RMD-254	GRAB	5300 No. 3 Rd.	14-Jul-14	0.59	<1	<2	10	<1	0.48
RMD-253	GRAB	11051 No 3 Rd.	14-Jul-14	0.77	<1	4	10	1	0.38
RMD-263	GRAB	12560 Cambie Rd.	16-Jul-14	1.2	<1	<2	10	<1	0.32
RMD-262	GRAB	13799 Commerce Pkwy.	16-Jul-14	0.85	<1	<2	10	<1	0.32
RMD-260	GRAB	11111 Horseshoe Way	16-Jul-14	0.75	<1	<2	10	<1	0.29
RMD-206	GRAB	4251 Moncton St.	18-Jul-14	0.69	<1	<2	10	<1	0.61
RMD-216	GRAB	11080 No. 2 Rd.	18-Jul-14	0.85	<1	<2	10	<1	0.27
RMD-208	GRAB	13200 No. 4 Rd.	18-Jul-14	0.88	<1	2	10	<1	0.36
RMD-271	GRAB	3800 Cessna Drive	21-Jul-14	0.81	<1	<2	10	<1	0.27
RMD-272	GRAB	751 Catalina Cres.	21-Jul-14	0.91	<1	<2	10	<1	0.34
RMD-256	GRAB	1000 Blk. McDonald Rd.	21-Jul-14	0.96	<1	<2	10	<1	0.34
RMD-254	GRAB	5300 No. 3 Rd.	21-Jul-14	0.91	<1	<2	10	<1	0.39
RMD-253	GRAB	11051 No 3 Rd.	21-Jul-14	0.83	<1	<2	10	<1	0.46
RMD-263	GRAB	12560 Cambie Rd.	23-Jul-14	0.96	<1	<2	10	<1	0.3
RMD-277	GRAB	Opp. 11280 Twigg Place	23-Jul-14	1	<1	2	10	<1	0.31
RMD-266	GRAB	9380 General Currie Rd.	23-Jul-14	1.1	<1	<2	10	<1	0.29
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	23-Jul-14	0.81	<1	<2	10	<1	0.26
RMD-216	GRAB	11080 No. 2 Rd.	24-Jul-14	0.92	<1	<2	10	<1	0.28
RMD-271	GRAB	3800 Cessna Drive	28-Jul-14	1.1	<1	<2	10	<1	0.32
RMD-256	GRAB	1000 Blk. McDonald Rd.	28-Jul-14	0.52	<1	<2	10	<1	0.38
RMD-254	GRAB	5300 No. 3 Rd.	28-Jul-14	0.76	<1	<2	10	<1	0.32
RMD-253	GRAB	11051 No 3 Rd.	28-Jul-14	0.7	<1	<2	10	<1	0.35
RMD-263	GRAB	12560 Cambie Rd.	30-Jul-14	0.88	<1	<2	10	<1	0.39
RMD-264	GRAB	13100 Mitchell Rd.	30-Jul-14	0.86	<1	<2	10	<1	0.51
RMD-277	GRAB	Opp. 11280 Twigg Place	30-Jul-14	1.1	<1	<2	10	<1	0.44
RMD-260	GRAB	11111 Horseshoe Way	30-Jul-14	1.2	<1	<2	10	<1	0.29
RMD-206	GRAB	4251 Moncton St.	1-Aug-14	1.1	<1	<2	10	<1	0.25
RMD-216	GRAB	11080 No. 2 Rd.	1-Aug-14	0.91	<1	<2	10	<1	0.25
RMD-208	GRAB	13200 No. 4 Rd.	1-Aug-14	0.98	<1	<2	10	<1	0.25
RMD-214	GRAB	11720 Westminster Hwy.	1-Aug-14	1.2	<1	<2	10	<1	0.27
RMD-251	GRAB	5951McCallan Rd.	5-Aug-14	0.69	<1	<2	10	<1	0.29
RMD-214	GRAB	11720 Westminster Hwy.	7-Aug-14	0.89	<1	<2	10	<1	0.32
RMD-255	GRAB	6000 Blk. Miller Rd.	11-Aug-14	0.67	<1	<2	10	<1	0.38
RMD-275	GRAB	5180 Smith Cres.	2-Oct-14	0.49	<1	<2	10	<1	0.11
RMD-251	GRAB	5951McCallan Rd.	27-Oct-14	0.85	<1	2	10	<1	0.11
RMD-272	GRAB	751 Catalina Cres. PWT - 11	7 27-Oct-14	0.87	<1	<2	10	<1	0.24

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-253	GRAB	11051 No 3 Rd.	27-Oct-14	0.94	<1	<2	10	<1	0.22
RMD-203	GRAB	23260 Westminster Hwy.	30-Oct-14	0.88	<1	<2	10	<1	0.3
RMD-255	GRAB	6000 Blk. Miller Rd.	3-Nov-14	1	<1	2	10	<1	0.14
RMD-253	GRAB	11051 No 3 Rd.	3-Nov-14	0.86	<1	<2	10	<1	0.16
RMD-260	GRAB	11111 Horseshoe Way	5-Nov-14	0.73	<1	<2	10	<1	0.14
RMD-266	GRAB	9380 General Currie Rd.	5-Nov-14	0.87	<1	<2	10	<1	0.16
RMD-204	GRAB	3180 Granville Ave.	7-Nov-14	0.63	<1	<2	10	<1	0.84
RMD-206	GRAB	4251 Moncton St.	7-Nov-14	0.99	<1	<2	10	<1	0.12
RMD-216	GRAB	11080 No. 2 Rd.	7-Nov-14	0.88	<1	<2	10	<1	0.11
RMD-208	GRAB	13200 No. 4 Rd.	7-Nov-14	0.91	<1	<2	10	<1	0.13
RMD-205	GRAB	13851 Steveston Hwy.	7-Nov-14	0.46	<1	<2	10	<1	0.68
RMD-202	GRAB	1500 Valemont Way	7-Nov-14	0.89	<1	<2	10	<1	0.11
RMD-214	GRAB	11720 Westminster Hwy.	7-Nov-14	0.8	<1	<2	10	<1	0.11
RMD-267	GRAB	17240 Fedoruk	7-Nov-14	0.71	<1	<2	10	<1	0.15
RMD-276	GRAB	22271 Cochrane Drive	7-Nov-14	0.6	<1	<2	10	<1	0.19
RMD-275	GRAB	5180 Smith Cres.	7-Nov-14	0.76	<1	<2	10	<1	0.13
RMD-251	GRAB	5951McCallan Rd.	10-Nov-14	1.2	<1	<2	10	<1	0.12
RMD-250	GRAB	6071 Azure Rd.	10-Nov-14	0.75	<1	<2	10	<1	0.16
RMD-271	GRAB	3800 Cessna Drive	10-Nov-14	0.86	<1	<2	10	<1	0.48
RMD-272	GRAB	751 Catalina Cres.	10-Nov-14	0.88	<1	<2	10	<1	0.2
RMD-254	GRAB	5300 No. 3 Rd.	10-Nov-14	0.69	<1	<2	10	<1	0.12
RMD-270	GRAB	8200 Jones Rd.	10-Nov-14	0.78	<1	<2	10	<1	0.1
RMD-253	GRAB	11051 No 3 Rd.	10-Nov-14	0.85	<1	<2	10	<1	0.11
RMD-269	GRAB	14951 Triangle Rd.	10-Nov-14	0.62	<1	<2	10	<1	0.19
RMD-261	GRAB	9911 Sidaway Rd.	12-Nov-14	0.69	<1	<2	10	<1	0.23
RMD-259	GRAB	10020 Amethyst Ave.	12-Nov-14	0.76	<1	<2	10	<1	0.11
RMD-266	GRAB	9380 General Currie Rd.	12-Nov-14	0.9	<1	<2	10	<1	0.1
RMD-258	GRAB	7000 Blk. Dyke Rd.	12-Nov-14	0.84	<1	<2	10	<1	0.11
RMD-206	GRAB	4251 Moncton St.	13-Nov-14	0.82	<1	<2	10	<1	0.13
RMD-216	GRAB	11080 No. 2 Rd.	13-Nov-14	0.91	<1	<2	10	<1	0.1
RMD-212	GRAB	Opp. 8600 Ryan Rd.	13-Nov-14	0.85	<1	<2	10	<1	0.11
RMD-249	GRAB	23000 Blk. Dyke Rd.	13-Nov-14	0.63	<1	4	10	<1	0.23
RMD-273	GRAB	Opp. 8331 Fairfax Place	17-Nov-14	0.6	<1	<2	10	<1	0.2
RMD-252	GRAB	9751 Pendleton Rd.	17-Nov-14	0.6	<1	<2	10	<1	0.13
RMD-274	GRAB	10920 Springwood Court	17-Nov-14	0.68	<1	<2	10	<1	0.13
RMD-250	GRAB	6071 Azure Rd.	17-Nov-14	0.75	<1	2	10	<1	0.17
RMD-270	GRAB	8200 Jones Rd.	17-Nov-14	0.75	<1	<2	10	<1	0.14
RMD-269	GRAB	14951 Triangle Rd.	17-Nov-14	0.56	<1	<2	10	<1	0.15
RMD-212	GRAB	Opp. 8600 Ryan Rd. PWT - 1	18 21-Nov-14	0.78	<1	2	10	<1	0.1

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-267	GRAB	17240 Fedoruk	21-Nov-14	0.45	<1	<2	10	<1	0.17
RMD-275	GRAB	5180 Smith Cres.	21-Nov-14	0.55	<1	<2	10	<1	0.28
RMD-251	GRAB	5951McCallan Rd.	24-Nov-14	0.86	<1	2	10	<1	0.1
RMD-273	GRAB	Opp. 8331 Fairfax Place	24-Nov-14	0.54	<1	2	10	<1	0.17
RMD-206	GRAB	4251 Moncton St.	27-Nov-14	0.7	<1	2	10	<1	0.12
RMD-273	GRAB	Opp. 8331 Fairfax Place	1-Dec-14	0.69	<1	<2	10	<1	0.11
RMD-273	GRAB	Opp. 8331 Fairfax Place	22-Apr-14	0.69	<1	<2	11	<1	0.12
RMD-276	GRAB	22271 Cochrane Drive	16-May-14	0.59	<1	<2	11	<1	0.13
RMD-272	GRAB	751 Catalina Cres.	20-May-14	0.74	<1	<2	11	<1	0.11
RMD-206	GRAB	4251 Moncton St.	23-May-14	0.61	<1	<2	11	<1	0.22
RMD-212	GRAB	Opp. 8600 Ryan Rd.	23-May-14	0.64	<1	<2	11	<1	0.34
RMD-208	GRAB	13200 No. 4 Rd.	23-May-14	0.71	<1	<2	11	<1	0.13
RMD-205	GRAB	13851 Steveston Hwy.	23-May-14	0.76	<1	2	11	<1	0.18
RMD-214	GRAB	11720 Westminster Hwy.	23-May-14	0.66	<1	<2	11	<1	0.13
RMD-252	GRAB	9751 Pendleton Rd.	26-May-14	0.66	<1	<2	11	<1	0.13
RMD-250	GRAB	6071 Azure Rd.	26-May-14	0.66	<1	<2	11	<1	0.14
RMD-270	GRAB	8200 Jones Rd.	26-May-14	0.37	<1	<2	11	<1	0.13
RMD-263	GRAB	12560 Cambie Rd.	28-May-14	0.72	<1	<2	11	<1	0.17
RMD-264	GRAB	13100 Mitchell Rd.	28-May-14	0.67	<1	2	11	<1	0.13
RMD-278	GRAB	6651 Fraserwood Place	28-May-14	0.68	<1	<2	11	<1	0.24
RMD-261	GRAB	9911 Sidaway Rd.	28-May-14	0.78	<1	<2	11	<1	0.25
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	28-May-14	0.67	<1	<2	11	<1	0.17
RMD-275	GRAB	5180 Smith Cres.	30-May-14	0.54	<1	<2	11	<1	0.14
RMD-205	GRAB	13851 Steveston Hwy.	6-Jun-14	0.71	<1	<2	11	<1	0.57
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	11-Jun-14	0.76	<1	<2	11	<1	0.12
RMD-261	GRAB	9911 Sidaway Rd.	11-Jun-14	0.79	<1	<2	11	<1	0.22
RMD-259	GRAB	10020 Amethyst Ave.	11-Jun-14	0.86	<1	<2	11	<1	0.38
RMD-258	GRAB	7000 Blk. Dyke Rd.	11-Jun-14	0.88	<1	<2	11	<1	0.44
RMD-216	GRAB	11080 No. 2 Rd.	13-Jun-14	0.65	<1	<2	11	<1	0.52
RMD-202	GRAB	1500 Valemont Way	13-Jun-14	0.61	<1	<2	11	<1	0.15
RMD-256	GRAB	1000 Blk. McDonald Rd.	16-Jun-14	0.81	<1	<2	11	<1	0.47
RMD-254	GRAB	5300 No. 3 Rd.	16-Jun-14	0.85	<1	<2	11	<1	0.48
RMD-262	GRAB	13799 Commerce Pkwy.	18-Jun-14	0.64	<1	<2	11	<1	0.14
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	18-Jun-14	0.67	<1	<2	11	<1	0.13
RMD-261	GRAB	9911 Sidaway Rd.	18-Jun-14	0.63	<1	<2	11	<1	0.12
RMD-272	GRAB	751 Catalina Cres.	23-Jun-14	0.94	<1	<2	11	<1	0.45
RMD-270	GRAB	8200 Jones Rd.	23-Jun-14	0.85	<1	<2	11	<1	0.33
RMD-262	GRAB	13799 Commerce Pkwy.	25-Jun-14	0.74	<1	<2	11	<1	0.42
RMD-279	GRAB	Opp. 20371 Westminste PWT - 11	9 25-Jun-14	0.85	<1	2	11	<1	0.37

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-261	GRAB	9911 Sidaway Rd.	25-Jun-14	1	<1	<2	11	<1	0.22
RMD-266	GRAB	9380 General Currie Rd.	25-Jun-14	0.92	<1	<2	11	<1	0.32
RMD-205	GRAB	13851 Steveston Hwy.	27-Jun-14	0.75	<1	<2	11	<1	0.14
RMD-203	GRAB	23260 Westminster Hwy.	27-Jun-14	0.77	<1	<2	11	<1	0.11
RMD-269	GRAB	14951 Triangle Rd.	30-Jun-14	0.76	<1	<2	11	<1	0.13
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	2-Jul-14	0.71	<1	<2	11	<1	0.16
RMD-261	GRAB	9911 Sidaway Rd.	2-Jul-14	0.9	<1	<2	11	<1	0.22
RMD-203	GRAB	23260 Westminster Hwy.	4-Jul-14	0.79	<1	4	11	<1	0.2
RMD-256	GRAB	1000 Blk. McDonald Rd.	7-Jul-14	0.73	<1	<2	11	<1	0.55
RMD-259	GRAB	10020 Amethyst Ave.	9-Jul-14	0.83	<1	<2	11	<1	0.31
RMD-258	GRAB	7000 Blk. Dyke Rd.	9-Jul-14	0.87	<1	<2	11	<1	0.31
RMD-204	GRAB	3180 Granville Ave.	11-Jul-14	0.76	<1	<2	11	<1	0.3
RMD-212	GRAB	Opp. 8600 Ryan Rd.	11-Jul-14	0.89	<1	<2	11	<1	0.35
RMD-275	GRAB	5180 Smith Cres.	11-Jul-14	0.87	<1	<2	11	<1	0.25
RMD-264	GRAB	13100 Mitchell Rd.	16-Jul-14	0.9	<1	<2	11	<1	0.45
RMD-259	GRAB	10020 Amethyst Ave.	16-Jul-14	0.86	<1	<2	11	<1	0.28
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	16-Jul-14	0.65	<1	<2	11	<1	0.28
RMD-212	GRAB	Opp. 8600 Ryan Rd.	18-Jul-14	0.81	<1	<2	11	<1	0.31
RMD-264	GRAB	13100 Mitchell Rd.	23-Jul-14	0.84	<1	<2	11	<1	0.43
RMD-259	GRAB	10020 Amethyst Ave.	23-Jul-14	0.73	<1	<2	11	<1	0.24
RMD-206	GRAB	4251 Moncton St.	24-Jul-14	0.99	<1	<2	11	<1	0.23
RMD-208	GRAB	13200 No. 4 Rd.	24-Jul-14	1.1	<1	<2	11	<1	0.25
RMD-272	GRAB	751 Catalina Cres.	28-Jul-14	0.84	<1	<2	11	<1	0.33
RMD-262	GRAB	13799 Commerce Pkwy.	30-Jul-14	0.85	<1	<2	11	<1	0.39
RMD-259	GRAB	10020 Amethyst Ave.	30-Jul-14	0.73	<1	<2	11	<1	0.3
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	30-Jul-14	1.1	<1	<2	11	<1	0.71
RMD-257	GRAB	6640 Blundell Rd.	30-Jul-14	0.85	<1	<2	11	<1	0.3
RMD-250	GRAB	6071 Azure Rd.	5-Aug-14	0.94	<1	<2	11	<1	0.36
RMD-255	GRAB	6000 Blk. Miller Rd.	5-Aug-14	0.79	<1	<2	11	<1	0.36
RMD-253	GRAB	11051 No 3 Rd.	5-Aug-14	0.73	<1	<2	11	<1	0.3
RMD-263	GRAB	12560 Cambie Rd.	6-Aug-14	0.71	<1	<2	11	<1	0.35
RMD-266	GRAB	9380 General Currie Rd.	6-Aug-14	0.83	<1	<2	11	<1	0.38
RMD-257	GRAB	6640 Blundell Rd.	6-Aug-14	1	<1	<2	11	<1	0.3
RMD-206	GRAB	4251 Moncton St.	7-Aug-14	0.78	<1	<2	11	<1	0.34
RMD-216	GRAB	11080 No. 2 Rd.	7-Aug-14	0.73	<1	<2	11	<1	0.38
RMD-205	GRAB	13851 Steveston Hwy.	7-Aug-14	0.79	<1	<2	11	<1	0.23
RMD-267	GRAB	17240 Fedoruk	7-Aug-14	0.75	<1	2	11	<1	0.21
RMD-276	GRAB	22271 Cochrane Drive	7-Aug-14	0.69	<1	<2	11	<1	0.2
RMD-203	GRAB	23260 Westminster HwyPWT - 12	20 7-Aug-14	0.61	<1	<2	11	<1	0.21

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-253	GRAB	11051 No 3 Rd.	11-Aug-14	0.8	<1	<2	11	<1	0.33
RMD-257	GRAB	6640 Blundell Rd.	13-Aug-14	0.8	<1	<2	11	<1	0.39
RMD-214	GRAB	11720 Westminster Hwy.	21-Aug-14	0.85	<1	<2	11	<1	0.29
RMD-255	GRAB	6000 Blk. Miller Rd.	27-Oct-14	0.86	<1	<2	11	<1	0.24
RMD-256	GRAB	1000 Blk. McDonald Rd.	27-Oct-14	0.65	<1	<2	11	<1	0.46
RMD-266	GRAB	9380 General Currie Rd.	29-Oct-14	0.89	<1	<2	11	<1	0.16
RMD-206	GRAB	4251 Moncton St.	30-Oct-14	0.72	<1	<2	11	<1	0.15
RMD-216	GRAB	11080 No. 2 Rd.	30-Oct-14	0.84	<1	<2	11	<1	0.11
RMD-212	GRAB	Opp. 8600 Ryan Rd.	30-Oct-14	0.77	<1	<2	11	<1	0.11
RMD-208	GRAB	13200 No. 4 Rd.	30-Oct-14	0.81	<1	<2	11	<1	0.17
RMD-202	GRAB	1500 Valemont Way	30-Oct-14	0.83	<1	<2	11	<1	0.28
RMD-214	GRAB	11720 Westminster Hwy.	30-Oct-14	0.78	<1	<2	11	<1	0.21
RMD-267	GRAB	17240 Fedoruk	30-Oct-14	0.67	<1	6	11	<1	0.14
RMD-251	GRAB	5951McCallan Rd.	3-Nov-14	0.77	<1	<2	11	<1	0.11
RMD-271	GRAB	3800 Cessna Drive	3-Nov-14	0.86	<1	<2	11	<1	0.23
RMD-263	GRAB	12560 Cambie Rd.	5-Nov-14	0.05	<1	<2	11	<1	0.18
RMD-264	GRAB	13100 Mitchell Rd.	5-Nov-14	1.1	<1	<2	11	<1	0.12
RMD-277	GRAB	Opp. 11280 Twigg Place	5-Nov-14	0.64	<1	<2	11	<1	0.16
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	5-Nov-14	0.51	<1	<2	11	<1	0.27
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	5-Nov-14	0.88	<1	<2	11	<1	0.12
RMD-257	GRAB	6640 Blundell Rd.	5-Nov-14	0.95	<1	<2	11	<1	0.13
RMD-252	GRAB	9751 Pendleton Rd.	10-Nov-14	0.62	<1	<2	11	<1	0.14
RMD-274	GRAB	10920 Springwood Court	10-Nov-14	0.6	<1	<2	11	<1	0.11
RMD-256	GRAB	1000 Blk. McDonald Rd.	10-Nov-14	0.35	<1	<2	11	<1	0.18
RMD-208	GRAB	13200 No. 4 Rd.	13-Nov-14	0.95	<1	2	11	<1	0.1
RMD-205	GRAB	13851 Steveston Hwy.	13-Nov-14	0.62	<1	<2	11	<1	0.47
RMD-202	GRAB	1500 Valemont Way	13-Nov-14	0.95	<1	<2	11	<1	0.12
RMD-214	GRAB	11720 Westminster Hwy.	13-Nov-14	0.79	<1	2	11	<1	0.13
RMD-267	GRAB	17240 Fedoruk	13-Nov-14	0.82	<1	<2	11	<1	0.15
RMD-276	GRAB	22271 Cochrane Drive	13-Nov-14	0.88	<1	<2	11	<1	0.11
RMD-275	GRAB	5180 Smith Cres.	13-Nov-14	0.81	<1	<2	11	<1	0.25
RMD-203	GRAB	23260 Westminster Hwy.	13-Nov-14	0.97	<1	<2	11	<1	0.11
RMD-277	GRAB	Opp. 11280 Twigg Place	19-Nov-14	0.62	<1	<2	11	<1	0.11
RMD-274	GRAB	10920 Springwood Court	12-May-14	0.61	<1	<2	12	<1	0.1
RMD-274	GRAB	10920 Springwood Court	20-May-14	0.69	<1	<2	12	<1	0.13
RMD-204	GRAB	3180 Granville Ave.	23-May-14	0.64	<1	<2	12	<1	0.4
RMD-202	GRAB	1500 Valemont Way	23-May-14	0.62	<1	<2	12	<1	0.21
RMD-267	GRAB	17240 Fedoruk	23-May-14	0.68	<1	<2	12	<1	0.17
RMD-249	GRAB	23000 Blk. Dyke Rd. PWT - 12	23-May-14	0.7	<1	<2	12	<1	0.26

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-276	GRAB	22271 Cochrane Drive	23-May-14	0.49	<1	<2	12	<1	0.22
RMD-275	GRAB	5180 Smith Cres.	23-May-14	0.75	<1	<2	12	<1	0.25
RMD-277	GRAB	Opp. 11280 Twigg Place	28-May-14	0.64	<1	<2	12	<1	0.17
RMD-258	GRAB	7000 Blk. Dyke Rd.	28-May-14	0.68	<1	<2	12	<1	0.14
RMD-204	GRAB	3180 Granville Ave.	30-May-14	0.7	<1	<2	12	<1	0.37
RMD-267	GRAB	17240 Fedoruk	30-May-14	0.55	<1	<2	12	<1	0.11
RMD-274	GRAB	10920 Springwood Court	2-Jun-14	0.74	<1	<2	12	<1	0.42
RMD-204	GRAB	3180 Granville Ave.	6-Jun-14	0.77	<1	<2	12	<1	0.63
RMD-202	GRAB	1500 Valemont Way	6-Jun-14	0.67	<1	<2	12	<1	0.16
RMD-203	GRAB	23260 Westminster Hwy.	6-Jun-14	0.69	<1	<2	12	<1	0.15
RMD-274	GRAB	10920 Springwood Court	9-Jun-14	0.56	<1	<2	12	<1	0.4
RMD-262	GRAB	13799 Commerce Pkwy.	11-Jun-14	0.49	<1	<2	12	<1	0.14
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	11-Jun-14	0.71	<1	<2	12	<1	0.15
RMD-249	GRAB	23000 Blk. Dyke Rd.	13-Jun-14	0.55	<1	<2	12	<1	0.12
RMD-276	GRAB	22271 Cochrane Drive	13-Jun-14	0.69	<1	<2	12	<1	0.13
RMD-270	GRAB	8200 Jones Rd.	16-Jun-14	0.69	<1	<2	12	<1	0.52
RMD-269	GRAB	14951 Triangle Rd.	16-Jun-14	0.66	<1	<2	12	<1	0.18
RMD-278	GRAB	6651 Fraserwood Place	18-Jun-14	0.62	<1	<2	12	<1	0.12
RMD-205	GRAB	13851 Steveston Hwy.	20-Jun-14	0.64	<1	<2	12	<1	0.14
RMD-202	GRAB	1500 Valemont Way	20-Jun-14	0.68	<1	<2	12	<1	0.17
RMD-203	GRAB	23260 Westminster Hwy.	20-Jun-14	0.77	<1	<2	12	<1	0.11
RMD-269	GRAB	14951 Triangle Rd.	23-Jun-14	0.76	<1	<2	12	<1	0.11
RMD-202	GRAB	1500 Valemont Way	27-Jun-14	0.94	<1	<2	12	<1	0.12
RMD-249	GRAB	23000 Blk. Dyke Rd.	27-Jun-14	0.63	<1	<2	12	<1	0.12
RMD-275	GRAB	5180 Smith Cres.	27-Jun-14	0.88	<1	<2	12	<1	0.16
RMD-252	GRAB	9751 Pendleton Rd.	30-Jun-14	0.68	<1	<2	12	<1	0.3
RMD-274	GRAB	10920 Springwood Court	30-Jun-14	0.7	<1	<2	12	<1	0.35
RMD-271	GRAB	3800 Cessna Drive	30-Jun-14	0.67	<1	2	12	<1	0.41
RMD-205	GRAB	13851 Steveston Hwy.	4-Jul-14	0.84	<1	<2	12	<1	0.2
RMD-202	GRAB	1500 Valemont Way	4-Jul-14	0.91	<1	<2	12	<1	0.16
RMD-274	GRAB	10920 Springwood Court	7-Jul-14	0.68	<1	<2	12	<1	0.33
RMD-250	GRAB	6071 Azure Rd.	7-Jul-14	0.76	<1	<2	12	<1	0.55
RMD-264	GRAB	13100 Mitchell Rd.	9-Jul-14	1	<1	<2	12	<1	0.48
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	9-Jul-14	0.83	<1	<2	12	<1	0.32
RMD-205	GRAB	13851 Steveston Hwy.	11-Jul-14	0.96	<1	<2	12	<1	0.22
RMD-203	GRAB	23260 Westminster Hwy.	11-Jul-14	0.85	<1	<2	12	<1	0.23
RMD-252	GRAB	9751 Pendleton Rd.	14-Jul-14	0.73	<1	<2	12	<1	0.29
RMD-250	GRAB	6071 Azure Rd.	14-Jul-14	0.89	<1	<2	12	<1	0.38
RMD-270	GRAB	8200 Jones Rd. PWT - 1 2	22 14-Jul-14	0.85	<1	<2	12	<1	0.35

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-269	GRAB	14951 Triangle Rd.	14-Jul-14	0.82	<1	<2	12	<1	0.21
RMD-258	GRAB	7000 Blk. Dyke Rd.	16-Jul-14	0.6	<1	<2	12	<1	0.29
RMD-205	GRAB	13851 Steveston Hwy.	18-Jul-14	0.57	<1	<2	12	<1	0.21
RMD-252	GRAB	9751 Pendleton Rd.	21-Jul-14	0.73	<1	<2	12	<1	0.27
RMD-250	GRAB	6071 Azure Rd.	21-Jul-14	0.75	<1	<2	12	<1	0.31
RMD-270	GRAB	8200 Jones Rd.	21-Jul-14	0.66	<1	<2	12	<1	0.25
RMD-258	GRAB	7000 Blk. Dyke Rd.	23-Jul-14	0.71	<1	<2	12	<1	0.25
RMD-212	GRAB	Opp. 8600 Ryan Rd.	24-Jul-14	0.91	<1	<2	12	<1	0.26
RMD-252	GRAB	9751 Pendleton Rd.	28-Jul-14	0.89	<1	<2	12	<1	0.42
RMD-250	GRAB	6071 Azure Rd.	28-Jul-14	0.87	<1	2	12	<1	0.34
RMD-270	GRAB	8200 Jones Rd.	28-Jul-14	0.69	<1	<2	12	<1	0.31
RMD-212	GRAB	Opp. 8600 Ryan Rd.	1-Aug-14	0.86	<1	<2	12	<1	0.27
RMD-254	GRAB	5300 No. 3 Rd.	5-Aug-14	0.63	<1	<2	12	<1	0.3
RMD-260	GRAB	11111 Horseshoe Way	6-Aug-14	0.88	<1	<2	12	<1	0.34
RMD-259	GRAB	10020 Amethyst Ave.	6-Aug-14	0.77	<1	<2	12	<1	0.26
RMD-204	GRAB	3180 Granville Ave.	7-Aug-14	0.72	<1	4	12	<1	0.3
RMD-212	GRAB	Opp. 8600 Ryan Rd.	7-Aug-14	0.7	<1	<2	12	<1	0.42
RMD-249	GRAB	23000 Blk. Dyke Rd.	7-Aug-14	0.57	<1	2	12	<1	0.2
RMD-275	GRAB	5180 Smith Cres.	7-Aug-14	0.52	<1	<2	12	<1	0.15
RMD-250	GRAB	6071 Azure Rd.	11-Aug-14	0.87	<1	<2	12	<1	0.54
RMD-271	GRAB	3800 Cessna Drive	11-Aug-14	0.88	<1	<2	12	<1	0.36
RMD-272	GRAB	751 Catalina Cres.	11-Aug-14	0.75	<1	<2	12	<1	0.3
RMD-256	GRAB	1000 Blk. McDonald Rd.	11-Aug-14	0.73	<1	<2	12	<1	0.37
RMD-254	GRAB	5300 No. 3 Rd.	11-Aug-14	0.72	<1	<2	12	<1	0.33
RMD-263	GRAB	12560 Cambie Rd.	13-Aug-14	0.76	<1	<2	12	<1	0.32
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	13-Aug-14	0.62	<1	<2	12	<1	0.3
RMD-206	GRAB	4251 Moncton St.	15-Aug-14	0.71	<1	<2	12	<1	0.3
RMD-216	GRAB	11080 No. 2 Rd.	15-Aug-14	0.97	<1	<2	12	<1	0.31
RMD-205	GRAB	13851 Steveston Hwy.	15-Aug-14	0.55	<1	<2	12	<1	0.16
RMD-214	GRAB	11720 Westminster Hwy.	15-Aug-14	1	<1	2	12	<1	0.32
RMD-251	GRAB	5951McCallan Rd.	18-Aug-14	0.67	<1	<2	12	<1	0.29
RMD-250	GRAB	6071 Azure Rd.	18-Aug-14	0.64	<1	4	12	<1	0.67
RMD-272	GRAB	751 Catalina Cres.	18-Aug-14	0.69	<1	<2	12	<1	0.3
RMD-255	GRAB	6000 Blk. Miller Rd.	18-Aug-14	0.68	<1	8	12	<1	0.29
RMD-253	GRAB	11051 No 3 Rd.	18-Aug-14	0.68	<1	<2	12	<1	0.27
RMD-263	GRAB	12560 Cambie Rd.	20-Aug-14	0.66	<1	<2	12	<1	0.34
RMD-216	GRAB	11080 No. 2 Rd.	21-Aug-14	0.83	<1	<2	12	<1	0.3
RMD-212	GRAB	Opp. 8600 Ryan Rd.	21-Aug-14	0.77	<1	<2	12	<1	0.29
RMD-208	GRAB	13200 No. 4 Rd. PWT - 1	23 21-Aug-14	0.82	<1	<2	12	<1	0.38

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-202	GRAB	1500 Valemont Way	21-Aug-14	0.66	<1	<2	12	<1	0.3
RMD-249	GRAB	23000 Blk. Dyke Rd.	21-Aug-14	0.6	<1	<2	12	<1	0.28
RMD-275	GRAB	5180 Smith Cres.	21-Aug-14	0.69	<1	<2	12	<1	0.18
RMD-251	GRAB	5951McCallan Rd.	25-Aug-14	0.82	<1	<2	12	<1	0.33
RMD-255	GRAB	6000 Blk. Miller Rd.	25-Aug-14	0.9	<1	2	12	<1	0.36
RMD-256	GRAB	1000 Blk. McDonald Rd.	25-Aug-14	0.65	<1	<2	12	<1	0.38
RMD-254	GRAB	5300 No. 3 Rd.	25-Aug-14	0.85	<1	<2	12	<1	0.46
RMD-264	GRAB	13100 Mitchell Rd.	27-Aug-14	0.72	<1	2	12	<1	0.68
RMD-212	GRAB	Opp. 8600 Ryan Rd.	29-Aug-14	0.65	<1	<2	12	<1	0.33
RMD-208	GRAB	13200 No. 4 Rd.	29-Aug-14	0.78	<1	<2	12	<1	0.39
RMD-205	GRAB	13851 Steveston Hwy.	29-Aug-14	0.64	<1	<2	12	<1	0.27
RMD-272	GRAB	751 Catalina Cres.	20-Oct-14	0.86	<1	<2	12	<1	0.12
RMD-255	GRAB	6000 Blk. Miller Rd.	20-Oct-14	0.84	<1	<2	12	<1	0.24
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	22-Oct-14	0.75	<1	<2	12	<1	0.28
RMD-260	GRAB	11111 Horseshoe Way	22-Oct-14	0.85	<1	<2	12	<1	0.2
RMD-266	GRAB	9380 General Currie Rd.	22-Oct-14	0.84	<1	<2	12	<1	0.17
RMD-214	GRAB	11720 Westminster Hwy.	24-Oct-14	0.75	<1	<2	12	<1	0.14
RMD-252	GRAB	9751 Pendleton Rd.	27-Oct-14	0.55	<1	<2	12	<1	0.14
RMD-274	GRAB	10920 Springwood Court	27-Oct-14	0.71	<1	<2	12	<1	0.17
RMD-250	GRAB	6071 Azure Rd.	27-Oct-14	0.69	<1	<2	12	<1	0.12
RMD-271	GRAB	3800 Cessna Drive	27-Oct-14	0.75	<1	<2	12	<1	0.19
RMD-254	GRAB	5300 No. 3 Rd.	27-Oct-14	0.72	<1	<2	12	<1	0.13
RMD-270	GRAB	8200 Jones Rd.	27-Oct-14	0.65	<1	<2	12	<1	0.44
RMD-269	GRAB	14951 Triangle Rd.	27-Oct-14	0.57	<1	<2	12	<1	0.33
RMD-264	GRAB	13100 Mitchell Rd.	29-Oct-14	0.79	<1	<2	12	<1	0.15
RMD-277	GRAB	Opp. 11280 Twigg Place	29-Oct-14	0.76	<1	<2	12	<1	0.2
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	29-Oct-14	0.49	<1	<2	12	<1	0.33
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	29-Oct-14	0.69	<1	<2	12	<1	0.18
RMD-257	GRAB	6640 Blundell Rd.	29-Oct-14	0.78	<1	<2	12	<1	0.11
RMD-204	GRAB	3180 Granville Ave.	30-Oct-14	0.73	<1	<2	12	<1	1.4
RMD-205	GRAB	13851 Steveston Hwy.	30-Oct-14	0.53	<1	<2	12	<1	0.4
RMD-249	GRAB	23000 Blk. Dyke Rd.	30-Oct-14	0.51	<1	<2	12	<1	0.31
RMD-275	GRAB	5180 Smith Cres.	30-Oct-14	0.73	<1	<2	12	<1	0.33
RMD-276	GRAB	22271 Cochrane Drive	30-Oct-14	0.59	<1	<2	12	<1	0.22
RMD-272	GRAB	751 Catalina Cres.	3-Nov-14	0.9	<1	<2	12	<1	0.12
RMD-270	GRAB	8200 Jones Rd.	3-Nov-14	0.87	<1	<2	12	<1	0.22
RMD-269	GRAB	14951 Triangle Rd.	3-Nov-14	0.52	<1	2	12	<1	0.29
RMD-262	GRAB	13799 Commerce Pkwy.	5-Nov-14	0.61	<1	2	12	<1	0.28
RMD-278	GRAB	6651 Fraserwood Place PWT - 12	4 5-Nov-14	0.52	<1	<2	12	<1	0.4

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-261	GRAB	9911 Sidaway Rd.	5-Nov-14	0.47	<1	<2	12	<1	0.3
RMD-259	GRAB	10020 Amethyst Ave.	5-Nov-14	0.3	<1	<2	12	<1	0.16
RMD-258	GRAB	7000 Blk. Dyke Rd.	5-Nov-14	0.54	<1	<2	12	<1	0.13
RMD-273	GRAB	Opp. 8331 Fairfax Place	10-Nov-14	0.65	<1	<2	12	<1	0.15
RMD-204	GRAB	3180 Granville Ave.	13-Nov-14	0.6	<1	2	12	<1	0.17
RMD-249	GRAB	23000 Blk. Dyke Rd.	30-May-14	0.46	<1	<2	13	<1	0.14
RMD-276	GRAB	22271 Cochrane Drive	30-May-14	0.49	<1	2	13	<1	0.12
RMD-267	GRAB	17240 Fedoruk	6-Jun-14	0.73	<1	<2	13	<1	0.15
RMD-249	GRAB	23000 Blk. Dyke Rd.	6-Jun-14	0.66	<1	<2	13	<1	0.1
RMD-276	GRAB	22271 Cochrane Drive	6-Jun-14	0.64	<1	<2	13	<1	0.19
RMD-275	GRAB	5180 Smith Cres.	6-Jun-14	0.73	<1	<2	13	<1	0.21
RMD-278	GRAB	6651 Fraserwood Place	11-Jun-14	0.65	<1	<2	13	<1	0.2
RMD-267	GRAB	17240 Fedoruk	13-Jun-14	0.71	<1	<2	13	<1	0.1
RMD-204	GRAB	3180 Granville Ave.	20-Jun-14	0.68	<1	<2	13	<1	0.37
RMD-267	GRAB	17240 Fedoruk	20-Jun-14	0.65	<1	<2	13	<1	0.1
RMD-276	GRAB	22271 Cochrane Drive	20-Jun-14	0.64	<1	<2	13	<1	0.18
RMD-278	GRAB	6651 Fraserwood Place	25-Jun-14	0.68	<1	<2	13	<1	0.14
RMD-204	GRAB	3180 Granville Ave.	27-Jun-14	0.74	<1	<2	13	<1	0.36
RMD-267	GRAB	17240 Fedoruk	27-Jun-14	0.87	<1	<2	13	<1	0.13
RMD-276	GRAB	22271 Cochrane Drive	27-Jun-14	0.91	<1	2	13	<1	0.12
RMD-256	GRAB	1000 Blk. McDonald Rd.	30-Jun-14	0.23	<1	<2	13	<1	0.3
RMD-278	GRAB	6651 Fraserwood Place	2-Jul-14	0.83	<1	<2	13	<1	0.16
RMD-267	GRAB	17240 Fedoruk	4-Jul-14	0.88	<1	<2	13	<1	0.17
RMD-249	GRAB	23000 Blk. Dyke Rd.	4-Jul-14	0.67	<1	2	13	<1	0.17
RMD-252	GRAB	9751 Pendleton Rd.	7-Jul-14	0.8	<1	<2	13	<1	0.4
RMD-270	GRAB	8200 Jones Rd.	7-Jul-14	0.84	<1	<2	13	<1	0.3
RMD-269	GRAB	14951 Triangle Rd.	7-Jul-14	0.7	<1	<2	13	<1	0.17
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	9-Jul-14	0.99	<1	<2	13	<1	0.41
RMD-261	GRAB	9911 Sidaway Rd.	9-Jul-14	0.74	<1	<2	13	<1	0.25
RMD-202	GRAB	1500 Valemont Way	11-Jul-14	0.83	<1	<2	13	<1	0.23
RMD-249	GRAB	23000 Blk. Dyke Rd.	11-Jul-14	0.29	<1	<2	13	<1	0.19
RMD-276	GRAB	22271 Cochrane Drive	11-Jul-14	0.95	<1	6	13	<1	0.21
RMD-274	GRAB	10920 Springwood Court	14-Jul-14	0.87	<1	2	13	<1	0.42
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	16-Jul-14	0.7	<1	<2	13	<1	0.29
RMD-261	GRAB	9911 Sidaway Rd.	16-Jul-14	0.68	<1	<2	13	<1	0.23
RMD-204	GRAB	3180 Granville Ave.	18-Jul-14	0.74	<1	<2	13	<1	0.29
RMD-203	GRAB	23260 Westminster Hwy.	18-Jul-14	0.62	<1	<2	13	<1	0.21
RMD-269	GRAB	14951 Triangle Rd.	21-Jul-14	0.76	<1	<2	13	<1	0.16
RMD-279	GRAB	Opp. 20371 Westminste PWT - 12	25 23-Jul-14	0.71	<1	<2	13	<1	0.14

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-203	GRAB	23260 Westminster Hwy.	24-Jul-14	0.53	<1	<2	13	<1	0.12
RMD-269	GRAB	14951 Triangle Rd.	28-Jul-14	0.77	<1	<2	13	<1	0.16
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	30-Jul-14	0.68	<1	<2	13	<1	0.29
RMD-261	GRAB	9911 Sidaway Rd.	30-Jul-14	0.71	<1	<2	13	<1	0.23
RMD-258	GRAB	7000 Blk. Dyke Rd.	30-Jul-14	1.2	<1	<2	13	<1	1.2
RMD-205	GRAB	13851 Steveston Hwy.	1-Aug-14	0.59	<1	<2	13	<1	0.15
RMD-252	GRAB	9751 Pendleton Rd.	5-Aug-14	0.71	<1	<2	13	<1	0.28
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	6-Aug-14	0.85	<1	<2	13	<1	0.28
RMD-258	GRAB	7000 Blk. Dyke Rd.	6-Aug-14	0.7	<1	<2	13	<1	0.33
RMD-208	GRAB	13200 No. 4 Rd.	7-Aug-14	0.68	<1	<2	13	<1	0.26
RMD-252	GRAB	9751 Pendleton Rd.	11-Aug-14	0.69	<1	<2	13	<1	0.34
RMD-264	GRAB	13100 Mitchell Rd.	13-Aug-14	0.75	<1	<2	13	<1	0.34
RMD-260	GRAB	11111 Horseshoe Way	13-Aug-14	0.71	<1	2	13	<1	0.32
RMD-266	GRAB	9380 General Currie Rd.	13-Aug-14	0.73	<1	<2	13	<1	0.31
RMD-212	GRAB	Opp. 8600 Ryan Rd.	15-Aug-14	0.67	<1	<2	13	<1	0.28
RMD-208	GRAB	13200 No. 4 Rd.	15-Aug-14	0.81	<1	<2	13	<1	0.29
RMD-271	GRAB	3800 Cessna Drive	18-Aug-14	0.77	<1	<2	13	<1	0.29
RMD-256	GRAB	1000 Blk. McDonald Rd.	18-Aug-14	0.7	<1	<2	13	<1	0.34
RMD-254	GRAB	5300 No. 3 Rd.	18-Aug-14	0.71	<1	<2	13	<1	0.31
RMD-264	GRAB	13100 Mitchell Rd.	20-Aug-14	0.73	<1	<2	13	<1	0.4
RMD-277	GRAB	Opp. 11280 Twigg Place	20-Aug-14	0.76	<1	<2	13	<1	0.34
RMD-259	GRAB	10020 Amethyst Ave.	20-Aug-14	0.68	<1	<2	13	<1	0.27
RMD-206	GRAB	4251 Moncton St.	21-Aug-14	0.78	<1	<2	13	<1	0.34
RMD-205	GRAB	13851 Steveston Hwy.	21-Aug-14	0.66	<1	<2	13	<1	0.17
RMD-252	GRAB	9751 Pendleton Rd.	25-Aug-14	0.86	<1	<2	13	<1	0.41
RMD-272	GRAB	751 Catalina Cres.	25-Aug-14	0.97	<1	<2	13	<1	0.39
RMD-253	GRAB	11051 No 3 Rd.	25-Aug-14	0.83	<1	<2	13	<1	0.34
RMD-263	GRAB	12560 Cambie Rd.	27-Aug-14	0.84	<1	<2	13	<1	0.39
RMD-277	GRAB	Opp. 11280 Twigg Place	27-Aug-14	0.63	<1	<2	13	<1	0.52
RMD-266	GRAB	9380 General Currie Rd.	27-Aug-14	0.81	<1	<2	13	<1	0.33
RMD-257	GRAB	6640 Blundell Rd.	27-Aug-14	0.8	<1	<2	13	<1	0.32
RMD-206	GRAB	4251 Moncton St.	29-Aug-14	0.61	<1	<2	13	<1	0.37
RMD-216	GRAB	11080 No. 2 Rd.	29-Aug-14	0.74	<1	<2	13	<1	0.36
RMD-214	GRAB	11720 Westminster Hwy.	29-Aug-14	0.86	<1	<2	13	<1	0.41
RMD-203	GRAB	23260 Westminster Hwy.	29-Aug-14	0.88	<1	<2	13	<1	0.19
RMD-251	GRAB	5951McCallan Rd.	2-Sep-14	0.84	<1	<2	13	<1	0.36
RMD-272	GRAB	751 Catalina Cres.	2-Sep-14	0.83	<1	<2	13	<1	0.39
RMD-255	GRAB	6000 Blk. Miller Rd.	2-Sep-14	0.96	<1	34	13	<1	0.38
RMD-254	GRAB	5300 No. 3 Rd. PWT - 12	2 2-Sep-14	0.92	<1	2	13	<1	0.31

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-270	GRAB	8200 Jones Rd.	2-Sep-14	0.71	<1	2	13	<1	0.35
RMD-263	GRAB	12560 Cambie Rd.	3-Sep-14	0.88	<1	<2	13	<1	0.37
RMD-260	GRAB	11111 Horseshoe Way	3-Sep-14	0.85	<1	<2	13	<1	0.37
RMD-257	GRAB	6640 Blundell Rd.	3-Sep-14	0.86	<1	<2	13	<1	0.36
RMD-206	GRAB	4251 Moncton St.	4-Sep-14	0.6	<1	<2	13	<1	0.34
RMD-216	GRAB	11080 No. 2 Rd.	4-Sep-14	0.81	<1	<2	13	<1	0.32
RMD-205	GRAB	13851 Steveston Hwy.	4-Sep-14	0.69	<1	<2	13	<1	0.21
RMD-202	GRAB	1500 Valemont Way	4-Sep-14	0.58	<1	<2	13	<1	0.24
RMD-214	GRAB	11720 Westminster Hwy.	4-Sep-14	0.91	<1	<2	13	<1	0.32
RMD-272	GRAB	751 Catalina Cres.	8-Sep-14	0.82	<1	88	13	<1	0.57
RMD-255	GRAB	6000 Blk. Miller Rd.	8-Sep-14	0.8	<1	38	13	<1	0.53
RMD-270	GRAB	8200 Jones Rd.	8-Sep-14	0.81	<1	2	13	<1	0.43
RMD-253	GRAB	11051 No 3 Rd.	8-Sep-14	0.8	<1	<2	13	<1	0.45
RMD-263	GRAB	12560 Cambie Rd.	10-Sep-14	0.94	<1	<2	13	<1	0.46
RMD-216	GRAB	11080 No. 2 Rd.	12-Sep-14	0.86	<1	<2	13	<1	0.4
RMD-255	GRAB	6000 Blk. Miller Rd.	15-Sep-14	0.98	<1	12	13	<1	0.57
RMD-216	GRAB	11080 No. 2 Rd.	2-Oct-14	0.79	<1	<2	13	<1	0.26
RMD-272	GRAB	751 Catalina Cres.	14-Oct-14	0.74	<1	2	13	<1	0.12
RMD-255	GRAB	6000 Blk. Miller Rd.	14-Oct-14	0.83	<1	<2	13	<1	0.25
RMD-254	GRAB	5300 No. 3 Rd.	14-Oct-14	0.62	<1	<2	13	<1	0.11
RMD-269	GRAB	14951 Triangle Rd.	14-Oct-14	0.7	<1	<2	13	<1	0.25
RMD-253	GRAB	11051 No 3 Rd.	14-Oct-14	0.79	<1	<2	13	<1	0.11
RMD-263	GRAB	12560 Cambie Rd.	15-Oct-14	0.87	<1	2	13	<1	0.15
RMD-264	GRAB	13100 Mitchell Rd.	15-Oct-14	0.63	<1	16	13	19	0.14
RMD-277	GRAB	Opp. 11280 Twigg Place	15-Oct-14	0.75	<1	<2	13	<1	0.15
RMD-206	GRAB	4251 Moncton St.	16-Oct-14	1	<1	<2	13	<1	0.1
RMD-216	GRAB	11080 No. 2 Rd.	16-Oct-14	0.71	<1	<2	13	<1	0.11
RMD-212	GRAB	Opp. 8600 Ryan Rd.	16-Oct-14	0.91	<1	<2	13	<1	0.11
RMD-208	GRAB	13200 No. 4 Rd.	16-Oct-14	0.95	<1	4	13	<1	0.1
RMD-205	GRAB	13851 Steveston Hwy.	16-Oct-14	0.43	<1	2	13	<1	0.27
RMD-251	GRAB	5951McCallan Rd.	20-Oct-14	0.64	<1	<2	13	<1	0.17
RMD-271	GRAB	3800 Cessna Drive	20-Oct-14	0.83	<1	<2	13	<1	0.14
RMD-253	GRAB	11051 No 3 Rd.	20-Oct-14	0.9	<1	<2	13	<1	0.13
RMD-263	GRAB	12560 Cambie Rd.	22-Oct-14	0.75	<1	<2	13	<1	0.2
RMD-277	GRAB	Opp. 11280 Twigg Place	22-Oct-14	0.84	<1	<2	13	<1	0.22
RMD-262	GRAB	13799 Commerce Pkwy.	22-Oct-14	0.62	<1	<2	13	<1	0.4
RMD-278	GRAB	6651 Fraserwood Place	22-Oct-14	0.53	<1	<2	13	<1	0.37
RMD-261	GRAB	9911 Sidaway Rd.	22-Oct-14	0.57	<1	<2	13	<1	0.31
RMD-259	GRAB	10020 Amethyst Ave. PWT - 12	27 22-Oct-14	0.48	<1	<2	13	<1	0.34

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-258	GRAB	7000 Blk. Dyke Rd.	22-Oct-14	0.73	<1	<2	13	<1	0.14
RMD-257	GRAB	6640 Blundell Rd.	22-Oct-14	0.97	<1	<2	13	<1	0.13
RMD-212	GRAB	Opp. 8600 Ryan Rd.	24-Oct-14	0.75	<1	<2	13	<1	0.12
RMD-208	GRAB	13200 No. 4 Rd.	24-Oct-14	0.81	<1	<2	13	<1	0.1
RMD-276	GRAB	22271 Cochrane Drive	24-Oct-14	0.59	<1	14	13	<1	1.4
RMD-203	GRAB	23260 Westminster Hwy.	24-Oct-14	0.74	<1	<2	13	<1	0.36
RMD-263	GRAB	12560 Cambie Rd.	29-Oct-14	0.59	<1	<2	13	<1	0.2
RMD-262	GRAB	13799 Commerce Pkwy.	29-Oct-14	0.5	<1	<2	13	<1	0.38
RMD-278	GRAB	6651 Fraserwood Place	29-Oct-14	0.51	<1	<2	13	<1	0.49
RMD-261	GRAB	9911 Sidaway Rd.	29-Oct-14	0.33	<1	<2	13	<1	0.4
RMD-260	GRAB	11111 Horseshoe Way	29-Oct-14	0.73	<1	2	13	<1	0.15
RMD-258	GRAB	7000 Blk. Dyke Rd.	29-Oct-14	0.73	<1	<2	13	<1	0.12
RMD-252	GRAB	9751 Pendleton Rd.	3-Nov-14	0.78	<1	<2	13	<1	0.15
RMD-274	GRAB	10920 Springwood Court	3-Nov-14	0.83	<1	<2	13	<1	0.12
RMD-250	GRAB	6071 Azure Rd.	3-Nov-14	0.73	<1	<2	13	<1	0.14
RMD-254	GRAB	5300 No. 3 Rd.	3-Nov-14	0.65	<1	2	13	<1	0.14
RMD-249	GRAB	23000 Blk. Dyke Rd.	7-Nov-14	0.43	<1	<2	13	<1	0.21
RMD-273	GRAB	Opp. 8331 Fairfax Place	12-May-14	0.43	<1	<2	14	<1	0.37
RMD-274	GRAB	10920 Springwood Court	16-Jun-14	0.67	<1	<2	14	<1	0.42
RMD-249	GRAB	23000 Blk. Dyke Rd.	20-Jun-14	0.56	<1	<2	14	<1	0.18
RMD-275	GRAB	5180 Smith Cres.	20-Jun-14	0.65	<1	<2	14	<1	0.12
RMD-204	GRAB	3180 Granville Ave.	4-Jul-14	0.54	<1	<2	14	<1	0.31
RMD-276	GRAB	22271 Cochrane Drive	4-Jul-14	0.8	<1	<2	14	<1	0.2
RMD-275	GRAB	5180 Smith Cres.	4-Jul-14	0.94	<1	<2	14	<1	0.15
RMD-278	GRAB	6651 Fraserwood Place	9-Jul-14	0.77	<1	<2	14	<1	0.21
RMD-267	GRAB	17240 Fedoruk	11-Jul-14	0.96	<1	6	14	<1	0.25
RMD-278	GRAB	6651 Fraserwood Place	16-Jul-14	0.63	<1	<2	14	<1	0.2
RMD-202	GRAB	1500 Valemont Way	18-Jul-14	0.59	<1	<2	14	<1	0.37
RMD-249	GRAB	23000 Blk. Dyke Rd.	18-Jul-14	0.52	<1	<2	14	<1	0.21
RMD-276	GRAB	22271 Cochrane Drive	18-Jul-14	0.6	<1	<2	14	<1	0.16
RMD-275	GRAB	5180 Smith Cres.	18-Jul-14	0.59	<1	<2	14	<1	0.16
RMD-274	GRAB	10920 Springwood Court	21-Jul-14	0.74	<1	<2	14	<1	0.37
RMD-262	GRAB	13799 Commerce Pkwy.	23-Jul-14	0.6	<1	<2	14	<1	0.13
RMD-261	GRAB	9911 Sidaway Rd.	23-Jul-14	0.64	<1	<2	14	<1	0.14
RMD-204	GRAB	3180 Granville Ave.	24-Jul-14	0.6	<1	<2	14	<1	0.27
RMD-275	GRAB	5180 Smith Cres.	24-Jul-14	0.56	<1	<2	14	<1	0.12
RMD-274	GRAB	10920 Springwood Court	28-Jul-14	0.8	<1	<2	14	<1	0.41
RMD-278	GRAB	6651 Fraserwood Place	30-Jul-14	0.58	<1	<2	14	<1	0.36
RMD-204	GRAB	3180 Granville Ave. PWT - 12	28 1-Aug-14	0.64	<1	<2	14	<1	0.29

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-202	GRAB	1500 Valemont Way	1-Aug-14	0.52	<1	2	14	<1	0.17
RMD-275	GRAB	5180 Smith Cres.	1-Aug-14	0.53	<1	<2	14	<1	0.2
RMD-203	GRAB	23260 Westminster Hwy.	1-Aug-14	0.68	<1	<2	14	<1	0.12
RMD-274	GRAB	10920 Springwood Court	5-Aug-14	0.67	<1	<2	14	<1	0.6
RMD-272	GRAB	751 Catalina Cres.	5-Aug-14	0.76	<1	<2	14	<1	0.33
RMD-270	GRAB	8200 Jones Rd.	5-Aug-14	0.61	<1	<2	14	<1	0.31
RMD-269	GRAB	14951 Triangle Rd.	5-Aug-14	0.65	<1	<2	14	<1	0.17
RMD-202	GRAB	1500 Valemont Way	7-Aug-14	0.59	<1	<2	14	<1	0.26
RMD-277	GRAB	Opp. 11280 Twigg Place	13-Aug-14	0.68	<1	<2	14	<1	0.37
RMD-259	GRAB	10020 Amethyst Ave.	13-Aug-14	0.73	<1	<2	14	<1	0.32
RMD-258	GRAB	7000 Blk. Dyke Rd.	13-Aug-14	0.5	<1	<2	14	<1	0.32
RMD-252	GRAB	9751 Pendleton Rd.	18-Aug-14	0.77	<1	<2	14	<1	0.36
RMD-270	GRAB	8200 Jones Rd.	18-Aug-14	0.81	<1	2	14	<1	0.3
RMD-260	GRAB	11111 Horseshoe Way	20-Aug-14	0.79	<1	<2	14	<1	0.35
RMD-258	GRAB	7000 Blk. Dyke Rd.	20-Aug-14	0.72	<1	<2	14	<1	0.27
RMD-257	GRAB	6640 Blundell Rd.	20-Aug-14	0.84	<1	<2	14	<1	0.35
RMD-250	GRAB	6071 Azure Rd.	25-Aug-14	0.79	<1	2	14	<1	0.58
RMD-271	GRAB	3800 Cessna Drive	25-Aug-14	0.92	<1	2	14	<1	0.37
RMD-270	GRAB	8200 Jones Rd.	25-Aug-14	0.92	<1	<2	14	<1	0.41
RMD-252	GRAB	9751 Pendleton Rd.	2-Sep-14	0.69	<1	<2	14	<1	0.33
RMD-274	GRAB	10920 Springwood Court	2-Sep-14	0.64	<1	<2	14	<1	0.29
RMD-271	GRAB	3800 Cessna Drive	2-Sep-14	0.92	<1	<2	14	<1	0.34
RMD-253	GRAB	11051 No 3 Rd.	2-Sep-14	0.92	<1	<2	14	<1	0.39
RMD-264	GRAB	13100 Mitchell Rd.	3-Sep-14	0.91	<1	<2	14	<1	0.48
RMD-277	GRAB	Opp. 11280 Twigg Place	3-Sep-14	0.92	<1	2	14	<1	0.46
RMD-266	GRAB	9380 General Currie Rd.	3-Sep-14	0.92	<1	<2	14	<1	0.33
RMD-212	GRAB	Opp. 8600 Ryan Rd.	4-Sep-14	0.82	<1	<2	14	<1	0.37
RMD-208	GRAB	13200 No. 4 Rd.	4-Sep-14	0.62	<1	<2	14	<1	0.31
RMD-251	GRAB	5951McCallan Rd.	8-Sep-14	1	<1	<2	14	<1	0.45
RMD-252	GRAB	9751 Pendleton Rd.	8-Sep-14	0.57	<1	<2	14	<1	0.52
RMD-254	GRAB	5300 No. 3 Rd.	8-Sep-14	0.84	<1	<2	14	<1	0.39
RMD-264	GRAB	13100 Mitchell Rd.	10-Sep-14	0.9	<1	<2	14	<1	0.49
RMD-277	GRAB	Opp. 11280 Twigg Place	10-Sep-14	0.83	<1	<2	14	<1	0.55
RMD-266	GRAB	9380 General Currie Rd.	10-Sep-14	0.94	<1	2	14	<1	0.45
RMD-258	GRAB	7000 Blk. Dyke Rd.	10-Sep-14	0.68	<1	<2	14	<1	0.44
RMD-206	GRAB	4251 Moncton St.	12-Sep-14	0.8	<1	<2	14	<1	0.44
RMD-212	GRAB	Opp. 8600 Ryan Rd.	12-Sep-14	0.78	<1	<2	14	<1	0.39
RMD-214	GRAB	11720 Westminster Hwy.	12-Sep-14	0.7	<1	<2	14	<1	0.22
RMD-251	GRAB	5951McCallan Rd. PWT - 12	29 15-Sep-14	0.89	<1	<2	14	<1	0.43

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-253	GRAB	11051 No 3 Rd.	15-Sep-14	0.96	<1	<2	14	<1	0.43
RMD-277	GRAB	Opp. 11280 Twigg Place	17-Sep-14	0.9	<1	<2	14	<1	0.52
RMD-266	GRAB	9380 General Currie Rd.	17-Sep-14	0.95	<1	<2	14	<1	0.41
RMD-276	GRAB	22271 Cochrane Drive	18-Sep-14	0.62	<1	4	14	<1	0.2
RMD-251	GRAB	5951McCallan Rd.	22-Sep-14	1	<1	NA	14	<1	0.55
RMD-271	GRAB	3800 Cessna Drive	22-Sep-14	0.94	<1	<2	14	<1	0.54
RMD-272	GRAB	751 Catalina Cres.	22-Sep-14	0.88	<1	<2	14	<1	0.48
RMD-255	GRAB	6000 Blk. Miller Rd.	22-Sep-14	0.99	<1	8	14	<1	0.59
RMD-262	GRAB	13799 Commerce Pkwy.	24-Sep-14	0.82	<1	<2	14	<1	0.48
RMD-212	GRAB	Opp. 8600 Ryan Rd.	26-Sep-14	0.68	<1	<2	14	<1	0.23
RMD-272	GRAB	751 Catalina Cres.	29-Sep-14	0.86	<1	<2	14	<1	0.29
RMD-255	GRAB	6000 Blk. Miller Rd.	29-Sep-14	0.85	<1	4	14	<1	0.44
RMD-254	GRAB	5300 No. 3 Rd.	29-Sep-14	0.5	<1	<2	14	<1	0.26
RMD-269	GRAB	14951 Triangle Rd.	29-Sep-14	0.66	<1	<2	14	<1	0.64
RMD-264	GRAB	13100 Mitchell Rd.	1-Oct-14	0.79	<1	2	14	<1	0.35
RMD-277	GRAB	Opp. 11280 Twigg Place	1-Oct-14	0.73	<1	<2	14	<1	0.38
RMD-262	GRAB	13799 Commerce Pkwy.	1-Oct-14	0.61	<1	<2	14	<1	0.17
RMD-278	GRAB	6651 Fraserwood Place	1-Oct-14	0.61	<1	<2	14	<1	0.26
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	1-Oct-14	0.66	<1	<2	14	<1	0.16
RMD-261	GRAB	9911 Sidaway Rd.	1-Oct-14	0.55	<1	<2	14	<1	0.27
RMD-260	GRAB	11111 Horseshoe Way	1-Oct-14	0.44	<1	<2	14	<1	0.31
RMD-259	GRAB	10020 Amethyst Ave.	1-Oct-14	0.52	<1	4	14	<1	0.19
RMD-266	GRAB	9380 General Currie Rd.	1-Oct-14	0.73	<1	<2	14	<1	0.26
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	1-Oct-14	0.53	<1	<2	14	<1	0.25
RMD-206	GRAB	4251 Moncton St.	2-Oct-14	0.87	<1	2	14	<1	0.28
RMD-212	GRAB	Opp. 8600 Ryan Rd.	2-Oct-14	0.62	<1	<2	14	<1	0.33
RMD-205	GRAB	13851 Steveston Hwy.	2-Oct-14	0.67	<1	<2	14	<1	0.16
RMD-202	GRAB	1500 Valemont Way	2-Oct-14	0.58	<1	<2	14	<1	0.13
RMD-251	GRAB	5951McCallan Rd.	6-Oct-14	0.8	<1	<2	14	<1	0.31
RMD-271	GRAB	3800 Cessna Drive	6-Oct-14	0.56	<1	<2	14	<1	0.2
RMD-272	GRAB	751 Catalina Cres.	6-Oct-14	0.78	<1	<2	14	<1	0.21
RMD-255	GRAB	6000 Blk. Miller Rd.	6-Oct-14	0.77	<1	16	14	<1	0.27
RMD-256	GRAB	1000 Blk. McDonald Rd.	6-Oct-14	0.51	<1	<2	14	<1	0.22
RMD-253	GRAB	11051 No 3 Rd.	6-Oct-14	0.64	<1	<2	14	<1	0.23
RMD-264	GRAB	13100 Mitchell Rd.	8-Oct-14	0.66	<1	4	14	<1	0.4
RMD-206	GRAB	4251 Moncton St.	10-Oct-14	0.7	<1	<2	14	<1	0.36
RMD-216	GRAB	11080 No. 2 Rd.	10-Oct-14	0.68	<1	<2	14	<1	0.14
RMD-212	GRAB	Opp. 8600 Ryan Rd.	10-Oct-14	0.61	<1	<2	14	<1	0.21
RMD-208	GRAB	13200 No. 4 Rd. PWT - 1 3	30 10-Oct-14	0.72	<1	<2	14	<1	0.12

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-205	GRAB	13851 Steveston Hwy.	10-Oct-14	0.81	<1	2	14	<1	0.25
RMD-202	GRAB	1500 Valemont Way	10-Oct-14	0.83	<1	<2	14	<1	0.31
RMD-214	GRAB	11720 Westminster Hwy.	10-Oct-14	0.69	<1	<2	14	<1	0.18
RMD-267	GRAB	17240 Fedoruk	10-Oct-14	0.7	<1	<2	14	<1	0.26
RMD-203	GRAB	23260 Westminster Hwy.	10-Oct-14	0.85	<1	<2	14	<1	0.36
RMD-250	GRAB	6071 Azure Rd.	14-Oct-14	0.65	<1	<2	14	<1	0.1
RMD-271	GRAB	3800 Cessna Drive	14-Oct-14	0.77	<1	<2	14	<1	0.11
RMD-256	GRAB	1000 Blk. McDonald Rd.	14-Oct-14	0.61	<1	<2	14	<1	0.2
RMD-270	GRAB	8200 Jones Rd.	14-Oct-14	0.66	<1	<2	14	<1	0.14
RMD-262	GRAB	13799 Commerce Pkwy.	15-Oct-14	0.7	<1	2	14	<1	0.35
RMD-278	GRAB	6651 Fraserwood Place	15-Oct-14	0.65	<1	<2	14	<1	0.33
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	15-Oct-14	0.65	<1	<2	14	<1	0.27
RMD-260	GRAB	11111 Horseshoe Way	15-Oct-14	0.68	<1	<2	14	<1	0.15
RMD-259	GRAB	10020 Amethyst Ave.	15-Oct-14	0.57	<1	<2	14	<1	0.17
RMD-266	GRAB	9380 General Currie Rd.	15-Oct-14	0.73	<1	<2	14	<1	0.17
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	15-Oct-14	0.56	<1	<2	14	<1	0.14
RMD-257	GRAB	6640 Blundell Rd.	15-Oct-14	0.72	<1	<2	14	<1	0.12
RMD-202	GRAB	1500 Valemont Way	16-Oct-14	0.76	<1	<2	14	<1	0.22
RMD-214	GRAB	11720 Westminster Hwy.	16-Oct-14	0.79	<1	<2	14	<1	0.15
RMD-267	GRAB	17240 Fedoruk	16-Oct-14	0.53	<1	<2	14	<1	0.18
RMD-203	GRAB	23260 Westminster Hwy.	16-Oct-14	0.7	<1	<2	14	<1	0.4
RMD-264	REPEAT	13100 Mitchell Rd. before flushing	17-Oct-14	0.48	<1	<2	14	<1	0.14
RMD-264	REPEAT	13100 Mitchell Rd. after flushing	17-Oct-14	0.69	<1	<2	14	<1	0.15
RMD-252	GRAB	9751 Pendleton Rd.	20-Oct-14	0.56	<1	<2	14	<1	0.16
RMD-250	GRAB	6071 Azure Rd.	20-Oct-14	0.6	<1	2	14	<1	0.14
RMD-256	GRAB	1000 Blk. McDonald Rd.	20-Oct-14	0.73	<1	4	14	<1	0.42
RMD-254	GRAB	5300 No. 3 Rd.	20-Oct-14	0.71	<1	68	14	<1	0.11
RMD-270	GRAB	8200 Jones Rd.	20-Oct-14	0.65	<1	<2	14	<1	0.14
RMD-269	GRAB	14951 Triangle Rd.	20-Oct-14	0.55	<1	<2	14	<1	0.28
RMD-264	GRAB	13100 Mitchell Rd.	22-Oct-14	0.79	<1	2	14	<1	0.16
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	22-Oct-14	0.66	<1	<2	14	<1	0.18
RMD-204	GRAB	3180 Granville Ave.	24-Oct-14	0.92	<1	4	14	<1	0.19
RMD-206	GRAB	4251 Moncton St.	24-Oct-14	0.68	<1	<2	14	<1	0.17
RMD-216	GRAB	11080 No. 2 Rd.	24-Oct-14	0.72	<1	2	14	<1	0.14
RMD-205	GRAB	13851 Steveston Hwy.	24-Oct-14	0.6	<1	2	14	<1	0.23
RMD-202	GRAB	1500 Valemont Way	24-Oct-14	0.73	<1	<2	14	<1	0.24
RMD-267	GRAB	17240 Fedoruk	24-Oct-14	0.67	<1	<2	14	<1	0.19
RMD-249	GRAB	23000 Blk. Dyke Rd.	24-Oct-14	0.59	<1	<2	14	<1	0.9
RMD-275	GRAB	5180 Smith Cres. PWT - 13	1 24-Oct-14	0.35	<1	<2	14	<1	0.23

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-273	GRAB	Opp. 8331 Fairfax Place	27-Oct-14	0.51	<1	<2	14	<1	0.15
RMD-259	GRAB	10020 Amethyst Ave.	29-Oct-14	0.6	<1	<2	14	<1	0.17
RMD-273	GRAB	Opp. 8331 Fairfax Place	3-Nov-14	0.64	<1	2	14	<1	0.13
RMD-273	GRAB	Opp. 8331 Fairfax Place	5-May-14	0.59	<1	<2	15	<1	1.8
RMD-273	GRAB	Opp. 8331 Fairfax Place	20-May-14	0.68	<1	<2	15	<1	0.23
RMD-274	GRAB	10920 Springwood Court	26-May-14	0.68	<1	<2	15	<1	0.16
RMD-274	GRAB	10920 Springwood Court	23-Jun-14	0.63	<1	2	15	<1	0.34
RMD-267	GRAB	17240 Fedoruk	18-Jul-14	0.56	<1	<2	15	<1	0.17
RMD-278	GRAB	6651 Fraserwood Place	23-Jul-14	0.6	<1	<2	15	<1	0.3
RMD-205	GRAB	13851 Steveston Hwy.	24-Jul-14	0.64	<1	2	15	<1	0.08
RMD-202	GRAB	1500 Valemont Way	24-Jul-14	0.51	<1	<2	15	<1	0.09
RMD-267	GRAB	17240 Fedoruk	24-Jul-14	0.67	<1	<2	15	<1	0.08
RMD-276	GRAB	22271 Cochrane Drive	24-Jul-14	0.41	<1	<2	15	<1	0.09
RMD-267	GRAB	17240 Fedoruk	1-Aug-14	0.65	<1	<2	15	<1	0.16
RMD-276	GRAB	22271 Cochrane Drive	1-Aug-14	0.56	<1	<2	15	<1	0.13
RMD-256	GRAB	1000 Blk. McDonald Rd.	5-Aug-14	0.68	<1	<2	15	<1	0.38
RMD-264	GRAB	13100 Mitchell Rd.	6-Aug-14	0.43	<1	<2	15	<1	0.39
RMD-262	GRAB	13799 Commerce Pkwy.	6-Aug-14	0.72	<1	2	15	<1	0.34
RMD-278	GRAB	6651 Fraserwood Place	6-Aug-14	0.74	<1	<2	15	<1	0.19
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	6-Aug-14	0.61	<1	<2	15	<1	0.17
RMD-261	GRAB	9911 Sidaway Rd.	6-Aug-14	0.72	<1	<2	15	<1	0.24
RMD-270	GRAB	8200 Jones Rd.	11-Aug-14	0.59	<1	<2	15	<1	0.32
RMD-269	GRAB	14951 Triangle Rd.	11-Aug-14	0.63	<1	<2	15	<1	0.21
RMD-262	GRAB	13799 Commerce Pkwy.	13-Aug-14	0.48	<1	<2	15	<1	0.26
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	13-Aug-14	0.67	<1	<2	15	<1	0.24
RMD-261	GRAB	9911 Sidaway Rd.	13-Aug-14	0.63	<1	<2	15	<1	0.22
RMD-204	GRAB	3180 Granville Ave.	15-Aug-14	0.66	<1	<2	15	<1	0.38
RMD-274	GRAB	10920 Springwood Court	18-Aug-14	0.63	<1	<2	15	<1	1.2
RMD-269	GRAB	14951 Triangle Rd.	18-Aug-14	0.64	<1	<2	15	<1	0.19
RMD-262	GRAB	13799 Commerce Pkwy.	20-Aug-14	0.38	<1	<2	15	<1	0.22
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	20-Aug-14	0.68	<1	<2	15	<1	0.23
RMD-261	GRAB	9911 Sidaway Rd.	20-Aug-14	0.67	<1	<2	15	<1	0.28
RMD-266	GRAB	9380 General Currie Rd.	20-Aug-14	0.8	<1	<2	15	<1	0.33
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	20-Aug-14	0.66	<1	<2	15	<1	0.37
RMD-204	GRAB	3180 Granville Ave.	21-Aug-14	0.57	<1	<2	15	<1	0.37
RMD-276	GRAB	22271 Cochrane Drive	21-Aug-14	0.62	<1	<2	15	<1	0.17
RMD-203	GRAB	23260 Westminster Hwy.	21-Aug-14	0.59	<1	<2	15	<1	0.14
RMD-269	GRAB	14951 Triangle Rd.	25-Aug-14	0.7	<1	<2	15	<1	0.27
RMD-262	GRAB	13799 Commerce Pkwy. PWT - 13	2 27-Aug-14	0.61	<1	<2	15	<1	0.22

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	27-Aug-14	0.72	<1	<2	15	<1	0.24
RMD-261	GRAB	9911 Sidaway Rd.	27-Aug-14	0.54	<1	<2	15	<1	0.25
RMD-260	GRAB	11111 Horseshoe Way	27-Aug-14	0.74	<1	<2	15	<1	0.36
RMD-259	GRAB	10020 Amethyst Ave.	27-Aug-14	0.7	<1	<2	15	<1	0.35
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	27-Aug-14	0.7	<1	<2	15	<1	0.31
RMD-258	GRAB	7000 Blk. Dyke Rd.	27-Aug-14	0.65	<1	<2	15	<1	0.36
RMD-204	GRAB	3180 Granville Ave.	29-Aug-14	0.59	<1	2	15	<1	0.35
RMD-250	GRAB	6071 Azure Rd.	2-Sep-14	0.68	<1	<2	15	<1	0.35
RMD-256	GRAB	1000 Blk. McDonald Rd.	2-Sep-14	0.85	<1	<2	15	<1	0.41
RMD-269	GRAB	14951 Triangle Rd.	2-Sep-14	0.61	<1	<2	15	<1	0.21
RMD-262	GRAB	13799 Commerce Pkwy.	3-Sep-14	0.62	<1	<2	15	<1	0.21
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	3-Sep-14	0.67	<1	<2	15	<1	0.2
RMD-261	GRAB	9911 Sidaway Rd.	3-Sep-14	0.45	<1	<2	15	<1	0.19
RMD-259	GRAB	10020 Amethyst Ave.	3-Sep-14	0.71	<1	<2	15	<1	0.36
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	3-Sep-14	0.68	<1	<2	15	<1	0.35
RMD-258	GRAB	7000 Blk. Dyke Rd.	3-Sep-14	0.69	<1	<2	15	<1	0.38
RMD-204	GRAB	3180 Granville Ave.	4-Sep-14	0.54	<1	2	15	<1	0.36
RMD-267	GRAB	17240 Fedoruk	4-Sep-14	0.63	<1	<2	15	<1	0.21
RMD-249	GRAB	23000 Blk. Dyke Rd.	4-Sep-14	0.6	<1	<2	15	<1	0.23
RMD-276	GRAB	22271 Cochrane Drive	4-Sep-14	0.59	<1	<2	15	<1	0.2
RMD-275	GRAB	5180 Smith Cres.	4-Sep-14	0.53	<1	<2	15	<1	0.18
RMD-203	GRAB	23260 Westminster Hwy.	4-Sep-14	0.64	<1	<2	15	<1	0.2
RMD-274	GRAB	10920 Springwood Court	8-Sep-14	0.67	<1	NA	15	<1	1.2
RMD-250	GRAB	6071 Azure Rd.	8-Sep-14	0.8	<1	<2	15	<1	0.49
RMD-271	GRAB	3800 Cessna Drive	8-Sep-14	0.82	<1	<2	15	<1	0.36
RMD-269	GRAB	14951 Triangle Rd.	8-Sep-14	0.56	<1	<2	15	<1	0.21
RMD-278	GRAB	6651 Fraserwood Place	10-Sep-14	0.61	<1	<2	15	<1	0.26
RMD-260	GRAB	11111 Horseshoe Way	10-Sep-14	0.87	<1	<2	15	<1	0.49
RMD-204	GRAB	3180 Granville Ave.	12-Sep-14	0.58	<1	<2	15	<1	0.43
RMD-208	GRAB	13200 No. 4 Rd.	12-Sep-14	0.73	<1	<2	15	<1	0.48
RMD-205	GRAB	13851 Steveston Hwy.	12-Sep-14	0.62	<1	<2	15	<1	0.23
RMD-202	GRAB	1500 Valemont Way	12-Sep-14	0.62	<1	<2	15	<1	0.21
RMD-203	GRAB	23260 Westminster Hwy.	12-Sep-14	0.52	<1	<2	15	<1	0.25
RMD-252	GRAB	9751 Pendleton Rd.	15-Sep-14	0.72	<1	<2	15	<1	0.49
RMD-250	GRAB	6071 Azure Rd.	15-Sep-14	0.71	<1	4	15	<1	0.45
RMD-272	GRAB	751 Catalina Cres.	15-Sep-14	0.99	<1	<2	15	<1	0.48
RMD-256	GRAB	1000 Blk. McDonald Rd.	15-Sep-14	0.92	<1	<2	15	<1	0.53
RMD-254	GRAB	5300 No. 3 Rd.	15-Sep-14	0.66	<1	<2	15	<1	0.46
RMD-269	GRAB	14951 Triangle Rd. PWT - 13	3 15-Sep-14	0.55	<1	<2	15	<1	0.21

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-263	GRAB	12560 Cambie Rd.	17-Sep-14	0.86	<1	<2	15	<1	0.55
RMD-264	GRAB	13100 Mitchell Rd.	17-Sep-14	1	<1	<2	15	<1	0.87
RMD-262	GRAB	13799 Commerce Pkwy.	17-Sep-14	0.57	<1	<2	15	<1	0.3
RMD-260	GRAB	11111 Horseshoe Way	17-Sep-14	0.91	<1	<2	15	<1	0.53
RMD-259	GRAB	10020 Amethyst Ave.	17-Sep-14	0.81	<1	<2	15	<1	0.42
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	17-Sep-14	0.77	<1	2	15	<1	0.46
RMD-258	GRAB	7000 Blk. Dyke Rd.	17-Sep-14	0.86	<1	<2	15	<1	0.43
RMD-257	GRAB	6640 Blundell Rd.	17-Sep-14	0.88	<1	<2	15	<1	0.49
RMD-204	GRAB	3180 Granville Ave.	18-Sep-14	0.75	<1	<2	15	<1	0.45
RMD-206	GRAB	4251 Moncton St.	18-Sep-14	0.57	<1	<2	15	<1	0.52
RMD-216	GRAB	11080 No. 2 Rd.	18-Sep-14	0.64	<1	<2	15	<1	0.42
RMD-212	GRAB	Opp. 8600 Ryan Rd.	18-Sep-14	0.77	<1	<2	15	<1	0.44
RMD-214	GRAB	11720 Westminster Hwy.	18-Sep-14	0.91	<1	4	15	<1	0.54
RMD-203	GRAB	23260 Westminster Hwy.	18-Sep-14	0.67	<1	<2	15	<1	0.24
RMD-252	GRAB	9751 Pendleton Rd.	22-Sep-14	0.67	<1	<2	15	<1	0.48
RMD-250	GRAB	6071 Azure Rd.	22-Sep-14	0.68	<1	2	15	<1	0.55
RMD-254	GRAB	5300 No. 3 Rd.	22-Sep-14	0.98	<1	<2	15	<1	0.52
RMD-270	GRAB	8200 Jones Rd.	22-Sep-14	0.68	<1	2	15	<1	0.46
RMD-269	GRAB	14951 Triangle Rd.	22-Sep-14	1.4	<1	<2	15	<1	0.26
RMD-253	GRAB	11051 No 3 Rd.	22-Sep-14	0.74	<1	<2	15	<1	0.52
RMD-263	GRAB	12560 Cambie Rd.	24-Sep-14	0.75	<1	<2	15	<1	0.45
RMD-264	GRAB	13100 Mitchell Rd.	24-Sep-14	0.72	<1	<2	15	<1	0.57
RMD-277	GRAB	Opp. 11280 Twigg Place	24-Sep-14	0.7	<1	<2	15	<1	0.55
RMD-278	GRAB	6651 Fraserwood Place	24-Sep-14	0.72	<1	4	15	<1	0.4
RMD-260	GRAB	11111 Horseshoe Way	24-Sep-14	0.78	<1	2	15	<1	0.47
RMD-259	GRAB	10020 Amethyst Ave.	24-Sep-14	0.59	<1	<2	15	<1	0.3
RMD-266	GRAB	9380 General Currie Rd.	24-Sep-14	0.7	<1	<2	15	<1	0.48
RMD-204	GRAB	3180 Granville Ave.	26-Sep-14	0.7	<1	2	15	<1	0.4
RMD-206	GRAB	4251 Moncton St.	26-Sep-14	0.71	<1	<2	15	<1	0.35
RMD-216	GRAB	11080 No. 2 Rd.	26-Sep-14	0.64	<1	<2	15	<1	0.24
RMD-208	GRAB	13200 No. 4 Rd.	26-Sep-14	0.68	<1	<2	15	<1	0.25
RMD-214	GRAB	11720 Westminster Hwy.	26-Sep-14	0.74	<1	<2	15	<1	0.55
RMD-251	GRAB	5951McCallan Rd.	29-Sep-14	0.74	<1	<2	15	<1	0.31
RMD-252	GRAB	9751 Pendleton Rd.	29-Sep-14	0.56	<1	<2	15	<1	0.25
RMD-250	GRAB	6071 Azure Rd.	29-Sep-14	0.56	<1	<2	15	<1	0.27
RMD-271	GRAB	3800 Cessna Drive	29-Sep-14	0.84	<1	<2	15	<1	0.33
RMD-270	GRAB	8200 Jones Rd.	29-Sep-14	0.37	<1	<2	15	<1	0.26
RMD-253	GRAB	11051 No 3 Rd.	29-Sep-14	0.76	<1	<2	15	<1	0.29
RMD-263	GRAB	12560 Cambie Rd. PWT - 13	4 1-Oct-14	0.79	<1	<2	15	<1	0.3

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-258	GRAB	7000 Blk. Dyke Rd.	1-Oct-14	0.64	<1	4	15	<1	0.24
RMD-257	GRAB	6640 Blundell Rd.	1-Oct-14	0.68	<1	<2	15	<1	0.24
RMD-214	GRAB	11720 Westminster Hwy.	2-Oct-14	0.58	<1	<2	15	<1	0.44
RMD-267	GRAB	17240 Fedoruk	2-Oct-14	0.63	<1	<2	15	<1	0.12
RMD-249	GRAB	23000 Blk. Dyke Rd.	2-Oct-14	0.6	<1	<2	15	<1	0.16
RMD-276	GRAB	22271 Cochrane Drive	2-Oct-14	0.68	<1	<2	15	<1	0.17
RMD-203	GRAB	23260 Westminster Hwy.	2-Oct-14	0.64	<1	<2	15	<1	0.12
RMD-252	GRAB	9751 Pendleton Rd.	6-Oct-14	0.41	<1	<2	15	<1	0.21
RMD-274	GRAB	10920 Springwood Court	6-Oct-14	0.65	<1	<2	15	<1	0.17
RMD-250	GRAB	6071 Azure Rd.	6-Oct-14	0.64	<1	<2	15	<1	0.29
RMD-254	GRAB	5300 No. 3 Rd.	6-Oct-14	0.66	<1	<2	15	<1	0.2
RMD-270	GRAB	8200 Jones Rd.	6-Oct-14	0.55	<1	<2	15	<1	0.25
RMD-269	GRAB	14951 Triangle Rd.	6-Oct-14	0.64	<1	8	15	<1	0.13
RMD-263	GRAB	12560 Cambie Rd.	8-Oct-14	0.71	<1	<2	15	<1	0.28
RMD-277	GRAB	Opp. 11280 Twigg Place	8-Oct-14	0.71	<1	<2	15	<1	0.37
RMD-262	GRAB	13799 Commerce Pkwy.	8-Oct-14	0.86	<1	<2	15	<1	0.46
RMD-278	GRAB	6651 Fraserwood Place	8-Oct-14	0.62	<1	12	15	<1	0.49
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	8-Oct-14	0.72	<1	<2	15	<1	0.4
RMD-260	GRAB	11111 Horseshoe Way	8-Oct-14	0.7	<1	<2	15	<1	0.27
RMD-259	GRAB	10020 Amethyst Ave.	8-Oct-14	0.61	<1	2	15	<1	0.25
RMD-266	GRAB	9380 General Currie Rd.	8-Oct-14	0.71	<1	<2	15	<1	0.22
RMD-258	GRAB	7000 Blk. Dyke Rd.	8-Oct-14	0.56	<1	2	15	<1	0.14
RMD-257	GRAB	6640 Blundell Rd.	8-Oct-14	0.72	<1	2	15	<1	0.37
RMD-204	GRAB	3180 Granville Ave.	10-Oct-14	0.47	<1	<2	15	<1	1.7
RMD-249	GRAB	23000 Blk. Dyke Rd.	10-Oct-14	0.62	<1	<2	15	<1	0.33
RMD-276	GRAB	22271 Cochrane Drive	10-Oct-14	0.67	<1	2	15	<1	0.29
RMD-251	GRAB	5951McCallan Rd.	14-Oct-14	0.71	<1	<2	15	<1	0.11
RMD-252	GRAB	9751 Pendleton Rd.	14-Oct-14	0.59	<1	<2	15	<1	0.09
RMD-261	GRAB	9911 Sidaway Rd.	15-Oct-14	0.71	<1	<2	15	<1	0.29
RMD-258	GRAB	7000 Blk. Dyke Rd.	15-Oct-14	0.7	<1	10	15	<1	0.14
RMD-204	GRAB	3180 Granville Ave.	16-Oct-14	1.1	<1	4	15	<1	0.23
RMD-249	GRAB	23000 Blk. Dyke Rd.	16-Oct-14	0.51	<1	<2	15	<1	0.19
RMD-276	GRAB	22271 Cochrane Drive	16-Oct-14	0.56	<1	<2	15	<1	0.2
RMD-275	GRAB	5180 Smith Cres.	16-Oct-14	0.4	<1	<2	15	<1	0.27
RMD-273	GRAB	Opp. 8331 Fairfax Place	20-Oct-14	0.55	<1	<2	15	<1	0.22
RMD-274	GRAB	10920 Springwood Court	20-Oct-14	0.81	<1	2	15	<1	0.11
RMD-273	GRAB	Opp. 8331 Fairfax Place	2-Jun-14	0.73	<1	<2	16	<1	1.9
RMD-273	GRAB	Opp. 8331 Fairfax Place	9-Jun-14	0.49	<1	<2	16	<1	1.3
RMD-273	GRAB	Opp. 8331 Fairfax Place PWT - 13	5 23-Jun-14	0.5	<1	<2	16	<1	0.61

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-273	GRAB	Opp. 8331 Fairfax Place	14-Jul-14	0.74	<1	<2	16	<1	1.2
RMD-271	GRAB	3800 Cessna Drive	5-Aug-14	0.59	<1	<2	16	<1	0.31
RMD-277	GRAB	Opp. 11280 Twigg Place	6-Aug-14	0.96	<1	<2	16	<1	0.38
RMD-274	GRAB	10920 Springwood Court	11-Aug-14	0.56	<1	<2	16	<1	0.46
RMD-278	GRAB	6651 Fraserwood Place	13-Aug-14	0.55	<1	<2	16	<1	0.24
RMD-202	GRAB	1500 Valemont Way	15-Aug-14	0.61	<1	<2	16	<1	0.13
RMD-267	GRAB	17240 Fedoruk	15-Aug-14	0.58	<1	<2	16	<1	0.2
RMD-249	GRAB	23000 Blk. Dyke Rd.	15-Aug-14	0.4	<1	<2	16	<1	0.33
RMD-276	GRAB	22271 Cochrane Drive	15-Aug-14	0.57	<1	<2	16	<1	0.17
RMD-203	GRAB	23260 Westminster Hwy.	15-Aug-14	0.6	<1	<2	16	<1	0.13
RMD-278	GRAB	6651 Fraserwood Place	20-Aug-14	0.61	<1	2	16	<1	0.24
RMD-267	GRAB	17240 Fedoruk	21-Aug-14	0.28	<1	<2	16	<1	0.16
RMD-278	GRAB	6651 Fraserwood Place	27-Aug-14	0.56	<1	4	16	<1	0.22
RMD-202	GRAB	1500 Valemont Way	29-Aug-14	0.52	<1	<2	16	<1	0.25
RMD-267	GRAB	17240 Fedoruk	29-Aug-14	0.62	<1	<2	16	<1	0.2
RMD-278	GRAB	6651 Fraserwood Place	3-Sep-14	0.55	<1	<2	16	<1	0.23
RMD-262	GRAB	13799 Commerce Pkwy.	10-Sep-14	0.53	<1	<2	16	<1	0.22
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	10-Sep-14	0.66	<1	<2	16	<1	0.18
RMD-261	GRAB	9911 Sidaway Rd.	10-Sep-14	0.56	<1	<2	16	<1	0.21
RMD-259	GRAB	10020 Amethyst Ave.	10-Sep-14	0.69	<1	<2	16	<1	0.38
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	10-Sep-14	0.68	<1	<2	16	<1	0.41
RMD-257	GRAB	6640 Blundell Rd.	10-Sep-14	0.95	<1	<2	16	<1	0.45
RMD-267	GRAB	17240 Fedoruk	12-Sep-14	0.59	<1	<2	16	<1	0.24
RMD-276	GRAB	22271 Cochrane Drive	12-Sep-14	0.62	<1	<2	16	<1	0.21
RMD-275	GRAB	5180 Smith Cres.	12-Sep-14	0.45	<1	<2	16	<1	0.23
RMD-274	GRAB	10920 Springwood Court	15-Sep-14	0.78	<1	2	16	<1	0.99
RMD-271	GRAB	3800 Cessna Drive	15-Sep-14	0.69	<1	<2	16	<1	0.39
RMD-270	GRAB	8200 Jones Rd.	15-Sep-14	0.7	<1	2	16	<1	0.43
RMD-278	GRAB	6651 Fraserwood Place	17-Sep-14	0.54	<1	<2	16	<1	0.27
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	17-Sep-14	0.61	<1	<2	16	<1	0.21
RMD-261	GRAB	9911 Sidaway Rd.	17-Sep-14	0.62	<1	<2	16	<1	0.38
RMD-208	GRAB	13200 No. 4 Rd.	18-Sep-14	0.9	<1	<2	16	<1	0.53
RMD-205	GRAB	13851 Steveston Hwy.	18-Sep-14	0.55	<1	<2	16	<1	0.27
RMD-202	GRAB	1500 Valemont Way	18-Sep-14	0.42	<1	<2	16	<1	0.26
RMD-249	GRAB	23000 Blk. Dyke Rd.	18-Sep-14	0.6	<1	<2	16	<1	0.25
RMD-275	GRAB	5180 Smith Cres.	18-Sep-14	0.53	<1	<2	16	<1	0.23
RMD-279	GRAB	Opp. 20371 Westminster Hwy.	24-Sep-14	0.6	<1	2	16	<1	0.34
RMD-261	GRAB	9911 Sidaway Rd.	24-Sep-14	0.7	<1	<2	16	<1	0.27
RMD-268	GRAB	13800 No. 3 Rd. (off Gar PWT) - 13	6 24-Sep-14	0.69	<1	<2	16	<1	0.44

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-257	GRAB	6640 Blundell Rd.	24-Sep-14	0.71	<1	<2	16	<1	0.44
RMD-202	GRAB	1500 Valemont Way	26-Sep-14	0.59	<1	<2	16	<1	0.12
RMD-249	GRAB	23000 Blk. Dyke Rd.	26-Sep-14	0.45	<1	<2	16	<1	0.29
RMD-276	GRAB	22271 Cochrane Drive	26-Sep-14	0.74	<1	<2	16	<1	0.18
RMD-275	GRAB	5180 Smith Cres.	26-Sep-14	0.62	<1	<2	16	<1	0.2
RMD-203	GRAB	23260 Westminster Hwy.	26-Sep-14	0.8	<1	<2	16	<1	0.21
RMD-274	GRAB	10920 Springwood Court	29-Sep-14	0.56	<1	<2	16	<1	0.21
RMD-204	GRAB	3180 Granville Ave.	2-Oct-14	0.32	<1	<2	16	<1	0.43
RMD-208	GRAB	13200 No. 4 Rd.	2-Oct-14	0.98	<1	2	16	<1	0.25
RMD-261	GRAB	9911 Sidaway Rd.	8-Oct-14	0.58	<1	<2	16	<1	0.42
RMD-268	GRAB	13800 No. 3 Rd. (off Garden City)	8-Oct-14	0.56	<1	18	16	<1	0.2
RMD-275	GRAB	5180 Smith Cres.	10-Oct-14	0.57	<1	<2	16	<1	0.28
RMD-273	GRAB	Opp. 8331 Fairfax Place	14-Oct-14	0.45	<1	<2	16	<1	0.21
RMD-274	GRAB	10920 Springwood Court	14-Oct-14	0.64	<1	<2	16	<1	0.12
RMD-273	GRAB	Opp. 8331 Fairfax Place	26-May-14	0.56	<1	<2	17	<1	0.15
RMD-273	GRAB	Opp. 8331 Fairfax Place	30-Jun-14	0.44	<1	<2	17	<1	1.1
RMD-249	GRAB	23000 Blk. Dyke Rd.	24-Jul-14	0.6	<1	<2	17	<1	0.11
RMD-273	GRAB	Opp. 8331 Fairfax Place	28-Jul-14	0.63	<1	<2	17	<1	1
RMD-249	GRAB	23000 Blk. Dyke Rd.	1-Aug-14	0.37	<1	<2	17	<1	0.13
RMD-273	GRAB	Opp. 8331 Fairfax Place	11-Aug-14	0.48	<1	48	17	<1	1.1
RMD-275	GRAB	5180 Smith Cres.	15-Aug-14	0.34	<1	<2	17	<1	0.17
RMD-274	GRAB	10920 Springwood Court	25-Aug-14	0.54	<1	<2	17	<1	0.31
RMD-249	GRAB	23000 Blk. Dyke Rd.	29-Aug-14	0.47	<1	<2	17	<1	0.29
RMD-276	GRAB	22271 Cochrane Drive	29-Aug-14	0.55	<1	<2	17	<1	0.2
RMD-275	GRAB	5180 Smith Cres.	29-Aug-14	0.45	<1	<2	17	<1	0.19
RMD-249	GRAB	23000 Blk. Dyke Rd.	12-Sep-14	0.52	<1	<2	17	<1	0.2
RMD-267	GRAB	17240 Fedoruk	18-Sep-14	0.65	<1	<2	17	<1	0.29
RMD-274	GRAB	10920 Springwood Court	22-Sep-14	0.72	<1	<2	17	<1	0.44
RMD-256	GRAB	1000 Blk. McDonald Rd.	22-Sep-14	0.23	<1	<2	17	<1	0.76
RMD-258	GRAB	7000 Blk. Dyke Rd.	24-Sep-14	0.69	<1	<2	17	<1	0.39
RMD-267	GRAB	17240 Fedoruk	26-Sep-14	0.52	<1	<2	17	<1	0.12
RMD-273	GRAB	Opp. 8331 Fairfax Place	6-Oct-14	0.39	<1	<2	17	<1	0.39
RMD-273	GRAB	Opp. 8331 Fairfax Place	16-Jun-14	0.45	<1	<2	18	<1	0.91
RMD-273	GRAB	Opp. 8331 Fairfax Place	7-Jul-14	0.5	<1	<2	18	<1	1
RMD-273	GRAB	Opp. 8331 Fairfax Place	21-Jul-14	0.55	<1	14	18	<1	0.7
RMD-273	GRAB	Opp. 8331 Fairfax Place	18-Aug-14	0.59	<1	<2	18	<1	0.46
RMD-273	GRAB	Opp. 8331 Fairfax Place	5-Aug-14	0.37	<1	<2	19	<1	0.55
RMD-273	GRAB	Opp. 8331 Fairfax Place	25-Aug-14	0.49	<1	<2	19	<1	0.73
RMD-273	RMD-273 GRAB Opp. 8331 Fairfax Place PWT - 13			0.47	<1	<2	19	<1	0.77

Sample Name	Sample Type	Sample Reported Name	Sampled Date	Chlorine Free mg/L	Ecoli MF/100mLs	HPC CFU/mls	Temperature °C	Total Coliform MF/100mLs	Turbidity NTU
RMD-273	GRAB	Opp. 8331 Fairfax Place	15-Sep-14	0.56	<1	<2	19	<1	0.94
RMD-273	GRAB	Opp. 8331 Fairfax Place	22-Sep-14	0.65	<1	<2	19	<1	1
RMD-273	GRAB	Opp. 8331 Fairfax Place	2-Sep-14	0.37	<1	8	20	<1	0.74
RMD-273	GRAB	Opp. 8331 Fairfax Place	29-Sep-14	0.72	<1	<2	20	<1	0.73
RMD-253	GRAB	11051 No 3 Rd.	8-Dec-14	0.57	<1	<2	NA	<1	0.11

APPENDIX 4: SCADA AND PRESSURE TESTING SITES

	STATION NAME	STATION TYPE	INSTALLATION
216	SHELL & STEVESTON PRV	WATER PRV	PERMANENT
217	NELSON & BLUNDELL PRV	WATER PRV	PERMANENT
218	SHELL & BLUNDELL PRV	WATER PRV	PERMANENT
219	SHELL & WILLIAMS PRV	WATER PRV	PERMANENT
220	SHELL & BIRD PRV	WATER PRV	PERMANENT
251	NELSON & WESTMINSTER PRV	WATER PRV	WIP
252	FERGUSON PRV	WATER PRV	PERMANENT
253	GRAUER PRV	WATER PRV	PERMANENT
254	OAKSTREET PRV	WATER PRV	PERMANENT
	NELSON NORTH PRV	WATER PRV	PERMANENT
	CAMBIE PRV	WATER PRV	NO SCADA
	OAK & RIVER	WATER PRV	NO SCADA
	SHELL &MONTEITH	WATER PRV	NO SCADA
	SHELL & WESTMINSTER	WATER PRV	NO SCADA
1	PRESSURE SITES		
5	QUEENSBOROUGH	DRAINAGE	PERMANENT
40	NO 6 ROAD SOUTH	DRAINAGE	PERMANENT
48	STEVESTON	SANI PUMPS	PERMANENT
80	BARNARD	SANI PUMPS	PERMANENT
106	LYNAS	SANI PUMPS	PERMANENT
167	BRIGHOUSE	SANI PUMPS	PERMANENT
206	EDGEMERE	SANI PUMPS	PERMANENT
42	GRAYBAR	SANI PUMPS	PERMANENT
110	RICHMOND PARK	SANI PUMPS	PERMANENT
174	LESLIE	SANI PUMPS	PERMANENT
189	SIMPSON	SANI PUMPS	PERMANENT
193	BURROWS	SANI PUMPS	PERMANENT
190	BURKEVILLE	SANI PUMPS	PERMANENT
119	TWIGG	SANI PUMPS	PERMANENT
180	RICHMOND CENTRE	SANI PUMPS	PERMANENT
89	WOODHEADEAST	SANI PUMPS	PERMANENT
122	MAPLE	SANI PUMPS	PERMANENT
	ROBINSON	SANI PUMPS	PERMANENT

APPENDIX 5: 2014 THM AND HAA TEST RESULTS

			T	THI	VI (ppb)	1				T	НАА (р	pb)	1	I
Sample	Date Sampled	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform	Total Trihalomethanes	Total THM Quarterly Average (Guileline Limit 100ppb/mL)	Dibromoacetic Acid	Dichloroacetic Acid	Monobromoacetic Acid	Monochloroacetic Acid	Trichloroacetic Acid	Total Haloacetic Acid	Total HAA Quarterly Average (Guileline Limit 80ppb/mL)
RMD-250	2013-05-13	<1	<1	<1	52	52.3		<0.5	31	<1	<2	43	74	
RMD-250	2013-09-16	1	<1	<1	36	37.3		<0.5	11	<1	8	21	40.5	
RMD-250	2013-11-27	<1	<1	<1	30	30.8		<0.5	10	<1	7	14.5	32.3	
RMD-250	2014-03-04	<1	<1	<1	22	22.4	36	<0.5	9	<1	5	11.1	26.7	43
RMD-250	2014-06-04	<1	<1	<1	58	58.6	37	<0.5	31	<1	8	37.3	76.9	44
RMD-250	2014-09-03	<1	<1	<1	50	50.5	41	<0.5	29	<1	8	49.8	87.5	56
RMD-250	2014-11-20	<1	<1	<1	29	29.5	40	<0.5	13	<1	4	14.9	32.8	56
RMD-251	2013-05-13	<1	<1	<1	53	53		<0.5	31	<1	4	41	76.1	
RMD-251	2013-09-16	<1	<1	<1	31	31.5		<0.5	8	<1	8	9.3	26.9	
RMD-251	2013-11-27	<1	<1	<1	23	23.7		<0.5	8	<1	8	7.8	25.2	
RMD-251	2014-03-04	<1	<1	<1	19	19.5	32	<0.5	8	<1	5	9.2	23.6	38
RMD-251	2014-06-04	<1	<1	<1	49	49.3	31	<0.5	28	<1	5	32.4	65.7	35
RMD-251	2014-09-03	<1	<1	<1	46	46.4	35	0.5	31	<1	10	52.3	94.5	52
RMD-251	2014-11-20	<1	<1	<1	26	26.9	36	<0.5	10	1	5	10.7	27.1	53
RMD-258	2013-05-13	<1	<1	<1	52	52.8		<0.5	32	<1	3	43	78.5	
RMD-258	2013-09-16	1	<1	<1	31	32.3		<0.5	12	<1	9	13.5	35.2	
RMD-258	2013-11-27	<1	<1	<1	26	26.5		<0.5	7	<1	8	7.7	22.5	
RMD-258	2014-03-04	<1	<1	<1	20	20.9	33	<0.5	10	<1	6	10.5	26.9	41
RMD-258	2014-06-04	<1	<1	<1	54	54.9	34	<0.5	28	<1	6	36.5	72	39
RMD-258	2014-09-03	<1	<1	<1	49	49.5	38	0.5	31	<1	8	59.1	99.5	55
RMD-258	2014-11-20	<1	<1	<1	30	30	39	<0.5	12	<1	4	14.8	31.6	58
											_			
RMD-259	2013-05-13	<1	<1	<1	52	52.6		<0.5	31	<1	3	42	76.4	
RMD-259	2013-09-16	<1	<1	<1	32	32.4		<0.5	14	<1	8	21	45.1	
RMD-259	2013-11-27	<1	<1	<1	26	27.2		<0.5	9	<1	8	15.6	34.3	_
RMD-259	2014-03-04	<1	<1	<1	21	21.6	33	<0.5	9	<1	5	8.8	24.3	45
RMD-259	2014-06-04	<1	<1	<1	58	58.9	35	<0.5	31	<1	7	36.4	74.2	44
RMD-259	2014-09-03	<1	<1	<1	48	48.6	39	<0.5	27	<1	7	50.2	85.2	55
RMD-259	2014-11-20	<1	<1	<1	29	29.8	40	<0.5	11	<1	4	15.2	31	54

				THN	VI (ppb)						HAA (p _l	ob)			
Sample	Date Sampled	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform	Total Trihalomethanes	Total THM Quarterly Average (Guileline Limit 100ppb/mL)	Dibromoacetic Acid	Dichloroacetic Acid	Monobromoacetic Acid	Monochloroacetic Acid	Trichloroacetic Acid	Total Haloacetic Acid	Total HAA Quarterly Average (Guileline Limit 80ppb/mL)	
RMD-250	2012-11-26	<1	<1	<1	23	23		<0.5	10	<1	3	11	24.7		pH units pH
RMD-250	2013-02-18	<1	<1	<1	30	30.8		<0.5	13	<1	3	18	34.1		
RMD-250	2013-05-13	<1	<1	<1	52	52.3		<0.5	31	<1	<2	43	74		
RMD-250	2013-09-16	1	<1	<1	36	37.3	36	<0.5	11	<1	8	21	40.5	43	
RMD-250	2013-11-27	<1	<1	<1	30	30.8	38	<0.5	10	<1	7	14.5	32.3	45	6.8
RMD-250	2014-03-04	<1	<1	<1	22	22.4	36	<0.5	9	<1	5	11.1	26.7	43	
RMD-250	2014-06-04	<1	<1	<1	58	58.6	37	<0.5	31	<1	8	37.3	76.9	44	Extra
															pH units pH
RMD-251	2012-11-26	<1	<1	<1	25	24.7		<0.5	11	<1	2	13	25.6		
RMD-251	2013-02-18	<1	<1	<1	29	29.5		<0.5	14	<1	4	20	37.9		
RMD-251	2013-05-13	<1	<1	<1	53	53		<0.5	31	<1	4	41	76.1		
RMD-251	2013-09-16	<1	<1	<1	31	31.5	35	<0.5	8	<1	8	9.3	26.9	42	7.2
RMD-251	2013-11-27	<1	<1	<1	23	23.7	34	<0.5	8	<1	8	7.8	25.2	42	
RMD-251	2014-03-04	<1	<1	<1	19	19.5	32	<0.5	8	<1	5	9.2	23.6	38	
RMD-251	2014-06-04	<1	<1	<1	49	49.3	31	<0.5	28	<1	5	32.4	65.7	35	
RMD-258	2012-11-28	<1	<1	<1	24	23.7		<0.5	10	<1	3	10	23.4		
RMD-258	2013-02-18	<1	<1	<1	27	27.4		<0.5	13	<1	3	19	34.9		
RMD-258	2013-05-13	<1	<1	<1	52	52.8		<0.5	32	<1	3	43	78.5		
RMD-258	2013-09-16	1	<1	<1	31	32.3	34	<0.5	12	<1	9	13.5	35.2	43	
RMD-258	2013-11-27	<1	<1	<1	26	26.5	35	<0.5	7	<1	8	7.7	22.5	43	
RMD-258	2014-03-04	<1	<1	<1	20	20.9	33	<0.5	10	<1	6	10.5	26.9	41	
RMD-258	2014-06-04	<1	<1	<1	54	54.9	34	<0.5	28	<1	6	36.5	72	39	
RMD-259	2012-11-28	<1	<1	<1	25	25.1		<0.5	11	<1	2	12	25.2		
RMD-259	2013-02-18	<1	<1	<1	25	26.1		<0.5	11	<1	3	16	30.7		
RMD-259	2013-05-13	<1	<1	<1	52	52.6		<0.5	31	<1	3	42	76.4		
RMD-259	2013-09-16	<1	<1	<1	32	32.4	34	<0.5	14	<1	8	21	45.1	44	
RMD-259	2013-11-27	<1	<1	<1	26	27.2	35	<0.5	9	<1	8	15.6	34.3	47	
RMD-259	2014-03-04	<1	<1	<1	21	21.6	33	<0.5	9	<1	5	8.8	24.3	45	
RMD-259	2014-06-04	<1	<1	<1	58	58.9	35	<0.5	31	<1	7	36.4	74.2	44	

PWT - 141

				1	ГНМ (ppl)				HAA	(ppb)			
Sample		Date Sampled	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform	Total Trihalomethanes	Dibromoacetic Acid	Dichloroacetic Acid	Monobromoacetic Acid	Monochloroacetic Acid	Trichloroacetic Acid	Total Haloacetic Acid	
RMD-250	6071 Azure Rd.	2014-06-04	<1	<1	<1	58	58.6	<0.5	31	<1	8	37.3	76.9	
RMD-251	5951McCallan Rd.	2014-06-04	<1	<1	<1	49	49.3	<0.5	28	<1	5	32.4	65.7	
RMD-258	7000 Blk. Dyke Rd.	2014-06-04	<1	<1	<1	54	54.9	<0.5	28	<1	6	36.5	72	
RMD-259	10020 Amethyst Ave.	2014-06-04	<1	<1	<1	58	58.9	<0.5	31	<1	7	36.4	74.2	

				1	ГНМ (ppl)				HAA	(ppb)			
Sample		Date Sampled	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform	Total Trihalomethanes	Dibromoacetic Acid	Dichloroacetic Acid	Monobromoacetic Acid	Monochloroacetic Acid	Trichloroacetic Acid	Total Haloacetic Acid	
RMD-250	6071 Azure Rd.	2014-11-20	<1	<1	<1	29	29.5	<0.5	13	<1	4	14.9	32.8	
RMD-251	5951McCallan Rd.	2014-11-20	<1	<1	<1	26	26.9	<0.5	10	1	5	10.7	27.1	
RMD-258	7000 Blk. Dyke Rd.	2014-11-20	<1	<1	<1	30	30	<0.5	12	<1	4	14.8	31.6	
RMD-259	10020 Amethyst Ave.	2014-11-20	<1	<1	<1	29	29.8	<0.5	11	<1	4	15.2	31	

APPENDIX 6: 2014 HEAVY METAL TESTING RESULTS AND VINYL CHLORIDE RESULTS

		RMD-250	RMD-257	RMD-263
	Sample Description	6071 Azure Rd.	6640 Blundell Rd.	12560 Cambie Rd.
	Sample Date	2014-05-14 15:45	2014-05-14 15:30	2014-05-14 14:15
	Sample Type	GRAB	GRAB	GRAB
Aluminum Total	μg/L	38	35	35
Antimony Total	μg/L	<0.5	<0.5	<0.5
Arsenic Total	μg/L	<0.5	<0.5	<0.5
Barium Total	μg/L	3.1	3.2	3.1
Boron Total	μg/L	<10	<10	<10
Cadmium Total	μg/L	<0.2	<0.2	<0.2
Calcium Total	μg/L	3780	3560	3440
Chromium Total	μg/L	<0.05	<0.05	<0.05
Cobalt Total	μg/L	<0.5	<0.5	<0.5
Copper Total	μg/L	109	2.4	2.2
Iron Total	μg/L	16	9	12
Lead Total	μg/L	1.2	<0.5	<0.5
Magnesium Total	μg/L	135	155	151
Manganese Total	μg/L	4.6	3.8	2.9
Mercury Total	μg/L	<0.05	<0.05	<0.05
Molybdenum Total	μg/L	<0.5	<0.5	<0.5
Nickel Total	μg/L	<0.5	<0.5	<0.5
Potassium Total	μg/L	158	152	151
Selenium Total	μg/L	<0.5	<0.5	<0.5
Silver Total	μg/L	<0.5	<0.5	<0.5
Sodium Total	μg/L	1680	1730	1800
Zinc Total	μg/L	<3	<3	<3

		RMD-250	RMD-257	RMD-263
Metal	Sample Description	6071 Azure Rd.	6640 Blundell Rd.	12560 Cambie Rd.
	Sample Date	2014-11-12 12:30	2014-11-12 15:45	2014-11-12 15:55
	Sample Type	GRAB	GRAB	GRAB
Aluminum Total	μg/L	40	44	65
Antimony Total	μg/L	<0.5	<0.5	<0.5
Arsenic Total	μg/L	<0.5	<0.5	<0.5
Barium Total	μg/L	3.1	3.2	3.4
Boron Total	μg/L	<10	<10	<10
Cadmium Total	μg/L	<0.2	<0.2	<0.2
Calcium Total	μg/L	3420	3380	3390
Chromium Total	μg/L	<0.05	<0.05	<0.05
Cobalt Total	μg/L	<0.5	<0.5	<0.5
Copper Total	μg/L	2.3	2.1	2.4
Iron Total	μg/L	PWT - 143	<5	29

		RMD-250	RMD-257	RMD-263	
Metal	Sample Description	6071 Azure Rd. 6640 Blundell Rd.		12560 Cambie Rd.	
	Sample Date	2014-11-12 12:30	2014-11-12 15:45	2014-11-12 15:55	
	Sample Type	GRAB	GRAB	GRAB	
Lead Total	μg/L	<0.5	<0.5	<0.5	
Magnesium Total	μg/L	118	137	139	
Manganese Total	μg/L	1.5	1.3	14.0	
Mercury Total	μg/L	<0.05	<0.05	<0.05	
Molybdenum Total	μg/L	<0.5	<0.5	<0.5	
Nickel Total	μg/L	<0.5	<0.5	<0.5	
Potassium Total	μg/L	162	163	164	
Selenium Total	μg/L	<0.5	<0.5	<0.5	
Silver Total	μg/L	<0.5	<0.5	<0.5	
Sodium Total	μg/L	1700	1720	1730	
Zinc Total	μg/L	<3	<3	<3	

Vinyl Chloride in Drinking Water June and November 2014

Sample Site Number	Sample Reported Name	Sampled Date	Vinyl Chloride (mg/L)
RMD-205	13851 Steveston Hwy.	13-Jun-14	<0.0010
RMD-206	4251 Moncton St.	13-Jun-14	<0.0010
RMD-253	11051 No 3 Rd.	13-Jun-14	<0.0010
RMD-256	1000 Blk. McDonald Rd.	13-Jun-14	<0.0010
RMD-263	12560 Cambie Rd.	13-Jun-14	<0.0010

Sample Site Number	Sample Reported Name	Sampled Date	Vinyl Chloride (mg/L)
RMD-205	13851 Steveston Hwy.	3-Nov-14	<0.0010
RMD-206	4251 Moncton St.	3-Nov-14	<0.0010
RMD-253	11051 No 3 Rd.	3-Nov-14	<0.0010
RMD-256	1000 Blk. McDonald Rd.	3-Nov-14	<0.0010
RMD-263	12560 Cambie Rd.	3-Nov-14	<0.0010

APPENDIX 7: SAMPLE DRINKING WATER QUALITY ADVISORY

CITY OF RICHMOND ANNUAL WATERMAIN FLUSHING NOTIFICATION

Beginning on Sunday, April 6, the Water Services division will execute the annual watermain flushing program. To minimize disruptions, this work will be conducted from Sunday to Friday, 9:00 p.m. to 6:30 a.m. The program will continue for six weeks, ending on Friday, May 16.

Flushing watermains is required to maintain water quality. Your water will not be turned off, however during this time, you may experience water pressure fluctuation or discoloration. This is not a health concern and should only last for a short time. It is recommended that you run the cold water until it clears.

If you have any questions, please contact the Public Works Service Centre at 604-244-1262. For more information on Richmond's high-quality tap water and other water education programs, visit www.richmond.ca/water.

APPENDIX 8: SPECIFIC EMERGENCY RESPONSE PLANS

Positive Response for Fecal or E. coli

If a water sample tests positive for fecal coliform, the following response plan will occur;

- The municipality's water quality personnel and the Medical Health Officer will be notified by the Metro Vancouver laboratory.
- Interim samples from the site will be examined. Interim samples are samples in the period between when the fecal positive sample was taken, and when it was determined to be fecal positive.
- Arrangements will be made for the immediate collection of a repeat sample including, where possible, samples from upstream and downstream of the fecal positive sample.
- The chlorine residual for the sample noted on the sampler's Water Sample Data Sheet will be reviewed to determine if a localized loss of disinfectant occurred.
- All water utility personnel will be contacted to determine if there was any loss of pressure, or other unusual events, that may have led to contaminants entering the system.
- The need for a boil-water advisory will be evaluated by the City and the Medical Health Officer. If a boil-water advisory is deemed necessary, the municipality will carry out various means to inform the public. Metro Vancouver will be informed of this public advisory.
- The City, in consultation with the Medical Health Officer, will determine the need and extent for a boilwater advisory.
- The Metro Vancouver laboratory will initiate procedures to identify species of the fecal positive organism with standard biochemical tests.
- The Medical Health Officer will be contacted with the repeat sample results and the results of the species identification on the fecal positive sample when these tests are complete.

In the event of possible E. coli or fecal coliform contamination, all steps to ensure public health and safety will be taken including banning water usage if necessary.

Chemical or Biological Contamination Response

In the event of chemical or biological contamination, in source waters or the City's distribution system, the following actions will be taken by both, the City of Richmond and Metro Vancouver:

- Immediately notify Vancouver Coastal Health.
- Identify the chemical and any public health risk factors associated with its presence in potable water.
- Isolate the contaminated zone area and determine the level of contamination.
- Issue a public advisory in consultation with the Medical Health Officer.

In the event of possible biological or chemical contamination, all steps to safety will be taken to ensure public health including banning water usage if necessary.

Turbidity Response

Turbidity (cloudy water) occurs during periods of heavy rain at and surrounding Metro Vancouver water sources. The City of Richmond, in conjunction with Vancouver Coastal Health, has developed a turbidity response plan, which considers the City's responsibility for due diligence without unreasonably constraining the water utility's ability to operate the system.

During turbidity events of >1 NTU the staff will:

- Begin a rigorous sampling program for microbiological activity and residual chlorine.
- Monitor the City's supervisory control and data acquisition (SCADA) system with updates sent to Vancouver Coastal Health on a predetermined schedule.
- Issue a public communication in consultation with the regional Health Authority.
- If necessary, issue a boil-water advisory to residents receiving turbid water.

Response to Interruption of Primary and/or Secondary Disinfection

Upon notification by Metro Vancouver Operations that an interruption in disinfection has occurred:

- Staff will monitor residual levels of chlorine at strategic locations in the Metro Vancouver supply area.
- The City's SCADA system will be monitored with updates sent to Vancouver Coastal Health on a predetermined schedule, as set by the health authority,
- In cases where chlorine residual is less than 0.2 ppm, City crews will flush the affected area until an acceptable level is achieved.
- These actions will continue until disinfection is resumed and adequate levels of residual chlorine have been reached in the distribution system.

Response to Loss of Pressure Due to High Demand

In the event of a pressure loss due to high demand:

- City staff will attempt to rectify the problem as soon as possible using various demands management techniques and by supplementing supply to problem areas.
- Metro Vancouver and the Medical Health Officer will be notified of any water quality issues.
- City staff will perform chlorine residual tests at various locations to determine if adequate disinfectant is present in the distribution.
- All water quality complaints from the public will be thoroughly investigated due to the potential for water contamination during low water pressure.

Response to Watermain Breaks with Suspected Contamination

All watermain breaks where chemical or microbiological contamination of the system is suspected will be immediately reported to the Medical Health Officer. The municipality will isolate the contaminated section from the rest of the distribution system. Once the watermain has been repaired, chlorine residual testing will be conducted at various locations affected by the main break. If low chlorine residuals are found, necessary actions to increase the levels of free chlorine will be carried out. If bacterial contamination is suspected, water samples will be analyzed and appropriate action taken.





Report to Committee

To:

Public Works and Transportation Committee

Date:

May 7, 2015

From:

Tom Stewart, AScT. Director, Public Works

File:

10-6405-03-01/2015-

Vol 01

Re:

Bi-Weekly Garbage Collection

Staff Recommendation

1. That City garbage collection service for single-family dwellings be changed from weekly to every other week (bi-weekly) commencing the first quarter of 2016, with recycling services (i.e. Blue Box and Green Cart) continuing to be provided on a weekly basis;

- 2. That, as part of implementation of bi-weekly collection service, the City provide one garbage cart per household to residents in single-family dwellings, where residents have the opportunity to select the cart size of their choice;
- 3. That the Chief Administrative Officer and General Manager, Engineering and Public Works be authorized to negotiate and execute an amendment to Contract T.2988, Residential Solid Waste & Recycling Collection Services, to service, acquire, store, assemble, label, deliver, replace and undertake related tasks for the garbage carts, and related operational service changes associated with this program;
- 4. That an amendment to the City's Five Year Financial Plan (2015 2019) to include capital costs of \$2.6 million with \$2.3 million funding from the City's General Solid Waste and Recycling Provision and \$300,000 from the City's General Utility Surplus, be approved; and
- 5. That appropriate bylaw amendments be brought forward as part of the 2016 solid waste and recycling utility budget process and amending rates, to enact this service.

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

Att. 2

REPORT CONCURRENCE									
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER							
Finance Division									
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	Initials:	APPROVED BY CAO							

Staff Report

Origin

At the January 27, 2014 Council meeting, a pilot project to evaluate weekly and bi-weekly service levels for garbage collection was approved and commenced in March, 2014. This project was designed to evaluate the differences in weekly vs. bi-weekly collection of garbage in City-provided carts, and any differences in recycling and waste diversion levels under the two models. In addition, resident feedback regarding whether City-provided carts for garbage collection was preferred by residents was also sought. An initial status update was provided early in the program to Mayor and Councillors in July (Attachment 1).

This report presents final outcomes from the pilot based on a full year of evaluation and, based on those outcomes, recommends that bi-weekly garbage collection, using City-provided carts, be implemented in 2016.

This report supports Council's Term Goal #8 Sustainability:

To demonstrate leadership in sustainability through continued implementation of the City's Sustainability Framework.

8.1. Continued implementation and significant progress towards achieving the City's Sustainability Framework, and associated targets.

Analysis

Background

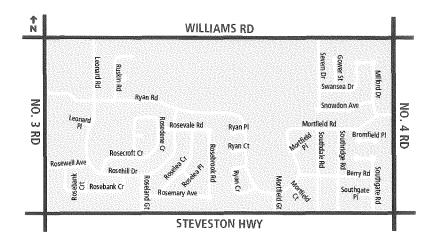
Many communities in the Lower Mainland, including Vancouver and Surrey, have changed their services levels for garbage collection to bi-weekly (Attachment 2). Bi-weekly garbage collection is being implemented to help accelerate waste reduction goals. It also recognizes that there is considerably less garbage to collect from residents due to the success of ever-expanding recycling programs. As a region, Lower Mainland communities, including Richmond, are striving to reach 70% waste diversion by 2015, aspiring to 80% by 2020.

Richmond residents in single-family homes have embraced recycling and initially met the 70% waste diversion target in 2013. This increased to 71% in 2014. To consider options for further advancing waste reduction, Council directed staff to undertake a pilot program to evaluate weekly versus bi-weekly collection service for single-family households.

The pilot project commenced on March 3, 2014 and is continuing at this time pending a decision from Council on future action. A brief snapshot of the pilot areas is provided below:

Weekly:

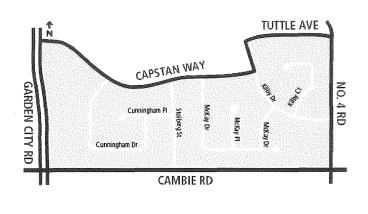
There are 1,040 residences in the weekly pilot zone. The pilot area is shown in the inset map and includes the area bounded by No. 3 and No. 4 Roads and Williams Road and Steveston Highway.

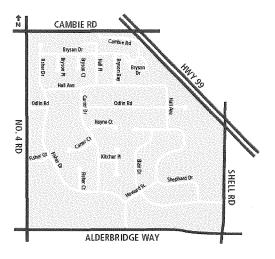


A 120-litre cart size was provided as the standard-issue size, and residents had the opportunity to change to a size of their choice. Approximately 10% of participants opted for a different cart size. Of these, 75% opted for the 240-litre cart, 15% opted for the 360-litre cart, and 6% opted for the 80-litre size. Another 4% switched to a different size and then switched back to the standard-issue size.

Bi-Weekly:

There are 838 residences in the bi-weekly pilot zone. The pilot area is shown in the map below and includes the area between Cambie Road and Alderbridge Way and No. 4 and Shell Roads; plus the area bounded by Garden City Road and No. 4 Road and Capstan Way and Cambie Road.





A 240-litre cart size was provided as the standard size, and residents had the opportunity to change to a size of their choice. Approximately 7% of participants opted for a different cart size. Of these, 36% opted for the 360-litre sized cart, 47% for the 120-litre cart, and 12% for the 80-litre cart.

Given the relatively low percentage of residents who opted for a different cart size (i.e. 7%) we can conclude from this that the 240-litre cart is the appropriate

standard-issue size for bi-weekly collection service. However, residents should continue to have the choice to switch to a size suitable to their needs.

Outcomes

The pilot project outcomes demonstrate that recycling and waste diversion improves significantly where bi-weekly garbage collection service is provided. Compared to pre-pilot amounts in the bi-weekly zone, the weight of Blue Box recycling materials increased by 55%, whereas the weight of garbage was reduced by 20%. In addition, when compared with average amounts recycled through the Green Cart program, there was a 44% increase in the weight of organics recycled in the bi-weekly zone (in the weekly zone, organics recycling also increased, but by a lesser amount, i.e. 37%).

The following table highlights the performance of the weekly and bi-weekly collection zones.

Materials	Weekly Garbage Cart Collection	Bi-Weekly Garbage Cart Collection
Participation (% change)		
Garbage (GARBAGE Cart)	↓ 9.6% reduction	↑ 9.56% increase
Recycling (Blue Box)	↑ 4% Increase	↑ 3.7% increase
Weights (% change)		
Garbage (GARBAGE Cart)	↑ 9.8% increase per HH	↓ 20% reduction per HH
Recycling (Blue Box)	↓ 14.12% decrease per HH	↑ 55% increase per HH
Organics (GREEN Cart)	↑ 37% increase per HH	↑ 44% increase per HH

Based on the increased recycling performance and waste diversion results from the pilot project, it is estimated that if bi-weekly garbage collection were implemented on a City-wide basis, overall recycling performance would increase by a range of 5%-8% (increasing potential total diversion for single-family households to a range of 76% - 79%).

Resident Feedback

In the survey undertaken with residents (detailed in Attachment 1), the following key points of feedback were received:

- The majority of residents in both the weekly and bi-weekly zones favoured having carts for garbage provided by the City (88% and 80%, respectively).
- The majority of residents prefer weekly garbage collection service. However, once on biweekly service, the level of support for weekly vs. bi-weekly is roughly split. For example, 84% of residents in the weekly zone preferred weekly service; whereas 52% in the bi-weekly zone favoured weekly service.
- Support for a fee-based structure for garbage collection (fee charged based on size of cart) was generally accepted, with roughly 60% of residents surveyed either somewhat or extremely supportive and one-third of residents not in support.

Pilot Conclusion

The outcomes from the pilot project indicate that a transition to bi-weekly garbage collection service can be expected to significantly improve recycling and waste diversion performance, and is therefore recommended. Even though most residents prefer weekly garbage collection service, the level of support lessens as residents become accustomed to every other week collection service (i.e. support for weekly vs. bi-weekly collection service was roughly split in the bi-weekly collection zone).

It is evident that the majority of residents favour City-provided carts for their garbage. Support for a fee based structure, where residents pay based on the size of Garbage Cart they subscribe to, is also supported. Staff recommend implementation of these aspects of a bi-weekly collection service as well. It is noted that residents would continue to have the option to purchase garbage tags (current cost is \$2 each) for any additional garbage that may not fit into their subscribed cart size. In addition, garbage vouchers (available for purchase at City facilities for \$5 each) will remain available for residents to dispose of up to \$20 worth of waste at the Vancouver Landfill.

Other Considerations

Other considerations in moving to a cart-based, bi-weekly garbage collection program include:

- From a benefits perspective, cart-based systems help to improve the overall appearance of the streetscape. This is due to reduced instances of litter and spilled materials, generally caused by animal intrusion into garbage cans and from weather conditions. The design and durability of City-provided carts helps to mitigate these issues as well as instances of missing lids and broken garbage cans. Wheels also make manoeuvring the carts easier for residents. Cart service also tends to result in a more attractive streetscape after servicing -- avoiding tossed garbage cans, etc.
- Other benefits include the fact that residents no longer have to purchase their own garbage cans since the City-provided carts are maintained and replaced by the City, as required.
- From a challenges perspective, there are increased risks of contamination in the Green Cart and Blue Box programs. Since recycling services for both of these programs will remain weekly, residents wishing to get rid of garbage on their off-garbage week may be motivated to hide waste materials in their Green Cart or Blue Box. This could potentially add to the City's costs. To address this, collectors can attempt to identify and tag any contaminated Green Carts or Blue Boxes curbside, where possible. Focused educational efforts will also be required to help reduce potential contamination issues.
- Other challenges could include increased service demand in City parks/litter containers
 caused by individuals using these containers to dispose of their household garbage, i.e. to
 avoid holding onto their garbage until their garbage collection day under a bi-weekly
 scenario. There could also be increases in the number of instances of illegal dumping.
 Both of these issues are expected to occur at the outset of programs, but typically reduce
 over time, as residents become accustomed to the new program.

Implementation

A number of measures are required to implement this program, including targeted outreach to residents, policy and contractual amendments, as well as operational planning considerations (cart acquisition, delivery, etc.). Resident communications will be a key aspect of this program in light of the service changes. A four-stage campaign would be undertaken as part of implementation of the program, including:

- 1. Program announcement and general awareness emphasizing the benefits of City-provided carts, the importance of reducing waste to achieve regional targets, the proven success from the Garbage Cart Pilot Project, and the opportunity to reduce garbage fees by using smaller carts through waste reduction and increased recycling.
- 2. Cart size selection alternate size selection and related fees, noting that the standard size was found to be sufficient for residents in the Garbage Cart Pilot Project, that residents who select smaller than the standard size will have lower costs for their service, and that those who are generating more garbage than average residential use will be pay for the larger cart size required.
- 3. Cart delivery and program details which will provide residents with cart delivery schedules and information materials that include tips on how to use the new carts, reminders about the City's recycling programs and how to use them to reduce garbage, what to expect when the new service rolls out, and other information to support increased recycling.
- 4. *Program launch* which will include customer service through the Environmental Programs Information Line, website support and responsive outreach in the community to facilitate an efficient and smooth transition to the new program.

Various tactics will be used including media releases/newspaper ads, the City website, social media, direct mail to residents, outreach displays, etc. The communications/outreach initiatives would be staged over the course of implementation, with the program announcement/general awareness phase starting in approximately June.

Due to the timeframes associated with these items, staff anticipate the earliest potential launch date for the program would be first quarter of 2016.

Operationally, residents would continue to have their garbage collected on the same day it has been previously, except on alternate weeks.

Financial Impact

The capital cost associated with acquiring and delivering carts to residents is estimated at \$2.6 million. There is approximately \$2.3 million funding available in the Sanitation and Recycling Provision. The remaining \$300,000 will initially be funded by General Utility Surplus and will be repaid by the Sanitation and Recycling Provision which is expected to generate a surplus in 2015 due to the implementation of the Multi-Material BC program. The 5 Year Financial Plan (2015-2019) would need to be amended to allow for order placement and other necessary capital

implementation measures to be undertaken to meet the implementation date in the first quarter of 2016.

Overall collection cost savings under a bi-weekly scenario are expected to be minimized in the initial transition year due to the fact the City is also providing carts to residents (at no added cost) and the carts take longer to service when compared to manual collection processes. In addition, garbage waste volumes end up being diverted into other waste streams (Green Cart, Blue Box recycling, etc.) so collection vehicles end up being shifted to where they are required to adjust to the volume requirements and in order to maintain service levels.

Further, administration and operational costs are expected to increase to meet resource and communication needs associated with addressing increased enquiries (i.e. residents confused about when their collection day is, mailing/distribution costs for zone-specific collection calendars, operational matters impacting costs (increased composting site fees for added volumes, material contamination)). On the flip side, garbage disposal costs are expected to decrease. These cost variations will be evaluated as part of establishing rates in 2016. Generally, cost savings are expected to range from 2% - 15%, depending on the cart size selected by residents. Costs to increase to a larger cart are expected to be 15%-20% higher. More information on rates will be provided in presentation of the 2016 rates. The key point for residents is that they can reduce their costs by switching to smaller sized carts, or pay more if they choose to use a larger cart. Costs will continue to be evaluated and adjusted based on outcomes (actual volumes/resource requirements, etc.) and any savings reflected back to residents in the rates charged as this program matures.

Conclusion

A pilot program to test recycling and waste diversion performance for single-family homes in a weekly versus bi-weekly garbage collection scenario was implemented in March, 2014. The outcome of the pilot demonstrated that bi-weekly garbage collection service could be expected to improve overall single-family recycling rates by a range of 5%-8% (increasing to 76%-79%). Given the City's objective to meet the regional waste reduction goal of 80% by 2020, this initiative is considered important as part of advancing recycling performance in the single-family residential sector.

To make the transition to bi-weekly service as convenient as possible for residents, garbage carts of variable sizes are recommended to be provided to residents by the City. Residents will have the ability to select a cart size of their choice, based on a variable rate structure designed to create incentives to minimize waste disposal and maximize recycling efforts.

The City's existing service provider, Sierra Waste Services, is best positioned to support the City through acquisition and delivery of carts to residents. Therefore, it is recommended Sierra Waste Services be engaged to support the City with the implementation of cart-based collection service for bi-weekly garbage collection. At this time, funding approval for the capital cost items is required to plan for implementation of this program in the first quarter of 2016.

Suzanne Bycraft

Manager, Fleet & Environmental Programs

(604-233-3338)

Att. 1: Weekly/Bi-Weekly Garbage Collection Pilot Program Update memorandum dated July

Att. 2: Garbage/Recycling Service Levels - Comparison to Other Cities

Attachment 1



Memorandum

Engineering and Public Works Fleet and Environmental Programs

To: Mayor and Councillors Date: July 16, 2014

From: Suzanne Bycraft File: 10-6405-01/2014-Vol 01

Manager, Fleet & Environmental Programs

Re: Weekly/Bi-Weekly Garbage Collection Pilot Program Update

At the January 27, 2014 meeting, Council approved a pilot program to test weekly vs. bi-weekly garbage collection using carts. The purpose of this pilot program is to evaluate opportunities to further waste diversion and recycling objectives through dis-incentives to waste disposal, as well as to evaluate resident feedback concerning the use of City-provided carts for garbage collection service. Council requested that a progress update on the pilot program be provided in July, which this memo provides. This memo also advises of next steps.

Background

The pilot program commenced on March 3, 2014 and is continuing at this time. The following provides a brief summary of the program scope:

	Number of Participating Households	Standard Cart Size Provided Note: Residents have the ability to change to the cart size of choice, i.e. 80 litre, 120 litre, 240 litre, 360 litre	Collection Zone Reference attachment 1		
Weekly Collection:	1,040 units	120 litre	Zone 1: Area between No. 3 & No 4 Roads and Steveston Highway and Williams Road		
Bi-Weekly Collection:	838 units	240 litre	Zone 2: Area between Cambie Road and Alderbridge Way and No. 4 Road & Shell Road: plus area bounded by Garden City Road and No. 4 Road and Capstan Way and Cambie Road		

Collection for residents in both the weekly and bi-weekly collection areas started on their first collection day in the first week of March, 2014. Residents on bi-weekly collection received collection service every other week after that. Residents on the weekly collection pilot continued to receive weekly collection service.



July 16, 2014

-2-

Start Up Communications

Resident education about the program start up was undertaken in two phases:

Phase 1: Pre-Pilot Notification. Direct mail notification was sent to residents coupled with neighbourhood meetings prior to the program start. This included:

- Letter from the Mayor to notify residents they've been selected to participate in the garbage pilot program
- Information brochure with key program elements, needs/benefits highlights. FAQs and invitation to a neighbourhood meeting
- Neighbourhood meetings were held on February 12 and 13 to provide opportunities for residents to speak to City staff and ask questions, as well for viewing different cart sizes available

Phase 2: Program Launch Materials. Information packages were delivered with carts at the end of February, 2014, which included:

- Overview of what participants are receiving and how to provide input
- Collection calendar (for biweekly group only)
- Information brochure with program details, cart exchange information, what goes in the garbage, and FAQS
- Recycling Guide to encourage residents to increase their recycling using the Blue Box.
 Green Cart and Large Item Pick Up programs, as well as drop off options at the City's Recycling Depot

Program Evaluation

The evaluation of the program has encompassed two key aspects:

1. <u>Operational</u>: Comparing key factors such as participation, weight of waste garbage generated, and weight of blue box recycling materials generated.

A benchmark was established by collecting pre-pilot comparative data for a baseline assessment from January 15 to February 26.

This update represents an evaluation of the pilot program from March 3 to May 22, 2014, approximately 2.5 months.

 <u>Resident Feedback</u>: A door-to-door participant survey as well as an on-line survey was undertaken to obtain resident feedback about the program.

Operational

As shown in the following table, there has been relatively little change in the participation and average amounts of garbage and recycling activities of residents in the weekly pilot program. Changes are much more noticeable in the bi-weekly garbage collection pilot, where the volume of garbage generated has reduced 33% and blue box recycling volumes increased 43%.

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		ection Participation: Garbage			Waste Disposed: Garbage Weight/Unit (kgs)			Waste Recycled: Recycling Weight/Unit (kgs)		
re	Pilot	% Change	Pre	Pilot	% Change	Pre	Pilot	% Change		
7.45%	63.48%	-5.89%	12.11	12.67	+4.58%	3.76	3.46	-7.98%		
4.21%	78.72%	+22.59%	21.90	14.65	-33.11%	2.46	3.54	+43.32%		
7	.45%	2.45% 63.48%	45% 63.48% -5.89%	45% 63.48% -5.89% 12.11	45% 63.48% -5.89% 12.11 12.67	45% 63.48% -5.89% 12.11 12.67 +4.58%	45% 63.48% -5.89% 12.11 12.67 +4.58% 3.76	45% 63.48% -5.89% 12.11 12.67 +4.58% 3.76 3.46		

The results of the pilot to date indicate that bi-weekly garbage collection has significant impact on reducing the overall amount of waste generated as well as increasing the amounts of materials recycled. While these are expected trends, staff do note that the information presented is based on a very short 2.5 month window of analysis. A period of 6 months is generally considered the minimum necessary to establish consistent patterns (12 months is preferable). Therefore, further evaluation of the pilot will continue over the next several months.

Resident Feedback

A door-to-door resident survey, coupled with an on-line resident survey, was undertaken in June. Information displays at malls and other community events (e.g. Open House, etc.) were also set up as part of gathering feedback. The survey findings are presented in Attachment 2. Key findings are outlined below:

		Weekly	Biweekly
1.	Support for City-provided Carts (support or extremely supportive)	88%	80%
2.	Requested a different cart size (different than standard issued by City)	16%	15%
3.	Did residents consider that they increased their Blue Box recycling efforts		
	a) Yes	45%	40%
	b) No	54%	50%
4.	Preference for frequency of collection		
	a) Weekly	84%	52%
	b) Bi-Weekly	14%	45%
5.	Support for garbage fee structure:		
	a) Do not support	34%	39%
	b) Support/Extremely supportive	49%	42%
6.	Recycle Using Blue Box		
	a) Yes	96%	94%
	b) No	2%	4%

In summary, the survey findings indicate the following summary points:

- The majority of residents favour having City-provided carts for garbage:
- The pre-determined cart size established by the City is generally adequate, however residents like the ability to choose a different cart size (up to 16% chose a different cart size);

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Attachment 1 (Cont'd)

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- The majority of residents prefer weekly garbage collection service, although once residents
 are receiving bi-weekly collection service, their support for weekly vs. bi-weekly service is
 roughly split (i.e. 52% weekly preference vs. 45% bi-weekly preference);
- 'Support' or 'extreme supportive' for a fee structure, where residents pay based on the size
 container they use is less than one-half (up to 49%). Where those who are 'somewhat
 supportive' is considered, it is over one-half (i.e. 62%). Approximately one-third of
 residents do not support a fee structure for garbage; and
- Residents' participation rates in Blue Box recycling remains very high.

Next Steps

As noted, the operational survey data presented in this memo was gathered over a short timeframe of 2.5 months. As a longer timeframe for collecting operational program performance is best practise, staff will continue to evaluate the pilot program over the next several months.

Additional findings and recommendations will be presented as part of the 2015 annual utility budget process for Council's consideration. In the interim, the program will continue for all residents currently in the pilot pending a decision by Council. These residents will be notified accordingly, i.e. via direct mail information provided by the City.

If you have any questions or require additional information, please contact me at 604-233-3338.

Suzanne Byeraft Manager, Fleet & Environmental Programs

Att: 2

pe: SMT

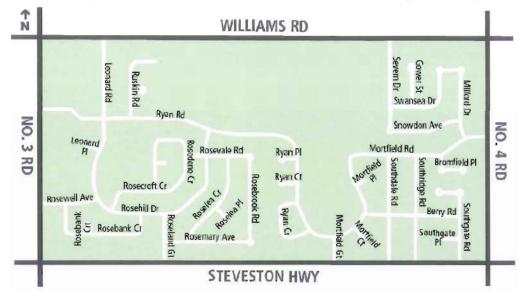
Tom Stewart, AScT., Director, Public Works

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Attachment 1 - Piloting Sites

Zone 1 - Weekly: Area between No. 3 & No 4 Roads and Steveston Highway and Williams Road.



Zone 2 – Bi-Weekly: Area between Cambie Road and Alderbridge Way and No. 4 Road & Shell Roads: plus area bounded by Garden City Road and No. 4 Road and Capstan Way and Cambie Road.



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Attachment 2 - Garbage Pilot Participant Surveys (door to door survey undertaken June 10 - 13, 2014)

	Weekly (423 responses)		Biwe	ekly	Overall (690 responses	
			(267 resp	onses)		
	# of Responses	%	# of Responses	%	# of Responses	%
Please indicate your level of support for City-provided carts for garbage collection.						
Do not support	17	4%	21	8%	38	6%
Somewhat supportive	33	8%	25	9%	58	8%
Support	279	66%	145	54%	424	61%
Extremely supportive	93	22%	69	26%	162	23%
No response	1	0%	7	3%	8	1%
2. Are you actively participating in the garbage pilot program?						
Yes, I'm using the garbage cart provided by the City	411	97%	231	87%	642	93%
No, I'm continuing to use my own garbage can(s)	11	3%	1	0%	12	2%
No response	4	1%	35	13%	36	5%
3. Did you request a different cart size?						
Yes	68	16%	39	15%	107	16%
No	351	83%	225	84%	576	83%
No response	4	1%	3	1%	7	1%

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Attachment 2 Cont'd

	Weekly (423 responses)		Biweekly (267 responses)		Overall (690 responses)	
4. If yes, what size did you exchange to?	(123103		(207100	Portocoj	(050 respons	
Small (80L)	9	13%	7	18%	16	15%
Medium (120L)	3	4%	15	38%	18	17%
Large (240L)	28	41%	6	15%	34	32%
Extra Large (360L)	19	28%	9	23%	28	26%
No response	. 9	13%	2	5%	11	10%
5. With the shift to one garbage cart, did you increase your recycling using your Blue Box?						
Yes, we did increased our recycling	191	45%	106	40%	297	43%
No, we did not increase our recycling	231	55%	159	60%	390	57%
No response	1	0%	2	1%	3	0%
6. With the shift to one garbage cart, did you Increase your recycling using the Green Cart?						
Yes, we did increase our recycling	191	45%	128	48%	319	46%
No, we did not increase our recycling	228	54%	134	50%	362	52%
No response	4	1%	5	2%	9	1%

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Attachment 2 Cont'd

	Weekly (423 responses)		Biweekly (267 responses)		Overall (690 responses	
7. Please indicate whether you are receiving Biweekly or Weekly Collection during this pilot project:						
Biweekly collection (garbage collected every other week)	N/A	N/A	N/A	N/A	266	39%
Weekly collection (garbage collected every other week)	N/A	N/A	N/A	N/A	423	61%
No sure					11	2%
8. How much garbage do you usually put out for collection?						
One cart	298	70%	205	77%	503	73%
One cart plus one garbage can/bag	37	9%	17	6%	54	8%
No response	88	21%	45	17%	133	19%
9. How often do you put garbage at the curbside for collection?						
Weekly	291	69%	26	10%	317	46%
Every other week	34	8%	227	85%	261	38%
Once a month	3	1%	3	196	6	1%
No Response	95	22%	11	4%	106	15%

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Attachment 2 Cont'd

	Weekly (423 responses)		Biwe	ekly	Overall	
			(267 responses)		(690 responses)	
10. What is your preference for garbage collection frequency?						
Weekly	356	84%	138	52%	494	72%
Biweekly (every other week)	61	14%	121	45%	182	26%
No response	6	1%	8	3%	14	2%
11. Please indicate your level of support for a fee structure based on container size as a measure of the amount of garbage being collected.						
Do not support	144	34%	103	39%	250	36%
Somewhat supportive	64	15%	48	18%	113	16%
Support	17 5	41%	88	33%	264	38%
Extremely supportive	33	8%	23	9%	56	8%
No response	7	2%	5	2%	7	1%
12. Are you aware of the City's Large Item Pick Up Program?						
Yes	302	71%	185	69%	490	71%
No	119	28%	76	28%	197	29%
No response	2	0%	6	2%	3	0%

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Attachment 2 Cont'd

	Weekly (423 responses)		Biweekly (267 responses)		Overall (690 responses)	
13. Have you used the City's Recycling Depot (5555 Lynas Lane)?						
Yes	301	71%	169	63%	475	69%
No	114	27%	94	35%	208	30%
No response	8	2%	4	1%	7	1%
14. Are you regularly using the Blue Box program to recycle paper, glass and mixed containers?				0%		
Yes	406	96%	252	94%	663	96%
No	8	2%	11	496	19	3%
No response	9	2%		0%		0%
15. Are you familiar with the expanded Blue Box recycling program where glass needs to be separated in the grey bin?						
Yes	351	83%	231	87%	586	85%
No	68	16%	29	11%	98	14%
No response	4	1%	7	3%	6	1%
16. Are you familiar with the expanded Blue Box program that was rolled out in mid-May?						
Yes	229	54%	140	52%	369	53%
No	191	45%	112	42%	306	44%
No response	3	196	15	6%	15	2%

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Attachment 2 Cont'd

17. Please indicate how you use your Green Cart to recycle:	Weekly (423 responses)		Biweekly (267 responses)		Overall (690 responses)	
Yard trimmings only	82	19%	29	11%	112	16%
Food scraps only	14	3%	9	3%	23	3%
Both yard trimmings and food scraps	302	71%	219	82%	525	76%
I don't use my Green Cart	22	5%	7	3%	29	4%
No response	3	1%	3	1%	11	2%

Garbage/Recycling Collection Frequency

Attachment 2

Comparison to Other Cities

	Garbage	Recycling	Green Waste	Large Item P/U
City of Vancouver	Biweekly (June 2013) (Wkly from limited MF & Comm bldgs)	Weekly (Max of 2 each) Box/bags	Weekly (June 2013) Cart	No
City of Burnaby	Weekly	Weekly	Weekly	Yes
	Cart	Box/bags	Cart	
City of Surrey	Biweekly (October 2012)	Biweekly (October 2012)	Weekly	Yes (4 items per year)
	Cart	Cart	Cart	
City of New Westminster	Biweekly Cart	Cart Single-stream (blue lid w/ grey cart)	Weekly Cart MF – cart lined with compostable bag	Provided for a fee
West Vancouver	Biweekly (April 22, 2013)	Weekly Box/bags	Weekly Cans (Green	No
	(154L/home)		Can)	
District of North Vancouver	Weekly 2 cans (154L/home)	Weekly Box/bags	Weekly Cans (Green Can)	No
Port Moody	Biweekly Cart	Cart Single-stream (blue lid w/ grey cart) Glass Monthly	Weekly Cart	Yes, fee payable to Smithrite
City of Coquitlam	BiWeekly Cart	Weekly Box/bags	Weekly Carts	Yes (4 items per year)