City of Richmond

REVISED
Agenda

Public Works and Transportation Committee
Electronic Meeting

Anderson Room, City Hall
6911 No. 3 Road

Wednesday, June 19, 2024
4:00 p.m.

Pg. # ITEM

MINUTES

PWT-4 ***Motion to adopt the minutes of the meeting of the Public Works and Transportation Committee held on May 22, 2024.***

NEXT COMMITTEE MEETING DATE

July 17, 2024, (tentative date) at 4:00 p.m. in the Anderson Room.

AGENDA ADDITIONS AND DELETIONS

PLANNING AND DEVELOPMENT DIVISION

1. **KITTIWAKE DRIVE - TRAFFIC CALMING UPDATE**
(File Ref. No. 10-6460-01) (REDMS No. 7648159)

PWT-9 See Page **PWT-9** for full report

Designated Speaker: Sonali Hingorani

STAFF RECOMMENDATION

That the two asphalt speed cushions on Kittiwake Drive remain as a permanent condition, as described in the staff report titled "Kittiwake Drive – Traffic Calming Update" dated May 27, 2024 from the Director, Transportation.

ENGINEERING AND PUBLIC WORKS DIVISION

2. **NORTH DIKE UPGRADES CONCEPT PLAN - LYNAS LANE TO NO. 2 ROAD**
(File Ref. No. 10-6050-01) (REDMS No. 7672407)

PWT-13 See Page **PWT-13** for full report

Designated Speaker: Eric Sparolin

STAFF RECOMMENDATION

That the concept plan presented in the staff report titled "North Dike Upgrades Concept Plan -Lynas Lane to No. 2 Road", dated May 16, 2024, from the Director, Engineering be endorsed for the purposes of public consultation.

3. **AWARD OF CONTRACT 8225Q – BIKE REUSE PILOT PROGRAM**
(File Ref. No. 10-6370-01) (REDMS No. 7623493)

PWT-20 See Page **PWT-20** for full report

Designated Speaker: Kristina Nishi

STAFF RECOMMENDATIONS

(1) That Contract 8225Q – Bike Reuse Pilot Program as detailed in the staff report titled "Award of Contract 8225Q – Bike Reuse Pilot Program" dated May 14, 2024 from the Director, Public Works Operations be awarded for an initial one-year term effective August 1, 2024 to Pedal Foundation for an estimated total value of $82,269;

(2) That Staff be authorized to extend the initial one-year term up to the maximum total term of five years, for the maximum total amount of $445,308, as described in the report titled "Award of Contract 8225Q – Bike Reuse Pilot Program" dated May 14, 2024, from the Director, Public Works Operations; and

(3) That one-time funding of $91,000 from the General Solid Waste and Recycling Provision for the Bike Reuse Pilot expenditures be approved and that the Consolidated 5 Year Financial Plan (2024-2028) be amended accordingly.

4. **RICHMOND WATER QUALITY AND CONSERVATION REPORT 2023**
(File Ref. No. 10-6000-01) (REDMS No. 7675292)

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

Designated Speaker: Bryan Shepherd

STAFF RECOMMENDATIONS

(1) That the annual report titled "Richmond Water Quality and Conservation Report 2023" dated May 15, 2024, from the Director of Public Works Operations, be endorsed; and

(2) That the "Richmond Water Quality and Conservation Report 2023" be made available to the community on the City's website and through various communication tools including social media channels and as part of community outreach initiatives.

COUNCILLOR MICHAEL WOLFE

ADDED 5. **CONNECTING BC**
(File Ref. No.) (REDMS No.)

PWT-90 See Page **PWT-90** for backgrounds materials

MOTION

To refer the Connecting BC plan to staff for review.

Pg. # ITEM

6. **MANAGER'S REPORT**

ADJOURNMENT

City of Richmond

Minutes

Public Works and Transportation Committee

Date:	Wednesday, May 22, 2024
Place:	Council Chambers Richmond City Hall
Present:	Councillor Carol Day, Chair Councillor Michael Wolfe Councillor Chak Au Councillor Kash Heed
Absent:	Councillor Alexa Loo
Also Present:	Councillor Laura Gillanders (by teleconference) Councillor Andy Hobbs Councillor Bill McNulty
Call to Order:	The Chair called the meeting to order at 4:32 p.m.

MINUTES

It was moved and seconded
That the minutes of the meeting of the Public Works and Transportation Committee held on April 17, 2024, be adopted as circulated.

CARRIED

AGENDA ADDITIONS AND DELETIONS

The Chair advised of the following additions :

- Moray Channel Bridge be added as Item 3A;
- Signage in Steveston be added as item 3B;
- Demolition of House on Freshwater Drive be added as item 3C;
- Sewer Work on Steveston Highway and Gilbert Road be added as item 3D;

- Traffic Alternatives on Steveston Highway and Mortfield Gate be added as item 3E; and
- BC Federation Of Labour Connecting BC Plan be added as item 3F.

PLANNING AND DEVELOPMENT DIVISION

1. **2024 ROAD SAFETY INITIATIVES**
(File Ref. No. 10-6450-00) (REDMS No. 7640972)

In response to queries from Committee, staff advised that (i) to facilitate the intersection upgrade at No. 5 Road and Westminster Highway the channelized lane at the north west quadrant of the intersection will be removed, (ii) staff will provide Committee with a memorandum regarding if the project scope will include a full sidewalk and bus shelter at the north west quadrant, (iii) the speed limit on No. 6 Road was reduced to 50 km/h from 60 km/h, and staff are not aware of any complaints regarding vehicle speed on No, 6 Road, (iv) No. 6 Road between Cambie Road and Bridgeport Road is scheduled to be repaved summer 2024, and (v) staff will report back with a memorandum to Committee with respect to repaving plans for Cambie Street to Steveston Highway.

It was moved and seconded
That the road safety initiatives, as outlined in the staff report titled "2024 Road Safety Initiatives" dated April 19, 2024 from the Director, Transportation, be received for information.

CARRIED

2. **ICBC-CITY OF RICHMOND ROAD IMPROVEMENT PROGRAM – 2024 UPDATE**
(File Ref. No. 10-6460-01) (REDMS No. 7605882)

In response to queries from Committee, staff advised that (i) staff review the projects that are eligible for funding from ICBC and that can be completed within the year, (ii) projects that have been identified are dependent on the size of the capital program, (iii) staff work closely with school principals to identify what the schools need in terms of calming measures and what they would support, (iv) during a power outage the intersection signals equipped with the Uninterruptable Power Supply (UPS) system will work normally,

(v) installation of the UPS system at all major intersections is part of the capital program; staff will provide a memorandum regarding timeline and plans for the upgrade, (vi) the approved funding for the Cambie Road and No. 5 Road intersection upgrade is $2.76 million, and (vii) detailed designs of projects are completed once a project has been approved and most of the approved capital projects will have an original date of approval some years ahead of the actual construction and completion.

It was moved and seconded

(1) That the proposed road safety improvement projects, as described in Attachment 2 of the staff report titled "ICBC-City of Richmond Road Improvement Program – 2024 Update," dated April 19, 2024 from the Director, Transportation, be endorsed for submission to the ICBC 2024 Road Improvement Program for consideration of cost-share funding; and

(2) That should the above applications be successful, the Chief Administrative Officer and General Manager, Planning and Development, be authorized to execute the cost-share agreements on behalf of the City, and that the Consolidated 5 Year Financial Plan (2024-2028) be amended accordingly.

CARRIED

ENGINEERING AND PUBLIC WORKS DIVISION

3. **CAMBIE ROAD AND NO. 5 ROAD INTERSECTION UPGRADE, NO. 2 ROAD MULTI-USE PATHWAY AND ACTIVE TRANSPORTATION IMPROVEMENT PROGRAM 2022 – PROJECT UPDATE**
(File Ref. No. 10-6000-01) (REDMS No. 7618994)

In response to queries from Committee, staff advised that (i) the total budget for the project will be $3.45 million dollars, (ii) all the external funding for the project has been secured, and (iii) most of the increases in the cost of the projects are due to increases in inflation and other pressures in the market.

It was moved and seconded

(1) That the increase in project budgets for the Cambie Road and No. 5 Road Intersection Upgrade, No. 2 Road Multi-Use Pathway and Active Transportation Program 2022 be approved as presented in the report "Cambie Road and No. 5 Road Intersection Upgrade, No. 2 Road Multi-Use Pathway and Active Transportation Improvement Program 2022 –Project Update" dated April 24, 2024 from the Director, Transportation and Director, Engineering; and

(2) That the 5 Year Financial Plan (2024-2028) be amended accordingly.

CARRIED

3A **MORAY CHANNEL BRIDGE**

Staff advised Committee that the Moray Channel Bridge is under the jurisdiction of the Ministry of Transportation and Infrastructure (MOTI). MOTI is conducting a planning study that was supported by Council in June of 2022. The ministry will be developing options for a preliminary business case for this project that is anticipated in Spring 2025. As this planning work progresses staff will provide updates at key milestone points to Council.

3B **SIGNAGE IN STEVESTON**

Discussion ensued regarding (i) implementing historic signage in Steveston, in particular at No. 1 Rd and Chatham Street and other key locations such as Garry Point Park, Britannia Shipyard National Historic Site, and Sea Island; (ii) implementing a historic signage policy working with the Steveston Historic Society.

Staff advised that a review of city-wide wayfinding is on-going and that Economic Development staff can provide Committee with more information on the matter.

3C ***DEMOLITION OF HOME ON FRESHWATER DRIVE***

Discussion ensued with respect to the (i) good neighbor policy, (ii) the notification area and timeline required for notification of a demolition, and (iii) the rules and regulations contractors must follow during demolition.

As a result of the discussion Committee suggested that this item be referred to the next Planning Committee.

3D ***SEWER WORKS ON STEVESTON HIGHWAY AND GILBERT ROAD***

Staff advised that the work being done is part of the Metro Vancouver Gilbert Trunk Sewer upgrade. Enabling work is being done by the city to allow Metro Vancouver to then do their work. These works are coordinated between Metro Vancouver and the City.

3E ***TRAFFIC ALTERNATIVES ON STEVESTON HIGHWAY AND MORTFIELD GATE***

Discussion ensued with respect to the possibility of having no left turn into Mortfield Gate during busy traffic in the morning and afternoon. Staff advised that they can monitor the area for a couple of days to see if this is a real traffic issue and not just an intermittent one.

3F *BC FEDERATION OF LABOUR CONNECTING BC PLAN*

Staff advised that they will look into and forward Council more information about the BC Federation of Labour Connecting BC plan, which is a 10-year vision for public transit throughout BC.

ADJOURNMENT

It was moved and seconded
That the meeting adjourn (5:08 p.m.).

CARRIED

Certified a true and correct copy of the Minutes of the meeting of the Public Works and Transportation Committee of the Council of the City of Richmond held on Wednesday, May 22, 2024.

Councillor Carol Day
Chair

Raman Grewal
Legislative Services Associate

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	May 27, 2024
From:	Lloyd Bie, P.Eng. Director, Transportation	**File:**	10-6460-01/2024-Vol 01
Re:	**Kittiwake Drive - Traffic Calming Update**		

Staff Recommendation

That the two asphalt speed cushions on Kittiwake Drive remain as a permanent condition, as described in the staff report titled "Kittiwake Drive – Traffic Calming Update" dated May 27, 2024 from the Director, Transportation.

Lloyd Bie, P.Eng.
Director, Transportation
(604-276-4131)

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Engineering	☑	
Fire Rescue	☑	
RCMP	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:** CJ	**APPROVED BY CAO**

7648159

Staff Report

Origin

At its regular meeting of June 26, 2023, Council endorsed the following:

That Option 3 to implement a pilot project for the temporary installation of two asphalt speed cushions on Kittiwake Drive for a trial period of six months, as described in the staff report titled "Kittiwake Drive - Traffic Calming Pilot Project Update" dated May 19, 2023 from the Director, Transportation, be endorsed.

This report provides the results of the six month trial period of the traffic calming pilot project on Kittiwake Drive.

This report supports Council's Strategic Plan 2022-2026 Focus Area #3 A Safe and Prepared Community:

> *Community safety and preparedness through effective planning, strategic partnerships and proactive programs.*

This report supports Council's Strategic Plan 2022-2026 Focus Area #6 A Vibrant, Resilient and Active Community:

> *Vibrant, resilient and active communities supported by a wide variety of opportunities to get involved, build relationships and access resources.*

Analysis

Background

Kittiwake Drive is a local street that connects No. 2 Road to Kingfisher Drive. It is located in the residential neighbourhood south of Steveston Highway.

In June 2021, residents of Kittiwake Drive submitted a petition requesting speed humps to address concerns of speeding motorists. A traffic study confirmed speeding issues along Kittiwake Drive. Although consultation with residents did not result in a majority support for any specific traffic calming device, 57 per cent of residents indicated support for some type of speed mitigation on Kittiwake Drive.

Subsequently, Council approved the installation of two temporary pre-fabricated speed cushions on Kittiwake Drive as a trial. Speed cushions are similar to speed humps, but with cut-outs designed to not impede nor slow down emergency response vehicles (ERV's).

The trial with the temporary speed cushions confirmed vehicle speed reduction. Following the trial, in June 2023, Council approved a pilot project for the installation of two asphalt speed cushions on Kittiwake Drive.

The asphalt speed cushions (Figure 1) were installed in September 2023 and the six month pilot project is now complete.

Figure 1: Location of Asphalt Speed Cushions on Kittiwake Drive

Outcome of the Traffic Calming Pilot Project

During the pilot project with the asphalt speed cushions, staff conducted a speed study to assess the effectiveness of these devices and obtain comments from residents.

Table 1 summarizes the vehicle operating speeds on Kittiwake Drive prior to any traffic calming intervention and the results with the two asphalt speed cushions.

Table 1: 85th Percentile Traffic Speeds on Kittiwake Drive

	Westbound	Eastbound
Before Traffic Calming Installation	67 km/h	55 km/h
After Asphalt Speed Cushion Installation	41 km/h	42 km/h

The results indicate the asphalt speed cushions have been successful at reducing vehicle operating speeds on Kittiwake Drive. Eighty-five per cent of traffic on this street is travelling at speeds lower than 42 km/h.

Resident Feedback

Since the installation of the asphalt speed cushions in September 2023, staff have not received any feedback from residents regarding concerns with the speed cushions.

Financial Impact

None.

Conclusion

The pilot project involving the installation of two asphalt speed cushions on Kittiwake Drive has concluded. Staff evaluated the effectiveness of these traffic calming devices in reducing vehicle speeds. The result of a post installation speed study indicates a decrease in the 85th percentile operating speed of 13km/h eastbound and 26 km/h westbound.

Staff recommend the two existing asphalt speed cushions remain as a permanent traffic calming measure to address resident concerns and measured speeding on Kittiwake Drive.

Sonali Hingorani, P.Eng.
Manager, Transportation Planning and New Mobility
(604-276-4049)

SH:ck

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	May 16, 2024
From:	Milton Chan, P.Eng Director, Engineering	**File:**	10-6050-01/2024-Vol 01
Re:	**North Dike Upgrades Concept Plan - Lynas Lane to No. 2 Road**		

Staff Recommendation

That the concept plan presented in the staff report titled "North Dike Upgrades Concept Plan - Lynas Lane to No. 2 Road", dated May 16, 2024, from the Director, Engineering be endorsed for the purposes of public consultation.

Milton Chan, P.Eng
Director, Engineering
(604-276-4377)

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF DEPUTY CAO**
Transportation	☑	
Parks	☑	
Development Applications	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:** CJ	**APPROVED BY CAO**

Staff Report

Origin

Guided by the City's Council endorsed Flood Protection Management Strategy and Dike Master Plan Phase 2, the section of the North Dike, between Lynas Lane and No. 2 Road has been identified as a priority location for dike raising and upgrade works. The project scope includes raising the dike crest elevation along River Road between Lynas Lane and No. 2 Road, raising River Road, and relocating utilities. Funding to complete the project has been approved by Council as part of the Capital Program through the Disaster Mitigation and Adaptation Fund Projects. Preliminary design work for this project including the proposed general layout and new dike configuration has been completed.

The purpose of this report is to provide information on the concept plan for this dike upgrade project and seek Council's endorsement of the concept plan for the purposes of public consultation.

This report supports Council's Strategic Plan 2022-2026 Focus Area #3 A Safe and Prepared Community:

> *Community safety and preparedness through effective planning, strategic partnerships and proactive programs.*
>
> *3.1 Advance proactive, sustainable, and accelerated flood protection in collaboration with other governments and agencies.*
>
> *3.4 Ensure civic infrastructure, assets and resources are effectively maintained and continue to meet the needs of the community as it grows.*

Analysis

At an average of one metre above sea level, Richmond faces flood hazards from sea level rise due to climate change, coastal storm surges, snowmelt flooding and extreme weather events. The City recognizes this risk and is currently advancing flood protection projects, including perimeter dike upgrades such as the North Dike Upgrades - Lynas Lane to No. 2 Road project.

The key objectives for this dike reach outlined in the Dike Master Plan Phase 2 include:

- Raise the dike by approximately 1.7 metres in elevation to meet the projected year 2100 flood levels while also allowing for further future height increases;
- Raise River Road to improve dike stability and resilience;
- Widen the dike on the land side rather than into the Fraser River; and
- Raise the dike on its existing alignment.

The expansion of the dike footprint to meet these objectives is critical for the successful implementation of flood protection infrastructure upgrade plans. This proposed preliminary design was developed following the objectives outlined above. The design includes raising the dike elevation from the current elevation by approximately 1.7 metres along the dike reach from Lynas Lane and No. 2 Road. The project location map is shown in Figure 1 below.

Figure 1 - Project location map

Raising the dike also allows for opportunities to improve facilities and accessibility while maintaining a focus on increasing the City's flood protection. The proposal to raise River Road is in alignment with the recommended action outlined in the Dike Master Plan Phase 2 report. The benefits of raising River Road include improved dike stability and performance, reduced impacts to environmental habitats due to water-side dike expansion, and facilitates future dike improvement projects. The dike at the No. 2 Road North Drainage Pump Station and portions immediately east of No. 2 Road have been raised. The remaining sections to the east will be raised in conjunction with new developments.

Currently, River Road is situated at a lower elevation in comparison to the dike crest. There is also an existing gravel pathway on the top of the dike crest and a paved sidewalk south of River Road. Figure 2 illustrates a cross section and plan view of the current conditions between Lynas Lane and No. 2 Road below.

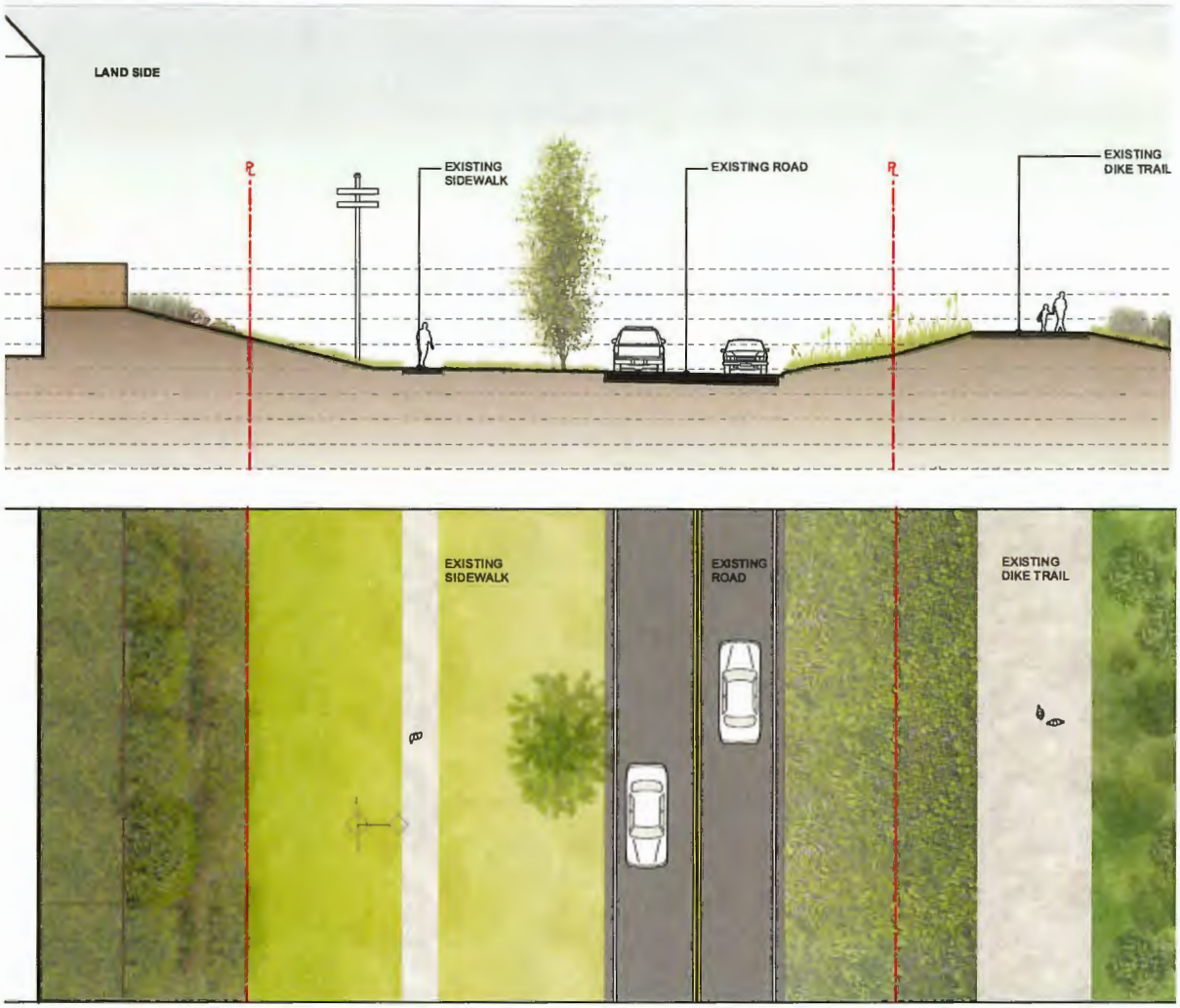

Figure 2 – Section and plan view of existing conditions between Lynas Lane and No. 2 Road

A typical cross section of the upgraded dike in this area would include a widened dike crest, raised roadway, and improved pedestrian and cycling pathways, as show in Figure 3 below.

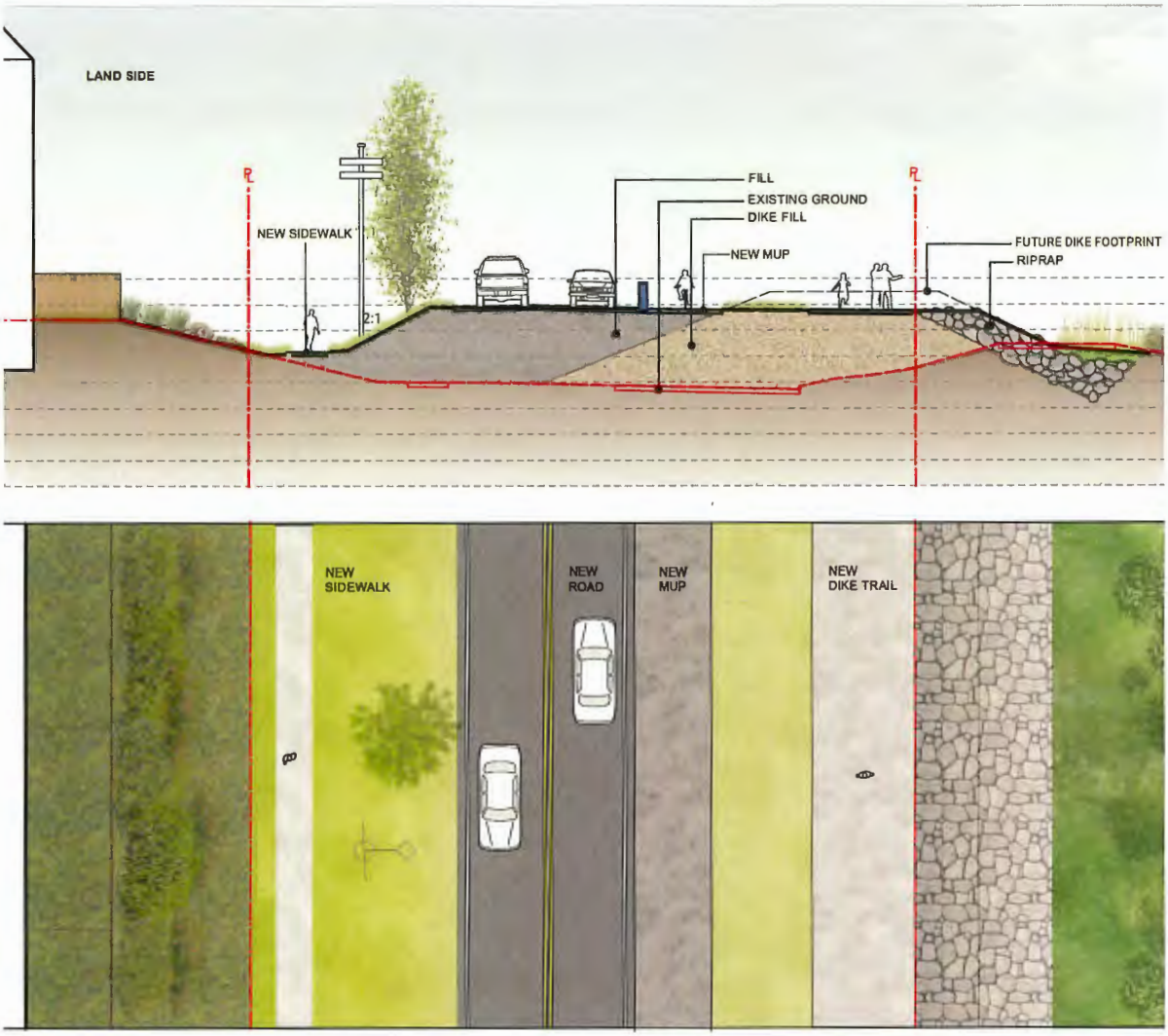

Figure 3 – Section and plan view of the upgraded dike between Lynas Lane and No. 2 Road

Design Co-ordination

The North Dike Upgrades – Lynas Lane to No. 2 Road project will overlap with the Council-approved River Road Multi-Use Pathway McCallan to No. 2 Road project. The design and construction of this MUP from Lynas Lane to No. 2 Road will be completed as part of the dike raising project. The existing sidewalk will be reinstated south of River Road and a new MUP will be introduced north of River Road. The design will maintain existing pedestrian connectivity to the dike crest pathway through the crosswalks at Lynas Lane, No. 2 Road, and the crossing located mid-block. The raised dike and River Road will transition down to the existing grades at Lynas Lane and No. 2 Road. The widened dike crest design allows for future, additional dike raising without increase in the dike footprint or impact to the roadway.

The expansion of the dike footprint to meet the project requirements, as outlined above, will interface with several private properties, notably the proposed development at 5900 River Road (DP22-022039) at the eastern end of the project boundary and the existing residential

developments situated south of River Road on Dover Crescent. No property encroachment is anticipated, however, the detailed design will include coordination with these private properties to ensure both existing and future access points can be maintained. The larger dike footprint will also result in the need to remove and/or relocate certain trees south of River Road. Replanting of impacted trees close to their original location is planned where possible. A compensation plan for tree replacement will be completed following detailed design and engagement with City departments and the public.

The Works Yards Replacement Project footprint falls outside of this dike project's boundary. Although no direct impacts to the Works Yards Replacement Project are expected, ongoing coordination between the project teams will continue to minimize the impacts resulting from the construction of these two projects.

Public Engagement

In 2022, the City of Richmond successfully led an extensive Flood Protection Public Engagement Campaign, including in-person and online engagement activities. Approximately 1,000 people attended the in-person engagement activities and events. Additionally, approximately 2,000 people participated online through the City's flood protection webpage and a Let's Talk Richmond project page that was set up to support community outreach. This engagement focussed on overall city-wide flood protection, with future engagements planned for site specific projects.

For the North Dike Upgrades - Lynas Lane to No. 2 Road project preliminary design, staff recommend engagement with key external stakeholders and the public. Key stakeholders include:

- Adjacent residential stratas, single family properties, businesses and the general public;
- Department of Fisheries and Oceans, Fish and Fish Habitat;
- BC Ministry of Forests;
- BC Ministry of Water, Land and Resource Stewardship;
- BC Inspector of Dikes;
- School District 38

The engagement will identify public interests and opportunities relating to this project, build community support and gather stakeholder feedback. Key external stakeholder groups will be engaged through direct contact and by leveraging the City's social media tools, such as Let's Talk Richmond, Facebook, and Instagram. In addition, staff will hold an in-person public open house targeted for summer 2024. Additional engagement sessions could be coordinated following receipt of feedback, if required.

All feedback will be formalized and incorporated into the next design iteration. It is anticipated that the design will be finalized in Q1 2025. Once completed, the final design concepts will be brought forward to Council for information prior to proceeding with construction. Construction works are projected to commence in 2026 and conclude in 2027.

Financial Impact

This project is included in the Government of Canada's Disaster Mitigation and Adaptation Fund grant award, which provides the City with $13.78M for the upgrade of drainage pump stations and perimeter dike upgrade projects, including this section along the North Dike between Lynas Lane and No. 2 Road. The grant funding is based on Federal funding up to 40% of eligible costs, up to a total project value of $34.45 million. Funding to complete the design and construction of this project has been approved by Council as part of the Capital Budget through the Disaster Mitigation and Adaptation Fund Infrastructure Upgrades projects in 2020, 2021, 2022, 2023, and 2024.

Conclusion

Guided by the City's Flood Protection Management Strategy, Dike Master Plan Phase 2 and as approved through the Capital Budget, staff have advanced the preliminary design for the North Dike along River Road between Lynas Lane and No. 2 Road. The current concept plan is presented to inform Council of the project status and to seek Council's approval to proceed with public engagement.

Kevin Roberts, P.Eng
Senior Project Manager
Engineering Design and Construction
604-204-8512

Braeden LeBlanc, EIT
Project Manager
Engineering Design and Construction
604-204-8928

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	May 14, 2024
From:	Suzanne Bycraft Director, Public Works Operations	**File:**	10-6370-01/2024-Vol 01
Re:	**Award of Contract 8225Q – Bike Reuse Pilot Program**		

Staff Recommendations

1. That Contract 8225Q – Bike Reuse Pilot Program as detailed in the staff report titled "Award of Contract 8225Q – Bike Reuse Pilot Program" dated May 14, 2024 from the Director, Public Works Operations be awarded for an initial one-year term effective August 1, 2024 to Pedal Foundation for an estimated total value of $82,269;

2. That Staff be authorized to extend the initial one-year term up to the maximum total term of five years, for the maximum total amount of $445,308, as described in the report titled "Award of Contract 8225Q – Bike Reuse Pilot Program" dated May 14, 2024, from the Director, Public Works Operations; and

3. That one-time funding of $91,000 from the General Solid Waste and Recycling Provision for the Bike Reuse Pilot expenditures be approved and that the Consolidated 5 Year Financial Plan (2024-2028) be amended accordingly.

Suzanne Bycraft
Director, Public Works Operations
(604-233-3338)

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF DEPUTY CAO**
Finance	☑	
Purchasing	☑	
Sustainability & District Energy	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:**	**APPROVED BY CAO**

Staff Report

Origin

In an effort to support the community, the *Richmond Circular City Strategy* and in alignment with the goals outlined in the 2023 Recycling and Solid Waste Management report, a bike reuse pilot program is proposed at the Recycling Depot (Depot). This initiative, designed to foster and promote reuse, would include contracting with an organization to assess, repair, refurbish and redistribute appropriate bikes to the community.

To engage a qualified service provider, a procurement process was undertaken via Request for Quotation 8225Q – Bike Reuse Pilot Program.

This report presents the results of this Request for Quotation and recommends award of the contract to Pedal Foundation.

This report supports Council's Strategic Plan 2022-2026 Focus Area #2 Strategic and Sustainable Community Growth:

> *Strategic and sustainable growth that supports long-term community needs and a well-planned and prosperous city.*
>
> *2.4 Enhance Richmond's robust transportation network by balancing commercial, public, private and active transportation needs.*

This report supports Council's Strategic Plan 2022-2026 Focus Area #5 A Leader in Environmental Sustainability:

> *Leadership in environmental sustainability through innovative, sustainable and proactive solutions that mitigate climate change and other environmental impacts.*
>
> *5.1 Continue to demonstrate leadership in proactive climate action and environmental sustainability.*
>
> *5.3 Encourage waste reduction and sustainable choices in the City and community.*

This report supports Council's Strategic Plan 2022-2026 Focus Area #6 A Vibrant, Resilient and Active Community:

> *Vibrant, resilient and active communities supported by a wide variety of opportunities to get involved, build relationships and access resources.*
>
> *6.4 Support vulnerable populations through collaborative and sustainable programs and services.*

Analysis

As a component of its comprehensive recycling programs, the City provides services to collect various recyclable items, including bikes, through the Large Item Pick Up Program and through public drop off at the Depot. An estimated ten to fifteen bikes are collected each week for recycling as scrap metal through these services or approximately 500 bikes annually.

Through the proposed Bike Reuse Pilot, the scope of materials accepted will include bikes and bike accessories such as wheels, tires, frames, trailers, locks, mirrors, tools, stands, bells, horns, cages, fenders, reflectors, baskets, and bike racks. E-bikes and e-scooters are not included as these items are currently handled within established extended producer responsibility programs.

Request for Quotation 8225Q – Bike Reuse Pilot Program

The above referenced Request for Quotation was posted to BC Bid on January 10, 2024 and closed on February 7, 2024. Pedal Foundation located in Vancouver was the only respondent; the quoted pricing is outlined in Table 1.

Table 1

	Respondents' Pricing Based on estimated annual volume maximum 5 year term					
Bidder	**Year 1**	**Year 2**	**Year 3***	**Year 4***	**Year 5***	**Total**
Pedal Foundation 2429 Main St, Vancouver, B.C.	$82,269	$85,493	$88,913	$92,468	$96,165	$445,308

*Pricing estimates based on 4% escalation

The City will incur additional costs to temporarily store bikes and bike accessories awaiting collection at the Depot, protecting them from weather damage and scavenging. An additional one-time cost of approximately $9,000 includes a secure shipping container, bike racks and Depot signage, making the total program cost for the pilot to be an estimated $91,000. Information about the Bike Reuse Pilot Program will be shared with various communication tactics to increase program awareness and participation.

Pedal Foundation proposes to refurbish bikes and bike accessories collected at the Depot to a safe and dependable standard, then donate them to Richmond residents facing ongoing financial hardship or through other initiatives to support the community. Richmond residents interested in receiving a refurbished bike can apply online to the "Pedals for the People" program through their Our Community Bikes webpage[1]. Given these social benefits for the community, the quotation submitted by Pedal Foundation is therefore recommended for award.

[1] Our Community Bikes, Pedals for the People Free Bike Program Webpage: https://ourcommunitybikes.org/pftp-free-bike-program/

The key terms of the service contract will include:

1. *Services*: Contractor to repair and refurbish bikes and bike accessories for the purpose of reuse and donation. Bikes that cannot be refurbished will be disassembled and parts used for bike repairs. Bikes or items that can't be reused will be recycled.

2. *Term*: After the initial one year pilot, the City can renew under the same terms and conditions for an additional two (2), two (2) year terms for a maximum contract length of five (5) years. Staff will provide summary information on the pilot to Council prior to contract renewal.

3. *Unit price contract*: Costs are based on a per unit amount as tendered for bikes and bike accessories collected from the Depot, and transportation fee per collection. Total value will vary based on the total number of items collected and received through the City's recycling service programs.

4. *Escalation*: The proposal includes pricing for Years 1-2, with unit price increases of approximately 4%. Pricing in future years will be negotiated with the contractor based on actual volumes and costs incurred by the contractor.

5. *Transportation*: Contractor to collect materials from the Depot, transport and unload materials at Contractor facility. City pays Contractor fee per collection.

6. *Reporting*: Contractor to provide monthly report which includes quantities of bikes and bike accessories collected, repaired, donated and sold to the community.

Financial Impact

If approved by Council, the initial one-time cost of $9,000 and the annual contract value of $82,269 can be funded from the General Solid Waste and Recycling Provision and the Consolidated 5 Year Financial Plan (2024-2028) will be amended accordingly. If uptake of the program is favorable, formalization of the Bike Reuse Program will be brought forward as an additional level of service as a part of the Sanitation and Recycling Utility budget process for Council approval in future years.

Conclusion

This report presents the results of a competitive procurement under 8225Q – Bike Reuse Pilot Program. It is recommended that Council direct staff to award the contract to Pedal Foundation at the unit rates quoted for the pilot commencing August 1, 2024.

Kristina Nishi
Manager Recycling and Waste Recovery
(604-244-1280)

7623493

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	May 15, 2024
From:	Suzanne Bycraft Director, Public Works Operations	**File:**	10-6000-01/2024-Vol 01
Re:	**Richmond Water Quality and Conservation Report 2023**		

Staff Recommendations

1. That the annual report titled "Richmond Water Quality and Conservation Report 2023" dated May 15, 2024, from the Director of Public Works Operations, be endorsed; and

2. That the "Richmond Water Quality and Conservation Report 2023" be made available to the community on the City's website and through various communication tools including social media channels and as part of community outreach initiatives.

Suzanne Bycraft
Director, Public Works Operations
(604-233-3338)

Att. 1

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF DEPUTY CAO**
Engineering	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:**	**APPROVED BY CAO**
	CJ	

Staff Report

Origin

In 2001, the Province of British Columbia enacted the Drinking Water Protection Act, which gave authority to the Minister of Health to implement and enforce standards for water supply systems in British Columbia. In May 2003, regulations to be implemented under the Act were adopted by the legislature as the Drinking Water Protection Regulation. These Acts were updated on April 29, 2014, under Bill 18 – 2014: the Water Sustainability Act. These regulations are designed to ensure the safe supply of drinking water.

This report presents the City's "Richmond Water Quality and Conservation Report 2023" (the Report), which enables the City to meet its obligations for public reporting to comply with applicable requirements in accordance with these regulations. The City ensured the safe and adequate supply of essential water services throughout 2023. The Report also provides information on the City's water system and water conservation efforts. The Report is presented as Attachment 1.

This report supports Council's Strategic Plan 2022-2026 Focus Area #2 Strategic and Sustainable Community Growth:

> *2.3 Ensure that both built and natural infrastructure supports sustainable development throughout the city.*

This report supports Council's Strategic Plan 2022-2026 Focus Area #3 A Safe and Prepared Community:

> *3.3 Ensure the community is collectively prepared for emergencies and potential disasters.*
>
> *3.4 Ensure civic infrastructure, assets and resources are effectively maintained and continue to meet the needs of the community as it grows.*

This report supports Council's Strategic Plan 2022-2026 Focus Area #5 A Leader in Environmental Sustainability:

> *5.3 Encourage waste reduction and sustainable choices in the City and community.*

This report supports Council's Strategic Plan 2022-2026 Focus Area #6 A Vibrant, Resilient and Active Community:

> *6.1 Advance a variety of program, services, and community amenities to support diverse needs and interests and activate the community.*

Analysis

The Drinking Water Protection Regulation requires water purveyors in BC to possess an operating permit, which confirms the Drinking Water Officer for the area has approved the water supply. Vancouver Coastal Health is responsible for the placement and function of the Drinking

Water Officer, who has the authority to monitor water purveyors to ensure they are providing safe drinking water through compliance with the British Columbia Drinking Water Protection Regulation, and any other conditions of the operating permit.

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

- Develop and maintain a process to notify the Drinking Water Officer and the Medical Health Officer of situations or conditions that could render unsafe drinking water;
- Implement and maintain a plan for collecting, shipping and analyzing water samples that adequately represent all areas within the City, in compliance with the direction set by the Drinking Water Officer; and
- Implement and maintain a plan for reporting results to the Drinking Water Officer and to water users.

Richmond thrives on its ability to provide water to residents and businesses, and water for fire protection services. To ensure a consistent supply, the Capital Construction Watermain Replacement program and the Pressure Management program are two proactive approaches to reduce the risk of breaks and have proven to be reliable and valuable tools in water distribution management. The Capital Construction program replaces aging infrastructure that is susceptible to breaks and the Pressure Management program lowers the strain on existing infrastructure to make it less likely to develop leaks and breaks. The City's Leak Detection program also assists in quickly identifying leaks and reducing the amount of breaks and water losses by proactively scanning the City's system to find non-visible leaks before they surface. In 2023, Public Works staff attended to 14 watermain breaks and repaired 69 leaks without compromising the integrity of the water distribution system. These three proactive programs are essential to minimizing costs and ensuring minimal disruptions in water quality and supply.

Water conservation is an important aspect of Richmond's Water Services operations. Climate change, extreme heat events and increasingly dry summers in recent years have emphasized a critical need for city-wide water conservation efforts. The City implements various programs to promote the conservation of water and to minimize the wastage of potable water. Richmond's various water conservation programs are outlined in the Report.

Highlights of the Report include:

- Delivered 34M cubic metres of water to 234,644 residents, businesses and other institutions.
- The water met all drinking water quality guidelines and Richmond residents and visitors enjoyed high quality, safe and reliable drinking water.
- 2,074 water samples were collected to ensure water quality and each passed with exceptional results.
- Compared to the year that Richmond's water metering program started in 2003, the City's total water usage in 2023 decreased by 14%, from 39.7M cubic in 2003 to 34.0M cubic metres in 2023, despite a population increase of 32% from 178,319 to 234,644 residents over the same period.
- Richmond's 39 outdoor water fountains found in parks and other public areas provided potable water to the public while promoting tap water consumption as an alternative to bottled water.

- City staff completed three watermain replacement projects, replacing a total of five kilometres; and installed 39 multi-family meters.

In addition to these highlights, the City is continuously evaluating and improving proactive maintenance and detection programs to ensure safe and uninterrupted water service to the community.

These and many other initiatives are detailed in the Report.

Proposed Communication

Subject to Council's approval, the Report will be posted on the City's website and made available through various communication tools including social media channels and as part of community outreach activities.

Financial Impact

None.

Conclusion

The Report outlines the methods in which the City manages its water system to ensure compliance with applicable provincial requirements under the Drinking Water Protection Act. In 2023, the City's water quality met and exceeded the required standards to ensure residents enjoyed high quality, reliable and safe drinking water.

This report will be reviewed and endorsed by the Medical Health Officer of Vancouver Coastal Health Authority as part of the City's reporting obligations.

Bryan Shepherd
Manager, Water Services
(604-233-3334)

Deborah Prystay
Project Manager, Water Services
(604-244-1224)

BS:dp

Att. 1: Richmond Water Quality and Conservation Report 2023




Richmond **Water Quality and Conservation Report** 2023

Richmond

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Contents

1.0 Year in Review

1.1 Excellence and Innovation

Ensuring a safe and reliable water supply is one of the core essential services provided by local governments, including the City of Richmond. We are proud to report that in 2023 the City met all drinking water guidelines to ensure the delivery of safe, high-quality water to residents and businesses in Richmond.

The City consistently strives to achieve excellence in service delivery and apply innovation for continuous improvement in managing Richmond's water distribution system. As part of this commitment, the City operates a rigorous water quality testing program, and in 2023, more than 2,000 samples were tested. All samples met drinking water quality guidelines.

Water quality and delivery reliability are also supported through comprehensive construction and maintenance programs, including an ongoing Watermain Replacement Program, the City's Five-Year Capital Plan and other long-term infrastructure management plans. In 2023, this included the replacement of five kilometres of existing watermain and the completion of 172 new service connections installations.

With its focus on excellence, the City's highly trained Water Services staff have become the go-to crews for new construction projects. City crews have a comprehensive understanding of Richmond's water system, the expertise to complete the projects and the ability to deliver projects at a competitive price, which provides added value to taxpayers. This past year, City crews completed the replacement of 2.2 kilometres of watermain located at the Minler, Lucas and Danube Road areas, which was the final phase of a neighbourhood upgrade of all the watermains in the area.

Focusing on innovation, staff consistently embrace the use of new technologies and products to upgrade City infrastructure and improve water operations. Innovative practices in 2023 included the development of new digital dashboards for data analysis use and a drone-supported aerial mapping project.

The City is also using innovation to improve the performance of the community's more than 5,100 fire hydrants, which play a critical role in Richmond's civic infrastructure and safety. Since 2022, the City has had an active retrofit program to replace slide gate hydrants with compression hydrants. The new compression hydrants close when they are damaged, preventing major water loss and infrastructure damage. Since starting the retrofits, City staff have replaced 24 hydrants throughout the community. All new hydrants being installed in Richmond through Capital Construction or developer-driven projects are compression-style.

As part of our commitment to excellence in service delivery 24-hour patrols were established to respond to service requests such as watermain breaks and other service disruptions. Quick response ensures service disruption time is limited and water loss or damages from leaks and breaks are minimized. During 2023, patrol staff responded to more than 1,000 service requests.

The City is also expanding and upgrading its delivery of water to the community at large. In 2023, an ongoing upgrade program was initiated to improve the 39 permanent water fountains located across the community. These improvements include installing new fountains with bottle fillers and ground-level drinking bowls for pets. The City also continues to develop a growing inventory of portable water fountains, which are used at community events and other locations to provide the public with ready access to safe drinking water. This helps reduce the use of plastic water bottles, provides a free, healthy alternative to commercial products and helps prevent cases of dehydration and heat exhaustion.

With heat domes and other extreme weather becoming more frequent occurrences, the City developed an Extreme Heat and Poor Air Operations Plan to respond to conditions that increase public health risks. As part of this plan, City staff designed and built misting stations that can provide a way for people to stay cool. Over the past two summers, misting stations have been regularly deployed in parks and popular outdoor locations such as Minoru Plaza and Garry Point Park during extreme high temperature events to provide heat relief.

Another primary responsibility for the City is the promotion of water conservation. A growing regional and local population is placing increasing strain on available water supplies. Recent droughts and other weather impacts have caused seasonal spikes in water use, which have further depleted supply and led to stricter limits on water sprinkling in the summer and fall of 2023.

The City of Richmond has long been a regional leader in innovative practices to promote water conservation, beginning with a move to universal water metering in 2003. Over the past two decades, the City has succeeded in transitioning 100% of single-family homes, along with all commercial, industrial and institutional users, to metered services. The City is now working to transition all multi-family residences to water meters. In 2023, 39 new water meters were installed at multi-family complexes, which means more than 56% of those complexes are now metered. The City aims to have all multi-family residences on meters within the next 15 years.

The City's efforts to reduce water usage are further bolstered by dedicated leak-prevention and leak-reduction programs. Undetected or unaddressed leaks can cause significant losses of water, which drive up user costs and waste valuable supply. As part of this program, staff used acoustic equipment to inspect 324 kilometres of watermains and identified and repaired 69 leaks over the past year.

The City also works to raise public awareness and support for water conservation through ongoing community engagement initiatives. Project WET, an outreach program delivered to Richmond elementary school students, returned in 2023. The award-winning education program had been suspended since 2019 due to the COVID-19 pandemic. City staff from Water Services and other City departments and community partners welcomed over 200 students to the City Works Yard in May for the return of this very popular program.

Looking ahead, the City will continue to build upon its record of providing safe and reliable water to the community, use innovation to improve service excellence and maintain its leadership in encouraging water conservation.

2023 Top Accomplishments

This report showcases some key Water Services achievements in the past year, along with our ongoing commitment to excellence and innovation in service delivery.

1 Safe delivery of water

Delivered 34 million cubic metres of water to 234,644 residents, plus businesses and others. The water met all drinking water quality guidelines to ensure the delivery of safe and high quality water.

2 Water services and conservation outreach

Engaged over 200 students in learning about Richmond's water system, how we get our water and why it's important to conserve it.

3 Launched water fountains upgrade

Started our permanent water fountain upgrade program by upgrading the fountain at Barnard Park.

4 Installed new pressure-reducing valve

Commissioned the new Pressure-Reducing Valve Station on Boundary Rd. to bolster the water distribution system in East Richmond.

5 Expanded multi-family water metering

Installed 39 multi-family water meters of various sizes, advancing our goal of achieving universal water metering.

6 Replaced aging infrastructure

Replaced five kilometres of asbestos cement watermain under the 2023 Water Capital Construction Program ahead of schedule.

7 Completed digital mapping project

Used an aerial drone and a photo collation program to stitch together thousands of aerial images to create a highly detailed, high-resolution map of the Alexandra District Energy Utility service area for Lulu Island Energy Corporation.

8 Enhanced data analytics

Created various data analysis dashboards, which help organize and review data captured from various sections and will support improved business decisions.

9 Upgraded water flushing equipment

Installed water diffusers on flushing trucks, which reduce spray concentration in order to protect surrounding landscapes and assets while flushing.

10 Trained fire rescue recruits

Provided a workshop for 13 Richmond Fire-Rescue recruits to teach them about the water system and the operation of a fire hydrant.

1.2 Year in Review Highlight

Children make the connection between the rain that falls on their heads and the water that comes out of their taps.

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GETTING A
little bit wet
IS TEACHING KIDS
to save water

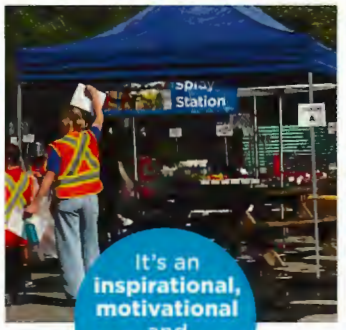
Kids Soak Up Big Ideas at Project WET

Every year, City of Richmond Water Services crews, who usually install, operate and maintain pipes or install and repair fire hydrants, take part in the appropriately named Project WET, an interactive science program aimed at educating Grade 4 to 7 students about the importance of water.

WET stands for Water Education Team and the program is delivered by Water Services staff working in partnership with local teachers. **The main objective is to promote higher-level thinking skills in children while they learn about the fundamentals of water quality, water consumption and waste in an interactive and fun environment.**

It's hard to say who has more fun – the students on the half-day field trip to the Richmond Works Yard or the staff who collectively spend weeks preparing for the annual event.

Ken LaBoucane, a pipelayer in Water Services for about 12 years, has participated in Project WET for the last five. LaBoucane says he and his colleagues set up an above-ground watermain to mimic what they do underground to get around other buried utilities.



It's an **inspirational, motivational** and **educational** event.

The display also illustrates how watermains connect to residences, businesses, fire hydrants and other distribution points. Students also pass through other interactive learning displays as well as some actual Water Services work areas during their fun and informative visit. In addition to showing the young field-trippers how the equipment is put together, he says staff share facts on the water cycle – evaporation, condensation, precipitation – as well as information on water conservation.

But the highlight for both students and staff, LaBoucane says, is when everyone gets a little wet. Water is fired into the air to spray everyone in the area, and City employees even volunteer to get soaked in a dunk tank.

"They love it. We're all smiling and laughing, and I'm soaked from head to toe," LaBoucane says. "They keep wanting to come back and do it again. It's a lot of fun. I look forward to doing it every year."

He adds, "It's a little more laid back than being out in the field, digging around underground utilities and staging trucks and material."

Colleague John Crocker, a hydrant mechanic, agrees, saying, "It's a lot of hard work setting it up, but at the end of the day, we're all smiling as much as the kids are.

"It's a joy to be able to talk to the public, seeing the kids smile, watching them have fun, getting excited about being around something I'm around every day. I like sharing my joy. I have a passion towards it," says Crocker.

Teacher Dawn Lessoway appreciates the enthusiasm and hard work of Richmond staff members who put on Project WET, and emphasizes that enjoying the whole experience and getting soaked is not only fun, but a great way to learn.

"I love it because it helps my students to understand systems," says Lessoway, who teaches Grades 3 to 5 Montessori classes at Steves Elementary School and has taught in Richmond for 25 years. Her lesson plans include the City's water, sewer and storm drainage systems as well as natural systems like the hydrological cycle.

"When we learn about the different parts, such as the water cycle and then the watersheds, by going to Project WET, we get a much better sense of how they're all connected and inter-connected, and then we start thinking three-dimensionally," she says, noting the event helps children make the connection between the rain that falls on their heads and the water that comes out of their taps. "That's taking a lot of really big ideas and making the abstract become very visible and concrete."

The experience also cements the connection to the City and the important work of its employees. Project WET field trips are part of the City's celebration of National Public Works Week. 2023 saw the return of the popular program, which had been suspended since 2019 due to the global pandemic.

"It's an inspirational, motivational and educational event." says Carly Smith, a 17-year Richmond employee who has worked in various areas in Water Services. "We inspire and teach the younger generations about potential career paths and give them a better understanding of how civil infrastructure works."

While Water Services takes the lead for Project WET, the program also incorporates displays and demonstrations from a number of City departments and community partners. Project WET is truly a community experience as staff from numerous City departments volunteer to be tour guides, making it an enriching experience for all those involved.

1.3 Setting Goals and Objectives

The goals for Water Services are to provide clean and high-quality tap water to Richmond residents; ensure adequate supply of water to meet demand; apply innovative technology, equipment and operational practices as part of continuous improvement to secure water quality and support water conservation; and improve water conservation in the community.

Flushing water using a truck-mounted water diffuser.

Staff helping an excavator line up a fitting during a watermain capital construction project.

The objectives listed here support achieving our goals.

1 Water conservation outreach and community engagement

Generate and launch a water conservation campaign aimed at educating residents on ways to conserve water in their homes, while also reducing their utility costs.

2 Continue watermain upgrades

Upgrade watermains along No. 7 Road, No. 2 Road and in the Seacote and Burkeville neighbourhoods to decrease the City's asbestos cement pipe inventory and continue upgrading our water system.

3 Expand water fountains upgrade

Upgrade four permanent drinking fountains to include bottle fillers and pet bowls to keep people in the community hydrated while enjoying the many parks, dikes, trails and active transportation initiatives the City provides.

4 Enhance water meter monitoring

Replace existing Water Meter readers with new units to allow more efficient and cost-effective remote monitoring and reading of meters through fixed-base towers.

5 Install enhanced fire hydrants

Replace 60 slide gate fire hydrants with compression fire hydrants to reduce property damage costs from water flow when hydrants are damaged by motor vehicle accidents. This will increase the percentage of compression hydrants to 71% of the total inventory.

6 Continue shift to paperless operations

Expand use of digital processes and dashboards to continue a move toward paperless operations to reduce waste, supporting sustainability objectives and further improving program tracking and analysis.

7 Upgrade water flushing infrastructure

Upgrade eight existing permanent blow-off stations that allow flushing of dead-end watermains to ensure good water quality is maintained throughout the system.

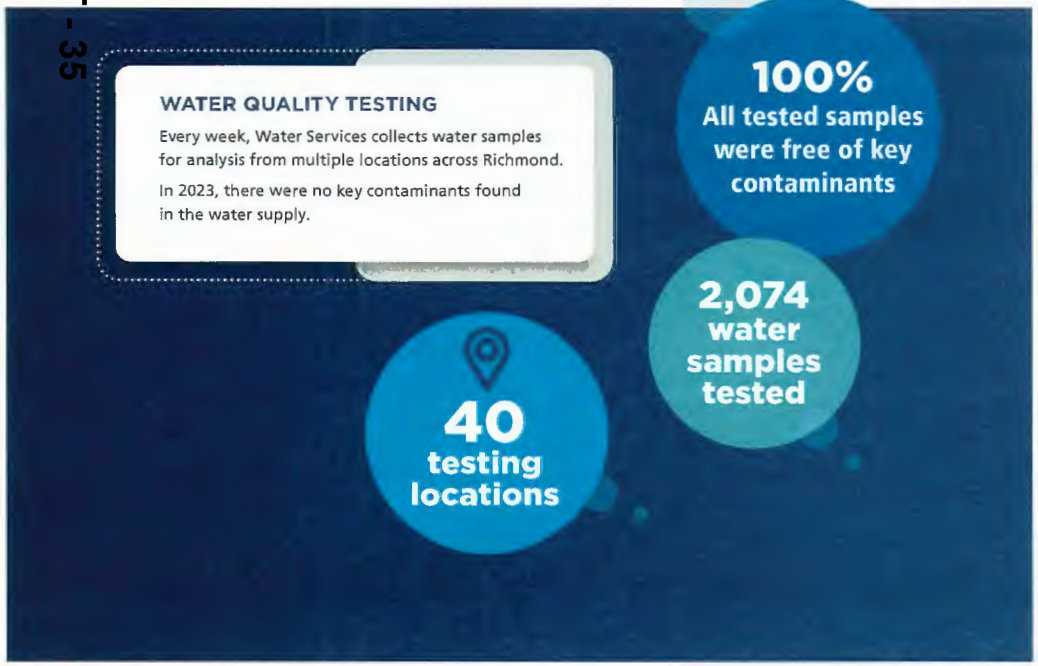
8 Expand wireless monitoring of flushing equipment

Upgrade all Automatic Flushing Units to Bluetooth to facilitate their maintenance and help ensure consistent, good water quality.

1.4 Tracking Our Progress

As part of tracking its progress, the City collects data across a broad spectrum of programs, services and activities. This data shows how Richmond meets its mandates for reliable delivery of safe drinking water and water conservation.

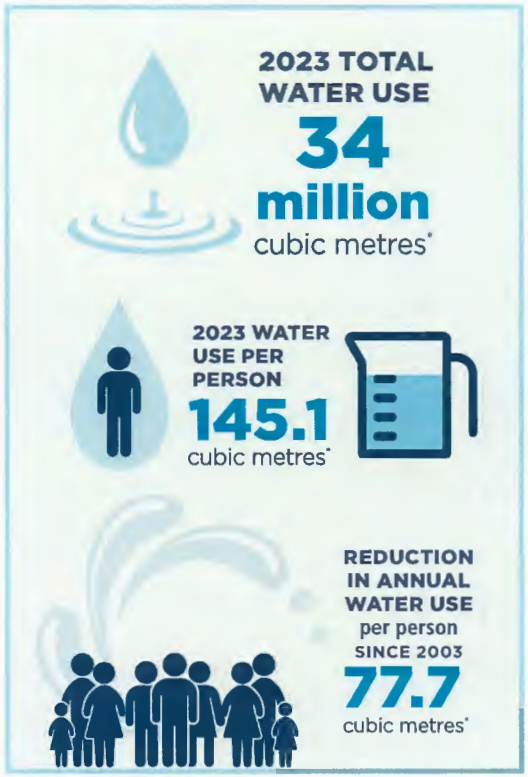
The mix of data reported reflects the effectiveness of Water Services' many programs and its commitment to excellence and innovation.



WATER SUPPLY AND USAGE

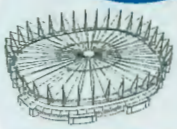
Since the water metering program started in 2003, water use has declined by 14%. This is despite the fact that the City's population grew by 32% (56,325 people) since 2023 for a total of 234,644 residents in 2023. Our individual and collective efforts have made a huge difference.

14%
water use reduction
in annual volume use in 2023 compared to 2003



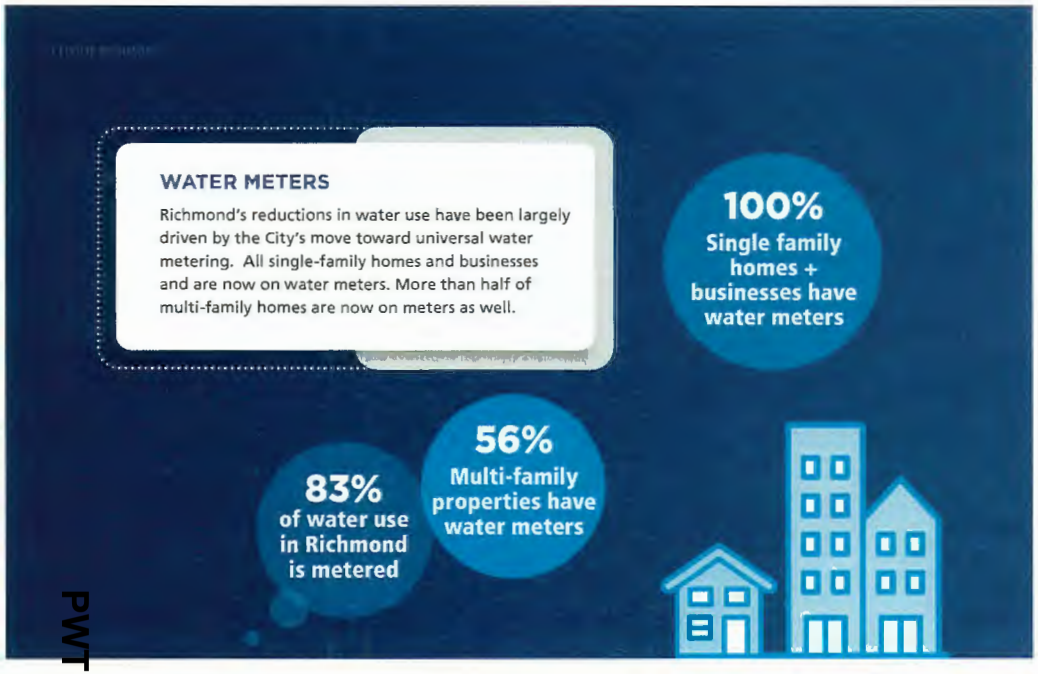
35%
water use reduction
per capita use in 2023 compared to 2003

5.7
million
cubic metres*
Reduction in total annual water use
in 2023 compared to 2003 (by volume)



6x
That's enough water to fill BC PLACE STADIUM six times.

*One cubic metre = 1,000 litres



WATER CONSERVATION PROGRAMS

In addition to water metering, the City has a number of ongoing programs to promote water conservation, from leak detection and repairs to rain barrel sales and a rebate program for purchase of low-flow toilets.

355
Rebates for low-flow toilet purchases

123
Rain barrels sold

69
Water leaks detected and repaired

Lawn sprinkling causes a significant increase in water use during the high demand months from May to October. Regional sprinkling limits are introduced annually to encourage people to use less water and water less often. However, despite those limits, summer consumption levels continue to place a strain on the water supply.

AVERAGE MONTHLY USE **2023 LOW DEMAND MONTHS**

2,423,677
cubic metres

AVERAGE MONTHLY USE **2023 HIGH DEMAND MONTHS**

3,249,503
cubic metres

Due to the water usage in the summer of 2023, watering restrictions were increased from Stage 1 to Stage 2 in early August and continued until mid-October.

95 days
of Stage 1 watering restrictions

74 days
of Stage 2 watering restrictions

WATER DISTRIBUTION NETWORK

The City has a comprehensive network of watermains, service connections, hydrants and other infrastructure to ensure reliable water delivery to its users. Through a series of pressure-reducing valves, the City's network connects to Metro Vancouver's system, which delivers water across the region from its mountain reservoirs.

INFRASTRUCTURE

636
Total kilometres of City watermains

13
Pressure reducing valves

5,134
Fire hydrants

33,750
Properties are connected to the City's water network

CONSTRUCTION AND MAINTENANCE

Annual maintenance and construction programs help to ensure Richmond's community has access to a reliable, high-quality water supply.

NEW CONSTRUCTION

172
New service connection installations

5 KM
of new watermain constructed

3
Capital construction projects completed

MAINTENANCE

132
Service connection repairs

14
Watermain breaks repaired

1,057
Service requests received by patrollers

COMMUNITY SERVICE

As an added benefit to serve residents and visitors, Water Services provides both permanent and portable water fountains around the community and at events, as well as misting stations during extreme heat periods.

39 Permanent water fountains

4 Mobile water fountains

156 Days mobile water fountains in service

To support work experience opportunities for local youth and provide increased capacity to perform seasonal work, the City hires extra staff for the summer. Some tasks performed by summer students included important fire hydrant maintenance.

1,420 Fire hydrants re-painted by summer students to improve visibility

1,030 Sites with improved access to fire hydrants thanks to work done to clear vegetation overgrowth around hydrants.

WATER COST COMPARISON

The cost of municipal water remains one of the best values around.

$1.56 AVERAGE METERED RATE for one cubic metre* *1,000 litres of water

In the City of Richmond the equivalent of 35 bottles of store-bought water (500 ml) costs just $0.03 (three cents) when it comes from your tap. The same amount of water at a major local retailer cost $5.69 in a recent price check.

Bottled water costs about 189 times more than the same amount from the tap.

$5.69 COST FOR ONE PACK OF 35 X 500 ml bottles of water at a local retailer

2.0 Safe and Reliable Water Delivery

2.1 Where Our Water Comes From

The City of Richmond's drinking water is supplied by Metro Vancouver via three large transmission mains. The water then enters the City's water distribution system through various connections and is delivered to residences and businesses through our system via service connections at each property.

The region's water supply originates from three local watersheds: Capilano, Seymour and Coquitlam. The watersheds contain large collection lakes called reservoirs, which collect and store rainfall and snowmelt from the mountains. Water from the reservoirs is treated at two water treatment facilities: the Seymour Capilano Filtration Plant, which treats water from the Seymour and Capilano reservoirs, and supplies two thirds of the region's drinking water; and the Coquitlam Water Treatment Plant, which treats water from the Coquitlam reservoir and supplies the remaining third of the region's drinking water. The City of Richmond gets the majority of its water from the Seymour and Capilano reservoirs.

The Seymour plant is the largest filtration plant in Canada and has the capacity to filter and disinfect up to 1.8 billion litres of water per day. It is located in the Seymour watershed so water has to be transmitted from the Capilano reservoir to the Seymour plant and back by two underground watermains called "Twin Tunnels," which are over seven kilometres long and 3.8 metres in diameter. Water at this facility undergoes filtration and ultraviolet (UV) disinfection.

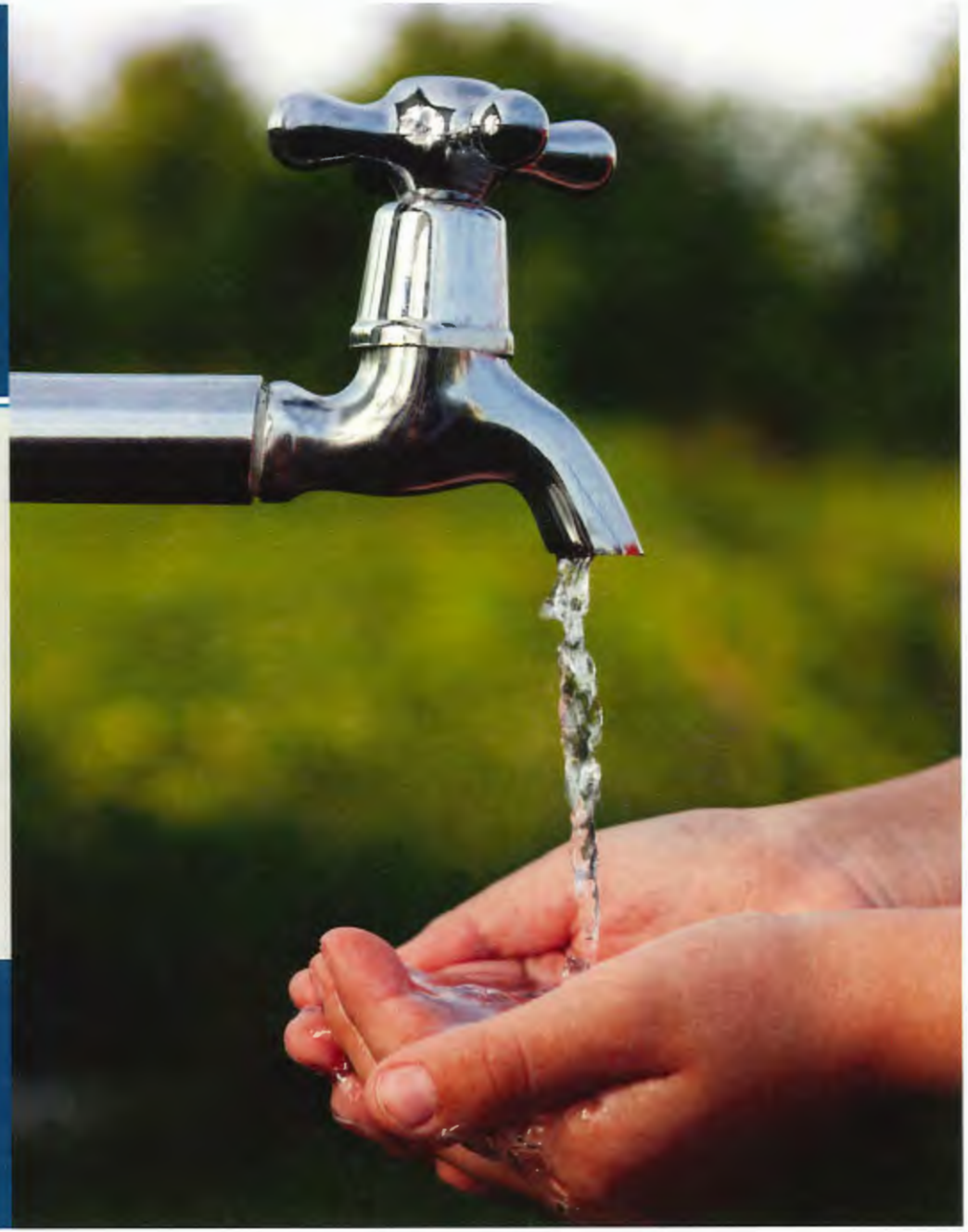
The Coquitlam plant is located north of the City of Coquitlam and treats 380 million litres of water per day. Water at this facility undergoes ozone and UV disinfection. The treatment methods at each plant are designed to address the specific characteristics of the source water.

The City of Richmond gets the majority of its water from the Seymour and Capilano reservoirs.

Metro Vancouver manages three local watersheds: Capilano, Seymour and Coquitlam.

The Seymour plant is the largest filtration plant in Canada and has the capacity to filter and disinfect up to 1.8 billion litres of water per day.

Metro Vancouver Watershed and Water Transmission Map



2.2 Our Water System

The City of Richmond owns, operates and maintains a complex water distribution system, which delivers water to its residents, businesses and other customers.

Once Metro Vancouver treats the water, it is carried into Richmond via three large transmission mains: Angus Drive main, Lulu Island-Delta main and Tilbury main. Richmond then draws water through 13 connection points along Metro Vancouver's mains. Each connection has a pressure-reducing valve station that reduces the pressure from the transmission mains to match the pressure set in the City's system. The pressure-reducing valve stations are monitored from the Works Yard through a supervisory control and data acquisition (SCADA) system.

Downstream of the pressure-reducing valve stations is the rest of the City's water distribution system consisting of more than 630 kilometres of distribution mains.

The watermains are all interconnected in different ways to supply high-quality water to our residents and businesses. Individual service connections feed water from the main network to homes and businesses. All businesses and single-family homes, as well as many multi-family complexes, have been provided with water meters, which record consumption. A network of fire hydrants, valves, service connections and other infrastructure further supports delivery of water where and when it is needed. An overview of our water system is shown on *Figure 1* on page 28.

34 million CUBIC METRES OF **water** IS DELIVERED TO **234,644 residents** in Richmond.

Metro Vancouver's Seymour Falls Dam, located on the Seymour River, immediately upstream of the Lower Seymour Conservation Reserve and Seymour River Fish Hatchery.

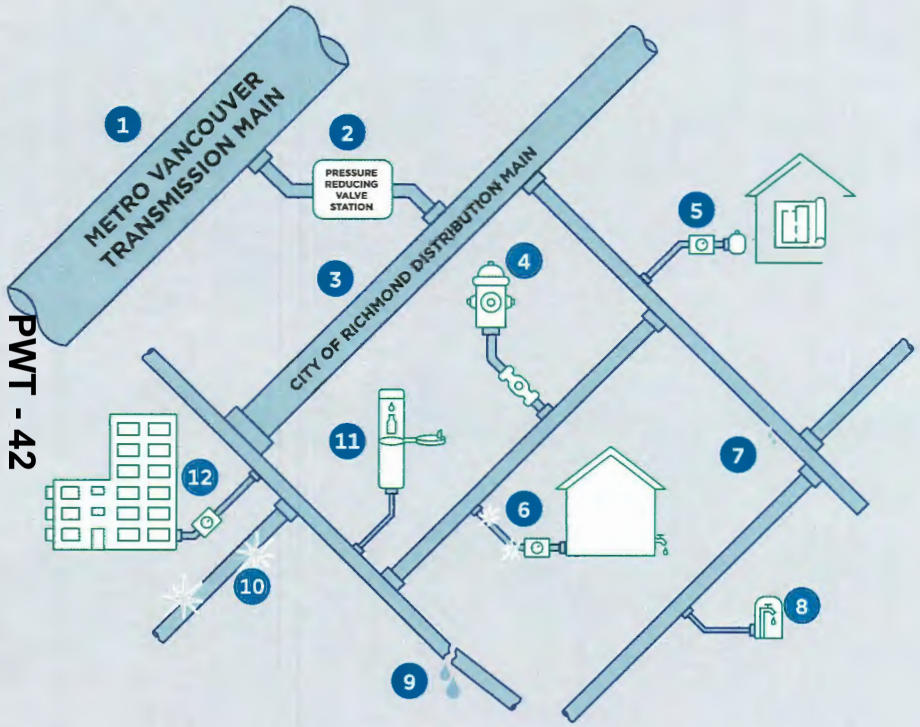


Figure 1

Richmond's Water System

1. Metro Vancouver supplies drinking water to the City of Richmond via three transmission mains.
2. Pressure-reducing valve (PRV) stations are the interface between Metro Vancouver's mains and the City of Richmond's water system. Water Services crews operate and maintain PRV stations throughout the City.
3. The City of Richmond's water system is made up of more than 630 km of watermains. The watermains are all interconnected in different ways to supply high-quality water to Richmond residents.
4. Fire hydrants play an important role in the City's water system. They deliver large quantities of water for fighting fires and help keep the City's drinking water safe by providing a way for water to be safely flushed out of the water system.
5. Water service connections link City of Richmond's watermains to houses and businesses.
6. Sometimes service connections can get damaged or break for different reasons. Water Services crews are always ready to repair water connections to prevent service disruptions to residents.
7. The City of Richmond's Leak Detection Program uses specialized equipment to find underground leaks in the water system.
8. Water Sampling Stations help Water Services staff monitor the quality of the City's drinking water. Stations are located in strategic locations throughout the City.
9. All pressurized systems can develop breaks due to the strain on the pipes. Water Services staff minimize breaks by replacing aging infrastructure and implementing a Pressure Management Program.
10. The City of Richmond has a watermain replacement and installation program to upgrade aging underground water infrastructure and improve the watermain network throughout the City.
11. Drinking water fountains help bring fresh drinking water to City of Richmond residents and are a sustainable way of keeping hydrated while on the go. Water Services staff maintain and service fountains along Richmond's dikes and in parks.
12. Water metering is important since it measures how much water each property has used. This makes sure that residents only pay for what they use and it also keeps residents informed of their water usage and promotes water conservation.

2.3 Mobile Emergency Response Unit

The City has a mobile emergency response unit to provide a supply of safe, drinkable water in the event of a disruption to regular service.

Water Services staff are trained to operate the City's mobile emergency water treatment trailer for use during a major emergency where the City's water is contaminated or unavailable. The emergency mobile unit is flexible and can be used to respond to both large-scale emergencies and smaller, neighbourhood-contained incidents.

All components of the emergency mobile unit that come in contact with the treated water are compliant with the Guidelines for Canadian Drinking Water Quality. The water is pumped into the system and through cartridges to reduce turbidity and through activated carbon to improve taste and odour. Next, it goes through UV units to disinfect the water. Lastly, sodium hypochlorite is added to provide a second source of disinfection and to act as free chlorine, which provides residual disinfection in the water.

The trailer was designed with the consideration of factors such as extreme weather events, sudden loss of clean water from Metro Vancouver and seismic events. It is regularly maintained and tested by Water Services staff to ensure that the City is ready to deliver clean, safe water for Richmond residents during an emergency.

*The treatment trailer is capable of filtering approximately **60 litres of water per minute** and can draw water straight from the Fraser River.*

3.0 Ensuring Our Water Quality and Safety

3.1 Water Quality Standards

In 2002, the City of Richmond implemented a Drinking Water Quality Monitoring Program to comply with provincial and federal legislation: the British Columbia Drinking Water Protection Act, the British Columbia Drinking Water Protection Regulations, the Water Quality Monitoring and Reporting Plan for Metro Vancouver, and the Guidelines for Canadian Drinking Water Quality.

Under these regulations, the City of Richmond is required to:

- Develop a process to notify the Vancouver Coastal Health (VCH) Drinking Water Officer and the VCH Medical Health Officer of any condition that could render unsafe drinking water.
- Implement a sampling program that adequately represents all areas within the City.
- Ensure test results are immediately available to the VCH Medical Health Officer.
- Receive an annual construction permit for the construction, installation and extension of the water distribution system.
- Produce an annual report detailing the results of the City's water quality monitoring program for review by VCH.

The conditions set out in the Drinking Water Protection Act require all water systems in B.C. to be classified as a Level I through IV facility through the Environmental Operators Certification Program (EOCP). Richmond's system is classified as a Level III facility so all staff that work on the system are responsible for possessing a valid Level I to Level III EOCP certificate.

To obtain and maintain their level of certification, staff have to successfully complete the required training and hands-on experience. This ensures staff are able to respond appropriately and immediately to problems prior to them becoming a risk to health or property.

3.2 Ensuring Water Quality

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FLUSHING PROGRAM

Water Services conducts a unidirectional flushing program every year. Unidirectional flushing involves forcing water in a single direction through a specific route through the pipes by closing or opening valves in a strategic way. Forcing the water in a single direction increases the velocity of the water flow and ensures that the inside of the pipes is being scoured and cleaned while the water is safely flushed out of the watermain network. The water is then drained through hydrants at the end of the flushing sequence to remove the debris from the system. Cleaning the inside of the pipes is important because it prevents bacterial growth and removes sediment. Staff take measures to control the flow of water during flushing. When practical, the water that is flushed is captured to be reused for irrigation. The City also conducts regular weekly, monthly and annual flushing at lower velocities to eliminate stagnant water in dead-end watermains and other low-demand areas.

REDUCE WATERMAIN LEAKS AND BREAKS

The City has various programs that reduce leaks and breaks in the system, which help keep our drinking water safe and clean. Whenever there is a watermain break, the system can experience a loss of pressure, which can result in negative pressure. This means that the pressure on the inside of the main is lower than the pressure from the soil on the outside of the main. When a watermain along the system has cracks or gaps between joints, there is a possibility that ground water can be siphoned back into the system during times of negative pressure. Two programs that promote water conservation also help keep our drinking water safe by preventing this ingress of ground water. The Leak Detection and Pressure Management programs help reduce watermain breaks and minimize weak spots in the distribution system where ground water can get into the pipes. You can learn more about these programs in *Section 6* of this report.

QUICK RESPONSE TO WATERMAIN LEAKS AND BREAKS

Not only is reducing watermain breaks in the system important, but responding quickly when leaks and breaks happen is just as crucial. Quick response by staff reduces water loss and eliminates the chance or the amount of time that ground water can enter the system, which in turn prevents contaminants from getting into the watermains. Water Services staff are always on call and trained to respond to all levels of watermain breaks.

BACKFLOW PREVENTER PROGRAM

A Backflow Program supports safe, temporary use of hydrants by farm, construction and film industries, and others who sometimes require access to bulk volumes of water or where other connections to the water distribution system are not feasible or viable.

Water Services staff install a backflow preventer at every hydrant that has an active hydrant-use permit. The backflow preventer acts as a one-way valve and helps keeps outside water from getting into the City's water system, which keeps possible contaminants out.

3.3 Monitoring Water Quality

The City of Richmond collects water samples on a weekly basis at 40 dedicated sampling sites. These sites are strategically located throughout the City to provide a suitable representation of the City's water quality across the whole network.

Water samples collected by City staff are taken to Metro Vancouver laboratories for analysis. Sample results are reviewed by City staff and Vancouver Coastal Health, the Health Authority in Richmond, to ensure the drinking water meets the standards and parameters outlined in the British Columbia Drinking Water Protection Regulations. The 2023 water quality testing results are included in Appendix A of this report. Tests results for specific parameters can be found in Appendices B, C, D and E. Test samples are analyzed to ensure the water quality is within defined standards, including bacterial, physical and chemical parameters. A complete description of the testing parameters can be found in *Appendix F*.

In addition to testing water to look for contaminants, water is also monitored for taste, odour, temperature and appearance.

The sampling stations are split up into three groups, and each group is sampled on a different day of the week. Additional information on sampling sites can be found in *Appendix G*.

Checking the chlorine residual of a water sample using a chlorometer.

Results that are outside of these parameters are considered 'Failed Samples'. It is important for City staff to deal with failed sample results immediately. The City's standard response to a failed water sample is:

Re-sample from the same station.

Flush the watermain extensively.

Re-sample again from the same station.

Isolate the watermain to one feed until test results confirm compliance with the British Columbia Drinking Water Protection Regulations.

Under the Drinking Water Protection Act, the Metro Vancouver laboratory must immediately inform the City of Richmond, the Drinking Water Officer and the Medical Health Officer if a water supply system result fails to meet established guidelines. Water Services staff then take immediate action and precautions, and issue required notifications.

Water safety situations such as chemical or biological contamination, excessive turbidity, disinfection failure, loss of pressure due to high demand, or a watermain break where there is suspected contamination, would be considered an emergency.

See *Appendix H* for more details about the actions taken by Water Services staff in these situations.

WATER QUALITY ADVISORIES ARE ISSUED TO THE GENERAL PUBLIC WHEN NECESSARY.

4.0 Constructing and Maintaining a Reliable Water System

Staff securing joint restraints on a watermain.

4.1 Comprehensive Water Network

The extensive network of watermains and other infrastructure has been carefully planned to provide redundancy. This ensures system and service stability and minimizes service disruptions.

The system's network of pressure-reducing valves and gate valves provide a broad variety of options to control water flow on an area-specific basis. In addition, most watermains are looped so that water can be fed to properties from both ends of their fronting mains. Therefore, system valves can be used to isolate portions of the system that require repairs, maintenance or replacement, limiting the number of customers that are impacted by service disruptions while necessary work is completed.

The City's municipal water distribution service includes more than:

600 KM OF watermains

ANNUALLY DELIVERING

MORE THAN

30 million CUBIC METRES OF water

TO OUR

CUSTOMERS

CITY CREWS ADD VALUE

Water Services crews work year-round to replace aging watermains and infrastructure across the City as well as to install new watermains, service connections and water meters.

Staff guiding a loader while dumping backfill into a watermain trench.

4.2 Capital Construction Programs

The dedicated watermain crew is responsible for completing the annual planned capital construction program. Annual construction programs include installation of new watermains, upgrades to existing water distribution infrastructure, provision of service connections to new construction and multi-family water meter installation.

Crews are tasked with meeting project scope, schedule and budget, while minimizing service and other disruptions to residents, businesses and others. The crews make extra effort to maintain positive relationships and communication with the immediate community within project areas.

Water Services crews have become the service provider of choice for many capital projects that might otherwise be contracted externally.

Crews are able to deliver projects at a competitive price, providing value to taxpayers.

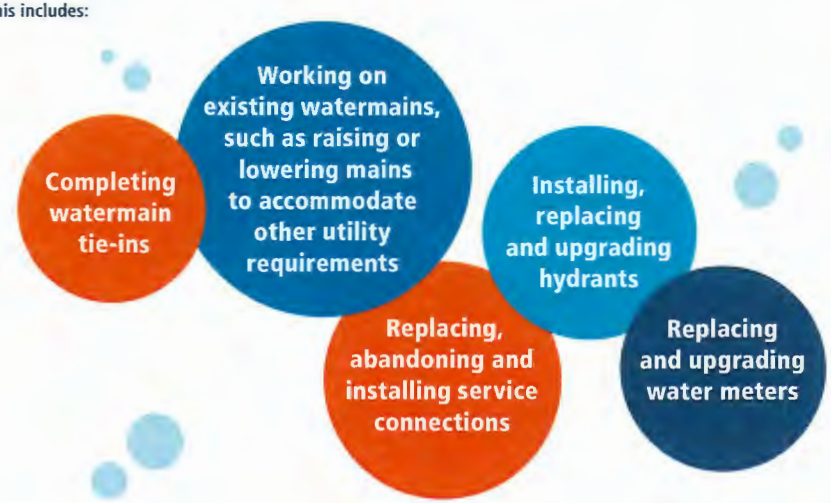
Staff shoveling backfill underneath and around the watermain to create proper pipe bedding.

4.3 Maintenance and Repairs

Water Services also undertakes system repairs as required, including fixing watermain breaks and repairing damaged or broken water service connections. In addition, Water Services utilizes specialized equipment to identify, locate and repair underground leaks in our water system.

Water Services crews are also tasked with responding to maintenance and service requests from a wide variety of customers, including residents, businesses, developers, contractors and other utilities such as Fortis BC, BC Hydro and Metro Vancouver.

This includes:



Staff compacting the trench backfill to make sure the trench doesn't settle after paving.

Additional ongoing preventative maintenance and repair programs help extend the life of the infrastructure and reduce service disruptions due to equipment or infrastructure breakdowns. This helps reduce ongoing operating and capital costs. Dedicated preventative maintenance programs are in place for all valves, hydrants and the system's pressure-reducing valves.

Preventative maintenance can identify the need for demand maintenance, a more in-depth maintenance process that is only done if required. This includes valve box raising, hydrant parts replacement, valve replacements and other work. Demand repairs can arise at any time and crews are available to respond to emergencies at all hours of the day.

The department's rapid response standards include a team of staff who work after-hours and overnight to quickly respond to issues arising with the water system and other City utilities and assets. This ensures major disruptions to water services, such as pipe breaks and leaks and other issues, are dealt with quickly and efficiently, minimizing impact on the system, its users and the community at large.

4.4 Fire Protection

Staff performing preventative maintenance on a slide-gate hydrant.

Fire hydrants play an important role in our water system as they serve multiple needs. Hydrants deliver large quantities of water for fighting fires and help keep our drinking water safe by providing a way for water to be flushed out of our system.

Water Services conducts extensive annual maintenance on the City's 5,000-plus fire hydrants to ensure they are ready to provide large volumes of water during fire fighting efforts.

In addition to replacing hydrants as part of the City's Capital Construction Watermain Replacement Program, or demand replacements due to damage or malfunction, Water Services actively performs hydrant retrofits to replace slide gate hydrants with compression hydrants. Compression hydrants close when they are compromised, preventing major water loss and infrastructure damage. Since starting the retrofits, Water Services has replaced 24 hydrants throughout the City. Slide gate hydrants are being phased out and all new hydrants being installed in the City are compression-style.

Fire hydrants play an important role in our water system.

Staff performing preventative maintenance on a compression hydrant.

5.0 Accessible Water in the Community

Staff taking a water sample from a fountain to ensure great water quality throughout the season.

5.1 Water Where You Are

Universal access to safe drinking water is critical to public health and quality of life, whether you are at home, at work or out in the community.

The City ensures this access by providing free water at its network of permanent public water fountains and at mobile water fountains deployed at special events. This helps the public maintain healthy hydration levels at all times while also protecting the environment and promoting sustainability by reducing the need to use plastic water bottles for this purpose.

Water misting stations, deployed during extreme heat events, also support public health.

Water fountain with a pet bowl located in Steveston Village.

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5.2 Water Fountains

The water fountains found in Richmond parks and other public areas are maintained by Water Services. This ensures the public has ready access to free, safe drinking water throughout the community.

The water fountains are tested and inspected regularly to ensure they provide high-quality drinking water. The fountains are turned off in winter months to prevent freezing and costly damage, and are turned back on in the spring for the public to enjoy.

A permanent water fountain upgrade program was launched in 2023. The program involves upgrading older fountains with new and longer-lasting fountains. The new fountains have improved designs that also incorporate a bottle water-fill station. Some of the fountains also include ground-level spouts to keep pets hydrated. Part of the upgrades might also include relocating the fountains to another location within the same area to better serve the community.

The first fountain to be upgraded as part of this program is located at Barnard Park. A new fountain with a water bottle filler and pet drinking bowl at ground level was installed in a more convenient location for the public. Four additional fountain upgrades are planned for 2024.

A permanent water fountain upgrade program was launched in 2023.

5.3 Portable Water Fountains

City staff proudly maintain four portable drinking water units that are used at numerous community events. Two of the units have the ability to chill water when connected to a power source. The units provide the public with access to free, potable tap water at events and promote tap water usage as an alternative to bottled water consumption.

The portable water fountains are deployed at a variety of popular community events such as the Steveston Salmon Festival, Richmond Maritime Festival and dozens of other local events annually.

In addition to the larger, wheeled water fountains, the City also maintains a number of drinking water fountains that can be attached to the tops of fire hydrants. These units provide an alternative potable water source at events or camps where other service options are not available or practical. The units can also be used at large events like the Salmon Festival to provide additional drinking water sources.

Portable water fountain located at the Gateway Theatre.

The water from the portable fountains is tested upon installation to ensure we provide good quality water for the public to enjoy.

5.4 Misting Stations

In response to recurring extreme hot weather, Water Services staff designed and built misting stations that can be placed at a water source, like a hydrant, and provide a way for people to cool down.

In coordination with Emergency Programs, misting stations are regularly deployed in parks and popular outdoor locations, such as Minoru Plaza and Garry Point Park, during extreme high temperature events to provide heat relief.

Misting stations are also deployed outside of extreme heat events throughout the City to provide the public with a fun way to keep cool while enjoying being out and about in the community.

Misting station set up at Aberdeen Neighbourhood Park.

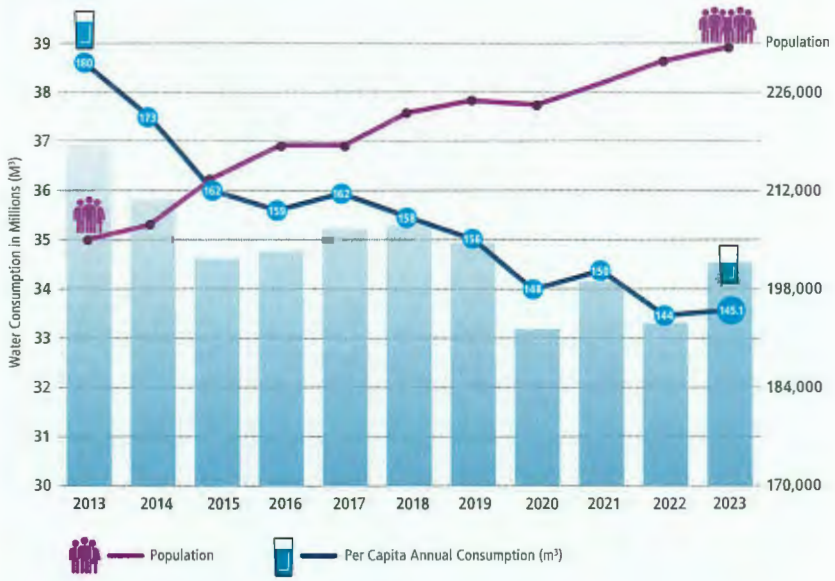
6.0 Conserving Our Water Supply

6.1 Reducing Water Consumption

Water conservation efforts are important to ensure that our regional system can keep up with the growing population to safeguard our water supply and to help maintain our beautiful environment.

The City of Richmond continues to succeed in reducing annual water consumption despite a growing population by implementing corporate and community-wide initiatives. These include water metering, lawn watering regulation, pressure management, leak-reduction and leak-detection programs, a toilet rebate program and a rain barrel sale program.

Water Consumption vs. Population | 2013 to 2023



The graph above shows how the City of Richmond has been conserving water despite an increase in population over the years. Water consumption has been steadily decreasing since its peak in 2006, except for small year-to-year increases in 2021 and 2023. The steady decrease in consumption parallels the City's steady and ongoing transition toward universal water metering for all users.

Despite this progress, the whole Metro Vancouver region, including Richmond, saw a spike in consumption due to extreme heat in the summers of 2021 and 2023, placing a strain on our regional water supply. This has reinforced the City's determination to continue to expand and place increased emphasis on our water conservation programs in order to further decrease our consumption and do our part in the region's push to conserve water.

6.2 Water Metering Programs

Water metering plays a significant role in the City's water management program as it promotes water conservation by encouraging users to reduce their water consumption.

The City implemented its single-family water metering program in 2003. Initially voluntary, water meters eventually became mandatory. All single-family homes in Richmond have been metered since the end of 2017. All industrial, commercial and institutional properties are also metered. Most users have experienced significant savings in costs over the previous flat-rate billing system. The program has contributed to significant overall reductions in water consumption in Richmond.

The City is now working to achieve water meter universality in multi-family residences. Currently, more than half of Richmond's multi-family residential complexes have water meters. All remaining unmetered properties are scheduled to be metered over the next 15 years.

Nearly all multi-family residences that have installed meters have experienced reductions in their water costs, with average savings of nearly 50%. Multi-family water meter installations are undertaken by experienced City crews and are completed with minimal service disruptions.

AVERAGE **SAVINGS** OF NEARLY **50%**

Residents and businesses are ***billed based on actual amount of water they use***, rather than a flat-rate system, providing a ***financial incentive to conserve water.***

6.3 Pressure Management Program

Using the pressure-reducing valve stations, the City of Richmond reduces water pressure in the system by 10 pounds per square inch (PSI) from October to May, lowering the system pressure from 90 PSI to 80 PSI.

The purpose of this practice is to reduce the volume of leakage during a lower demand period, decrease the risk of watermain breaks, and extend the life of our water infrastructure.

During summer months, the daytime pressure is set to 90 PSI to meet the increased water demand on the system.

A timer-based system is used to lower the pressure to 80 PSI daily from 1:00 to 5:00 a.m. as water demand decreases during that time over the summer.

This program has successfully decreased watermain leaks and breaks in the water system.

A look inside a pressure-reducing valve station.

6.4 Leak Reduction and Detection Programs

The City has made significant progress identifying and eliminating leaks through programs that target residential users and the City's own network.

The Leak Reduction Program identifies single-family properties with continuous flow using our metering system. City staff then inform the homeowner about the potential leak. The program can significantly reduce overall private property leakage since leaks can be detected by the metering system before they become visible or obvious.

The Leak Detection Program discovers non-visible underground leaks within the City's distribution system without the need to excavate. City crews use special equipment called noise loggers to measure sound frequencies along the targeted pipe. The frequencies are then recorded for staff review. A leak in the pipe creates different sound patterns than typical water flow in the watermain, allowing the crew to pinpoint leaks and provide swift action to excavate and repair the affected asset.

It is estimated that most municipalities in North America lose 12% to 15% of their potable water to undiscovered underground leakage.

6.5 Toilet Rebate Program

This program encourages homeowners to replace older, high-volume toilets with low-flush toilets to conserve water and reduce costs.

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Toilets account for almost one quarter of the water used in the average home. Switching to a low-flush toilet could save more than 70 litres of water per day per person and, when combined with a water meter, will result in cost savings.

In addition to reducing water use and costs, installing low-flush toilets ensures homes reflect current best practices and market preferences.

Single and multi-family homeowners are eligible to apply for a lifetime maximum of two rebates per property. Industrial, commercial and other non-residential properties are not eligible at this time.

The City of Richmond's Toilet Rebate Program provides a utility account rebate of $100 to homeowners when they install a low-flush toilet.

6.6 Rain Barrel Sale Program

Rain barrels are excellent outdoor water-saving devices that collect and store rainwater from rooftops for lawn and garden use.

Rain barrels are available for purchase at the City's Recycling Depot by Richmond residents only. The barrels can hold up to 208 litres and are made from safe and durable recycled materials. The barrels include a mosquito mesh to keep out bugs and leaves. Installation instructions are included with each rain barrel.

Rainwater is a great water source for lawns, plants and gardens; and washing outside surfaces. Using rainwater will reduce the amount of tap water you use, therefore saving money on your utility bill.

Collecting water using a rain barrel to water flowers and plants.

6.7 Lawn Watering Regulations

As the temperature increases, water consumption increases with it. During summer months, average water use can increase by as much as 50%, largely due to lawn watering. Overall, lawn watering typically represents nearly 40% of all water used in an average single family home.

The higher water demand combined with the decrease in precipitation during the summer causes water levels in the Metro Vancouver reservoirs to drop at a greater pace. Water conservation, particularly in summer, is vital in order to maintain a minimum amount of water in the reservoirs in case of emergency. Conservation is particularly important in years when snowpack levels are low and seasonal rainfall is below normal.

To help manage the high demand for drinking water during the hot and dry summer months in 2023, Metro Vancouver initiated Stage 1 lawn watering regulations from May 1 to August 3. The drought severity increased and Metro Vancouver escalated to Stage 2 regulations on August 4 for the remainder of the season, until October 15, 2023. Regional lawn watering and other water usage restrictions are applied on an annual basis to limit consumption and ensure adequate supply levels are maintained. The staged water restrictions are applied and adjusted throughout the summer based on demand and available supply.

Lawn watering and other water usage is regulated through the Water Use Restriction Bylaw No. 7784. Failure to comply with lawn watering restrictions is an offence subject to fines.

6.8 Waterwise Demonstration Garden

Lawn and garden watering are major consumers of water during the summer. Overwatering can place a strain on the regional water supply and can be detrimental to the health of many plants. In addition, with the advent of water metering for most Richmond homes, excessive lawn and garden watering can significantly increase utility bills.

The City of Richmond's Waterwise Demonstration Garden acts as a resource for local residents, providing tips on how they can reduce their water usage and still have beautiful, healthy gardens, lawns and landscapes. The garden shows a variety of plants that residents and businesses can use in their landscaping that are drought-tolerant and do not require a lot of water to grow and thrive in our unique climate. The garden also offers lawn maintenance tips, and provides information on micro-irrigation with different ways and systems of watering plants like driplines, bubblers, micro-sprays and others.

The demonstration garden is located within Terra Nova Rural Park and can be visited year-round for those looking for useful information on reducing their water consumption.

7.0 Community Outreach

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7.1 Project WET

Project WET is an interactive elementary school program aimed at educating students on the importance of water.

In partnership with Richmond elementary school teachers, City of Richmond Public Works staff invite students in Grades 4 to 7 to the Works Yard to learn about water conservation, supply and quality. Students also learn about other Public Works areas like Sewerage and Drainage, Environmental Programs, and Inspections.

There are several interactive displays, with staff guiding students through key learning objectives for each. Project WET field trips take place as a celebration of National Public Works Week. The available class spaces are in high demand and are always fully booked.

Kids learning about water distribution and the importance of fire hydrants at Project WET.

7.2 Community Engagement

Water Services strives to remain engaged with the community throughout the year, both through its day-to-day activities and specific initiatives.

When the City undertakes a new project in the community, it makes every effort to ensure residents and businesses in the area are kept aware of what will be happening, the projected timeline, potential service impacts and more.

Before every project, the City sends letters to all area residents who will be affected by the construction work. In addition, the City regularly conducts direct outreach with individuals and groups in the project area. Staff often meet directly with local residents, schools and others to answer their questions and address concerns about the project. This has included inviting school classes to the project site and learn firsthand about the work being done.

A major highlight of the City's engagement activity is the Public Works Open House and National Public Works Week.

Water Services staff annually work to develop new displays for the Open House with information and activities to help keep the public informed about the work being done to deliver high-quality water to their taps, promote water conservation and provide excellent value to taxpayers.

During the past year, Water Services set up an above-ground water system display that included water meters, valves and blow-offs to teach Open House attendees about the water system and water conservation. The Emergency Water Treatment trailer was also set up to educate people on the importance of water quality and emergency preparedness. Staff volunteered their time and effort on a non-working day to educate and interact with the public.

The Public Works Open House also features the City's portable water fountains and misters to help keep attendees hydrated and cool during the warm weather.

Community engagement is also undertaken through various communication initiatives with the public through a variety of mediums. The watermain construction crew were featured in a National Public Works Week media campaign for hosting a class of elementary school children at one of their sites. The visit allowed a great teaching opportunity for kids to learn about the water system and ask questions of our staff. City staff take pride in their work and embrace opportunities to raise awareness about their contributions and their benefits to the community.

8.0 Appendices

Appendices

Appendix A | 2023 Water Quality Results

Water Sampling | Type: **GRAB** | Station Number: **RMD-202** | Address: **1500 Valemont Way**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 09:30	–	<1	–	<1	<2	0.8	0.15	6
2023-01-12 09:50	–	<1	–	<1	<2	0.78	0.21	7
2023-01-20 09:25	–	<1	–	<1	<2	0.67	0.22	7
2023-01-26 09:30	–	<1	–	<1	<2	0.73	0.11	7
2023-02-03 09:30	–	<1	–	<1	<2	0.7	0.19	7
2023-02-09 09:25	–	<1	–	<1	<2	0.8	0.1	6
2023-02-17 09:25	–	<1	–	<1	<2	0.81	0.21	6
2023-02-23 09:30	–	<1	–	<1	<2	0.83	0.12	7
2023-03-03 09:45	–	<1	–	<1	<2	0.86	0.14	6
2023-03-09 09:20	–	<1	–	<1	<2	0.8	0.1	6
2023-03-17 09:30	–	<1	–	<1	<2	0.71	0.12	7
2023-03-23 09:30	–	<1	–	<1	2	0.75	0.18	7
2023-03-31 09:25	–	<1	–	<1	<2	0.82	0.15	8
2023-04-05 09:30	–	<1	–	<1	<2	0.79	0.13	8
2023-04-14 09:35	–	<1	–	<1	<2	0.67	0.21	8
2023-04-20 09:45	–	<1	–	<1	<2	0.72	0.16	7
2023-04-28 09:25	–	<1	–	<1	<2	0.82	0.16	8
2023-05-04 09:25	–	<1	–	<1	<2	0.63	0.21	9
2023-05-12 09:35	–	<1	–	<1	<2	0.71	0.19	10
2023-05-18 09:45	–	<1	–	<1	<2	0.67	0.23	10
2023-05-26 09:30	–	<1	–	<1	<2	0.97	0.26	10
2023-06-01 09:30	–	<1	–	<1	<2	0.63	0.14	12
2023-06-09 09:30	–	<1	–	<1	<2	0.68	0.12	12
2023-06-15 09:30	–	<1	–	<1	<2	0.67	0.42	13
2023-06-23 09:30	–	<1	–	<1	6	0.7	0.19	12
2023-06-29 09:30	–	<1	–	<1	<2	0.7	0.12	12
2023-07-07 09:30	–	<1	–	<1	<2	0.69	0.15	14
2023-07-13 09:30	–	<1	–	<1	2	0.45	0.17	14
2023-07-21 09:30	–	<1	–	<1	<2	0.52	0.14	15
2023-07-27 09:30	–	<1	–	<1	2	0.5	0.14	16
2023-08-04 09:55	–	<1	–	<1	8	0.64	0.1	16
2023-08-10 09:40	–	<1	–	<1	4	0.51	0.11	16
2023-08-18 09:20	–	<1	–	<1	10	0.72	0.12	16
2023-08-24 09:40	–	<1	–	<1	<2	0.58	0.18	16
2023-09-01 09:25	–	<1	–	<1	4	0.52	0.2	17
2023-09-07 09:40	–	<1	–	<1	2	0.5	0.11	17
2023-09-15 09:40	–	<1	–	<1	1400	0.57	0.15	17
2023-09-21 09:25	–	<1	–	<1	<2	0.54	0.13	17
2023-09-29 09:30	–	<1	–	<1	<2	0.58	0.37	16
2023-10-05 09:50	<1	–	<1	–	<2	0.62	0.23	15
2023-10-13 09:50	<1	–	<1	–	<2	0.74	0.15	13
2023-10-19 09:25	<1	–	<1	–	2	0.52	0.15	12
2023-10-27 09:30	<1	–	<1	–	2	0.68	0.2	11
2023-11-02 09:30	<1	–	<1	–	<2	0.82	0.16	10
2023-11-10 09:25	–	<1	–	<1	<2	0.69	0.2	10
2023-11-16 09:40	–	<1	–	<1	<2	0.83	0.2	9
2023-11-24 09:30	–	<1	–	<1	<2	0.76	0.19	9
2023-11-30 09:25	–	<1	–	<1	<2	0.59	0.12	8
2023-12-08 09:30	–	<1	–	<1	<2	0.7	0.29	7
2023-12-14 09:20	–	<1	–	<1	<2	0.7	0.16	6
2023-12-20 14:25	–	<1	–	<1	NA	0.68	0.24	8
2023-12-28 09:30	–	<1	–	<1	NA	0.64	0.27	8

Water Sampling | Type: **GRAB** | Station Number: **RMD-203** | Address: **23260 Westminster Highway**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 11:10	–	<1	–	<1	<2	0.61	0.14	5
2023-01-12 11:30	–	<1	–	<1	<2	0.74	0.16	6
2023-01-20 11:00	–	<1	–	<1	<2	0.71	0.14	7
2023-01-26 11:10	–	<1	–	<1	<2	0.64	0.14	6
2023-02-03 11:10	–	<1	–	<1	<2	0.96	0.24	6
2023-02-09 11:00	–	<1	–	<1	2	0.81	0.16	6
2023-02-17 11:00	–	<1	–	<1	<2	0.74	0.13	6
2023-02-23 11:10	–	<1	–	<1	<2	0.72	0.17	5
2023-03-03 11:30	–	<1	–	<1	<2	0.79	0.15	5
2023-03-09 11:00	–	<1	–	<1	<2	0.77	0.12	6
2023-03-17 11:10	–	<1	–	<1	2	0.72	0.16	6
2023-03-23 11:10	–	<1	–	<1	<2	0.75	0.19	6
2023-03-31 11:00	–	<1	–	<1	4	0.75	0.26	7
2023-04-05 11:05	–	<1	–	<1	<2	0.75	0.14	7
2023-04-14 11:15	–	<1	–	<1	2	0.68	0.28	7
2023-04-20 11:15	–	<1	–	<1	<2	0.71	0.18	7
2023-04-28 11:00	–	<1	–	<1	<2	0.86	0.36	7
2023-05-04 11:00	–	<1	–	<1	<2	0.79	0.69	8
2023-05-12 11:15	–	<1	–	<1	<2	0.68	0.32	9
2023-05-18 11:30	–	<1	–	<1	<2	0.69	0.43	10
2023-05-26 11:10	–	<1	–	<1	<2	0.78	0.23	10
2023-06-01 11:10	–	<1	–	<1	<2	0.68	0.22	11
2023-06-09 11:10	–	<1	–	<1	<2	0.74	0.16	11
2023-06-15 11:10	–	<1	–	<1	<2	0.75	0.33	12
2023-06-23 11:10	–	<1	–	<1	<2	0.8	0.24	12
2023-06-29 11:10	–	<1	–	<1	<2	0.73	0.12	12
2023-07-07 11:10	–	<1	–	<1	<2	0.73	0.74	13
2023-07-13 11:10	–	<1	–	<1	<2	0.73	0.27	13
2023-07-21 11:10	–	<1	–	<1	<2	0.68	0.18	14
2023-07-27 11:15	–	<1	–	<1	<2	1.07	0.22	15
2023-08-04 11:25	–	<1	–	<1	<2	0.89	0.15	15
2023-08-10 11:30	–	<1	–	<1	<2	0.73	0.13	15
2023-08-18 11:15	–	<1	–	<1	<2	0.74	0.19	16
2023-08-24 11:30	–	<1	–	<1	<2	0.8	0.15	16
2023-09-01 11:00	–	<1	–	<1	4	0.62	0.56	17
2023-09-07 11:30	–	<1	–	<1	10	0.68	0.13	16
2023-09-15 11:30	–	<1	–	<1	<2	0.79	0.22	16
2023-09-21 11:00	–	<1	–	<1	NA	0.74	0.21	17
2023-09-29 11:10	–	<1	–	<1	14	0.5	0.22	16
2023-10-05 11:30	<1	–	<1	–	<2	0.67	0.29	14
2023-10-13 11:30	<1	–	<1	–	8	0.75	0.12	14
2023-10-19 11:00	<1	–	<1	–	4	0.53	0.19	13
2023-10-27 11:10	<1	–	<1	–	12	0.65	0.16	11
2023-11-02 11:00	<1	–	<1	–	<2	0.73	0.15	10
2023-11-10 11:00	–	<1	–	<1	10	0.65	0.29	10
2023-11-16 11:10	–	<1	–	<1	<2	0.82	0.16	9
2023-11-24 11:30	–	<1	–	<1	<2	0.79	0.26	9
2023-11-30 11:00	–	<1	–	<1	<2	0.78	0.14	8
2023-12-08 11:10	–	<1	–	<1	<2	0.7	0.25	8
2023-12-14 11:00	–	<1	–	<1	4	0.68	0.19	7
2023-12-20 16:00	–	<1	–	<1	NA	0.69	0.19	7
2023-12-28 11:45	–	<1	–	<1	NA	0.7	0.11	8

PWT - 62

Water Sampling | Type: GRAB | Station Number: RMD-204 | Address: 1180 Granville Avenue

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 07:30	–	<1	–	<1	<2	0.67	0.11	6
2023-01-12 08:00	–	<1	–	<1	<2	0.75	0.16	6
2023-01-20 07:30	–	<1	–	<1	<2	0.61	0.15	7
2023-01-26 07:30	–	<1	–	<1	<2	0.69	0.1	7
2023-02-03 07:30	–	<1	–	<1	<2	0.71	0.16	6
2023-02-09 07:30	–	<1	–	<1	<2	0.72	0.12	6
2023-02-17 07:30	–	<1	–	<1	<2	0.8	0.11	7
2023-02-23 07:30	–	<1	–	<1	<2	0.78	0.14	7
2023-03-03 07:45	–	<1	–	<1	<2	0.77	0.12	6
2023-03-09 07:30	–	<1	–	<1	<2	0.76	0.14	6
2023-03-17 07:30	–	<1	–	<1	<2	0.84	0.19	7
2023-03-23 07:30	–	<1	–	<1	<2	0.73	0.14	7
2023-03-31 07:30	–	<1	–	<1	<2	0.76	0.13	8
2023-04-05 07:35	–	<1	–	<1	<2	0.84	0.13	8
2023-04-14 07:45	–	<1	–	<1	<2	0.69	0.24	8
2023-04-20 08:00	–	<1	–	<1	<2	0.68	0.14	8
2023-04-28 07:30	–	<1	–	<1	<2	0.84	0.14	8
2023-05-04 07:30	–	<1	–	<1	<2	0.64	0.22	9
2023-05-12 07:45	–	<1	–	<1	<2	0.71	0.28	10
2023-05-18 08:00	–	<1	–	<1	<2	0.7	0.2	11
2023-05-26 07:30	–	<1	–	<1	<2	0.71	0.26	11
2023-06-01 07:30	–	<1	–	<1	<2	0.75	0.13	12
2023-06-09 07:30	–	<1	–	<1	<2	0.68	0.11	13
2023-06-15 07:30	–	<1	–	<1	<2	0.67	0.2	13
2023-06-23 07:30	–	<1	–	<1	2	0.7	0.17	13
2023-06-29 07:30	–	<1	–	<1	<2	0.73	0.15	13
2023-07-07 07:30	–	<1	–	<1	<2	0.72	0.13	14
2023-07-13 07:30	–	<1	–	<1	<2	0.66	0.2	15
2023-07-21 07:30	–	<1	–	<1	<2	0.66	0.12	15
2023-07-27 07:30	–	<1	–	<1	2	0.69	0.11	16
2023-08-04 08:10	–	<1	–	<1	<2	0.71	0.09	17
2023-08-10 07:45	–	<1	–	<1	<2	0.63	0.09	16
2023-08-18 07:30	–	<1	–	<1	4	0.75	0.09	17
2023-08-24 07:45	–	<1	–	<1	<2	0.73	0.15	17
2023-09-01 07:30	–	<1	–	<1	<2	0.65	0.12	16
2023-09-07 07:45	–	<1	–	<1	2	0.58	0.11	16
2023-09-15 07:45	–	<1	–	<1	<2	0.57	0.13	17
2023-09-21 07:30	–	<1	–	<1	2	0.58	0.1	18
2023-09-29 07:30	–	<1	–	<1	<2	0.7	0.14	16
2023-10-05 08:00	<1	–	<1	–	<2	0.58	0.15	15
2023-10-13 08:00	<1	–	<1	–	10	0.68	0.11	14
2023-10-19 07:30	<1	–	<1	–	18	0.81	0.77	15
2023-10-27 07:30	<1	–	<1	–	<2	0.68	0.13	12
2023-11-02 07:40	<1	–	<1	–	8	0.86	0.11	10
2023-11-10 07:30	–	<1	–	<1	4	0.94	0.15	10
2023-11-16 07:50	–	<1	–	<1	2	0.65	0.16	9
2023-11-24 07:30	–	<1	–	<1	<2	0.6	0.19	10
2023-11-30 07:30	–	<1	–	<1	2	0.87	0.18	9
2023-12-08 07:30	–	<1	–	<1	<2	0.81	0.17	8
2023-12-14 07:30	–	<1	–	<1	<2	0.64	0.22	8
2023-12-20 12:30	–	<1	–	<1	NA	0.55	0.24	9
2023-12-28 08:00	–	<1	–	<1	NA	0.64	0.29	9

PWT - 63

Water Sampling | Type: GRAB | Station Number: RMD-205 | Address: 13851 Steveston Highway

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 09:15	–	<1	–	<1	<2	0.75	0.11	5
2023-01-12 09:30	–	<1	–	<1	2	0.86	0.16	6
2023-01-20 09:00	–	<1	–	<1	<2	0.72	0.13	7
2023-01-26 09:15	–	<1	–	<1	<2	0.73	0.1	7
2023-02-03 09:15	–	<1	–	<1	<2	0.77	0.55	7
2023-02-09 09:00	–	<1	–	<1	<2	0.74	0.22	6
2023-02-17 09:00	–	<1	–	<1	<2	0.82	0.14	6
2023-02-23 09:15	–	<1	–	<1	<2	0.83	0.14	7
2023-03-03 09:15	–	<1	–	<1	<2	0.69	0.15	5
2023-03-09 09:00	–	<1	–	<1	4	0.74	0.11	5
2023-03-17 09:15	–	<1	–	<1	<2	0.67	0.15	5
2023-03-23 09:15	–	<1	–	<1	<2	0.66	0.2	7
2023-03-31 09:00	–	<1	–	<1	<2	0.73	0.23	7
2023-04-05 09:05	–	<1	–	<1	2	0.8	0.18	7
2023-04-14 09:15	–	<1	–	<1	<2	0.76	0.17	7
2023-04-20 09:30	–	<1	–	<1	<2	0.69	0.16	7
2023-04-28 09:00	–	<1	–	<1	<2	0.77	0.31	9
2023-05-04 09:00	–	<1	–	<1	<2	0.68	0.15	9
2023-05-12 09:15	–	<1	–	<1	<2	0.91	0.24	9
2023-05-18 09:30	–	<1	–	<1	<2	0.54	0.25	10
2023-05-26 09:15	–	<1	–	<1	<2	0.77	0.27	10
2023-06-01 09:15	–	<1	–	<1	2	0.66	0.18	11
2023-06-09 09:15	–	<1	–	<1	<2	0.72	0.22	11
2023-06-15 09:15	–	<1	–	<1	<2	0.73	0.31	13
2023-06-23 09:15	–	<1	–	<1	<2	0.81	0.22	11
2023-06-29 09:15	–	<1	–	<1	<2	0.75	0.16	12
2023-07-07 09:15	–	<1	–	<1	<2	0.73	0.2	13
2023-07-13 09:15	–	<1	–	<1	<2	0.66	0.25	14
2023-07-21 09:15	–	<1	–	<1	<2	0.67	0.3	14
2023-07-27 09:10	–	<1	–	<1	<2	0.64	0.15	15
2023-08-04 09:40	–	<1	–	<1	<2	0.76	0.15	15
2023-08-10 09:20	–	<1	–	<1	<2	0.65	0.14	16
2023-08-18 09:00	–	<1	–	<1	<2	0.67	0.24	16
2023-08-24 09:20	–	<1	–	<1	<2	0.69	0.19	16
2023-09-01 09:00	–	<1	–	<1	6	0.84	0.21	16
2023-09-07 09:20	–	<1	–	<1	4	0.84	0.15	16
2023-09-15 09:20	–	<1	–	<1	<2	0.74	0.26	16
2023-09-21 09:00	–	<1	–	<1	2	0.82	0.14	17
2023-09-29 09:15	–	<1	–	<1	<2	0.61	0.27	16
2023-10-05 09:30	<1	–	<1	–	<2	0.82	0.23	14
2023-10-13 09:30	<1	–	<1	–	4	0.69	0.16	13
2023-10-19 09:00	<1	–	<1	–	<2	0.54	0.15	13
2023-10-27 09:15	<1	–	<1	–	<2	0.65	0.16	11
2023-11-02 09:10	<1	–	<1	–	<2	0.69	0.13	10
2023-11-10 09:00	–	<1	–	<1	<2	0.54	0.19	10
2023-11-16 09:20	–	<1	–	<1	<2	0.8	0.13	9
2023-11-24 09:15	–	<1	–	<1	2	0.61	0.16	10
2023-11-30 09:00	–	<1	–	<1	<2	0.61	0.13	8
2023-12-08 09:15	–	<1	–	<1	18	0.69	0.17	7
2023-12-14 09:00	–	<1	–	<1	<2	0.72	0.18	7
2023-12-20 14:00	–	<1	–	<1	NA	0.66	0.38	7
2023-12-28 09:30	–	<1	–	<1	NA	0.66	0.16	8

Water Sampling | Type: GRAB | Station Number: RMD-206 | Address: 4251 Moncton Street

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 07:50	–	<1	–	<1	<2	0.71	0.13	5
2023-01-12 08:15	–	<1	–	<1	<2	0.65	0.2	6
2023-01-20 07:45	–	<1	–	<1	<2	0.57	0.26	7
2023-01-26 07:50	–	<1	–	<1	<2	0.73	0.11	7
2023-02-03 07:50	–	<1	–	<1	<2	0.69	0.21	6
2023-02-09 07:45	–	<1	–	<1	<2	0.77	0.1	6
2023-02-17 07:45	–	<1	–	<1	<2	0.88	0.12	6
2023-02-23 07:50	–	<1	–	<1	<2	0.73	0.13	7
2023-03-03 08:00	–	<1	–	<1	<2	0.64	0.21	6
2023-03-09 07:45	–	<1	–	<1	LA	0.74	0.12	5
2023-03-17 07:50	–	<1	–	<1	<2	0.64	0.13	6
2023-03-23 07:50	–	<1	–	<1	<2	0.66	0.21	7
2023-03-31 07:45	–	<1	–	<1	2	0.81	0.19	7
2023-04-05 07:50	–	<1	–	<1	<2	0.88	0.17	7
2023-04-14 08:00	–	<1	–	<1	<2	0.67	0.28	7
2023-04-20 08:15	–	<1	–	<1	<2	0.72	0.16	7
2023-04-28 07:45	–	<1	–	<1	<2	0.75	0.19	8
2023-05-04 07:45	–	<1	–	<1	<2	0.7	0.21	8
2023-05-12 08:00	–	<1	–	<1	<2	0.74	0.27	10
2023-05-18 08:15	–	<1	–	<1	<2	0.72	0.29	10
2023-05-26 07:50	–	<1	–	<1	<2	0.74	0.29	10
2023-06-01 07:50	–	<1	–	<1	<2	0.66	0.16	11
2023-06-09 07:50	–	<1	–	<1	2	0.66	0.14	11
2023-06-15 07:50	–	<1	–	<1	<2	0.6	0.31	12
2023-06-23 07:50	–	<1	–	<1	2	0.71	0.18	11
2023-06-29 07:50	–	<1	–	<1	<2	0.71	0.15	12
2023-07-07 07:50	–	<1	–	<1	<2	0.7	0.2	13
2023-07-13 07:50	–	<1	–	<1	2	0.69	0.37	14
2023-07-21 07:50	–	<1	–	<1	<2	0.65	0.31	14
2023-07-27 07:50	–	<1	–	<1	10	0.62	0.16	15
2023-08-04 08:25	–	<1	–	<1	<2	0.7	0.11	16
2023-08-10 08:00	–	<1	–	<1	<2	0.55	0.09	16
2023-08-18 07:45	–	<1	–	<1	4	0.66	0.16	16
2023-08-24 08:00	–	<1	–	<1	<2	0.68	0.59	16
2023-09-01 07:45	–	<1	–	<1	2	0.62	0.11	17
2023-09-07 08:00	–	<1	–	<1	<2	0.66	0.24	16
2023-09-15 08:00	–	<1	–	<1	<2	0.59	0.34	16
2023-09-21 07:45	–	<1	–	<1	2	0.85	4.8	17
2023-09-29 07:50	–	<1	–	<1	10	0.63	0.34	16
2023-10-05 08:15	<1	–	<1	–	2	0.58	0.16	15
2023-10-13 08:15	<1	–	<1	–	14	0.78	0.7	13
2023-10-19 07:45	<1	–	<1	–	2	0.51	0.23	14
2023-10-27 07:50	<1	–	<1	–	4	0.45	0.21	11
2023-11-02 07:55	<1	–	<1	–	<2	0.67	0.18	10
2023-11-10 07:45	–	<1	–	<1	<2	0.69	0.18	10
2023-11-16 08:05	–	<1	–	<1	<2	0.71	0.18	10
2023-11-24 07:50	–	<1	–	<1	<2	0.75	0.19	10
2023-11-30 07:45	–	<1	–	<1	<2	0.76	0.2	9
2023-12-08 07:50	–	<1	–	<1	<2	0.64	0.16	8
2023-12-14 07:45	–	<1	–	<1	<2	0.6	0.23	8
2023-12-20 12:45	–	<1	–	<1	NA	0.63	0.14	8
2023-12-28 08:20	–	<1	–	<1	NA	0.57	0.15	9

PWT - 64

Water Sampling | Type: GRAB | Station Number: RMD-208 | Address: 13200 No. 4 Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 08:55	–	<1	–	<1	<2	0.91	0.14	5
2023-01-12 09:15	–	<1	–	<1	<2	0.8	0.15	7
2023-01-20 08:45	–	<1	–	<1	<2	0.56	0.15	7
2023-01-26 08:55	–	<1	–	<1	<2	0.68	0.1	7
2023-02-03 08:55	–	<1	–	<1	<2	0.71	0.14	7
2023-02-09 08:45	–	<1	–	<1	4	0.72	0.17	7
2023-02-17 08:45	–	<1	–	<1	<2	0.75	0.14	6
2023-02-23 08:55	–	<1	–	<1	<2	0.76	0.14	7
2023-03-03 09:00	–	<1	–	<1	2	0.82	0.17	6
2023-03-09 08:45	–	<1	–	<1	94	0.83	0.27	6
2023-03-17 08:55	–	<1	–	<1	<2	0.71	0.11	5
2023-03-23 08:55	–	<1	–	<1	<2	0.78	0.15	8
2023-03-31 08:45	–	<1	–	<1	<2	0.85	0.24	7
2023-04-05 08:50	–	<1	–	<1	<2	0.64	0.12	8
2023-04-14 09:00	–	<1	–	<1	<2	0.63	0.16	8
2023-04-20 09:15	–	<1	–	<1	<2	0.72	0.15	7
2023-04-28 08:45	–	<1	–	<1	<2	0.92	0.15	9
2023-05-04 08:45	–	<1	–	<1	<2	0.62	0.14	9
2023-05-12 09:00	–	<1	–	<1	<2	0.68	0.16	10
2023-05-18 09:15	–	<1	–	<1	<2	0.63	0.2	11
2023-05-26 08:55	–	<1	–	<1	<2	0.57	0.23	12
2023-06-01 08:55	–	<1	–	<1	<2	0.53	0.16	13
2023-06-09 08:55	–	<1	–	<1	<2	0.62	0.13	13
2023-06-15 08:55	–	<1	–	<1	2	0.51	0.22	14
2023-06-23 08:55	–	<1	–	<1	2	0.56	0.23	14
2023-06-29 08:55	–	<1	–	<1	<2	0.77	0.12	14
2023-07-07 08:55	–	<1	–	<1	<2	0.71	0.14	15
2023-07-13 08:55	–	<1	–	<1	2	0.48	0.19	16
2023-07-21 08:55	–	<1	–	<1	<2	0.57	0.14	16
2023-07-27 08:50	–	<1	–	<1	6	0.51	0.13	16
2023-08-04 09:25	–	<1	–	<1	8	0.58	0.11	17
2023-08-10 09:00	–	<1	–	<1	28	0.49	2	17
2023-08-18 08:45	–	<1	–	<1	2	0.52	0.16	18
2023-08-24 09:00	–	<1	–	<1	2	0.41	0.15	18
2023-09-01 08:45	–	<1	–	<1	8	0.45	0.09	17
2023-09-07 09:00	–	<1	–	<1	4	0.42	0.12	17
2023-09-15 09:00	–	<1	–	<1	4	0.43	0.17	17
2023-09-21 08:45	–	<1	–	<1	10	0.32	0.16	18
2023-09-29 08:55	–	<1	–	<1	14	0.42	0.18	16
2023-10-05 09:15	<1	–	<1	–	<2	0.4	0.17	16
2023-10-13 09:15	<1	–	<1	–	10	0.32	0.18	15
2023-10-19 08:45	<1	–	<1	–	2	0.4	0.12	14
2023-10-27 08:55	<1	–	<1	–	<2	0.6	0.2	12
2023-11-02 08:55	<1	–	<1	–	<2	0.78	0.13	10
2023-11-10 08:45	–	<1	–	<1	<2	0.79	0.18	10
2023-11-16 09:05	–	<1	–	<1	<2	0.78	0.13	10
2023-11-24 08:55	–	<1	–	<1	<2	0.69	0.16	9
2023-11-30 08:45	–	<1	–	<1	<2	0.69	0.19	9
2023-12-08 08:55	–	<1	–	<1	NA	0.61	0.18	9
2023-12-14 08:45	–	<1	–	<1	<2	0.73	0.13	7
2023-12-20 13:45	–	<1	–	<1	NA	0.68	0.18	8
2023-12-28 09:10	–	<1	–	<1	NA	0.65	0.27	8

Water Sampling | Type: GRAB | Station Number: RMD-212 | Address: Across from 8600 Ryan Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 08:40	–	<1	–	<1	<2	0.78	0.11	5
2023-01-12 09:00	–	CG	–	CG	<2	0.81	0.2	6
2023-01-20 08:30	–	<1	–	<1	4	0.78	0.22	7
2023-01-26 08:40	–	<1	–	<1	<2	0.71	0.1	7
2023-02-03 08:40	–	<1	–	<1	<2	0.79	0.16	6
2023-02-09 08:30	–	<1	–	<1	<2	0.73	0.13	6
2023-02-17 08:30	–	<1	–	<1	<2	0.87	0.11	6
2023-02-23 08:40	–	<1	–	<1	<2	0.87	0.13	7
2023-03-03 08:45	–	<1	–	<1	<2	0.9	0.14	6
2023-03-09 08:30	–	<1	–	<1	76	0.86	0.18	6
2023-03-17 08:40	–	<1	–	<1	<2	0.74	0.14	6
2023-03-23 08:40	–	<1	–	<1	<2	0.67	0.15	7
2023-03-31 08:30	–	<1	–	<1	2	0.92	0.17	7
2023-04-05 08:35	–	<1	–	<1	<2	0.69	0.15	7
2023-04-14 08:45	–	<1	–	<1	<2	0.67	0.22	7
2023-04-20 09:00	–	<1	–	<1	<2	0.84	0.16	7
2023-04-28 08:20	–	<1	–	<1	<2	0.81	0.14	8
2023-05-04 08:20	–	<1	–	<1	<2	0.76	0.18	8
2023-05-12 08:40	–	<1	–	<1	<2	0.82	0.24	10
2023-05-18 09:00	–	<1	–	<1	<2	0.71	0.29	10
2023-05-26 08:40	–	<1	–	<1	<2	0.84	0.2	10
2023-06-01 08:40	–	<1	–	<1	<2	0.82	0.2	11
2023-06-09 08:40	–	<1	–	<1	<2	0.75	0.14	11
2023-06-15 08:40	–	<1	–	<1	2	0.79	0.26	12
2023-06-23 08:40	–	<1	–	<1	<2	0.76	0.14	12
2023-06-29 08:40	–	<1	–	<1	<2	0.89	0.12	12
2023-07-07 08:40	–	<1	–	<1	4	0.7	0.16	13
2023-07-13 08:40	–	<1	–	<1	<2	0.7	0.17	14
2023-07-21 08:40	–	<1	–	<1	<2	0.68	0.13	14
2023-07-27 08:35	–	<1	–	<1	8	0.64	0.13	15
2023-08-04 09:10	–	<1	–	<1	<2	0.98	0.09	16
2023-08-10 08:45	–	<1	–	<1	16	0.68	0.16	16
2023-08-18 08:30	–	<1	–	<1	6	0.74	0.11	16
2023-08-24 08:45	–	<1	–	<1	2	0.75	0.23	16
2023-09-01 08:30	–	<1	–	<1	4	0.58	0.11	17
2023-09-07 08:45	–	<1	–	<1	14	0.66	0.22	16
2023-09-15 08:45	–	<1	–	<1	4	0.77	0.16	16
2023-09-21 08:30	–	<1	–	<1	14	0.76	0.11	17
2023-09-29 08:40	–	<1	–	<1	4	0.75	0.16	16
2023-10-05 09:00	<1	–	<1	–	14	0.62	0.19	15
2023-10-13 09:00	<1	–	<1	–	2	0.77	0.12	14
2023-10-19 08:30	<1	–	<1	–	8	0.68	0.1	13
2023-10-27 08:40	<1	–	<1	–	10	0.51	0.23	12
2023-11-02 08:40	<1	–	<1	–	<2	0.8	0.13	10
2023-11-10 08:30	–	<1	–	<1	<2	0.73	0.17	10
2023-11-16 08:50	–	<1	–	<1	2	0.77	0.16	10
2023-11-24 08:40	–	<1	–	<1	<2	0.74	0.19	9
2023-11-30 08:30	–	<1	–	<1	10	0.73	0.15	9
2023-12-08 08:40	–	<1	–	<1	6	0.63	0.16	8
2023-12-14 08:30	–	<1	–	<1	<2	0.65	0.13	8
2023-12-20 13:30	–	<1	–	<1	NA	0.63	0.18	8
2023-12-28 08:55	–	<1	–	<1	NA	0.61	0.17	9

Water Sampling | Type: GRAB | Station Number: RMD-214 | Address: 11720 Westminster Highway

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 09:50	–	<1	–	<1	<2	0.74	0.12	5
2023-01-12 10:10	–	<1	–	<1	<2	0.83	0.18	6
2023-01-20 09:45	–	<1	–	<1	<2	0.66	0.14	6
2023-01-26 09:50	–	<1	–	<1	<2	0.72	0.16	6
2023-02-03 09:50	–	<1	–	<1	<2	0.79	0.14	6
2023-02-09 09:45	–	<1	–	<1	<2	0.84	0.1	6
2023-02-17 09:45	–	<1	–	<1	<2	0.88	0.14	6
2023-02-23 09:50	–	<1	–	<1	<2	0.98	0.17	6
2023-03-03 10:15	–	<1	–	<1	<2	0.81	0.14	5
2023-03-09 09:40	–	<1	–	<1	2	0.83	0.12	6
2023-03-17 09:50	–	<1	–	<1	<2	0.79	0.16	6
2023-03-23 09:50	–	<1	–	<1	<2	0.79	0.23	6
2023-03-31 09:45	–	<1	–	<1	<2	0.84	0.2	6
2023-04-05 09:50	–	<1	–	<1	<2	0.94	0.18	7
2023-04-14 09:55	–	<1	–	<1	2	0.74	0.26	7
2023-04-20 10:00	–	<1	–	<1	<2	0.84	0.19	7
2023-04-28 09:45	–	<1	–	<1	<2	0.91	0.18	7
2023-05-04 09:45	–	<1	–	<1	<2	0.77	0.21	8
2023-05-12 09:50	–	<1	–	<1	<2	0.75	0.28	8
2023-05-18 10:00	–	<1	–	<1	<2	0.79	0.26	10
2023-05-26 09:50	–	<1	–	<1	<2	0.84	0.19	10
2023-06-01 09:50	–	<1	–	<1	<2	0.73	0.16	11
2023-06-09 09:50	–	<1	–	<1	<2	0.73	0.14	11
2023-06-15 09:50	–	<1	–	<1	<2	0.72	0.29	12
2023-06-23 09:50	–	<1	–	<1	<2	0.85	0.23	11
2023-06-29 09:50	–	<1	–	<1	<2	0.92	0.12	11
2023-07-07 09:50	–	<1	–	<1	<2	0.82	0.25	13
2023-07-13 09:50	–	<1	–	<1	<2	0.74	0.16	13
2023-07-21 09:50	–	<1	–	<1	<2	0.74	0.21	14
2023-07-27 09:50	–	<1	–	<1	<2	0.63	0.14	15
2023-08-04 10:10	–	<1	–	<1	<2	0.81	0.13	15
2023-08-10 10:00	–	<1	–	<1	<2	0.61	0.17	15
2023-08-18 09:40	–	<1	–	<1	<2	0.75	0.3	16
2023-08-24 10:00	–	<1	–	<1	6	0.76	0.16	15
2023-09-01 09:45	–	<1	–	<1	10	0.81	0.17	17
2023-09-07 10:00	–	<1	–	<1	6	0.77	0.13	15
2023-09-15 10:00	–	<1	–	<1	4	0.85	0.16	15
2023-09-21 09:45	–	<1	–	<1	4	0.65	0.12	17
2023-09-29 09:50	–	<1	–	<1	10	0.64	0.15	16
2023-10-05 10:10	<1	–	<1	–	<2	0.79	0.19	14
2023-10-13 10:10	<1	–	<1	–	<2	0.84	0.18	13
2023-10-19 09:45	<1	–	<1	–	20	0.73	0.13	13
2023-10-27 09:50	<1	–	<1	–	2	0.89	0.17	11
2023-11-02 09:45	<1	–	<1	–	<2	0.91	0.13	10
2023-11-10 09:45	–	<1	–	<1	<2	0.62	0.23	10
2023-11-16 09:50	–	<1	–	<1	<2	0.82	0.29	9
2023-11-24 09:50	–	<1	–	<1	2	0.66	0.21	10
2023-11-30 09:45	–	<1	–	<1	<2	0.8	0.14	8
2023-12-08 09:50	–	<1	–	<1	56	0.65	0.17	8
2023-12-14 09:35	–	<1	–	<1	12	0.67	0.17	7
2023-12-20 14:45	–	<1	–	<1	NA	0.67	0.21	8
2023-12-28 10:25	–	<1	–	<1	NA	0.59	0.13	8

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Water Sampling | Type: **GRAB** | Station Number: **RMD-212** | Address: **11080 No. 2 Road**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 08:05	–	<1	–	<1	<2	0.84	0.11	5
2023-01-12 08:30	–	<1	–	<1	<2	0.87	0.26	6
2023-01-20 08:00	–	<1	–	<1	4	0.72	0.12	7
2023-01-26 08:05	–	<1	–	<1	<2	0.79	0.12	7
2023-02-03 08:05	–	<1	–	<1	<2	0.9	0.15	6
2023-02-09 08:00	–	<1	–	<1	<2	0.81	0.12	6
2023-02-17 08:00	–	<1	–	<1	<2	0.85	0.11	6
2023-02-23 08:05	–	<1	–	<1	<2	0.91	0.12	7
2023-03-03 08:15	–	<1	–	<1	<2	0.86	0.17	5
2023-03-09 08:00	–	<1	–	<1	64	0.79	0.13	6
2023-03-17 08:05	–	<1	–	<1	<2	0.64	0.15	6
2023-03-23 08:05	–	<1	–	<1	<2	0.8	0.2	7
2023-03-31 08:00	–	<1	–	<1	<2	0.58	0.17	8
2023-04-05 08:05	–	<1	–	<1	<2	0.74	0.14	7
2023-04-14 08:15	–	<1	–	<1	<2	0.88	0.19	7
2023-04-20 08:30	–	<1	–	<1	<2	0.81	0.2	7
2023-04-28 08:00	–	<1	–	<1	<2	0.81	0.15	8
2023-05-04 08:00	–	<1	–	<1	<2	0.77	0.22	8
2023-05-12 08:15	–	<1	–	<1	<2	0.72	0.23	10
2023-05-18 08:30	–	<1	–	<1	<2	0.79	0.23	10
2023-05-26 08:05	–	<1	–	<1	<2	0.75	0.18	10
2023-06-01 08:05	–	<1	–	<1	<2	0.8	0.13	11
2023-06-09 08:05	–	<1	–	<1	<2	0.78	0.12	11
2023-06-15 08:05	–	<1	–	<1	<2	0.69	0.26	12
2023-06-23 08:05	–	<1	–	<1	<2	0.73	0.19	11
2023-06-29 08:05	–	<1	–	<1	<2	0.84	0.13	12
2023-07-07 08:05	–	<1	–	<1	<2	0.74	0.19	13
2023-07-13 08:05	–	<1	–	<1	<2	0.69	0.2	13
2023-07-21 08:05	–	<1	–	<1	<2	0.66	0.22	14
2023-07-27 08:05	–	<1	–	<1	2	0.69	0.14	15
2023-08-04 08:40	–	<1	–	<1	20	0.74	0.1	16
2023-08-10 08:15	–	<1	–	<1	14	0.69	0.11	16
2023-08-18 08:00	–	<1	–	<1	2	0.75	0.13	16
2023-08-24 08:15	–	<1	–	<1	2	0.79	0.15	16
2023-09-01 08:00	–	<1	–	<1	4	0.78	0.11	16
2023-09-07 08:15	–	<1	–	<1	8	0.59	0.12	16
2023-09-15 08:15	–	<1	–	<1	4	0.72	0.15	16
2023-09-21 08:00	–	<1	–	<1	2	0.87	0.14	17
2023-09-29 08:05	–	<1	–	<1	2	0.66	0.16	16
2023-10-05 08:30	<1	–	<1	–	12	0.63	0.15	15
2023-10-13 08:30	<1	–	<1	–	2	0.62	0.12	14
2023-10-19 08:00	<1	–	<1	–	2	0.71	0.13	13
2023-10-27 08:05	<1	–	<1	–	<2	0.52	0.27	12
2023-11-02 08:10	<1	–	<1	–	<2	0.7	0.13	9
2023-11-10 08:00	–	<1	–	<1	<2	0.72	0.14	10
2023-11-16 08:20	–	<1	–	<1	<2	0.68	0.16	10
2023-11-24 08:05	–	<1	–	<1	<2	0.72	0.31	9
2023-11-30 08:00	–	<1	–	<1	<2	1.12	0.12	8
2023-12-08 08:05	–	<1	–	<1	<2	0.68	0.34	8
2023-12-14 08:00	–	<1	–	<1	<2	0.7	0.13	7
2023-12-20 13:00	–	<1	–	<1	NA	0.64	0.19	8
2023-12-28 08:30	–	<1	–	<1	NA	0.68	0.19	8

Water Sampling | Type: **GRAB** | Station Number: **RMD-249** | Address: **23000 block Dyke Road**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-20 10:15	–	<1	–	<1	<2	0.61	0.27	7
2023-01-26 10:25	–	<1	–	<1	<2	0.6	0.13	7
2023-02-03 10:25	–	<1	–	<1	<2	0.77	0.16	7
2023-02-09 10:15	–	<1	–	<1	<2	0.78	0.27	7
2023-02-17 10:15	–	<1	–	<1	<2	0.68	0.16	7
2023-02-23 10:25	–	<1	–	<1	<2	0.74	0.21	7
2023-03-03 10:45	–	<1	–	<1	4	0.66	0.11	6
2023-03-09 10:15	–	<1	–	<1	4	0.72	0.13	6
2023-03-17 10:25	–	<1	–	<1	2	0.61	0.24	7
2023-03-23 10:25	–	<1	–	<1	2	0.68	0.2	7
2023-03-31 10:15	–	<1	–	<1	<2	0.69	0.22	7
2023-04-05 10:20	–	<1	–	<1	<2	0.76	0.16	8
2023-04-14 10:30	–	<1	–	<1	4	0.63	0.33	8
2023-04-20 10:30	–	<1	–	<1	4	0.65	0.27	7
2023-04-28 10:15	–	<1	–	<1	<2	0.85	0.16	9
2023-05-04 10:15	–	<1	–	<1	2	0.65	0.26	8
2023-05-12 10:25	–	<1	–	<1	2	0.69	0.17	10
2023-05-18 10:30	–	<1	–	<1	<2	0.73	0.2	10
2023-05-26 10:25	–	<1	–	<1	<2	0.57	0.17	11
2023-06-01 10:25	–	<1	–	<1	12	0.58	0.15	13
2023-06-09 10:25	–	<1	–	<1	8	0.62	0.13	13
2023-06-15 10:25	–	<1	–	<1	2	0.66	0.45	13
2023-06-23 10:25	–	<1	–	<1	4	0.64	0.21	14
2023-06-29 10:25	–	<1	–	<1	4	0.62	0.19	14
2023-07-07 10:25	–	<1	–	<1	20	0.79	0.2	15
2023-07-13 10:25	–	<1	–	<1	2	0.49	0.15	14
2023-07-21 10:25	–	<1	–	<1	2	0.6	0.25	17
2023-07-27 10:30	–	<1	–	<1	<2	0.54	0.16	16
2023-08-04 10:40	–	<1	–	<1	14	0.62	0.12	19
2023-08-10 10:45	–	<1	–	<1	18	0.66	0.17	17
2023-08-18 10:20	–	<1	–	<1	12	0.57	0.14	17
2023-08-24 10:40	–	<1	–	<1	4	0.6	0.16	17
2023-09-01 10:15	–	<1	–	<1	24	0.55	0.13	19
2023-09-07 10:40	–	<1	–	<1	12	0.57	0.15	17
2023-09-15 10:40	–	<1	–	<1	12	0.41	0.21	17
2023-09-21 10:15	–	<1	–	<1	64	0.48	0.63	17
2023-09-29 10:25	–	<1	–	<1	52	0.42	0.18	16
2023-10-05 10:45	<1	–	<1	–	6	0.57	0.25	15
2023-10-13 10:40	<1	–	<1	–	8	0.61	0.15	14
2023-10-19 10:15	<1	–	<1	–	26	0.5	0.3	13
2023-10-27 10:25	<1	–	<1	–	12	0.57	0.13	13
2023-11-02 10:15	<1	–	<1	–	8	0.63	0.12	11
2023-11-10 10:15	–	<1	–	<1	28	0.44	0.19	11
2023-11-16 10:25	–	<1	–	<1	<2	0.66	0.16	10
2023-11-24 10:25	–	<1	–	<1	8	0.53	0.33	9
2023-11-30 10:15	–	<1	–	<1	6	0.54	0.15	9
2023-12-08 10:25	–	<1	–	<1	<2	0.56	0.19	9
2023-12-14 10:15	–	<1	–	<1	<2	0.61	0.12	8
2023-12-20 15:15	–	<1	–	<1	NA	0.67	0.26	8
2023-12-28 11:00	–	<1	–	<1	NA	0.59	0.14	10

PWT - 66

PWT - 67

Water Sampling | Type: GRAB | Station Number: RMD-250 | Address: 6071 Azure Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 15:45	–	<1	–	<1	<2	0.71	0.15	5
2023-01-09 15:45	–	<1	–	<1	<2	0.68	0.15	6
2023-01-16 13:45	–	<1	–	<1	2	0.69	0.35	7
2023-01-23 15:45	–	<1	–	<1	<2	0.69	0.13	7
2023-01-30 15:45	–	<1	–	<1	<2	0.7	0.13	6
2023-02-06 15:45	–	<1	–	<1	<2	0.78	0.1	6
2023-02-13 15:30	–	<1	–	<1	<2	0.65	0.13	7
2023-02-21 15:45	–	<1	–	<1	<2	0.76	0.16	7
2023-02-27 15:45	–	<1	–	<1	<2	0.81	0.12	6
2023-03-06 15:45	–	<1	–	<1	<2	0.71	0.09	6
2023-03-13 15:45	–	<1	–	<1	<2	0.76	0.15	7
2023-03-20 15:45	–	<1	–	<1	<2	0.81	0.31	6
2023-03-27 15:45	–	<1	–	<1	<2	0.85	0.15	6
2023-04-03 15:45	–	<1	–	<1	<2	0.78	0.12	7
2023-04-11 15:45	–	<1	–	<1	8	0.77	0.12	7
2023-04-17 14:45	–	<1	–	<1	<2	0.61	0.16	8
2023-04-24 15:50	–	<1	–	<1	<2	0.67	0.29	7
2023-05-01 15:45	–	<1	–	<1	<2	0.68	0.16	8
2023-05-08 15:45	–	<1	–	<1	4	0.82	0.16	9
2023-05-15 15:45	–	<1	–	<1	<2	0.79	0.25	11
2023-05-23 15:45	–	<1	–	<1	<2	0.71	0.24	10
2023-05-29 15:45	–	<1	–	<1	6	0.68	0.18	12
2023-06-12 15:45	–	<1	–	<1	<2	0.73	0.18	13
2023-06-19 15:45	–	<1	–	<1	<2	0.79	0.15	13
2023-06-27 15:45	–	<1	–	<1	8	0.7	0.13	14
2023-07-04 15:45	–	<1	–	<1	6	0.7	0.17	14
2023-07-10 15:45	–	<1	–	<1	<2	0.61	0.23	15
2023-07-17 15:45	–	<1	–	<1	8	0.67	0.24	15
2023-07-24 15:45	–	<1	–	<1	6	0.68	0.1	16
2023-07-31 15:45	–	<1	–	<1	8	0.66	0.17	16
2023-08-08 15:45	–	<1	–	<1	30	0.77	0.1	17
2023-08-14 15:45	–	<1	–	<1	12	0.69	0.13	17
2023-08-21 15:45	–	<1	–	<1	8	0.62	0.08	16
2023-08-28 15:45	–	<1	–	<1	2	0.68	0.11	17
2023-09-06 15:45	–	<1	–	<1	42	0.65	0.18	17
2023-09-11 15:45	–	<1	–	<1	12	0.66	0.12	18
2023-09-18 15:45	–	<1	–	<1	4	0.61	0.12	17
2023-09-25 15:45	–	<1	–	<1	14	0.67	0.12	17
2023-10-03 15:45	<1	–	<1	–	36	0.68	0.11	15
2023-10-10 15:45	<1	–	<1	–	16	0.64	0.15	15
2023-10-16 15:45	<1	–	<1	–	8	0.63	0.1	14
2023-10-23 15:45	<1	–	<1	–	10	0.61	0.19	13
2023-10-30 15:45	<1	–	<1	–	2	0.53	0.18	11
2023-11-06 15:45	–	<1	–	<1	8	0.58	0.18	10
2023-11-14 15:45	–	<1	–	<1	<2	0.71	0.1	11
2023-11-20 15:45	–	<1	–	<1	2	0.76	0.12	10
2023-11-27 15:45	–	<1	–	<1	<2	0.74	0.18	9
2023-12-04 15:45	–	<1	–	<1	2	0.64	0.16	8
2023-12-11 15:45	–	<1	–	<1	2	0.61	0.12	8
2023-12-18 15:45	–	<1	–	<1	NA	0.66	0.11	8
2023-12-27 11:25	–	<1	–	<1	NA	0.65	0.19	9

Water Sampling | Type: GRAB | Station Number: RMD-251 | Address: 5951 McCallan Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 12:30	–	<1	–	<1	<2	0.69	0.15	5
2023-01-09 12:30	–	<1	–	<1	<2	0.6	0.14	6
2023-01-16 12:30	–	<1	–	<1	<2	0.72	0.13	7
2023-01-23 12:30	–	<1	–	<1	10	0.7	0.17	7
2023-01-30 12:30	–	<1	–	<1	<2	0.67	0.17	6
2023-02-06 12:30	–	<1	–	<1	<2	0.87	0.14	6
2023-02-13 12:30	–	<1	–	<1	<2	0.65	0.15	7
2023-02-21 12:30	–	<1	–	<1	2	0.75	0.15	7
2023-02-27 12:30	–	<1	–	<1	<2	0.79	0.16	6
2023-03-06 12:30	–	<1	–	<1	<2	0.72	0.11	5
2023-03-13 12:30	–	<1	–	<1	<2	0.72	0.22	6
2023-03-20 12:30	–	<1	–	<1	<2	0.74	0.16	6
2023-03-27 12:30	–	<1	–	<1	4	0.74	0.13	6
2023-04-03 12:30	–	<1	–	<1	<2	0.81	0.93	7
2023-04-11 12:30	–	<1	–	<1	<2	0.72	0.28	7
2023-04-17 12:30	–	<1	–	<1	<2	0.72	0.13	7
2023-04-24 12:35	–	<1	–	<1	<2	0.68	1.1	7
2023-05-01 12:30	–	<1	–	<1	<2	0.89	0.17	7
2023-05-08 12:30	–	<1	–	<1	<2	0.72	0.19	8
2023-05-15 12:30	–	<1	–	<1	<2	0.66	0.28	9
2023-05-23 12:30	–	<1	–	<1	<2	0.71	0.28	10
2023-05-29 12:30	–	<1	–	<1	<2	0.71	0.4	11
2023-06-05 12:30	–	<1	–	<1	<2	0.92	0.23	12
2023-06-12 12:30	–	<1	–	<1	<2	0.75	0.17	11
2023-06-19 12:30	–	<1	–	<1	10	0.7	0.1	11
2023-06-27 12:30	–	<1	–	<1	4	0.72	0.15	12
2023-07-04 12:30	–	<1	–	<1	4	0.65	0.1	12
2023-07-10 12:30	–	<1	–	<1	<2	0.68	0.23	13
2023-07-17 12:30	–	<1	–	<1	<2	0.61	0.16	13
2023-07-24 12:30	–	<1	–	<1	10	0.68	0.08	14
2023-07-31 12:30	–	<1	–	<1	<2	0.71	0.16	15
2023-08-08 12:30	–	<1	–	<1	2	0.73	0.09	16
2023-08-14 12:30	–	<1	–	<1	<2	0.72	0.1	16
2023-08-21 12:30	–	<1	–	<1	<2	0.6	0.09	16
2023-08-28 12:30	–	<1	–	<1	2	0.66	0.1	16
2023-09-06 12:30	–	<1	–	<1	<2	0.69	0.16	16
2023-09-11 12:30	–	<1	–	<1	2	0.65	0.1	17
2023-09-18 12:30	–	<1	–	<1	<2	0.68	0.11	16
2023-09-25 12:30	–	<1	–	<1	4	0.7	0.09	16
2023-10-03 12:30	<1	–	<1	–	4	0.67	0.11	14
2023-10-10 12:30	<1	–	<1	–	4	0.61	0.12	14
2023-10-16 12:30	<1	–	<1	–	2	0.61	0.11	14
2023-10-23 12:30	<1	–	<1	–	2	0.65	0.17	12
2023-10-30 12:30	<1	–	<1	–	4	0.57	0.23	11
2023-11-06 12:30	–	<1	–	<1	140	0.7	0.18	11
2023-11-14 12:30	–	<1	–	<1	2	0.72	0.1	10
2023-11-20 12:30	–	<1	–	<1	<2	0.66	0.16	9
2023-11-27 12:30	–	<1	–	<1	2	0.63	0.15	9
2023-12-04 12:30	–	<1	–	<1	2	0.63	0.18	8
2023-12-11 12:30	–	<1	–	<1	8	0.71	0.1	8
2023-12-18 12:30	–	<1	–	<1	NA	0.44	0.23	8
2023-12-27 08:40	–	<1	–	<1	NA	0.45	0.24	7

Water Sampling | Type: GRAB | Station Number: RMD-252 | Address: 9751 Pendleton Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 13:00	–	<1	–	<1	<2	0.57	0.13	4
2023-01-09 13:00	–	<1	–	<1	<2	0.63	0.2	6
2023-01-16 13:00	–	<1	–	<1	<2	0.69	0.17	7
2023-01-23 13:00	–	<1	–	<1	<2	0.64	0.11	7
2023-01-30 13:00	–	<1	–	<1	<2	0.63	0.15	7
2023-02-06 13:00	–	<1	–	<1	<2	0.85	0.11	6
2023-02-13 13:00	–	<1	–	<1	<2	0.68	0.38	7
2023-02-21 13:00	–	<1	–	<1	<2	0.75	0.34	7
2023-02-27 13:00	–	<1	–	<1	2	0.82	0.1	7
2023-03-06 13:00	–	<1	–	<1	<2	0.83	0.1	6
2023-03-13 13:15	–	<1	–	<1	<2	0.66	0.12	7
2023-03-20 13:00	–	<1	–	<1	<2	0.76	0.2	6
2023-03-27 13:00	–	<1	–	<1	<2	0.71	0.15	6
2023-04-03 13:00	–	<1	–	<1	<2	0.88	0.12	7
2023-04-11 13:00	–	<1	–	<1	<2	0.68	0.17	7
2023-04-17 13:00	–	<1	–	<1	<2	0.79	0.18	8
2023-04-24 13:05	–	<1	–	<1	<2	0.67	0.26	7
2023-05-01 13:00	–	<1	–	<1	<2	0.67	0.14	8
2023-05-08 13:00	–	<1	–	<1	<2	0.7	0.15	9
2023-05-15 13:00	–	<1	–	<1	2	0.83	0.25	11
2023-05-23 13:00	–	<1	–	<1	<2	0.74	0.37	10
2023-05-29 13:00	–	<1	–	<1	2	0.69	0.24	11
2023-06-05 13:00	–	<1	–	<1	<2	0.83	0.16	13
2023-06-12 13:00	–	<1	–	<1	<2	0.71	0.16	13
2023-06-19 13:00	–	<1	–	<1	<2	0.66	0.16	13
2023-06-27 13:00	–	<1	–	<1	2	0.64	0.15	13
2023-07-04 13:00	<1	–	<1	–	<2	0.96	6.1	14
2023-07-10 13:00	–	<1	–	<1	<2	0.65	0.16	14
2023-07-17 13:00	–	<1	–	<1	8	0.53	0.22	15
2023-07-24 13:00	–	<1	–	<1	2	0.62	0.09	16
2023-07-31 13:00	–	<1	–	<1	4	0.58	0.14	16
2023-08-08 13:00	–	<1	–	<1	16	0.64	0.1	17
2023-08-14 13:00	–	<1	–	<1	6	0.63	0.1	16
2023-08-21 13:00	–	<1	–	<1	4	0.49	0.11	16
2023-08-28 13:00	–	<1	–	<1	2	0.63	0.11	17
2023-09-06 13:00	–	<1	–	<1	16	0.53	0.13	17
2023-09-11 13:00	–	<1	–	<1	2	0.64	0.12	17
2023-09-18 13:00	–	<1	–	<1	6	0.58	0.12	16
2023-09-25 13:00	–	<1	–	<1	8	0.61	0.11	17
2023-10-03 13:00	<1	–	<1	–	16	0.53	0.12	16
2023-10-10 13:00	<1	–	<1	–	6	0.71	0.12	15
2023-10-16 13:00	<1	–	<1	–	14	0.53	0.17	15
2023-10-23 13:00	<1	–	<1	–	12	0.6	0.4	13
2023-10-30 13:00	<1	–	<1	–	12	0.47	0.24	11
2023-11-06 13:00	–	<1	–	<1	4	0.73	0.16	11
2023-11-14 13:00	–	<1	–	<1	<2	0.68	0.19	11
2023-11-20 13:00	–	<1	–	<1	<2	0.62	0.13	10
2023-11-27 13:00	–	<1	–	<1	12	0.69	0.25	9
2023-12-04 13:00	–	<1	–	<1	2	0.56	0.14	9
2023-12-11 13:00	–	<1	–	<1	<2	0.67	0.11	8
2023-12-18 13:00	–	<1	–	<1	NA	0.54	0.26	8
2023-12-27 09:00	–	<1	–	<1	NA	0.57	0.25	8

PWT - 68

Water Sampling | Type: GRAB | Station Number: RMD-251 | Address: 11051 No. 3 Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 13:30	–	<1	–	<1	<2	0.73	0.16	4
2023-01-09 13:30	–	<1	–	<1	<2	0.8	0.25	5
2023-01-16 13:30	–	<1	–	<1	<2	0.81	0.13	6
2023-01-23 13:30	–	<1	–	<1	<2	0.8	0.12	7
2023-01-30 13:30	–	<1	–	<1	<2	0.81	0.17	6
2023-02-06 13:30	–	<1	–	<1	<2	0.88	0.11	6
2023-02-13 13:30	–	<1	–	<1	<2	0.66	0.14	7
2023-02-21 13:30	–	<1	–	<1	<2	0.86	0.13	6
2023-02-27 13:30	–	<1	–	<1	<2	0.93	0.15	5
2023-03-06 13:30	–	<1	–	<1	<2	0.92	0.12	5
2023-03-13 13:30	–	<1	–	<1	2	0.8	0.13	6
2023-03-20 13:30	–	<1	–	<1	<2	0.82	0.15	6
2023-03-27 13:30	–	<1	–	<1	<2	0.86	0.15	6
2023-04-03 13:30	–	<1	–	<1	<2	0.91	0.17	7
2023-04-11 13:30	–	<1	–	<1	2	0.81	0.22	7
2023-04-17 13:30	–	<1	–	<1	<2	0.88	0.12	7
2023-04-24 13:35	–	<1	–	<1	<2	0.69	0.16	7
2023-05-01 13:30	–	<1	–	<1	<2	0.77	0.16	7
2023-05-08 13:30	–	<1	–	<1	<2	0.86	0.18	8
2023-05-15 13:30	–	<1	–	<1	<2	0.83	0.27	10
2023-05-23 13:30	–	<1	–	<1	<2	0.73	0.24	10
2023-05-29 13:30	–	<1	–	<1	<2	0.71	0.36	11
2023-06-05 13:30	–	<1	–	<1	<2	0.96	0.35	11
2023-06-12 13:30	–	<1	–	<1	<2	0.73	0.19	11
2023-06-19 13:30	–	<1	–	<1	<2	0.82	0.13	11
2023-06-27 13:30	–	<1	–	<1	<2	0.78	0.14	12
2023-07-04 13:30	–	<1	–	<1	<2	0.7	0.11	12
2023-07-10 13:30	–	<1	–	<1	<2	0.76	0.21	13
2023-07-17 13:30	–	<1	–	<1	<2	0.66	0.2	14
2023-07-24 13:30	–	<1	–	<1	2	0.64	0.1	14
2023-07-31 13:30	–	<1	–	<1	2	0.53	0.16	15
2023-08-08 13:30	–	<1	–	<1	<2	0.75	0.1	16
2023-08-14 13:30	–	<1	–	<1	<2	0.64	0.13	16
2023-08-21 13:30	–	<1	–	<1	<2	0.57	0.1	16
2023-08-28 13:30	–	<1	–	<1	2	0.73	0.13	16
2023-09-06 13:30	–	<1	–	<1	2	0.66	0.14	17
2023-09-11 13:30	–	<1	–	<1	<2	0.7	0.1	17
2023-09-18 13:30	–	<1	–	<1	<2	0.65	0.11	17
2023-09-25 13:30	–	<1	–	<1	<2	0.78	0.11	16
2023-10-03 13:30	<1	–	<1	–	14	0.68	0.14	15
2023-10-10 13:30	<1	–	<1	–	10	0.6	0.11	15
2023-10-16 13:30	<1	–	<1	–	<2	0.7	0.09	13
2023-10-23 13:30	<1	–	<1	–	<2	0.69	0.16	12
2023-10-30 13:30	<1	–	<1	–	<2	0.6	0.44	12
2023-11-06 13:30	–	<1	–	<1	<2	0.75	0.16	11
2023-11-14 13:30	–	<1	–	<1	<2	0.8	0.12	10
2023-11-20 13:30	–	<1	–	<1	<2	0.7	0.18	9
2023-11-27 13:30	–	<1	–	<1	<2	0.77	0.22	8
2023-12-04 13:30	–	<1	–	<1	<2	0.63	0.17	8
2023-12-11 13:30	–	<1	–	<1	<2	0.74	0.11	8
2023-12-18 13:30	–	<1	–	<1	NA	0.53	0.17	8
2023-12-27 09:55	–	<1	–	<1	NA	0.66	0.18	7

Water Sampling | Type: GRAB | Station Number: RMD-252 | Address: 5300 No. 3 Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 14:30	–	<1	–	<1	<2	0.77	0.17	6
2023-01-09 14:30	–	<1	–	<1	<2	0.68	0.15	6
2023-01-16 14:30	–	<1	–	<1	2	0.76	0.14	6
2023-01-23 14:25	–	<1	–	<1	<2	0.69	0.2	7
2023-01-30 14:30	–	<1	–	<1	<2	0.73	0.12	7
2023-02-06 14:30	–	<1	–	<1	<2	0.78	0.12	6
2023-02-13 14:30	–	<1	–	<1	<2	0.74	0.1	7
2023-02-21 14:25	–	<1	–	<1	<2	0.96	0.16	7
2023-02-27 14:30	–	<1	–	<1	<2	0.93	0.11	6
2023-03-06 14:30	–	<1	–	<1	<2	0.9	0.11	5
2023-03-13 14:30	–	<1	–	<1	<2	0.68	0.15	6
2023-03-20 14:30	–	<1	–	<1	<2	0.9	0.2	6
2023-03-27 14:30	–	<1	–	<1	<2	0.84	0.14	6
2023-04-03 14:30	–	<1	–	<1	<2	0.94	0.15	7
2023-04-11 14:25	–	<1	–	<1	<2	0.78	0.11	7
2023-04-17 15:00	–	<1	–	<1	<2	0.84	0.11	7
2023-04-24 14:35	–	<1	–	<1	<2	0.75	0.35	7
2023-05-01 14:30	–	<1	–	<1	<2	0.73	0.14	7
2023-05-08 14:25	–	<1	–	<1	2	0.77	0.16	9
2023-05-15 14:25	–	<1	–	<1	<2	0.88	0.39	10
2023-05-23 14:25	–	<1	–	<1	12	0.84	0.19	10
2023-05-29 14:30	–	<1	–	<1	<2	0.85	0.21	11
2023-06-12 14:30	–	<1	–	<1	10	0.76	0.17	13
2023-06-19 14:30	–	<1	–	<1	12	0.77	0.18	11
2023-06-27 14:30	–	<1	–	<1	<2	0.77	0.15	13
2023-07-04 14:30	–	<1	–	<1	12	0.69	0.2	14
2023-07-10 14:25	–	<1	–	<1	18	0.66	0.15	14
2023-07-17 14:30	–	<1	–	<1	8	0.58	0.14	15
2023-07-24 14:30	–	<1	–	<1	36	0.67	0.11	16
2023-07-31 14:30	–	<1	–	<1	16	0.55	0.15	16
2023-08-08 14:25	–	<1	–	<1	22	0.72	0.1	17
2023-08-14 14:30	–	<1	–	<1	68	0.66	0.12	17
2023-08-21 14:25	–	<1	–	<1	64	0.47	0.09	16
2023-08-28 14:30	–	<1	–	<1	62	0.55	0.14	18
2023-09-06 14:25	–	<1	–	<1	52	0.53	0.15	17
2023-09-11 14:30	–	<1	–	<1	6	0.6	0.09	17
2023-09-18 14:25	–	<1	–	<1	10	0.56	0.12	16
2023-09-25 14:30	–	<1	–	<1	26	0.57	0.13	16
2023-10-03 14:25	<1	–	<1	–	36	0.56	0.13	15
2023-10-10 14:30	<1	–	<1	–	6	0.59	0.12	15
2023-10-16 14:30	<1	–	<1	–	8	0.56	0.17	14
2023-10-23 14:30	<1	–	<1	–	4	0.54	0.11	13
2023-10-30 14:30	<1	–	<1	–	<2	0.48	0.24	11
2023-11-06 14:25	–	<1	–	<1	2	0.7	0.19	11
2023-11-14 14:25	–	<1	–	<1	<2	0.71	0.11	11
2023-11-20 14:30	–	<1	–	<1	<2	0.77	0.16	9
2023-11-27 14:25	–	<1	–	<1	2	0.69	0.17	9
2023-12-04 14:25	–	<1	–	<1	<2	0.6	0.16	8
2023-12-11 14:30	–	<1	–	<1	<2	0.68	0.12	8
2023-12-18 14:30	–	<1	–	<1	NA	0.55	0.27	8
2023-12-27 11:40	–	<1	–	<1	NA	0.61	0.34	10

PWT - 69

Water Sampling | Type: GRAB | Station Number: RMD-251 | Address: 6000 block Miller Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 15:00	–	<1	–	<1	2	0.69	0.19	4
2023-01-09 15:00	–	<1	–	<1	<2	0.65	0.33	5
2023-01-16 15:00	–	<1	–	<1	<2	0.82	0.23	6
2023-01-23 14:55	–	<1	–	<1	<2	0.95	0.14	6
2023-01-30 15:00	–	<1	–	<1	<2	0.81	0.15	6
2023-02-06 15:00	–	<1	–	<1	<2	0.73	0.18	5
2023-02-13 15:00	–	<1	–	<1	<2	0.69	0.17	6
2023-02-21 15:00	–	<1	–	<1	<2	0.62	0.35	6
2023-02-27 15:00	–	<1	–	<1	<2	0.91	0.37	5
2023-03-06 15:00	–	<1	–	<1	<2	0.96	0.16	5
2023-03-13 15:00	–	<1	–	<1	<2	0.97	0.16	5
2023-03-20 15:00	–	<1	–	<1	<2	0.87	0.22	6
2023-03-27 15:00	–	<1	–	<1	<2	0.86	0.19	6
2023-04-03 15:00	–	<1	–	<1	<2	0.89	0.18	7
2023-04-11 15:00	–	<1	–	<1	<2	0.94	0.18	6
2023-04-17 14:00	–	<1	–	<1	<2	0.99	0.27	7
2023-04-24 15:05	–	<1	–	<1	<2	0.78	0.38	7
2023-05-01 15:00	–	<1	–	<1	<2	0.84	0.2	7
2023-05-08 15:00	–	<1	–	<1	<2	0.84	0.29	8
2023-05-15 15:00	–	<1	–	<1	<2	0.84	0.44	9
2023-05-23 14:55	–	<1	–	<1	<2	0.92	0.32	9
2023-05-29 15:00	–	<1	–	<1	<2	0.72	0.21	11
2023-06-05 15:00	–	<1	–	<1	4	0.95	0.32	11
2023-06-12 15:00	–	<1	–	<1	<2	1.05	0.29	10
2023-06-19 15:00	–	<1	–	<1	<2	0.88	0.29	11
2023-06-27 15:00	–	<1	–	<1	<2	0.95	0.29	11
2023-07-04 15:00	–	<1	–	<1	<2	0.78	0.2	12
2023-07-10 15:00	–	<1	–	<1	2	0.84	0.35	12
2023-07-17 15:00	–	<1	–	<1	<2	0.82	0.35	13
2023-07-24 15:00	–	<1	–	<1	6	0.83	0.17	14
2023-07-31 15:00	–	<1	–	<1	2	0.73	0.54	14
2023-08-08 15:00	–	<1	–	<1	8	0.75	0.15	15
2023-08-14 15:00	–	<1	–	<1	<2	0.83	0.14	16
2023-08-21 15:00	–	<1	–	<1	4	0.67	0.15	15
2023-08-28 15:00	–	<1	–	<1	<2	0.73	0.15	16
2023-09-06 15:00	–	<1	–	<1	4	0.77	0.27	16
2023-09-11 15:00	–	<1	–	<1	<2	0.69	0.15	16
2023-09-18 15:00	–	<1	–	<1	<2	0.89	0.15	16
2023-09-25 15:00	–	<1	–	<1	8	0.85	0.19	17
2023-10-03 15:00	<1	–	<1	–	50	0.73	0.15	14
2023-10-10 15:00	<1	–	<1	–	12	0.62	0.3	13
2023-10-16 15:00	<1	–	<1	–	<2	0.75	0.14	13
2023-10-23 15:00	<1	–	<1	–	<2	0.91	0.31	11
2023-10-30 15:00	<1	–	<1	–	<2	0.61	0.44	10
2023-11-06 14:55	–	<1	–	<1	<2	0.9	0.28	10
2023-11-14 14:55	–	<1	–	<1	4	0.95	0.14	10
2023-11-20 15:00	–	<1	–	<1	12	0.78	0.23	9
2023-11-27 14:55	–	<1	–	<1	<2	1	0.2	8
2023-12-04 14:55	–	<1	–	<1	<2	0.69	0.24	7
2023-12-11 15:00	–	<1	–	<1	<2	0.73	0.16	7
2023-12-18 15:00	–	<1	–	<1	NA	0.66	0.29	7
2023-12-27 08:20	–	<1	–	<1	NA	0.6	0.34	7

Water Sampling | Type: GRAB | Station Number: RMD-256 | Address: 1000 block McDonald Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 14:45	–	<1	–	<1	<2	0.47	0.13	6
2023-01-09 14:45	–	<1	–	<1	<2	0.61	0.13	6
2023-01-16 14:45	–	<1	–	<1	<2	0.6	0.12	7
2023-01-23 14:40	–	<1	–	<1	<2	0.62	0.24	7
2023-01-30 14:45	–	<1	–	<1	<2	0.78	0.14	7
2023-02-06 14:45	–	<1	–	<1	<2	0.74	0.1	6
2023-02-13 14:45	–	<1	–	<1	2	0.62	0.1	7
2023-02-21 14:45	–	<1	–	<1	<2	0.64	0.26	7
2023-02-27 14:45	–	<1	–	<1	<2	0.72	0.13	6
2023-03-06 14:45	–	<1	–	<1	<2	0.68	0.1	6
2023-03-13 14:45	–	<1	–	<1	<2	0.66	0.26	7
2023-03-20 14:45	–	<1	–	<1	<2	0.7	0.15	6
2023-03-27 14:45	–	<1	–	<1	<2	0.67	0.11	7
2023-04-03 14:45	–	<1	–	<1	2	0.65	0.12	8
2023-04-11 14:45	–	<1	–	<1	<2	0.59	0.1	8
2023-04-17 13:45	–	<1	–	<1	<2	0.57	0.11	8
2023-04-24 14:50	–	<1	–	<1	<2	0.68	0.17	8
2023-05-01 14:45	–	<1	–	<1	<2	0.74	0.13	9
2023-05-08 14:45	–	<1	–	<1	4	0.59	0.12	11
2023-05-15 14:45	–	<1	–	<1	2	0.55	0.31	12
2023-05-23 14:40	–	<1	–	<1	<2	0.54	0.11	15
2023-05-29 14:45	–	<1	–	<1	2	0.62	0.16	14
2023-06-05 14:45	–	<1	–	<1	6	0.66	0.29	15
2023-06-12 14:45	–	<1	–	<1	2	0.57	0.17	15
2023-06-19 14:45	–	<1	–	<1	2	0.58	0.12	16
2023-06-27 14:45	–	<1	–	<1	50	0.53	0.13	17
2023-07-04 14:45	–	<1	–	<1	18	0.55	0.15	19
2023-07-10 14:45	–	<1	–	<1	6	0.69	0.27	17
2023-07-17 14:45	–	<1	–	<1	2	0.68	0.19	16
2023-07-24 14:45	–	<1	–	<1	6	0.83	0.19	18
2023-07-31 14:45	–	<1	–	<1	8	0.63	0.15	17
2023-08-08 14:45	–	<1	–	<1	44	0.62	0.08	20
2023-08-14 14:45	–	<1	–	<1	10	0.67	0.09	18
2023-08-21 14:45	–	<1	–	<1	2	0.62	0.09	18
2023-08-28 14:45	–	<1	–	<1	<2	0.67	0.12	18
2023-09-06 14:45	–	<1	–	<1	8	0.75	0.12	17
2023-09-11 14:45	–	<1	–	<1	2	0.62	0.08	18
2023-09-18 14:45	–	<1	–	<1	4	0.66	0.11	17
2023-09-25 14:45	–	<1	–	<1	4	0.63	0.13	18
2023-10-03 14:45	<1	–	<1	–	2	0.64	0.13	15
2023-10-10 14:45	<1	–	<1	–	12	0.4	0.11	15
2023-10-16 14:45	<1	–	<1	–	6	0.56	0.1	15
2023-10-23 14:45	<1	–	<1	–	14	0.56	0.17	13
2023-10-30 14:45	<1	–	<1	–	<2	0.53	0.32	11
2023-11-06 14:40	–	<1	–	<1	<2	0.47	0.14	11
2023-11-14 14:40	–	<1	–	<1	2	0.59	0.13	11
2023-11-20 14:45	–	<1	–	<1	4	0.55	0.11	10
2023-11-27 14:40	–	<1	–	<1	2	0.81	0.14	9
2023-12-04 14:40	–	<1	–	<1	<2	0.55	0.2	8
2023-12-11 14:45	–	<1	–	<1	2	0.63	0.23	8
2023-12-18 14:45	–	<1	–	<1	NA	0.64	0.17	8
2023-12-27 08:10	–	<1	–	<1	NA	0.61	0.22	8

PWT - 70

Water Sampling | Type: GRAB | Station Number: RMD-257 | Address: 6640 Blundell Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 15:45	–	<1	–	<1	<2	0.7	0.14	5
2023-01-11 15:45	–	<1	–	<1	<2	0.68	0.18	5
2023-01-18 15:45	–	<1	–	<1	<2	0.65	0.11	6
2023-01-25 15:45	–	<1	–	<1	<2	0.7	0.13	6
2023-02-01 15:45	–	<1	–	<1	<2	0.71	0.16	5
2023-02-08 15:45	–	<1	–	<1	<2	0.76	0.18	7
2023-02-15 15:45	–	<1	–	<1	<2	0.71	0.19	6
2023-02-22 15:45	–	<1	–	<1	<2	0.74	0.12	6
2023-03-01 15:45	–	<1	–	<1	<2	0.78	0.11	5
2023-03-08 15:45	–	<1	–	<1	<2	0.79	0.11	6
2023-03-15 15:45	–	<1	–	<1	<2	0.77	0.15	5
2023-03-22 15:45	–	<1	–	<1	120	0.74	0.29	6
2023-03-29 15:45	–	<1	–	<1	<2	0.77	0.22	6
2023-04-04 15:45	–	<1	–	<1	<2	0.76	0.31	6
2023-04-12 15:45	–	<1	–	<1	<2	0.79	0.14	6
2023-04-19 15:45	–	<1	–	<1	<2	0.71	0.33	6
2023-04-26 15:45	–	<1	–	<1	<2	0.82	0.13	7
2023-05-03 16:00	–	<1	–	<1	<2	0.67	0.28	7
2023-05-10 15:50	–	<1	–	<1	<2	0.71	0.19	8
2023-05-17 15:45	–	<1	–	<1	<2	0.72	0.2	9
2023-05-24 15:45	–	<1	–	<1	<2	0.76	0.15	9
2023-05-31 15:45	–	<1	–	<1	<2	0.82	0.17	9
2023-06-07 15:45	–	<1	–	<1	<2	0.74	0.2	11
2023-06-14 15:45	–	<1	–	<1	<2	0.76	0.19	11
2023-06-21 15:40	–	<1	–	<1	<2	0.83	0.12	11
2023-06-28 15:45	–	<1	–	<1	<2	0.75	0.11	11
2023-07-05 15:45	–	<1	–	<1	<2	0.68	0.2	12
2023-07-12 15:45	–	<1	–	<1	2	0.65	0.11	12
2023-07-19 15:45	–	<1	–	<1	18	0.73	0.13	14
2023-07-26 15:45	–	<1	–	<1	<2	0.7	0.15	14
2023-08-02 15:45	–	<1	–	<1	4	0.81	0.15	15
2023-08-09 15:45	–	<1	–	<1	<2	0.87	0.11	16
2023-08-16 15:45	–	<1	–	<1	<2	0.68	0.15	17
2023-08-23 15:45	–	<1	–	<1	<2	0.67	0.09	15
2023-08-30 15:45	–	<1	–	<1	<2	0.78	0.09	16
2023-09-06 10:40	–	<1	–	<1	2	0.69	0.16	16
2023-09-13 15:45	–	<1	–	<1	350	0.78	0.1	16
2023-09-20 15:45	–	<1	–	<1	140	0.76	0.1	16
2023-09-27 15:45	–	<1	–	<1	16	0.68	0.2	16
2023-10-04 15:45	<1	–	<1	–	20	0.67	0.11	14
2023-10-11 15:50	<1	–	<1	–	4	0.6	0.13	13
2023-10-18 15:45	<1	–	<1	–	16	0.64	0.12	13
2023-10-25 15:45	<1	–	<1	–	<2	0.63	0.22	11
2023-11-01 15:45	<1	–	<1	–	2	0.59	0.16	12
2023-11-08 15:45	–	<1	–	<1	2	0.75	0.14	10
2023-11-15 15:45	–	<1	–	<1	<2	0.7	0.3	10
2023-11-22 15:45	–	<1	–	<1	<2	0.67	0.24	9
2023-11-29 15:45	–	<1	–	<1	2	0.69	0.19	8
2023-12-06 15:45	–	<1	–	<1	2	0.6	0.22	8
2023-12-13 15:45	–	<1	–	<1	4	0.71	0.28	6
2023-12-19 15:45	–	<1	–	<1	NA	0.55	0.35	7
2023-12-27 09:10	–	<1	–	<1	NA	0.65	0.38	7

Water Sampling | Type: GRAB | Station Number: RMD-258 | Address: 7000 block Dyke Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 15:30	–	<1	–	<1	<2	0.74	0.13	5
2023-01-11 15:25	–	<1	–	<1	<2	0.72	0.17	5
2023-01-18 15:30	–	<1	–	<1	<2	0.65	0.1	7
2023-01-25 15:25	–	<1	–	<1	<2	0.77	0.1	6
2023-02-01 15:30	–	<1	–	<1	<2	0.75	0.1	6
2023-02-08 15:25	–	<1	–	<1	<2	0.81	0.21	6
2023-02-15 15:30	–	<1	–	<1	<2	0.79	0.09	6
2023-02-22 15:25	–	<1	–	<1	<2	0.81	0.11	7
2023-03-01 15:25	–	<1	–	<1	<2	0.87	0.11	5
2023-03-08 15:30	–	<1	–	<1	<2	0.77	0.1	6
2023-03-15 15:25	–	<1	–	<1	<2	0.78	0.23	6
2023-03-22 15:25	–	<1	–	<1	<2	0.79	0.2	7
2023-03-29 15:25	–	<1	–	<1	<2	0.79	0.11	7
2023-04-04 15:25	–	<1	–	<1	<2	0.78	0.29	7
2023-04-12 15:30	–	<1	–	<1	2	0.7	0.13	7
2023-04-19 15:30	–	<1	–	<1	<2	0.76	0.27	7
2023-04-26 15:25	–	<1	–	<1	<2	0.68	0.13	8
2023-05-03 15:40	–	<1	–	<1	<2	0.65	0.2	8
2023-05-10 15:30	–	<1	–	<1	2	0.82	0.2	10
2023-05-17 15:30	–	<1	–	<1	<2	0.72	0.58	10
2023-05-24 15:30	–	<1	–	<1	6	0.69	0.16	10
2023-05-31 15:25	–	<1	–	<1	8	0.53	0.14	10
2023-06-07 15:25	–	<1	–	<1	14	0.78	0.24	13
2023-06-14 15:25	–	<1	–	<1	24	0.69	0.11	13
2023-06-21 15:25	–	<1	–	<1	2	0.75	0.1	13
2023-06-28 15:25	–	<1	–	<1	8	0.66	0.1	13
2023-07-05 15:25	–	<1	–	<1	2	0.65	0.21	13
2023-07-19 15:30	–	<1	–	<1	8	0.83	0.14	14
2023-07-26 15:25	–	<1	–	<1	40	0.63	0.13	15
2023-08-02 15:30	–	<1	–	<1	<2	0.67	0.14	15
2023-08-09 15:30	–	<1	–	<1	110	0.64	0.09	17
2023-08-16 15:30	–	<1	–	<1	220	0.67	0.11	17
2023-08-23 15:30	–	<1	–	<1	320	0.67	0.21	18
2023-08-30 15:30	–	<1	–	<1	22	0.62	0.12	17
2023-09-06 10:25	–	<1	–	<1	60	0.48	0.1	17
2023-09-13 15:30	–	<1	–	<1	370	0.48	0.11	16
2023-09-20 15:30	–	<1	–	<1	6	0.59	0.11	16
2023-09-27 15:30	–	<1	–	<1	10	0.59	0.13	16
2023-10-04 15:30	<1	–	<1	–	28	0.45	0.12	15
2023-10-11 15:35	<1	–	<1	–	12	0.65	0.93	14
2023-10-18 15:30	<1	–	<1	–	14	0.5	0.11	13
2023-10-25 15:30	<1	–	<1	–	<2	0.53	0.12	13
2023-11-01 15:30	<1	–	<1	–	16	0.57	0.11	12
2023-11-08 15:30	–	<1	–	<1	2	0.62	0.1	11
2023-11-15 15:30	–	<1	–	<1	<2	0.69	0.16	10
2023-11-22 15:30	–	<1	–	<1	<2	0.68	0.43	9
2023-11-29 15:25	–	<1	–	<1	<2	0.76	0.17	9
2023-12-06 15:25	–	<1	–	<1	2	0.58	0.26	9
2023-12-13 15:30	–	<1	–	<1	<2	0.73	0.13	8
2023-12-19 15:30	–	<1	–	<1	NA	0.6	0.14	8
2023-12-27 09:30	–	<1	–	<1	NA	0.63	0.26	8

PWT - 71

Water Sampling | Type: GRAB | Station Number: RMD-259 | Address: 10020 Amethyst Avenue

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 14:40	–	<1	–	<1	<2	0.94	0.14	6
2023-01-11 14:40	–	<1	–	<1	<2	0.61	0.17	6
2023-01-18 14:40	–	<1	–	<1	<2	0.64	0.12	6
2023-01-25 14:40	–	<1	–	<1	<2	0.81	0.1	6
2023-02-01 14:45	–	<1	–	<1	<2	0.89	0.11	7
2023-02-08 14:40	–	<1	–	<1	<2	0.81	0.22	7
2023-02-15 14:40	–	<1	–	<1	<2	0.74	0.12	7
2023-02-22 14:40	–	<1	–	<1	<2	0.9	0.12	7
2023-03-01 14:40	–	<1	–	<1	<2	0.89	0.11	6
2023-03-08 14:40	–	<1	–	<1	<2	0.8	0.15	7
2023-03-15 14:40	–	<1	–	<1	<2	0.87	0.13	6
2023-03-22 14:40	–	<1	–	<1	<2	0.83	0.2	7
2023-03-29 14:40	–	<1	–	<1	<2	0.86	0.12	7
2023-04-04 14:40	–	<1	–	<1	<2	0.79	0.2	7
2023-04-12 14:45	–	<1	–	<1	<2	0.68	0.14	7
2023-04-19 14:40	–	<1	–	<1	<2	0.81	0.29	7
2023-04-26 14:40	–	<1	–	<1	<2	0.81	0.19	8
2023-05-03 14:55	–	<1	–	<1	<2	0.66	0.23	7
2023-05-10 14:45	–	<1	–	<1	<2	0.78	0.18	9
2023-05-17 14:45	–	<1	–	<1	<2	0.73	0.16	9
2023-05-24 14:45	–	<1	–	<1	<2	0.71	0.15	10
2023-05-31 14:40	–	<1	–	<1	<2	0.77	0.24	10
2023-06-07 14:40	–	<1	–	<1	<2	0.86	0.12	11
2023-06-14 14:40	–	<1	–	<1	<2	0.71	0.11	13
2023-06-21 14:40	–	<1	–	<1	<2	0.85	0.11	13
2023-06-28 14:40	–	<1	–	<1	<2	0.73	0.12	12
2023-07-05 14:40	–	<1	–	<1	<2	0.65	0.17	13
2023-07-12 14:40	–	<1	–	<1	<2	0.76	0.11	14
2023-07-19 14:40	–	<1	–	<1	<2	0.68	0.15	15
2023-07-26 14:40	–	<1	–	<1	2	0.7	0.17	15
2023-08-02 14:40	–	<1	–	<1	<2	0.84	0.18	15
2023-08-09 14:45	–	<1	–	<1	2	0.76	0.1	17
2023-08-16 14:45	–	<1	–	<1	2	0.61	0.12	17
2023-08-23 14:45	–	<1	–	<1	2	0.64	0.1	16
2023-08-30 14:45	–	<1	–	<1	<2	0.69	0.11	17
2023-09-06 09:40	–	<1	–	<1	LA	0.61	0.12	17
2023-09-13 14:45	–	<1	–	<1	6	0.77	0.1	16
2023-09-20 14:45	–	<1	–	<1	<2	0.64	0.11	17
2023-09-27 14:40	–	<1	–	<1	<2	0.68	0.12	16
2023-10-04 14:45	<1	–	<1	–	<2	0.6	0.12	15
2023-10-11 14:50	<1	–	<1	–	2	0.63	0.11	14
2023-10-18 14:40	<1	–	<1	–	6	0.61	0.11	13
2023-10-25 14:45	<1	–	<1	–	<2	0.62	0.15	12
2023-11-01 14:40	<1	–	<1	–	2	0.48	0.11	12
2023-11-08 14:40	–	<1	–	<1	2	0.78	0.13	11
2023-11-15 14:40	–	<1	–	<1	2	0.74	0.16	10
2023-11-22 14:40	–	<1	–	<1	<2	0.68	0.17	9
2023-11-29 14:40	–	<1	–	<1	<2	0.67	0.15	9
2023-12-06 14:40	–	<1	–	<1	<2	0.54	0.23	9
2023-12-13 14:40	–	<1	–	<1	<2	0.69	0.14	8
2023-12-19 14:40	–	<1	–	<1	NA	0.58	0.13	8
2023-12-27 11:00	–	<1	–	<1	NA	0.64	0.46	9

Water Sampling | Type: GRAB | Station Number: RMD-260 | Address: 11111 Horseshoe Way

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 14:25	–	<1	–	<1	<2	0.85	0.14	5
2023-01-11 14:25	–	<1	–	<1	<2	0.71	0.15	6
2023-01-18 14:25	–	<1	–	<1	<2	0.79	0.13	6
2023-01-25 14:25	–	<1	–	<1	<2	0.89	0.13	6
2023-02-01 14:30	–	<1	–	<1	<2	0.94	0.16	6
2023-02-08 14:25	–	<1	–	<1	<2	0.76	0.18	6
2023-02-15 14:25	–	<1	–	<1	<2	0.61	0.09	6
2023-02-22 14:25	–	<1	–	<1	<2	0.75	0.11	7
2023-03-01 14:25	–	<1	–	<1	<2	0.93	0.11	6
2023-03-08 14:25	–	<1	–	<1	<2	0.6	0.14	6
2023-03-15 14:25	–	<1	–	<1	<2	0.76	0.2	7
2023-03-22 14:25	–	<1	–	<1	<2	0.72	0.19	7
2023-03-29 14:25	–	<1	–	<1	<2	0.71	0.15	6
2023-04-04 14:25	–	<1	–	<1	<2	0.92	0.31	7
2023-04-12 14:30	–	<1	–	<1	<2	0.62	0.2	7
2023-04-19 14:25	–	<1	–	<1	<2	0.68	0.19	7
2023-04-26 14:25	–	<1	–	<1	<2	0.77	0.19	7
2023-05-03 14:40	–	<1	–	<1	<2	0.63	0.3	7
2023-05-10 14:30	–	<1	–	<1	<2	0.83	0.21	9
2023-05-17 14:30	–	<1	–	<1	<2	0.82	0.16	9
2023-05-24 14:30	–	<1	–	<1	2	0.78	0.18	10
2023-05-31 14:25	–	<1	–	<1	<2	0.78	0.18	10
2023-06-07 14:25	–	<1	–	<1	10	0.82	0.15	12
2023-06-14 14:25	–	<1	–	<1	2	0.73	0.17	12
2023-06-21 14:25	–	<1	–	<1	8	0.64	0.13	12
2023-06-28 12:25	–	<1	–	<1	<2	0.72	0.13	13
2023-07-05 14:25	–	<1	–	<1	<2	0.64	0.18	14
2023-07-12 14:25	–	<1	–	<1	2	0.7	0.14	12
2023-07-19 14:25	–	<1	–	<1	<2	0.7	0.15	14
2023-07-26 14:25	–	<1	–	<1	10	0.63	0.13	15
2023-08-02 14:25	–	<1	–	<1	30	0.75	0.26	15
2023-08-09 14:30	–	<1	–	<1	<2	0.69	0.1	17
2023-08-16 14:30	–	<1	–	<1	12	0.67	0.13	18
2023-08-23 14:30	–	<1	–	<1	8	0.64	0.1	16
2023-08-30 14:30	–	<1	–	<1	6	0.61	0.09	17
2023-09-06 09:25	–	<1	–	<1	8	0.45	0.19	17
2023-09-13 14:30	–	<1	–	<1	<2	0.7	0.12	16
2023-09-20 14:30	–	<1	–	<1	6	0.88	0.14	16
2023-09-27 14:25	–	<1	–	<1	4	0.56	0.17	16
2023-10-04 14:30	<1	–	<1	–	20	0.59	0.18	15
2023-10-11 14:35	<1	–	<1	–	2	0.64	0.14	14
2023-10-18 14:25	<1	–	<1	–	10	0.55	0.14	13
2023-10-25 14:25	<1	–	<1	–	<2	0.7	0.17	12
2023-11-01 14:25	<1	–	<1	–	6	0.67	0.12	12
2023-11-08 14:25	–	<1	–	<1	<2	0.8	0.12	11
2023-11-15 14:25	–	<1	–	<1	12	0.72	0.16	10
2023-11-22 14:25	–	<1	–	<1	<2	0.73	0.2	9
2023-11-29 14:25	–	<1	–	<1	<2	0.72	0.13	8
2023-12-06 14:25	–	<1	–	<1	NA	0.66	0.19	8
2023-12-13 14:25	–	<1	–	<1	<2	0.64	0.18	7
2023-12-19 14:25	–	<1	–	<1	NA	0.6	0.18	7
2023-12-27 10:30	–	<1	–	<1	NA	0.7	0.28	7

PWT - 72

Water Sampling | Type: GRAB | Station Number: RMD-261 | Address: 9911 Sidaway Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 14:10	–	<1	–	<1	<2	0.82	0.13	5
2023-01-11 14:10	–	<1	–	<1	<2	0.56	0.19	5
2023-01-18 14:10	–	<1	–	<1	<2	0.65	0.14	6
2023-01-25 14:10	–	<1	–	<1	<2	0.78	0.12	6
2023-02-01 14:15	–	<1	–	<1	<2	0.91	0.17	7
2023-02-08 14:10	–	<1	–	<1	<2	0.86	0.27	6
2023-02-15 14:10	–	<1	–	<1	<2	0.84	0.12	6
2023-02-22 14:10	–	<1	–	<1	<2	0.68	0.15	7
2023-03-01 14:10	–	<1	–	<1	<2	0.64	0.11	6
2023-03-08 14:10	–	<1	–	<1	<2	0.59	0.09	6
2023-03-15 14:10	–	<1	–	<1	<2	0.65	0.15	6
2023-03-22 14:10	–	<1	–	<1	<2	0.46	0.22	7
2023-03-29 14:10	–	<1	–	<1	8	0.74	0.1	6
2023-04-04 14:10	–	<1	–	<1	<2	0.91	0.28	7
2023-04-12 14:15	–	<1	–	<1	<2	0.65	0.26	7
2023-04-19 14:10	–	<1	–	<1	<2	0.89	0.6	7
2023-04-26 14:10	–	<1	–	<1	<2	0.8	0.23	7
2023-05-03 14:25	–	<1	–	<1	<2	0.63	0.27	8
2023-05-10 14:15	–	<1	–	<1	<2	0.76	0.13	9
2023-05-17 14:10	–	<1	–	<1	<2	0.72	0.27	10
2023-05-24 14:15	–	<1	–	<1	<2	0.64	0.16	10
2023-05-31 14:10	–	<1	–	<1	<2	0.7	0.42	11
2023-06-07 14:10	–	<1	–	<1	<2	0.58	0.14	11
2023-06-14 14:10	–	<1	–	<1	<2	0.64	0.13	12
2023-06-21 14:10	–	<1	–	<1	<2	0.71	0.1	12
2023-06-28 14:10	–	<1	–	<1	<2	0.58	0.09	13
2023-07-05 14:10	–	<1	–	<1	<2	0.56	0.16	14
2023-07-12 14:10	–	<1	–	<1	<2	0.68	0.17	12
2023-07-19 14:10	–	<1	–	<1	<2	0.54	0.11	15
2023-07-26 14:10	–	<1	–	<1	<2	0.62	0.1	16
2023-08-02 14:10	–	<1	–	<1	6	0.51	0.18	16
2023-08-09 14:15	–	<1	–	<1	<2	0.71	0.17	16
2023-08-16 14:15	–	<1	–	<1	4	0.55	0.23	17
2023-08-23 14:15	–	<1	–	<1	2	0.64	0.12	16
2023-08-30 14:15	–	<1	–	<1	<2	0.57	0.17	18
2023-09-06 09:10	–	<1	–	<1	4	0.5	0.25	17
2023-09-13 14:15	–	<1	–	<1	4	0.55	0.17	16
2023-09-20 14:15	–	<1	–	<1	<2	0.54	0.21	16
2023-09-27 14:10	–	<1	–	<1	<2	0.54	0.2	16
2023-10-04 14:15	<1	–	<1	–	<2	0.54	0.18	15
2023-10-11 14:20	<1	–	<1	–	<2	0.57	0.16	14
2023-10-18 14:10	<1	–	<1	–	<2	0.53	0.17	13
2023-10-25 14:10	<1	–	<1	–	<2	0.56	0.15	12
2023-11-01 14:10	<1	–	<1	–	2	0.59	0.11	12
2023-11-08 14:10	–	<1	–	<1	<2	0.59	0.11	11
2023-11-15 14:10	–	<1	–	<1	<2	0.69	0.29	10
2023-11-22 14:10	–	<1	–	<1	<2	0.73	0.18	9
2023-11-29 14:10	–	<1	–	<1	<2	0.64	0.13	8
2023-12-06 14:10	–	<1	–	<1	<2	0.61	0.21	8
2023-12-13 14:10	–	<1	–	<1	<2	0.65	0.23	7
2023-12-19 14:10	–	<1	–	<1	NA	0.65	0.13	7
2023-12-27 10:50	–	<1	–	<1	NA	0.69	0.15	8

Water Sampling | Type: GRAB | Station Number: RMD-262 | Address: 13799 Commerce Parkway

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 13:15	–	<1	–	<1	<2	0.94	0.18	5
2023-01-11 13:20	–	<1	–	<1	<2	0.75	0.23	6
2023-01-18 13:15	–	<1	–	<1	<2	0.7	0.13	6
2023-01-25 13:20	–	<1	–	<1	<2	0.87	0.11	6
2023-02-01 13:25	–	<1	–	<1	<2	0.89	0.13	6
2023-02-08 13:20	–	<1	–	<1	<2	0.73	0.18	6
2023-02-15 13:15	–	<1	–	<1	<2	0.59	0.14	7
2023-02-22 13:20	–	<1	–	<1	<2	0.73	0.15	7
2023-03-01 13:20	–	<1	–	<1	2	0.78	0.1	6
2023-03-08 13:15	–	<1	–	<1	<2	0.58	0.11	5
2023-03-15 13:20	–	<1	–	<1	<2	0.69	0.23	5
2023-03-22 13:20	–	<1	–	<1	4	0.68	0.16	6
2023-03-29 13:20	–	<1	–	<1	8	0.69	0.22	6
2023-04-04 13:20	–	<1	–	<1	<2	0.73	0.17	7
2023-04-12 13:20	–	<1	–	<1	<2	0.83	0.16	7
2023-04-19 13:15	–	<1	–	<1	<2	0.79	0.34	7
2023-04-26 13:20	–	<1	–	<1	<2	0.72	0.26	7
2023-05-03 13:35	–	<1	–	<1	<2	0.67	0.43	7
2023-05-10 13:25	–	<1	–	<1	<2	0.79	0.26	9
2023-05-17 13:15	–	<1	–	<1	<2	0.74	0.24	10
2023-05-24 13:25	–	<1	–	<1	<2	0.64	0.21	10
2023-05-31 13:20	–	<1	–	<1	2	0.68	0.21	10
2023-06-07 13:20	–	<1	–	<1	<2	0.72	0.17	11
2023-06-14 13:20	–	<1	–	<1	4	0.67	0.14	12
2023-06-21 13:15	–	<1	–	<1	<2	0.66	0.12	12
2023-06-28 13:20	–	<1	–	<1	<2	0.72	0.16	12
2023-07-05 13:20	–	<1	–	<1	2	0.64	0.17	13
2023-07-12 13:15	–	<1	–	<1	2	0.8	0.29	13
2023-07-19 13:15	–	<1	–	<1	<2	0.71	0.17	14
2023-07-26 13:20	–	<1	–	<1	8	0.69	0.18	15
2023-08-02 13:15	–	<1	–	<1	8	0.67	0.17	15
2023-08-09 13:20	–	<1	–	<1	20	0.81	0.27	17
2023-08-16 13:20	–	<1	–	<1	2	0.64	0.13	17
2023-08-23 13:20	–	<1	–	<1	4	0.71	0.13	16
2023-08-30 13:15	–	<1	–	<1	2	0.68	0.12	17
2023-09-06 08:20	–	<1	–	<1	10	0.68	0.26	17
2023-09-13 13:20	–	<1	–	<1	2	0.68	0.18	16
2023-09-20 13:20	–	<1	–	<1	4	0.75	0.27	16
2023-09-27 13:15	–	<1	–	<1	8	0.64	0.2	16
2023-10-04 13:20	<1	–	<1	–	4	0.71	0.27	14
2023-10-11 13:20	<1	–	<1	–	2	0.62	0.2	13
2023-10-18 13:15	<1	–	<1	–	2	0.56	0.11	13
2023-10-25 13:15	<1	–	<1	–	<2	0.73	0.19	12
2023-11-01 13:15	<1	–	<1	–	2	0.69	0.11	12
2023-11-08 13:15	–	<1	–	<1	<2	0.59	0.12	11
2023-11-15 13:15	–	<1	–	<1	<2	0.71	0.2	10
2023-11-22 13:15	–	<1	–	<1	<2	0.78	0.25	9
2023-11-29 13:15	–	<1	–	<1	<2	0.67	0.17	8
2023-12-06 13:20	–	<1	–	<1	<2	0.65	0.18	8
2023-12-13 13:15	–	<1	–	<1	<2	0.68	0.16	7
2023-12-19 13:15	–	<1	–	<1	NA	0.7	0.13	7
2023-12-28 09:20	–	<1	–	<1	NA	0.67	0.17	8

PWT - 73

Water Sampling | Type: GRAB | Station Number: RMD-263 | Address: 12560 Cambie Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 12:30	–	<1	–	<1	<2	0.98	0.16	5
2023-01-11 12:30	–	<1	–	<1	<2	0.76	0.23	5
2023-01-18 12:30	–	<1	–	<1	<2	0.8	0.14	6
2023-01-25 12:30	–	<1	–	<1	<2	0.75	0.1	6
2023-02-01 12:30	–	<1	–	<1	<2	0.83	0.2	6
2023-02-08 12:30	–	<1	–	<1	10	0.84	0.19	6
2023-02-15 12:30	–	<1	–	<1	<2	0.85	0.14	6
2023-02-22 12:30	–	<1	–	<1	<2	0.85	0.14	6
2023-03-01 12:30	–	<1	–	<1	2	0.81	0.11	5
2023-03-08 12:30	–	<1	–	<1	<2	0.84	0.1	6
2023-03-15 12:30	–	<1	–	<1	<2	0.81	0.2	6
2023-03-22 12:30	–	<1	–	<1	<2	0.77	0.14	6
2023-03-29 12:30	–	<1	–	<1	4	0.82	0.16	7
2023-04-04 12:30	–	<1	–	<1	<2	0.85	0.37	6
2023-04-12 12:30	–	<1	–	<1	<2	0.73	0.16	6
2023-04-19 12:30	–	<1	–	<1	<2	0.83	0.24	7
2023-04-26 12:30	–	<1	–	<1	<2	0.6	0.18	7
2023-05-03 12:55	–	<1	–	<1	<2	0.69	0.51	8
2023-05-10 12:35	–	<1	–	<1	<2	0.68	0.25	9
2023-05-17 12:30	–	<1	–	<1	<2	0.83	0.19	9
2023-05-24 12:30	–	<1	–	<1	<2	0.73	0.21	10
2023-05-31 12:30	–	<1	–	<1	<2	0.78	0.27	10
2023-06-07 12:30	–	<1	–	<1	<2	0.83	0.17	11
2023-06-14 12:30	–	<1	–	<1	<2	0.74	0.11	12
2023-06-21 12:30	–	<1	–	<1	<2	0.83	0.12	12
2023-06-28 12:30	–	<1	–	<1	2	0.69	0.14	12
2023-07-05 12:30	–	<1	–	<1	2	0.75	0.29	13
2023-07-12 12:30	–	<1	–	<1	<2	0.68	0.19	13
2023-07-19 12:30	–	<1	–	<1	<2	0.69	0.13	14
2023-07-26 12:30	–	<1	–	<1	6	0.73	0.18	15
2023-08-02 12:30	–	<1	–	<1	<2	0.78	0.18	15
2023-08-09 12:30	–	<1	–	<1	2	0.74	0.15	16
2023-08-16 12:30	–	<1	–	<1	6	0.69	0.16	17
2023-08-23 12:30	–	<1	–	<1	4	0.88	0.1	16
2023-08-30 12:30	–	<1	–	<1	6	0.77	0.12	17
2023-09-06 07:30	–	<1	–	<1	4	0.68	0.12	17
2023-09-13 12:30	–	<1	–	<1	4	0.75	0.14	16
2023-09-20 12:30	–	<1	–	<1	4	0.72	0.16	16
2023-09-27 12:30	–	<1	–	<1	2	0.73	0.22	16
2023-10-04 12:30	<1	–	<1	–	8	0.56	0.17	15
2023-10-11 12:30	<1	–	<1	–	2	0.61	0.14	13
2023-10-18 12:30	<1	–	<1	–	<2	0.6	0.15	13
2023-10-25 12:30	<1	–	<1	–	<2	0.64	0.18	12
2023-11-01 12:30	<1	–	<1	–	8	0.71	0.14	12
2023-11-08 12:30	–	<1	–	<1	<2	0.7	0.11	11
2023-11-15 12:30	–	<1	–	<1	<2	0.73	0.3	10
2023-11-22 12:30	–	<1	–	<1	<2	0.72	0.21	10
2023-11-29 12:30	–	<1	–	<1	<2	0.74	0.2	8
2023-12-06 12:30	–	<1	–	<1	<2	0.66	0.18	8
2023-12-13 12:30	–	<1	–	<1	<2	0.64	0.19	7
2023-12-19 12:30	–	<1	–	<1	NA	0.61	0.19	7
2023-12-28 10:15	–	<1	–	<1	NA	0.63	0.13	8

Water Sampling | Type: GRAB | Station Number: RMD-264 | Address: 13100 Mitchell Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 12:45	–	<1	–	<1	<2	0.91	0.15	6
2023-01-11 13:00	–	<1	–	<1	12	0.72	0.16	6
2023-01-18 12:45	–	<1	–	<1	<2	0.72	0.15	7
2023-01-25 13:00	–	<1	–	<1	<2	0.69	0.15	6
2023-02-01 12:50	–	<1	–	<1	<2	0.79	0.14	6
2023-02-08 13:00	–	<1	–	<1	<2	0.84	0.27	6
2023-02-15 12:45	–	<1	–	<1	<2	0.86	0.13	6
2023-02-22 13:00	–	<1	–	<1	<2	0.98	0.13	7
2023-03-01 13:00	–	<1	–	<1	<2	0.98	0.1	6
2023-03-08 12:45	–	<1	–	<1	100	0.69	0.1	6
2023-03-15 13:00	–	<1	–	<1	<2	0.72	0.21	6
2023-03-22 13:00	–	<1	–	<1	<2	0.85	0.24	7
2023-03-29 13:00	–	<1	–	<1	8	0.75	0.13	7
2023-04-04 13:00	–	<1	–	<1	<2	0.84	0.23	7
2023-04-12 13:00	–	<1	–	<1	<2	0.77	0.15	7
2023-04-19 13:00	–	<1	–	<1	<2	0.73	0.28	7
2023-04-26 13:00	–	<1	–	<1	<2	0.91	0.2	7
2023-05-03 13:15	–	<1	–	<1	<2	0.73	0.61	8
2023-05-10 13:05	–	<1	–	<1	2	0.81	0.17	9
2023-05-17 13:00	–	<1	–	<1	<2	0.73	0.74	9
2023-05-24 12:50	–	<1	–	<1	<2	0.77	0.15	10
2023-05-31 13:00	–	<1	–	<1	<2	0.82	0.44	10
2023-06-07 13:00	–	<1	–	<1	<2	0.78	0.3	12
2023-06-14 13:00	–	<1	–	<1	<2	0.74	0.18	12
2023-06-21 13:00	–	<1	–	<1	<2	0.82	0.13	12
2023-06-28 13:00	–	<1	–	<1	<2	0.69	0.11	12
2023-07-05 13:00	–	<1	–	<1	<2	0.66	0.2	13
2023-07-12 12:45	–	<1	–	<1	<2	0.79	0.12	13
2023-07-19 13:00	–	<1	–	<1	10	0.7	0.13	14
2023-07-26 13:00	–	<1	–	<1	160	0.68	1.4	15
2023-08-02 12:45	–	<1	–	<1	12	0.74	0.31	15
2023-08-09 13:00	–	<1	–	<1	12	0.62	0.12	17
2023-08-16 13:00	–	<1	–	<1	8	0.68	0.12	17
2023-08-23 13:00	–	<1	–	<1	10	0.72	0.11	16
2023-08-30 12:45	–	<1	–	<1	2	0.66	0.16	17
2023-09-06 08:00	–	<1	–	<1	18	0.45	0.19	18
2023-09-13 13:00	–	<1	–	<1	4	0.78	0.12	16
2023-09-20 13:00	–	<1	–	<1	6	0.78	0.37	16
2023-09-27 12:45	–	<1	–	<1	8	0.63	0.15	16
2023-10-04 12:45	<1	–	<1	–	22	0.65	0.15	15
2023-10-11 13:00	<1	–	<1	–	4	0.71	0.32	13
2023-10-18 12:45	<1	–	<1	–	2	0.64	0.11	13
2023-10-25 12:45	<1	–	<1	–	<2	0.63	0.21	12
2023-11-01 12:45	<1	–	<1	–	2	0.74	0.12	12
2023-11-08 13:00	–	<1	–	<1	2	0.66	0.12	11
2023-11-15 13:00	–	<1	–	<1	<2	0.73	0.15	11
2023-11-22 13:00	–	<1	–	<1	<2	0.77	0.38	9
2023-11-29 13:00	–	<1	–	<1	<2	0.76	0.18	9
2023-12-06 13:00	–	<1	–	<1	16	0.68	0.2	9
2023-12-13 13:00	–	<1	–	<1	6	0.74	0.24	7
2023-12-19 13:00	–	<1	–	<1	NA	0.56	0.18	8
2023-12-28 09:45	–	<1	–	<1	NA	0.62	0.18	10

PWT - 74

Water Sampling | Type: GRAB | Station Number: RMD-266 | Address: 9380 General Currie Road

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 14:55	–	<1	–	<1	<2	0.85	0.14	6
2023-01-11 14:55	–	<1	–	<1	8	0.67	0.2	6
2023-01-18 14:55	–	<1	–	<1	<2	0.62	0.14	6
2023-01-25 14:55	–	<1	–	<1	<2	0.71	0.1	7
2023-02-01 15:00	–	<1	–	<1	4	0.73	0.14	6
2023-02-08 14:55	–	<1	–	<1	<2	0.91	0.24	6
2023-02-15 14:55	–	<1	–	<1	<2	0.84	0.11	7
2023-02-22 14:55	–	<1	–	<1	<2	0.87	0.15	7
2023-03-01 14:55	–	<1	–	<1	<2	0.96	0.17	6
2023-03-08 14:55	–	<1	–	<1	<2	0.81	0.18	6
2023-03-15 14:55	–	<1	–	<1	<2	0.81	0.13	5
2023-03-22 14:55	–	<1	–	<1	<2	0.83	0.18	7
2023-03-29 14:55	–	<1	–	<1	<2	0.83	0.19	6
2023-04-04 14:55	–	<1	–	<1	<2	0.85	0.25	7
2023-04-12 15:00	–	<1	–	<1	<2	0.89	0.14	6
2023-04-19 15:00	–	<1	–	<1	<2	0.96	0.19	7
2023-04-26 14:55	–	<1	–	<1	<2	0.81	0.16	7
2023-05-03 15:10	–	<1	–	<1	<2	0.59	0.29	8
2023-05-10 15:00	–	<1	–	<1	<2	0.86	0.29	9
2023-05-17 15:00	–	<1	–	<1	<2	0.79	0.19	9
2023-05-24 15:00	–	<1	–	<1	<2	0.75	0.23	10
2023-05-31 14:55	–	<1	–	<1	<2	0.79	0.18	10
2023-06-07 14:55	–	<1	–	<1	<2	0.74	0.14	11
2023-06-14 14:55	–	<1	–	<1	<2	0.8	0.15	12
2023-06-21 14:55	–	<1	–	<1	<2	0.79	0.56	12
2023-06-28 14:55	–	<1	–	<1	<2	0.77	0.13	12
2023-07-05 14:55	–	<1	–	<1	<2	0.77	0.19	13
2023-07-12 14:55	–	<1	–	<1	<2	0.75	0.13	13
2023-07-19 14:55	–	<1	–	<1	<2	0.76	0.21	14
2023-07-26 14:55	–	<1	–	<1	2	0.74	0.17	15
2023-08-02 14:55	–	<1	–	<1	8	0.86	0.2	15
2023-08-09 15:00	–	<1	–	<1	10	0.81	0.14	16
2023-08-16 15:00	–	<1	–	<1	6	0.71	0.14	17
2023-08-23 15:00	–	<1	–	<1	4	0.74	0.16	16
2023-08-30 15:00	–	<1	–	<1	10	0.76	0.18	16
2023-09-06 09:55	–	<1	–	<1	16	0.69	0.18	17
2023-09-13 15:00	–	<1	–	<1	2	0.82	0.11	16
2023-09-20 15:00	–	<1	–	<1	2	0.74	0.15	16
2023-09-27 14:55	–	<1	–	<1	2	0.72	0.14	16
2023-10-04 15:00	<1	–	<1	–	4	0.7	0.11	14
2023-10-11 15:05	<1	–	<1	–	<2	0.64	0.13	13
2023-10-18 14:55	<1	–	<1	–	4	0.72	0.1	13
2023-10-25 15:00	<1	–	<1	–	<2	0.63	0.16	12
2023-11-01 14:55	<1	–	<1	–	2	0.61	0.13	12
2023-11-08 14:55	–	<1	–	<1	<2	0.82	0.13	10
2023-11-15 15:00	–	<1	–	<1	<2	0.83	0.2	10
2023-11-22 14:55	–	<1	–	<1	<2	0.72	0.21	9
2023-11-29 14:55	–	<1	–	<1	<2	0.81	0.14	8
2023-12-06 14:55	–	<1	–	<1	<2	0.53	0.14	8
2023-12-13 15:00	–	<1	–	<1	<2	0.73	0.29	7
2023-12-19 14:55	–	<1	–	<1	NA	0.7	0.17	7
2023-12-27 11:10	–	<1	–	<1	NA	0.65	0.25	8

Water Sampling | Type: **GRAB** | Station Number: **RMD-267** | Address: **17240 Fedoruk Road**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 10:10	–	<1	–	<1	<2	0.66	0.11	6
2023-01-12 10:30	–	<1	–	<1	<2	0.84	0.16	7
2023-01-20 10:00	–	<1	–	<1	<2	0.55	0.15	8
2023-01-26 10:10	–	<1	–	<1	<2	0.64	0.12	8
2023-02-03 10:10	–	<1	–	<1	<2	0.68	0.18	7
2023-02-09 10:00	–	<1	–	<1	2	0.83	0.16	7
2023-02-17 10:00	–	<1	–	<1	<2	0.78	0.15	7
2023-02-23 10:10	–	<1	–	<1	<2	0.79	0.17	7
2023-03-03 10:30	–	<1	–	<1	<2	0.75	0.14	5
2023-03-09 10:00	–	<1	–	<1	340	0.72	0.1	6
2023-03-17 10:10	–	<1	–	<1	<2	0.56	0.14	7
2023-03-23 10:10	–	<1	–	<1	<2	0.68	0.16	6
2023-03-31 10:00	–	<1	–	<1	<2	0.71	0.17	7
2023-04-05 10:05	–	<1	–	<1	<2	0.8	0.18	8
2023-04-14 10:15	–	<1	–	<1	<2	0.67	0.18	8
2023-04-20 10:15	–	<1	–	<1	<2	0.72	0.18	8
2023-04-28 10:00	–	<1	–	<1	<2	0.72	0.3	8
2023-05-04 10:00	–	<1	–	<1	<2	0.59	0.15	9
2023-05-12 10:10	–	<1	–	<1	2	0.83	0.22	10
2023-05-18 10:15	–	<1	–	<1	<2	0.69	0.21	11
2023-05-26 10:10	–	<1	–	<1	<2	0.8	0.29	11
2023-06-01 10:10	–	<1	–	<1	<2	0.66	0.19	12
2023-06-09 10:10	–	<1	–	<1	<2	0.71	0.22	13
2023-06-15 10:10	–	<1	–	<1	<2	0.73	0.23	13
2023-06-23 10:10	–	<1	–	<1	<2	0.84	0.16	13
2023-06-29 10:10	–	<1	–	<1	<2	0.71	0.15	14
2023-07-07 10:10	–	<1	–	<1	<2	0.71	0.19	14
2023-07-13 10:10	–	<1	–	<1	<2	0.64	0.27	15
2023-07-21 10:10	–	<1	–	<1	<2	0.66	0.15	16
2023-07-27 10:10	–	<1	–	<1	<2	0.65	0.14	16
2023-08-04 10:25	–	<1	–	<1	<2	0.88	0.13	17
2023-08-10 10:30	–	<1	–	<1	<2	0.6	0.13	17
2023-08-18 10:00	–	<1	–	<1	2	0.66	0.2	17
2023-08-24 10:20	–	<1	–	<1	<2	0.85	0.15	17
2023-09-01 10:00	–	<1	–	<1	<2	0.66	0.16	18
2023-09-07 10:20	–	<1	–	<1	6	0.6	0.17	17
2023-09-15 10:20	–	<1	–	<1	6	0.71	0.24	17
2023-09-21 10:00	–	<1	–	<1	6	0.69	0.25	17
2023-09-29 10:10	–	<1	–	<1	4	0.63	0.19	17
2023-10-05 10:30	<1	–	<1	–	4	0.64	0.19	15
2023-10-13 10:25	<1	–	<1	–	<2	0.69	0.13	14
2023-10-19 10:00	<1	–	<1	–	6	0.59	0.12	14
2023-10-27 10:10	<1	–	<1	–	<2	0.63	0.17	11
2023-11-02 09:55	<1	–	<1	–	<2	0.67	0.12	10
2023-11-10 10:00	–	<1	–	<1	<2	0.64	0.15	11
2023-11-16 10:10	–	<1	–	<1	<2	0.73	0.17	9
2023-11-24 10:10	–	<1	–	<1	<2	0.62	0.18	10
2023-11-30 10:00	–	<1	–	<1	2	0.66	0.14	8
2023-12-08 10:10	–	<1	–	<1	<2	0.68	0.18	8
2023-12-14 10:00	–	<1	–	<1	<2	0.65	0.23	7
2023-12-20 15:00	–	<1	–	<1	NA	0.61	0.21	8
2023-12-28 10:45	–	<1	–	<1	NA	0.7	0.15	8

Water Sampling | Type: **GRAB** | Station Number: **RMD-268** | Address: **13800 No. 3 Road**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 15:15	–	<1	–	<1	4	0.82	0.14	6
2023-01-11 15:10	–	<1	–	<1	<2	0.7	0.26	6
2023-01-18 15:15	–	<1	–	<1	4	0.73	0.13	7
2023-01-25 15:10	–	<1	–	<1	<2	0.78	0.61	7
2023-02-01 15:15	–	<1	–	<1	<2	0.77	0.17	7
2023-02-08 15:10	–	<1	–	<1	<2	0.79	0.18	7
2023-02-15 13:15	–	<1	–	<1	<2	0.71	0.1	7
2023-02-22 15:10	–	<1	–	<1	<2	0.8	0.16	7
2023-03-01 15:10	–	<1	–	<1	<2	0.93	0.12	5
2023-03-08 15:15	–	<1	–	<1	<2	0.72	0.1	7
2023-03-15 15:10	–	<1	–	<1	<2	0.76	0.11	6
2023-03-22 13:10	–	<1	–	<1	<2	0.73	0.14	7
2023-03-29 15:10	–	<1	–	<1	<2	0.73	0.18	6
2023-04-04 15:10	–	<1	–	<1	<2	0.76	0.23	8
2023-04-12 15:15	–	<1	–	<1	<2	0.74	0.11	7
2023-04-19 15:15	–	<1	–	<1	10	0.81	0.22	7
2023-04-26 15:10	–	<1	–	<1	<2	0.85	0.19	8
2023-05-03 15:25	–	<1	–	<1	<2	0.62	0.16	8
2023-05-10 15:15	–	<1	–	<1	<2	0.79	0.16	10
2023-05-17 15:15	–	<1	–	<1	<2	0.69	0.15	10
2023-05-24 15:15	–	<1	–	<1	<2	0.72	0.2	10
2023-05-31 15:10	–	<1	–	<1	<2	0.72	0.35	10
2023-06-07 15:10	–	<1	–	<1	2	0.95	5.8	11
2023-06-09 08:50	–	<1	–	<1	<2	0.63	0.13	12
2023-06-14 15:10	–	<1	–	<1	<2	0.7	0.25	12
2023-06-21 15:10	–	<1	–	<1	<2	0.64	0.14	13
2023-06-28 15:10	–	<1	–	<1	<2	0.64	0.12	13
2023-07-05 15:10	–	<1	–	<1	<2	0.65	0.21	14
2023-07-19 15:15	–	<1	–	<1	14	0.7	0.11	15
2023-07-26 15:10	–	<1	–	<1	<2	0.63	0.15	16
2023-08-02 15:15	–	<1	–	<1	6	0.62	0.17	16
2023-08-09 15:15	–	<1	–	<1	4	0.66	0.11	17
2023-08-16 15:15	–	<1	–	<1	<2	0.53	0.09	17
2023-08-23 15:15	–	<1	–	<1	8	0.51	0.09	17
2023-08-30 15:15	–	<1	–	<1	2	0.57	0.23	18
2023-09-06 10:10	–	<1	–	<1	<2	0.52	0.14	17
2023-09-13 15:15	–	<1	–	<1	<2	0.68	0.26	17
2023-09-20 15:15	–	<1	–	<1	2	0.56	0.12	17
2023-09-27 15:15	–	<1	–	<1	<2	0.51	0.14	17
2023-10-04 15:15	<1	–	<1	–	<2	0.47	0.12	16
2023-10-11 15:20	<1	–	<1	–	2	0.6	0.34	14
2023-10-18 15:15	<1	–	<1	–	18	0.46	0.09	13
2023-10-25 15:15	<1	–	<1	–	2	0.54	0.16	12
2023-11-01 15:15	<1	–	<1	–	<2	0.57	0.12	12
2023-11-08 15:15	–	<1	–	<1	<2	0.6	0.14	11
2023-11-15 15:15	–	<1	–	<1	<2	0.69	0.22	11
2023-11-22 15:15	–	<1	–	<1	<2	0.81	1.3	9
2023-11-29 15:10	–	<1	–	<1	4	0.79	0.58	9
2023-12-06 15:10	–	<1	–	<1	<2	0.61	0.12	9
2023-12-13 15:15	–	<1	–	<1	<2	0.69	0.14	7
2023-12-19 15:15	–	<1	–	<1	NA	0.6	0.15	8
2023-12-27 09:40	–	<1	–	<1	NA	0.52	0.24	8

PWT - 75

Water Sampling | Type: **GRAB** | Station Number: **RMD-269** | Address: **14951 Triangle Road**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 13:50	–	<1	–	<1	2	0.41	0.12	6
2023-01-09 13:50	–	<1	–	<1	<2	0.7	0.13	6
2023-01-16 13:50	–	<1	–	<1	2	0.74	0.13	7
2023-01-23 13:50	–	<1	–	<1	<2	0.67	0.13	7
2023-01-30 13:50	–	<1	–	<1	<2	0.78	0.1	7
2023-02-06 13:50	–	<1	–	<1	<2	0.85	0.13	7
2023-02-13 13:50	–	<1	–	<1	<2	0.74	0.1	6
2023-02-21 13:50	–	<1	–	<1	4	0.7	0.41	7
2023-02-27 13:50	–	<1	–	<1	<2	0.76	0.13	5
2023-03-06 13:50	–	<1	–	<1	<2	0.76	0.12	5
2023-03-13 13:50	–	<1	–	<1	2	0.68	0.18	6
2023-03-20 13:50	–	<1	–	<1	<2	0.71	0.18	7
2023-03-27 13:50	–	<1	–	<1	<2	0.69	0.21	7
2023-04-03 13:50	–	<1	–	<1	<2	0.68	0.16	8
2023-04-11 13:50	–	<1	–	<1	<2	0.67	0.18	7
2023-04-17 15:20	–	<1	–	<1	<2	0.68	0.19	7
2023-04-24 13:55	–	<1	–	<1	<2	0.65	0.26	7
2023-05-01 13:50	–	<1	–	<1	<2	0.69	0.15	8
2023-05-08 13:50	–	<1	–	<1	<2	0.88	1.1	8
2023-05-15 13:50	–	<1	–	<1	<2	0.81	0.73	9
2023-05-23 13:50	–	<1	–	<1	<2	0.72	0.4	9
2023-05-29 13:50	–	<1	–	<1	<2	0.6	0.19	11
2023-06-05 13:50	–	<1	–	<1	<2	0.68	0.31	11
2023-06-12 13:50	–	<1	–	<1	2	0.8	0.14	11
2023-06-19 13:50	–	<1	–	<1	<2	0.72	0.21	11
2023-06-27 13:50	–	<1	–	<1	<2	0.7	0.16	11
2023-07-04 13:50	–	<1	–	<1	<2	0.69	0.12	12
2023-07-10 13:50	–	<1	–	<1	<2	0.74	0.2	13
2023-07-17 13:50	–	<1	–	<1	<2	0.75	0.25	14
2023-07-24 13:50	–	<1	–	<1	<2	0.79	0.12	15
2023-07-31 13:50	–	<1	–	<1	<2	0.73	0.18	15
2023-08-08 13:50	–	<1	–	<1	10	0.68	0.16	16
2023-08-14 13:50	–	<1	–	<1	2	0.67	0.13	20
2023-08-21 13:50	–	<1	–	<1	4	0.68	0.13	16
2023-08-28 13:50	–	<1	–	<1	2	0.58	0.16	17
2023-09-06 13:50	–	<1	–	<1	<2	0.64	0.16	17
2023-09-11 13:50	–	<1	–	<1	<2	0.65	0.17	16
2023-09-18 13:50	–	<1	–	<1	130	0.62	0.27	16
2023-09-25 13:50	–	<1	–	<1	8	0.72	0.17	17
2023-10-03 13:50	<1	–	<1	–	<2	0.77	0.14	14
2023-10-10 13:50	<1	–	<1	–	<2	0.76	0.18	15
2023-10-16 13:50	<1	–	<1	–	4	0.66	0.2	13
2023-10-23 13:50	<1	–	<1	–	<2	0.6	0.15	11
2023-10-30 13:50	<1	–	<1	–	<2	0.67	0.26	11
2023-11-06 13:50	–	<1	–	<1	<2	0.79	0.13	10
2023-11-14 13:50	–	<1	–	<1	<2	0.8	0.11	10
2023-11-20 13:50	–	<1	–	<1	4	0.8	0.22	9
2023-11-27 13:50	–	<1	–	<1	<2	0.73	0.21	8
2023-12-04 13:50	–	<1	–	<1	<2	0.57	0.19	8
2023-12-11 13:55	–	<1	–	<1	<2	0.74	0.13	8
2023-12-18 13:55	–	<1	–	<1	NA	0.7	0.2	8
2023-12-27 10:40	–	<1	–	<1	NA	0.58	0.21	8

Water Sampling | Type: **GRAB** | Station Number: **RMD-270** | Address: **8200 Jones Road**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 14:15	–	<1	–	<1	<2	0.74	0.14	6
2023-01-09 14:15	–	<1	–	<1	6	0.66	0.2	6
2023-01-16 14:15	–	<1	–	<1	4	0.73	0.14	7
2023-01-23 14:10	–	<1	–	<1	<2	0.68	0.11	7
2023-01-30 14:15	–	<1	–	<1	<2	0.74	0.19	7
2023-02-06 14:15	–	<1	–	<1	<2	0.79	0.11	6
2023-02-13 14:15	–	<1	–	<1	46	0.88	0.17	7
2023-02-21 14:10	–	<1	–	<1	12	0.82	0.18	7
2023-02-27 14:15	–	<1	–	<1	<2	0.85	0.12	6
2023-03-06 14:15	–	<1	–	<1	42	0.78	0.11	6
2023-03-13 14:15	–	<1	–	<1	34	0.73	0.18	6
2023-03-20 14:15	–	<1	–	<1	6	0.7	0.19	7
2023-03-27 14:15	–	<1	–	<1	2	0.77	0.2	6
2023-04-03 14:15	–	<1	–	<1	4	0.83	0.14	7
2023-04-11 14:10	–	<1	–	<1	24	0.7	0.11	7
2023-04-17 15:45	–	<1	–	<1	6	0.69	0.16	8
2023-04-24 14:20	–	<1	–	<1	12	0.71	0.15	7
2023-05-01 14:15	–	<1	–	<1	6	0.73	0.14	9
2023-05-08 14:10	–	<1	–	<1	6	0.72	0.14	9
2023-05-15 12:10	–	<1	–	<1	26	0.88	0.26	11
2023-05-23 14:10	–	<1	–	<1	6	0.76	0.33	10
2023-05-29 14:15	–	<1	–	<1	6	0.74	0.14	13
2023-06-05 14:15	–	<1	–	<1	18	0.85	0.22	12
2023-06-12 14:15	–	<1	–	<1	10	0.71	0.12	13
2023-06-19 14:15	–	<1	–	<1	22	0.73	0.22	12
2023-06-27 14:15	–	<1	–	<1	52	0.72	0.11	14
2023-07-04 14:15	–	<1	–	<1	60	0.74	0.12	15
2023-07-10 14:10	–	<1	–	<1	48	0.72	0.14	14
2023-07-17 14:15	–	<1	–	<1	88	0.6	0.17	16
2023-07-24 14:15	–	<1	–	<1	150	0.64	0.17	18
2023-07-31 14:15	–	<1	–	<1	16	0.6	0.11	17
2023-08-08 14:10	–	<1	–	<1	58	0.65	0.36	16
2023-08-14 14:15	–	<1	–	<1	44	0.68	0.1	18
2023-08-21 14:10	–	<1	–	<1	140	0.56	0.11	16
2023-08-28 14:15	–	<1	–	<1	46	0.54	0.16	18
2023-09-06 14:10	–	<1	–	<1	46	0.62	0.22	17
2023-09-11 14:15	–	<1	–	<1	24	0.59	0.08	18
2023-09-18 14:10	–	<1	–	<1	<2	0.48	0.11	16
2023-09-25 14:15	–	<1	–	<1	10	0.64	0.11	17
2023-10-03 14:10	<1	–	<1	–	24	0.59	0.13	16
2023-10-10 14:15	<1	–	<1	–	16	0.57	0.15	15
2023-10-16 14:15	<1	–	<1	–	6	0.53	0.13	15
2023-10-23 14:15	<1	–	<1	–	<2	0.61	0.11	13
2023-10-30 14:15	<1	–	<1	–	10	0.53	0.23	12
2023-11-06 14:10	–	<1	–	<1	10	0.63	0.15	11
2023-11-14 14:10	–	<1	–	<1	2	0.66	0.12	11
2023-11-20 14:15	–	<1	–	<1	2	0.72	0.17	10
2023-11-27 14:10	–	<1	–	<1	<2	0.75	0.18	9
2023-12-04 14:10	–	<1	–	<1	2	0.58	0.17	9
2023-12-11 14:15	–	<1	–	<1	16	0.71	0.37	8
2023-12-18 14:15	–	<1	–	<1	NA	0.62	0.17	8
2023-12-27 11:15	–	<1	–	<1	NA	0.61	0.26	10

PWT - 76

Water Sampling | Type: GRAB | Station Number: RMD-271 | Address: 3800 Cessna Drive

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 15:15	–	<1	–	<1	<2	0.69	0.12	5
2023-01-09 15:15	–	<1	–	<1	<2	0.72	0.17	5
2023-01-16 15:15	–	<1	–	<1	<2	0.78	0.2	6
2023-01-23 15:10	–	<1	–	<1	<2	0.83	0.12	7
2023-01-30 15:15	–	<1	–	<1	<2	0.75	0.25	7
2023-02-06 15:15	–	<1	–	<1	<2	0.86	0.11	6
2023-02-13 15:00	–	<1	–	<1	<2	0.89	0.1	7
2023-02-21 15:15	–	<1	–	<1	<2	0.89	0.16	7
2023-02-27 15:15	–	<1	–	<1	<2	0.8	0.12	6
2023-03-06 15:15	–	<1	–	<1	<2	1.01	0.11	6
2023-03-13 15:15	–	<1	–	<1	<2	0.78	0.29	6
2023-03-20 15:15	–	<1	–	<1	<2	0.84	0.14	6
2023-03-27 15:15	–	<1	–	<1	<2	0.88	0.14	6
2023-04-03 15:15	–	<1	–	<1	<2	0.92	0.17	7
2023-04-11 15:15	–	<1	–	<1	<2	0.89	0.2	7
2023-04-17 14:14	–	<1	–	<1	<2	0.79	0.17	7
2023-04-24 15:20	–	<1	–	<1	<2	0.81	0.15	7
2023-05-01 15:15	–	<1	–	<1	<2	0.77	0.16	8
2023-05-08 15:15	–	<1	–	<1	<2	0.85	0.2	9
2023-05-15 15:15	–	<1	–	<1	<2	0.75	0.34	10
2023-05-23 15:15	–	<1	–	<1	<2	0.86	0.29	10
2023-05-29 15:15	–	<1	–	<1	<2	0.7	0.32	11
2023-06-05 15:15	–	<1	–	<1	<2	0.93	0.23	12
2023-06-12 15:15	–	<1	–	<1	2	0.78	0.12	12
2023-06-19 15:15	–	<1	–	<1	<2	0.82	0.16	13
2023-06-27 15:15	–	<1	–	<1	<2	0.82	0.17	13
2023-07-04 15:15	–	<1	–	<1	4	0.86	0.1	13
2023-07-10 15:15	–	<1	–	<1	<2	0.75	0.15	14
2023-07-17 15:15	–	<1	–	<1	2	0.59	0.28	15
2023-07-24 15:15	–	<1	–	<1	4	0.69	0.1	16
2023-07-31 15:15	–	<1	–	<1	18	0.66	0.13	15
2023-08-08 15:15	–	<1	–	<1	54	0.77	1.9	15
2023-08-14 15:15	–	<1	–	<1	8	0.77	0.11	17
2023-08-21 15:15	–	<1	–	<1	10	0.66	0.09	16
2023-08-28 15:15	–	<1	–	<1	18	0.7	0.12	17
2023-09-06 15:15	–	<1	–	<1	8	0.65	0.27	17
2023-09-11 15:15	–	<1	–	<1	4	0.69	0.1	17
2023-09-18 15:15	–	<1	–	<1	NA	0.67	0.17	17
2023-09-25 15:15	–	<1	–	<1	<2	0.65	0.21	17
2023-10-03 15:15	<1	–	<1	–	<2	0.7	0.11	16
2023-10-10 15:15	<1	–	<1	–	<2	0.71	0.1	15
2023-10-16 15:15	<1	–	<1	–	2	0.65	0.09	14
2023-10-23 15:15	<1	–	<1	–	<2	0.75	0.15	13
2023-10-30 13:15	<1	–	<1	–	2	0.71	0.27	11
2023-11-06 15:10	–	<1	–	<1	<2	0.76	0.11	10
2023-11-14 15:10	–	<1	–	<1	6	0.69	0.12	11
2023-11-20 15:15	–	<1	–	<1	<2	0.8	0.25	10
2023-11-27 15:10	–	<1	–	<1	<2	0.78	0.15	9
2023-12-04 15:10	–	<1	–	<1	<2	0.58	0.16	8
2023-12-11 15:15	–	<1	–	<1	<2	0.78	0.13	8
2023-12-18 15:15	–	<1	–	<1	NA	0.63	0.23	8
2023-12-27 08:25	–	<1	–	<1	NA	0.71	0.21	8

PWT - 77

Water Sampling | Type: GRAB | Station Number: RMD-272 | Address: 751 Catalina Crescent

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 15:30	–	<1	–	<1	<2	0.7	0.12	5
2023-01-09 15:30	–	<1	–	<1	<2	0.76	0.27	6
2023-01-16 15:30	–	<1	–	<1	<2	0.86	0.18	7
2023-01-23 15:25	–	<1	–	<1	<2	0.92	0.12	6
2023-01-30 15:30	–	<1	–	<1	<2	0.76	0.16	6
2023-02-06 15:30	–	<1	–	<1	4	0.91	0.15	6
2023-02-13 15:15	–	<1	–	<1	<2	1	0.11	7
2023-02-21 15:30	–	<1	–	<1	2	0.99	0.26	7
2023-02-27 15:30	–	<1	–	<1	<2	0.92	0.17	6
2023-03-06 15:30	–	<1	–	<1	<2	0.93	0.11	6
2023-03-13 15:30	–	<1	–	<1	<2	1.01	0.12	6
2023-03-20 15:30	–	<1	–	<1	<2	0.88	0.13	7
2023-03-27 15:30	–	<1	–	<1	2	0.85	0.16	6
2023-04-03 15:30	–	<1	–	<1	<2	0.97	0.2	8
2023-04-11 15:30	–	<1	–	<1	2	0.95	0.14	7
2023-04-17 14:30	–	<1	–	<1	<2	0.81	0.16	8
2023-04-24 15:35	–	<1	–	<1	<2	0.89	0.23	7
2023-05-01 15:30	–	<1	–	<1	2	0.77	0.19	8
2023-05-08 15:30	–	<1	–	<1	4	0.89	0.23	8
2023-05-15 15:30	–	<1	–	<1	2	0.87	0.33	10
2023-05-23 15:30	–	<1	–	<1	2	0.94	0.23	10
2023-05-29 15:30	–	<1	–	<1	2	0.87	0.22	11
2023-06-05 15:30	–	<1	–	<1	<2	0.98	0.32	11
2023-06-12 15:30	–	<1	–	<1	4	0.99	0.18	11
2023-06-19 15:30	–	<1	–	<1	2	0.89	0.2	11
2023-06-27 15:30	–	<1	–	<1	8	0.91	0.19	12
2023-07-04 15:30	–	<1	–	<1	14	0.67	0.15	13
2023-07-10 15:30	–	<1	–	<1	10	0.81	0.25	13
2023-07-17 15:30	–	<1	–	<1	10	0.79	0.22	13
2023-07-24 15:30	–	<1	–	<1	16	0.91	0.16	14
2023-07-31 15:30	–	<1	–	<1	16	0.76	0.22	15
2023-08-08 15:30	–	<1	–	<1	140	0.73	0.44	16
2023-08-14 15:30	–	<1	–	<1	40	0.8	0.16	16
2023-08-21 15:30	–	<1	–	<1	42	0.78	0.15	16
2023-08-28 15:30	–	<1	–	<1	26	0.8	0.13	16
2023-09-06 15:30	–	<1	–	<1	82	0.76	0.72	17
2023-09-11 15:30	–	<1	–	<1	32	0.77	0.1	17
2023-09-18 15:30	–	<1	–	<1	92	0.74	0.13	18
2023-09-25 15:30	–	<1	–	<1	730	0.82	0.12	16
2023-10-03 15:30	<1	–	<1	–	88	0.67	0.23	16
2023-10-10 15:30	<1	–	<1	–	60	0.68	0.18	14
2023-10-16 15:30	<1	–	<1	–	50	0.8	0.37	13
2023-10-23 15:30	<1	–	<1	–	8	0.88	0.16	12
2023-10-30 15:30	<1	–	<1	–	34	0.61	0.34	11
2023-11-06 15:25	–	<1	–	<1	8	0.88	0.12	11
2023-11-14 15:25	–	<1	–	<1	<2	0.99	0.12	10
2023-11-20 15:30	–	<1	–	<1	2	0.86	0.17	9
2023-11-27 15:25	–	<1	–	<1	<2	0.94	0.22	8
2023-12-04 15:25	–	<1	–	<1	<2	0.72	0.32	8
2023-12-11 15:30	–	<1	–	<1	2	0.77	0.12	7
2023-12-18 15:30	–	<1	–	<1	NA	0.6	0.14	8
2023-12-27 08:30	–	<1	–	<1	NA	0.63	0.2	7

PWT - 78

Water Sampling | Type: GRAB | Station Number: RMD-273 | Address: Across from 8331 Fairfax Place

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 12:45	–	<1	–	<1	<2	0.57	0.16	7
2023-01-09 12:45	–	<1	–	<1	<2	0.61	0.15	7
2023-01-16 12:45	–	<1	–	<1	2	0.64	0.19	8
2023-01-23 12:45	–	<1	–	<1	<2	0.62	0.14	8
2023-01-30 12:45	–	<1	–	<1	<2	0.66	0.12	7
2023-02-06 12:45	–	<1	–	<1	4	0.82	0.14	6
2023-02-13 12:45	–	<1	–	<1	<2	0.64	0.11	8
2023-02-21 12:45	–	<1	–	<1	<2	0.73	0.11	8
2023-02-27 12:45	–	<1	–	<1	<2	0.76	0.12	7
2023-03-06 12:45	–	<1	–	<1	<2	0.63	0.11	6
2023-03-13 12:45	–	<1	–	<1	<2	0.72	0.12	8
2023-03-20 12:45	–	<1	–	<1	2	0.72	0.11	7
2023-03-27 12:45	–	<1	–	<1	<2	0.69	0.15	8
2023-04-03 12:45	–	<1	–	<1	<2	0.73	0.12	9
2023-04-11 12:45	–	<1	–	<1	<2	0.56	0.15	9
2023-04-17 12:45	–	<1	–	<1	2	0.66	0.19	8
2023-04-24 12:50	–	<1	–	<1	<2	0.68	0.64	8
2023-05-01 12:45	–	<1	–	<1	<2	0.68	0.14	10
2023-05-08 12:45	–	<1	–	<1	<2	0.62	0.14	11
2023-05-15 12:45	–	<1	–	<1	<2	0.63	0.25	13
2023-05-23 12:45	–	<1	–	<1	<2	0.78	0.2	14
2023-05-29 12:45	–	<1	–	<1	<2	0.66	0.25	15
2023-06-05 12:45	–	<1	–	<1	<2	0.65	0.23	16
2023-06-12 12:45	–	<1	–	<1	2	0.83	0.18	15
2023-06-19 12:45	–	<1	–	<1	<2	0.55	0.16	16
2023-06-27 12:45	–	<1	–	<1	2	0.67	0.19	16
2023-07-04 12:45	–	<1	–	<1	4	0.64	0.12	18
2023-07-10 12:45	–	<1	–	<1	<2	0.6	0.19	18
2023-07-17 12:45	–	<1	–	<1	2	0.51	0.22	18
2023-07-24 12:45	–	<1	–	<1	4	0.66	0.11	19
2023-07-31 12:45	–	<1	–	<1	<2	0.57	0.16	19
2023-08-08 12:45	–	<1	–	<1	18	0.63	0.16	20
2023-08-14 12:45	–	<1	–	<1	24	0.54	0.42	20
2023-08-21 12:45	–	<1	–	<1	60	0.49	0.09	20
2023-08-28 12:45	–	<1	–	<1	38	0.54	0.17	19
2023-09-06 12:45	–	<1	–	<1	16	0.52	0.1	19
2023-09-11 12:45	–	<1	–	<1	30	0.52	0.11	19
2023-09-18 12:45	–	<1	–	<1	36	0.68	0.15	18
2023-09-25 12:45	–	<1	–	<1	18	0.58	0.18	18
2023-10-03 12:45	<1	–	<1	–	4	0.52	0.1	17
2023-10-10 12:45	<1	–	<1	–	<2	0.48	0.16	16
2023-10-16 12:45	<1	–	<1	–	20	0.5	0.1	16
2023-10-23 12:45	<1	–	<1	–	<2	0.49	0.19	14
2023-10-30 12:45	<1	–	<1	–	10	0.4	0.18	13
2023-11-06 12:45	–	<1	–	<1	2	0.47	0.16	12
2023-11-14 12:45	–	<1	–	<1	<2	0.59	0.1	11
2023-11-20 12:45	–	<1	–	<1	<2	0.56	0.17	11
2023-11-27 12:45	–	<1	–	<1	<2	0.48	0.47	9
2023-12-04 12:45	–	<1	–	<1	2	0.56	0.21	9
2023-12-11 12:45	–	<1	–	<1	<2	0.61	0.2	9
2023-12-18 12:45	–	<1	–	<1	NA	0.49	0.11	9
2023-12-27 08:50	–	<1	–	<1	NA	0.54	0.2	9

Water Sampling | Type: GRAB | Station Number: RMD-274 | Address: 10920 Springwood Court

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-03 13:15	–	<1	–	<1	<2	0.7	0.14	7
2023-01-09 13:15	–	<1	–	<1	16	0.63	0.24	6
2023-01-16 13:15	–	<1	–	<1	16	0.67	0.18	7
2023-01-23 13:15	–	<1	–	<1	<2	0.83	0.11	8
2023-01-30 13:15	–	<1	–	<1	<2	0.7	0.2	7
2023-02-06 13:15	–	<1	–	<1	8	0.86	0.1	6
2023-02-13 13:15	–	<1	–	<1	<2	0.71	0.15	7
2023-02-21 13:15	–	<1	–	<1	<2	0.81	0.16	7
2023-02-27 13:15	–	<1	–	<1	2	0.87	0.14	7
2023-03-06 13:15	–	<1	–	<1	26	0.9	0.14	6
2023-03-13 13:00	–	<1	–	<1	<2	0.77	0.09	8
2023-03-20 13:15	–	<1	–	<1	<2	0.72	0.11	7
2023-03-27 13:15	–	<1	–	<1	2	0.77	0.14	7
2023-04-03 13:15	–	<1	–	<1	<2	0.78	0.18	8
2023-04-11 13:15	–	<1	–	<1	<2	0.83	0.13	8
2023-04-17 13:15	–	<1	–	<1	2	0.64	0.17	9
2023-04-24 13:20	–	<1	–	<1	4	0.64	0.21	8
2023-05-01 13:15	–	<1	–	<1	8	0.69	0.18	9
2023-05-08 13:15	–	<1	–	<1	<2	0.7	0.15	10
2023-05-15 13:15	–	<1	–	<1	14	0.61	0.34	12
2023-05-23 13:15	–	<1	–	<1	4	0.8	0.19	14
2023-05-29 13:15	–	<1	–	<1	40	0.69	0.29	15
2023-06-05 13:15	–	<1	–	<1	14	0.74	0.16	15
2023-06-12 13:15	–	<1	–	<1	30	0.63	0.19	16
2023-06-19 13:15	–	<1	–	<1	16	0.66	0.23	16
2023-06-27 13:15	–	<1	–	<1	70	0.65	0.13	17
2023-07-04 13:15	–	<1	–	<1	120	0.7	0.7	16
2023-07-10 13:15	–	<1	–	<1	2	0.73	0.26	16
2023-07-17 13:15	–	<1	–	<1	14	0.54	0.22	16
2023-07-24 13:15	–	<1	–	<1	32	0.67	0.13	18
2023-07-31 13:15	–	<1	–	<1	70	0.62	0.13	17
2023-08-08 13:15	–	<1	–	<1	20	0.67	0.11	19
2023-08-14 13:15	–	<1	–	<1	14	0.64	0.15	19
2023-08-21 13:15	–	<1	–	<1	10	0.64	0.11	18
2023-08-28 13:15	–	<1	–	<1	4	0.6	0.12	19
2023-09-06 13:15	–	<1	–	<1	4	0.57	0.18	18
2023-09-11 13:15	–	<1	–	<1	60	0.51	0.17	19
2023-09-18 13:15	–	<1	–	<1	6	0.56	0.19	18
2023-09-25 13:15	–	<1	–	<1	60	0.54	0.15	18
2023-10-03 13:15	<1	–	<1	–	32	0.6	0.11	16
2023-10-10 13:15	<1	–	<1	–	64	0.49	0.26	16
2023-10-16 13:15	<1	–	<1	–	4	0.51	0.1	15
2023-10-23 13:15	<1	–	<1	–	<2	0.54	0.12	15
2023-10-30 13:15	<1	–	<1	–	8	0.5	0.2	13
2023-11-06 13:15	–	<1	–	<1	10	0.52	0.23	12
2023-11-14 13:15	–	<1	–	<1	<2	0.5	0.17	11
2023-11-20 13:15	–	<1	–	<1	2	0.57	0.16	11
2023-11-27 13:15	–	<1	–	<1	<2	0.67	0.2	9
2023-12-04 13:15	–	<1	–	<1	2	0.55	0.15	9
2023-12-11 13:15	–	<1	–	<1	8	0.67	0.12	8
2023-12-18 13:15	–	<1	–	<1	NA	0.6	0.12	9
2023-12-27 09:20	–	<1	–	<1	NA	0.64	0.28	8

Water Sampling | Type: **GRAB** | Station Number: **RMD-275** | Address: **5180 Smith Crescent**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 10:55	–	<1	–	<1	<2	0.56	0.17	6
2023-01-12 11:15	–	<1	–	<1	<2	0.86	0.14	6
2023-01-20 10:45	–	<1	–	<1	<2	0.61	0.13	7
2023-01-26 10:55	–	<1	–	<1	<2	0.6	0.11	7
2023-02-03 10:55	–	<1	–	<1	<2	0.9	0.14	6
2023-02-09 10:45	–	<1	–	<1	<2	0.79	0.17	6
2023-02-17 10:45	–	<1	–	<1	<2	0.77	0.15	6
2023-02-23 10:55	–	<1	–	<1	<2	0.71	0.15	6
2023-03-03 11:15	–	<1	–	<1	<2	0.73	0.16	5
2023-03-09 10:45	–	<1	–	<1	210	0.71	0.11	6
2023-03-17 10:55	–	<1	–	<1	<2	0.68	0.16	6
2023-03-23 10:55	–	<1	–	<1	<2	0.69	0.17	7
2023-03-31 10:45	–	<1	–	<1	<2	0.74	0.19	7
2023-04-05 10:50	–	<1	–	<1	<2	0.77	0.16	8
2023-04-14 11:00	–	<1	–	<1	<2	0.66	0.16	8
2023-04-20 11:00	–	<1	–	<1	<2	0.67	0.2	7
2023-04-28 10:45	–	–	–	–	<2	0.91	12	8
2023-05-01 12:00	–	<1	–	<1	<2	0.61	0.13	9
2023-05-04 10:45	–	<1	–	<1	<2	0.62	0.18	9
2023-05-12 10:55	–	<1	–	<1	<2	0.62	0.33	10
2023-05-18 11:00	–	<1	–	<1	<2	0.68	0.35	10
2023-05-26 10:55	–	<1	–	<1	<2	0.73	0.23	10
2023-06-01 10:55	–	<1	–	<1	6	0.59	0.27	13
2023-06-09 10:55	–	<1	–	<1	<2	0.7	0.26	13
2023-06-15 10:55	–	<1	–	<1	<2	0.66	0.21	13
2023-06-23 10:55	–	<1	–	<1	<2	0.74	0.19	13
2023-06-29 10:55	–	<1	–	<1	6	0.72	0.13	14
2023-07-07 10:55	–	<1	–	<1	8	0.68	0.39	15
2023-07-13 10:55	–	<1	–	<1	6	0.6	0.19	15
2023-07-21 10:55	–	<1	–	<1	22	0.62	0.28	16
2023-07-27 10:45	–	<1	–	<1	12	0.61	0.16	15
2023-08-04 11:10	–	<1	–	<1	2	0.68	0.13	17
2023-08-10 11:15	–	<1	–	<1	18	0.58	0.17	16
2023-08-18 11:00	–	<1	–	<1	2	0.63	0.16	16
2023-08-24 11:15	–	<1	–	<1	10	0.68	0.53	18
2023-09-01 10:45	–	<1	–	<1	8	0.65	0.14	18
2023-09-07 11:15	–	<1	–	<1	8	0.61	0.33	16
2023-09-15 11:15	–	<1	–	<1	28	0.53	0.3	18
2023-09-21 10:45	–	<1	–	<1	8	0.67	0.31	18
2023-09-29 10:55	–	<1	–	<1	12	0.33	0.24	16
2023-10-05 11:15	<1	–	<1	–	22	0.4	0.17	16
2023-10-13 11:10	<1	–	<1	–	30	0.67	0.19	14
2023-10-19 10:45	<1	–	<1	–	22	0.44	0.15	14
2023-10-27 10:55	<1	–	<1	–	2	0.4	0.24	13
2023-11-02 10:40	<1	–	<1	–	6	0.64	0.11	11
2023-11-10 10:45	–	<1	–	<1	6	0.36	0.29	10
2023-11-16 10:55	–	<1	–	<1	<2	0.84	0.18	10
2023-11-24 10:55	–	<1	–	<1	<2	0.54	0.19	9
2023-11-30 10:45	–	<1	–	<1	4	0.58	0.14	9
2023-12-08 10:55	–	<1	–	<1	4	0.53	0.23	9
2023-12-14 10:45	–	<1	–	<1	<2	0.58	0.16	8
2023-12-20 15:45	–	<1	–	<1	NA	0.62	0.21	9
2023-12-28 11:30	–	<1	–	<1	NA	0.62	0.21	9

Water Sampling | Type: **GRAB** | Station Number: **RMD-276** | Address: **22271 Cochrane Drive**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 10:40	–	<1	–	<1	<2	0.63	0.13	6
2023-01-12 11:00	–	<1	–	<1	<2	0.78	0.2	6
2023-01-20 10:30	–	<1	–	<1	<2	0.63	0.12	7
2023-01-26 10:40	–	<1	–	<1	<2	0.62	0.11	7
2023-02-03 10:40	–	<1	–	<1	<2	0.89	0.14	6
2023-02-09 10:30	–	<1	–	<1	2	0.82	0.16	6
2023-02-17 10:30	–	<1	–	<1	<2	0.72	0.13	6
2023-02-23 10:40	–	<1	–	<1	<2	0.73	0.12	7
2023-03-03 11:00	–	<1	–	<1	<2	0.7	0.17	5
2023-03-09 10:30	–	<1	–	<1	<2	0.71	0.1	6
2023-03-17 10:40	–	<1	–	<1	<2	0.65	0.21	6
2023-03-23 10:40	–	<1	–	<1	2	0.7	0.26	6
2023-03-31 10:30	–	<1	–	<1	<2	0.73	0.3	7
2023-04-05 10:35	–	<1	–	<1	2	0.76	0.14	8
2023-04-14 10:45	–	<1	–	<1	2	0.68	0.23	8
2023-04-20 10:45	–	<1	–	<1	<2	0.68	0.17	7
2023-04-28 10:30	–	<1	–	<1	<2	0.83	0.29	8
2023-05-04 10:30	–	<1	–	<1	2	0.61	0.24	9
2023-05-12 10:40	–	<1	–	<1	<2	0.79	0.19	10
2023-05-18 10:45	–	<1	–	<1	<2	0.7	0.48	10
2023-05-26 10:40	–	<1	–	<1	<2	0.64	0.18	10
2023-06-01 10:40	–	<1	–	<1	<2	0.56	0.16	13
2023-06-09 10:40	–	<1	–	<1	<2	0.67	0.18	12
2023-06-15 10:40	–	<1	–	<1	<2	0.58	0.34	13
2023-06-23 10:40	–	<1	–	<1	<2	0.79	0.18	13
2023-06-29 10:40	–	<1	–	<1	<2	0.65	0.09	15
2023-07-07 10:40	–	<1	–	<1	<2	0.62	0.13	15
2023-07-13 10:40	–	<1	–	<1	<2	0.64	0.18	15
2023-07-21 10:40	–	<1	–	<1	6	0.64	0.17	16
2023-07-27 11:00	–	<1	–	<1	<2	0.6	0.13	15
2023-08-04 10:55	–	<1	–	<1	6	0.7	0.14	17
2023-08-10 11:00	–	<1	–	<1	2	0.65	0.2	16
2023-08-18 10:40	–	<1	–	<1	14	0.63	0.17	16
2023-08-24 11:00	–	<1	–	<1	4	0.59	0.22	18
2023-09-01 10:30	–	<1	–	<1	2	0.65	0.09	18
2023-09-07 11:00	–	<1	–	<1	8	0.52	0.11	16
2023-09-15 11:00	–	<1	–	<1	8	0.48	0.14	18
2023-09-21 10:30	–	<1	–	<1	<2	0.72	0.2	17
2023-09-29 10:40	–	<1	–	<1	2	0.53	0.22	17
2023-10-05 11:00	<1	–	<1	–	<2	0.67	0.17	15
2023-10-13 10:55	<1	–	<1	–	<2	0.6	0.16	14
2023-10-19 10:30	<1	–	<1	–	6	0.54	0.15	13
2023-10-27 10:40	<1	–	<1	–	<2	0.58	0.14	11
2023-11-02 10:25	<1	–	<1	–	<2	0.73	0.14	10
2023-11-10 10:30	–	<1	–	<1	<2	0.55	0.27	11
2023-11-16 10:40	–	<1	–	<1	<2	0.66	0.13	10
2023-11-24 10:40	–	<1	–	<1	<2	0.59	0.18	10
2023-11-30 10:30	–	<1	–	<1	<2	0.64	0.19	9
2023-12-08 10:40	–	<1	–	<1	2	0.67	0.32	8
2023-12-14 10:30	–	<1	–	<1	<2	0.63	0.16	8
2023-12-20 15:30	–	<1	–	<1	NA	0.68	0.15	8
2023-12-28 11:15	–	<1	–	<1	NA	0.65	0.15	9

PWT - 79

PWT - 80

Water Sampling | Type: GRAB | Station Number: RMD-277 | Address: Across from 11280 Twigg Place

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 13:00	–	<1	–	<1	<2	0.97	0.16	6
2023-01-11 12:45	–	<1	–	<1	<2	0.76	0.23	6
2023-01-18 13:00	–	<1	–	<1	<2	0.68	0.11	7
2023-01-25 12:45	–	<1	–	<1	<2	0.7	0.2	6
2023-02-01 13:05	–	<1	–	<1	<2	0.81	0.13	7
2023-02-08 12:45	–	<1	–	<1	<2	0.86	0.3	6
2023-02-15 13:00	–	<1	–	<1	<2	0.83	0.1	7
2023-02-22 12:45	–	<1	–	<1	<2	0.87	0.13	7
2023-03-01 12:45	–	<1	–	<1	<2	0.93	0.13	6
2023-03-08 13:00	–	<1	–	<1	<2	0.66	0.12	6
2023-03-15 12:45	–	<1	–	<1	<2	0.79	0.11	6
2023-03-22 12:45	–	<1	–	<1	<2	0.89	0.17	6
2023-03-29 12:45	–	<1	–	<1	4	0.83	0.13	7
2023-04-04 12:45	–	<1	–	<1	<2	0.83	0.32	7
2023-04-12 12:45	–	<1	–	<1	<2	0.89	0.16	7
2023-04-19 12:45	–	<1	–	<1	<2	0.78	0.34	7
2023-04-26 12:45	–	<1	–	<1	<2	0.88	0.21	7
2023-05-03 13:00	–	<1	–	<1	<2	0.71	0.28	8
2023-05-10 12:50	–	<1	–	<1	<2	0.84	0.18	9
2023-05-17 12:45	–	<1	–	<1	2	0.82	1.2	9
2023-05-24 13:05	–	<1	–	<1	<2	0.6	0.19	10
2023-05-31 12:45	–	<1	–	<1	<2	0.8	0.42	10
2023-06-07 12:45	–	<1	–	<1	<2	0.78	0.25	11
2023-06-14 12:45	–	<1	–	<1	2	0.77	0.13	12
2023-06-21 12:45	–	<1	–	<1	6	0.84	0.16	12
2023-06-28 12:45	–	<1	–	<1	<2	0.79	0.15	12
2023-07-05 12:45	–	<1	–	<1	2	0.71	0.28	13
2023-07-12 13:00	–	<1	–	<1	4	0.78	0.16	14
2023-07-19 12:45	–	<1	–	<1	24	0.73	0.11	15
2023-07-26 12:45	–	<1	–	<1	74	0.64	0.89	15
2023-08-02 13:00	–	<1	–	<1	8	0.79	0.26	15
2023-08-09 12:45	–	<1	–	<1	10	0.84	0.11	18
2023-08-16 12:45	–	<1	–	<1	10	0.71	0.26	17
2023-08-23 12:45	–	<1	–	<1	18	0.77	0.1	16
2023-08-30 13:00	–	<1	–	<1	26	0.7	0.13	17
2023-09-06 07:45	–	<1	–	<1	46	0.68	0.17	18
2023-09-13 12:45	–	<1	–	<1	70	0.78	0.15	16
2023-09-20 12:45	–	<1	–	<1	36	0.76	0.34	16
2023-09-27 13:00	–	<1	–	<1	22	0.71	0.16	17
2023-10-04 13:00	<1	–	<1	–	18	0.62	0.14	15
2023-10-11 12:45	<1	–	<1	–	6	0.64	0.49	14
2023-10-18 13:00	<1	–	<1	–	18	0.69	0.12	13
2023-10-25 13:00	<1	–	<1	–	<2	0.73	0.18	13
2023-11-01 13:00	<1	–	<1	–	10	0.62	0.11	12
2023-11-08 12:45	–	<1	–	<1	<2	0.75	0.13	11
2023-11-15 12:45	–	<1	–	<1	2	0.66	0.17	10
2023-11-22 12:45	–	<1	–	<1	<2	0.75	0.72	9
2023-11-29 12:45	–	<1	–	<1	<2	0.74	0.16	9
2023-12-06 12:45	–	<1	–	<1	<2	0.71	0.16	9
2023-12-13 12:45	–	<1	–	<1	2	0.72	0.14	7
2023-12-19 12:45	–	<1	–	<1	NA	0.5	0.21	8
2023-12-28 10:00	–	<1	–	<1	NA	0.64	0.24	10

Water Sampling | Type: GRAB | Station Number: RMD-278 | Address: 6651 Fraserwood Place

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 13:35	–	<1	–	<1	<2	0.53	0.14	5
2023-01-11 13:35	–	<1	–	<1	<2	0.54	0.24	5
2023-01-18 13:35	–	<1	–	<1	<2	0.52	0.13	7
2023-01-25 13:35	–	<1	–	<1	<2	0.52	0.13	7
2023-02-01 13:45	–	<1	–	<1	<2	0.71	0.68	7
2023-02-08 13:35	–	<1	–	<1	<2	0.74	0.32	6
2023-02-15 13:30	–	<1	–	<1	2	0.67	0.12	6
2023-02-22 13:35	–	<1	–	<1	<2	0.71	0.15	7
2023-03-01 13:35	–	<1	–	<1	<2	0.82	0.1	5
2023-03-08 13:35	–	<1	–	<1	34	0.64	0.1	7
2023-03-15 13:35	–	<1	–	<1	<2	0.71	0.35	5
2023-03-22 13:35	–	<1	–	<1	<2	0.67	0.16	6
2023-03-29 13:35	–	<1	–	<1	<2	0.7	0.13	7
2023-04-04 13:35	–	<1	–	<1	<2	0.68	0.24	8
2023-04-12 13:40	–	<1	–	<1	<2	0.81	0.15	7
2023-04-19 13:30	–	<1	–	<1	<2	0.64	0.25	7
2023-04-26 13:35	–	<1	–	<1	<2	0.79	0.38	8
2023-05-03 13:50	–	<1	–	<1	<2	0.64	0.3	8
2023-05-10 13:40	–	<1	–	<1	<2	0.76	0.27	9
2023-05-17 13:30	–	<1	–	<1	<2	0.75	0.39	9
2023-05-24 13:45	–	<1	–	<1	<2	0.68	0.35	10
2023-05-31 13:35	–	<1	–	<1	<2	0.75	0.41	11
2023-06-07 13:35	–	<1	–	<1	2	0.72	0.8	12
2023-06-14 13:35	–	<1	–	<1	<2	0.75	0.23	12
2023-06-21 13:35	–	<1	–	<1	<2	0.68	0.11	13
2023-06-28 13:35	–	<1	–	<1	8	0.69	0.16	12
2023-07-05 13:35	–	<1	–	<1	<2	0.69	0.22	13
2023-07-12 13:35	–	<1	–	<1	4	0.72	0.13	14
2023-07-19 13:30	–	<1	–	<1	12	0.64	0.38	14
2023-07-26 13:35	–	<1	–	<1	<2	0.7	0.26	15
2023-08-02 13:35	–	<1	–	<1	18	0.63	0.24	15
2023-08-09 13:40	–	<1	–	<1	<2	0.75	0.51	17
2023-08-16 13:40	–	<1	–	<1	2	0.71	0.18	17
2023-08-23 13:40	–	<1	–	<1	2	0.69	0.17	16
2023-08-30 13:35	–	<1	–	<1	10	0.71	0.29	17
2023-09-06 08:35	–	<1	–	<1	46	0.54	0.18	18
2023-09-13 13:40	–	<1	–	<1	<2	0.73	0.19	17
2023-09-20 13:40	–	<1	–	<1	2	0.7	0.23	17
2023-09-27 13:35	–	<1	–	<1	<2	0.64	0.89	17
2023-10-04 13:40	<1	–	<1	–	2	0.66	0.37	14
2023-10-11 13:40	<1	–	<1	–	4	0.63	0.25	14
2023-10-18 13:35	<1	–	<1	–	<2	0.64	0.13	13
2023-10-25 13:30	<1	–	<1	–	<2	0.63	0.27	11
2023-11-01 13:35	<1	–	<1	–	26	0.67	0.11	12
2023-11-08 13:30	–	<1	–	<1	8	0.56	0.15	11
2023-11-15 13:30	–	<1	–	<1	<2	0.7	0.24	10
2023-11-22 13:30	–	<1	–	<1	2	0.76	0.33	9
2023-11-29 13:30	–	<1	–	<1	2	0.67	0.12	8
2023-12-06 13:35	–	<1	–	<1	<2	0.61	0.2	8
2023-12-13 13:30	–	<1	–	<1	20	0.7	0.2	7
2023-12-19 13:30	–	<1	–	<1	NA	0.64	0.14	8
2023-12-27 12:20	–	<1	–	<1	NA	0.57	0.16	10

PWT - 81

Across from

Water Sampling | Type: **GRAB** | Station Number: **RMD-279** | Address: **20371 Westminster Highway**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-04 13:50	–	<1	–	<1	<2	0.64	0.38	5
2023-01-11 13:50	–	<1	–	<1	<2	0.68	0.45	5
2023-01-18 13:50	–	<1	–	<1	<2	0.59	0.11	6
2023-01-25 13:50	–	<1	–	<1	<2	0.66	0.1	7
2023-02-01 14:00	–	<1	–	<1	12	0.76	0.57	6
2023-02-08 13:50	–	<1	–	<1	<2	0.76	0.25	6
2023-02-15 13:45	–	<1	–	<1	<2	0.73	0.12	6
2023-02-22 13:50	–	<1	–	<1	<2	0.75	0.12	6
2023-03-01 13:50	–	<1	–	<1	<2	0.81	0.11	5
2023-03-08 13:50	–	<1	–	<1	<2	0.8	0.1	6
2023-03-15 13:50	–	<1	–	<1	<2	0.8	0.2	5
2023-03-22 13:50	–	<1	–	<1	<2	0.74	0.16	6
2023-03-29 13:50	–	<1	–	<1	<2	0.77	0.16	7
2023-04-04 13:50	–	<1	–	<1	<2	0.75	0.26	6
2023-04-12 14:00	–	<1	–	<1	<2	0.78	0.11	6
2023-04-19 13:50	–	<1	–	<1	<2	0.73	0.23	6
2023-04-26 13:50	–	<1	–	<1	<2	0.75	0.24	7
2023-05-03 14:05	–	<1	–	<1	2	0.68	0.38	7
2023-05-10 13:55	–	<1	–	<1	<2	0.88	0.31	8
2023-05-17 13:50	–	<1	–	<1	<2	0.74	0.18	8
2023-05-24 14:00	–	<1	–	<1	<2	0.72	0.2	9
2023-05-31 13:50	–	<1	–	<1	<2	0.74	0.24	9
2023-06-07 13:50	–	<1	–	<1	<2	0.72	0.21	11
2023-06-14 13:50	–	<1	–	<1	<2	0.82	0.21	11
2023-06-21 13:50	–	<1	–	<1	2	0.73	0.11	11
2023-06-28 13:50	–	<1	–	<1	2	0.76	0.19	11
2023-07-05 13:50	–	<1	–	<1	<2	0.71	0.28	12
2023-07-12 13:50	–	<1	–	<1	<2	0.74	0.11	13
2023-07-19 13:50	–	<1	–	<1	<2	0.69	0.35	13
2023-07-26 13:50	–	<1	–	<1	2	0.75	0.22	14
2023-08-02 13:50	–	<1	–	<1	4	0.75	0.24	14
2023-08-09 13:55	–	<1	–	<1	2	0.8	0.15	16
2023-08-16 13:55	–	<1	–	<1	<2	0.86	0.19	17
2023-08-23 13:55	–	<1	–	<1	2	0.73	0.17	16
2023-08-30 13:55	–	<1	–	<1	<2	0.74	0.18	17
2023-09-06 08:50	–	<1	–	<1	6	0.73	0.31	16
2023-09-13 13:55	–	<1	–	<1	<2	0.81	0.21	16
2023-09-20 13:55	–	<1	–	<1	<2	0.72	0.21	16
2023-09-27 13:50	–	<1	–	<1	6	0.73	0.2	16
2023-10-04 13:55	<1	–	<1	–	<2	0.72	0.3	14
2023-10-11 13:55	<1	–	<1	–	<2	0.72	0.18	13
2023-10-18 13:50	<1	–	<1	–	<2	0.68	0.15	12
2023-10-25 13:50	<1	–	<1	–	<2	0.63	0.17	11
2023-11-01 13:50	<1	–	<1	–	<2	0.63	0.12	12
2023-11-08 13:50	–	<1	–	<1	<2	0.58	0.13	10
2023-11-15 13:50	–	<1	–	<1	2	0.74	0.16	10
2023-11-22 13:50	–	<1	–	<1	<2	0.79	0.14	9
2023-11-29 13:50	–	<1	–	<1	<2	0.66	0.15	8
2023-12-06 13:50	–	<1	–	<1	NA	0.74	0.3	7
2023-12-13 13:50	–	<1	–	<1	<2	0.74	0.15	6
2023-12-19 13:50	–	<1	–	<1	NA	0.71	0.14	6
2023-12-27 12:15	–	<1	–	<1	NA	0.69	0.25	8

Water Sampling | Type: **GRAB** | Station Number: **RMD-280** Address: **11500 McKenzie Road**

Sampled Date	Total Coliform (MPN/1000 ml)	Total Coliform (CFU/1000 ml)	E.coli (MPN/1000 ml)	E.coli (CFU/1000 ml)	HPC (CFU/ml)	Chlorine Free (mg/l)	Turbidity (NTU)	Temperature (C°)
2023-01-06 08:20	–	<1	–	<1	<2	0.82	0.11	6
2023-01-12 08:45	–	<1	–	<1	<2	0.88	0.13	7
2023-01-20 08:15	–	<1	–	<1	<2	0.57	0.14	8
2023-01-26 08:20	–	<1	–	<1	<2	0.74	0.1	7
2023-02-03 08:20	–	<1	–	<1	<2	0.82	0.13	7
2023-02-09 08:15	–	<1	–	<1	<2	0.84	0.12	7
2023-02-17 08:15	–	<1	–	<1	<2	0.85	0.13	7
2023-02-23 08:20	–	<1	–	<1	<2	0.86	0.11	7
2023-03-03 08:30	–	<1	–	<1	480	0.86	0.11	6
2023-03-09 08:15	–	<1	–	<1	<2	0.88	0.12	6
2023-03-17 08:20	–	<1	–	<1	<2	0.71	0.21	7
2023-03-23 08:20	–	<1	–	<1	<2	0.64	0.23	7
2023-03-31 08:15	–	<1	–	<1	<2	0.81	0.14	8
2023-04-05 08:20	–	<1	–	<1	<2	0.78	0.16	8
2023-04-14 08:30	–	<1	–	<1	2	0.54	0.23	8
2023-04-20 08:45	–	<1	–	<1	<2	0.71	0.2	7
2023-04-28 08:15	–	<1	–	<1	<2	0.81	0.15	9
2023-05-04 08:15	–	<1	–	<1	<2	0.74	0.18	9
2023-05-12 08:25	–	<1	–	<1	<2	0.69	0.19	11
2023-05-18 08:45	–	<1	–	<1	<2	0.65	0.22	11
2023-05-26 08:20	–	<1	–	<1	<2	0.76	0.17	11
2023-06-01 08:20	–	<1	–	<1	4	0.73	0.14	13
2023-06-09 08:20	–	<1	–	<1	<2	0.6	0.15	13
2023-06-15 08:20	–	<1	–	<1	2	0.67	0.16	14
2023-06-23 08:20	–	<1	–	<1	2	0.7	0.31	13
2023-06-29 08:20	–	<1	–	<1	<2	0.84	0.16	12
2023-07-07 08:20	–	<1	–	<1	<2	0.62	0.15	15
2023-07-13 08:20	–	<1	–	<1	2	0.65	0.22	15
2023-07-21 08:20	–	<1	–	<1	<2	0.62	0.19	16
2023-07-27 08:20	–	<1	–	<1	2	0.52	0.1	16
2023-08-04 08:55	–	<1	–	<1	8	0.67	0.11	17
2023-08-10 08:30	–	<1	–	<1	14	0.55	0.1	17
2023-08-18 08:15	–	<1	–	<1	2	0.64	0.15	17
2023-08-24 08:30	–	<1	–	<1	10	0.66	0.19	17
2023-09-01 08:15	–	<1	–	<1	8	0.64	0.11	18
2023-09-07 08:30	–	<1	–	<1	6	0.71	0.12	17
2023-09-15 08:30	–	<1	–	<1	<2	0.65	0.14	16
2023-09-21 08:15	–	<1	–	<1	12	0.48	0.13	18
2023-09-29 08:20	–	<1	–	<1	22	0.48	0.15	17
2023-10-05 08:45	<1	–	<1	–	12	0.66	0.15	15
2023-10-13 08:45	<1	–	<1	–	<2	0.63	0.22	14
2023-10-19 08:15	<1	–	<1	–	6	0.49	0.12	14
2023-10-27 08:20	<1	–	<1	–	<2	0.51	0.14	13
2023-11-02 08:25	<1	–	<1	–	2	0.64	0.11	10
2023-11-10 08:15	–	<1	–	<1	2	0.59	0.22	11
2023-11-16 08:35	–	<1	–	<1	<2	0.65	0.17	10
2023-11-24 08:20	–	<1	–	<1	6	0.62	0.18	10
2023-11-30 08:15	–	<1	–	<1	<2	0.65	0.19	9
2023-12-08 08:20	–	<1	–	<1	NA	0.68	0.18	9
2023-12-14 08:15	–	<1	–	<1	<2	0.65	0.18	8
2023-12-20 13:15	–	<1	–	<1	NA	0.56	0.15	9
2023-12-28 08:45	–	<1	–	<1	NA	0.66	0.16	9

Appendix B | 2023 Trihalomethanes (THMs) and Haloacetic Acids (HAAs) Test Results

THM (ppb) Sample	Sampled Date	Bromodi-chloromethane	Bromoform	Chlorodibro-momethane	Chloroform	Total Trihalo-methanes	Total THM Quarterly Average (Guideline Limit 100 ppb)
RMD 250	2022-11-17	2	<1	<1	28	30	**26**
	2023-02-02	<1	<1	<1	47	47	**33**
	2023-06-01	<1	<1	<1	22	24	**31**
	2023-08-28	1	<1	<1	29	30	**34**
	2023-11-29	<1	<1	<1	33	35	**36**
RMD 251	2022-11-17	2	<1	<1	27	29	**25**
	2023-02-02	<1	<1	<1	47	47	**32**
	2023-06-01	<1	<1	<1	21	23	**30**
	2023-08-28	<1	<1	<1	26	27	**33**
	2023-11-29	<1	<1	<1	33	34	**35**
RMD 258	2022-11-17	2	<1	<1	28	30	**29**
	2023-02-02	<1	<1	<1	58	59	**39**
	2023-06-01	<1	<1	<1	24	26	**36**
	2023-08-28	1	<1	<1	33	35	**38**
	2023-11-29	<1	<1	<1	37	38	**43**
RMD 259	2022-11-17	2	<1	<1	32	34	**32**
	2023-02-02	<1	<1	<1	54	55	**40**
	2023-01-06	<1	<1	<1	23	25	**36**
	2023-08-28	1	<1	<1	32	33	**38**
	2023-11-29	<1	<1	<1	38	40	**40**

HAA (ppb) Sample	Dibromo-acetic Acid	Dichloro-acetic Acid	Monobro-moacetic Acid	Monochloro-acetic Acid	Trichloro-acetic Acid	Total Halo-acetic Acid	Total HAA Quarterly Average (Guideline Limit 80 ppb)
RMD 250	<0.5	7.3	<0.5	0.8	6	14	**14**
	<0.5	9.8	<0.5	0.8	7	17	**15**
	<0.5	12	<0.5	1.9	8	22	**17**
	<0.5	8.2	<0.5	1.1	5.6	15	**18**
	<0.5	13	<0.5	1	8.3	22	**20**
RMD 251	<0.5	6.9	<0.5	<0.5	5	12	**13**
	<0.5	9.3	<0.5	1.1	6	16	**14**
	<0.5	11	<0.5	<0.5	7	18	**15**
	<0.5	8	<0.5	1.3	5.2	14	**15**
	<0.5	12	<0.5	0.5	8	21	**17**
RMD 258	<0.5	6.9	<0.5	0.6	6	14	**16**
	<0.5	12	<0.5	0.8	9	21	**18**
	<0.5	12	<0.5	<0.5	9	21	**19**
	<0.5	6.5	<0.5	<0.5	8.1	15	**19**
	<0.5	14	<0.5	1.1	9	24	**21**
RMD 259	<0.5	6.7	<0.5	0.6	5.7	13	**17**
	<0.5	11	<0.5	1.1	8.4	20	**18**
	<0.5	12	<0.5	<0.5	7.5	19	**18**
	<0.5	9	<0.5	<0.5	7.9	17	**17**
	<0.5	13	<0.5	0.8	9.2	23	**20**

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Appendix C | 2023 Metal Level Guidelines

Parameter	Canadian Guideline Limit	Reason Guideline Established	Guideline Recently Updated
Aluminium Total (µg/L)	2900	Health	2021
Antimony Total (µg/L)	6	Health	
Arsenic Total (µg/L)	10 (ALARA)	Health	
Barium Total (µg/L)	2000	Health	2020
Boron Total (µg/L)	5000	Health	
Cadmium Total (µg/L)	7	Health	2020
Calcium Total (µg/L)	none		
Chromium Total (µg/L)	50	Health	2018
Cobalt Total (µg/L)	none		
Copper Total (µg/L)	2000	Health	2019
Iron Total (µg/L)	≤ 300	Aesthetic	
Lead Total (µg/L)	5 (ALARA)	Health	2019
Magnesium Total (µg/L)	none		
Manganese Total (µg/L)	120	Health	2019
Mercury Total (µg/L)	1.0	Health	
Molybdenum Total (µg/L)	none		
Nickel Total (µg/L)	none		
Potassium Total (µg/L)	none		
Selenium Total (µg/L)	50	Health	
Silver Total (µg/L)	none		
Sodium Total (µg/L)	≤ 200,000	Aesthetic	
Zinc Total (µg/L)	≤ 5000	Aesthetic	

Appendix D | 2023 Metal Testing Results

City of Richmond
Municipal Metals

Analysis	Units	RMD 250 6071 Azure Road 2023/9/13	RMD 257 6640 Blundell Road 2023/9/13	RMD 263 12560 Cambie Road 2023/9/13
Aluminum Total	µg/L	33	33	41
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	2.9
Boron Total	µg/L	<10	<10	<10
Cadmium Total	µg/L	<0.2	<0.2	<0.2
Calcium Total	µg/L	8130	8440	6300
Chromium Total	µg/L	<0.05	<0.05	<0.05
Cobalt Total	µg/L	<0.5	<0.5	<0.5
Copper Total	µg/L	0.7	0.7	0.8
Iron Total	µg/L	8	8	21
Lead Total	µg/L	<0.5	<0.5	<0.5
Magnesium Total	µg/L	212	218	183
Manganese Total	µg/L	6.5	6.7	7.6
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	205	211	191
Selenium Total	µg/L	<0.5	<0.5	<0.5
Silver Total	µg/L	<0.5	<0.5	<0.5
Sodium Total	µg/L	2450	2480	4040
Zinc Total	µg/L	<3.0	<3.0	<3.0

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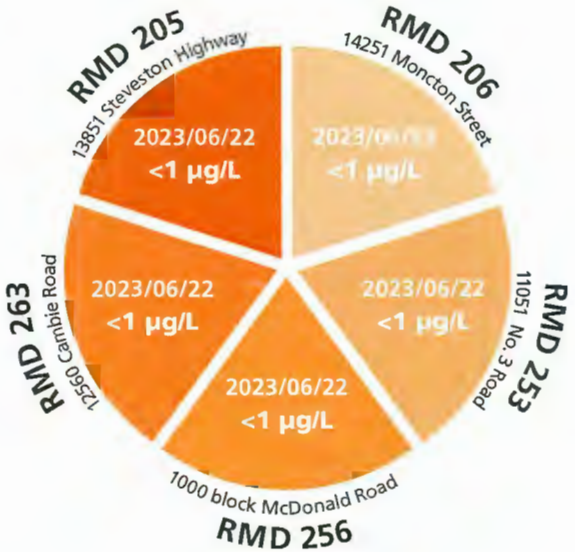
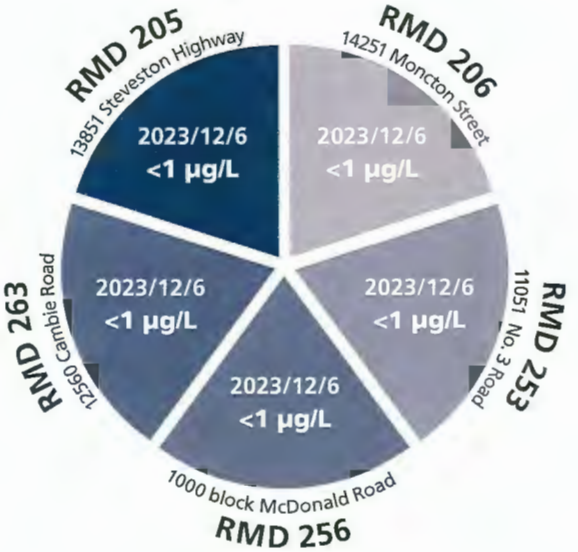
Appendix E | 2023 Vinyl Chloride Results

June 2023



November 2023



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Appendix F | Water Quality Testing Parameters

Weekly sampling is conducted at 40 specific locations throughout the City of Richmond. Sample testing is conducted at Metro Vancouver laboratories to ensure the City's drinking water meets the standards and parameters outlined in the British Columbia Drinking Water Protection Act. Testing is based on the parameters outlined below. Detailed testing results based on these parameters are included in Appendices A through G.

1. Bacterial Parameters

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.

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 or that the disinfection process is inadequate. The number, frequency and location of samples for total coliform testing will vary depending on the type and size of the system and jurisdictional requirements. Provincial standards state that no sample contain more than 10 total coliforms per 100 ml, and that 90% of samples must have zero coliform bacteria in a sample over a 30-day period.

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 bodies of water and water systems through contamination by human and animal waste. Due to the high risk of diseases and parasites, provincial standards state there can be no detectable fecal coliforms per 100 ml sample.

HETEROTROPHIC PLATE COUNT

HPC tests measure the level of the heterotrophic microorganism population in the City's drinking water. HPC tests indicate the presence of nutrients that could facilitate the growth of harmful bacteria, and can be a sign of changes in water quality if levels are elevated during treatment and distribution. Higher than normal HPC levels inform operators that there is an unusual increase of stagnant water or low chlorine residuals in the watermains. By reducing the HPC levels through our flushing programs, the possibility of bacteriological growth is decreased because the pipes become an inhospitable environment for bacteria to thrive. The small amount of free chlorine residual in our water also disinfects and eliminates harmful substances within our distribution system.

2. Chemical Parameters

Testing is done for chemicals in the water to ensure the proper amount of chlorine is in the system, to confirm that by-products from the disinfection process do not remain in the water and to ensure that naturally occurring chemicals in the water are at acceptable levels.

CHLORINE RESIDUAL

Chlorine residual is a measurement of the free chlorine remaining in the distribution system at the point of delivery to the customer. Chlorine is added to our drinking water by Metro Vancouver as part of the disinfection process to prevent bacterial growth during distribution. When the source lakes experience high turbidity (e.g., during a storm), Metro Vancouver will increase the chlorine that is added to the water at their plants to ensure that the water quality is maintained despite the higher-than-desired turbidity. Typically, the slightly higher concentration of free chlorine in the system dissipates by the time it reaches our system. Sometimes the higher concentration remains in the system and can cause a chlorine taste and smell in the water. Despite the increased chlorine, the water is still safe to drink.

There also needs to be a minimum level of chlorine residual to protect Richmond's water supply from bacteriological contamination or growth. The minimum parameter for free chlorine residual in the water is 0.2 mg/L. In recent years, the City has made great progress in improving chlorine residuals by executing our annual flushing program to clean and flush the watermains.

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).

THMs that are present in drinking water 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 for THMs is 100 parts per billion (ppb). The maximum level for THMs is based on a running annual average of samples taken every three months. High levels on a particular day are not of concern unless they are consistently high over the latest four samples. Typically, THM levels will be highest in the summer and lowest in the winter months.

Under the GCDWD, the maximum acceptable concentration for HAAs is 80 ppb. Like THMs, HAAs are also monitored quarterly and are calculated on a running annual average of samples taken every three months.

The City utilizes 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 and City of Richmond monitoring plan.

ACIDITY (PH VALUE)

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

The acidity of our water is controlled by Metro Vancouver. The Seymour-Capilano filtration plant includes pH adjustment and corrosion control in its treatment processes. It is expected that the pH of drinking water will rise in the coming years as the filtration plant reaches its full capacity. Since natural acidity in water corrodes metal pipes over time, the pH increase will extend the lifespan of water plumbing systems and enhance water quality.

METALS

The City's water quality program also includes testing for metals that can be present in natural water sources like copper, iron, lead and zinc.

3. Physical Parameters

The water in Richmond's distribution system is tested for turbidity and temperature on a weekly basis. Information is also collected on the taste and odour of Richmond's water by actively tracking water quality complaints.

TURBIDITY

Turbidity is a measure of water clarity and cloudiness in the water, and is caused by dissolved substances that are present in the water. Turbidity is measured in Nephelometric Turbidity Units (NTU). The guideline for turbidity should not exceed 5 NTUs in a distribution system 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 and can allow microbes to grow or indicate that there is a presence of microbes in the system.

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.

TEMPERATURE

High temperatures in the distribution system can affect the amount of chlorine residual and can contribute to bacterial growth. Typically, the temperature of drinking water in the distribution system rises during summer months.

TASTE AND ODOUR

Taste and odour are monitored through customer complaints. If the water quality meets all the other parameters set out in this report, the taste and odour of the water should not change. Most of the time the different taste and odour will be the result of an increase in free chlorine, which is safe to drink. However, it's important for the City and Water Services staff to track and react to complaints because it could mean that contamination has occurred somewhere in the system.

Staff checking the water temperature before collecting a water sample.

Appendix G | Water Sampling Sites

MONDAY

RMD-250	6071 Azure Road
RMD-251	5951 McCallan Road
RMD-252	9751 Pendleton Road
RMD-253	11051 No. 3 Road
RMD-254	5300 No. 3 Road
RMD-255	6000 block Miller Road
RMD-256	1000 block McDonald Road
RMD-269	14951 Triangle Road
RMD-270	8200 Jones Road
RMD-271	3800 Cessna Drive
RMD-272	751 Catalina Crescent
RMD-273	Across from 8331 Fairfax Place
RMD-274	10920 Springwood Court

WEDNESDAY

RMD-257	6640 Blundell Road
RMD-258	7000 block Dyke Road
RMD-259	10020 Amethyst Avenue
RMD-260	11111 Horseshoe Way
RMD-261	9911 Sidaway Road
RMD-262	13799 Commerce Parkway
RMD-263	12560 Cambie Road
RMD-264	13100 Mitchell Road
RMD-266	9380 General Currie Road
RMD-268	13800 No. 3 Road
RMD-277	Across from 11280 Twigg Place
RMD-278	6651 Fraserwood Place
RMD-279	Across from 20371 Westminster Highway

FRIDAY

RMD-202	1500 Valmont Way
RMD-203	23260 Westminster Highway
RMD-204	3180 Granville Avenue
RMD-205	13851 Steveston Highway
RMD-206	4251 Moncton Street
RMD-208	13200 No. 4 Road
RMD-212	Across from 8600 Ryan Road
RMD-214	11720 Westminster Highway
RMD-216	11080 No. 2 Road
RMD-249	23000 block Dyke Road
RMD-267	17240 Fedoruk Road
RMD-275	5180 Smith Crescent
RMD-276	22271 Cochrane Drive
RMD-280	11500 McKenzie Road

Staff with a vial of water ready to be tested.

Appendix H | Specific Emergency Response Plans

Specific Emergency Response Plans

Positive Response for E. Coli or Fecal Coliform

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

- **The City of Richmond's water quality staff, the Drinking Water Officer 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 sources of the fecal-positive sample.**
- **Chlorine residual for the sample noted on the sampler's data sheet will be reviewed to determine if a localized loss of disinfectant occurred.**
- **Water Services staff 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, the Drinking Water Officer 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 boil water 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.**

Staff collecting a water sample in a vial for testing.

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 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 Drinking Water Officer and 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 collaboration with Vancouver Coastal Health, 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.

Should there be a turbidity event, the results will be assessed and 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;**
- **flush areas and re-test; and**
- **if necessary (in consultation with Vancouver Coastal Health), issue a public communication and 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. City staff implement several response measures.

- **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

Staff implement several response measures 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 demand management techniques and by supplementing supply to problem areas.**
- **Metro Vancouver, the Drinking Water Officer 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 are suspected will be immediately reported to the Drinking Water Officer and 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.

Appendix I | References

1. Government of Canada – Canadian Drinking Water Guidelines
   www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/index_e.html
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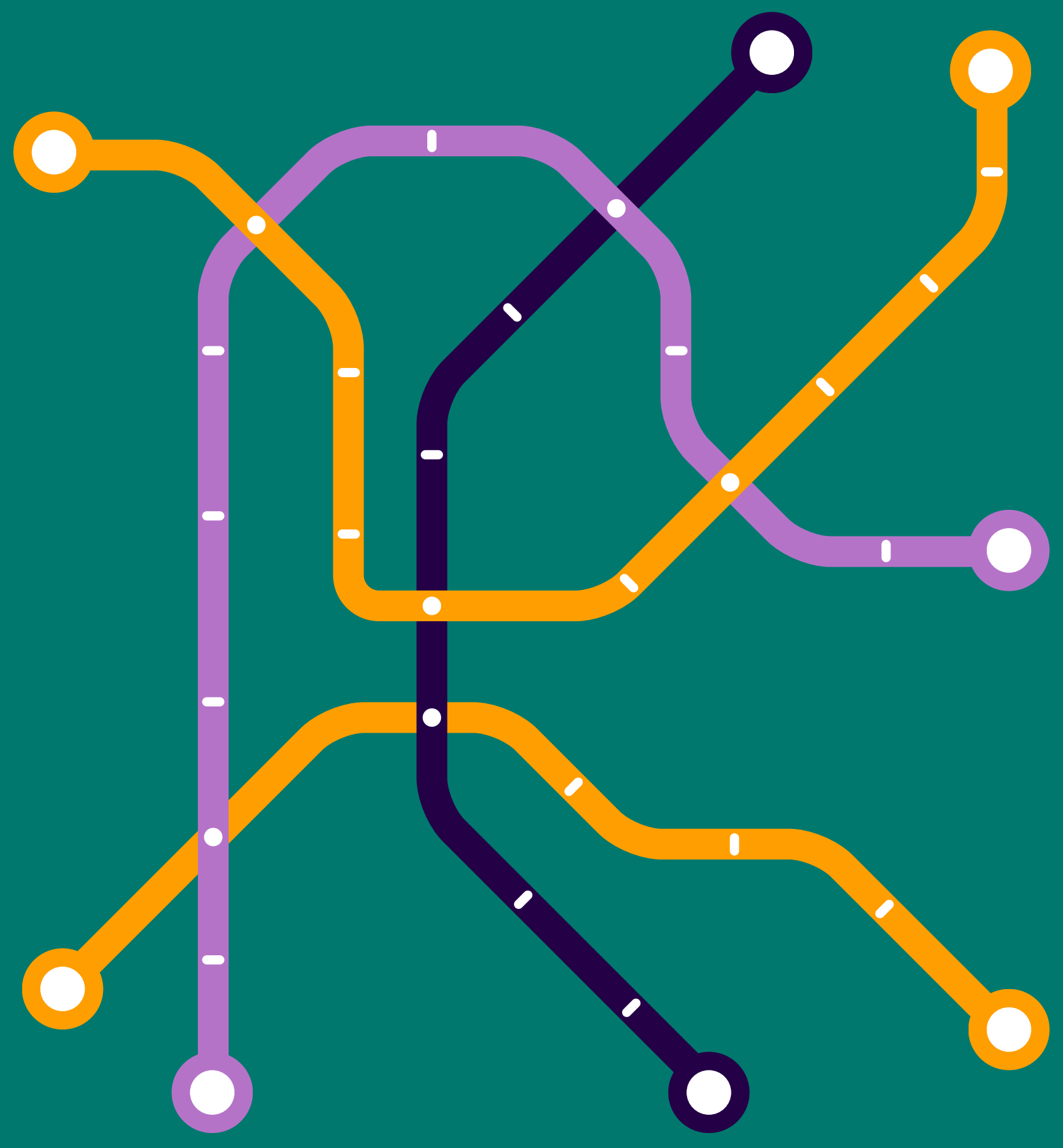
Issued June 2024

Richmond



CONNECTING BC:

A TEN-YEAR VISION AND INVESTMENT PLAN FOR PUBLIC TRANSIT THROUGHOUT BC

Executive Summary

Marc Lee, CCPA-BC

EXECUTIVE SUMMARY

British Columbians deserve to be able to get to where they need to go quickly, conveniently and affordably, no matter where in the province they live. And meeting our climate goals demands modern, sustainable, zero-carbon transit — with great service that can offer a compelling alternative to personal cars.

But after years of neglect and privatization, today's transit system is plagued with overcrowding, delays and big gaps in service.

Our current provincial government has made important new transit investments. Now it's time for the next step: a new province-wide vision, uniting local and regional transit into an integrated whole.

Connecting BC is a 10-year public transit investment plan for our province that will:

- Recognize First Nations title and rights
- Make transit affordable, accessible and inclusive
- Move BC toward sustainable, zero-carbon transit
- Eliminate privatization for better wages/benefits for workers and better services for users
- Make riding on transit a great experience
- Use new transit infrastructure and services to shape BC's growth
- Ensure the provincial leadership needed to get it right

The result? Stronger, more vibrant communities. Thousands of well-paying jobs and healthier local economies. And a big step forward toward the goal of a clean BC.

The Plan

1. Connect BC communities everywhere through a new province-wide express bus service. With Greyhound pulling out of BC in 2018, getting around BC by transit can range from impossible to wildly inconvenient, with multiple fares spanning different public and private operators. A province-wide public transit network will improve mobility for people in small towns,rural areas and remote First Nations communities — making it easier to get health care and other services, visit family or go on vacation. And stronger transit connections across BC would have a big impact on tourism.

2. Double the number of buses in BC Transit local services within five years and triple it within ten, for more frequent, reliable local transit services in communities throughout BC. With more regular, extensive services that people know they can rely on, ridership will grow over time as people shift their habits. Targeted, customized services including community shuttle services, on-demand rides, car sharing and bike sharing can supplement fixed routes for the "first/last mile" challenges.

3. Expand HandyDART service province-wide with an upgraded electric fleet. Stop contracting with private companies for services and using taxis instead of buses. Instead, expanding HandyDART — including in small towns, rural and First Nations communities — will bring new minibuses, cars and vans, and new public facilities and maintenance centres to communities across BC.

4. Develop new regional rail connections across the South Coast and Vancouver Island along historic rail corridors, in partnership with First Nations communities along the rail lines. A major investment in regional rail will transform development and travel patterns, and facilitate better connections between regions. These investments include:

- Building on the proven success of the West Coast Express, expanding it from weekday commuter service to regular daily service, and extending the service area to Abbotsford
- Repurposing the historic Interurban corridor from Langley to Chilliwack via Abbotsford. Over time, this will reshape development patterns and transportation patterns region-wide, adding denser housing, shops, services and amenities around new transit hubs
- Restoring rail service to Prince George via Squamish and Whistler, re-establishing a historical connection into the heart of BC's Interior and boosting Prince George as a transit hub
- Restoring the Vancouver Island Rail Corridor for both passenger and freight services.

5. Add new passenger ferry options between Vancouver, the Gulf Islands, Sunshine Coast and Vancouver Island. Just as roads can't infinitely be expanded to accommodate more cars, BC's ferries have been hamstrung by seeing them almost exclusively as car transportation. New passenger ferries will dramatically increase capacity for BC Ferries at much lower cost, while providing a superior passenger experience.

6. Accelerate TransLink's 10-year Access for Everyone plan for Metro Vancouver. With more than half BC's population, Metro Vancouver is a critical hub for economic activity, post-secondary education, research and development, tourism and culture in BC. Rolling out most investments in TransLink's plan over the next five years instead of 10 will help clear congestion and begin shifting housing and other development. And it will set the stage for implementing next-level rapid transit options across the region, such as Burrard Inlet Rapid Transit, LRT in Surrey, and new routes along Hastings Street and 41st/49th Avenues in Vancouver.

7. Expand existing free transit programs to youth aged 13 to 18. This will help young British Columbians develop the habit of using transit, a crucial cultural change in shifting transportation patterns. Free transit programs should also expand to cover people on social assistance who are not already included in the BC Bus Pass program.

8. Integrate all these transit pieces into a seamless, coordinated and coherent transit experience — with one-ticket access and synchronized service and information infrastructure, so riders can make connections efficiently and reliably across systems and get the updates they need for their whole trip quickly and easily.

Building a cleaner, brighter future for BC communities

Great jobs:

The investments in this plan will have a major impact on jobs, creating:

- An average of 16,800 jobs per year in construction of public transit infrastructure projects, such as a new rapid transit bridge across Burrard Inlet, electric bus charging terminals, and multiple bus, rail and ferry terminals and stations
- An average of 23,700 jobs per year in operations, including drivers, supervisors, mechanics, maintenance crews,security and more.

Pathways into these jobs will be prioritied for those traditionally under-represented in the trades, including Indigenous and racialized workers, and women and gender diverse people. And because the plan will bring thousands of workers who are currently contracted out or working for private transportation companies back under the public umbrella, it will upgrade those jobs with higher wages and better benefits and working conditions.

Stronger, healthier communities:

Those effects will ripple through the economy, raising GDP and employment. And there will be wide-ranging social, economic and environmental benefits. By making transit more available in more communities, this plan will help increase affordability. It will reduce travel times for all — including freight and private vehicles — while lowering health care costs and improving air quality.

Smarter growth:

BC's expanded transit network will reshape development patterns, orienting them toward transit and increasing density. It will spur the transition of suburban areas into more complete communities and help revitalize town centres.

A cleaner province:

These investments are central to dramatically reducing the one-third of BC's greenhouse gas emissions that come from transportation.

THE INVESTMENT

This plan requires:

- $15.4 billion over 10 years to improve the frequency, speed and reliability of existing transit and introduce new services to build a province-wide network, and
- An accelerated $6.8 billion in funding already promised by the BC government for transit projects in Metro Vancouver.

By comparison, the BC government spends more than $4 billion per year on transportation capital spending (including roads and transit) alone. There is $9 billion in highway projects (spanning multiple years) on the BC Budget docket, plus about $650 million per year for other maintenance and operation of roads and bridges.

Non-transit spending — highways, bridges and tunnels — is fully funded by the BC government. As this plan's transit investment will relieve pressure on that infrastructure, a large portion of the plan could be funded by repurposing some of that budget.

Finally, our plan calls on the BC government to increase its annual subsidy to all transit services in BC from $350 million today to $1.5 billion at the end of the plan's 10-year scope.

British Columbia can accomplish a full transformation of public transit and transportation province-wide within one decade. And with it will come greater access to education, health care and employment, stronger public sector jobs, lower carbon emissions and healthier British Columbians.

Let's not keep BC riders waiting. It's time to invest in the transit British Columbians deserve.