City of Richmond

Agenda

Public Works and Transportation Committee
Electronic Meeting

Anderson Room, City Hall
6911 No. 3 Road

Wednesday, July 23, 2025
4:00 p.m.

Pg. # ITEM

MINUTES

PWT-6 ***Motion to adopt the minutes of the meeting of the Public Works and Transportation Committee held on June 18, 2025.***

NEXT COMMITTEE MEETING DATE

September 17, 2025, (tentative date) at 4:00 p.m. in the Anderson Room.

AGENDA ADDITIONS AND DELETIONS

ENGINEERING AND PUBLIC WORKS DIVISION

1. **ICBC-CITY OF RICHMOND ROAD IMPROVEMENT PROGRAM UPDATE**
(File Ref. No. 10-6460-01) (REDMS No. 8052558)

PWT-16 See Page **PWT-16** for full report

Designated Speaker: Beata Ng

STAFF RECOMMENDATIONS

(1) That the proposed road safety improvement projects, as described in Attachment 1 of the staff report titled "ICBC-City of Richmond Road Improvement Program Update," dated June 24, 2025, from the Director, Transportation, be endorsed for submission to the ICBC 2025 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, Engineering and Public Works, be authorized to execute the cost-share agreements on behalf of the City, and that the Consolidated 5 Year Financial Plan (2025-2029) be amended accordingly.

2. **WESTMINSTER HIGHWAY TRAFFIC CALMING - 2025 UPDATE**
(File Ref. No. 10-6500-01) (REDMS No. 8089486)

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

Designated Speaker: Beata Ng

STAFF RECOMMENDATION

That staff implement traffic calming measures as outlined in Option 2 of the staff report titled "Westminster Highway Traffic Calming – 2025 Update", dated July 7, 2025, from the Director, Transportation.

3. **SOUTH DIKE UPGRADES PRELIMINARY DESIGN – 6080 DYKE ROAD TO GILBERT ROAD**
(File Ref. No. 10-6000-01) (REDMS No. 8057547)

PWT-31 See Page **PWT-31** for full report

Designated Speaker: Eric Sparolin

STAFF RECOMMENDATION

That the preliminary design presented in the staff report titled "South Dike Upgrades Preliminary Design – 6080 Dyke Road to Gilbert Road", dated June 18, 2025, from the Director, Engineering be approved for detailed design, to be brought forward for construction funding.

4. **DOG WASTE COLLECTION PILOT SUMMARY AND PROPOSED EXPANSION**
(File Ref. No. 10-6370-01) (REDMS No. 8048799)

PWT-62

See Page **PWT-62** for full report

Designated Speaker: Kristina Grozdanich

STAFF RECOMMENDATION

That an ongoing additional level estimated at $71,000 be considered in the 2026 Utility budget process to expand the Dog Waste Collection Program as described in Option 2 in the staff report titled "Dog Waste Collection Pilot Summary and Proposed Expansion" dated June 24, 2025 from the Director, Public Works Operations.

5. **AWARD OF CONTRACT 8438P – PROVISION OF HYDROVAC SERVICES**
(File Ref. No. 10-6000-01) (REDMS No. 8064777)

PWT-70

See Page **PWT-70** for full report

Designated Speaker: Victor Ma

STAFF RECOMMENDATIONS

(1) That Contract 8438P – Provision of Hydrovac Services be awarded to McRae's Environmental Service Ltd., for a three-year term for an estimated contract value of $9,286,266 exclusive of taxes, as described in the report titled "Award of Contract 8438P – Provision of Hydrovac Services", dated June 23, 2025 from the Director, Public Works Operations;

(2) That the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to execute the contract and related documentation with McRae's Environmental Service Ltd.; and

(3) That the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to extend the initial three-year term, up to the maximum total term of five years, for the maximum total amount of contract of $15,711,201, excluding taxes.

6. **FRASER RIVER FRESHET AND FLOOD PROTECTION UPDATE 2025**
(File Ref. No. 10-6060-01) (REDMS No. 7978398)

PWT-75 See Page **PWT-75** for full report

Designated Speaker: Ridhi Dalla

STAFF RECOMMENDATION

That the staff report titled "Fraser River Freshet and Flood Protection Update 2025", dated June 27, 2025, from the Director, Engineering be received for information.

7. **2025 AGEING UTILITY AND ROAD INFRASTRUCTURE PLANNING – UPDATE**
(File Ref. No. 10-6060-01) (REDMS No. 8047179)

PWT-85 See Page **PWT-85** for full report

Designated Speaker: Jason Ho

STAFF RECOMMENDATION

That the staff report titled, "2025 Ageing Utility and Road Infrastructure Planning – Update", dated June 26, 2025, from the Director, Engineering be received for information.

8. **AWARD OF CONTRACT 8428 NOITC - SUPPLY AND DELIVERY OF WATER METERS AND WATER METER HEADS**
(File Ref. No. 10-6650-02) (REDMS No. 8068324)

PWT-101 See Page **PWT-101** for full report

Designated Speaker: Bryan Shepherd

STAFF RECOMMENDATIONS

(1) That Contract 8428 NOITC – Supply and Delivery of Water Meters and Water Meter Heads be awarded to FlowSystems Distribution Inc. ("Flow Systems"), for a one-year term for an estimated value of $400,000, exclusive of taxes, as described in the report titled "Award of Contract 8428 NOITC – Supply and Delivery of Water Meters and Water Meter Heads" dated June 19, 2025 from the Director, Public Works Operations;

(2) That the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to execute the contract and all related documentation with FlowSystems Distribution Inc.; and

(3) That the Chief Administrative officer and General Manager, Engineering and Public Works be authorized to extend the initial one-year term, up to a maximum total term of five years, for the maximum total amount of $2,000,000, excluding taxes.

9. **MANAGER'S REPORT**

ADJOURNMENT

City of Richmond

Minutes

Public Works and Transportation Committee

Date:	Wednesday, June 18, 2025
Place:	Anderson Room Richmond City Hall
Present:	Councillor Carol Day, Chair Councillor Michael Wolfe Councillor Chak Au (by teleconference) Councillor Kash Heed
Absent:	Councillor Alexa Loo
Also Present:	Councillor Laura Gillanders (by teleconference) Councillor Bill McNulty
Call to Order:	The Chair called the meeting to order at 4:00 p.m.

MINUTES

It was moved and seconded
That the minutes of the meeting of the Public Works and Transportation Committee held on May 21, 2025, be adopted as circulated.

CARRIED

AGENDA ADDITIONS AND DELETIONS

It was moved and seconded

(1) ***That No. 4 Road and Granville Avenue intersection be added as Item 3A; and***

(2) ***That Dover Beach Habitat Area be added as Item 3B.***

CARRIED

ENGINEERING AND PUBLIC WORKS DIVISION

1. **YOUTH CLIMATE CORPS BC**
(File Ref. No. 10-6370-01) (REDMS No. 8042231)

Jocelyn Carver, Interim Executive Director and Natalie Gerum, Director of Programs, Youth Climate Corps British Columbia (YCCBC), spoke to their PowerPoint presentation (copy on file, City Clerk's Office) in support of the proposed partnership with the YCCBC and the City of Richmond in its commitment to youth and climate, noting the many YCCBC programs operating across the province at the intersections of youth leadership development, civic engagement, community climate action and career development.

In response to queries from Committee, the delegates noted (i) the funding grant for the YCCBC programming came through the Climate Action Secretariat, (ii) the living wage rate is based on the geographic area of the youth, and (iii) the YCCBC has a very positive working relationship with unions across the province, working with municipalities to identify employment opportunities.

It was moved and seconded

(1) That a partnership with the Youth Climate Corps BC, as outlined in the staff report titled "Youth Climate Corps BC", dated May 6, 2025, from the Director, Public Works Operations, be approved and the Chief Administrative Officer and General Manager, Engineering and Public Works, be authorized to execute the agreement and all related documentation with Youth Climate Corps BC; and

(2) The six-month pilot program and total cost of $85,000 be considered as part of the 2026 budget process with funding from the General Solid Waste and Recycling Provision.

The question on the motion was not called as a brief discussion ensued with respect to the program term length and sustainability.

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

2. **COMMEMORATIVE CROSSWALK TO HONOUR VETERANS**
(File Ref. No. 10-6450-17-01) (REDMS No. 8047558)

Captain Lindy MacKinnon, Canadian Armed Forces Veteran, spoke to her initiative to bring forward the idea of a Veterans commemorative crosswalk in Richmond, noting the installation of similar crosswalks across Canada. Appreciation was expressed for the consideration of Captain MacKinnon's request, assistance of staff and the community engagement undertaken to work through the various options.

Ron Fontaine, President, Royal Canadian Legion Branch 291 (Richmond), expressed appreciation to staff for their guidance to implement the Veterans commemorative crosswalk.

Staff noted (i) the significance of the crosswalk location at No. 3 Road and Anderson Road being in close proximity to the Cenotaph at City Hall where a Remembrance Day ceremony and reception is held on an annual basis, and (ii) the design change was due to the receipt of the National Royal Canadian Legion's recommended crosswalk template received late in the process and supported by the stakeholders with the wording "Lest We Forget" from the original submission to be included in the design, as well as some further modifications to address accessibility concerns.

It was moved and seconded
That the commemorative crosswalk design, as described in the staff report titled "Commemorative Crosswalk to Honour Veterans" dated May 29, 2025, from the Director, Transportation, be installed at No. 3 Road and Anderson Road.

CARRIED

3. **CITY CENTRE TRAFFIC STUDY – TERMS OF REFERENCE**
(File Ref. No. 10-6500-01) (REDMS No. 7948823)

Staff provided a summary of the report noting (i) the report outlines a proposed Terms of Reference for a comprehensive road safety study of the north south roads in the City Centre that are bounded by Westminster Highway, Gilbert Road, Granville Avenue and Garden City Road, (ii) the scope of the study includes vehicles, buses, trucks, pedestrians and cyclists, (iii) consultation with the public and stakeholders on any proposed speed limit reductions will also be undertaken using a variety of communication platforms, and (iv) if endorsed by Council, the study will be included in the 2026 budget process and will begin following the 2026 budget approval.

Concern was expressed regarding vehicle traffic speed along No. 3 Road and the need and cost of the proposed comprehensive road safety study.

In response to queries from Committee, staff noted that (i) some options to start the project immediately using a variety of different funding sources could be brought back for Council consideration at the next Council meeting, (ii) it is recognized that the work plan outlined to Committee is comprehensive and is going to take some time to undergo a broader study of the city's major north-south corridors, (iii) the proposed study will also look at the impacts of speed reductions, and (iv) the proposed study will be resource intensive for staff and could impact implementation and delivery of other transportation initiatives..

Er Jun Ma, Richmond resident, spoke to his written submission (attached to and forming part of these minutes as Schedule 1), expressing concern with vehicle speeds and suggesting that the proposed study focus on how best to efficiently move people in Richmond, in particular using public transit and alternative transportation modes to private vehicles.

It was moved and seconded
That the terms of reference as described in the staff report titled "City Centre Traffic Study – Terms of Reference", dated June 5, 2025, from the Director, Transportation, be endorsed, and that staff be authorized to submit a project request in the amount of $150,000 as part of the 2026 budget process.

The question on the motion was not called as a brief discussion ensued with respect to next steps if the motion passes, noting staff's earlier comments regarding the possibility to expedite the study start date sooner.

The question on the motion was then called and it was **CARRIED** with Cllr. Heed opposed.

3A. NO.4 ROAD AND GRANVILLE AVENUE INTERSECTION

Concerns were expressed with respect to the recent traffic pattern change at No. 4 Road and Granville Avenue, resulting from the two barricades placed at the entrance to the driveway of McNeil Secondary School, causing considerable traffic congestion at the school and interruption and delay to the traffic flow on No. 4 Road of the passing south bound traffic in the left lane.

Staff noted (i) they are aware there was a sinkhole on the school property which resulted in the school providing the barricades for safety concerns of drivers in that area, (ii) the City also has an upcoming flood protection capital project where there will be work done along No. 4 Road for which there has been consultation with the school regarding some of the traffic impacts from that project, (iii) the flood protection works started in June 2025 and will continue through the end of August 2025, with removal of the school barricades to be coordinated with the school, and (iv) with respect to having a left hand signal light on No. 4 Road at Granville Avenue, the challenge is that there is no room to make a left hand turn bay at this time, and having only a left turn signal arrow is not ideal, given the mixed results and some confusion with similar traffic signals in other areas.

3B. DOVER BEACH HABITAT AREA

In response to a query relating to the habitat area located within the recently approved dyke upgrade project from Lynus Lane, east of No. 2 Road to the bridge (the Dover Beach marsh area), staff noted (i) as part of the project in 1991, the five year maintenance program was a federal requirement at the time to serve the permitting, (ii) future and current habitat agreements for compensation are extended now (often requirements are five years and above), (iii) staff are proposing when habitat banking compensation work is approved in the future, that it would also require a long-term maintenance program beyond the permitting requirement as well, (iv) the City collaborates considerably with Raincoast Conservation Foundation, and (v) should further requirements through detailed design require habitat compensation, staff would look at opportunities to extend or benefit habitat compensation in the area.

4. MANAGER'S REPORT

(i) Hamilton: Speed Reduction

The status of speed reduction efforts in the Hamilton area was queried. In response, staff noted (i) the speed limit was not reduced at the s-curve, however traffic calming was installed, and staff are reviewing the efficacy of those calming measures, (ii) with respect to the request for a traffic light at River Road and Westminster Highway, staff have completed the requested consultation with area residents and currently processing the data to bring back to Committee, and the City can install traffic signals as needed.

(ii) Status of Hogweed in Richmond

In response to the request for an update on the giant hogweed invasive plant, noting in particular the hogweed marked with cones on the East West Connector in Hamilton, staff advised (i) there is an inventory of all the hogweed located in the City and on private property and staff make every effort to address as soon as possible before flowering, through the services of a private contractor, and (ii) with respect to the giant hogweed noted, the location could be on provincial land, in which case staff will request immediate action prior to flowering.

(iii) Fire Hydrant Flooding

The recent parking lot flooding from a private fire hydrant at Home Depot was queried. Staff reported (i) the fire hydrant released water during a general maintenance service call performed by a private contractor when a valve was improperly turned off, (ii) Richmond Fire-Rescue (RFR) arrived on the scene but were unable to shut down the fire hydrant, and contacted City Engineering and Public Works who immediately responded and were able to shut down the hydrant, and (iii) Home Depot will be charged for the water usage that occurred through that hydrant, and staff will be following up with RFR on any further action.

ADJOURNMENT

It was moved and seconded
That the meeting adjourn (5:09 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, June 18, 2025.

Councillor Carol Day
Chair

Lorraine Anderson
Legislative Services Associate

TO: MAYOR & EACH COUNCILLOR
FROM: CITY CLERK'S OFFICE
Jesson, Claudia

Schedule 1 to the Minutes of the Public Works and Transportation Committee meeting of Richmond City Council held on Wednesday, June 18, 2025

ON TABLE ITEM
Date: June 18, 2025
Meeting: PWT
Item: #3

CITY OF RICHMOND DATE JUN 18 2025 RECEIVED CITY CLERK'S OFFICE

From: Er Jun Ma <erjun9984@gmail.com>
Sent: Tuesday, June 17, 2025 7:06 PM
To: MayorandCouncillors; mayorea; Heed,Kash; Wolfe,Michael; Gillanders,Laura; McNulty,Bill; Loo,Alexa; Hobbs,Andy; Day,Carol; Au,Chak; Transportation
Subject: PWT: Amend the City Centre Traffic Study Terms of Reference
Categories: - TO: MAYOR & EACH COUNCILLOR / FROM: CITY CLERK'S OFFICE

Dear Mayor Brodie and Councillors,

As Richmond continues to grow, our streets need to adapt to the changing transportation needs. This is why I am pleased to hear that the City is evaluating transportation in the City Centre, as planned in the "City Centre Traffic Study—Terms of Reference" in the agenda of the Public Works and Transportation Committee meeting scheduled for June 18, 2025. The terms of reference recommended by staff for your approval are a good foundation for carrying out this study.

However, the current terms of reference are heavily focused on studying vehicular traffic (i.e., private cars) with a stark lack of emphasis on the immense role that transit and alternative transportation modes play in moving Richmond's residents, workers, students, and visitors.

Please amend the motion so City Staff can comprehensively study transportation in the City Centre and effectively plan for Richmond's development.

Recommended amendments to the Terms of Reference (PWT-27)

1.
2.
3. *Data Collection: Collect traffic*
4. *(vehicles, buses, trucks, pedestrians, and cyclists) volume data.*
5.
    - o
    - o
    - o This instructs staff to count
    - o the number of vehicles, not the number of people transported by each mode. For example, even when excluding the thousands of people transported by the Canada Line, buses alone move more than 12,000 people every day along the No. 3 Road corridor. However, if
    - o Staff followed the above scope—only counting the number of buses—the thousands of people transported would be omitted from the data. Whereas a bus can move more than 50 people at a given time, a sedan can move only 5, usually 1 or 2.
    - o
        - ▪
        - ▪
        - ▪ **Change to:**
        - ▪ ***Collect traffic data, including,***

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& DISTRIBUTED

- ***but not limited to, these factors: 1) the number of vehicles, cyclists, and pedestrians, 2) the type of vehicles/road user, 3) the number of passengers on buses, 4) the frequency of buses for each route, 5) the average delay for buses, and 6) the time of day***
- ***for each.***

6.
7.
8. *Site Assessment: Identify transit*
9. *service, cycling routes, and pedestrian facilities*
10.
    - This instruction is vague. Lacking
    - specific instructions to study the frequency, average delay, and connectivity of bus routes
        - **Change to: Identify transit service,**
        - **cycling routes, and pedestrian facilities. Evaluate transit service based on transit ridership, frequency, delay, comfort and safety of bus stops, and route connectivity.**

11.
12.
13. *Stakeholder Engagement*
14. (PWT-28)
15.
    - Movement: Metro Vancouver Transit
    - Riders is an advocacy group focused on improving public transit in the region, but is omitted from the list of stakeholders to consult.
        - **Include Movement: Metro Vancouver**
        - **Transit Riders to the list of stakeholders to consult.**
    - TransLink
        - TransLink has already done considerable
        - work on identifying areas of congestion on No. 3 Road and has proposed solutions for many problem areas.*
        - **Staff should collaborate with**
        - **TransLink: share data, such as on ridership, delay, cost, as well as future ridership modelling, projections, and plans.**

Did you know? Fast Facts

-
- No. 3
- Road is a major transit corridor, with buses arriving every 3 minutes or more often.*
-
-
-
-
- On a per-kilometre basis, No. 3 Road is the **fifth-worst** corridor for bus delays in the Metro Vancouver region.*
- **1 in 3** transit trips in the Southwest region (Richmond, Delta, Tsawwassen) start on the No. 3 Road corridor.*
- **40%** of all trips through the central part of the corridor (Cambie Street to Granville Avenue) are on buses during the morning rush hour.*
- Congestion along No. 3 Road can **add up to 10 minutes** to a trip between Steveston Highway and Bridgeport Station—the **highest variability** for any corridor in the region.*

- Aside from the 403 No. 3 Road/Steveston Highway/Riverport Bus, many other buses travel on No. 3 Road.*
    - 401 Westminster Highway/One Road
    - 402 Two Road
    - 404 Four Road
    - 405 Five Road/Cambie
    - 406 Granville/Railway/Steveston
    - 407 Gilbert/Steveston Highway
    - 408 Garden City/Steveston Highway/Riverport
    - 410 No. 3 Road/Cambie/Hamilton/22nd Street Station
    - 414 Richmond Oval
    - 416 Cambie
    - 430 Bridgeport/Metrotown Express
    -
    - **Why is**
    - **this important?**
    -
        -
        - **Delays**
        - **along No. 3 Road reduce the reliability of bus routes across all of Richmond and beyond**
        -

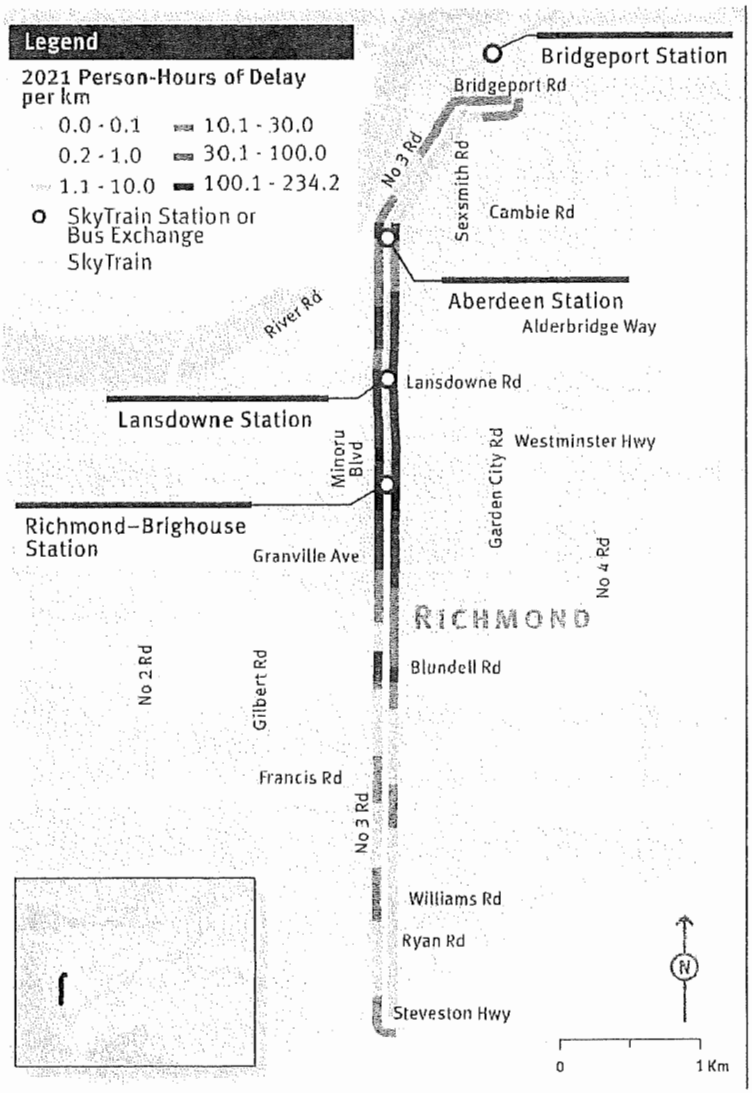
*TransLink. (2023) TransLink Bus Speed and Reliability Report.

If you have any questions, please contact me via email or phone.

Sincerely,

Er Jun Ma

erjun9984@gmail.com | 7786890925
23-4111 Garry Street, Richmond, BC V7E 2T9


Legend
2021 Person-Hours of Delay per km
0.0 - 0.1
0.2 - 1.0
1.1 - 10.0
10.1 - 30.0
30.1 - 100.0
100.1 - 234.2
SkyTrain Station or Bus Exchange
SkyTrain
Bridgeport Station
Bridgeport Rd
No 3 Rd
Sexsmith Rd
Cambie Rd
Aberdeen Station
Alderbridge Way
River Rd
Lansdowne Rd
Lansdowne Station
Minoru Blvd
Garden City Rd
Westminster Hwy
Richmond–Brighouse Station
Granville Ave
No 4 Rd
RICHMOND
No 2 Rd
Gilbert Rd
Blundell Rd
Francis Rd
No 3 Rd
Williams Rd
Ryan Rd
Steveston Hwy
N
0
1 Km

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	June 24, 2025
From:	Lloyd Bie, P.Eng. Director, Transportation	**File:**	10-6460-01/2025-Vol 01
Re:	**ICBC-City of Richmond Road Improvement Program Update**		

Staff Recommendations

1. That the proposed road safety improvement projects, as described in Attachment 1 of the staff report titled "ICBC-City of Richmond Road Improvement Program Update," dated June 24, 2025, from the Director, Transportation, be endorsed for submission to the ICBC 2025 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, Engineering and Public Works, be authorized to execute the cost-share agreements on behalf of the City, and that the Consolidated 5 Year Financial Plan (2025-2029) be amended accordingly.

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

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Finance Engineering	☑ ☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:**	**APPROVED BY CAO**

Staff Report

Origin

At the May 27, 2024, Council meeting, Council endorsed a number of projects to be submitted to ICBC for funding through the 2024 ICBC-City of Richmond Road Improvement Program. This report outlines the projects implemented in 2024 with funding from ICBC and presents a list of projects proposed to be included in the City's submission to ICBC for cost-share funding as part of the 2025 ICBC-City of Richmond Road Improvement Program partnership.

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

> *Community safety and preparedness through effective planning, strategic partnerships and proactive programs.*
>
> *3.2 Leverage strategic partnerships and community-based approaches for comprehensive safety services.*
>
> *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 Strategy #4 Responsible Financial Management and Governance:

> *Responsible financial management and efficient use of public resources to meet the needs of the community.*
>
> *4.1 Ensure effective financial planning to support a sustainable future for the City.*
>
> *4.4 Work with all levels of governments for grant and funding opportunities.*

Analysis

ICBC Road Improvement Program

ICBC initiated the Road Improvement Program in 1990 to help fund the implementation of road safety upgrades to reduce the frequency and/or severity of crashes at high-risk locations, reduce claims costs and reduce the potential for crashes. The City has partnered with ICBC in the Road Improvement Program since 1994.

This partnership enables the City to undertake more traffic safety enhancements with available funding and helps expedite the delivery of road safety improvement projects. Each year, a list of Council-approved road improvement projects eligible for funding through the Road Improvement Program is compiled for submission to ICBC.

Road Improvement Program Highlights

Over the past five years, ICBC has awarded over $1.4 million towards road improvement projects within Richmond. These contributions helped facilitate the following upgrades:

- Intersection Safety Improvements: In 2019, the City completed a study to identify the most collision-prone intersections within the City. The study recommended improvements including the removal of channelized right-turn islands. Over the past five years, ICBC's Road Improvement Program has awarded approximately $450,000 for safety improvements at four intersections:
    - Cambie Road and No. 5 Road: addition of left-turn bays in all directions;
    - Westminster Highway and No. 5 Road: removal of channelized right-turn island;
    - Westminster Highway and Cooney Road: removal of channelized right-turn island; and
    - Garden City Road and Lansdowne Road: removal of channelized right-turn island.

Figure 1 below shows upgrades to the Cambie Road and No. 5 Road intersection that received a grant through the 2024 ICBC Road Improvement Program.

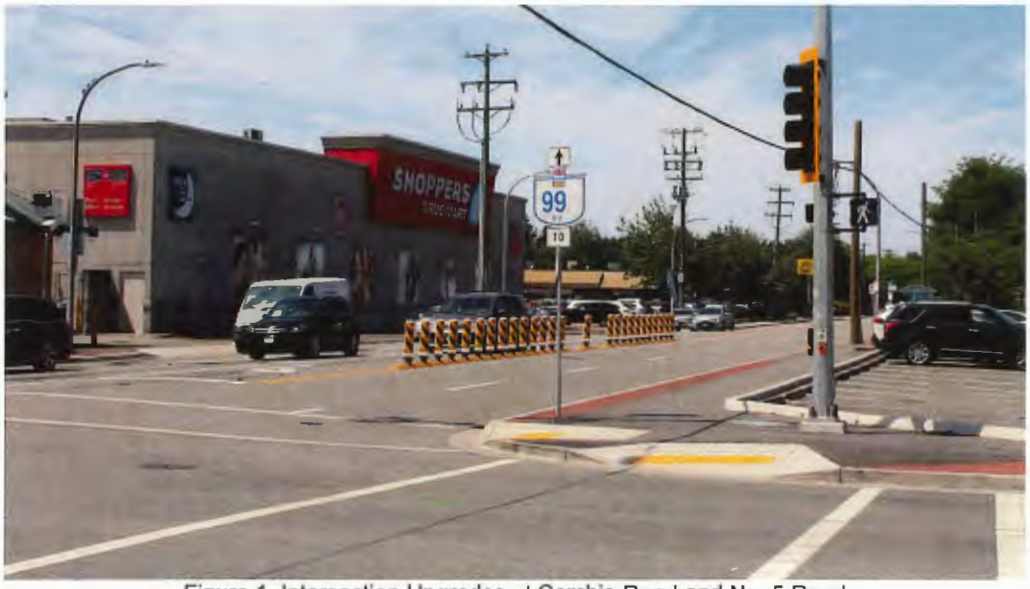


Figure 1: Intersection Upgrades at Cambie Road and No. 5 Road

- LED Street Name Signs: LED street name signs enhance visibility and legibility for drivers. Over the past five years, ICBC's Road Improvement Program has awarded approximately $150,000 to the installation of overhead LED street name signs at 62 intersections. At the end of the 2025 program, all intersections with traffic signals will be equipped with LED street name signs.

- Uninterruptible Power Supply System (UPS): UPS systems at signalized intersections provide continuous power supply to maintain traffic signal operations during power outages. Over the past five years, the Road Improvement Program has awarded approximately $120,000 to the installation of UPS systems at 52 intersections. Upon completion of the 2025 program, 147 of the City's 185 intersections with traffic signals will be equipped with a UPS system. At the current annual funding level, staff anticipate that the remaining signalized intersections will be equipped with a UPS system over the next four years.

- Special Crosswalk Program: The City's Special Crosswalk Program upgrades existing crosswalks with pedestrian-activated flashing lights that alert motorists of crossing pedestrians. Over the past five years, the Road Improvement Program has awarded approximately $40,000 towards the installation of 12 special crosswalks. By the end of the 2025 program, all major crosswalks on arterial roads will be upgraded to be equipped with pedestrian-activated flashing lights.

2024 ICBC-City of Richmond Road Improvement Projects

The City was awarded $445,500 through the 2024 ICBC Road Improvement Program for the implementation of seven bundles of road improvement projects, as identified in Attachment 2. Projects include traffic safety upgrades at three major intersections, installation of special crosswalks, traffic video cameras, overhead LED street name signs and uninterruptible power supply (UPS) at intersections.

Proposed 2025 ICBC-City of Richmond Road Improvement Projects

Nine bundles of projects are proposed to be included in the City's submission to ICBC for the 2025 Road Improvement Program (Attachment 1). Projects include safety upgrades at four collision-prone intersections, installation of new traffic signals, special crosswalks, traffic video cameras, overhead LED street name signs, uninterruptible power supply for traffic signals, pedestrian pathways and bicycle lane protection.

ICBC Funding Contribution

ICBC's funding contribution towards each project will be determined through review of historical crash rates at these locations, the estimated reduction in ICBC claim costs resulting from the proposed improvements, project eligibility in relation to the funding guidelines and the program's funding availability. The outcome of ICBC's review of all submitted projects will be reported back as part of the 2025 update of the ICBC-City of Richmond Road Improvement Program.

Should a project be approved for funding by ICBC, the City will be required to enter into a funding agreement with ICBC. The agreement is provided by ICBC and generally includes an indemnity in favour of ICBC. Staff recommend that the Chief Administrative Officer and General Manager, Engineering and Public Works, be authorized to execute any such funding agreements on behalf of the City.

Financial Impact

The total estimated cost of all the projects identified in Attachment 1 is $10,609,750. All projects are fully funded through Council-approved Capital Budgets. Should any submitted projects receive funding from ICBC exceeding the original budgeted external contribution, staff recommend that the excess external grants be used to reduce the previous approved City funding sources, and that the Consolidated 5 Year Financial Plan (2025-2029) be amended accordingly.

Conclusion

ICBC is a long-time partner working with the City to promote traffic safety in Richmond. The traffic safety initiatives jointly implemented by ICBC and the City have resulted in safer streets for all road users in Richmond.

Staff recommend that Council endorse the various local road safety improvement projects for submission to the 2025 joint ICBC-City of Richmond Road Improvement Program.

Beata Ng, P.Eng.
Manager, Transportation Development and Design
(604-247-4627)

BN:kw

Att. 1: Proposed 2025 City-ICBC Road Improvement Program Projects
Att. 2: 2024 Road Improvement Program Projects Receiving ICBC Funding

Proposed 2025 City-ICBC Road Improvement Program Projects

Proposed 2025 ICBC-City of Richmond Road Improvement Program Projects	Estimated Total Cost
Construction of Intersection Safety Improvements: • Cambie Rd & No. 4 Rd • Westminster Hwy & No. 2 Rd • Granville Ave & Cooney Rd • St Edwards Rd & Cambie Rd	$6,800,000
Installation of Special Crosswalks: • Ash St & Granville Ave • Francis Rd & Newmond Rd • Heather St & Granville Ave	$200,000
Installation or Modification of Traffic Signals: • Great Canadian Way & Beckwith Rd. • No. 5 Rd & Granville Ave • Cambie Rd & Brown Rd • Bridgeport Rd & Sexsmith Rd – Pedestrian Signal • Garden City Rd & Odlin Rd – Addition of Northbound Left-Turn Arrow • Railway Ave & Steveston Hwy – Addition of Eastbound & Westbound Left-Turn Arrows	$1,610,000
Installation of Traffic Video Cameras: • Shell Rd and Cambie Rd • Garden City Rd & Cook Rd • Garden City Rd & Westminster Hwy • Other locations to be determined[2]	$90,000
Installation of Overhead LED Street Name Signs • No. 5 Rd. & Riverside Way • No. 5 Rd. & Blundell Rd. • No. 5 Rd. & Cambie Rd. • Jacombs Rd. & Cambie Rd. • Viking Way & Cambie Rd. • No. 6 Rd. & Commerce Pkwy. • No. 6 Rd. & Mayfield Pl. • No. 6 Rd. & Cambie Rd. • No. 6 Rd. & Bridgeport Rd. • No. 8 Rd. & Blundell Rd. • No. 8 Rd. & Westminster Hwy. • Old Westminster Hwy. & Westminster Hwy. – 1 sign • Westminster Hwy. & McLean Ave.	$195,000
Traffic Calming Measures: • Dyke Road – 1 raised crosswalk, 2 speed cushions • Other locations pending results of public consultation and traffic studies[1]	$14,750

Proposed 2025 ICBC-City of Richmond Road Improvement Program Projects	Estimated Total Cost
Installation of UPS (Uninterruptible Power Supply) • Buswell St. & Granville Ave. • No. 3 Rd & Blundell Rd • No. 4 Rd. & Williams Rd. • No. 4 Rd. & Granville Ave. • No. 4 Rd. & Odlin Rd. • St. Edwards Rd. & Bridgeport Rd. • Simpson Rd. & Bridgeport Rd. • Alderbridge Way & Elmbridge Way • Hollybridge Way & Elmbridge Way • Garden City Rd. & Odlin Cr. • No. 3 Rd & Saba Rd • Cooney Rd.& Westminster Hwy.	$300,000
Construction of Pedestrian Pathway: • St. Edwards Drive (350m east of Cambie Rd-Bird Rd) • Westminster Hwy (McLean Park)	$800,000
Addition of Protected Bike Lanes: • Sexsmith Rd - Brown Rd Bike Route	$600,000
Total	**$10,609,750**

(1) Implementation is subject to consultation with and support from affected residents.
(2) Additional locations may be identified for submission to ICBC prior to its annual program deadline.

2024 Road Improvement Program Projects Receiving ICBC Funding

Project Description	Location	ICBC Contribution	Estimated Total Cost [1]
Intersection Safety Improvements	• Cambie Rd & No. 5 Rd • Westminster Hwy & No. 5 Rd • Westminster Hwy & Cooney Rd	$328,000	$4,610,000
Installation of Special Crosswalk	• No. 2 Rd & Kittiwake Dr • Williams Rd & Elkmond Rd • No. 4 Rd & Dennis Pl	$10,500	$228,000
Installation of UPS (Uninterruptible Power Supply) at Intersections	• No. 1 Rd & Williams Rd • No. 1 Rd & Osmond Rd • No. 1 Rd & Blundell Rd • Garden City Rd & Williams Rd • Garden City Rd & Francis Rd • Railway Ave & Moncton St • Garden City Rd & Lansdowne Rd • No. 8 Rd & Westminster Hwy • No. 2 Rd & Blundell Centre • Alderbridge Way & Westminster Hwy	$25,000	$200,000
Installation of Traffic Video Cameras	• No. 4 Rd & Francis Rd • No. 4 Rd & Blundell Rd • No. 4 Rd & Granville Ave	$23,000	$90,000
Installation of Overhead LED Street Name Signs	• Great Canadian Way & River Rd • No. 4 Rd & Williams Rd. • No. 4 Rd & Granville Ave • No. 4 Rd & Alderbridge Way • No. 4 Rd & Odlin Rd • No. 4 Rd & Cambie Rd • No. 4 Rd & Blundell Rd • Aberdeen Mall & Cambie Rd • Hazelbridge Way & Cambie Rd • Sexsmith Rd & Cambie Rd • Gilbert Rd & Granville Ave	$33,000	$180,000
Traffic Calming: Raised Crosswalks	• Bridge Elementary School • McKinney Elementary School • Choice School	$3,000	$30,000
Installation of Stop-signs via Stop-sign Infill Program	• 91 locations city-wide	$23,000	$45,500
Total		**$445,500**	**$5,383,500**

[1] Actual total project costs are being compiled and are unavailable at the time of this report.

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	July 7, 2025
From:	Lloyd Bie, P.Eng. Director, Transportation	**File:**	10-6500-01/2025-Vol 01
Re:	**Westminster Highway Traffic Calming – 2025 Update**		

Staff Recommendation

That staff implement traffic calming measures as outlined in Option 2 of the staff report titled "Westminster Highway Traffic Calming – 2025 Update", dated July 7, 2025, from the Director, Transportation.

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

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Public Works	☑	Roeland Zwaag
SENIOR STAFF REPORT REVIEW	**INITIALS:** CJ	**APPROVED BY CAO** Serena

Staff Report

Origin

At the September 11, 2024 Public Works and Transportation Committee, the following motion was endorsed:

> *That staff provide options for traffic calming measures on Westminster Highway in Hamilton, including financial impacts, and report back.*

This report addresses this referral.

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.*

Analysis

Background

In May 2023, staff received direction to conduct a speed study on Westminster Highway in Hamilton. The speed study identified speeding along Westminster Highway between Smith Crescent and Boundary Road, which has a posted speed limit of 50 km/h. Data showed that the 85th percentile speed was 65 km/h eastbound and 87 km/h westbound (Table 1). Speeding was not observed along other sections of Westminster Highway.

At the February 26, 2024 Regular Council Meeting, Council supported staff's recommendation to install shoulder flexible delineators along this section of Westminster Highway to assess its effectiveness in reducing vehicle speeds. The approved traffic calming measure was installed in April 2024. A picture of the current configuration is shown on Figure 1.

Figure 1: Traffic Calming Installed on Westminster Highway

At the September 11, 2024, Public Works and Transportation Committee, staff were directed to re-assess Westminster Highway and provide options for additional traffic calming measures.

Westminster Highway Context

Westminster Highway is an arterial road and forms part of the region's Major Road Network, connecting Richmond and New Westminster. As an arterial road, Westminster Highway's function is to prioritize movement of traffic. This section of Westminster Highway transports approximately 10,000 vehicles per day. The road also serves as both transit and emergency routes.

Currently, Westminster Highway north of Gilley Road is generally fronted by single family homes, each with driveways accessing Westminster Highway. Interim road changes should respect access needs for existing driveways. Through re-development, driveway accesses to Westminster Highway will be reduced wherever possible.

Updated Speed Study and Collision Data

Speed Study Results

Updated speed studies were conducted in October 2024 and May 2025 at the same location to assess effectiveness of the traffic calming measures installed. A comparison of the speed study results before and after the installation of shoulder delineators are presented in Table 1 below.

Table 1: 85th Percentile Speeds on Westminster Highway

	Before Delineator Installation	**After Delineator Installation**	
	May 2023	**October 2024**	**May 2025**
Eastbound	65 km/h	65 km/h	58 km/h
Westbound	87 km/h	68 km/h	67 km/h

A reduction in speed has been observed on Westminster Highway with the installation of shoulder delineators, particularly in the westbound direction where the 85th percentile speed has reduced by approximately 22%. Prior to traffic calming, 12% of vehicles in the westbound direction were travelling at excessive speeds of over 90 km/h. After the installation of shoulder delineators, this has reduced to 1% of total vehicles.

Collision Data

Table 2 below outlines collisions on Westminster Highway between Highway 91 and Boundary Road based on ICBC data. The majority of collisions are located at intersections. The collision rate observed does not exceed industry accepted thresholds. There were no fatalities involving pedestrians and cyclists.

Table 2: Collision Data on Westminster Highway (2020-2024)

Location	Collision Numbers	
	Total	Involving Pedestrians and Cyclists
Windsor Court	6	1
McLean Avenue	12	2
Between Windsor Court and Gilley Road	4	
Fraserside Gate	5	
Between Willet Avenue and River Road	3	1
River Road	29	1
Smith Crescent	7	
Between Smith Crescent and Boundary Road	1	

Additional Traffic Calming Options

While the shoulder delineators installed in 2023 have been successful in eliminating the upper end of observed speeds, speeds still exceed the posted speed limit of 50 km/h. Additional traffic calming measures can be implemented to further encourage speed reduction.

Traffic calming measures on arterial roads must balance improving safety while maintaining acceptable traffic flow and capacity. Typically interventions such as speed humps that are common for lower classified roads are not appropriate on arterial roads that serve buses, trucks, and emergency vehicles. Common measures include the traffic circles, reducing lane widths, horizontal deflections and providing visual or sensory cues to encourage drivers to slow down.

Traffic calming interventions intentionally demand more attention from drivers to navigate which slows their speed. Drivers using the roadway at higher speeds will feel uncomfortable with the changes and will require time to adjust behaviour.

Option 1: Status Quo (Not Recommended)

No additional physical traffic calming measures are proposed. Staff will continue to monitor speeds and collisions and provide recommendations for safety improvements as required through future capital programs.

In the long term, opportunities to implement traffic circles at intersections such as Smith Crescent and Willet Avenue can be implemented through re-development to provide traffic calming and improve intersection safety.

Option 2: Localized Traffic Calming on Westminster Highway Fronting Cranberry Childcare Centre (Recommended)

This option includes installing additional traffic calming measures on both sides of the driveway accessing Cranberry Childcare Centre location. Curb-mounted delineators will be mounted along the centreline of the road to create a median (Figure 2). This location is selected to slow westbound traffic from New Westminster before reaching the childcare centre and the Hamilton neighbourhood where there is increased pedestrian and local traffic.

Figure 2: Option 2 - Median Delineators at 23591 Westminster Highway

This treatment will compliment the edge delineators previously installed by further narrowing lane widths and providing additional visual cues to drivers prior to approaching the childcare centre. Travel lanes are currently 3.3 m wide in the eastbound direction and 3.7 m wide in the westbound direction. With the installation of the median delineators, the westbound lane will be reduced to approximately 3.4 m.

Option 3: Install Additional Traffic Calming at Multiple Locations (Not Recommended)

Option 3 includes installing multiple sections curb-mounted delineators along Westminster Highway between Smith Crescent and Boundary Road, as shown in Figure 3. This option includes three additional sections of delineators in addition to the two sections included within Option 2. Traffic calming is focused within this section of Westminster Highway for the following reasons:

- Higher speeds have historically been recorded at this location;
- The intent is to slow vehicles down before reaching the Cranberry Childcare Centre and the Hamilton neighbourhood; and
- There are no residential driveways where traffic calming measures will impact access.

Figure 3: Option 3 - Median Delineators Installed at Various Locations

Staff Recommendation

While the shoulder delineators installed in 2023 have been effective in reducing speeds on Westminster Highway, vehicles still exceed the posted speed limit of 50 km/h. Staff recommend implementing additional traffic calming measures to further reduce speeds and improve safety of the roadway.

Option 3 is anticipated to result in greater speed reductions, particularly in the westbound direction, but may create more discomfort for users and have higher installation and maintenance costs. Staff recommend implementing Option 2 and continuing to monitor changes in vehicle speeds. A speed reader board was installed to monitor speeds on an ongoing basis. Staff will also continue to work with the RCMP regarding enforcement efforts on this section of Westminster Highway.

Staff will monitor results and report back to Council on changes observed and whether further traffic calming measures, such as Option 3, should be considered. As traffic calming may create discomfort and requires time for users to adjust, staff recommend adopting a progressive approach and continuing to monitor performance.

Financial Impact

Costs for each option are outlined in Table 3. Installation of all options can be funded through the Council-approved 2025 Traffic Calming Program. For Options 2 and 3, annual Operating Budget Impacts (OBIs) will be required to allow for replacement of damaged delineators and increased demands on cleaning and street sweeping around delineators. Approximate OBIs outlined in Table 3 will be refined and brought forward through future budget recommendations for Council's consideration.

Table 3: Estimated Cost for Traffic Calming Options

	Description	Estimated Cost	Estimated Annual Operating Budget Impacts
Option 1	Status Quo	$0	$0
Option 2	Median Delineators fronting Cranberry Childcare Centre	$37,500	$2,000
Option 3	Median Delineators at Various Locations	$75,000	$5,000

Conclusion

Traffic calming was installed at the on Westminster Highway between Smith Crescent and Boundary Road in Hamilton in 2024 to address speeding observed along this stretch of roadway. Staff have continued to monitor vehicle speeds along this road. Speed study results show that while the traffic calming measures installed have been effective in reducing vehicle speeds, particularly in the westbound direction where speeding was most prominent, the current 85th percentile speed still exceeds the posted speed limit. Staff recommend installing additional traffic calming along the median of the road at one location fronting 23591 Westminster Highway.

Staff will continue to monitor its effectiveness and report back to Council should additional measures be recommended.

Beata Ng, P. Eng.
Manager, Transportation Development and Design
(604-247-4627)

BN:ck

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	June 18, 2025
From:	Milton Chan, P.Eng. Director, Engineering	**File:**	10-6000-01/2025-Vol 01
Re:	**South Dike Upgrades Preliminary Design – 6080 Dyke Road to Gilbert Road**		

Staff Recommendation

That the preliminary design presented in the staff report titled "South Dike Upgrades Preliminary Design – 6080 Dyke Road to Gilbert Road", dated June 18, 2025, from the Director, Engineering be approved for detailed design, to be brought forward for construction funding.

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

Att. 1

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Transportation Parks	☑ ☑	Roeland Zwaag
SENIOR STAFF REPORT REVIEW	**INITIALS:**	**APPROVED BY CAO**
	CJ	Serena

Staff Report

Origin

In 2019, City Council endorsed the Flood Protection Management Strategy and the Dike Master Plan – Phase 3. Guided by these documents, the section of the South Dike, between 6080 Dyke Road and Gilbert Road has been identified as a priority location for dike raising and upgrade works. The project scope includes raising the elevation of the dike crest and Dyke Road between 6080 Dyke Road and Gilbert Road, as well as relocation of utilities. Funding to complete the design portion of the project was approved by Council as part of the 2023 Capital Program. A public engagement campaign to solicit feedback from key stakeholder groups on the preliminary design was held from September 11 to October 6, 2024.

This report summarizes the community feedback received as part of the public engagement campaign, present a preliminary dike design, and seek Council's endorsement of the preliminary design to proceed with detailed design.

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

Introduction

With Richmond's elevation being an average of one metre above sea-level, sea-level rise due to climate change, coastal storm surges, snowmelt flooding and extreme weather events pose serious flood hazards. The City recognizes this risk and is currently advancing flood protection projects, such as the South Dike Upgrades – 6080 Dyke Road to Gilbert Road project.

The Richmond Dike Master Plan – Phase 3 identifies key objectives for this dike reach. These objectives with supporting rationale include:

- Raise the dike by approximately 1.5 metres in elevation on average to meet the projected year 2100 flood levels while also allowing for further future height increases. For this project, the dike will be raised by 0.8 metres to an elevation of 4.1 metres, from the western project limit to the London Landing Parking Lot and by 1.5 metres to an elevation of 4.7 metres from the London Landing Parking Lot to the eastern project limit.
- Move Dyke Road inside the dike to facilitate short-term and long-term dike upgrading.

This will require the road to be reconfigured and reconstructed, with some additional need for land tenure. Moving the road will allow for the removal of utilities within the dike.

- Raise Dyke Road to the dike crest elevation to improve dike stability and resilience.
- Widen the dike on the land side rather than into the Fraser River to reduce impacts to riverfront habitat from water-side dike expansion and avoid having to acquire land tenures on Provincial water lots.

Meeting these objectives is critical for the successful implementation of flood protection infrastructure upgrade plans. The proposed preliminary design was developed to address these objectives.

The preliminary design includes raising the dike from its current elevation by an average of 0.8 metres from the project's western extent to the London Landing parking lot. The dike will then be raised by an average of 1.5 metres from the London Landing parking lot to the project's eastern extent. 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 Dyke Road is in alignment with the recommended actions outlined in the Dike Master Plan – Phase 3 report.

The dike along London Wharf Park and to the west, as well as sections between Gilbert Road and No. 4 Road have been raised. The remaining lower sections to the east will likely be raised in coordination with nearby pump station upgrades.

In its current configuration, Dyke Road is situated at approximately the same elevation as the dike crest. Throughout the project extents, there is an existing gravel multi-use pathway on the top of the dike crest that runs along the south side of Dyke Road. At the western project limit there is existing park space which features an additional gravel pathway. East of this park space is the London Landing parking lot which has access to a boat launch ramp. The remainder of the project extent consists of riverfront habitat and beach areas, and a parking lot east of London Farm. A drainage swale currently runs along north side of Dyke Road with a number of driveways as well as one pedestrian bridge crossing. Figure 2 below illustrates a general cross section and plan view of the current conditions between 6080 Dyke Road and Gilbert Road.

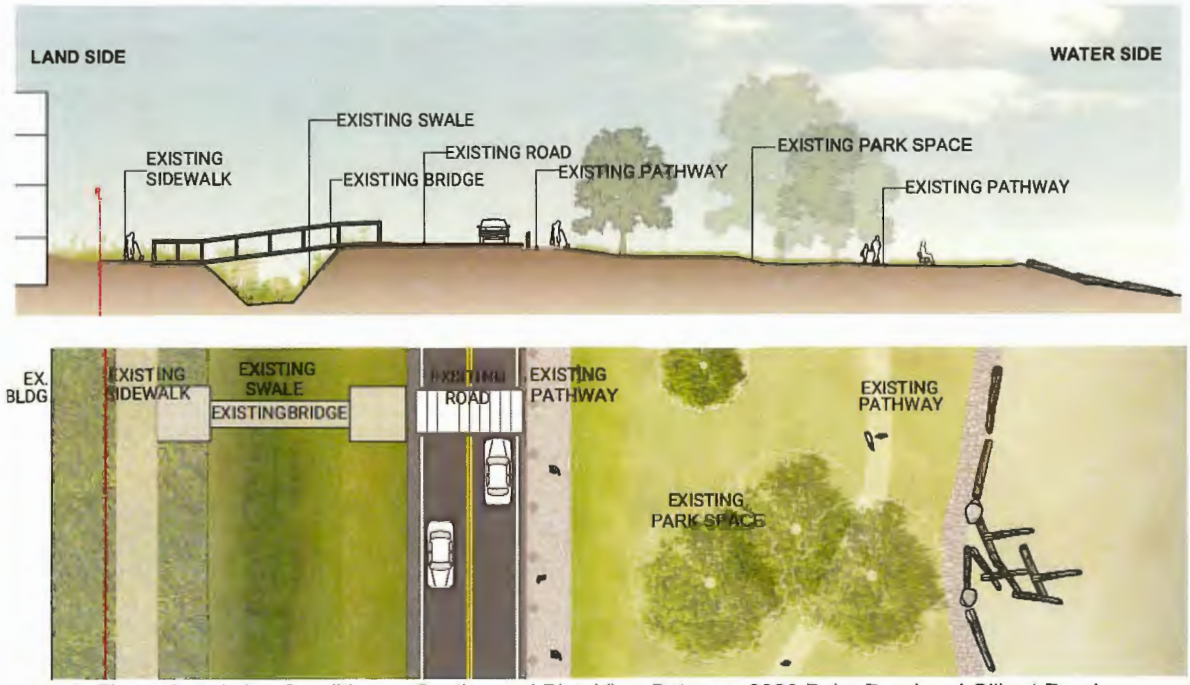


Figure 2: Existing Conditions – Section and Plan View Between 6080 Dyke Road and Gilbert Road

Public Engagement

In 2022, the City of Richmond led an extensive Flood Protection Public Engagement Campaign, including in-person and online engagement activities. This engagement focused on overall City-wide flood protection, with future engagements planned for site specific projects. 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 (LTR) project page that was set up to support community outreach.

For the South Dike Upgrades – 6080 Dyke Road to Gilbert Road project preliminary design, staff identified the following key stakeholder groups for consultation:

- Adjacent London Landing properties, park and trail users, businesses and the general public
- Department of Fisheries and Oceans
- BC Ministry of Forests
- BC Ministry of Water, Land and Resource Stewardship
- BC Inspector of Dikes
- First Nations

The first project-specific public engagement campaign took place from December 6, 2023, to February 4, 2024. To facilitate the conversation and provide a visual for residents, a preliminary concept design was developed that showcased a raised Dyke Road and dike crest configuration. The campaign targeted residents from the London Landing neighbourhood, aiming to identify public interests and opportunities relating to the project, build community support, and gather valuable stakeholder feedback. Engagement components included an LTR project page, survey, and an open house at the Steveston Community Centre on December 13, 2023. Staff compiled all of the public feedback and revised the preliminary concept design through an iterative process based on the collected input received.

The second project-specific public engagement campaign took place from September 11 to October 6, 2024. The campaign aimed to showcase a revised preliminary design that incorporated feedback received from the first engagement. The campaign also focused on providing a broader group of residents with the opportunity to voice their thoughts and concerns related to the project. Residential Stratas, single family properties, and businesses were notified of the campaign. Engagement components included a LTR project page, survey, and an open house at the riverfront London Landing park space (6200 Dyke Road) on September 18, 2024.

Feedback received from both public engagement campaigns has been formalized in a What We Heard (WWH) Report (Attachment 1).

Based on the feedback received, the majority of respondents supported the project. Most respondents focused on sharing constructive feedback focused on amenities and implementation strategies. Many also emphasized the importance of flood protection to stay ahead of climate change-induced sea level rise and mitigate flood hazards.

Design Feedback Received Through Public Engagement

Where possible, feedback received through engagement was incorporated into the project's preliminary design. The following subsections summarize notable changes to the preliminary design that were incorporated based on this feedback. Some feedback that was received was not included the design. These items are also noted and explained in the following subsections.

Dyke Road Alignment

During the engagement campaign, the public noted that shifting the Dyke Road alignment northward, as proposed in the preliminary concept design, was not favourable. This alignment was proposed to accommodate the wider dike footprint, which allows for future, additional dike raising without increasing the dike footprint or encroaching into the river foreshore.

Following the feedback, staff evaluated design options concerning the Dyke Road alignment and some of the road on the western portion of the project can remain in its original alignment. In the original alignment, these portions of Dyke Road remain out of the dike core and do not impact the ability for future dike raising. This change was included in the revised preliminary design showcased during the second engagement campaign.

Respondents also expressed interest in how the project would tie into the existing road grades at each end of the project as well as at driveways onto Dyke Road. Staff communicated that the raised dike and Dyke Road will connect to the existing elevations at the project's east and west limits and all driveway connections will be maintained.

During public engagement, questions were raised about how the dike raising could affect the existing watercourse on the north side of Dyke Road within the City's Riparian Management Area. During detailed design, efforts to avoid and minimize impacts to the watercourse will be evaluated. Where impacts are determined to be unavoidable, the project will undergo regulatory review and will require approvals from provincial and federal authorities. These approvals may include requirements for compensatory measures, such as habitat restoration or offsetting.

Road and Multi-Use Pathway Design

Some respondents voiced their concerns surrounding the speed of vehicles along this stretch of Dyke Road and the desire for traffic calming measures. Attendees offered a variety of speed control measures including speed bumps, raised crosswalks, and lowering the speed limit along Dyke Road. Respondents also expressed the importance of maintaining the existing multi-use pathway. Concurrent to this engagement process, the City also hosted a transportation-focused open house event to discuss traffic calming options along Dyke Road in more detail. Their findings aligned with the feedback received through the project team's public engagement campaigns. In May 2025, two speed cushions and one raised crosswalk were installed in this section of Dyke Road. These improvements will be incorporated as part of the project and included in the final road design. Staff also ensured that the preliminary design included an improved multi-use pathway, providing pedestrians and cyclists with a wider protected pathway separated from vehicles on Dyke Road. The design improves road safety for all road users.

Riverfront Park Space

Maintaining the existing riverfront park space was something respondents desired. London Wharf Park is outside of this project's limits and will not be impacted. As the riverfront park space between London Wharf Park and the London Landing parking lot is part of the upgraded dike it will be rebuilt at a higher elevation, matching the dike. Currently this park space includes a washroom, picnic and seating areas, and a meandering pedestrian as well as a road-side pathway. The detailed design phase will incorporate all of the existing elements. Benches and picnic area throughout the rest of the project will also be reinstated as part of the final design.

Some trees in this area will be impacted, as discussed in the Environmental Considerations section on page 8 of this report.

Gravel Pathway Modifications

Respondents were generally supportive of the plan to maintain the existing gravel pathway on top of the dike crest; however, they did offer a few suggestions to improve functionality and safety. Some respondents, who were regular users of the existing pathway, suggested the addition of regular spaced lighting along this stretch for increased visibility and safety in low-light conditions, as well as the preference to pave the dike crest pathway for enhanced accessibility.

Options for roadway lighting that place lights outside of the dike core will be explored in the detailed design stage.

Currently, this section of the dike has a road-side gravel pathway that ranges from two to three metres wide as well as a two-metre-wide gravel pathway that meanders through the riverfront park space. The road-side pathway will be upgraded to an accessible four-metre-wide gravel multi-use pathway for the entire length of the project. The separated pedestrian pathway through the park area will also be reinstated. A few respondents preferred that the gravel pathway be paved, this suggestion has not been incorporated into the design. A gravel pathway will show signs of cracking and settlement much more readily than a paved path. It also allows for crews to better perform dike maintenance, regular inspections and emergency repairs, and will maintain continuity with the other sections of pathway on the South Dike.

Bike Lane on Dyke Road

During public consultation a desire to have separated bike lanes introduced along Dyke Road was shared by some. While the finalized preliminary design did not incorporate dedicated bike lanes on Dyke Road, an improved and widened off street gravel multi-use pathway for walking and cycling will be included as part of this project. The widened pathway is proposed to be four metres wide for the entire project length, allowing more room for cyclists and pedestrians.

Accessibility

Ensuring accessible connections to the top of the dike and the waterside was a priority for respondents. Suggestions included adding ramps and other mobility-friendly features to support inclusive design. Access points, crossings, and the multi-use pathway will be designed with accessibility for all in mind, including ramps.

Access Points and Dike Amenities

Feedback received included concerns about impacts to the London Landing parking lot and the boat launch located within it. The scope of work includes an upgraded boat launch, as well as restoring the parking lot with the number of stalls that closely match the existing configuration. While some attendees questioned if the boat launch would present a lower weak point in the flood protection system, the dike crest height at this location will be designed to accommodate anticipated year 2100 high water levels.

Respondents also questioned how the new dike design would ensure that key access points to properties are maintained. The expansion of the dike footprint to meet the project requirements will interface with several properties, notably the existing London Landing residences situated north of Dyke Road, London Farm, and 13811 Gilbert Road. Coordination and consultation with these properties owners and site users will continue throughout the design and construction phases to ensure both existing and future access points are maintained.

Environmental Considerations

The public communicated the importance of minimizing potential environmental impacts to the surrounding area, including the desire to maintain existing trees and vegetation where feasible, and mitigate the spread of invasive species.

Many of the trees and vegetation on the waterside of Dyke Road as well as in the existing drainage canal on the landside of Dyke Road will need to be removed. These trees are in the footprint of the dike expansion and removal is needed to facilitate construction. Trees growing in the dike core are also an issue as they can impact the integrity of the dike and pose access challenges for crews. Where trees must be removed to accommodate dike raising, residents emphasized the importance of maintaining the waterfront aesthetic, and the importance of replacing trees and vegetation on site.

Based on the current design approximately 50 to 100 trees will be impacted in the project area, including the riverfront park space between London Wharf Park and the London Landing parking lot. A tree replacement/compensation plan will be completed as part of the detailed design process. Where possible, impacted trees will be replanted outside of the dike core close to their original location. The plan will also aim to plant replacement trees on site as much as possible, at a minimum 1:1 ratio.

In addition to the tree replacement/compensation plan, habitat compensation plans will be developed as the detailed design phase progresses, and the environmental impact of this project has been fully quantified. The habitat compensation plan will be developed in consultation with qualified environmental professionals as well as the approval of Federal and Provincial authorities to ensure that any environmental impacts are compensated as required.

Steveston Island Dike Extension

During the public engagement, it was explained that the south perimeter dike located west of the London Landing parking lot will be raised by 0.8 metres rather than 1.5 metres as this area is protected by Steveston Island. The Steveston Island Dike project, currently in the preliminary design and public consultation phase, proposes using Steveston Island as the primary flood protection defence for the majority of the Steveston Village community. Figure 3 illustrates the overlap of the two projects as currently proposed.

Some respondents questioned why the City does not extend the proposed Steveston Island Dike further east, connecting to the south perimeter dike near London Farm. This could potentially allow for a 0.8 metre dike crest raise for the entire dike reach in front of the London Landing homes as opposed to the proposed 1.5 metre raise east of the London Landing parking lot.

This option is not feasible due to environmental impacts, loss of wildlife habitat, land tenure process, schedule impacts, and increased project costs. The area to the east of Steveston Island, where the extension would happen, is recognized as high-value habitat which will be protected and enhanced to help offset wildlife and environmental impacts from the Steveston Island Dike project.

This space is owned by the Province, and a land tenure would need to be acquired through a timely and costly process which would significantly impact the South Dike Upgrades project schedule and budget. In addition to the land tenure, the construction costs required to extend the Steveston Island Dike to London Farm are projected to far exceed costs to raise the existing south perimeter dike as currently proposed.

Figure 3: Steveston Island Dike and South Dike Upgrades Project Extent Overlap

Property Impacts and Safety

Residents shared concerns that the increased height of the dike crest would impact their views of the Fraser River. While certain sightlines from properties north of Dyke Road will be impacted, raising the dike is necessary to protect these properties and Richmond from sea level rise and flooding into the future.

Residents also voiced concerns that filling in the existing ditch which serves as a visual and physical separation between the road and adjacent properties will affect the privacy and the safety of their property. While options to minimize impacts on the ditch will be explored, due to space constraints and in order to ensure structural adequacy of the dike, some sections of the existing ditch may be filled in. To help separate the road and adjacent properties and to provide an added level of safety and privacy in these locations, landscaping on the land side of the dike will be refined during the detailed design process.

Final Preliminary Design

Staff progressed the preliminary design through an iterative process, reviewing feedback gathered through the public engagement campaigns and incorporating elements into the design.

Cross section and plan view renderings of the final preliminary dike design are shown in Figures 4 to 7 for the following locations:

- Near the London Landing Wharf at the western project extent;
- Near the London Landing homes; and
- Further east past London Farm.

The final preliminary design features a widened dike crest, raised roadway, and improved multi-use pathway south of Dyke Road.

Figure 4: Preliminary Design Sections

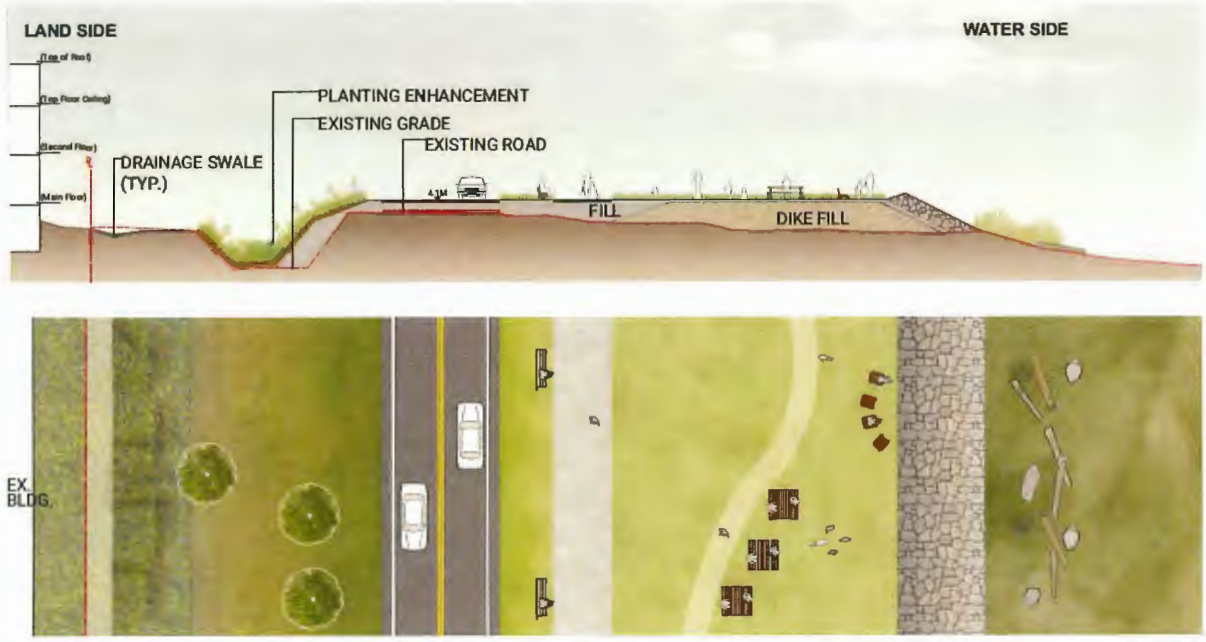


Figure 5: Section A – Section and Plan View of the Preliminary Dike Design near the London Landing Wharf and Riverfront Park

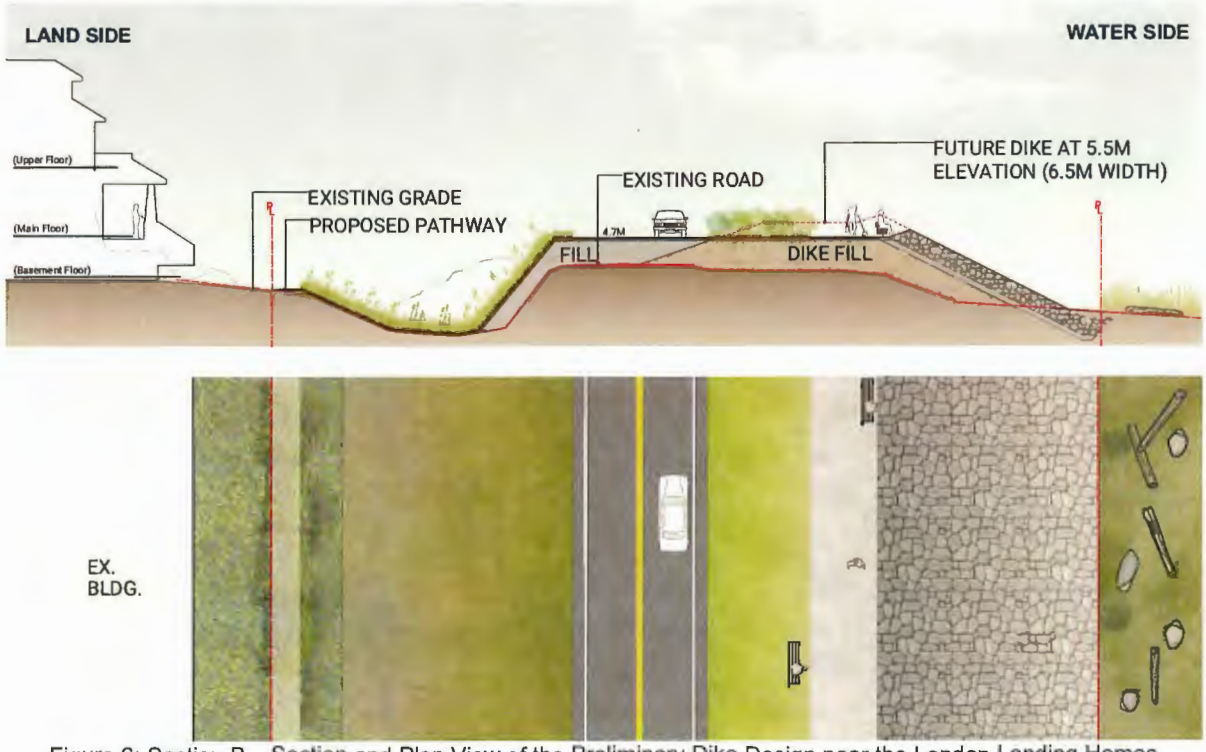


Figure 6: Section B – Section and Plan View of the Preliminary Dike Design near the London Landing Homes

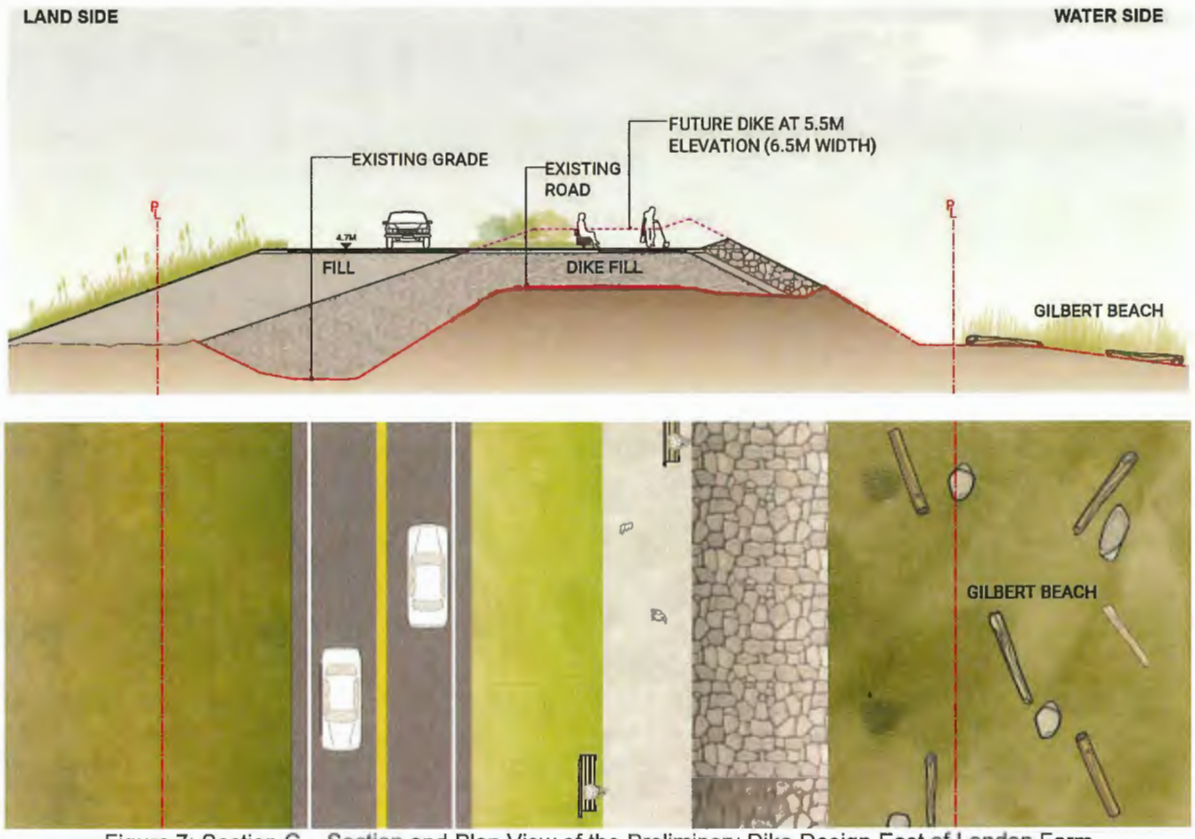


Figure 7: Section C – Section and Plan View of the Preliminary Dike Design East of London Farm

Financial Impact

Council approved the design of this project as part of the Capital Budget through the Flood Protection and Dike Improvements project in 2023. Staff have procured design services and have completed the preliminary design. Subject to approval of this preliminary design, staff will proceed with the detailed design. The capital budget for the construction of this project will be included in a future capital budget submission for Council's consideration.

Conclusion

As part of the 2023 Capital Budget, Council approved the design of the South Dike Upgrades from 6080 Dyke Road to Gilbert Road project. Staff held two project-specific public engagement campaigns to solicit feedback from key stakeholder groups.

Staff compiled and reviewed feedback from the engagement campaign, incorporating elements into the revised preliminary design for the South Dike along Dyke Road between 6080 Dyke Road and Gilbert Road.

This preliminary dike design is presented to inform Council of the project status and to seek Council's endorsement to proceed with detailed design and construction.

Eric Sparolin, P.Eng.
Manager, Engineering Design and Construction
(604-247-4915)

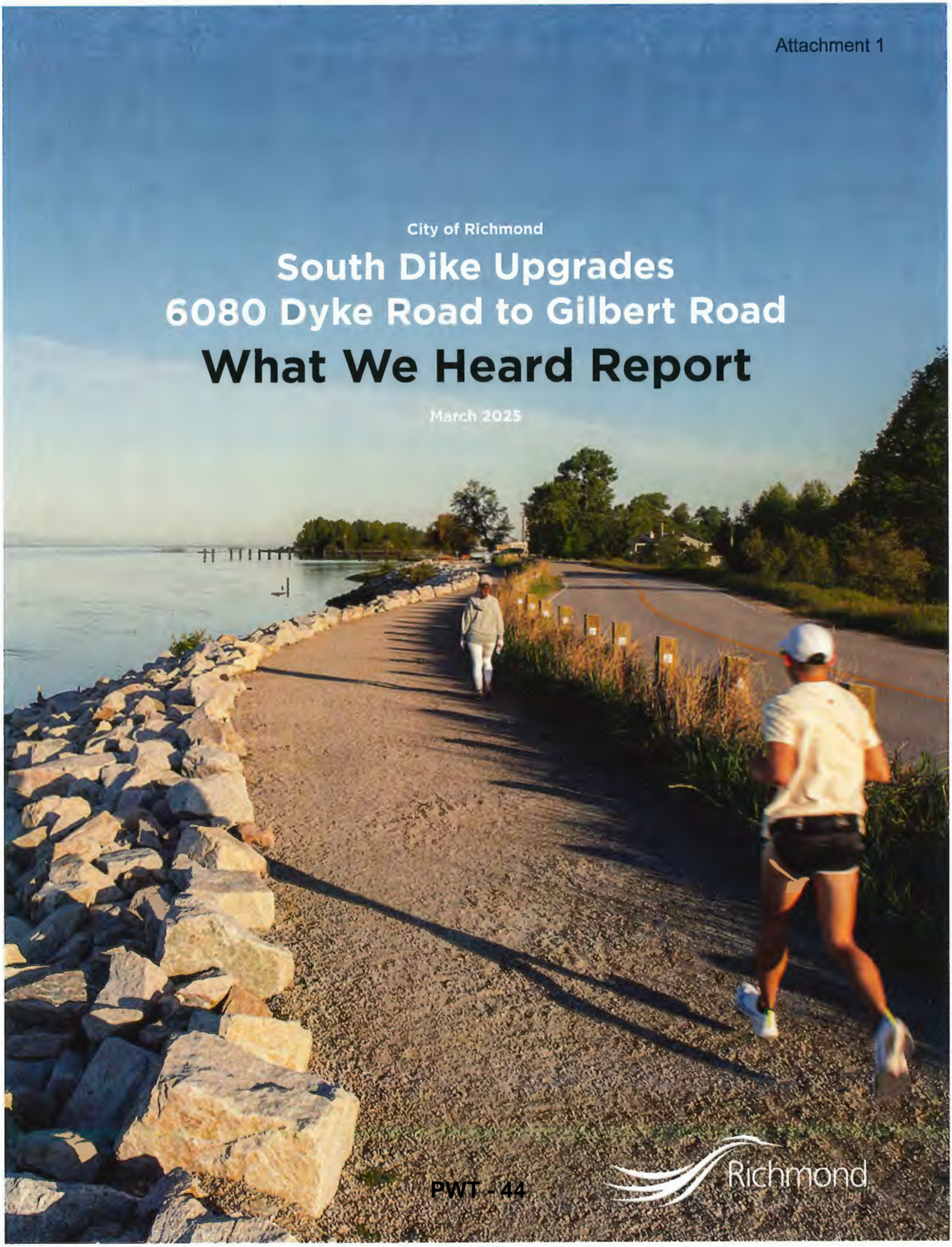
ES:zj

Att. 1: What We Heard Report

City of Richmond

South Dike Upgrades
6080 Dyke Road to Gilbert Road
What We Heard Report

March 2025



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Executive Summary

This report summarizes the public engagement initiatives conducted and the feedback received from local residents for the City of Richmond's South Dike Upgrades project, spanning from 6080 Dyke Road to the Gilbert Road South Pump Station. The engagement campaign was carried out over a ten-month period from December 2023 to September 2024, and has been a key component of advancing this project. The purpose of this outreach and engagement was to:

1. Introduce residents to preliminary designs for the South Dike Upgrades project through both in-person and online initiatives.

2. Educate on the importance of flood protection.

3. Gather and compile feedback on the amenities, features, and ongoing designs for the South Dike Upgrades project.

4. Update the designs to incorporate elements based on the feedback received.

The engagement initiatives were designed to reach a wide range of residents and interested parties. They began with a select few in the direct vicinity of the project and then expanded outward to include a broader range of Richmond residents.

The engagement sessions highlighted public concerns related to traffic safety, cyclists, accessibility, the effects of the raised dike on sightlines, proximity of the roadway to nearby homes, habitat and environmental protection, and resident privacy. The findings from these engagement initiatives have informed the development of the designs and are summarized in the pages to follow.

Figure 1: Concept Plan for Proposed Dike Upgrades.

Background & Overview

Bordered by the Fraser River and the Strait of Georgia, the City of Richmond is located approximately one metre above sea level and is vulnerable to flood hazards, including those posed by climate change-induced sea level rise. Currently, Richmond's flood protection infrastructure is designed to withstand a 1:500 return period Fraser River freshet event. Looking to the future, the City is planning for a rise in sea levels of one metre by the year 2100, with 0.2 metre of land settlement expected over the same period.

In order to ensure continued protection for the City's residents, infrastructure, and economic vitality, upgrades to the flood protection system are required. This includes raising Richmond's perimeter dike crest from, on average, 3.5 metres to 4.7 metres. In line with this strategy and the Dike Master Plan Phase 3, the City intends to upgrade the South Dike between 6080 Dyke Road and the Gilbert Road South Pump Station. Upgrades will include raising the dike and roadway by approximately 0.8 metres on average for 180 metres to the west to an elevation of 4.1 metres, and by approximately 1.5 metres on average for 670 metres to the east to an elevation of 4.7 metres, with the ability to raise the crest to 5.5 metres in the future. The work will also include improvements to existing amenities, such as the current cyclist and pedestrian infrastructure and park space.

The proposed dike upgrade is adjacent to the No. 2 Road Fishing Pier, and includes London Wharf Park and Gilbert Beach. Properties to the north of the proposed dike upgrade include a mixed-use, multi-storey property (6111 Dyke Road), five single-family homes, a multi-unit residential development (London-Princess), a heritage farm (London Farm), and an agricultural property (13811 Gilbert Road). The project's engaged parties play a vital role in advancing this work and ensuring that it meets the needs of Richmond's residents. These groups include adjacent property owners, park users, and business owners in Steveston Village.

Figure 2: Extreme Flooding Event at South Dike.

Figure 3: Conceptual Plan for Proposed Dike Upgrades.

Figure 4: Property View Rendering for Proposed South Dike Upgrades.

Project Timeline

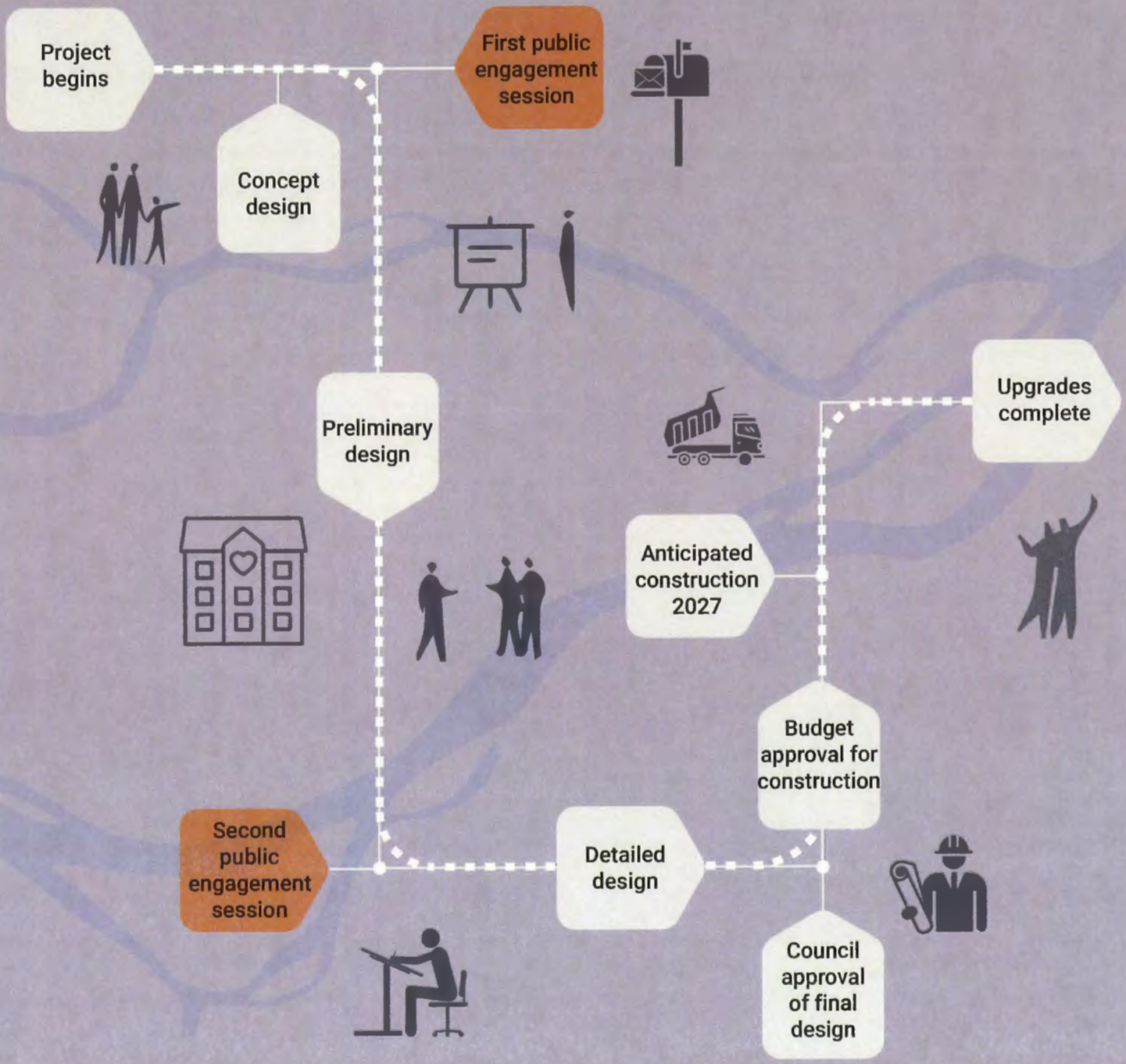


Figure 5: Timeline for Proposed South Dike Upgrades

Public Engagement Summary

The first public engagement initiative targeted a select group of residents in the London Landing area, as they are most directly affected by this project. Approximately 500 people were invited via mail to attend the in-person event in December 2023 and visit the Let's Talk Richmond platform to review designs and complete a brief survey. The second engagement, in late summer 2024, expanded to residents within a 1-kilometre radius of the project area, with roughly 1700 people contacted to participate. Similar to the first initiative, residents were again invited to attend the in-person event and visit Let's Talk Richmond to review the updated designs and participate in a refined survey, based on the feedback from the previous engagement.

Both the first and second engagement activities featured various methods to involve the public, including:

- Two in-person open houses at local facilities (Steveston Community Centre and London Landing Wharf).
- Two online surveys hosted on the City's Let's Talk Richmond platform.
- Three future dike height demonstrations.
- A variety of informational materials containing project-specific details.

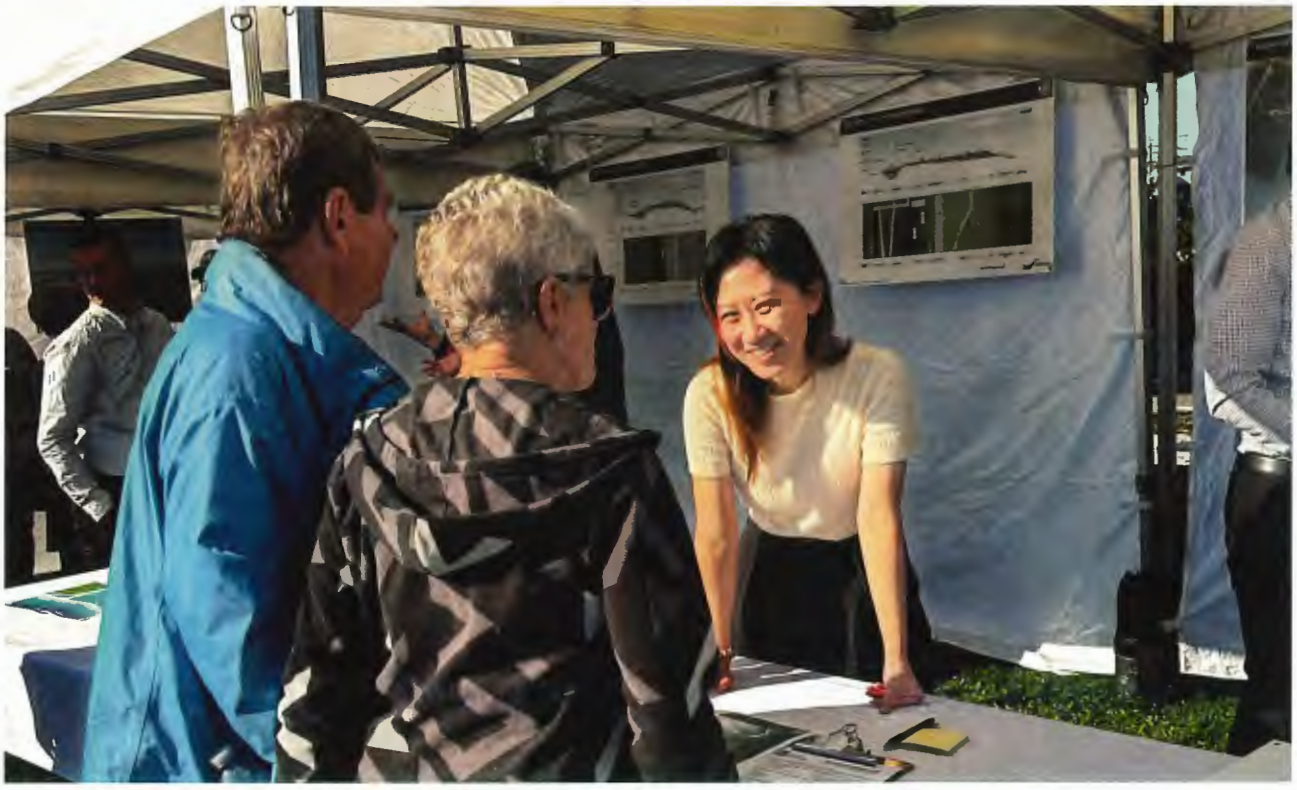


Figure 6: Photo From Public Engagement Event #2.

An additional engagement event, hosted by the City's Transportation Department, took place at the project site in September 2024 to better understand residents' sentiments regarding various potential traffic safety and calming measures along Dyke Road. The data collected from this engagement initiative is not summarized in this report; however, coordination is underway to determine how the feedback can influence the South Dike Upgrades project.

As the project progresses, the Department of Fisheries and Oceans, Fish and Fish Habitat, the BC Ministry of Forests, the BC Ministry of Water, Land and Resource Stewardship, and the BC Inspector of Dikes will be directly engaged through the required permitting processes.

Figure 7: Kids Educational Activities.

Figure 8: On-Site Dike Height Demonstration.

Figure 9: Kids Area with Educational Activities.

Public Engagement Events

Public Engagement Event #1

The first public engagement kicked off on December 6, 2023, with the launch of the project's page on the Let's Talk Richmond platform. The page featured information boards, preliminary designs, site photos, a variety of relevant project information, and a request for feedback in the form of a survey that closed on February 4, 2024. To specifically target those most directly impacted by the project, approximately 500 residents of the London Landing neighbourhood were contacted to participate. A total of 249 residents visited the site, and 21 submitted survey responses.

On December 13, 2023, the City hosted an in-person open house at the Steveston Community Centre from 4 PM to 8 PM. Roughly 45 Richmond residents attended the engagement event.

At the open house, the City, along with the project's design consultants, presented eleven poster boards to the public. These boards included two site overviews, three cross-sections, three conceptual renderings, one illustration, and two preliminary designs for the Steveston Island Dike. Approximately ten staff members were present to answer questions and share information about the project. Overall, this session allowed City representatives to address questions from a focused group of London Landing residents and for attendees to voice their hopes and concerns related to the project.

Additionally, a kids area with educational activities was created as a safe space for young Steveston residents. A looping flood protection video and dike-related coloring sheets provided education and entertainment, allowing their parents to provide feedback more freely.

Figure 10: Photo from Public Engagement Event #1.

Public Engagement Event #2

The second public engagement kicked off on September 11, 2024, with the launch of the project's page on the Let's Talk Richmond platform. The page featured a variety of relevant project information and a brief survey for visitors to complete, which closed on October 6, 2024. Approximately 1,700 residents were contacted to participate, with the target area being a 1-kilometre radius around the London Landing neighborhood. A total of 541 residents visited the site, and 182 submitted survey responses.

On September 18, 2024, the City hosted an in-person open house at the London Landing Wharf (6200 Dyke Road) from 4 PM to 7 PM. This location was selected due to its close proximity to the project site and nearby residents, while also providing an opportunity for passersby and park users from outside the area to learn more about the project. Roughly 75 residents attended the event.

At the open house, the City, along with the project's design consultants, presented ten poster boards to the public. These boards included two site overviews, one project timeline, one "What We Heard" display, three cross-sections, two conceptual renderings, and one "Why Is This Important" display. Approximately 15 staff members were present to answer questions and share information about the project. Overall, this session allowed City representatives to address questions from a broader group of Richmond residents and for attendees to voice their hopes and concerns related to the project.

Additionally, a kids area with educational activities was created as a safe space for young Steveston residents. There was a covered seating area with a table, dike-related coloring sheets, and a flood protection-themed comic book authored by nearby Dixon Elementary School provided both education and entertainment for the kids, allowing their parents to give feedback more freely.

Figure 11: Photo from Public Engagement Event #2.

Key Findings & Outcomes

Survey Data

Question 1. ***Overall, I support the City's proposed South Dike Upgrades (select any one option).***

Engagement 1:

During the first public engagement event, staff sought to gather feedback from residents living near the project area, which extends from 6080 Dyke Road to the Gilbert Road South Pump Station. To facilitate this, a group of residents (~500) were invited to participate in a survey aimed at assessing their overall support for the City's proposed South Dike Upgrades.

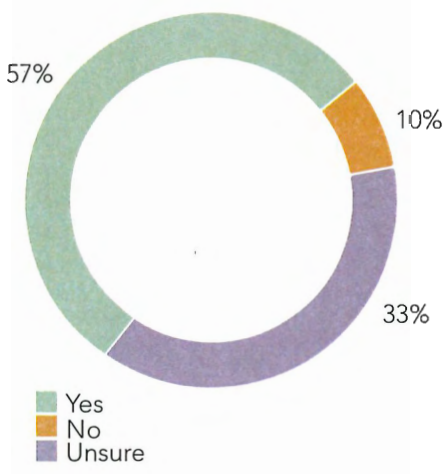


Figure 12: Pie Chart of Engagement Survey 1 Results.

The survey results indicate that 57% of residents in the immediate area expressed support for the proposed upgrades, 33% were unsure, and 10% voiced opposition. This feedback highlights a favourable level of community engagement and interest in the City's efforts to enhance local infrastructure for flood protection through the South Dike Upgrades project.

Engagement 2:

During the second public engagement event with an expanded participant reach, staff sought to gather feedback from residents within a 1-kilometre radius of the project area, which extends from 6080 Dyke Road to the Gilbert Road South Pump Station. To facilitate this, a larger group of residents (~1700) were invited to participate in a survey aimed at assessing their overall support for the City's proposed South Dike Upgrades.

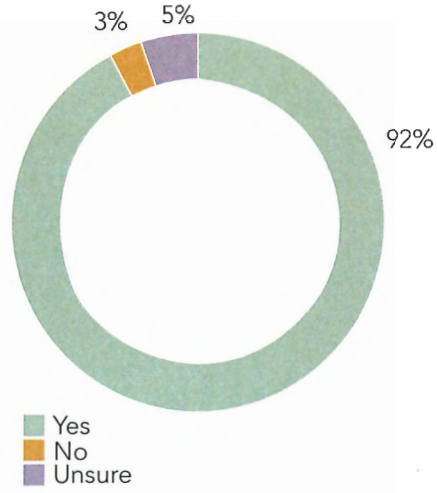


Figure 13: Pie Chart of Engagement Survey 2 Results.

The survey results indicate that 92% of residents in the immediate area expressed support for the proposed upgrades, 5% were unsure, and 3% voiced opposition. This feedback highlights an extremely favourable level of community engagement and interest in the City's efforts to enhance local infrastructure for flood protection through the South Dike Upgrades project.

Question 2. ***After viewing the updated designs, the areas that interest me most are (select all that apply).***

Engagement 1:

During the first public engagement event, staff sought to better understand what hopes and concerns local residents had with respect to the project. As a result, one of the survey questions asked which areas of the South Dike Upgrades project are of the most interest to them.

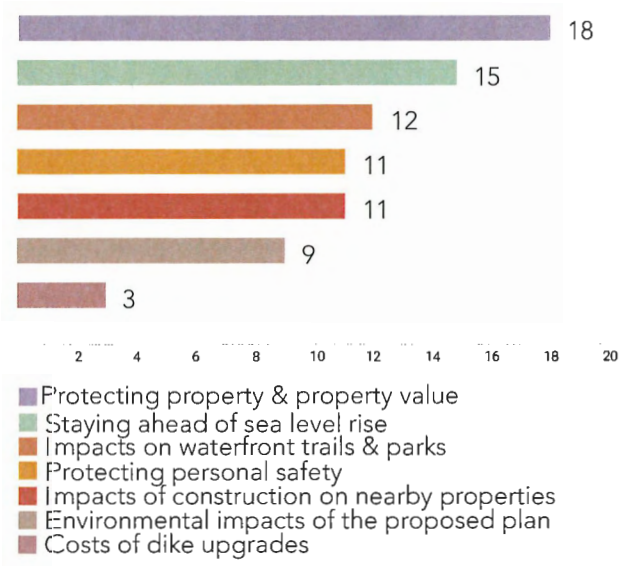


Figure 14: Bar Chart of Engagement Survey 1 Results.

The survey results identified that protecting property and proactively addressing sea level rise were two of the primary concerns among participating residents. Additionally, feedback from written comments indicated a strong interest in enhancing accessibility for the dike and nearby trails. In response to this input, staff assessed that some minor adjustments should be made to the survey for the second engagement event to better capture residents' priorities and preferences.

Engagement 2:

During the second public engagement event with an expanded participant reach, staff modified the survey options in response to the results that were identified previously. As a result, accessibility concerns were added as an area of interest that participants could select.

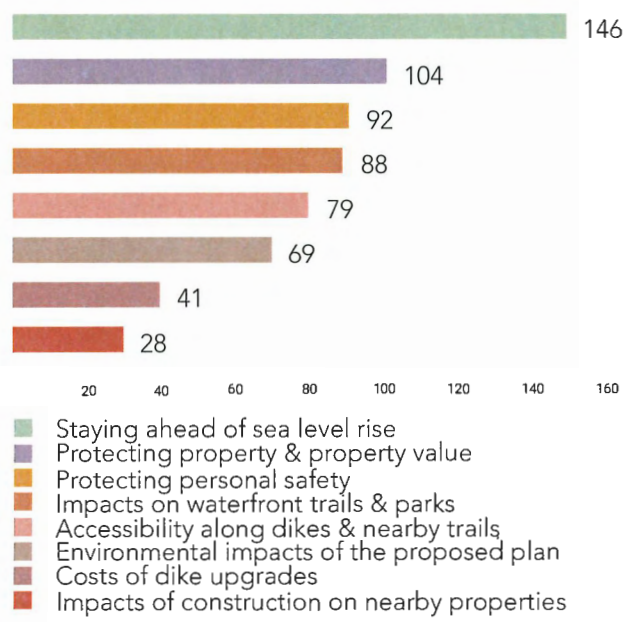


Figure 15: Bar Chart of Engagement Survey 2 Results.

Once again, the survey results identified that proactively addressing sea level rise and protecting property were two of the primary concerns among participating residents. Additionally, the data indicated a strong interest in protecting personal safety and consideration for the impacts and accessibility along the dike, waterfront trails, and parks.

Question 3. ***After viewing the updated designs, the features that are most important to me are (select up to three that apply).***

Engagement 1:

During the first public engagement event, staff sought to better understand what features and amenities are of most interest to local residents, as this could potentially play a role in what is included in the designs.

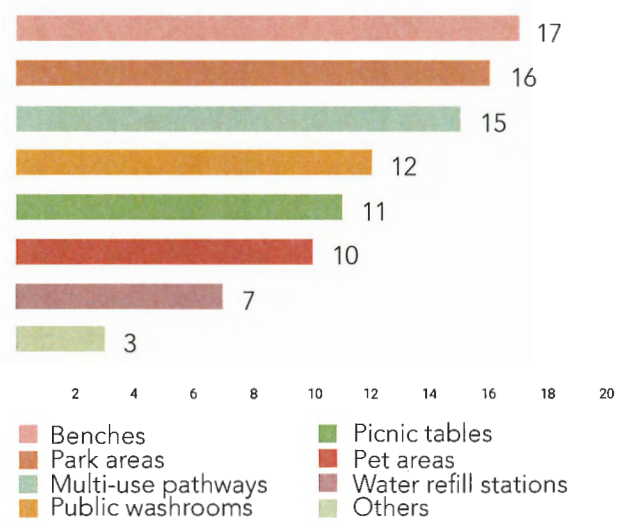


Figure 16: Bar Chart of Question 3 Engagement Survey 1 Results.

The survey results identified that benches, park areas, and multi-use pathways are features that local residents would like to see in the dike upgrades. Additionally, feedback from written comments indicated a strong interest in including accessible pathways and protective infrastructure from the roadway as potential features. In response to this input, staff assessed that some minor adjustments should be made to the survey for the second engagement event to better capture residents' interests.

Engagement 2:

During the second public engagement event with an expanded participant reach, staff modified the survey options in response to the results that were identified previously. As a result, options for accessible pathways and traffic and pedestrian safety were added to the survey as potential features participants could select.

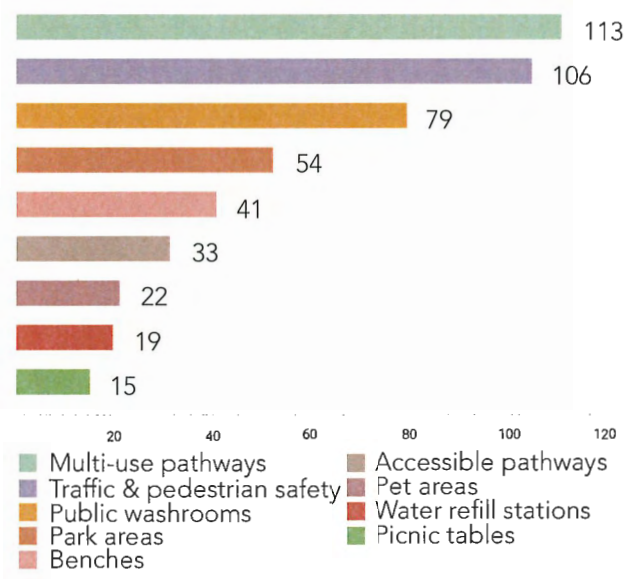


Figure 17: Bar Chart of Question 3 Engagement Survey 2 Results.

The survey results identified that multi-use pathways and traffic and pedestrian safety were the overwhelmingly higher interests to other amenities and features. Additionally, the data indicated a strong interest in public washrooms, park areas, and benches as key considerations to include in the designs.

Question 4. ***The South Dike Upgrades are part of the City's Dike Master Plan, which includes efforts to raise its perimeter dikes in anticipation of potential sea level rise. I think this effort is (select any one option).***

Engagement 1:

During the first public engagement, staff sought to gauge the sentiments of local residents in regards to the City's efforts to raise the perimeter dikes in anticipation of potential sea level rise.

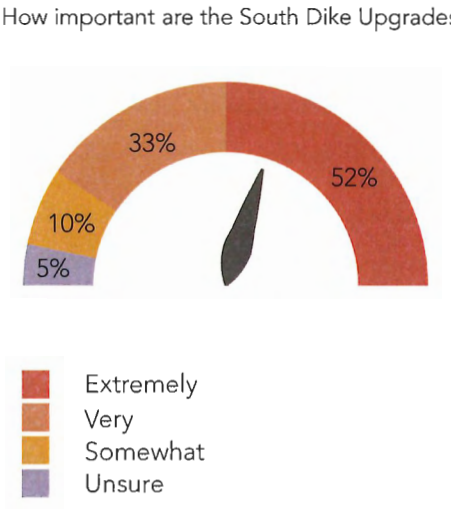


Figure 18: Gauge Chart of Engagement Survey 1 Results.

The survey results indicate that 52% of residents in the immediate area believe this effort to be extremely important. This feedback highlights a majority favourable level of community engagement and interest in the City's efforts to enhance local infrastructure for flood protection throughout Richmond.

Engagement 2:

During the second public engagement event with an expanded participant reach, staff sought to gauge the sentiments of local residents in regards to the City's efforts to raise the perimeter dikes in anticipation of potential sea level rise.

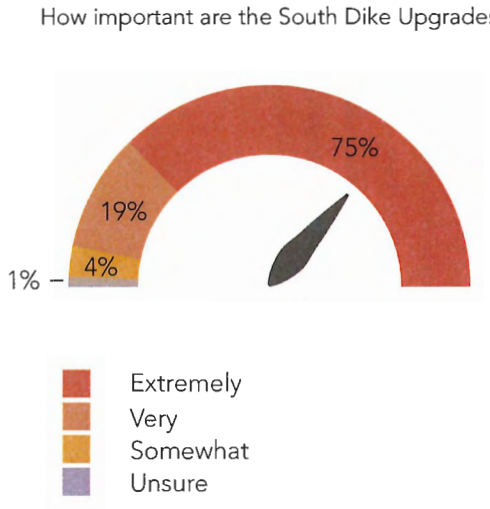


Figure 19: Gauge Chart of Engagement Survey 2 Results.

The survey results indicate that 75% of residents in the area believe this effort to be extremely important. This feedback highlights a highly favourable level of community engagement and interest in the City's efforts to enhance local infrastructure for flood protection throughout Richmond.

Areas of Importance

Throughout these two engagement initiatives, staff identified several recurring hopes and concerns expressed by the public. The following are the key areas of importance highlighted from both the online surveys and the in-person open houses:

Flood Protection

Residents emphasized the critical need for flood protection in Richmond through supporting resilient infrastructure to safeguard the community and businesses. While there was general approval of the City's efforts, respondents provided suggestions for optimizing implementation.

Road Safety

Respondents raised concerns about traffic-related issues, including noise, speed, and overall safety within the project area. There was broad support for incorporating speed controls and traffic-calming measures to enhance safety for nearby residents, pedestrians, and cyclists.

Project Timeline, Communication, and Planning

Respondents expressed a desire for the project timeline to reflect the urgency of addressing sea-level rise and climate change, while also emphasizing the importance of staying informed throughout the design process. Some noted that initial planning and notification periods for in-person events were too short. In response, the City adjusted its outreach efforts in later engagements and will continue prioritizing transparency moving forward.

Road and Dike Alignment and the Future Steveston Island Dike

Concerns were raised about the potential impacts of shifting the road and dike northward, including effects on property values, safety, and security. Open house attendees also expressed interest in extending the future Steveston Island Dike eastward. This extension would result in raising Dyke Road east of the boat launch by 0.8 metres instead of the originally planned 1.5 metres.

Figure 20: Visual Representation of Public Feedback from Survey Results (Larger words indicate more frequent mentions).

Environmental Impacts

Respondents emphasized the need to minimize environmental impacts throughout the project. They expressed concerns surrounding dike encroachment into natural habitats, mitigating the spread of invasive species, and preserving existing trees within the project area.

Multi-Use Pathway, Cyclists, and Pedestrians

Residents stressed the importance of maintaining the existing multi-use pathway while exploring potential improvements. Suggestions included adding a separated bike lane, widening the existing pathway, creating a shoulder along Dyke Road, and improving signage to clarify shared road use with cyclists. Maintaining beach access for residents and pathway users to reach various recreational spaces was also a key concern.

Accessibility

Ensuring accessible connections to the top of the dike and the waterside was a priority for respondents. Suggestions included adding ramps and other mobility-friendly features to support inclusive design.

Property Impacts

Respondents expressed concerns about potential impacts on property values due to changes in road alignment, increased dike height, and reduced river views. Additional questions were raised about infilling the existing ditch and its potential effects on privacy and safety.

Construction Disruptions

Concerns were raised about the duration of construction activities and the potential for property damage. Respondents emphasized the need for clear communication regarding construction timelines and what mitigation measures will be utilized.

Figure 21: Park Area Rendering for Proposed South Dike Upgrades.


Richmond

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	June 24, 2025
From:	Suzanne Bycraft Director, Public Works Operations	**File:**	10-6370-01/2025-Vol 01
Re:	**Dog Waste Collection Pilot Summary and Proposed Expansion**		

Staff Recommendation

That an ongoing additional level estimated at $71,000 be considered in the 2026 Utility budget process to expand the Dog Waste Collection Program as described in Option 2 in the staff report titled "Dog Waste Collection Pilot Summary and Proposed Expansion" dated June 24, 2025 from the Director, Public Works Operations.

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

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Finance Department	☑	Roeland Zwaag
Community Bylaws	☑	
Parks Services	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:** CJ	**APPROVED BY CAO** Serena.

Staff Report

Origin

This report presents the outcome of the Dog Waste Collection Pilot Program (Pilot), which was an action item identified in the "Recycling and Solid Waste Management: Report 2022 – Taking Action to Reduce Waste". In March 2024, a one-year pilot was established at Aberdeen Neighbourhood Park, McLean Neighbourhood Park, and Steveston Community Park.

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 provides an update on the Pilot, a jurisdictional scan of existing dog waste collection programs in other municipalities and proposes a two-pronged approach including expanding and formalizing the dog waste collection program, and establishing a communications campaign to encourage proper disposal methods.

Analysis

Background

Under the Metro Vancouver Disposal Ban Program, pet excrement (waste) – in excess of 5% of the total weight or the total volume of the load – is prohibited from disposal at the Metro Vancouver landfill. Loads found in contravention will be fined $76, plus any remediation or clean-up costs, under the *Metro Vancouver Tipping Fee Bylaw*. There are approximately 7,500 dogs registered with the City, which would equate to an estimated 930 tonnes of dog waste being disposed each year, excluding dogs visiting the city. Pet owners are encouraged to flush dog waste down the toilet whenever possible, but there may be situations when out in the community where disposal in public spaces litter bins is appropriate. The City conducted a sample waste composition study of public spaces bins in early 2025 and found that dog waste accounts for approximately 30% of the disposed material, with staff indicating this percentage increases during the warmer months.

To help mitigate the issue of dog waste in public spaces bins, Metro Vancouver conducted a pilot to collect dog waste by installing specialized red collection bins in select regional parks. The pilot tested an alternative disposal method to separate the dog waste from the plastic bags and dispose of at a Metro Vancouver wastewater treatment plant (WWTP). After 3 years, the pilot was made permanent and expanded to other Metro Vancouver regional parks, with approximately 150 collection bins installed.

Eight municipalities in the region also implemented their own dog waste collection programs, installing specialized collection bins in parks, green and public spaces. The table below provides details on these municipalities' programs.

Table 1: Other Municipal Dog Waste Collection Programs

Municipality	**Locations of Collection Receptacle**	**Receptacle Type**
City of Burnaby	Parks	Red, plastic, 120L cart
City of Delta	Parks	Metal, multi-stream bin with garbage and recycling
City of North Vancouver	Parks, green spaces, public spaces	Red, plastic, 120L cart
City of Port Coquitlam	Parks	Red, plastic, 120L cart
City of Port Moody	Parks and green spaces	Red, plastic, 120L cart
District of North Vancouver	Parks	Red, plastic, 120L cart
District of West Vancouver	Parks	Red, plastic, 120L cart
Township of Langley	Parks, public spaces	Metal, multi-stream bin with a combination of garbage, organics, and recycling

Richmond Dog Waste Collection Pilot Program

In 2023, staff noticed an increase in requests for dog waste bins from the community and saw an opportunity to test program feasibility and up-take within Richmond. In March 2024, the Pilot was launched at the following three City owned dog off-leash areas to test the new dedicated dog waste bins – Aberdeen Neighbourhood Park, McLean Neighbourhood Park, and Steveston Community Park.

Figure 1: Dog Waste Collection Bin

Staff installed a total of five specialized red dog waste collection bins at the entrances of each of the three dog off-leash areas with accompanying signage that is consistent with the regional approach. A contractor who specializes in the collection, debagging and disposal of dog waste at WWTPs was engaged to manage the collection. From March 2024 to March 2025, a total of 13,500 kg of dog waste was collected, debagged and sent to the Iona WWTP, helping to reduce the amount of organic material decomposing in landfills which emits methane gas.

Total costs associated with the Pilot was $12,550 – this includes weekly collection fees, overage fees, and the initial purchase of the red collection bins. Overage fees are levied by the contractor if the collection bin is more than half full due to weight and handling issues.

Engagement

As a part of the Pilot, information was included on a dedicated "Dog Waste Collection Pilot" webpage, as well as highlighted on the various Parks webpages, including the interactive "Dogs Off-Leash Areas" webpage.

An engagement campaign was also launched to gather feedback from dog off-leash area users and residents walking by the dedicated dog waste bins. Surveys were conducted both in-person and online through the City's Let's Talk Richmond platform from July to November 2024. In total, there were 50 respondents to the survey, providing positive feedback, with residents appreciating the idea that their dog waste was being diverted from landfill, reducing negative impacts on the environment. Additional comments indicated interest in expanding the dedicated dog waste bins to other off-leash areas, parks and/or pathways where residents frequently walk their dogs.

Recommendations

As the Pilot has been successful in diverting dog waste from the landfill and is in alignment with the City's waste diversion goals, there is an opportunity to transition the Pilot to a permanent program. Staff have identified three options below for Council consideration:

Option 1 – Conclude the Pilot
This option would conclude the Pilot and discontinue the collection of dog waste at the three identified City owned dog off-leash areas. Dog waste would revert to disposal in the public spaces litter bins installed within parks and along pathways. This option is not recommended as it is not in alignment with Metro Vancouver disposal bans and best practices.

Option 2 – Expand the Pilot to all City Owned Dog Off-Leash Areas (Recommended)
This option would formalize the Dog Waste Collection Program in all 13 remaining City dog off-leash areas within Richmond, ensuring all dog off-leash area users have an appropriate place to effectively handle their dog waste. Staff would engage a contractor to manage the dog waste collection through a competitive bid process in alignment with the City's Procurement Policy.

As a part of this option, staff would implement a multi-pronged communications campaign to help educate the public on proper dog waste disposal and the issue of littering dog waste in public spaces. In conjunction with Bylaws and the SPCA, this campaign would include letters to dog owners, patrols by the SPCA of known areas of concern for dog waste littering and additional signage alongside litter bins.

This expanded program is estimated to cost $71,000 annually and could be funded through the annual Solid Waste and Recycling Utility budget. This option is estimated to increase the total amount of dog waste diverted to 72,000 kg.

Option 3 – Expand the Pilot to all City Owned Dog Off-Leash Areas and other identified City Parks and Trails (Alternate Recommendation)
This option would include everything within Option 2 and expand to include 14 additional high traffic City Parks and Trails frequented by dog owners. This option would result in the highest amount of dog waste diversion throughout the City but increase overall program costs substantially to approximately $165,000 annually. This option may also result in increased requests from residents to install dedicated dog waste collection bins in smaller, less frequented parks, which would not be included in this funding. This option is presented as an alternative recommendation for Council's consideration as it would increase dog waste diversion to a total

of 135,000 kg. This option can be reviewed in the future as a potential opportunity for expansion as the program evolves.

Attachment 1 provides a summary list of the locations proposed for each option detailed above, and Attachment 2 presents the information visually on a map.

Financial Implications

For Options 2 and 3 as detailed above, staff explored an alternative funding option which would implement a "user pay" model by increasing dog licensing fees to help cover the program's costs. However, with approximately 7,500 dogs registered with the City, the additional expenses would increase the dog licensing fees by approximately $9.50 per dog license for Option 2 and $22 per dog license for Option 3. Table 2 below details the proposed cost increases for each dog license class.

While the user pay approach aligns with other aspects of the City's solid waste and recycling services, public opposition to any increase in dog license fees is expected based on input received. Therefore, the user pay is not recommended at this time. Rather, consideration could be given to gradually transfer the program costs to the dog license fee by reallocating 25% from the utility budget to the dog license fee year-over-year, which would equate to an increase of approximately $2.40 per dog license fee for Option 2 and $5.50 for Option 3 each year over the next 4 years.

Current annual dog license fees are $27.75 for spayed or neutered dogs if paid before March 1st ($14.50 for seniors) or $41.00 if paid after March 1st. Fees for non-spayed or non-neutered dogs are $67.25 before March 1st or $93.50 if after March 1st.

Increasing the dog licensing fee would put the City out of alignment with other municipalities' fee structures, as well as risk an increase in unlicensed dogs within the City. Unlicensed dogs require more administrative investigation for Bylaws/SPCA staff, which may impact City response time to dog complaints or dog bite inquiries and overall costs.

Table 2: User Pay Model Cost increase for Option 2 and Option 3

Dog License	Current Fee	Option 2	Option 3
Spayed and Neutered – *Before March 1 (Regular Rate)*	$27.75	$37.25 *34% increase*	$49.75 *79% increase*
Spayed and Neutered – *Before March 1 (Senior Rate)*	$14.50	$24.00 *66% increase*	$36.50 *152% increase*
Spayed and Neutered – *After March 1*	$41.00	$50.50 *23% increase*	$63.00 *54% increase*
Non-Spayed and Non-Neutered – *Before March 1*	$67.25	$76.75 *14% increase*	$89.25 *33% increase*
Non-Spayed and Non-Neutered – *After March 1*	$93.50	$103.00 *10% increase*	$115.50 *24% increase*

Financial Impact

The cost of the Pilot was $12,550 which was funded by the Solid Waste and Recycling Provision. Should Council endorse the Dog Waste Collection Program as recommended in Option 2, an ongoing additional level request estimated at $71,000 will be submitted for consideration in the 2026 budget process. Should Council endorse Option 3, estimated at $165,000, a similar process will be followed.

Conclusion

In an effort to reduce environmental impact and promote responsible waste practices, the Pilot demonstrated that separate collection of dog waste is feasible and successfully diverted waste from the landfill. Expanding the Pilot to a formalized program at all dog off-leash areas as outlined in Option 2 would increase dog waste diversion from 13,500 kg of dog waste in the Pilot, to an estimated 72,000 kg annually as a formalized program.

This increased diversion from landfill would support the City's overall waste diversion goals, align with Metro Vancouver waste disposal bans and provide residents with a more sustainable option for disposing their dog waste. If endorsed, this program and the associated cost will be included for consideration in the 2026 budget process.

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

KG:kg

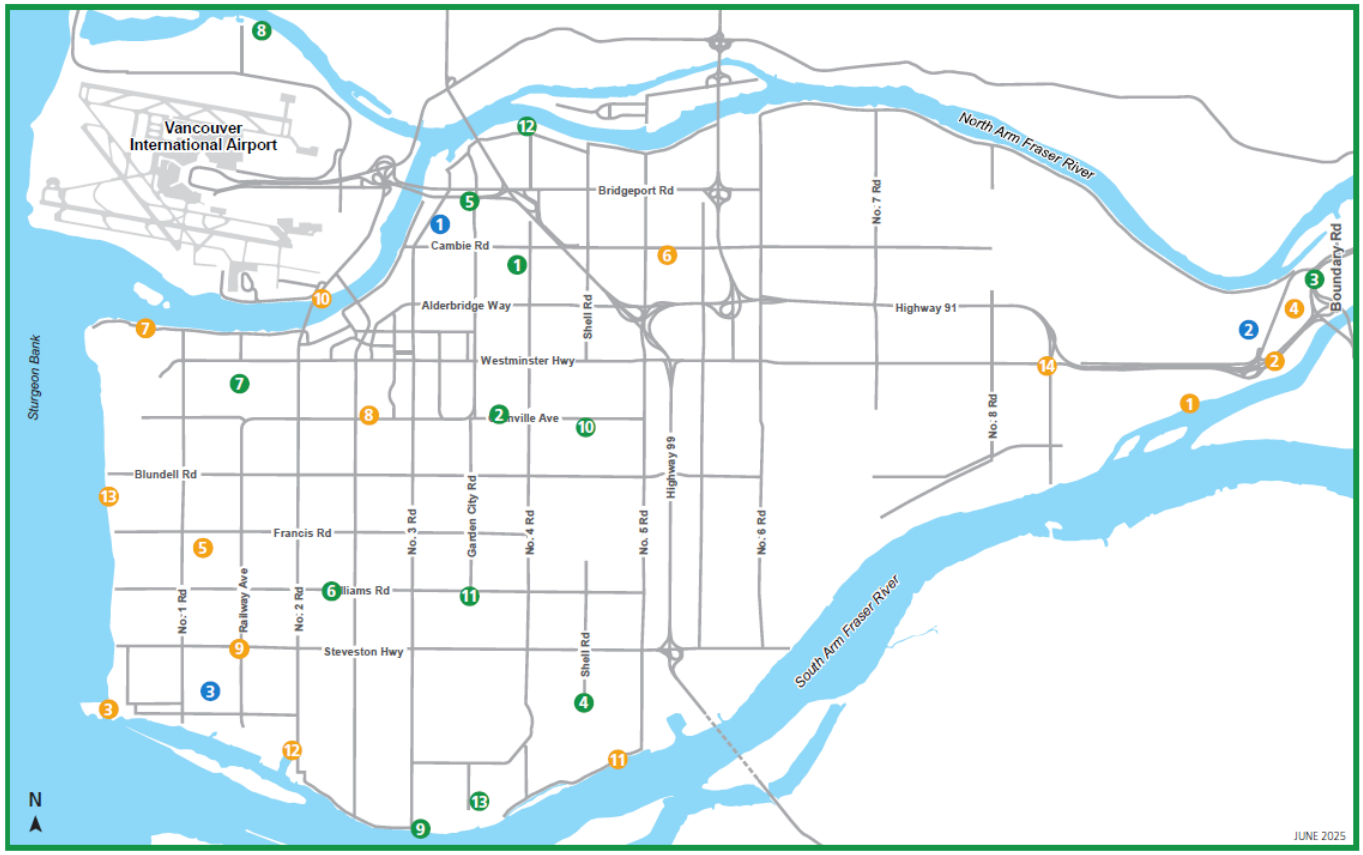
Att. 1: Location Details for Dog Waste Collection Program Options
2: Map of Dog Waste Collection Bins

Location Details for Dog Waste Collection Program Options

Option	Collection Locations
1. End pilot and discontinue dog waste collection	None (existing dog waste bins to be removed)
2. Expand to all dog off-leash areas (fenced and unfenced)	• Aberdeen Neighbourhood Park • Alexandra Neighbourhood Park • Garden City Community Park • Hamilton Highway Park • Horseshoe Slough Trail • Ketcheson Neighbourhood Park • London/Steveston Neighbourhood Park • McCallan Neighbourhood Park • McDonald Beach Park • McLean Neighbourhood Park • No 3 Road Bark Park • Shell Road Recreational Trail • South Arm Community Park • Steveston Community Park • Tait Waterfront Trail • Woodwards Slough
3. Expand to all dog off-leash areas and additional parks/pathways	Locations in Option 2 plus additional parks/pathways including: • East Richmond Trail • Fraserwood Trail • Garry Point Park • Hamilton Community Park • Hugh Boyd Community Park • King George Park • Middle Arm Trail • Minoru Park • Railway Greenway • Sea Island Trail • South Dyke Trail • Steveston Greenways • West Dyke Trail • Westminster Highway Trail

Attachment 2

City of Richmond
Dog Waste Collection Bins



Pilot Locations

1. Aberdeen Neighbourhood Park
2. McLean Neighbourhood Park
3. Steveston Community Park

Option 2

1. Alexandra Neighbourhood Park
2. Garden City Community Park
3. Hamilton Highway Park
4. Horseshoe Slough Trail
5. Ketcheson Neighbourhood Park
6. London/Steveston Neighbourhood Park
7. McCallan Neighbourhood Park
8. McDonald Beach Park
9. No 3 Road Bark Park
10. Shell Road Recreational Trail
11. South Arm Community Park
12. Tait Waterfront Trail
13. Woodwards Slough

Option 3

1. East Richmond Trail
2. Fraserwood Trail
3. Garry Point Park
4. Hamilton Community Park
5. Hugh Boyd Community Park
6. King George Park
7. Middle Arm Trail
8. Minoru Park
9. Railway Greenway
10. Sea Island Trail
11. South Dyke Trail
12. Steveston Greenways
13. West Dyke Trail
14. Westminster Highway Trail

Richmond

PWT - 69

8048799

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	July 4, 2025
From:	Suzanne Bycraft Director, Public Works Operations	**File:**	10-6000-01/2025-Vol 01
Re:	**Award of Contract 8438P – Provision of Hydrovac Services**		

Staff Recommendations

1. That Contract 8438P – Provision of Hydrovac Services be awarded to McRae's Environmental Service Ltd., for a three-year term for an estimated contract value of $9,286,266 exclusive of taxes, as described in the report titled "Award of Contract 8438P – Provision of Hydrovac Services", dated June 23, 2025 from the Director, Public Works Operations;

2. That the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to execute the contract and related documentation with McRae's Environmental Service Ltd.; and

3. That the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to extend the initial three-year term, up to the maximum total term of five years, for the maximum total amount of contract of $15,711,201, excluding taxes.

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

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Parks Services	☑	
Finance Department	☑	
Purchasing	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:**	**APPROVED BY CAO**

Staff Report

Origin

Vacuum truck services are essential to support the City's operational, maintenance, and construction needs for underground infrastructure. The required services include, but are not limited to:

- Hydro excavation
- Flushing services
- Cleaning services
- Hydraulic root cutting
- Pumping services
- Stand-by services
- Emergency and disaster response support

Currently, these services are being delivered under an existing agreement with McRae's Environmental Services Ltd., awarded through a previous competitive process posted on BC Bid. As this contract is set to expire in July 2025, the City initiated a new procurement process to secure ongoing service provision.

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.*
>
> *3.3 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.*

Analysis

Procurement Process

The City issued a Request for Proposal (RFP) 8438P – Provision of Hydrovac Services that was posted on BC Bid on April 22, 2025 and closed on May 20, 2025.

The scope of work described in the RFP included:

- Delivery of hydrovac services to various job sites, including but not limited to roads, utilities, parks and during emergency response situations. These services will be provided on an as-requested basis; and
- Providing all necessary personnel and operational resources to carry out the services effectively. This includes the provision of qualified staff, supervisors, specialized

vehicles, equipment, tools, safety provisions, and materials required to complete the work in accordance with City standards.

The RFP requested proponents submit financial proposals for the required services based on both historical and anticipated service usage with fixed pricing for the first year of the Contract along with escalation rates for succeeding terms. Proponents were advised that an Evaluation Committee would review and score submissions against predetermined criteria to determine the proposal that offered the best overall value to the City.

Eight proposals were received by the closing date from the following proponents:

- Ace Tank Services Inc.
- Badger Daylighting Limited Partnership
- Baza Ventures Inc.
- Dougness Holding Ltd.
- GFL Environmental Services Inc.
- Lonestar Vacuum Inc.
- McRae's Environmental Services Ltd
- Super Save Group of Companies

Review Process

The RFP submissions were evaluated by a cross-functional committee based on the pre-established criteria that included:

- Corporate profile and capacity
- Equipment and services availability
- Demonstrated experience and references
- Sustainability and circular economy
- Financial proposal

The evaluation results of the RFP are summarized in Table 1.

Table 1 – Evaluation Results

Rank	Name of Proponent	RFP Score	Proponent Pricing Based on Estimated Service Hours per Annum	
1	McRae's Environmental Services	82.22	$	2,814,020
2	GFL Environmental Services Inc.	62.65	$	3,370,870
3	Super Save Group of Companies	59.60	$	3,335,200
4	Lonestar Vacuum Inc.	57.12	$	3,941,850
5	Ace Tank Services Inc.	52.98	$	3,392,350
6	Baza Ventures Inc.	43.66	$	3,607,750
7	Dougness Holdings Ltd.	41.88	$	4,578,050
8	Badger Daylighting Limited Partnership	No Score	$	2,033,300*

* Denotes incomplete bid

Based on staff's evaluation of the proposals received, the proposal submitted by McRae's Environmental Services received the highest overall score and was therefore ranked first (shown in Table 1). McRae's Environmental Services submitted a complete and well-rounded proposal that met all of the City's service requirements, including hydraulic root cutting, flushing, pumping, and stand-by support.

McRae's submission demonstrated strong operational capability and alignment with the City's needs based on the evaluation criteria. In addition, the proposal also addressed the City's sustainability goals, providing clear responses to the circular economy criteria and outlining practices that support responsible resource management and demonstrate an efficient service delivery model.

Although the financial proposal received from Badger Daylighting Limited Partnership was less than the proposal submitted by McRae's Environmental Services, staff noted that their proposal did not include key services such as hydraulic root cutting, pumping, and flushing, and therefore did not meet the minimum requirements of the RFP. The remaining proposals were higher in cost, without offering corresponding enhancements in scope or service delivery.

Contract Term

The recommended contract is for an initial three-year term, with the option to renew for up to two additional one-year terms at the conclusion of the initial term.

Financial Impact

Contract 8438P will be funded through applicable capital, receivable, and operating budgets on an "as and when needed" basis. The total value of this contract over the recommended three-year term is estimated at $9,286,266, excluding taxes. The City wishes to retain the option to extend the initial three-year term for two additional one-year terms for an aggregate total contract value of $15,711,201, excluding taxes, as summarized in Table 2.

Table 2 – Estimated Contract Cost

Estimated Cost	
First Year (August 2025 – July 2026)	$2,814,020
Second Year (August 2026 – July 2027)	$2,814,020
Third Year (August 2027 – July 2028)	$2,814,020
Contingency (10%)	$844,206
Subtotal (Three-year Term)	$9,286,266
Optional Fourth Year – 2.5% increase (August 2028 – July 2029)	$2,884,370
Optional Fifth Year – 2.5% increase (August 2029 – July 2030)	$2,956,480
Contingency (10%)	$584,085
Subtotal (Optional Years)	$6,424,935
Total Estimated Costs (exclusive of taxes)	**$15,711,201**

Conclusion

This report presents the results of a competitive procurement process for Contract 8438P Provision of Hydrovac Services.

It is recommended that the contract be awarded to McRae's Environmental Service Ltd. for an initial three-year term commencing on August 1, 2025 and that the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to extend the initial three-year term, up to the maximum total term of five years, for the maximum total amount of contract of $15,711,201, excluding taxes.

Victor Ma
Manager, Sanitary Sewer Operationss
(604-204-8598)

VM:hh

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	June 27, 2025
From:	Milton Chan, P.Eng. Director, Engineering	**File:**	10-6060-01/2025-Vol 01
Re:	**Fraser River Freshet and Flood Protection Update 2025**		

Staff Recommendation

That the staff report titled "Fraser River Freshet and Flood Protection Update 2025", dated June 27, 2025, from the Director, Engineering be received for information.

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

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Public Works	☑	Roeland Zwaag
SENIOR STAFF REPORT REVIEW	**INITIALS:**	**APPROVED BY CAO**

Staff Report

Origin

This report provides Council with a summary of the 2025 Fraser River freshet, along with an update on 2024 rainfall statistics and ongoing works regarding the City's flood protection program.

As detailed in the City's Flood Protection Management Strategy, Richmond is situated approximately 1.0 metre above sea level making flood protection integral to protecting the health, safety, and economic viability of the City. Richmond is protected from flooding by infrastructure that includes 49 kilometres of dikes, 599 kilometres of drainage pipes, 61 kilometres of culverts, 151 kilometres of watercourses and 39 drainage pump stations with an estimated replacement value of $3.7 billion.

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.*
>
> *3.3 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.*

Analysis

2025 Fraser River Freshet

In recent years, milder winters have occurred throughout the province, which has contributed to reduced snow depth levels in southern BC. For 2025, the Province advised that average provincial snowpack levels were 13% of normal as of June 15, 2025. This has led to a reduced spring freshet with the peak Fraser River flows measured at Hope to be 7,060 m^3/s on June 4, 2025, which is between a 1-year and a 2-year return period event.

Flows in the Fraser River are anticipated to increase slightly before levelling out further into June. Based on snow melt conditions and the level of remaining snow, it is anticipated that freshet flows are currently at or near the peak for the year.

Historical data over the past five years have been summarized in Table 1 below.

Table 1: Peak Fraser River Flow Measured at Hope, BC Over the Past Five Years

Year	Peak Fraser River flow measured at Hope, BC (m^3/s)
2020	10,800
2021	9,800
2022	10,400
2023	9,130
2024	5,120
2025	7,060

No flooding has occurred in Richmond during the 2025 freshet. The City continues to be a leader in flood protection planning and mitigation through Council-endorsed capital projects and maintenance programs. Predicted climate change impacts, which include more extreme wet and dry weather events, could result in an increased variability in freshet flows in the future. This reinforces the need for the City's continued flood protection upgrade program.

2024 Rainfall

Significant Rainfall Events

Rainfall highlights for 2024 include the following:

- The City received 1,511 mm of rainfall in 2024, which was the highest annual rainfall received over the last 10 years, 18% higher than the average over that period.

- October was the month with the most rainfall in 2024, with 278 mm of rainfall measured at the Fire Hall No. 7 rain gauge. This included the Atmospheric River event that occurred from October 18 to 20. This rainfall event had a statistical return period of 100 years, and the total rainfall recorded over the three days at the Fire Hall No. 7 rain gauge was 172 mm.

- During the October 18 to 20 Atmospheric River event, 75 operational staff worked over the response period, 630 sandbags were deployed by staff in the field with an additional 260 distributed to the public, and 87 service requests were created. Through lessons learned from the 2021 Atmospheric River event and Council endorsed action items, the cumulative drainage impacts felt by the community during this event were significantly less than the 2021 event. This is reflected in the significant reduction in service requests (shown in Attachment 1).

- The most intense rainfall event of 2024 occurred October 27 to 28, when the Hamilton Community Centre rain gauge recorded a rainfall intensity of 17.8 mm/hr for a 1-hour period. This rainfall event has a statistical return period of 10 years; however, this intensity was not sustained, as the total rainfall recorded for both days was approximately 32 mm.

The City's drainage system is designed to withstand a 10-year return period rainfall event. The drainage system performed well during winter rainfall events, despite being subjected to a more statistically extreme event during the October 2024 Atmospheric River. The total annual rainfall over the last 10 years is included in Attachment 2.

In advance of anticipated weather events, an Operations Response Plan is initiated, and a number of actions are taken by staff to reduce localized flooding and respond to the anticipated weather event. Examples of actions taken to prepare the drainage system are increasing capacity by lowering water levels in the canals, adjusting settings at pump stations, clearing heavy leaf routes, inspecting and servicing identified hot spots, pre-planning the best deployment of resources, and preparing sandbags for both staff and public use. After a weather event, staff review data from rain gauges, level sensors, SCADA, service requests, and staff observations to implement action items. These efforts ensure the continued improvement and readiness of the City's drainage system.

Atmospheric River Initiatives

Using lessons learned from the November 2021 and October 2024 Atmospheric River events, a number of initiatives to assess and improve the City's drainage system have been undertaken.

Ongoing initiatives include coordinating with the Ministry of Transportation and Transit (MoTT) to identify drainage infrastructure upgrades and facilitate maintenance to address localized flooding issues, monitoring results of maintenance activities in drainage catchment areas, and developing specifications for acquiring independent portable fuel supplies during extreme weather events.

Completed initiatives include large-scale maintenance activities for drainage infrastructure in the Horseshoe Slough catchment, increased coordination with cranberry farms and City staff, investigation and review of existing drainage system locations to determine long-term upgrades, development of a sandbag staging and distribution program to help protect private properties during extreme weather events, construction of site drainage improvements and relocation of electrical equipment for the Edgemere Sanitary Pump Station, and ugrades to fuel supply infrastructure at the Works Yard.

Staff will continue to implement flood protection infrastructure upgrades and emergency response protocols to enhance the City's flood resilience during extreme weather events.

2024/2025 Winter Storm Events

City crews deployed water gates on Mitchell Island as a precautionary measure on November 20, 2024 in response to heightened flood risks posed by the combination of a king tide and storm

surge. The Britannia flood wall was also erected during periods of high water events. The event did not result in any flooding.

Overall, seasonal high tides and king tides were not significant over the winter, and the City's diking system performed well. There were no reports of dike overtopping, breaching, or other flood related concerns during this period. Erosion and debris run up continue to be addressed as part of the dike maintenance program.

Infrastructure Improvements

The City's flood protection system has a replacement value of approximately $3.7 billion. The City is actively implementing the Council-endorsed accelerated flood response program and upgrading flood protection infrastructure to address the impacts of growth, infrastructure age and climate change.

Capital Dike Upgrades

Current climate change science estimates that sea levels will rise approximately 1.0 metre by the year 2100 and 0.2 metres of land subsidence will occur over the same time period. The City's Flood Protection Management Strategy is the guiding framework for continual upgrades and improvements to the City's flood protection system. A key action identified in the City's Flood Protection Management Strategy is to continue raising the City's perimeter dike to 4.7 metres in advance of climate change induced sea level rise.

The following dike improvement projects have been approved through the capital budget and are progressing or getting underway:

- Design of north dike upgrades between Lynas Lane and No. 2 Road;
- Design of south dike upgrade between No. 4 Road and No. 5 Road;
- Design of south dike upgrade between 6080 Dyke Road to Gilbert Road; and
- Preliminary design of north dike upgrades between Knight Street and the CN Rail Trestle Bridge.

Funding to construct dike upgrades will continue to be requested through future capital projects for Council's consideration as part of the annual budget process. The City will also continue to seek senior government grant funding opportunities to support dike raising projects.

Dike Rehabilitation

Staff completed a major update to the Dike Operations & Maintenance Manual and continue to conduct annual inspection and maintenance programs to ensure that the City's dikes are well-protected against issues such as erosion and seepage. Notable inspection and maintenance work completed this year includes the following:

- Responded to seven high water events over 35 days of patrols;

- Installed two new staircases (at 4291 River Road and at the intersection of Lynas Lane and River Road) to improve pedestrian accessibility to the north dike;
- Installed 610 metres of rip rap armoring at various dike sections throughout the City to reinforce the waterside dike slope;
- Completed 415 metres of landside dike repairs and barrier installations on the north dike along River Road and south dike along Dyke Road to mitigate vehicle damage to the dike;
- Completed 30 metres of spot repairs to address damages resulting from storms, and 100 metres of dike repairs due to motor vehicle accidents (MVAs);
- Completed 240 metres of pathway improvements and removed large, woody debris from the shoreline over a 55-metre section on the north dike along River Road to avoid impacts to rip rap and dike slope stability;
- Upgraded four access gates to improve dike access for maintenance activities, dike patrols and emergency situations; and
- Completed 49 kilometres of brush cutting and inspections along the entire perimeter dike.

Pump Station Upgrades

Significant progress has been made in upgrading the City's drainage pump stations to accommodate growth and climate change. The total capacity of the City's drainage pump stations has increased by 30% since 2005.

Over the last 20 years, as part of the City's asset management program, 19 of 39 drainage pump stations have been rebuilt or upgraded. Upcoming drainage pump station upgrade projects include the No. 3 Road South and No. 9 Road-Westminster Highway Pump Stations.

During extreme events, a number of older pump stations operate near full capacity. These stations have been identified to require upgrades. Projects to upgrade or replace these stations are either included in current capital budgets or will be brought forward for Council's consideration as part of future capital budgets.

Box Culvert Repair and Preventative Maintenance

The City has approximately 61 kilometres of culverts, the majority of which are 40 to 50 years in age. Although the box culverts have a design life of 100 years, premature failure of some joints has been observed in recent years.

The City has implemented a preventative box culvert maintenance program to inspect the condition of box culverts and identify sections that require repair or replacement on a 7-year cycle. Staff are proactively managing the condition of box culverts by identifying and repairing deteriorating joints before they cause significant damage. Repair of significant defects identified through the program will continue to be presented to Council for consideration as part of the annual capital budget.

Staff inspected 10 kilometres of box culverts within 13 drainage catchments in 2024. Results of each inspection are documented in reports with supporting images and video recordings. This allows staff to monitor changes to the condition of box culverts, thereby better informing long-term infrastructure improvement planning. In 2024, no significant defects were encountered and all minor defects that were identified have been repaired.

Rehabilitation of the No. 4 Road box culvert from Westminster Highway to Granville Avenue is occurring in summer 2025. The rehabilitation will include conventional methods along with injection grouting to prevent infiltration into the box culvert and fill potential voids on the outside of the box culvert. Rehabilitation of the No. 4 Road box culvert between Alderbridge Way and Westminster Highway was completed in summer 2024. These projects mitigate the deterioration of the box culvert joints and extend the service life of the box culvert.

The box culverts in the Horseshoe Slough, Bath Slough, and No. 6 Rd South drainage catchment areas are scheduled for inspection in 2025.

Development

The City has successfully partnered with developers to secure dike upgrades through development. In particular, the City is actively pursuing opportunities to construct superdikes, where land supporting development behind the dike is filled to the same elevation as the dike crest. This eliminates visual impacts of a raised dike structure on waterfront views, while providing an enhanced flood protection structure for the City.

Superdikes, constructed through development to date, include sections of the north dike near the Richmond Olympic Oval and No. 4 Road, as well as sections along the south dike at Riverport Way, Williams Road, and in Steveston. Superdike construction along the north dike, west of Shell Road, is expected to be completed by the end of the year.

Financial Impact

None.

Conclusion

The City observed the highest annual rainfall over the last 10 years in 2024 and below average freshet flows in the spring of 2025. The drainage and flood protection system performed well, with negligible freshet flood risk and a below average number of drainage-related service requests.

Demands on the drainage and flood protection system will continue to increase due to climate change and growth. The Flood Protection Management Strategy guides the City to proactively forecast, plan, and improve the City's flood protection system to meet long-term requirements. Through capital improvements, investment in preventative maintenance programs, and sound incident planning and response efforts, the City is able to manage flooding risks and maintain a high level of service to Richmond residents.

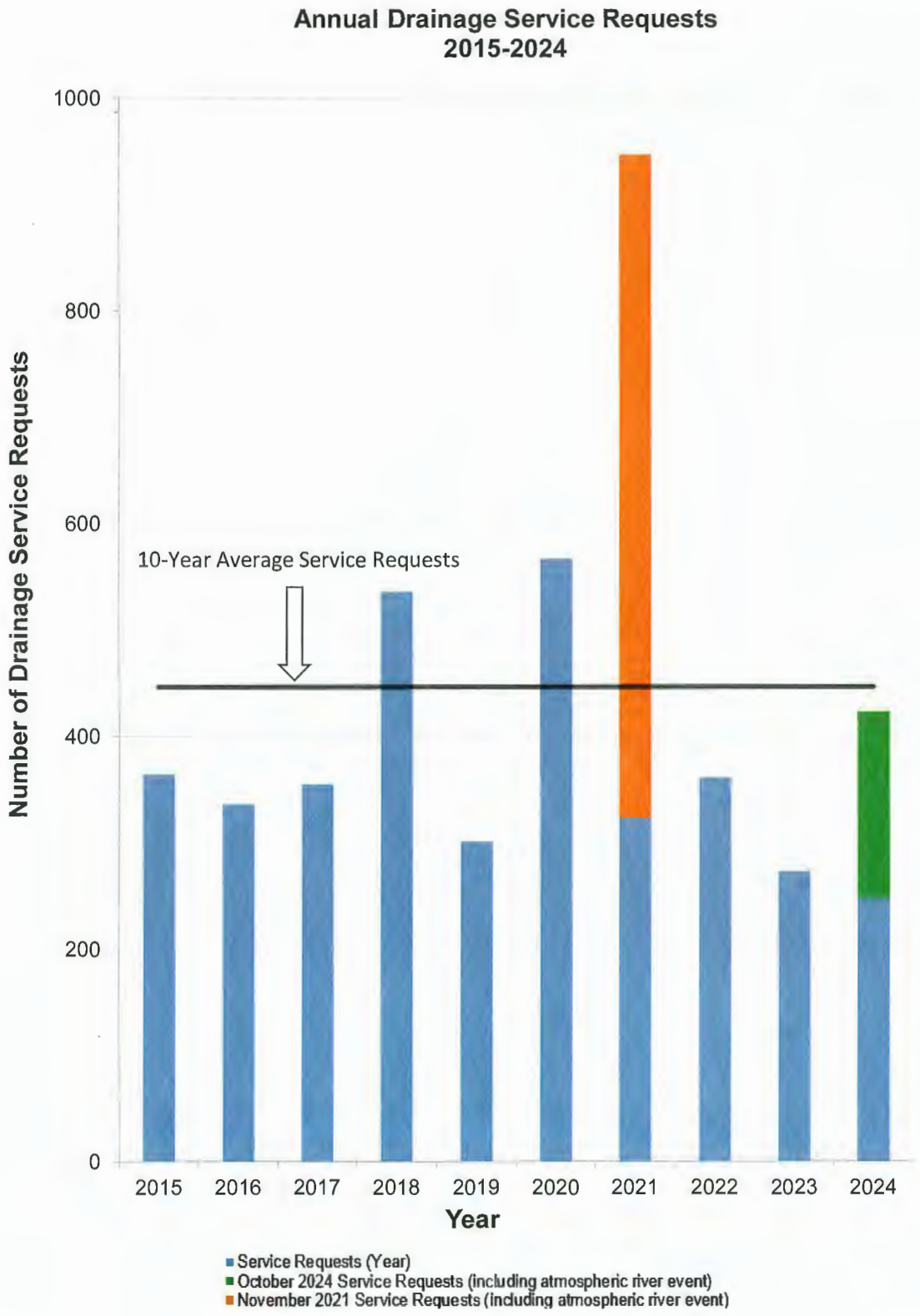
Significant progress continues to be made in advancing the City's dike planning efforts and implementing infrastructure improvements to the City's flood protection system.

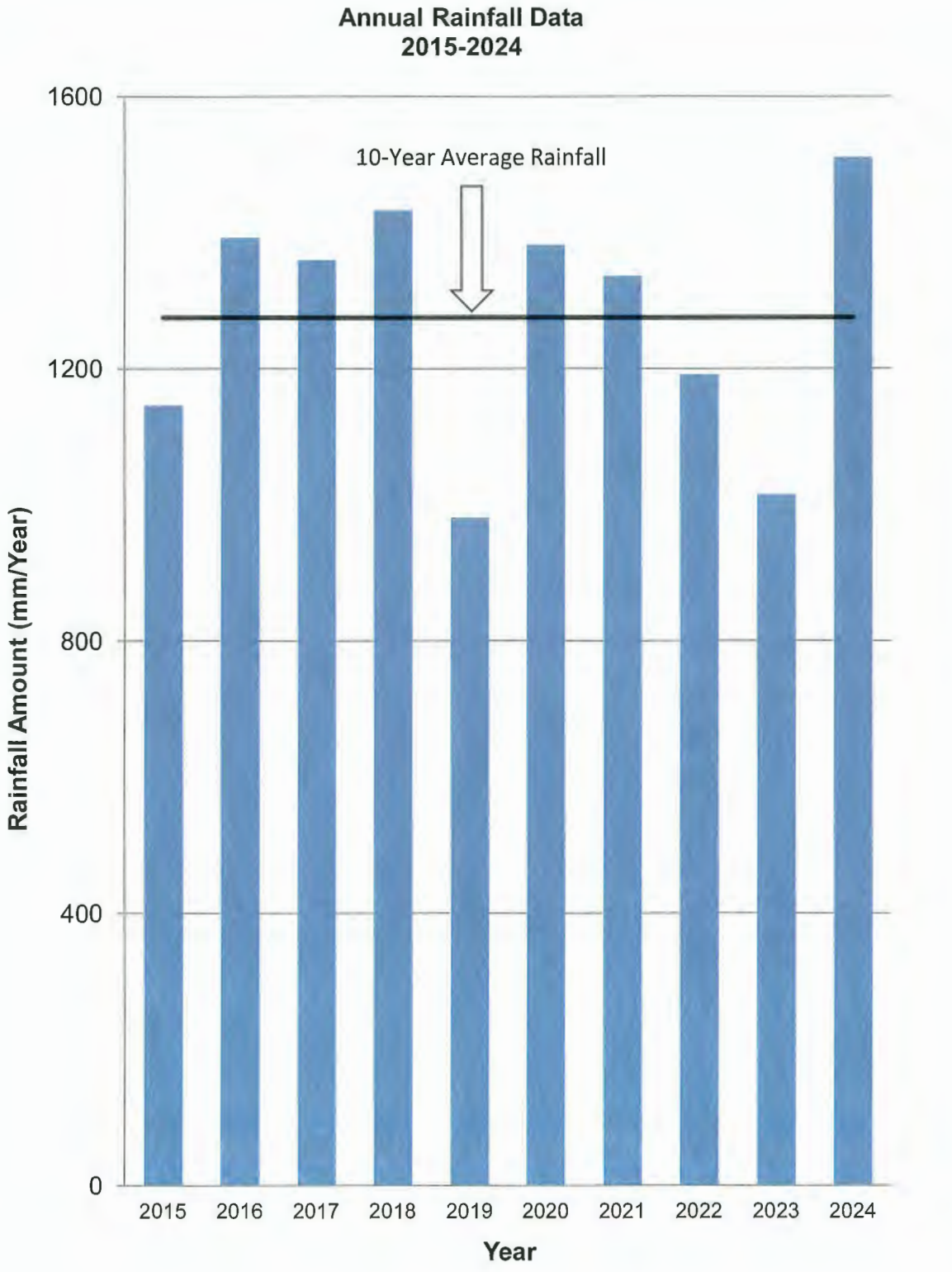
Ridhi Dalla

Ridhi Dalla, P.Eng.
Senior Project Manager, Engineering Planning
(604-204-8521)

RD:aq

Att. 1: Annual Drainage Service Requests 2015 - 2024
2: Annual Rainfall Data 2015 - 2024


Annual Drainage Service Requests
2015-2024
Number of Drainage Service Requests
1000
800
600
400
200
0
10-Year Average Service Requests
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Year
Service Requests (Year)
October 2024 Service Requests (including atmospheric river event)
November 2021 Service Requests (including atmospheric river event)


Annual Rainfall Data
2015-2024
10-Year Average Rainfall
Rainfall Amount (mm/Year)
1600
1200
800
400
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Year

City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	June 26, 2025
From:	Milton Chan, P.Eng. Director, Engineering	**File:**	10-6060-01/2025-Vol 01
Re:	**2025 Ageing Utility and Road Infrastructure Planning – Update**		

Staff Recommendation

That the staff report titled, "2025 Ageing Utility and Road Infrastructure Planning – Update", dated June 26, 2025, from the Director, Engineering be received for information.

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

Att. 5

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Finance Department	☑	Roeland Zwaag
Public Works	☑	
Transportation	☑	
Climate and Environment	☑	
Policy Planning	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:**	**APPROVED BY CAO**
		Serena

Staff Report

Origin

The purpose of this report is to update Council on the estimated long-term capital funding requirements for age-related infrastructure renewal. The previous update report was brought forward in 2022. This report reflects on the City's current infrastructure inventory, new inspection data, and updated infrastructure replacement costs.

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.*
>
> *3.3 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 #4 Responsible Financial Management and Governance:

> *Responsible financial management and efficient use of public resources to meet the needs of the community.*
>
> *4.1 Ensure effective financial planning to support a sustainable future for the City.*

Background

This report outlines the long-term funding requirements for maintaining and replacing the City's ageing infrastructure. The objective of the analysis is to ensure that the City has the capacity to meet the funding challenges of the present as well as the future, while maintaining current service levels.

The ageing utilities and roads infrastructure analysis is based on standard and observed service life of specific types of infrastructure. There are several local factors that can impact the actual useful life of infrastructure, such as soil type and quality of original installation. The long-term analysis is essential for long-term budget projections but has limited use for identifying exact replacement dates for specific pieces of infrastructure. Short-term infrastructure needs are addressed through the 5 Year Capital Plan, which is developed based on field observations, repair history, and condition assessments.

The graphs that are attached to this report provide long-term infrastructure funding projections and should be used as a general overview for anticipated long-term infrastructure costs, while the 5 Year Capital Plan more accurately identifies short-term budget requirements.

Existing Infrastructure

In managing the City's extensive network of infrastructure services, staff have developed: water, sanitary sewer, flood protection, and pavement management computer models to predict infrastructure performance, upgrade requirements, replacement year, and replacement costs. Coupled with field-verified condition assessments and repair history, predictive modelling plays a key role in determining the City's infrastructure replacement and upgrade programs.

Table 1 provides a summary of the City's inventory of water, sanitary sewer, flood protection, non-Major Road Network (MRN) roads and road infrastructure. The replacement value assumes that infrastructure will be replaced or upgraded to meet the City's current requirements.

Table 1: Infrastructure Inventory

Infrastructure	Components	Main Funding Source	Replacement Value (2025 Dollars)
Water	636 km Pipes 13 PRV Chambers 60 Valve Chambers 32,433 Water Meters	Water Utility	$1,216M
Sanitary Sewer	569 km Pipes 154 Pump Stations	Sewer Utility	$1,122M
Flood Protection	599 km Pipes 39 Pump Stations 61 km Culverts 151 km Watercourses 49 km Dikes	Flood Protection Utility	$3,691M
Roads (Non-MRN) and Road Assets	1,338 lane km Asphalt[1] [2] 12,025 Street Lights[3]	General Revenue	$1,087M
Total			**$7,116M**

[1] Includes asphalt layer only and not supporting sub-base structure.

[2] Excludes MRN roads.

[3] Excludes BC Hydro lease lights not maintained by the City.

The infrastructure programs for Water, Sanitary Sewer, and Flood Protection are funded by the Water Supply Reserve, Sanitary Sewer Reserve, and Flood Protection Reserve, respectively. Each reserve receives an annual contribution from the corresponding utility budget. Road and road assets (asphalt and street lights) are not part of a utility and are mainly funded from the City's General Revenue.

Table 2 summarizes the current annual funding levels included in the 2025 Utility Budget and General Revenue funding sources, along with the uncommitted reserve balance as of May 31, 2025.

Table 2: 2025 Annual Funding Levels and Reserves

Infrastructure Type	2025 Approved Annual Funding Level	Main Funding Source	Uncommitted Reserve Balance (May 31, 2025)
Water	$8.5M	Water Utility	$29.7M
Sanitary Sewer	$7.3M	Sewer Utility	$25.9M
Flood Protection	$17.6M	Flood Protection Utility	$26.6M
Road and Street light Assets	$4.7M[1,2]	General Revenue	N/A
Total	**$38.1M**		**$82.2M**

[1] Includes $100k from the Citywide Sidewalk and Street Light Replacement Program.

[2] Excludes supplementary asphalt paving program.

As part of this report, the expected long-term average annual capital funding requirements have been updated to reflect changes in infrastructure replacement costs, inventory changes resulting from growth or capacity improvements, and new inspection data. There is an increasing funding gap that will need to be addressed through future utility budgets. Staff will continue to present annual budget options to close existing funding gaps and, ultimately, maintain utility funding within the required target range.

Analysis

Total Replacement Value and Schedule

Infrastructure replacement costs for the City's water, sanitary sewer, flood protection, and road infrastructure over the next 100 years are presented in Attachments 1 to 5. The attachments also present the current annual capital funding levels, and the expected long-term average annual capital funding levels required to replace assets (in 2025 dollars). Given the volatility of construction costs, infrastructure projects do not always follow general inflation trends.

The current analysis indicates that construction cost increases have been significant in recent years, with cost inflation being well above the Consumer Price Index. Replacement values have been updated to account for this continuing trend.

The attachments provide a funding range (low to high) to reflect a level of uncertainty in long-term replacement programs, which is due to a number of variables, such as:

- Coordination with development driven upgrades or other capital projects;
- Variability in the potential service life of the infrastructure; and
- Variability in the cost of infrastructure replacement.

Water

Staff estimate a long-term average annual capital funding requirement of $13.2 million, with a funding range of $10.8 to $17.5 million, for the City's water infrastructure (Attachment 1). Since 2001, Council has endorsed increases in the annual Water Utility capital funding to its current level of $8.5 million. The City's proactive replacement programs have mitigated ageing infrastructure issues and watermain breaks, which has minimized service disruptions and property damage from broken watermains.

The primary focus of the City's watermain replacement program is the replacement of ageing asbestos cement (AC) water pipes with new polyvinyl chloride (PVC) or high-density polyethylene (HDPE) pipes. PVC and HDPE pipes offer longer service lives, better seismic resilience, and higher chemical resistance in Richmond's corrosive soil conditions. Approximately 35% of the City's watermains are AC pipes. Since the last ageing infrastructure planning update in 2022, approximately 14 kilometres of AC water pipes have been replaced through the watermain replacement program. Replacement of ageing AC pipes will remain the primary focus of the City's watermain replacement programs for approximately the next 30 years.

The City's water meter program is funded through the Water Utility and has been successfully implemented. To date, 100% of single-family, approximately 60% of multi-family, and 100% of industrial, commercial and institutional properties have been metered. One of the benefits of water metering is the ability to identify property-side water leakage and provide incentives for leak repair. Since 2015, the City has received 2031 applications for leak rebates, totalling 3.3 million cubic metres in annual leak reduction. This represents approximately $2.5 million in annual cost savings on Metro Vancouver water purchases.

Sanitary Sewer

Staff estimate a long-term average annual capital funding requirement of $14.7 million, with a funding range of $12.8 to $18.5 million, for the City's sanitary sewer infrastructure (Attachment 2). Since 2001, Council has endorsed increases in the annual Sewer Utility capital funding to its current level of $7.3 million.

Inflow and infiltration (I&I) of rainwater and groundwater into the sanitary system reduces available system capacity for domestic sewage and municipal growth. I&I management is an important strategy for deferring or avoiding capacity-based system upgrades. The City maintains one of the lowest rates of I&I in Metro Vancouver, which is a result of proactive sanitary sewer assessment and rehabilitation programs. The City completed a condition assessment of all sewers indicating that the City's gravity sewers are generally in excellent condition.

The City operates and maintains 154 sanitary pump stations. Since the early 2000s, the City has constructed nine new sanitary pump stations, rebuilt five sanitary pump stations, performed upgrades on 27 sanitary pump stations, and installed new pumps at 92 pump stations. The City completed a condition assessment of the sanitary pump station inventory in 2024. The assessment results indicate that the City's sanitary pump stations are generally in good condition, with minor rehabilitation work recommended over the next 5 to 10 years.

Flood Protection

Staff estimate a long-term average annual capital funding requirement of $38.7 million, with a funding range of $36.8 to $42.6 million for the City's flood protection infrastructure (Attachment 3). Council has endorsed increases in the annual Flood Protection capital funding to its current level of $17.6 million.

Drainage Infrastructure

The expected long-term average annual capital funding level for drainage infrastructure has increased mainly due to inflation and emerging box culvert issues.

The City has approximately 58 kilometres of box culverts, the majority of which are 50 to 60 years in age. Concrete box culverts have a design life of 100 years; however, some box culvert joints are failing prematurely leading to the development of sinkholes, often under highly travelled roadways. To extend the useful service life of box culverts and minimize long-term replacement costs, inspections are completed on a 7-year cycle. In addition, Council has supported a number of capital projects related to box culvert repairs. Since 2015, a total of $16.4 million has been allocated to repairs of failed box culverts.

Condition assessments for the City's 39 drainage pump stations is on-going. The estimated replacement costs have increased due to increased seismic mitigation and regulatory requirements, along with significant increases in construction costs.

Since the early 2000s, the City has rebuilt or performed significant upgrades on 19 of 39 drainage pump stations. The City's capital program includes two additional proposed pump station replacements. The remaining Lulu Island drainage pump stations are identified to be rebuilt or receive significant upgrades over the next 20 years.

Dike Infrastructure

The City is an average of one metre above mean sea level and protected by 49 kilometres of dike. Current climate change science estimates that sea levels will rise by 1.0 metre by the year 2100 and 0.2 metres of land subsidence will occur over the same time period. The Flood Protection Management Strategy identifies upgrading the City's perimeter dike to an elevation of 4.7 metres geodetic as the priority response to address sea level rise. All new dikes are designed to accommodate a further height increase to 5.5 metres to address sea level rise beyond 2100. The City's Dike Master Plan addresses this need by recommending dike upgrade options for each section of dike throughout the City. All five phases of the Dike Master Plan have been endorsed by Council.

Since 2019, the City has raised 2.1 kilometres of the south dike between Gilbert Road to 400 m west of No. 4 Road, and near No. 9 Road. Upcoming upgrades include 450 metres of the north dike between Lynas Road to No. 2 Road and 1.2 kilometres of the south dike between No. 4 Road and No. 5 Road. Staff will continue to upgrade the perimeter dike in accordance with the Dike Master Plan and bring forward projects for Council's consideration as a part of the annual capital budget.

Flood Protection Funding and Accelerated Flood Protection Program

In the early 2000s, Council endorsed the Flood Protection Utility and the annual capital funding levels have been progressively increased to its current level of $17.6 million. Through the Flood Protection Utility and leveraging grant funding, the City has dedicated over $206 million over the last 10 years to complete flood protection projects, including pump station and dike upgrades.

In 2021, Council adopted a 50-year implementation period for an accelerated flood protection program with the objective of upgrading the City's dikes within 50 years. The program was developed based on an estimated dike upgrade cost of $1 billion (2021 dollars), with a projected annual capital funding level of $30 million within the Flood Protection Utility by 2032.

Due to factors including construction cost escalation, environmental enhancement and rising land acquisition values, the estimated cost to complete the dike upgrades has increased to $1.3 billion (2025 dollars). Staff will present updated funding options for Council consideration later this year as part of the utility rate and budget process.

The estimated dike upgrade costs should be used as an order of magnitude reference, considering highly variable factors, such as construction costs, superdikes, land acquisition values, and regulatory requirements. Staff will further refine cost estimates as the program progresses through the annual budget process.

Road and Street Light Assets

Staff estimate a long-term average annual capital funding requirement for the City's roads and street light assets to be $13.6 million. The City's road and street light asset inventory include road pavement and street lights.

These assets are not part of a utility and are mainly funded from the City's General Revenue. Since 2006, Council has endorsed increases in annual roadway capital funding levels to its current value of $4.7 million.

Road Pavement (Non-MRN)

Staff estimate a long-term average annual capital funding requirement for the City's road pavement to be $10.3 million with a funding range of $8.8 to $11.9 million (Attachment 4), excluding full structural road rebuilding. Current funding levels allow an average of approximately 20 lane-km of roads to be repaved each year. Locations are identified using the City's computerized pavement management system and coordinated with other capital projects and development. Paving prices are also heavily influenced by oil prices, which have significantly varied over the past few years. The fluctuating price of paving has a significant impact on the long-term capital funding requirements for the City's road network.

Unlike typical utility infrastructure, road pavement has a much shorter lifespan of 15 to 35 years. The shorter asset lifecycle increases opportunities to benefit from development-driven replacement, paving completed through development activities will have notable impacts on ageing infrastructure plans.

Based on typical roadway design life information, significant road paving will be required over the next five years. Area-specific verification will be reviewed as part of the annual budget process. The results from the City-wide asphalt surface condition assessment inform the City's existing and future capital paving programs. Staff will continue to bring forward paving program funding recommendations that will include on-going capital program requests and supplementary capital requests to meet the needs of the roadway paving program.

Street Lighting (Non-MRN)

The City's street lighting system consists of 12,025 street lights and continues to grow with new development. Through the LED replacement program, approximately 7,100 end-of-life high pressure sodium light fixtures have been replaced with LEDs to reduce energy consumption and improve efficiency. Multiple phases of this program have been completed, and staff will continue to upgrade the remaining luminaires to LED through future capital submissions.

The long-term average annual capital funding requirement for the replacement of street lighting systems is approximately $3.3 million with a funding range of $3.05 to $3.77 million (Attachment 5). However, there may be significant variability in the useful service life of street lighting infrastructure based on the level of deterioration, and because the service life used to inform the current analysis may be conservative. Additionally, decorative street lighting replacement is significantly more expensive than standard street lighting replacement and adding decorative street lights to the City's inventory will increase the cost associated with the replacement program.

The City's street lighting assets have recently required increased capital funding due to shown signs of deterioration. Through the capital budget, the City has invested $4.1 million for the multi-phase LED street light replacement program.

The asset deterioration model indicates that additional funding will be required to proactively upgrade and replace street lighting assets. Given that there is no dedicated utility for street light LED upgrades, robust asset management plans are critical to help assess the funding requirements through the annual budget process.

Expected Long-Term Average Annual Funding Requirements

Table 3 below summarizes the current and expected long-term average annual funding requirements in 2025 dollars, as well as the current ageing infrastructure funding gaps. The City has made considerable infrastructure funding gains since initiating its strategy to close the funding gap in 2006.

Table 3: Annual Capital Funding Levels

Infrastructure Type	2025 Approved Annual Funding Level	Expected Long-Term Average Annual Funding Requirement	Estimated Additional Capital Funding Required	Target Funding Range	Main Funding Source
Water	$8.5M	$13.2M	$4.7M	$10.8M - $17.5M	Water Utility
Sanitary	$7.3M	$14.7M	$7.4M	$12.8M - $18.5M	Sewer Utility
Flood Protection	$17.6M	$38.7M	$21.1M	$36.8M - $42.6M	Flood Protection Utility
Road Assets (Non-MRN)	$4.1M[1]	$10.3M	$6.2M	$8.8M - $11.9M	General Revenue
Street light Assets (Non-MRN)	$0.6M[2]	$3.3M	$2.7M	$3.05M - $3.77M	General Revenue
Totals	**$38.1M**	**$80.2M**	**$42.1M**		

[1] Excludes supplementary asphalt paving program.

[2] Includes $100k from the Citywide Sidewalk and Street Light Replacement Program.

Funding Strategies

The expected long-term average annual capital funding levels will allow the City to implement proactive and sustainable infrastructure replacement programs. This enables the City to sequence utility replacement and use competitive bidding to ensure the optimal utilization of funding. Replacing failed infrastructure has proven to be considerably more expensive and disruptive to residents and City services than proactive replacement.

In recent years, the City has successfully applied for federal and provincial grants from programs, such as the Community Emergency Preparedness Fund, National Disaster Mitigation Program, Disaster Mitigation and Adaptation Fund, and Emergency Management BC Flood

Protection Program. Staff will continue to seek such opportunities in the future to support infrastructure upgrades. Although the City has been successful with obtaining grant funding over the last few years, the availability of grant funding is highly variable.

Development facilitates significant infrastructure replacement that has a positive impact on the City's overall ageing infrastructure. However, development is subject to economic variability and does not always coincide with infrastructure that is beyond its useful life. Therefore, development is not considered a sustainable resource for ageing utility infrastructure replacement.

Staff will present funding options and make recommendations to Council as part of the annual utility rate review and budget process.

Provincial Housing Legislation Updates

In response to Provincial Bill 44 (2023 Housing Statutes (Residential Development) Amendment Act), at the June 24, 2024 Regular Council Meeting, Council adopted zoning bylaw amendments (Bylaw 10573) included in the staff report titled, "Response to Provincial Housing Bills: Small-Scale Multi-Unit Housing (SSMUH) Zoning District Bylaw and Associated Zoning Bylaw Amendments," dated June 12, 2024, from the Director of Policy Planning.

The higher population density will place additional demands on the water, sanitary, and flood protection systems. Staff are currently updating the utility models to identify any additional utility infrastructure upgrades and/or maintenance requirements. The modelling results will be used to inform the ongoing road and infrastructure planning processes. Funding for these items will be reviewed and incorporated into future development cost charge or utility rate and operating budget processes.

Financial Impact

None at this time. The information presented in this report will be used to develop the options that will be brought forward for Council consideration as part of the utility rate and operating budget processes.

Conclusion

Staff will continue to refine and update infrastructure replacement requirements and explore new technologies and best practices to positively impact lifecycle infrastructure costs. In addition, staff will continue to identify utility funding gaps through the annual budget process. The rate of increase and timeframe to close the funding gaps will be impacted by Metro Vancouver's regional charges for water and sewer, which are non-discretionary costs imposed on the City and currently represent approximately 65% of the City's budget for these two cost centres.

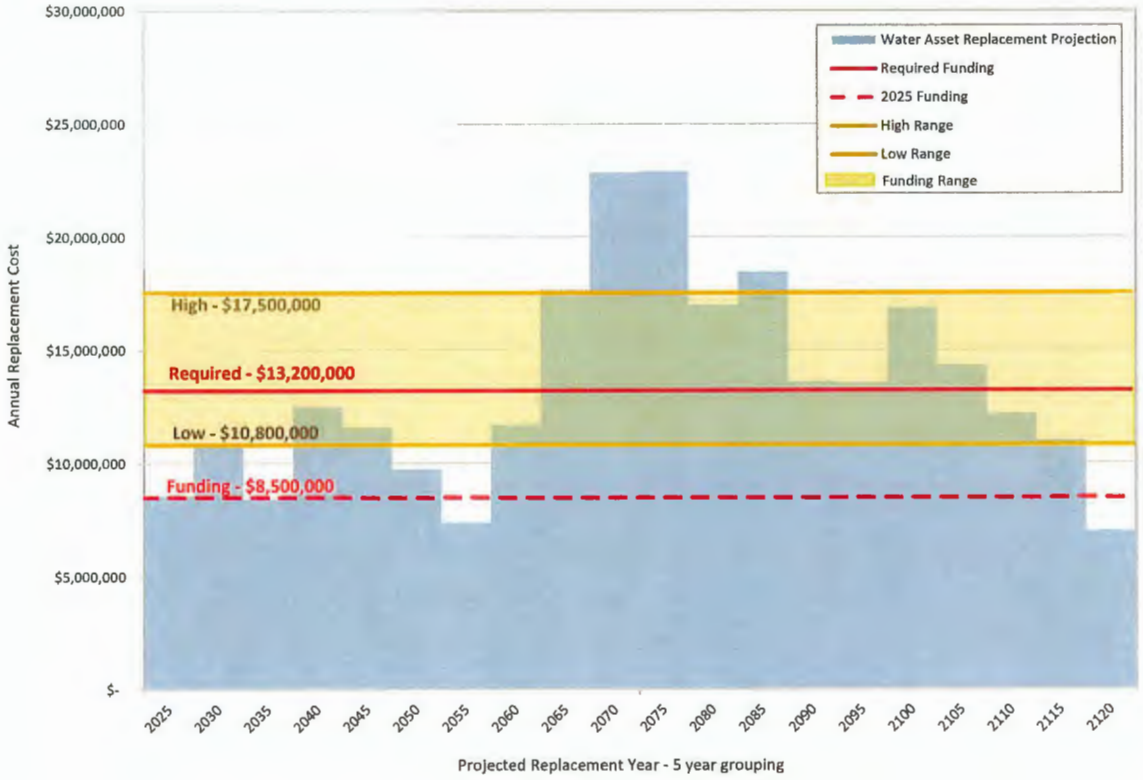
The capital funding shortfalls outlined in this report should be considered in conjunction with the City's Long-Term Financial Management Strategy.

Jason Ho, P.Eng.
Manager, Engineering Planning
(604-244-1281)

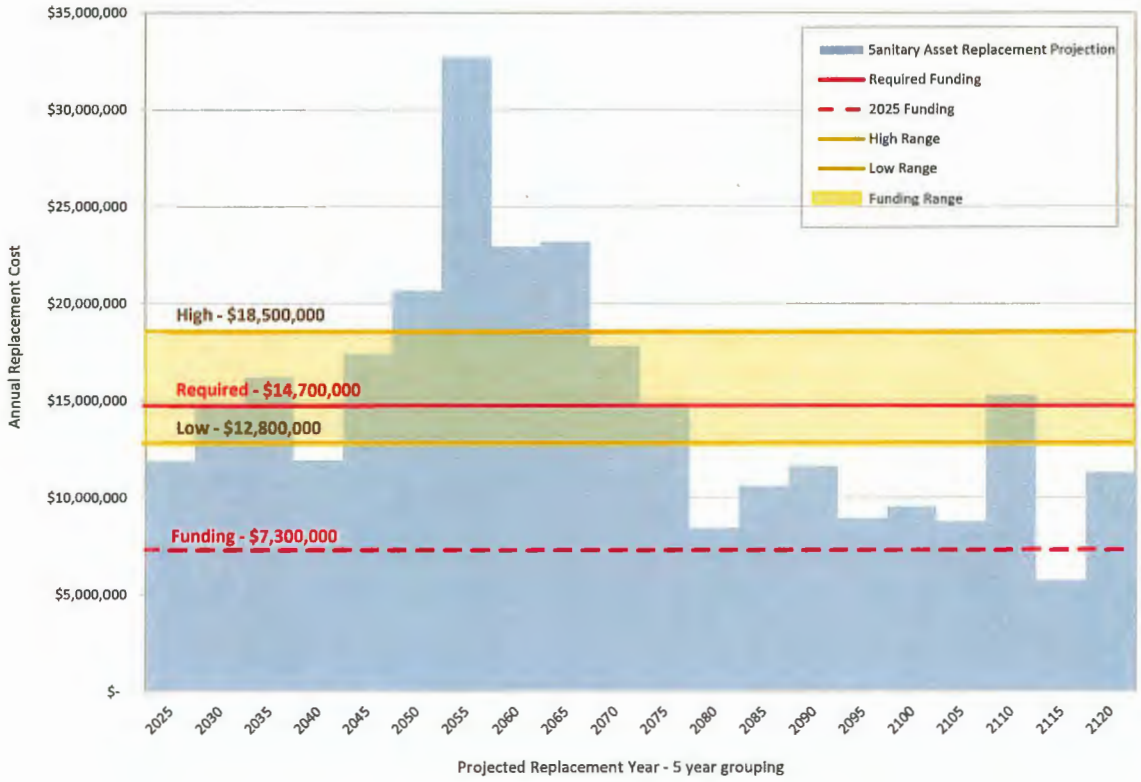
JH:am

Att. 1: 2025 Ageing Infrastructure Report – Water Assets
Att. 2: 2025 Ageing Infrastructure Report – Sanitary Sewer Assets
Att. 3: 2025 Ageing Infrastructure Report – Flood Protection Assets
Att. 4: 2025 Ageing Infrastructure Report – Road Paving Assets (non-MRN)
Att. 5: 2025 Ageing Infrastructure Report – Street Light Assets (non-MRN)

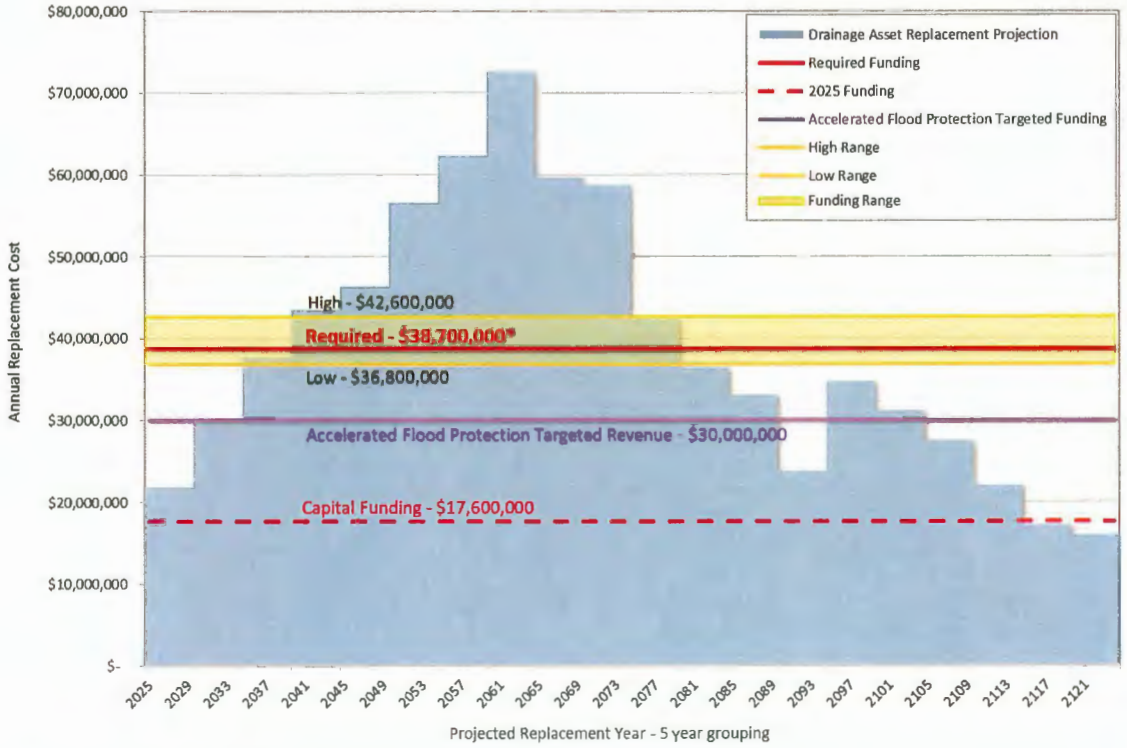
2025 Ageing Infrastructure Report – Water Assets



2025 Ageing Infrastructure Report – Sanitary Assets

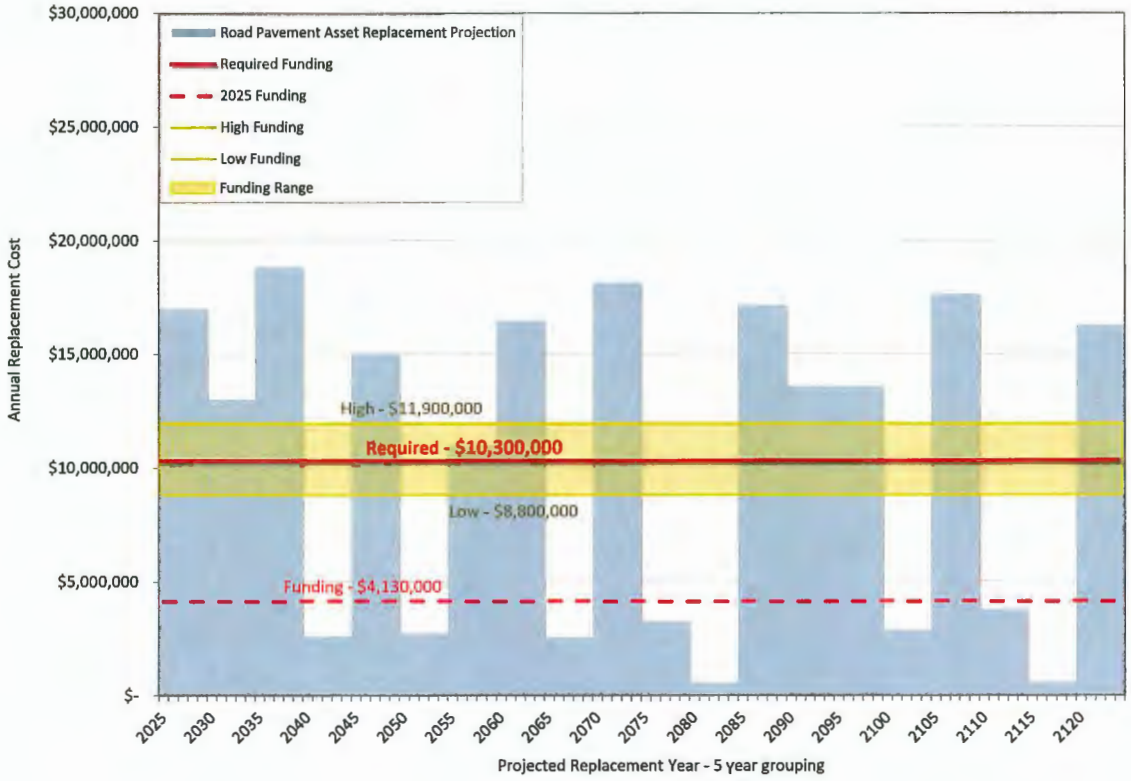


2025 Ageing Infrastructure Report – Flood Protection Assets

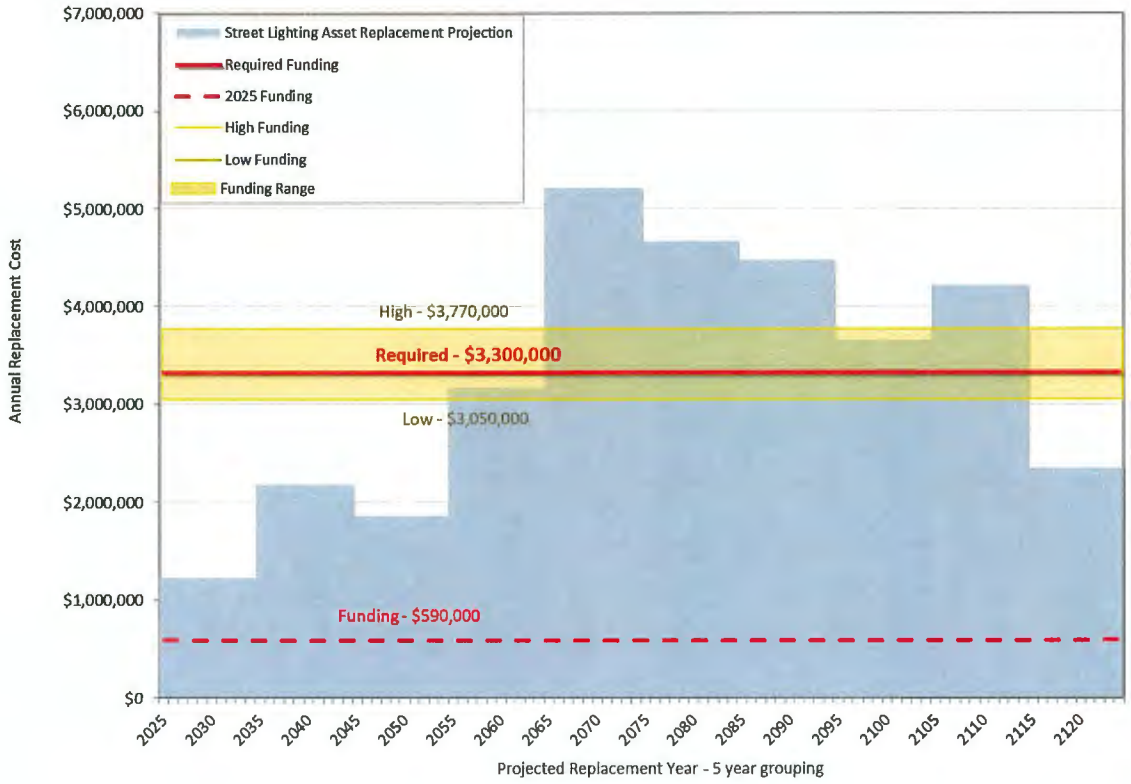


*Required Funding Level may decrease upon award of senior government grant funding

2025 Ageing Infrastructure Report – Road Paving Assets (non-MRN)



2025 Ageing Infrastructure Report – Street light Assets (non-MRN)



City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	July 4, 2025
From:	Suzanne Bycraft Director, Public Works Operations	**File:**	10-6650-02/2025-Vol 01
Re:	**Award of Contract 8428 NOITC - Supply and Delivery of Water Meters and Water Meter Heads**		

Staff Recommendations

1. That Contract 8428 NOITC – Supply and Delivery of Water Meters and Water Meter Heads be awarded to FlowSystems Distribution Inc. ("Flow Systems"), for a one-year term for an estimated value of $400,000, exclusive of taxes, as described in the report titled "Award of Contract 8428 NOITC – Supply and Delivery of Water Meters and Water Meter Heads" dated June 19, 2025 from the Director, Public Works Operations;

2. That the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to execute the contract and all related documentation with FlowSystems Distribution Inc.; and

3. That the Chief Administrative officer and General Manager, Engineering and Public Works be authorized to extend the initial one-year term, up to a maximum total term of five years, for the maximum total amount of $2,000,000, excluding taxes.

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

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Finance Department	☑	Roeland Zwaag
Purchasing	☑	
Engineering	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:** CJ	**APPROVED BY CAO**

Staff Report

Origin

This report presents the results of a Notice of Intent to Contract with FlowSystems Distribution Inc. for the provision of the City's water meters and appurtenances in support of the City's water conservation strategy.

This report supports Council's Strategic Plan 2022-2026 Focus Area #1 Proactive in Stakeholder and Civic Engagement:

> *Proactive stakeholder and civic engagement to foster understanding and involvement and advance Richmond's interests.*

And the Council's Strategic Plan 2022-2026 Focus Area #4 Responsible Financial Management and Governance:

> *Responsible financial management and efficient use of public resources to meet the needs of the community.*

Analysis

Background

The City's water meters are all Neptune manufactured radio frequency water meters. The meter readings are mostly read remotely and the data is downloaded into the Neptune software. The Neptune software communicates the billing information to Tempest, the City's financial software system. The Neptune water meter and software system had been selected by the City through a previous competitive bidding process.

Any newly purchased water meters must be interoperable with the City's existing meter reading and billing software, as well as with Tempest. Flow Systems is the exclusive distributor of Neptune Technology Group's water meters throughout British Columbia. Under Article 513 of the Canadian Free Trade Agreement, single sourcing is permitted to ensure compatibility with existing infrastructure and systems.

Procurement Process

A Notice of Intent to Contract (NOITC) 8428 NOITC - Supply and Delivery of Water Meters and Water Meter Heads was posted to BC Bid on May 8, 2025 and did not receive any challenges by the May 20, 2025 closing date.

Neptune Technology Group has designated Flow Systems as the sole provider of Neptune water meters and water meter heads for Western Canada. The City's previous contract was with Fred Surridge Ltd., and they no longer hold the contract with Neptune Technology Group. The scope of work under the contract with Flow Systems is for the supply and delivery of water meters and water meter heads on an as and when required basis. Rates provided by Flow Systems are within accepted industry rates for services under 8428 NOITC.

Contract Term

The contract terms are indicated as an initial one-year term, renewable for up to four additional one-year periods to a maximum of five years, upon agreement of both the City and the Contractor.

Financial Impact

The estimated value of this contract for the initial one-year term is $400,000, excluding taxes. The City wishes to retain the option to extend the initial one-year term for four additional one-year terms for a total contract value of $2,000,000, excluding taxes, as summarized in Table 1.

Table 1 – Estimated Contract Cost

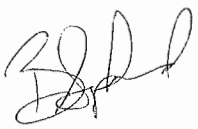
Contract Year	Contract Value
Year 1 (August 2025 – July 2026)	$400,000
Optional Year 2 (August 2026 – July 2027)	$400,000
Optional Year 3 (August 2027 – July 2028)	$400,000
Optional Year 4 (August 2028 – July 2029)	$400,000
Optional Year 5 (August 2029 – July 2030)	$400,000
Subtotal	$2,000,000
Total Contract Value (exclusive of taxes)	**$2,000,000**

This contract will be funded through applicable capital, receivable, and operating budgets on an "as and when needed" basis.

The average material cost for each water meter installation is approximately $1,000. Under this contract, an estimated 400 water meters may be purchased, which represents the average number of meters installed and/or replaced each year. The City currently installs 14 types of water meters, ranging in size and application from residential to commercial. The final quantity will depend on the specific types and sizes required on an as-needed basis.

Conclusion

This report presents the results of a Notice of Intent to contract with Flow Systems under Contract 8428 NOITC - Supply and Delivery of Water Meters and Water Meter Heads.It is recommended that the contract be awarded to FlowSystems Distribution Inc., being the exclusive distributor of Neptune Technology Groups water meters for an initial one-year term and that the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to extend the initial one-year term, up to the maximum total term of five years, for the maximum total amount of contract of $2,000,000, excluding taxes.



Bryan Shepherd
Manager, Waterworks
(604-233-3334)