City of Richmond

Report to Committee

To:	Finance Committee	**Date:**	January 15, 2021
From:	Ivy Wong, CPA, CMA Acting Director, Finance	**File:**	03-0970-25-2021-01/2020-Vol 01
Re:	**2021 Proposed Capital Budget**		

Staff Recommendation

1. That the 2021 Proposed Capital Budget as presented in Appendix 3 totalling $99,832,779 be approved; and

2. That the 2021 Proposed Capital Budget as approved be included in the Consolidated 5 Year Financial Plan (2021-2025).

Ivy Wong, CPA, CMA
Acting Director, Finance
(604-276-4046)

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER for A. NAZARETH	
REVIEWED BY SMT	INITIALS: AC
APPROVED BY CAO	

Executive Summary

The City of Richmond is responsible for providing and maintaining capital asset and infrastructure to serve its residents and businesses. The City is focused on making investment decisions that align with Council's strategic plans, policies and priorities. The 2021 Proposed Capital Budget totaling $99.8M includes significant investment in infrastructure renewal to maintain community viability as summarized in Table 1. The complete list of recommended projects is included in Appendix 3.

Table 1 – 2021 Proposed Capital Budget (in millions)

Program Description	Amount
Infrastructure program includes dikes, roads, drainage and sanitary pump stations, drainage, water, and sanitary mains.	$46.4M
Building program includes major building renovation projects as well as minor facility upgrades.	$7.4M
Parks program includes development of parks and parkland acquisition.	$12.8M
Public Art program supports the initiatives expressed in the Richmond Art Strategy 2019 - 2024, which was approved by Council in July 2019.	$0.1M
Land program includes funding for land acquisition. This amount is to ensure funding is in place to act on opportunities as they arise with Council approval required for each specific acquisition.	$10.0M
Affordable Housing program is to address housing affordability concerns in partnership with senior governments, the private sector, and non-profit organizations.	$0.6M
Equipment program includes information technology hardware and software, fleet and equipment, as well as fire vehicle and equipment replacement.	$7.7M
Child Care program provides funding for grants and other childcare initiatives funded by statutory reserves and do not necessarily result in City-owned capital infrastructure.	$0.2M
Contingent External Contributions is an estimate of external grants that may be received throughout the year for various projects.	$10.0M
Internal Transfers and Debt Repayment program relates to the use of capital funding for repayment of capital funds borrowed from other internal sources of funding.	$4.6M
2021 Recommended Projects Total	**$99.8M**

The 2021 Capital Budget with a total value of $99,832,779 will enable the City to maintain and advance the asset inventory that continues to provide necessities and benefits to the community. The preliminary operating budget impact associated with these projects is $698,101 and the amount was recommended to be phased into the 2021-2025 5YFP.

Staff Report

Origin

Subsection 165(1) of the *Community Charter* requires the City to adopt a 5 Year Financial Plan (5YFP) Bylaw. The 5YFP Bylaw includes operating, utility and capital budgets for year 2021 and provides estimates for the remaining years of the five-year program. The Consolidated 5YFP (2021-2025) Bylaw provides the City with the authority to proceed with spending as outlined in the Bylaw. The 5YFP must be balanced and therefore includes proposed funding sources. The 5YFP provides authorization for the use of certain funding sources such as Development Cost Charges (DCCs) and Statutory Reserves.

The Capital Budget is one of the main components of the 5YFP. The budget includes all expenditures that improve, replace and extend the useful life of the City's asset inventory, which currently has a net book value of $2.4 billion as of December 31, 2019. It also includes items, which are non-capital in nature (i.e. childcare, affordable housing) and are required to be included in the 5YFP since the programs are funded from the reserves. The Capital Budget allows the City to sustain existing civic infrastructure, while also adding new assets and services to serve the growing community.

The Long Term Financial Management Strategy (LTFMS - Policy 3707) is a set of principles created by Council to guide the financial planning process. As per item 5, it is Council policy and a key component of the LTFMS to "*ensure that long term capital funding for infrastructure (e.g. parks, trails, facilities, roads, etc.) is in place in order to maintain community liveability and generate economic development."*

This report supports Council's Strategic Plan 2018-2022 Strategy #5 Sound Financial Management:

> *Accountable, transparent, and responsible financial management that supports the needs of the community into the future.*
>
> *5.1. Maintain a strong and robust financial position.*
>
> *5.2. Clear accountability through transparent budgeting practices and effective public communication.*
>
> *5.3. Decision-making focuses on sustainability and considers circular economic principles.*
>
> *5.4. Work cooperatively and respectfully with all levels of government and stakeholders while advocating for the best interests of Richmond.*

Analysis

This report presents the proposed 2021 Capital Budget and seeks Council review and approval on 2021 recommended projects and the operating budget impacts (OBI) associated with each respective project.

This report also presents the projects currently planned for years 2022-2025 as required; however, the projects will be subject to final approval in each subsequent year.

The City's Capital Budget ensures appropriate planning for required projects and their related funding to demonstrate the complete impact of major multi-year projects. Capital requirements are driven by many factors including growth, maintenance of current ageing infrastructure and ensuring that the City is consistently meeting industry standards as well as legislated, regulatory and safety requirements.

The City continues to see sustained population and economic growth. Significant additional growth is projected through 2041 under the Official Community Plan. This new growth requires expansion of City infrastructure in order to maintain the high level of civic services expected by new and current residents and businesses. As the City continues to mature, some of the existing infrastructure is nearing the end of its lifespan and/or capacity. Continuous, ongoing investment in replacement and maintenance of ageing infrastructure is required to maintain service levels and protect civic assets. Capital investment allows the City to take advantage of new technology and building practices to improve operational efficiency and accrue environmental benefits from the use of more sustainable building practices and equipment.

2021 Capital Process

Each division sets priorities specific to their area of expertise. A project submission is completed detailing the scope of work, review of alternatives, financial impact, and proposed funding sources. In addition, the submission is self-ranked using established criteria summarized in Appendix 1. The process behind the 2021-2025 Capital Budget is illustrated in Appendix 2.

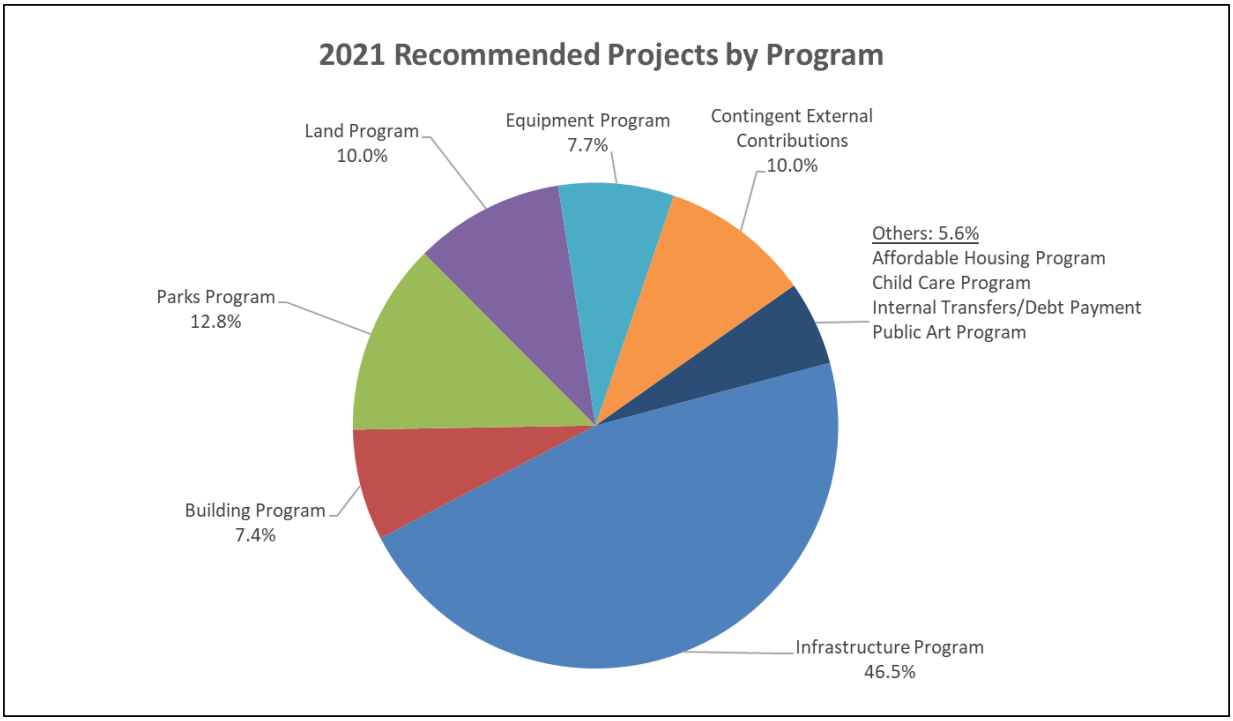
The Capital Review Team (CRT), which is comprised of directors from each division, reviewed and ranked each project submission. To ensure consistent application of the established ranking criteria, the CRT determines the final ranking for each submission giving consideration to Council's strategic plans, policies and priorities.

The ranked projects are consolidated and are recommended based on funding availability. The CAO and the Senior Management Team (SMT) then reviewed project funding recommendations. The final recommendation is consolidated to form the 2021 Capital Budget presented to the Finance Committee for review, approval and inclusion in the 5YFP (2021-2025).

2021 Proposed Capital Budget

The proposed capital budget for 2021 is $99.8M and 46.5 per cent of the budget will be invested in the City's infrastructure program for roads, drainage and sanitary pump stations, storm drainage, water, and sanitary sewer. Parks is the next major capital program for 2021 and the City is proposing to use 12.8 per cent of budget for the program. The following is an overview of the recommended capital projects by program.

Figure 1 – 2021 Recommended Projects by Program



The following is a highlight of the recommended capital projects from the 2021 capital program:

Table 2 – 2021 Capital Projects Highlights

Program Type	Capital Project
Infrastructure	Burkeville Utility Improvements Drainage
Infrastructure	Disaster Mitigation and Adaptation Fund Infrastructure Upgrades
Infrastructure	No 2 Road Multi-Use Pathway, Steveston Highway to Williams Road
Infrastructure	Water Metering Program (Multi-Family)
Infrastructure	Watermain Replacement Upgrades Program
Parks	King George Artificial Turf Field Replacement
Parks	Playground Improvement Program
Parks	South Arm Park Renewal
Building	Minoru Arenas - Mechanical & Life Safety System Renewals
Building	Thompson Community Centre & Hall Infrastructure Renewals
Building	West Richmond Community Centre - HVAC and Mechanical renewals

The 2021 capital budget includes other items which are non-capital in nature (i.e. affordable housing and childcare programs). It also includes contingent external contributions which is an estimate of external grants that may be received throughout the year for various projects and internal transfer and debt repayments.

The 2021 recommended capital projects are listed in Appendix 3. At the discretion of the Finance Committee, any capital project recommended for funding may be removed from the recommended list. In addition, any capital project that is recommended but have insufficient funding or not recommended may be reconsidered for recommendation, subject to funding availability.

2021 Capital Projects Recommended but Insufficient Funding

Council's Long Term Financial Management Strategy (LTFMS) policy is to increase 1% transfer to reserves to fund community infrastructure replacement needs. The 1.00% transfer to reserves ($2.3M) was cancelled in 2020 and it was reduced by 0.50% in 2019 ($1.1M).

There are six capital projects totalling $4.45M that were recommended by the CRT and endorsed by the CAO and SMT. However, these projects are not included in the 2021 proposed capital budget due to insufficient funding. The list of projects, which were recommended but could not be included in the proposed capital budget due to insufficient funding, is summarized in Appendix 4 with project details in Appendix 10. Capital projects that are not recommended are summarized in Appendix 5 with project details in Appendix 11.

2021 Capital Budget Funding Sources

The 2021 capital budget uses a variety of funding sources, which include:

- Development Cost Charges (DCCs) – These fees are collected through development and are used for growth related projects.
- External Sources – These include grants awarded from Provincial and Federal Governments, developer contributions (other than DCCs) and other non-City related sources.
- Reserves – These are funds established by bylaws for specific purposes and are funded primarily by budgeted contributions from the Operating and Utility Budgets and developer contributions plus interest earned on fund balances.
- Appropriated Surplus – These are funds set aside for future commitments.

Table 3 – 2021 Capital Program by Funding Source (in millions)

Program	Reserves	DCCs	Appropriated Surplus	External Sources	Total
Infrastructure	$25.0	$10.4	$6.6	$4.4	**$46.4**
Building	5.6	-	1.7	0.1	**7.4**
Parks	2.4	10.4	-	-	**12.8**
Public Art	0.1	-	-	-	**0.1**
Land	10.0	-	-	-	**10.0**
Affordable Housing	0.6	-	-	-	**0.6**
Equipment	3.7	-	4.0	-	**7.7**
Child Care	0.2	-	-	-	**0.2**
Contingent External Contributions	-	-	-	10.0	**10.0**
Internal Transfers/Debt Payment	0.7	3.9	-	-	**4.6**
Total 2021 Funding	**$48.3**	**$24.7**	**$12.3**	**$14.5**	**$99.8**

For information purposes, Appendix 6 summarizes the projects recommended for funding from the Revolving Fund (Capital Reserve). The Revolving Fund is used to fund a variety of general projects, which do not have dedicated sources of funding, and funds the assist factor for Roads DCC and Parks DCC projects.

Appendix 7 summarizes all the 2021 recommended projects funded by DCCs. Under the *Local Government Act*, the City is required to fund the municipal assist factor portion for growth related projects; therefore, a project cannot be fully funded by DCCs.

Appendix 8 summarizes all the 2021 recommended projects funded by the Capital Building and Infrastructure (CBI) Reserve. The CBI Reserve is comprised of two funds: the Capital Building and Infrastructure General Fund and the Special Sports Fund. The CBI General Fund is used for facility construction and is funded from taxes and gaming revenue. The Special Sports Fund is for construction costs relating to artificial turf fields and is funded from sports field fees and other recoveries.

Funding details of each individual submission are included in Appendix 9.

2021 Operating Budget Impact

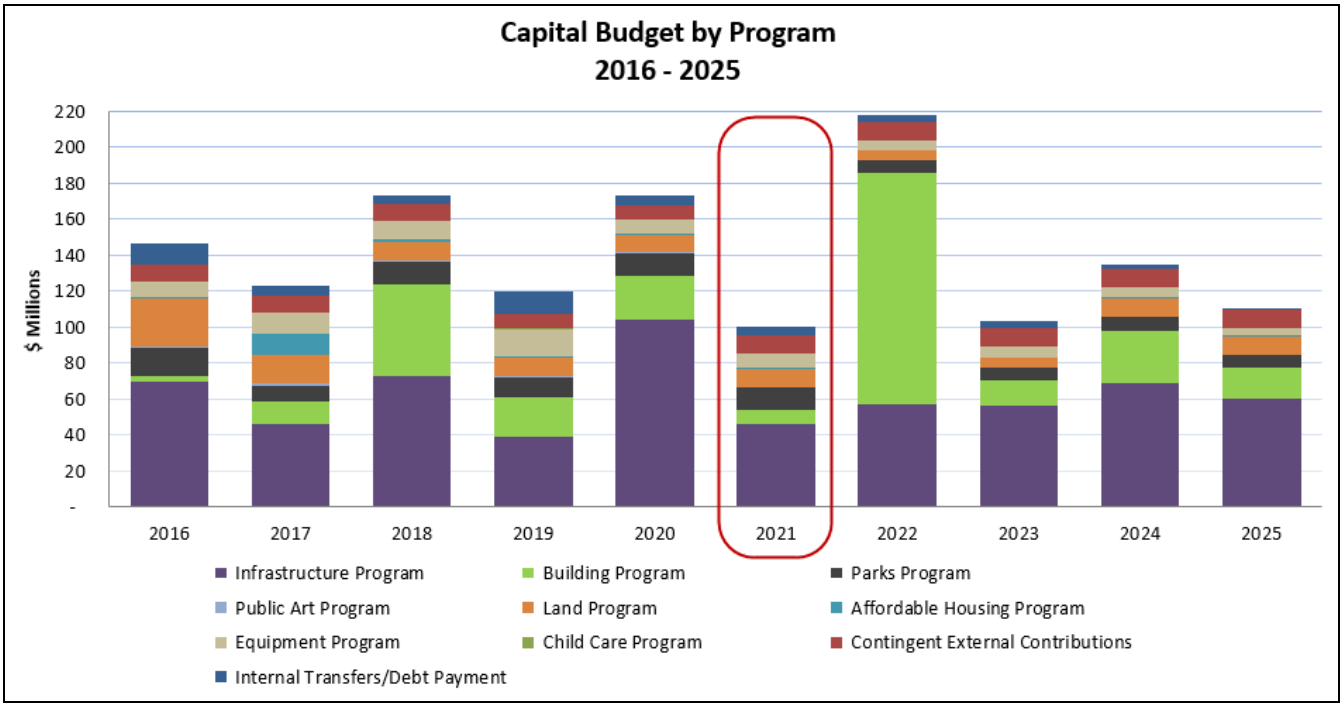
Capital projects will include new and replacement assets and upon completion of these capital projects, assets are added to the City's inventory. There are costs associated with maintaining these assets. For example, a new building will require staffing, janitorial services, gas and hydro utility costs; a new park will include annual maintenance and labour costs. Replacement projects may also have costs associated with them due to the requirements to maintain the existing level of service. The ongoing costs are the operating budget impact associated with the new asset and replacement projects.

The preliminary total OBI relating to the 2021 recommended projects is $698,101. Of this amount, $110,884 is related to utility projects and is included within the infrastructure program. If the respective projects are approved, this amount will be incorporated into the 2022 utility budget and rates. Council previously approved the 2021 utility rates on November 23, 2020. The remaining $587,217 relate to operating budget projects and it was determined that the amount could be phased in over three years and one-third ($195,739) was included in the proposed 2021 Operating Budget. As the construction of 2021 capital projects advance and more information is obtained, the operating budget impacts will be reviewed, reassessed and adjusted in future years.

Proposed 2021 to 2025 Capital Budget and Historical (2016 - 2020) Capital Budget

Figure 2 shows the proposed 2021 to 2025 capital budget and historical capital budgets for comparative purposes. From 2016 to 2020, the average capital budget is $147.0M. The 2021 proposed capital budget is $99.8M, which is significantly lower than the average from the last five years. This is mainly due to the timing of the Major Facilities Phase 2 projects.

Figure 2: Capital Budget by Program (2016 – 2025)



Major Facilities Phase 2

Council approved the following projects as part of the Major Facilities Phase 2 Replacement Plan:

- Advanced Planning and Design for Major Facilities Phase 2 (2017: $2.0M)
- City Centre Community Centre North (2017: Developer Funded)
- Animal Shelter Replacement (2018: $8.0M)
- Lawn Bowling Clubhouse Replacement (2018: $4.0M; 2019 $1.2M)
- Phoenix Net Loft Design and Building Stabilization (2017: $0.5M; 2018: $11.5M; 2020 $7.9M)
- Steveston Community Centre and Branch Library (2022: $93.5M)
- Hugh Boyd Soccer Field House (2024: $13.8M)

A summary of the 5 Year Capital Program (2021-2025) is presented in Appendix 12 and the funding sources are presented in Appendix 13. A listing of the 2021-2025 capital projects by program is presented in Appendix 14 with highlights of the 2022-2025 projects summarized in Appendix 15.

Financial Impact

The 2021 Proposed Capital Budget with a total value of $99,832,779 will enable the City to maintain and advance the asset inventory that continues to provide necessities and benefits to the community.

The preliminary operating budget impact associated with these projects is $698,101 and will be phased into the 2021-2025 5YFP. The OBI will be reviewed, reassessed and adjusted as projects come closer to completion.

Conclusion

The recommended Capital budget for 2021 is $99,832,779. The Capital Review Committee worked closely with the CAO and SMT to represent the interests of all stakeholders to ensure that the 2021 capital program addresses Council's strategic plans, policies and priorities and meets the needs of the community while effectively utilizing available funding.

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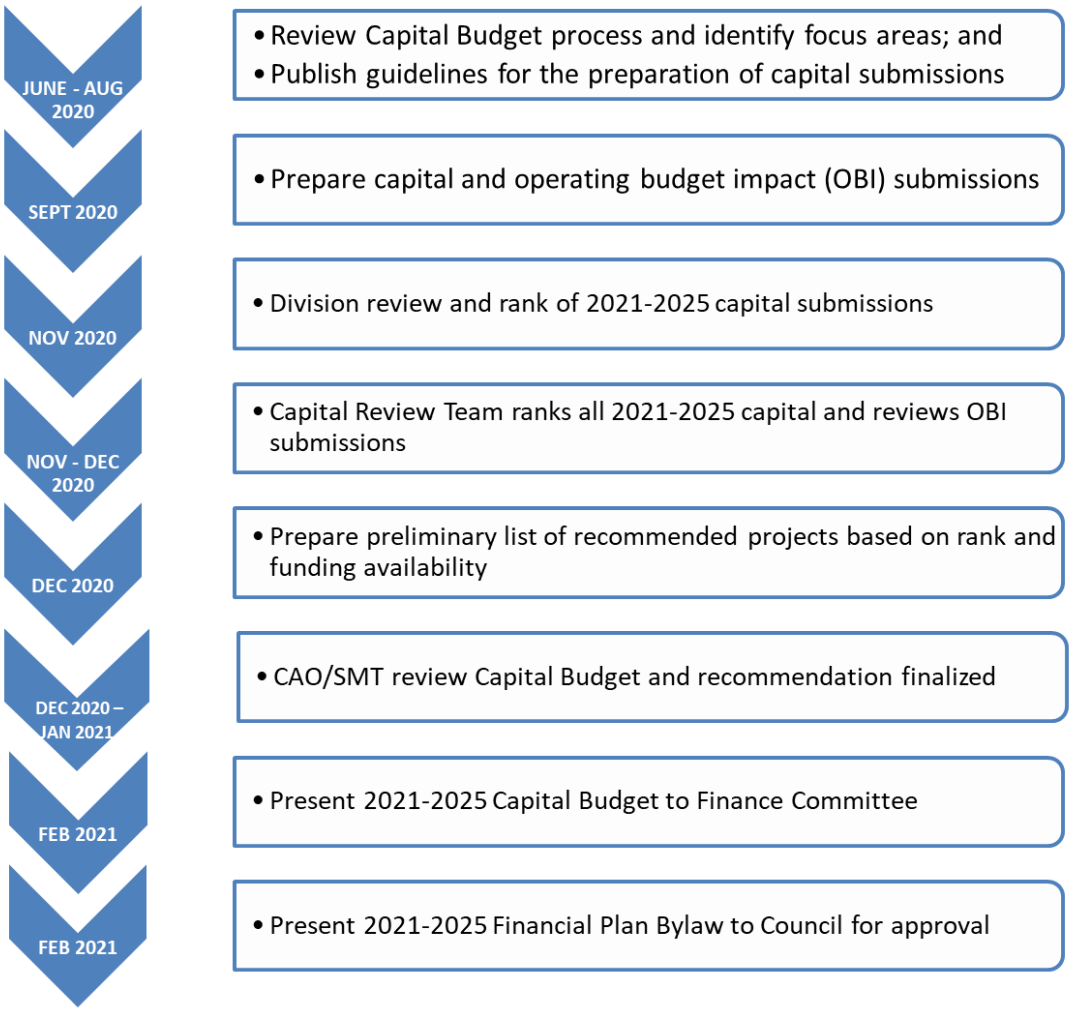
Appendix 1: Capital Ranking Criteria
Appendix 2: 2021 Capital Budget Process
Appendix 3: Summary of Capital Projects – Recommended for funding in 2021
Appendix 4: Summary of Capital Projects – Recommended but insufficient funding in 2021
Appendix 5: Summary of Capital Projects – Not Recommended for funding in 2021
Appendix 6: 2021 Summary of Projects Funded by Revolving Fund
Appendix 7: 2021 Summary of Projects Funded by Development Cost Charges
Appendix 8: 2021 Summary of Projects Funded by Capital Building and Infrastructure Reserve
Appendix 9: Details of Projects Recommended for funding in 2021 by Program
Appendix 10: Details of Projects Recommended but insufficient funding in 2021 by Program
Appendix 11: Details of Projects Not Recommended for funding in 2021 by Program
Appendix 12: 5 Year Capital Plan Summary (2021 - 2025)
Appendix 13: 5 Year Capital Plan by Funding Sources (2021 - 2025)
Appendix 14: 5 Year Capital Plan by Program (2021 - 2025)
Appendix 15: 2022 - 2025 Capital Plan Highlights
Appendix 16: Glossary of Terms

Capital Ranking Criteria

2021 Capital Budget Process



Project Name	External Funding	City Funding	Total Investment	Total OBI	Ref
INFRASTRUCTURE PROGRAM					
Roads					
Active Transportation Improvement Program	-	700,000	700,000	12,175	23
Annual Asphalt Re-Paving Program - MRN	-	1,589,211	1,589,211	-	24
Annual Asphalt Re-Paving Program - Non-MRN	-	3,344,160	3,344,160	-	25
Arterial Roadway Improvement Program	-	1,000,000	1,000,000	37,886	26
Citywide Connector Walkways Rehabilitation Program	-	250,000	250,000	-	27
Lansdowne Road Off-road Cycling Facility, Gilbert Road to Pearson Way	-	300,000	300,000	2,384	28
LED Street Name Sign Program	-	300,000	300,000	5,623	29
Neighbourhood Walkway Program	-	750,000	750,000	46,547	30
No 2 Road Multi-Use Pathway, Steveston Highway to Williams Road	1,200,000	1,200,000	2,400,000	8,252	31
Special Crosswalk Program	-	200,000	200,000	3,921	32
Top 20 Collision Prone Intersections- Implementation of Medium-/Long-term Improvements	1,125,000	1,875,000	3,000,000	75,316	33
Traffic Calming Program	-	300,000	300,000	25,783	34
Traffic Signal Power Backup System (UPS)	-	200,000	200,000	3,264	35
Traffic Signal Program	-	700,000	700,000	11,323	36
Traffic Video and Communication Program	-	400,000	400,000	2,096	37
Transit-Related Amenity Improvement Program	-	25,000	25,000	1,422	38
Transit-Related Roadway Improvement Program	100,000	400,000	500,000	13,201	39
Transportation Planning, Functional and Preliminary Design	-	260,000	260,000	-	40
West Richmond Sidewalk Rehabilitation Program - Phase 2	-	300,000	300,000	-	41
Total Roads	***$2,425,000***	***$14,093,371***	***$16,518,371***	***$249,193***	
Drainage					
Box Culvert Repair	-	1,450,000	1,450,000	-	43
Burkeville Utility Improvements Drainage	-	2,026,000	2,026,000	26,000	44
Canal Stabilization and Drainage & Irrigation Upgrades	-	1,300,000	1,300,000	14,000	45
Development Coordinated Works - Drainage	-	250,000	250,000	11,000	46
Disaster Mitigation and Adaptation Fund Infrastructure Upgrades	2,000,000	3,000,000	5,000,000	31,000	47
Drainage Network Ecological Enhancement	-	100,000	100,000	-	48
Drainage Pump Station Rehabilitation and Generator Upgrade	-	250,000	250,000	11,000	49
Flood Protection & Dike Improvements	-	1,300,000	1,300,000	16,000	50
Habitat Offsetting Requirements: Monitoring and Reporting		100,000	100,000	-	51
Laneway Drainage Upgrade	-	800,000	800,000	16,000	52
SCADA System Improvements	-	350,000	350,000	-	53
Storm Main Drainage Upgrade	-	950,000	950,000	11,000	54
Watercourse Crossing Rehabilitation & Replacement	-	350,000	350,000	11,000	55
Total Drainage	***$2,000,000***	***$12,226,000***	***$14,226,000***	***$147,000***	
Water					
Development Coordinated Works - Water	-	250,000	250,000	20,000	57
Water Metering Program	-	1,286,000	1,286,000	25,000	58
Watermain Replacement Upgrades Program	-	6,196,000	6,196,000	-	59
Watermain Tie-in and Restoration	-	200,000	200,000	-	60
Total Water	***-***	***$7,932,000***	***$7,932,000***	***$45,000***	

Project Name	External Funding	City Funding	Total Investment	Total OBI	Ref
INFRASTRUCTURE PROGRAM					
Sanitary Sewer					
Development Coordinated Works - Sanitary	-	250,000	250,000	10,041	62
Gravity Sewer Rehabilitation and Upgrades	-	2,400,000	2,400,000	20,075	63
Manhole and Inspection Chamber Replacement Program	-	100,000	100,000	-	64
Sanitary Pump Station Assessment, Rehabilitation and Upgrades	-	500,000	500,000	-	65
Sanitary Sewer Assessment and Upgrades	-	600,000	600,000	-	66
Sanitary Sewer Tie-in and Restoration	-	150,000	150,000	-	67
Total Sanitary Sewer	***-***	***$4,000,000***	***$4,000,000***	***$30,116***	
Infrastructure Advanced Design and Minor Public Works					
Public Works Infrastructure Advanced Design	-	2,280,000	2,280,000	-	69
Public Works Minor Capital - Drainage	-	400,000	400,000	-	70
Public Works Minor Capital - Sanitary	-	450,000	450,000	-	71
Public Works Minor Capital - Sanitation & Recycling	-	350,000	350,000	-	72
Welding Shop Office Relocation and Equipment Upgrades	-	248,425	248,425	-	73
Total Infrastructure Advanced Design and Minor Public Works	***-***	***$3,728,425***	***$3,728,425***	***-***	
TOTAL INFRASTRUCTURE PROGRAM	**$4,425,000**	**$41,979,796**	**$46,404,796**	**$471,309**	
BUILDING PROGRAM					
Building					
Capital Buildings Project Development Advanced Design	-	950,000	950,000	-	75
City Hall Council Chamber Roof Replacement	-	1,640,000	1,640,000	-	76
Minor Capital	-	400,000	400,000	-	77
Minoru Arenas - Mechanical & Life Safety System Renewals	-	1,280,000	1,280,000	7,200	78
Richmond Ice Centre Infrastructure Renewals – Phase 2 Design and associated works	-	850,000	850,000	-	79
Thompson Community Centre & Hall Infrastructure Renewals	39,000	861,000	900,000	19,600	80
West Richmond Community Centre – HVAC and Mechanical Renewals	-	1,330,000	1,330,000	6,000	81
Total Building	***$39,000***	***$7,311,000***	***$7,350,000***	***$32,800***	
TOTAL BUILDING PROGRAM	**$39,000**	**$7,311,000**	**$7,350,000**	**$32,800**	
PARKS PROGRAM					
Parks					
City-Wide Community Gardens	-	200,000	200,000	8,666	83
Dog Park Upgrades	-	200,000	200,000	10,339	84
King George Artificial Turf Field Replacement	-	850,000	850,000	-	85
Minoru Lakes Renewal: Phase Two	-	4,000,000	4,000,000	25,082	86
Parks Advance Planning and Design	-	700,000	700,000	-	87
Parks Ageing Infrastructure Replacement Program	-	150,000	150,000	-	88
Parks General Development	-	550,000	550,000	9,037	89
Parks Interpretive Signage Program - Phase 1	-	100,000	100,000	12,537	90
Playground Improvement Program	-	400,000	400,000	5,595	91
Safety and Environmental Enhancements to Richmond High Turf Field Warranty Repair	-	350,000	350,000	-	92
South Arm Park Renewal	-	300,000	300,000	7,329	93
Total Parks	***-***	***$7,800,000***	***$7,800,000***	***$78,585***	

Project Name	External Funding	City Funding	Total Investment	Total OBI	Ref
Parkland					
Parkland Acquisition	-	5,000,000	5,000,000	-	95
Total Parkland	**-**	***$5,000,000***	***$5,000,000***	**-**	
TOTAL PARKS PROGRAM	**-**	**$12,800,000**	**$12,800,000**	**$78,585**	
PUBLIC ART PROGRAM					
Public Art					
Public Art Program	-	150,000	150,000	10,000	97
TOTAL PUBLIC ART PROGRAM	**-**	**$150,000**	**$150,000**	**$10,000**	
LAND PROGRAM					
Land					
Strategic Land Acquisition	-	10,000,000	10,000,000	-	99
TOTAL LAND PROGRAM	**-**	**$10,000,000**	**$10,000,000**	**-**	
AFFORDABLE HOUSING PROGRAM					
Affordable Housing					
Affordable Housing Operating Initiatives	-	400,000	400,000	-	101
Bridgeport Supportive Housing	-	250,000	250,000	-	102
TOTAL AFFORDABLE HOUSING PROGRAM	**-**	**$650,000**	**$650,000**	**-**	
EQUIPMENT PROGRAM					
Vehicle					
Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet)	-	2,948,979	2,948,979	35,101	104
Total Vehicle	**-**	***$2,948,979***	***$2,948,979***	***$35,101***	
Fire Dept Vehicles and Equipment					
Fire Vehicle Replacement Reserve Purchases	-	1,185,516	1,185,516	-	106
Total Fire Dept Vehicles and Equipment	**-**	***$1,185,516***	***$1,185,516***	**-**	
Information Technology					
Annual Hardware Refresh	-	531,385	531,385	-	108
Business Continuity Transition to Laptops	-	365,378	365,378	-	109
Field devices	-	281,400	281,400	-	110
Network Loadbalancer Refresh (2021)	-	163,000	163,000	24,000	111
Network Refresh for City Facilities (Phase 2 of 3)	-	620,700	620,700	20,306	112
Oracle RAC Enterprise and Solaris SPARC Server Upgrades	-	850,000	850,000	57,000	113
Total Information Technology	**-**	***$2,811,863***	***$2,811,863***	***$101,306***	
Equipment					
City Hall and Community Safety Building Lighting Upgrade	-	550,000	550,000	(31,000)	115
Fire Equipment Replacement from Reserve	-	228,990	228,990	-	116
Total Equipment	**-**	***$778,990***	***$778,990***	***$(31,000)***	
TOTAL EQUIPMENT PROGRAM	**-**	**$7,725,348**	**$7,725,348**	**$105,407**	

Project Name	External Funding	City Funding	Total Investment	Total OBI	Ref
CHILD CARE PROGRAM					
Child Care					
Child Care - Administration	-	112,200	112,200	-	118
Child Care Projects - City-wide (Capital Grants)	-	50,000	50,000	-	119
Child Care Projects - City-wide Non-Capital Grants	-	4,000	4,000	-	120
TOTAL CHILD CARE PROGRAM	**-**	**$166,200**	**$166,200**	**-**	
CONTINGENT EXTERNAL CONTRIBUTION					
Contingent External Contribution	10,000,000	-	10,000,000	-	122
TOTAL CONTINGENT EXTERNAL CONTRIBUTION	**$10,000,000**	**-**	**$10,000,000**	**-**	
INTERNAL TRANSFERS/DEBT PAYMENT					
Internal Transfers/Debt Payment					
12040 Horseshoe Way Repayment	-	525,000	525,000	-	124
7080 River Road Repayment	-	2,341,384	2,341,384	-	125
Nelson Road Interchange Repayment	-	385,098	385,098	-	126
River Road/North Loop (2005) Repayment	-	1,334,953	1,334,953	-	127
TOTAL INTERNAL TRANSFERS/DEBT PAYMENT	**-**	**$4,586,435**	**$4,586,435**	**-**	
Total 2021 Capital Program	***$14,464,000***	***$85,368,779***	***$99,832,779***	***$698,101***	

OBI Type	
Operating OBI	$587,217
Utility OBI	110,884
Total OBI	**$698,101**

Project Name	External Funding	City Funding	Total Investment	Total OBI	Ref
INFRASTRUCTURE PROGRAM					
Roads					
Bridge Rehabilitation Program	-	300,000	300,000	-	129
Citywide Sidewalk and Street Light Replacement Program	-	500,000	500,000	-	130
Street Light LED Upgrade Program	-	490,000	490,000	(30,000)	131
Total Roads	***-***	***$1,290,000***	***$1,290,000***	***$(30,000)***	
TOTAL INFRASTRUCTURE PROGRAM	**-**	**$1,290,000**	**$1,290,000**	**$(30,000)**	
BUILDING PROGRAM					
Building					
City Hall Mechanical Renewals	-	1,770,000	1,770,000	-	133
Community Safety Building Emergency Power and Interior Upgrades	-	890,000	890,000	-	134
Hamilton Community Centre - HVAC Replacement	-	500,000	500,000	-	135
Total Building	***-***	***$3,160,000***	***$3,160,000***	***-***	
TOTAL BUILDING PROGRAM	**-**	**$3,160,000**	**$3,160,000**	**-**	
Total 2021 Capital Program - Recommended but Insufficient Funding	***-***	***$4,450,000***	***$4,450,000***	***$(30,000)***	

Project Name	External Funding	City Funding	Total OBI	Ref
INFRASTRUCTURE PROGRAM				
Infrastructure Advanced Design and Minor Public Works				
Public Works Minor Capital - Roads	-	400,000	-	137
Public Works Minor Capital - Traffic	-	250,000	8,512	138
Total Infrastructure Advanced Design and Minor Public Works	-	***$650,000***	***$8,512***	
TOTAL INFRASTRUCTURE PROGRAM	-	**$650,000**	**$8,512**	
EQUIPMENT PROGRAM				
Equipment				
Community Services Surveillance Systems	-	146,000	6,000	140
Inter-Agency Command Vehicle Replacement	-	1,197,685	-	141
Total Equipment	-	***$1,343,685***	***$6,000***	
Vehicle				
Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet)		80,000	22,150	142
Total Vehicle		***80,000***	***22,150***	
TOTAL EQUIPMENT PROGRAM	-	**$1,423,685**	**$28,150**	
Total 2021 Capital Program – Not Recommended for funding	-	**$2,073,685**	**$36,662**	

2021 Summary of Projects Funded by Revolving Fund — Appendix 6

Each year, the Revolving Fund is utilized to fund various capital projects. This summary shows the 2021 capital projects and the corresponding amounts funded by the Revolving Fund.

Project Name	Revolving Fund	Total Investment	Total OBI	Ref
Roads				
Citywide Connector Walkways Rehabilitation Program	250,000	250,000	-	27
West Richmond Sidewalk Rehabilitation Program - Phase 2	300,000	300,000	-	41
Total Infrastructure	**$550,000**	**$550,000**	**-**	
Parks				
King George Artificial Turf Field Replacement	630,000	850,000	-	85
Parks Ageing Infrastructure Replacement Program	150,000	150,000	-	88
Playground Improvement Program	400,000	400,000	5,595	91
Safety and Environmental Enhancements to Richmond High Turf Field Warranty Repair	350,000	350,000	-	92
Total Parks	**$1,530,000**	**$1,750,000**	**$5,595**	
Total 2020 Projects Funded by Revolving Fund	**$2,080,000**	**$2,300,000**	**$5,595**	

The City Assist Factor on Roads DCC and Parks DCC projects are also funded by the Revolving Fund.

City Assist Factor on Parks Acquisition	$436,812
City Assist Factor on Parks Development	$359,975
City Assist Factor on Roads DCC	$536,096
Total City Assist Factor	**1,332,883**
Total Funding from Revolving Fund	**$3,412,883**

Project Name	DCC Funding	City Assist Factor	Total Investment[1]	Total OBI	Ref
Roads					
Active Transportation Improvement Program	658,350	41,650	700,000	12,175	23
Arterial Roadway Improvement Program	940,500	59,500	1,000,000	37,886	26
Lansdowne Road Off-road Cycling Facility, Gilbert Road to Pearson Way	282,150	17,850	300,000	2,384	28
LED Street Name Sign Program	282,150	17,850	300,000	5,623	29
Neighbourhood Walkway Program	705,375	44,625	750,000	46,547	30
No 2 Road Multi-Use Pathway, Steveston Highway to Williams Road	1,128,600	71,400	2,400,000	8,252	31
Special Crosswalk Program	188,100	11,900	200,000	3,921	32
Top 20 Collision Prone Intersections- Implementation of Medium-/Long-term Improvements	1,763,437	111,563	3,000,000	75,316	33
Traffic Calming Program	282,150	17,850	300,000	25,783	34
Traffic Signal Power Backup System (UPS)	188,100	11,900	200,000	3,264	35
Traffic Signal Program	658,350	41,650	700,000	11,323	36
Traffic Video and Communication Program	376,200	23,800	400,000	2,096	37
Transit-Related Amenity Improvement Program	23,512	1,488	25,000	1,422	38
Transit-Related Roadway Improvement Program	376,200	23,800	500,000	13,201	39
Transportation Planning, Functional and Preliminary Design	244,530	15,470	260,000	-	40
Total Roads	**$8,097,704**	**$512,296**	**$11,035,000**	**$249,194**	
Drainage					
Disaster Mitigation and Adaptation Fund Infrastructure Upgrades	1,520,565	15,360	5,000,000	31,000	47
Total Drainage	**$1,520,565**	**$15,360**	**$5,000,000**	**$31,000**	
Water					
Watermain Replacement Upgrades Program	360,211	3,638	6,196,000	-	59
Total Water	**$360,211**	**$3,638**	**$6,196,000**	**$ -**	
Infrastructure Advanced Design and Minor Public Works					
Public Works Infrastructure Advanced Design	376,200	23,800	2,280,000	-	69
Total Infrastructure Advanced Design and Minor Public Works	**$376,200**	**$23,800**	**$2,280,000**	**$ -**	
Parks					
City-Wide Community Gardens	188,100	11,900	200,000	8,666	83
Dog Park Upgrades	188,100	11,900	200,000	10,339	84
Minoru Lakes Renewal: Phase Two	3,762,000	238,000	4,000,000	25,082	86
Parks Advance Planning and Design	658,350	41,650	700,000	-	87
Parks General Development	517,275	32,725	550,000	9,037	89
Parks Interpretive Signage Program - Phase 1	94,050	5,950	100,000	12,537	90
South Arm Park Renewal	282,150	17,850	300,000	7,329	93
Total Parks	**$5,690,025**	**$359,975**	**$6,050,000**	**$72,990**	
Parkland					
Parkland Acquisition	4,702,500	297,500	5,000,000	-	95
Total Parkland	**$4,702,500**	**$297,500**	**$5,000,000**	**$ -**	

[1]The Total Investment includes all funding sources: External and City Funding, refer to Appendix 3.

Project Name	DCC Funding	City Assist Factor	Total Investment[1]	Total OBI	Ref
Internal Transfers/Debt Payment					
7080 River Road Repayment	2,202,072	139,312	2,341,384	-	125
Nelson Road Interchange Repayment	385,098	-	385,098	-	126
River Road/North Loop (2005) Repayment	1,334,953	-	1,334,953	-	127
Total Internal Transfers/Debt Payment	**$3,922,123**	**$139,312**	**$4,061,435**	**$-**	
Grand Total	**$24,669,328**	**$1,351,881**	**$39,622,435**	**$353,184**	

[1]The Total Investment includes all funding sources: External and City Funding, refer to Appendix 3.

The Capital Building and Infrastructure General Fund is used for facility construction and is funded from taxes and gaming revenue. The Capital Building and Infrastructure Special Sports Fund is for construction costs relating to artificial turf fields and is funded from sports field fees and other recoveries.

General Fund

Project Name	Capital Building & Infrastructure Fund	Total Investment	Total OBI	Ref
Building				
Capital Buildings Project Development Advanced Design	$500,000	$950,000	-	75
City Hall Council Chamber Roof Replacement	1,640,000	1,640,000	6,000	76
Minoru Arenas – Mechanic & Life Safety System Renewals	1,280,000	1,280,000	7,200	78
Richmond Ice Centre Infrastructure Renewals - Phase 2	850,000	850,000	-	79
West Richmond Community Centre - HVAC and Mechanical Renewals	1,330,000	1,330,000	6,000	81
Total Building	**$5,600,000**	**$6,050,000**	**$19,200**	
Grand Total	**$5,600,000**	**$6,050,000**	**$19,200**	

Special Sports Fund

Project Name	Capital Building & Infrastructure Fund	Total Investment	Total OBI	Ref
Parks				
King George Artificial Turf Field Replacement	$220,000	$850,000	-	85
Total Parks	**$220,000**	**$850,000**	**-**	
Grand Total	**$220,000**	**$850,000**		

Infrastructure Program 2021

The City's Infrastructure Program assets include: road, drainage and sanitary pump stations, drainage, water, and sanitary mains.

2021 Recommended Infrastructure – Roads Program

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Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Active Transportation Improvement Program**	**Submission ID:**	**5890**

Location: Various Locations

Cost: $700,000 **OBI:** $12,175

Funding Sources:

Roads DCC:	$658,350
Roads City Assist:	$41,650

Scope:

Implement cycling and rolling (e.g., wheelchairs and scooters) improvements to support: 1) the expansion of on-street cycling routes and off-street multi-use pathways; and 2) cycling and rolling initiatives and on-going enhancements to existing infrastructure.

Major Cost Components: New on-street cycling facilities, off-street multi-use pathways for transportation purposes, bike racks, pavement markings and signage, and associated road geometric improvements.

Funding: Roads DCC program; potential from TransLink, ICBC and development.

The list of improvements currently planned for 2021 is:

1. Browngate Road (No. 3 Road-Hazelbridge Way): re-allocation of road space to create a 2-way protected cycle track on the south side. The project will complete a gap between the western end of the Odlin Road Bike Route and No. 3 Road, and provide improved cycling access to the Aberdeen Canada Line station from the east.

2. Cycling Connection between Steveston Hwy MUP (Phase 1) and Williams Road: in parallel with the Phase 1 MUP on Steveston Hwy, establish a cycling connection via Mortfield Gate-Mortfield Road-upgraded of off-street pathways through South Arm Park-Severn Drive to Williams Rd

3. Upgrade of existing painted on-street bike lanes with physical protection from adjacent vehicle lane

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Annual Asphalt Re-Paving Program - MRN**	**Submission ID:**	**5917**
Location:	Various Location		
Cost:	$1,589,211	**OBI:**	$ -
Funding Sources:	Other: $1,589,211		

Scope:

To re-pave MRN roads in alignment with the City's Ageing Infrastructure Report and Pavement Management Plan prepared by WSP Consultants.

The project costs include any associated ancillary work, including but not limited to, curb and gutter repairs, road base repair, asphalt parking re-paving, manhole and valve box adjustments, line painting and staff inspection time.

The project includes the pavement component of other water, sanitary and drainage upgrades in the Capital Program that are co-ordinated by the Engineering department as well as consultant/contractor fees related to bridge upgrades and the Pavement Management Plan.

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Annual Asphalt Re-Paving Program - Non-MRN**	**Submission ID:**	**5918**
Location:	City Wide		
Cost:	$3,344,160	**OBI:**	$ -
Funding Sources:	Other: $3,344,160		

Scope:

To re-pave City owned Non-MRN roads (major & minor roads and lanes) in alignment with the City's Ageing Infrastructure Report and Pavement Management Plan prepared by WSP.

The project could also include the costs associated with ancillary work, including but not limited to, curb and gutter repairs, road base repair, asphalt parking re-paving, manhole and valve box adjustments, line painting, staff inspection time and similar.

The project includes the pavement component of other water, sanitary and drainage upgrades in the Capital Program that are co-ordinated by the Engineering department as well as consultant/contractor fees related to bridge upgrades and the Pavement Management Plan.

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Arterial Roadway Improvement Program**	**Submission ID:**	**5891**
Location:	Various Locations		
Cost:	$1,000,000	**OBI:**	$37,886
Funding Sources:	Roads DCC: $940,500 Roads City Assist: $59,500		

Scope:

Implement pedestrian and traffic safety improvements along arterial roads and at arterial road intersections to address issues including those identified through requests from the public and/or Council.

Major Cost Components: New and/or enhancement of turn lanes, channelization, traffic signage, pedestrian safety measures enhancements and new/upgrade sidewalks/walkways.

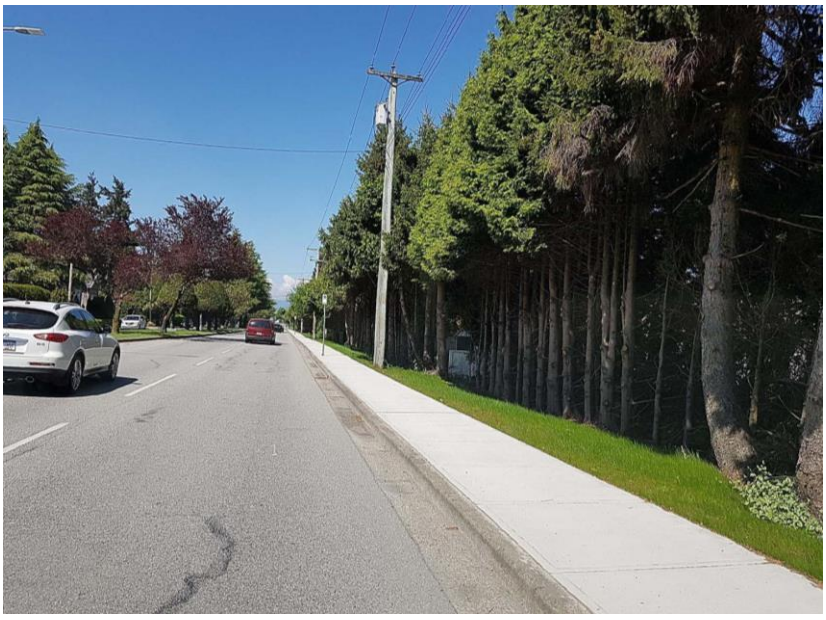
Funding: Roads DCC program; potential from TransLink, ICBC and development.

Locations for improvements are prioritized based on traffic safety / collision risks and level of pedestrian activities (i.e., schools, neighbourhood service centres, bus stops, recreational service centres, shopping/retail centres, etc.).

The list of improvements currently planned for 2021 is:

1. Construct an asphalt walkway c/w physical barrier along east side of Garden City Road and south side of Westminster Highway fronting 9120 Westminster Highway.

2. Remove channelized right-turn islands and reconstruct curb returns at Cooney Road-Granville Avenue (northwest corner) and St Edwards Drive-Cambie Road (northeast corner) intersections.



Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Citywide Connector Walkways Rehabilitation Program**	**Submission ID:**	**6765**
Location:	Various Locations		
Cost:	$250,000	**OBI:**	$ -
Funding Sources:	Capital Revolving: $250,000		

Scope:

This project involves the replacement or rehabilitation of connector walkways located in various neighbourhoods around Richmond. The assessments conducted confirm that the walkway surface conditions have deteriorated over time due to tree root ingress, asphalt cracking, etc. The project cost could include, but is not limited to, costs associated with tree root pruning, asphalt re-paving and other ancillary work.

Connector walkways are heavily used by pedestrians and their current condition in certain areas may pose a tripping hazard for the users. This project would allow the City to mitigate potential risks to public safety and promote eco-friendly modes of transportation, such as walking and biking.

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Lansdowne Road Off-road Cycling Facility, Gilbert Road to Pearson Way**	**Submission ID:**	**6922**
Location:	North side of Lansdowne Road from Gilbert Road to Pearson Way		
Cost:	$300,000	**OBI:**	$2,384
Funding Sources:	Roads DCC: $282,150 Roads City Assist: $17,850		

Scope:

Provision of a 2.5m (minimum) to 3.0m (preferred) wide paved multi-use pathway (MUP), along north side of Lansdowne Rd from Gilbert Rd to Pearson Way.

Upon completion, this project will provide a westward extension of the existing cycling facility along Lansdowne Rd from Minoru Blvd to Gilbert Rd and a direct link from the Canada Line Lansdowne Station to Olympic Oval once proposed/future development related road improvements are implemented along the remaining sections of Lansdowne Rd and Hollybridge Way.

Major Cost Components: removal of existing sidewalk & boulevard, multi-use pathway, modifying existing driveway & letdowns, removal & relocation of trees offsite, pavement markings and signage, pedestrian crossing enhancements, adjustment/relocation of at-grade infrastructure.

Funding: Roads DCC program and TransLink and ICBC (potential)

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**LED Street Name Sign Program**	**Submission ID:**	**6155**

Location: Various Locations

Cost: $300,000 **OBI:** $5,623

Funding Sources:

Roads DCC:	$282,150
Roads City Assist:	$17,850

Scope:

Installation of overhead LED street name signs at various signalized intersections to enhance visibility and legibility for drivers. . It is anticipated that the remaining signalized intersections (63 out of 180) can be upgraded over the next 3-5 years (i.e. 15-20 per year).

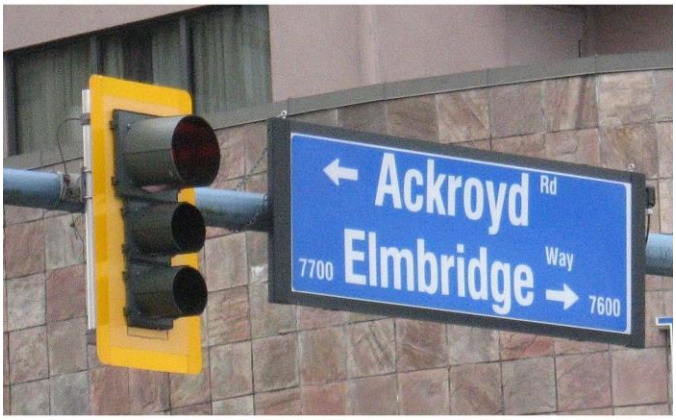
Major Cost Components: LED street name sign, mounting hardware and electrical wiring.

Funding: Roads DCC program; potential from TransLink, ICBC and development.

Locations are prioritized based on major, gateway and high-volume intersections and in tourist areas.

The preliminary list for 2021 includes the following 20 locations:

1. No 1 Rd and Blundell Rd
2. No 1 Rd and Granville Ave
3. No 1 Rd and Westminster Hwy
4. Railway Ave and Moncton St
5. Elmbridge Way and Westminster Hwy
6. Minoru Blvd and Alderbridge Way
7. Alderbridge Way and Westminster Hwy
8. Alderbridge Way and Elmbridge Way
9. St Albans Rd and Blundell Rd
10. Hazelbridge Way and Alexandra Rd
11. Hazelbridge Way and Leslie Rd
12. Hazelbridge Way and Browngate Rd
13. Hazelbridge Way and Cambie Rd
14. Sexsmith Rd and Cambie Rd
15. Great Canadian Way and River Rd
16. Garden City Rd and Blundell Rd
17. Garden City Rd and Francis Rd
18. Garden City Rd and Williams Rd
19. Garden City Rd and Cook Rd
20. Garden City Rd and Odlin Rd



Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Neighbourhood Walkway Program**	**Submission ID:**	**5893**

Location:	Various Locations			
Cost:	$750,000		**OBI:**	$46,547
Funding Sources:	Roads DCC:	$705,375		
	Roads City Assist:	$44,625		

Scope:

Construction of new and/or enhancement of existing neighbourhood walkways/sidewalks.

Major Cost Components: Construction of new or upgrade of existing sidewalks, pathways, wheelchair ramps, minor curb cuts, and boulevard modifications.

Funding: Roads DCC program; potential from TransLink, ICBC and development.

Locations are prioritized based on level of pedestrian activities (i.e., proximity to schools, bus stops, recreational centres, parks, shopping/retail centres, etc.), traffic safety/collision risks, and requests from Council and the public.

For 2021, locations are to be determined. In previous years, locations were typically identified in the year of the program. For example, in 2020 constructed sidewalk along west side of Viking Way from Cambie Road to Bridgeport Road.

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**No 2 Road Multi-Use Pathway, Steveston Highway to Williams Road**	**Submission ID:**	**6921**
Location:	East side of No 2 Road from Steveston Highway to Williams Road		
Cost:	$2,400,000	**OBI:**	$8,252

Funding Sources:

Roads DCC:	$1,128,600
Roads City Assist:	$71,400
Grant:	$1,200,000

Scope:

Provision of a 2.5m (minimum) to 3.0m (preferred) wide paved multi-use pathway (MUP) along the east side of No. 2 Road from Steveston Highway to Williams Road. The detail design (2020 project approved by Council) will commence in 2020/2021. This project relies on external funding for implementation.

Upon completion, this project will provide a northward extension of the recently constructed MUP along No. 2 Road from Steveston Highway to Dyke Road and connect to the existing bike lane along Williams Road, the proposed MUP along Steveston Highway from Mortfield Gate to No. 2 Road (2020 project approved by Council), and the future MUP along Steveston Highway from No. 2 Road to Railway Avenue (Capital Submission 6923).

Major Cost Components: Lane narrowing, realignment of curb and gutter & sidewalk, multi-use pathways, physical barriers, pavement markings and signage, pedestrian crossing enhancements, lighting, relocation of above ground infrastructure (i.e., streetlight poles, hydrants, power poles, traffic signals, etc.), bus stops, removal & replacement of trees & hedges, modifications to private property (i.e., re-grade driveways, landscaping, etc.) and land acquisition as necessary.

Funding: Roads DCC program and TransLink and ICBC (potentially)

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Special Crosswalk Program**	**Submission ID:**	**5894**

Location:	Various Locations		
Cost:	$200,000	**OBI:**	$3,921
Funding Sources:	Roads DCC: $188,100 Roads City Assist: $11,900		

Scope:

Upgrade of existing crosswalks on arterial roads (typically four-lane) to new traffic control standards that have been endorsed by Council.

Major Cost Components: Illuminated overhead crosswalk signs with amber flashers, strobe lights, poles, pole bases, underground conduit, junction boxes, pole-mount cabinet, controller, hydro service panel, Accessible Pedestrian Signal (APS) push buttons, pavement markings, and site restoration.

Funding: Roads DCC program; potential from TransLink, ICBC and development.

The preliminary list for 2021 includes the following 2 locations:

1. 4131 Williams Rd

2. Francis Rd and Minler Rd

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Top 20 Collision Prone Intersections-Implementation of Medium-/Long-term Improvements**	**Submission ID:**	**6633**
Location:	Various Locations		
Cost:	$3,000,000	**OBI:**	$75,316
Funding Sources:	Roads DCC: $1,763,437 Roads City Assist: $111,563 Grant: $1,125,000		

Scope:

Implement safety improvements determined through the preliminary design for the top 20 collision prone intersections as approved by Council. It is anticipated that 2 to 3 locations will be completed per year subject to TransLink funding and scope of works; otherwise 1 to 2 locations will be completed per year.

Major Cost Components: Road geometry changes such as road widening, addition or lengthening of left-turn lanes, addition or realigning of right-turn lanes, redesign of existing channelized right-turn lanes, widening sidewalks and wheelchair ramps, completion of pedestrian and cycling connections, upgrade streetlighting, traffic signal modifications (i.e., added left-turn phase), relocation of driveways and land acquisition.

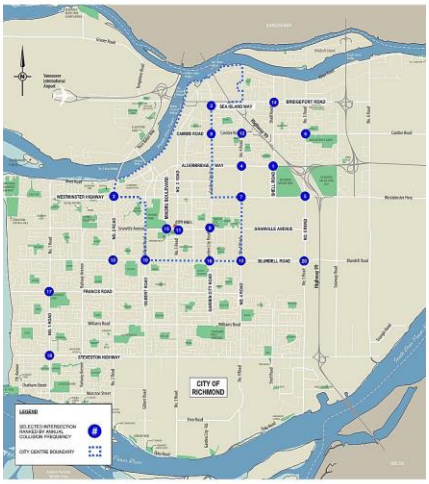
Funding: Roads DCC program; potential from TransLink, ICBC and development.

Subject to availability of external funding, the list of improvements planned for 2021 are as follows:

1. Cambie Rd and No 4 Rd intersection (#13) - re-construct the intersection to accommodate dedicated left-turn lanes on all four legs. The project cost is $1.7M

2. No 2 Rd and Westminster Hwy (#3) - removal/modification of intersection geometry, access management, traffic signal modification, removal of channelized island at the northwest corner, increase size of pedestrian refuse area at all 4 corners, etc. The exact project cost will need verified once the design is completed.

In addition to safety considerations, the locations were selected based on past public complaints, extent of determined scope of works, as well as those that are readily implementable, i.e., within City jurisdiction, minimal property acquisition, etc.



Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Traffic Calming Program**	**Submission ID:**	**5895**

Location: Various Locations

Cost: $300,000 **OBI:** $25,783

Funding Sources:

Roads DCC:	$282,150
Roads City Assist:	$17,850

Scope:

Retrofitting existing local roads with traffic calming measures to enhance safety for road users and livabilty for residents by reducing speed and deterring short-cutting traffic within neighbourhoods.

Major Cost Components: Road works to construct traffic calming measures such as curb bulges, curb ramps, traffic circles, speed humps, delineated walkways, traffic signage, pavement marking, and streetscape features (i.e., trees and/or other landscaping improvements).

Funding: Roads DCC program; potential from TransLink, ICBC and development.

Locations will be prioritized based on Council and/or public request. In previous years, locations were typically identified in the year of the program. For example, in 2020 the following were completed:

1. Pedestrian zone markers at Blair Elementary School and General Currie Elementary School
2. Speed Humps on McLean Ave
3. Stop sign & bars on Pacemore Avenue and at two subdivisions in the Shellmont Area

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Traffic Signal Power Backup System (UPS)**	**Submission ID:**	**6445**

Location: Various Locations

Cost: $200,000 **OBI:** $3,264

Funding Sources:

Roads DCC:	$188,100
Roads City Assist:	$11,900

Scope:

Installation of Uninterruptible Power Supply (UPS) system at signalized intersections to provide continual power during disruption. UPS protects electronic hardware from power surges. It is anticipated that the remaining signalized intersections (108 out of 180) can be upgraded over the next 10-15 years (i.e., 7-11 per year).

Major Cost Components: UPS cabinet and base, controller, batteries, underground conduit, and site restoration

Funding: Roads DCC program; potential from TransLink, ICBC and development.

The preliminary list for 2021 includes 8 locations as follows:

1. Gilbert Rd and Lansdowne Rd
2. No 2 Rd and Westminster Hwy
3. No 3 Rd and Granville Ave
4. No 4 Rd and Cambie Rd
5. Garden City Rd and Blundell Rd
6. No 1 Rd and Steveston Hwy
7. Gilbert Rd and Blundell Rd
8. No 1 Rd and Francis Rd

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Traffic Signal Program**	**Submission ID:**	**5896**

Location: Various Locations

Cost: $700,000 **OBI:** $11,323

Funding Sources:

Roads DCC:	$658,350
Roads City Assist:	$41,650

Scope:

Installation of new/upgrade of existing traffic signals to accommodate traffic growth, respond to public requests, improve traffic management & movement of all road users, and address traffic safety concerns.

Major Cost Components: Traffic controller, cabinet, poles, bases, junction boxes, underground conduit, in ground and camera video detection, enhanced accessible pedestrian signals, traffic signal heads, electrical wiring, traffic signal communications, LED street name signs, pavement markings, minor corner property acquisition, minor curb cuts, boulevard modifications, and site restoration.

Funding: Roads DCC program; potential from TransLink, ICBC and development.

The preliminary list for 2021 includes the following 1 location:

1. No 6 Rd and Vulcan Way - requires coordination with CN Railway and installation of railway gates, flashing lights and bells.

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Traffic Video and Communication Program**	**Submission ID:**	**5905**

Location: Various Locations

Cost: $400,000 **OBI:** $2,096

Funding Sources:

Roads DCC:	$376,200
Roads City Assist:	$23,800

Scope:

1. Install video detection cameras at signalized intersections to enhance cyclist and vehicle detection, optimize traffic operations, measure traffic speed, provide real time video of traffic conditions to the Traffic Management Centre (TMC) for observing and enhancing operations and provide photos (in one minute intervals) of approach traffic conditions for public access on the City website. This program is separate from the Richmond RCMP security camera program. By the end of 2020, there will be 60 out 180 signalized intersections remaining, which require build out of the fibre communications network prior to camera installation. Therefore, majority of the program will focus on expanding the fibre communications network.

2. Upgrade conduit and cable infrastructure to install higher capacity fibre optic cable and electronics for Ethernet (computer networking technology) to communicate with multiple remote programmable devices at traffic signals. It is anticipated that the entire city can be upgraded over the next 15-20 years based on the current level of funding.

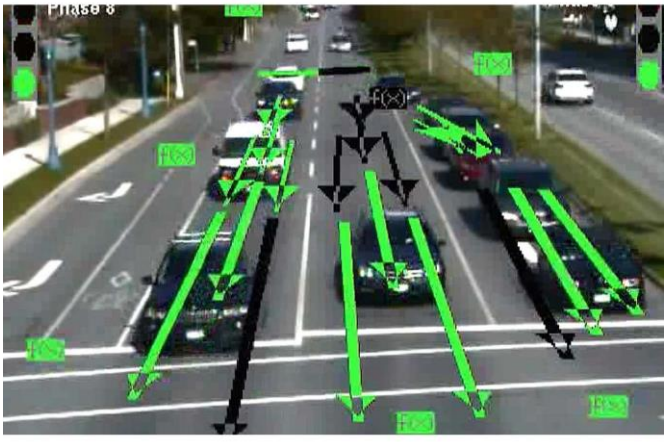
Major Cost Components: Video detection camera hardware and installation, fibre optic cable, fibre splicing and underground enclosures and fibre network switches required to communicate to the TMC.

Funding: Roads DCC program; potential from TransLink, ICBC and development.

The preliminary list for 2021 includes 10 locations as follows:

Traffic Video Camera

1. No 5 Rd and Williams Rd
2. No 5 Rd and Blundell Rd
3. Graybar Rd and Westminster Hwy
4. Fraserwood Pl and Westminster Hwy
5. No 8 Rd and Westminster Hwy
6. No 5 Rd and Westminster Hwy



Fibre communications cable and conduit installation/cleaning/upgrades

7. No 5 Rd (Blundell Rd-Westminster Hwy)
8. Hazelbridge Way (Cambie Rd-Alderbridge Way)
9. Williams Rd (Shell Rd-No 5 Rd)
10. Westminster Hwy (Fraserwood Pl-Fire Hall)

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Transit-Related Amenity Improvement Program**	**Submission ID:**	**5897**

Location: Various Locations

Cost: $25,000 **OBI:** $1,422

Funding Sources:

Roads DCC:	$23,512
Roads City Assist:	$1,488

Scope: Transit-related amenity improvements within the road right-of-way to support transit service and infrastructure.

Major Cost Components: Non-advertising transit shelters and benches and other supplementary amenity improvements to facilitate transit passengers.

Funding: Roads DCC program; potential from TransLink, ICBC and development.

Locations for bus stop shelters are prioritized based on boarding activity, customer requests and availability of right-of-way.

For 2021, approximately 15-20 locations are proposed for upgrade. The actual locations will be determined in early 2021 in consultation with Pattison Outdoor, the City's street furniture contractor.

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Transit-Related Roadway Improvement Program**	**Submission ID:**	**5898**
Location:	Various Locations		
Cost:	$500,000	**OBI:**	$13,201
Funding Sources:	Roads DCC: $376,200 Roads City Assist: $23,800 Grant: $100,000		

Scope:

Road and traffic improvements to support transit service improvements and existing transit infrastructure. Currently, approximately 82 % of 723 existing bus stops are accessible.

Major Cost Components: Bus stop landing pads and ramps for wheelchair accessibility, intersection geometric/corner improvements, sidewalk/walkway construction connecting to bus stops, etc. to facilitate transit passengers.

Funding: Roads DCC program; potential from TransLink, ICBC and development.

Locations for bus stop accessibility improvements are prioritized based on boarding/alighting activity, customer requests and availability of right-of-way.

For 2021, approximately 10-15 locations are proposed for upgrade, subject to TransLink funding. The actual locations will be determined in early 2021 in consultation with Coast Mountain Bus Company (CMBC) and through public feedback.

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Transportation Planning, Functional and Preliminary Design**	**Submission ID:**	**5892**
Location:	Various		
Cost:	$260,000	**OBI:**	$ -
Funding Sources:	Roads DCC: $244,530 Roads City Assist: $15,470		

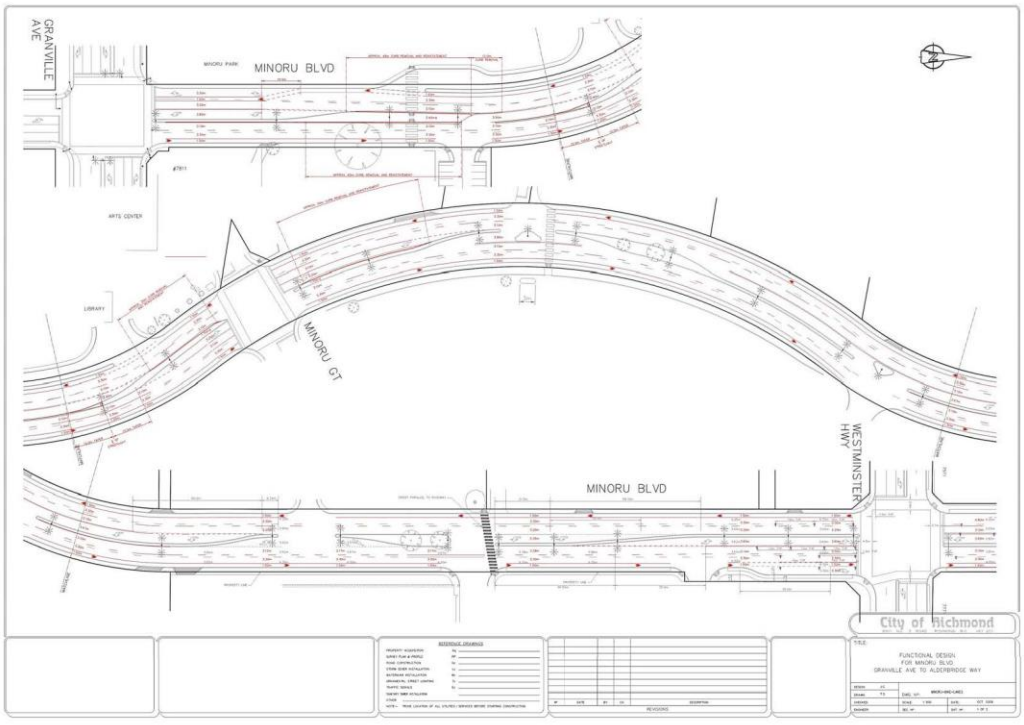
Scope:

1. Project design - prepare functional/preliminary designs and cost estimates required for transportation capital projects identified within the Capital Program. Design to identify road elements, horizontal alignment, cross-section, property impacts, etc. and high level cost estimates to carry out further detailed engineering design.

2. Project planning and coordination - Assist in the development, leading, coordinating and administering the planning, engineering, and design work on transportation capital projects approved as part of the Capital Program and off-site improvements for new developments.

Cost based on 5% of the cost estimate of capital projects included within annual capital programs that require functional designs; design funds for projects with more significant scope are included separately within those projects.

Major Cost Components: Consultant and/or staff costs for Project design and staff costs for Project planning and coordination.



Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**West Richmond Sidewalk Rehabilitation Program - Phase 2**	**Submission ID:**	**6742**
Location:	Various Locations		
Cost:	$300,000	**OBI:**	$ -
Funding Sources:	Capital Revolving: $300,000		

Scope:

This project involves the replacement or rehabilitation of sidewalks in the West Richmond area that have deteriorated over time due to tree root ingress or settlement. The project cost could include, but is not limited to, costs associated with sidewalk panel replacement, tree removal and replacement, root pruning, curb and gutter repairs and other ancillary work.

The current condition of sidewalks in certain areas may pose a tripping hazard for pedestrians and make them inaccessible. This project would allow the City to address these issues and mitigate potential risks to public safety.

Drainage Program 2021

The City's Drainage and Diking Program supports critical improvements for drainage and flood protection infrastructure. In addition to replacing ageing infrastructure, these projects include drainage and diking upgrades to proactively address climate change - induced impacts such as higher intensity storms and sea level rise. Consistent with Council's Strategic Plan, completion of these projects will help the City become safer and more resilient to climate change.

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Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Box Culvert Repair**	**Submission ID:**	**6931**

Location: City Wide

Cost: $1,450,000 **OBI:** $ -

Funding Sources: Drainage Utility: $1,450,000

Scope: The City of Richmond's Box Culvert Inspection Program identifies locations where settlement, cracking and infiltration occur due to failing box culverts.

The scope of work for this project includes the repair and rehabilitation of concrete storm box culverts throughout Richmond. Repair work will include, but is not limited to, patching, grouting, and structural lining. Additionally, this funding will be used to perform point repairs as identified by the City Box Culvert Inspection Program throughout the year.

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Burkeville Utility Improvements Drainage**	**Submission ID:**	**5600**
Location:	Burkeville Area		
Cost:	$2,026,000	**OBI:**	$26,000
Funding Sources:	Drainage Utility: $1,000,000 Water Utility: $491,000 Sanitary Utility: $535,000		

Scope:

Burkeville's drainage system was designed using shallow ditches and small diameter road cross culverts. As the area is redeveloped, ditch infills are becoming common. Ditch infills change the nature of the drainage system in a way that may cause storm water flooding. A new and larger drainage system is therefore needed to accommodate these changes.

In addition, sanitary and water infrastructure will be upgraded where the scope overlaps with the upgrade of the drainage infrastructure.

The current gravity sanitary sewer system is made up of vitrified clay and approaching the end of its service life. Replacing it at the same time as the drainage system upgrade will be more cost-effective for the City. This project will also coordinate the installation of 399 metres of 200mm diameter watermain to replace or rehabilitate existing ageing infrastructure.

Engineering and construction efficiencies will be achieved, and public disruptions will be minimized by coordinating the utility improvements.

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Canal Stabilization and Drainage & Irrigation Upgrades**	**Submission ID:**	**5882**
Location:	City Wide		
Cost:	$1,300,000	**OBI:**	$14,000
Funding Sources:	Drainage Utility: $1,300,000		
Scope:	This project will accommodate canal stabilization and drainage and irrigation upgrades throughout Richmond. Upgrades include, but are not limited to, culvert upsizing, culvert lowering, headwall replacement, canal re-grading, flap gate and sensor installations and canal bank stabilization works. This project will also allow staff to conduct required assessments and investigations that will further enhance the City's drainage and irrigation network.		

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Development Coordinated Works - Drainage**	**Submission ID:**	**5914**

Location: City Wide

Cost: $250,000 **OBI:** $11,000

Funding Sources: Drainage Utility: $250,000

Scope: This project will enable the City to leverage development over the next year to design and construct drainage infrastructure outside of what would be required as part of their development.

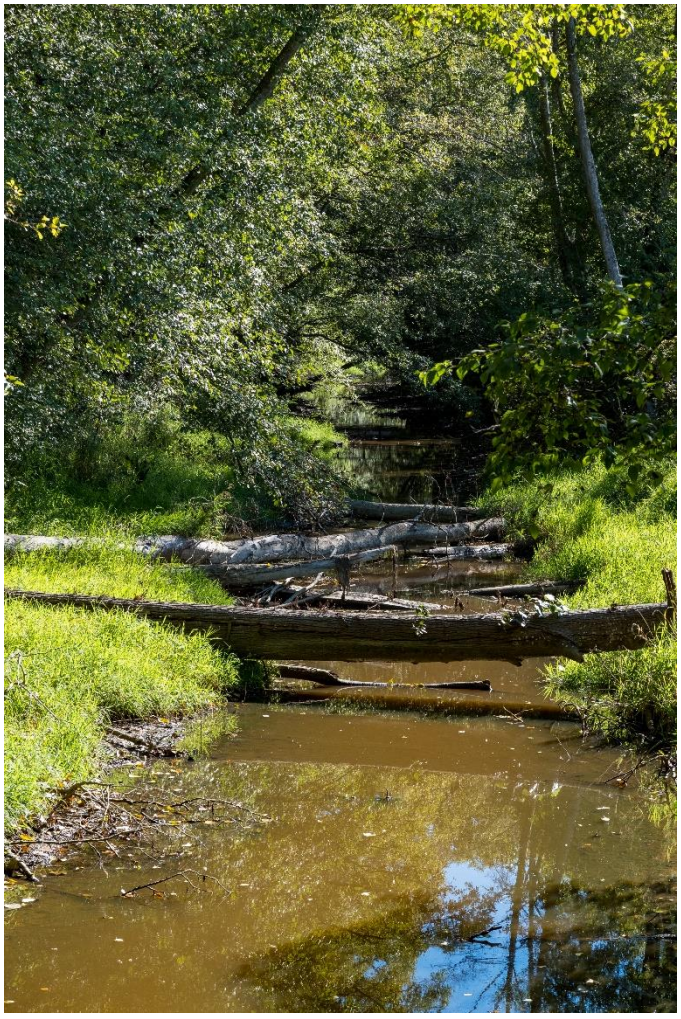
These are upgrades and replacement of ageing infrastructure that the City would complete separately, but economic and engineering efficiencies can be achieved by having the developer complete this work at the same time the development takes place.

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Disaster Mitigation and Adaptation Fund Infrastructure Upgrades**	**Submission ID:**	**6701**
Location:	Various locations		
Cost:	$5,000,000	**OBI:**	$31,000
Funding Sources:	Drainage Utility: $1,464,075 Drainage DCC: $1,520,565 Drainage City Assist: $15,360 Grant: $2,000,000		
Scope:	The City of Richmond invests in major disaster mitigation infrastructure to contribute to the Province of British Columbia and Canada's economic growth, public safety and ability to build a community more resilient to climate change. This project includes the design and construction of drainage pump station upgrades and perimeter dike raising included in the Disaster Mitigation and Adaptation Fund grant. The project will be completed in phases over the next five years. The initial phases of the project will primarily include dike upgrades.		

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Drainage Network Ecological Enhancement**	**Submission ID:**	**6708**

Location:	City Wide		
Cost:	$100,000	**OBI:**	$ -
Funding Sources:	Drainage Utility:	$100,000	

Scope: The objective of this project is to assess, monitor, enhance and protect the Ecological Network including the City's foreshore and riparian areas by identifying opportunities to improve ecosystem services on City-owned land. This project aims to increase the environmental resiliency and quality of the City's Ecological Network Management Strategy, the Integrated Rainwater Resource Management Plan, Riparian Response Strategy and various pollution prevention stewardship, enhancement and education opportunities.



Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Drainage Pump Station Rehabilitation and Generator Upgrade**	**Submission ID:**	**6707**
Location:	City Wide		
Cost:	$250,000	**OBI:**	$11,000
Funding Sources:	Drainage Utility: $250,000		

Scope:

The hardware of some drainage pump stations is at the end of its life expectancy and continually has numerous breakdowns. This project will improve the reliability and efficiency of the City's drainage pump stations.

The scope of work for this project includes rehabilitation upgrades at the Gilbert Road South and No 8 Road North Drainage Pump Stations.

Rehabilitation at the Gilbert Road South Drainage Pump Station will include, but is not limited to, the purchase and installation of one fully automated irrigation gate. The irrigation gate will enhance the City's irrigation supply, while permitting drainage of the Gilbert Road canal.

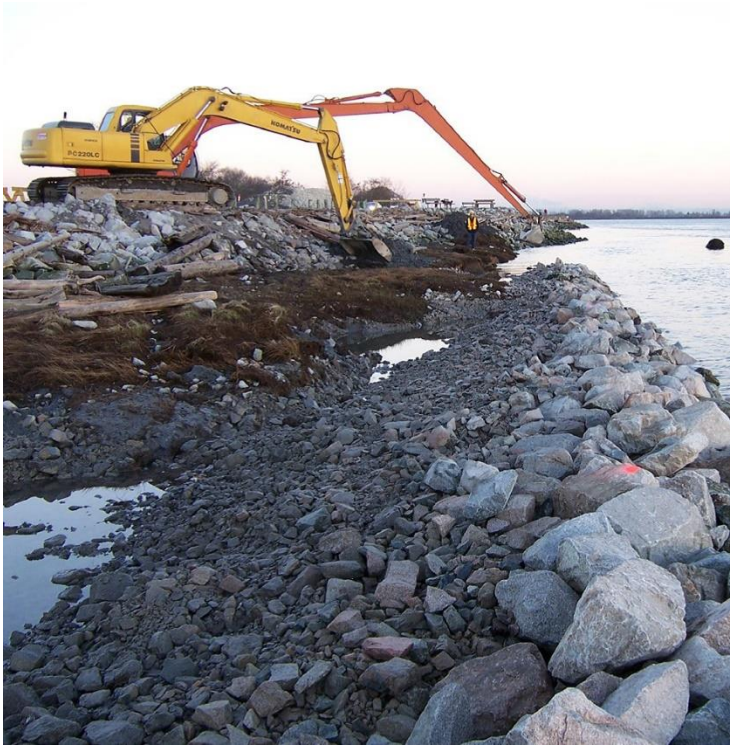
Rehabilitation at the No 8 Road North Drainage Pump Station will include, but is not limited to, the purchase and installation of one fully automated actuator. The new actuator will control the existing irrigation gate at the No 8 Road North Drainage Pump Station, replacing the existing actuator that has reached the end of its service life.

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Flood Protection & Dike Improvements**	**Submission ID:**	**5910**
Location:	City Wide		
Cost:	$1,300,000	**OBI:**	$16,000
Funding Sources:	Drainage Utility: $1,300,000		

Scope:

The City has 49km of perimeter dike and 39 drainage pump stations that provide the City with flood protection from ocean storm surges and freshets. This project will include drainage and dike improvements at priority locations that maintain or increase current flood protection service levels.

Dike improvements are required to meet medium to long-term flood protection requirements and to accommodate local area needs such as the provision of basic recreation trails. Dike construction work includes, but is not limited to, dike raising, structural rehabilitation, re-grading, vegetation/critter management, tree removal and replacement, environmental compensation and dike re-armouring at priority locations.



Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Habitat Offsetting Requirements: Monitoring and Reporting**	**Submission ID:**	**6935**
Location:	City Wide		
Cost:	$100,000	**OBI:**	$ -
Funding Sources:	Drainage Utility: $100,000		

Scope:

Capital projects located near or within sensitive environmental features such as the Fraser River often require Provincial and Federal environmental permits. Permit conditions typically require ecological restoration to improve or maintain ecological function, including maintenance terms that can exceed project closure by up to five years.

This project will ensure that resources are available to fulfill environmental permit requirements that exceed capital project duration, thereby allowing capital accounts to be closed at project completion. In addition, this project will provide opportunities for habitat enhancements that may be used to offset environmental impacts from future capital projects.

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Laneway Drainage Upgrade**	**Submission ID:**	**6656**
Location:	Various Locations		
Cost:	$800,000	**OBI:**	$16,000
Funding Sources:	Drainage Utility: $800,000		

Scope:

The scope of work for this project includes installation of drainage infrastructure in the following areas:

- 280m of laneway drainage between 7420 Reeder Road and 9671 Herbert Road; and
- 230m of laneway drainage between 10680 Railway Avenue and 5020 Hollymount Gate.

This project does not include the addition of street lighting, curbs or gutters.

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**SCADA System Improvements**	**Submission ID:**	**6934**

Location: Various Locations

Cost: $350,000 **OBI:** $ -

Funding Sources:

Drainage Utility:	$200,000
Sanitary Utility:	$150,000

Scope:

Through its supervisory control and data acquisition (SCADA) system, the City monitors and controls various equipment over the sanitary sewer, drainage, and water network. This project involves rehabilitating, upgrading, and installing computers, instruments, and electrical systems throughout the SCADA system. This project will maintain and improve the sanitary sewer, drainage, and water network operation, as well as maintain system security and technological viability.

Failure to complete the work will result in increased risk of sanitary, drainage and water system failure, thereby reducing service levels and increasing cost and disruption of unplanned maintenance and emergency repairs.

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Storm Main Drainage Upgrade**	**Submission ID:**	**6501**
Location:	City Wide		
Cost:	$950,000	**OBI:**	$11,000
Funding Sources:	Drainage Utility: $871,703 NIC: $78,297		

Scope:

This project will upgrade storm sewers throughout the City to improve drainage system capacity and performance during higher intensity storm events. Upgrades include, but are not limited to, upsizing existing storm sewers and culverts and installing new drainage pipes.

Specific areas include, but are not limited to, the intersection of Steveston Highway and Gilbert Road, the Aztec, Woodhead and Montego neighbourhoods, the Barmond and Kirkmond neighbourhoods and the Finn Road Right-of-Way between No 3 Road and Gilbert Road.

Program:	**Infrastructure Program**	**Sub-program:**	**Drainage**
Project Name:	**Watercourse Crossing Rehabilitation & Replacement**	**Submission ID:**	**6933**
Location:	City Wide		
Cost:	$350,000	**OBI:**	$11,000
Funding Sources:	Drainage Utility: $350,000		
Scope:	This project will repair and replace watercourse crossings throughout Richmond that pose safety risks to vehicles and pedestrians. Rehabilitation and replacement work includes, but is not limited to, replacing failed headwalls and culvert crossings. Additionally, this project includes infilling of non-Riparian Management Area watercourses, extending lengths of existing ditch infills that pose safety risks to the public and assessing and replacing ageing wood stave culverts.		

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Program:	**Infrastructure Program**	**Sub-program:**	**Water**
Project Name:	**Development Coordinated Works - Water**	**Submission ID:**	**5866**

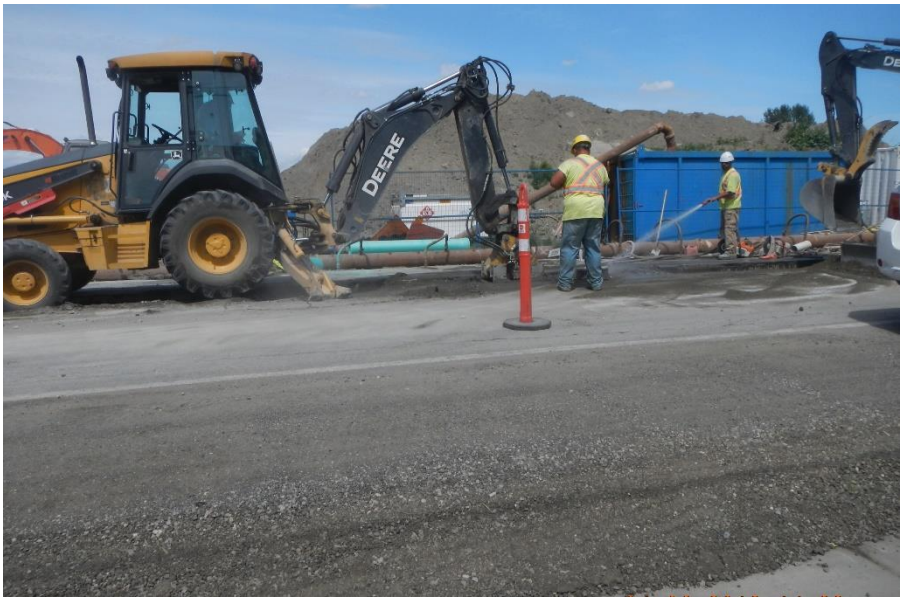
Location: City Wide

Cost: $250,000 **OBI:** $20,000

Funding Sources: Water Utility: $250,000

Scope: This project will enable the City to leverage development over the next year to design and construct water infrastructure outside of what would be required as part of their development. Work may include watermain replacement and site restoration.

These are upgrades and replacement of ageing infrastructure that the City would complete separately but economic and engineering efficiencies can be achieved by having the developer complete this work at the same time the development takes place.



Program:	**Infrastructure Program**	**Sub-program:**	**Water**
Project Name:	**Water Metering Program**	**Submission ID:**	**6094**
Location:	City Wide		
Cost:	$1,286,000	**OBI:**	$25,000
Funding Sources:	Water Metering Provision: $1,286,000		

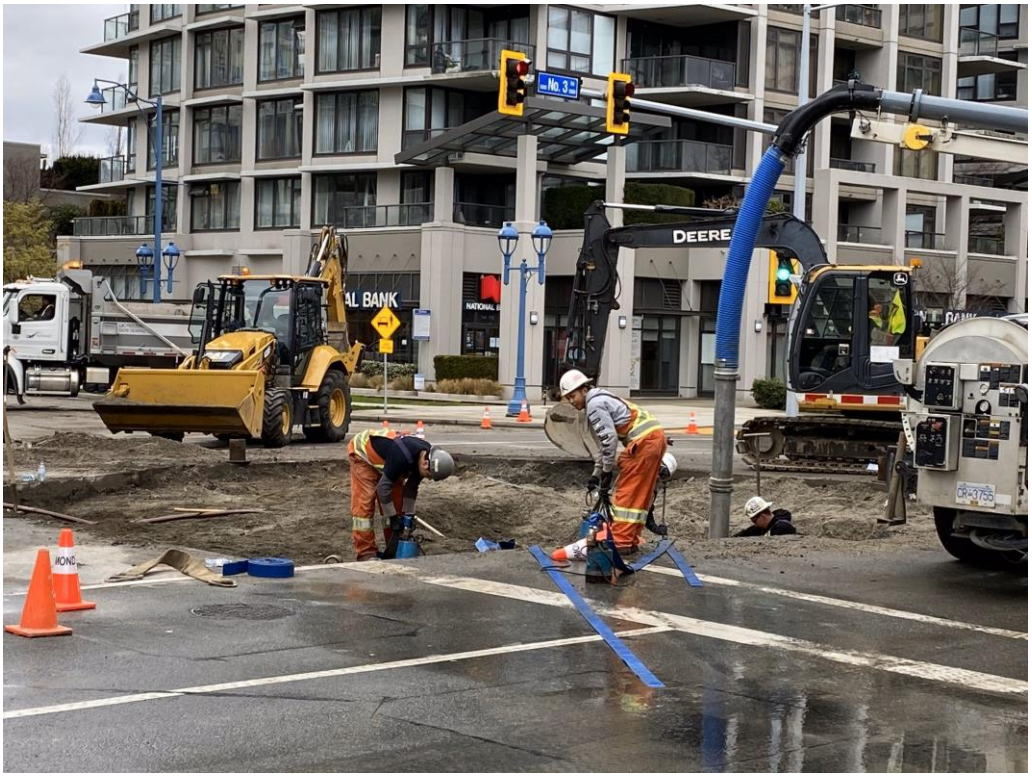
Scope:

Water metering enhances user equity by allowing customers to pay for the water and sewer that they use. All single-family and industrial, commercial and institutional (ICI) properties in Richmond are now metered. This project involves the implementation of an advanced volunteer multi-family water meter program.

The advanced volunteer multi-family water meter program will target the last sector that is not metered for water. As part of the program, the City offers a subsidy for the actual installation cost of water meters up to the greater of $1,200 per unit or $100,000 per complex, as well as a five-year guarantee for water charges for existing multi-family complexes. The program will also involve active outreach by the City to complexes that will benefit from the water meter program.

Program:	**Infrastructure Program**	**Sub-program:**	**Water**
Project Name:	**Watermain Replacement Upgrades Program**	**Submission ID:**	**5656**
Location:	City Wide		
Cost:	$6,196,000	**OBI:**	$ -
Funding Sources:	Water Utility: $5,832,151 Water DCC: $360,211 Water City Assist: $3,638		
Scope:	This project replaces ageing watermains that are at the end of their service life and is in alignment with the City's Ageing Infrastructure Replacement Strategy. Watermain replacement minimizes unplanned maintenance and improves fire protection. This project includes installation of 4,542 metres of 200mm diameter watermain, 1,167 metres of 300mm diameter watermain, and 1,510 metres of large diameter watermain fill to replace and abandon existing ageing infrastructure. The watermain replacement program is informed by watermain age, material and break history.		

Program:	**Infrastructure Program**	**Sub-program:**	**Water**
Project Name:	**Watermain Tie-in and Restoration**	**Submission ID:**	**5863**
Location:	Various		
Cost:	$200,000	**OBI:**	$ -
Funding Sources:	Water Utility: $200,000		
Scope:	This project involves tie-in and restoration work for watermain and water service installations, including restoration for watermain replacements completed as part of prior years' capital programs and restoration of water utility cuts.		



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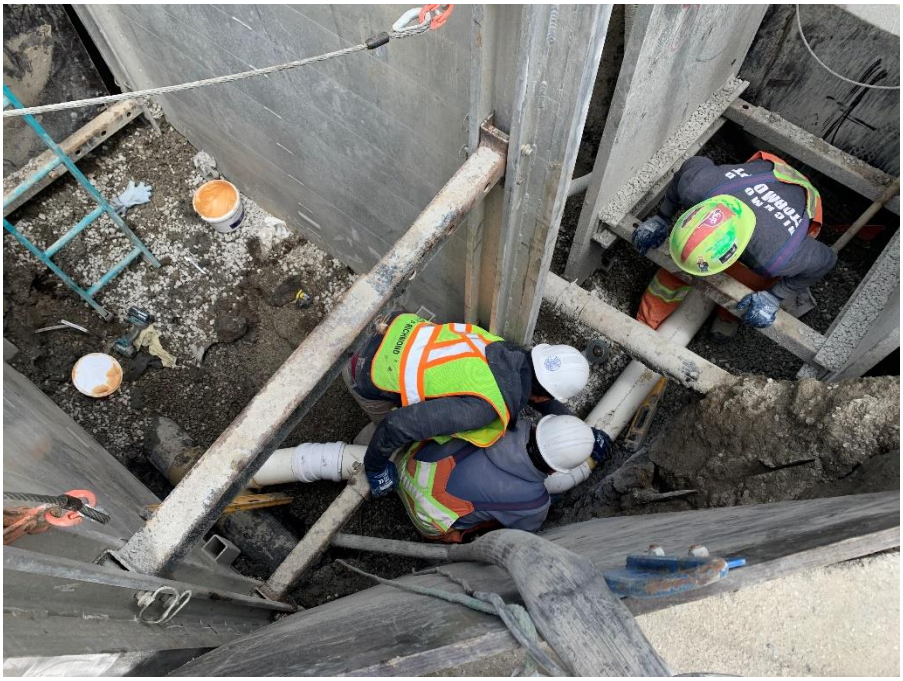
Program:	**Infrastructure Program**	**Sub-program:**	**Sanitary Sewer**
Project Name:	**Development Coordinated Works - Sanitary**	**Submission ID:**	**5875**
Location:	City Wide		
Cost:	$250,000	**OBI:**	$10,041
Funding Sources:	Sanitary Utility: $250,000		

Scope:

This project will enable the City to leverage development over the next year to design and construct sanitary infrastructure outside of what would be required as part of their development. Work may include sanitary main replacement, pump station upgrades, and site restoration.

These are upgrades and replacement of ageing infrastructure that the City would complete separately but economic and engineering efficiencies can be achieved by having the developer complete this work at the same time the development takes place.

Program:	**Infrastructure Program**	**Sub-program:**	**Sanitary Sewer**
Project Name:	**Gravity Sewer Rehabilitation and Upgrades**	**Submission ID:**	**5861**
Location:	Various Locations		
Cost:	$2,400,000	**OBI:**	$20,075
Funding Sources:	Sanitary Utility: $2,400,000		
Scope:	This is a recurring project to rehabilitate and upgrade the City's gravity sewer system as determined by ageing infrastructure, condition assessments, and servicing plans. The work may include full main replacement, pipe lining, service tie-ins, and restoration. The areas that are a part of this phase include the Richmond Park and Steveston sanitary catchments.		



Program:	**Infrastructure Program**	**Sub-program:**	**Sanitary Sewer**
Project Name:	**Manhole and Inspection Chamber Replacement Program**	**Submission ID:**	**6085**
Location:	Various Locations		
Cost:	$100,000	**OBI:**	$ -
Funding Sources:	Sanitary Utility: $100,000		
Scope:	This project is part of a 10-year program for replacing or repairing damaged inspection chambers and manholes throughout the City. The program aims to inspect and repair or replace approximately 250 sanitary manholes or inspection chambers each year.		

Program:	**Infrastructure Program**	**Sub-program:**	**Sanitary Sewer**
Project Name:	**Sanitary Pump Station Assessment, Rehabilitation and Upgrades**	**Submission ID:**	**5874**
Location:	Various Locations		
Cost:	$500,000	**OBI:**	$ -
Funding Sources:	Sanitary Utility: $500,000		
Scope:	This project involves the assessment and rehabilitation of existing sanitary pump stations. Scope of work includes tasks such as: condition assessments, electrical kiosk replacement, power supply upgrade, new motor control center (MCC) installation, pump rewinding, and concrete slab and aluminum hatch installation.		

Program:	**Infrastructure Program**	**Sub-program:**	**Sanitary Sewer**
Project Name:	**Sanitary Sewer Assessment and Upgrades**	**Submission ID:**	**5876**

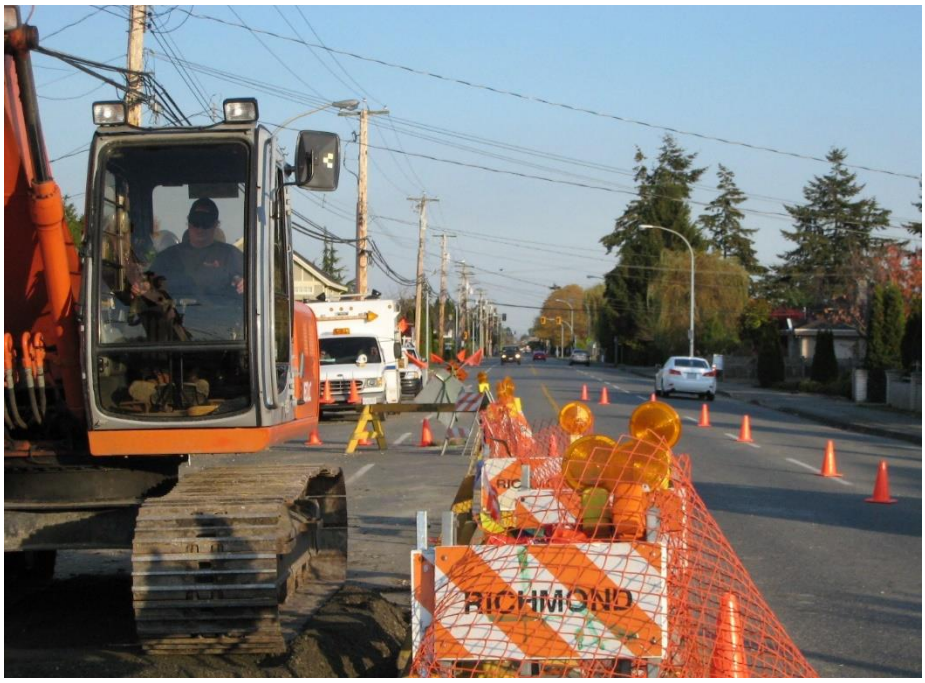
Location:	Various Locations		
Cost:	$600,000	**OBI:**	$ -
Funding Sources:	Sanitary Utility: $600,000		

Scope:

This project will assess and improve access to the City's sanitary forcemain system. Installation of valves on sanitary forcemains will allow for better isolation and control of forcemains in the event of breaks or tie-ins. Valve installation will also simplify regular inspections of this critical infrastructure to inform the City's maintenance program and capital upgrade planning.

This project includes the purchase of bypass equipment, installation of access and valves, dewatering, other activities related to sanitary system condition assessment, and the development of neighbourhood servicing strategies. These assessments also address Metro Vancouver's reporting requirements. Areas of work include Riverside, Horseshoe, and Richmond Park sanitary catchments.

Program:	**Infrastructure Program**	**Sub-program:**	**Sanitary Sewer**
Project Name:	**Sanitary Sewer Tie-in and Restoration**	**Submission ID:**	**6107**
Location:	Various Locations		
Cost:	$150,000	**OBI:**	$ -
Funding Sources:	Sanitary Utility: $150,000		
Scope:	This project involves tie-in and restoration for sanitary sewer projects completed as part of prior years' capital programs. Work may include site restoration for utility cuts and landscaping.		



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Program:	**Infrastructure Program**	**Sub-program:**	**Minor Capital**
Project Name:	**Public Works Infrastructure Advanced Design**	**Submission ID:**	**5867**

Location: Various Locations

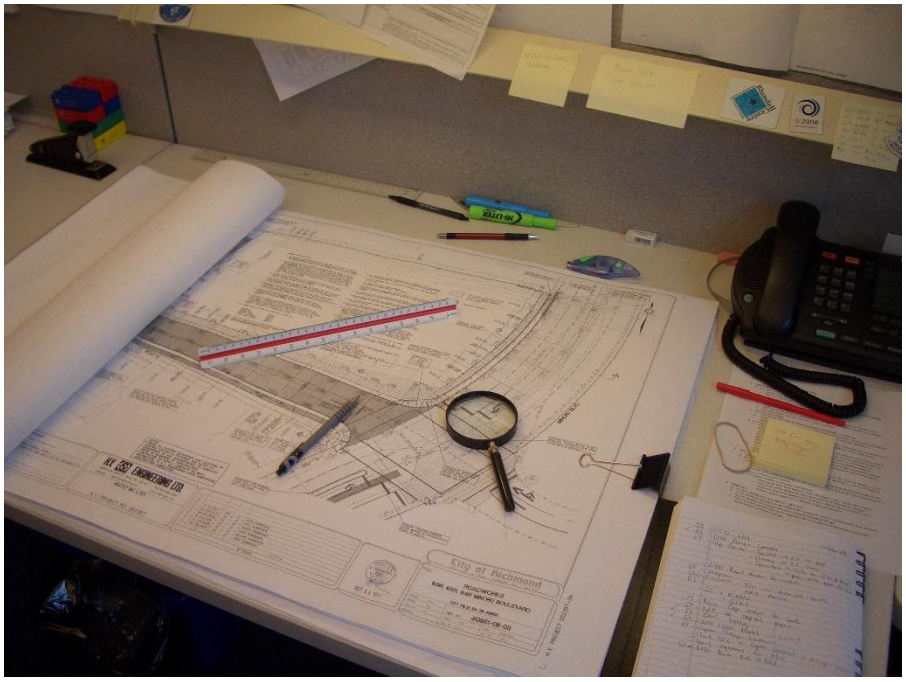
Cost: $2,280,000 **OBI:** $ -

Funding Sources:

Drainage Utility:	$1,000,000
Water Utility:	$430,000
Sanitary Utility:	$450,000
Roads DCC:	$376,200
Roads City Assist:	$23,800

Scope: The scope of work includes hiring consultants and contractors to plan and design future capital projects and deliver reports that define long-term infrastructure upgrades.

Sanitary Project Design, Planning and System Modelling	$450,000
Water Project Design, Planning and System Modelling	$430,000
Drainage Project Design, Planning and System Modelling	$1,000,000
Roads	$400,000
Total	$2,280,000



Program:	**Infrastructure Program**	**Sub-program:**	**Minor Capital**
Project Name:	**Public Works Minor Capital - Drainage**	**Submission ID:**	**5911**

Location:	City Wide		
Cost:	$400,000	**OBI:**	$ -
Funding Sources:	Drainage Utility: $400,000		

Scope:

This project involves minor work related to drainage infrastructure, including installation of inspection chambers, rehabilitation of sewer pipes and manholes, minor repair of pump stations, installation of monitoring equipment, safety upgrades, testing of new technologies to improve efficiencies and responding to resident complaints that require site specific repairs.

Every year, Engineering and Public Works receives a number of requests for minor projects. The minor capital program allows the department to respond to these requests in a timely and cost effective manner.

Program:	**Infrastructure Program**	**Sub-program:**	**Minor Capital**
Project Name:	**Public Works Minor Capital - Sanitary**	**Submission ID:**	**5873**

Location:	Various Locations		
Cost:	$450,000	**OBI:**	$ -
Funding Sources:	Sanitary Utility: $450,000		

Scope:

This project involves minor work related to the sanitary infrastructure, including pump station upgrades, sanitary pump replacements, modifications to improve operational efficiency and functionality, testing of new technologies, forcemain repairs, site-specific repairs in response to resident complaints, and manhole and valve box repairs.

Every year, Engineering and Public Works receives a number of requests for minor projects. The minor capital program allows the department to respond to these requests in a timely and cost effective manner.

Program:	**Infrastructure Program**	**Sub-program:**	**Minor Capital**
Project Name:	**Public Works Minor Capital - Sanitation & Recycling**	**Submission ID:**	**7051**
Location:	City Wide		
Cost:	$350,000	**OBI:**	$ -
Funding Sources:	Solid Waste and Recycling: $350,000		

Scope:

To provide for Recycling Depot general site maintenance or repairs, expansion projects and funding for streetscape recycling containers in public spaces.

To provide equipment/vehicle as required to support these program expansions as well as collection of overweight/heavy illegally dumped items.

This project is used to:

1. Replace our city streetscape recycling containers that lose functionality, become damaged and worn due to exposure to weather conditions. Our goal is to replace on a 3-year cycle.

2. Undertake repairs or minor upgrades at the Recycling Depot. This could include building or acquiring small sheds, cages, or structures to add material streams. Acquire new containers types, etc. to enable addition of new materials for collection. Undertake improvements to comply with safety — prepare and post signs, install barricades, replace concrete blocks that become damaged from equipment used to move large items as part of regular operations, etc.

3. Acquire equipment items that may be needed to support operations, including stairs to assist safe drop off of items into taller recycling bins. May also include items to support illegal dumping clean ups and clean up of homeless camps, including carrying aids (dolly's, cutting tools, etc.).

Program:	**Infrastructure Program**	**Sub-program:**	**Minor Capital**
Project Name:	**Welding Shop Office Relocation and Equipment Upgrades**	**Submission ID:**	**7043**
Location:	City Works Yard		
Cost:	$248,425	**OBI:**	$ -
Funding Sources:	Public Works Equipment: $248,425		
Scope:	Relocate current welding shop to provide a properly ventilated mobile office to increase shop space due to the growing demand for space to complete projects and maintenance repairs. Project to be started by June 2021 and completed by December 2021. All Public Works, Facilities, Parks departments will benefit by having these services in house.The demolition of the current welding shop office with the addition of a mobile office located directly outside the current welding shop bay doors will free up shop floor space for a brake press and other required machinery.		

Building Program 2021

The Building Program includes major building construction and renovation projects as well as minor facility upgrades and repairs. The City's building assets include: arenas, pools, community centres, libraries, heritage buildings, police stations, fire halls and other government facilities.

2021 Recommended Building – Building Program

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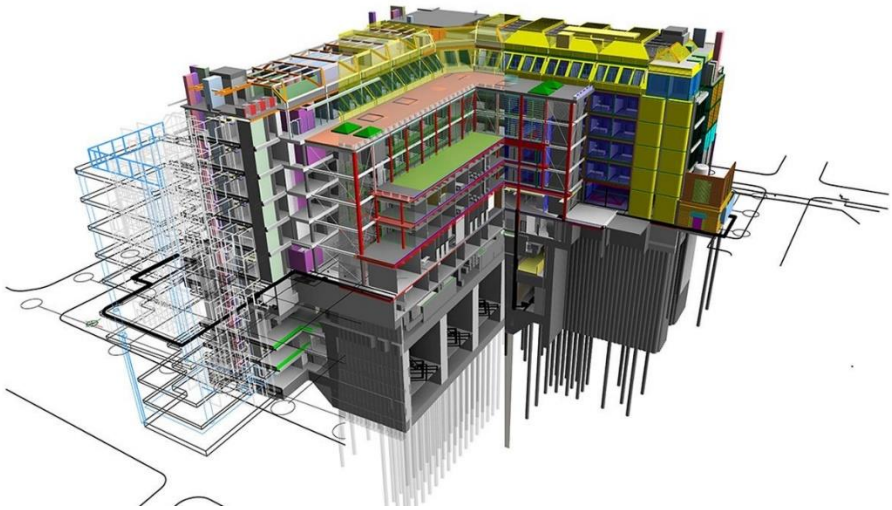
Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**Capital Buildings Project Development Advanced Design**	**Submission ID:**	**6899**
Location:	City Wide		
Cost:	$950,000	**OBI:**	$ -
Funding Sources:	Building and Infrastructure: $500,000 Others: $450,000		
Scope:	This funding will be used to provide feasibility and concept level consulting service required to complete the following: - Building and feasibility assessments required to develop the 2021 Capital Plan. Staff receive on average approximately 150 projects from User Groups on an annual basis by May of each year that require feasibility level review and costing in time for the Capital project process. Examples for the 2020 program include feasibility and costing for London Farm House Envelope Renewals, Library Cultural Centre Conveyance renewals and the East Richmond Community Hall Envelope and Mechanical system renewals, etc. - To respond to requests for feasibility and concept level design and costing services added to the 2021 work plan. Throughout the course of 2019 and 2020 there were approximately 36 such requests, examples of which include the Imagine Lab feasibility report, Lot 5 Redevelopment study at the Olympic Oval, Concession upgrades design to the Brighouse Pavilion and visual upgrade design to the Richmond Ice Centre in prior to the Canadian Adult Recreation Hockey Association (CARHA) hockey competition. The same level of requests are anticipated for 2021. Without this funding, building improvement and infrastructure replacement projects have to be cancelled and funding reallocated to allow the feasibility and concept level design work to proceed.		



Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**City Hall Council Chamber Roof Replacement**	**Submission ID:**	**6901**

Location: 6911 No. 3 Road

Cost: $1,640,000 **OBI:** $ -

Funding Sources: Building and Infrastructure: $1,640,000

Scope: Envelope ($1,640,000):

The green roof atop Council Chambers has failed and is allowing water to penetrate the building envelope, damaging the structural integrity of Council Chambers. Specifically, the bamboo garden root system has breached all roof component layers down to the membrane itself, as well as grown around the existing root barrier to areas of the roof with no protective membrane.

Demand repairs are required 2 - 3 times per year outside the normal maintenance schedule, costing over $20,000 to date, and water continues to drip into Chambers on the wall near the AV projector. Additionally there is a continuous water flow into the Projection room that had to be mitigated by re-routing the water into the parkade.

Continued water ingress is also negatively impacting other assets including: HVAC equipment such as fan coils and electrical controls causing damage and failure; Life safety components such as smoke detectors causing electrical shorts & fire trouble alarms; lighting failures with water entering light fixtures; speaker failure to ceiling speakers, saturated insulation systems; Furniture such as desks, chairs and panels; millwork becoming saturated and warped; and flooring being stained.

If water ingress continues and damage to these systems persists throughout Council Chambers and associated assets the estimated cost to repair, replace and refurbish the affected systems is over three times the value of this submission.

Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**Minor Capital**	**Submission ID:**	**7095**
Location:	City Wide		
Cost:	$400,000	**OBI:**	$ -
Funding Sources:	Others: $400,000		
Scope:	This funding will be used for minor capital projects as necessary and for replacement and renewal of several building systems in various City buildings to minimize the risk of system failure that could impact operation of the facility and in turn service delivery.		

Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**Minoru Arenas - Mechanical & Life Safety System Renewals**	**Submission ID:**	**6900**
Location:	7551 Minoru Gate		
Cost:	$1,280,000	**OBI:**	$7,200
Funding Sources:	Building and Infrastructure: $1,280,000		

Scope:

Mechanical & HVAC ($980,000):

This facility is at risk of service disruption due to the failure of water storage tank #2 and its associated systems: boilers, piping, circulation pumps, heat exchangers, desuperheater and their connections.

Water Tank 2 (1,250 Gallons) failed, increasing demand on tank 1 (500 Gallons) resulting in constant repair and adjustment. These tanks are 36 years old, original to the building and critical to facility operations. They supply hot water to Zambonis, dressing rooms & showers, as well as multiple HVAC units.

Continued repair and use is not viable due to outdated equipment and compounded wear and tear from consistent use. Not proceeding with replacement will result in further system failures leading to service disruptions and facility shutdowns.

Life/Safety ($300,000):

The ammonia plant was recently replaced due to growing concerns over health and safety risks to staff and public and we are now looking to upgrade the detection and alarm system. Currently there are 2 ammonia detectors and 2 stack sensors which send alarm signals to our monitoring contractor and chief engineer. These systems will remain in the building and will be supplemented by a multi light system throughout the facility indicating if there is an ammonia leak, fire or automated external defibrillator emergency.

The existing systems notify staff and monitoring software/contractors, it is then up to site staff to notify patrons of the emergency situation thus delaying response time. With the installation of the multi light system, patrons and staff alike will be notified of an emergency situation, increasing response time and reducing the risk of loss of life.

Additionally, the hatch and ladder system is a safety risk for all that use it. This wood structure is perpendicular without gradation, worn and slippery from 36 years of use and forces the user to release their grip to open a heavy hatch. This system will be replaced with a safer structure for staff and contracts to access the roof.

Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**Richmond Ice Centre Infrastructure Renewals – Phase 2 Design and associated works**	**Submission ID:**	**7099**
Location:	14140 Triangle Road		
Cost:	$850,000	**OBI:**	$ -
Funding Sources:	Building and Infrastructure: $850,000		

Scope:

This project is estimated at a total of $13.7M, comprising of $6.85M expenditure in 2020 as approved by Council, $850,000 expenditure in 2021 and a further $6M expenditure in 2022. All of these works are planned to be completed at the same time to maximize saving in schedule and costs for mobilization and demobilization.

Advanced Design of phase 2 ($850,000):

These funds will be utilized for design and pre-construction services prior to phase 2 construction implementation.

$13.7 million was approved by Council as part of the 2019 – 2022 Capital Program

Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**Thompson Community Centre & Hall Infrastructure Renewals**	**Submission ID:**	**7093**
Location:	5151 Granville Ave		
Cost:	$900,000	**OBI:**	$19,600
Funding Sources:	Others: $861,000 Grant: $39,000		

Scope:

Multiple building components in these facilities have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will service to prolong the life of the building and ensure the health and safety of its users / inhabitants.

Mechanical and HVAC ($700,000):

Heating and exhaust units as well as plumbing fixtures and water distribution throughout the community centre and hall are past their anticipated life span and experiencing leaks and breakdowns. These units will be replaced with new, energy efficient ones to meet the centre's growing demands.

Not proceeding with these replacements will result in further equipment failure causing risks to public health and increased cost to perform demand replacements.

Electrical ($200,000):

The electrical contols of the community centre and exterior HID lighting of the hall are past their anticipated life span and will be replaced with new energy efficient units to prolong the life of the facilities.

Not proceeding with these replacements will compromise public and staff safety at these facilities.

Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**West Richmond Community Centre - HVAC and Mechanical Renewals**	**Submission ID:**	**6258**
Location:	9180 No 1 road		
Cost:	$1,330,000	**OBI:**	$6,000
Funding Sources:	Building and Infrastructure: $1,330,000		

Scope:

Multiple systems in this facility have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will service to prolong the life of the building and ensure the health and safety of its users / inhabitants.

HVAC & Mechanical ($800,000):

Numerous air cooling and exhaust units are original to the facility of 1994 and past their anticipated life span. These units will be replaced with new, energy efficient units to meet the centre's growing demands.

Not proceeding with these replacement will result in equipment failure causing reduced airflow, risk to public health and increased cost to perform demand replacements.

Life / Safety ($250,000):

Fire and Emergency systems in this facility have been renewed and replaced over the years, but a few systems still remain original to the facility. We will replace those remaining systems such as smoke detection, emergency lighting and signage as well as elevator safety systems with new, modern equipment to ensure the health and safety of all occupants.

Not proceeding with this work will compromise public and staff safety in the event of an emergency situation.

Interior Finishes & Operator Requests ($280,000):

The 2nd level flooring throughout the childcare area is past its anticipated life span and showing significant signs of wear and tear. This will be replaced along with multiple other operator requests for upgrades and small renovations.

Not proceeding with these replacements will increase the risk of injury to childcare participants, reduce functionality of the area for site staff and increase maintenance costs.

Parks Program 2021

Richmond is renowned for its high quality parks, trails, natural areas and its vibrant urban realm. The City's park system consists of 135 parks that total approximately 1,950 acres serving the wellness and recreation needs of a diverse and growing community. More than 70 kilometres of trails support walking, rolling and cycling, bringing people to the city's many iconic parks and waterfront destinations. New parks and trails along with new amenities will ensure that Richmond residents continue to receive excellent service and that Richmond continues to be a regional and tourism destination.

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Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**City-Wide Community Gardens**	**Submission ID:**	**7031**

Location: Various

Cost: $200,000 **OBI:** $8,666

Funding Sources:

Parks Development DCC:	$188,100
Parks Development City Assist:	$11,900

Scope:

In March 2019, Council supported the creation of new community garden plots to address the demand by Richmond residents for access to space for food production and gardening. In 2020, two new community gardens were constructed at Cook Park and Riverport. Building on that success, additional gardens are proposed at various sites throughout the City, including in Paulik and Cook Neighbourhood Parks and along the Railway Greenway.

The infrastructure for the gardens, including site preparation, a water connection, perimeter fencing and gate, garden shed, pathway surface materials and signage will be provided by the City. The Richmond Food Security Society (RFSS) will administer the community garden sites as well as construct the garden beds, provide soil and garden tools through their own funding efforts.

Community gardens are a shared green space with individual and group garden plots which are maintained by community garden members to grow food, flowers, and other plants. The gardens provide low-barrier opportunities for residents of all ages and abilities to not only cultivate plants, but also meet new friends, share knowledge, and build a sense of community. The food, flowers, and other plants grown in each plot belong to the registered gardeners, and cannot be used or sold for any commercial purposes.

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**Dog Park Upgrades**	**Submission ID:**	**7021**
Location:	City Wide		
Cost:	$200,000	**OBI:**	$10,339
Funding Sources:	Parks Development DCC: $188,100 Parks Development City Assist: $11,900		

Scope:

This capital request will allow the City to upgrade existing dog off-leash areas, e.g., Steveston Community Park. Anticipated improvements include planting, permanent fencing and gates, addition of a drinking fountain, seating, drainage, and durable surfacing. The City initiated the Dog Off-Leash Program in 1999, and a number of temporary facilities have been created since that time. In recent years there have been many requests from residents to address drainage issues, add seating, and improve the overall quality of existing dog parks. So far these have been addressed with temporary measures, but this funding would allow issues to be rectified on a permanent basis.

The OBI for this submission would cover costs for the following scope of work:

- cleaning of and repairs to hardscape, e.g. topping up gravel areas, keeping clean and free of foreign materials, etc.

- cleaning of and repairs to site furnishings, e.g. pressure washing, replacement of bench/fence timbers, gate hardware replacement and repair, etc.

- servicing, winterizing, and repair of drinking fountains (plus eventual replacement if needed)

- servicing of waste and recyling receptacles (plus replacement if needed)

- maintenance of lawn areas, e.g. mowing, addressing drainage issues, etc.

- maintenance of shrub beds, e.g. weeding, cleaning, etc.

- maintenance of trees, e.g. regular pruning, addressing hazardous limbs, etc.

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**King George Artificial Turf Field Replacement**	**Submission ID:**	**6348**

Location: Cambie Road and No. 5 Road

Cost: $850,000 **OBI:** $ -

Funding Sources:

Capital Revolving:	$630,000
Special Sports:	$220,000

Scope:

The purpose of this project is to replace the artificial turf field surface at King George Park. This field receives a high level of use from both Cambie Secondary and Mitchell Elementary School students and the general public during the evenings and weekends. With our organized sports groups, the field is booked for more than 48 hours per week after school hours during the peak fall/winter season.

Synthetic sports fields generally last 8 to 12 years depending on the usage and the maintenance of the fields. Installed in 2008, the King George field is at the end of its expected lifespan and is now failing to meet minimum operating safety standards for shock attenuation (i.e., risk of injury).

In addition to replacement of the synthetic surfacing, proposed safety and performance improvements include the installation of an underlayment shock pad and thermoplastic elastomer (TPE) infill to replace the existing crumb rubber infill.

Scope of work includes:

$80,000	Removal and disposal (recycling) of the existing turf layer
$385,000	Installation of the new turf layer
$150,000	Shock pad installation
$25,000	Drainage and sub base preparations
$200,000	TPE infill
$10,000	Quality Control and Testing

Proposed funding for this project is 220K from the Sports Reserve (pay per use) and 630K from Capital Reserve.

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**Minoru Lakes Renewal: Phase Two**	**Submission ID:**	**6660**
Location:	Minoru Park		
Cost:	$4,000,000	**OBI:**	$25,082
Funding Sources:	Parks Development DCC: $3,762,000 Parks Development City Assist: $238,000		
Scope:	The scope of work for Minoru Lakes Renewal: Phase Two includes a stormwater detention pond to service the lakes, more accommodating trails, a range of seating, more robust bridges, wayfinding, lighting, native and adaptive planting, and irrigation. This phase of construction will build on the first phase, which includes site works (e.g., tree protection, demolition, dewatering, excavation and treatment of hazardous materials) and replacement of lakes infrastructure including the liner, edges, waterfall, weir and mechanical system. Phase Two works are required because the trails, furnishings, lighting and bridges within the Minoru Lakes area are nearing the end of their life cycle and do not meet the current recreational health and wellness needs of the rapidly growing population living within a five minute walking distance (400 meters) of Minoru Park. The new stormwater detention pond will divert stormwater from nearby developments to the lakes and reduce reliance on potable water. Via the Minoru Park Vision Plan process, the community noted that the Minoru Lakes area is challenging to navigate, generally unwelcoming and viewed as unsafe. Renewed trails, seating, wayfinding, lighting, irrigation and planting in the Minoru Lakes area will help to address community concerns, better meet the needs of the surrounding densifying neighbourhood while also reducing maintenance requirements and environmental impacts.		

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**Parks Advance Planning and Design**	**Submission ID:**	**5840**

Location: Various Locations

Cost: $700,000 **OBI:** $ -

Funding Sources:

Parks Development DCC:	$658,350
Parks Development City Assist:	$41,650

Scope:

This annual project submission for Parks Advance Planning and Design will provide resources for planning, research, public and stakeholder consultation, design and project management for a range of purposes, strategic planning projects, reports to City Council, meeting regulatory agency requirements (e.g., Vancouver Coastal Health, Provincial ministries), conceptual park design and technical reports for projects that require particular areas of expertise (e.g., environmental assessments).

2021 projects include:

- conceptual park and open space planning for various sites;
- topographical surveys (engineering site survey pick-up);
- park resource management planning;
- park characterization projects;
- best practices research;
- review and update the Parks and Open Space Strategy;
- consultation for a feasibility study for McDonald Beach Park and Boat Launch Facility; and
- initiate the process for a Parks Asset Management Strategy.

The scope of work includes: researching best practices; collecting data, topographical surveys and geographical information; and securing consultation for landscape architectural and engineering services as part of a planning and design process. The design process includes preparing and producing concept designs, reports, presentations and detailed construction drawings for upcoming Major Capital projects. Projects may be community initiated or support a redeveloping area of the City.

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**Parks Ageing Infrastructure Replacement Program**	**Submission ID:**	**5839**
Location:	Various Locations		
Cost:	$150,000	**OBI:**	$ -
Funding Sources:	Capital Revolving: $150,000		

Scope:

This program targets the replacement of ageing parks and open space infrastructure. The types of infrastructure include waterparks, waterfront assets (e.g., piers, docks, moorage and boat launch facilities), trails and pathways, drainage systems, outdoor sport courts, sports field fencing and equipment (e.g., lighting, bleachers) as well as the replacement of other assets which cannot be funded through the Parks Development Cost Charges program. Assets have been identified that have surpassed their respective life cycles resulting in the loss of structural and/or functional integrity due to wear and age and may present public safety issues. If not addressed these issues may lead to closure of some parks or park amenities, and an increase in service requests to address safety concerns from the public and sports groups.

At the July 24, 2017, Council Meeting, the Parks Ageing Infrastructure Plan 2017 Update Report was presented. The report outlined the high priority assets that require immediate attention and proposed the development of an Infrastructure Replacement Strategy and Financial Plan, which is underway. The recommendations of the report were endorsed by Council.

2021 Projects include:

- sandfield upgrades;
- sport court surfacing repairs (tennis, basketball, lacrosse, etc.);
- fencing replacement; and
- drainage system replacement.

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**Parks General Development**	**Submission ID:**	**5838**

Location: Various Locations

Cost: $550,000 **OBI:** $9,037

Funding Sources:

Parks Development DCC:	$517,275
Parks Development City Assist:	$32,725

Scope:

Upgrades to existing parks are required to respond to emergency requests and ongoing growth in the community. This program funds improvements of existing park amenities and facilities which are not part of other park capital programs, yet are required to support the increased use as a result of an increasing resident population. This funding allows the City the ability to be responsive to Council direction and appropriate public requests which align with existing strategic plans. These discrete, site-specific park enhancements will address our community's needs for ongoing park improvements to infrastructure, equipment and landscape amenities.

Examples of projects that have been funded by the General Development program include walkways and pathways, new community gardens, community gathering spaces, new dogs off-leash areas, benches and other park furnishing, new drainage systems, drinking fountains and sport amenities.

The OBI is to ensure that ongoing maintenance for new assets is completed. This includes cleaning and repairs to cracks and depressions on pathways, pressure washing and patching of asphalt surfaces such as for pathways and sport courts, servicing irrigation components, maintaining timber borders in community gardens, surfacing and fence repairs in dog parks, repairs and replacing components to benches and picnic tables as required, and the servicing and winterization of new drinking fountains.

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**Parks Interpretive Signage Program - Phase 1**	**Submission ID:**	**6675**

Location: City Wide

Cost: $100,000 **OBI:** $12,537

Funding Sources:

Parks Development DCC:	$94,050
Parks Development City Assist:	$5,950

Scope:

The purpose of this submission is to update existing interpretation signage and develop new interpretation signage in underserved parks, trail and waterfront areas. There are gaps in the existing Parks and Trails interpretation program and this Capital request seeks to close those gaps, enhance the existing interpretation program and provide relevant, active engagement through education and site interpretation of our natural, cultural and historic landscapes. Most of the existing signage has been in place for a minimum of 10 to 15 years and has been without significant updates. The Parks Identification and Wayfinding Signage program provides the design framework for refreshing the existing site signage and adding new interpretation opportunities with graphically rich content and engaging information about our natural, cultural and historic landscapes.

This phase of the project includes up to 10 new interpretation sites and updating 8 existing interpretation sign installations. The new design for the interpretation signage program takes its design cues from the Parks Identification and Wayfinding Signage program and will become part of a larger family of visual identity for Parks.

The scope of work includes:

- Designing and completing an analysis per interpretation site (natural, cultural and historic);

- Developing site plans for interpretation signage deployment;

- Coordinating with signage vendor and/or in-house services for the fabrications of the signs;

- Coordinating installation deployment of Phase 1 with in-house services, and

The OBI for this submission is to ensure that the ongoing maintenance for the repair and replacement of interpretive signs is completed. When information on the signs requires an update, the sign has experienced vandalism, or is simply deteriorating due to wear and tear, the timber and aluminum components require upkeep and/or replacement.

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**Playground Improvement Program**	**Submission ID:**	**5590**
Location:	Various Locations		
Cost:	$400,000	**OBI:**	$5,595
Funding Sources:	Capital Revolving: $400,000		

Scope:

This capital program addresses playgrounds that are at the end of their useful life and do not meet the current safety guidelines (according to the industry standard, the Canadian Standards Association's "Children's Playspaces and Equipment"), or can no longer be maintained to meet the guidelines due to obsolescence or vandalism. The program is directed towards replacing all or part of a playground and includes replacement of playground equipment, playground infrastructure (e.g., resilient surfacing, borders, drainage) and landscape features.

Replacement of the playgrounds at Odlin Neighbourhood Park and Kilgour Neighbourhood School Parks are a priority in 2021.

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**Safety and Environmental Enhancements to Richmond High Turf Field Warranty Repair**	**Submission ID:**	**7034**
Location:	Richmond High Neighbourhood Park		
Cost:	$350,000	**OBI:**	$ -
Funding Sources:	Capital Revolving: $350,000		

Scope:

Replacement of the artificial turf field was first completed in 2016 following 11 years of use since its construction in 2005. Normally, synthetic turf fields last 8 to 12 years depending on field usage hours and types of sport involved. In 2018 however, due to product deficiencies identified by City crews, the turf prematurely signalled product failure. The field product was confirmed to be defective and the vendor has committed to replacing the synthetic turf under warranty at no cost to the City.

Staff have identified opportunities to improve the safety, performance and play experience of the field through implementing non-warranty related improvements, such as a new underlayment shock pad and thermoplastic elastomter (TPE) infill. Coinciding these improvements with the warranty provides greater value to the City, as some activities will already be performed under warranty at no additional cost. Furthermore the proposed TPE infill does not off-gas or emit odours, and is a 100% recyclable material and does not leach or contain any polluting substances.

This field receives a high level of use from both Richmond High and from the general public. With our organized sports groups, the field is booked for more than 48 hours per week after school hours during peak seasons.

Program:	**Parks Program**	**Sub-program:**	**Parks**
Project Name:	**South Arm Park Renewal**	**Submission ID:**	**7024**
Location:	South Arm Park		
Cost:	$300,000	**OBI:**	$7,329
Funding Sources:	Parks Development DCC: $282,150 Parks Development City Assist: $17,850		

Scope:

South Arm Park Renewal scope of work includes demolition, site preparation (sub-base preparation and drainage), enhanced trail connections, a plaza with park shelter, expanded picnic areas, shade trees and new furnishings (benches, picnic tables and ping pong tables). These park enhancements will be located near the renewed playground, establishing a community hub within the park.

This scope of work is being initiated in response to:

- the need to replace deteriorated trails and furnishings at this popular park destination;

- increased park use as a result of COVID-19 restictions and surrounding neighbourhood growth and densification and commesurate need for additional outdoor gathering space and recreational opportunities;

- input received during the South Arm Park playground public engagement process; and

- feedback from the South Arm Community Association.

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Program:	**Parks Program**	**Sub-program:**	**Parkland**
Project Name:	**Parkland Acquisition**	**Submission ID:**	**5963**
Location:	As per Parks DCC Land Acquisition Plan		
Cost:	$5,000,000	**OBI:**	$ -
Funding Sources:	Parks Acquisition DCC: $4,702,500 Parks Acquisition City Assist: $297,500		
Scope:	The purpose of the Parkland Acquisition program is to acquire land for park requirements to address development and population growth. The program is based on the City's population projections as per the OCP with the objective of maintaining the parks provision standard of 7.66 acres per 1,000 population. The program is funded through Parkland Acquisition Developer Cost Charges (DCCs) and is guided by the Council approved 2009 Park Land Acquisition Strategy which provides the criteria for evaluating proposed acquisitions. Funding is required each year to allow the City to be strategic and responsive as properties become available thus avoiding the need to borrow the funding from other City sources or pass bylaws to release the funds for each acquisition.		

Public Art Program 2021

The Public Art Program is a self-sustaining project funded by private development contributions to the Public Art Reserve. Council approved the updated policy (Policy 8703, adopted July 27, 2010). The Program is supported by a Council appointed Public Art Advisory Committee. The Public Art Program also supports the initiatives expressed in the Richmond Art Strategy 2019 - 2024, which was approved by Council in July 2019. The above proposal assists in its annual implementation, which is necessary to its success. Private sector, private donations and community contributions are successfully sought and received.

The Public Art Program contributes to Council's Strategic Plan 2018 – 2022. It supports One Community Together: Vibrant and diverse arts and cultural activities and opportunities for community engagement and connection. It also supports An Active and Thriving Richmond: An active and thriving community characterized by diverse social and wellness programs, services and spaces that foster health and well-being for all.

2021 Recommended Public Art Program

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Public Art Program 97

Program:	**Public Art Program**	**Sub-program:**	**Public Art**
Project Name:	**Public Art Program**	**Submission ID:**	**5931**
Location:	Various locations		
Cost:	$150,000	**OBI:**	$10,000
Funding Sources:	Public Art Program: $150,000		

Scope:

The scope of work consists of a variety of public art projects. The following are proposed projects (with estimated costs) which may change during the project's duration based on the Public Art Program's consideration of public art opportunities and priorities and private development funding.

Contributions by private developers, totalling $150,000, have been deposited to the Public Art Reserve and allocated as follows:

Community public art projects: $30,000

- No. 3 Road art columns
- Art Wraps
- Capture Photography Festival
- Children's Art Festival

Community education and promotion of the public art program: $20,000

- Culture Days
- Virtual art programs
- Public Art Tours
- Art at Work Workshop Series

Collaboration on educational opportunities with other City cultural facilities and programs, such as the Richmond Art Gallery, Media Lab, Cultural Centre and Richmond Museum: $20,000

Engaging Artists in Community Program: $30,000

Community Mural Program: $30,000

Youth Mentorship Public Art Program: $20,000

Through the Private Development Program, developer contributions were received and deposited to the Public Art Reserve for implementation of projects integrated with new development, on either private lands or City-controlled land, with the expectation that the majority will be on City-controlled sites (parks, streets, greenways) in the city centre.

Land Program 2021

The land acquisition program relates to the acquisition and disposition of real property for the City, as approved by Council.

2021 Recommended Land – Land Acquisition Program

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Strategic Land Acquisition..... 99

Program:	**Land Program**	**Sub-program:**	**Land**
Project Name:	**Strategic Land Acquisition**	**Submission ID:**	**5862**
Location:	Various		
Cost:	$10,000,000	**OBI:**	$ -
Funding Sources:	Capital Industrial: $10,000,000		
Scope:	Funds for land acquisition to meet the Council Approved Strategic Real Estate Investment Plan, other than DCC and other special reserve funded projects, are set aside in the Capital Reserve under the Industrial Use Fund. This capital budget submission is to use land acquisition monies from this fund as well as additional general funds approved by Council. $10 million to be invested in investment class real estate.		

Affordable Housing Program 2021

The City recognizes that a diverse range of housing choices for individuals and families of different incomes and circumstances is essential in creating a liveable community in Richmond. The purpose of the City's Affordable Housing program is to address housing affordability concerns in partnership with senior governments, the private sector, and non-profit organizations. Through various programs and policies, the City has been successful in securing over 1,400 affordable housing units, including the following highlighted developments:

- The Kiwanis Towers, which provides 296 affordable rental units for low-income seniors;
- The Storeys, which provides 129 affordable rental units for Richmond residents at risk of homelessness; and
- The Alderbridge Support Housing project, which provides 40 supportive housing units for residents experiencing homelessness.

Between 2021 and 2025, an additional 800 units secured through City housing programs will be completed and made available to Richmond households with low and moderate incomes.

2021 Recommended Affordable Housing Program

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Affordable Housing Operating Initiatives 101

Bridgeport Supportive Housing 102

Program:	**Affordable Housing Project**	**Sub-program:**	**Affordable Housing**
Project Name:	**Affordable Housing Operating Initiatives**	**Submission ID:**	**6871**

Location: City Wide

Cost: $400,000 **OBI:** $ -

Funding Sources: Affordable Housing: $400,000

Scope: The City's Affordable Housing Strategy 2017-2027 and Homelessness Strategy 2019-2029 guide the City's actions regarding affordable housing and homelessness service provision. Six operating areas have been identified to provide staff with the necessary resources to advance the implementation of these strategies. Examples include administration costs, and consulting services related to research, public engagement, and economic analysis.

1. Homelessness Support ($15,000) - Continue supporting homelessness initiatives in the community.

2. Strategy Administration ($250,000) - Support the implementation of short-term actions identified in the Council-adopted Affordable Housing Strategy and Homelessness Strategy.

3. Legal Fees ($50,000) - Offset costs associated with legal services required with respect to affordable housing developments. All external legal services will be at the direction of the City's Law Department.

4. Printing, Publication, Media and Advertising ($15,000) - Offset costs associated with education regarding affordable housing and homelessness, including meeting traditional and social media needs as they arise.

5. Economic Analysis ($50,000) – To supplement staff expertise to provide economic analysis regarding affordable housing policies and development project.

6. Communications and Public Engagement ($20,000) - Support communications and community engagement (i.e., translation, professional facilitation, engagement consultants) for projects that require extensive and complex engagement and education.

Program:	**Affordable Housing Project**	**Sub-program:**	**Affordable Housing**
Project Name:	**Bridgeport Supportive Housing**	**Submission ID:**	**7026**

Location:	Bridgeport		
Cost:	$250,000	**OBI:**	$ -
Funding Sources:	Affordable Housing: $250,000		

Scope:

The City of Richmond is partnering with BC Housing to support the development of the Bridgeport Supportive Housing, which will provide 40 self-contained homes with support services for people experiencing homelessness or at risk of homelessness in Richmond. The purpose of this funding is to allocate a maximum contribution of $250,000 for building permit fees, utility rates and servicing cost charges associated with the Bridgeport Supportive Housing project.

The Bridgeport Supportive Housing is an important component of the City's Homelessness Strategy 2019-2029. The City's funding contribution is intended to enable significant, additional sources of funding from BC Housing.

Equipment Program 2021

The equipment program includes machinery and vehicles for Public Works (PW), Fire Rescue Services, City Hall computer hardware, software, and other miscellaneous equipment.

2021 Recommended Equipment – Vehicle Program

Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet) 104

Program:	**Equipment Program**	**Sub-program:**	**Vehicle**
Project Name:	**Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet)**	**Submission ID:**	**5999**
Location:	Works Yard and Various City Departments		
Cost:	$2,948,979	**OBI:**	$35,101
Funding Sources:	Public Works Equipment: $2,298,979 Sewer Levy: $150,000 Water Levy: $500,000		

Scope:

Annual replacement of vehicles eligible due to age and condition in accordance with Sustainable Green Fleet Policy 2020.

The process for replacing ageing fleet is to establish needs and develop specifications for vehicles and equipment replacements.

Steps include: sending bid information out to the marketplace, evaluating submissions and awarding accordingly.

The project involves replacement of the following:

- 7 pieces of small equipment,
- 3 trailers,
- 8 vans,
- 19 cars,
- 8 pickups,
- 1 bus,
- 1 excavator,
- 1 mower,
- 2 tractor gang mowers
- 1 heavy duty van

plus an unallocated amount for currency exchange, inflation, accidents, COVID compliance, etc..

Equipment Replacement:

- Welding Equipment - Plasma Cutter
- Auto Idle Setting
- Steam Pressure Washer
- Parts Washer
- Sand Blaster
- Portable UV to disinfect surfaces

2021 Recommended Equipment – Fire Vehicle Program

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Fire Vehicle Replacement Reserve Purchases 106

Program:	**Equipment Program**	**Sub-program:**	**Fire vehicle**
Project Name:	**Fire Vehicle Replacement Reserve Purchases**	**Submission ID:**	**6247**
Location:	Fire-Rescue		
Cost:	$1,185,516	**OBI:**	$ -
Funding Sources:	Fire Equipment: $1,185,516		

Scope:

Front line Fire apparatus replacement follows a life cycle replacement schedule based on best practices and industry standards. In addition a condition inspection is conducted annually to evaluate the mechanical status of the vehicles to determine replacement need. To ensure we are able to provide fire services to the community. RFR has a designated "Vehicle & Equipment Reserve". The replacement plan for all apparatus is funded through the reserve.

This replacement plan for 2021 includes a front line pumper budgeted at $1,185,516.

2021 Recommended Information Technology Program

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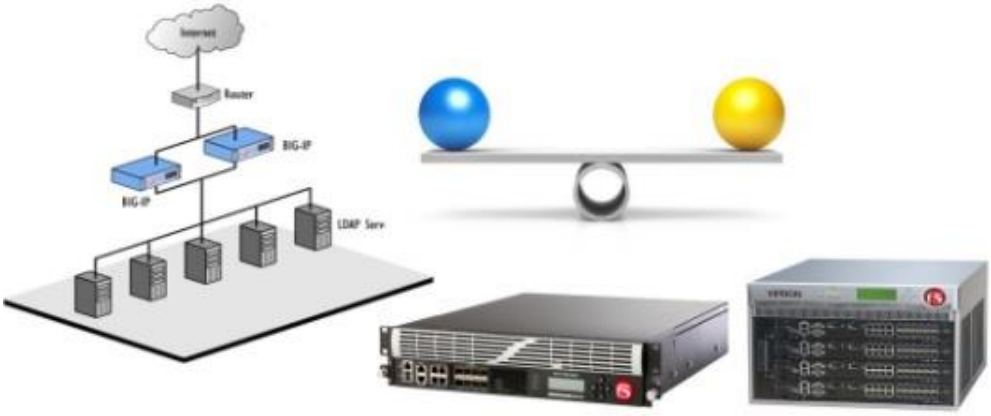
Field Devices 110
Network Loadbalancer Refresh (2021) 111
Network Refresh for City Facilities (Phase 2 of 3) 112
Oracle RAC Enterprise and Solaris SPARC Server Upgrades 113

Program:	**Equipment Program**	**Sub-program:**	**Information Technology**
Project Name:	**Annual Hardware Refresh**	**Submission ID:**	**5979**
Location:	City Hall		
Cost:	$531,385	**OBI:**	$ -
Funding Sources:	Others: $531,385		
Scope:	In order to ensure continuous service with minimal disruption of services to the City, we have adopted best practices in regards to lifecycle management of City infrastructure, such as servers and desktop based computers. The desktop environment has a five-year useful life with 20% of the fleet refreshed each year. This provides an achievable refresh target with a responsible approach to financial management. The scope of this refresh is for desktops, laptops and mobile devices such as iPads and smartphones.		

Program:	**Equipment Program**	**Sub-program:**	**Information Technology**
Project Name:	**Business Continuity Transition to Laptops**	**Submission ID:**	**7098**
Location:	City Wide		
Cost:	$365,378	**OBI:**	$ -
Funding Sources:	Others: $365,378		
Scope:	With the COVID19 pandemic, the City has committed to social-distancing practices that health officials say will help slow the transmission of COVID-19 by implementing remote work technologies and equipment for some staff to work away from the office. To further invest in the technical infrastructure to support more staff working remotely, it is recommended to submit a one-time expenditure or capital request through the budget process to cover the incremental costs to support staff by providing laptop computers and peripherals and to also confirm whether Provincial funding that may be available to offset these proposed costs.		

Program:	**Equipment Program**	**Sub-program:**	**Information Technology**
Project Name:	**Field Devices**	**Submission ID:**	**7052**
Location:	City Hall		
Cost:	$281,400	**OBI:**	$ -
Funding Sources:	Others: $281,400		
Scope:	With the COVID-19 pandemic there is a need to utilize technology that will enable field workers to travel to various sites throughout the City, with devices to interface with and update key Enterprise systems, such as Tempest, Amanda, REDMS (City Document and Records Management System) and IPS (Infor Public Sector). The scope of work includes the purchase and set up of devices with LTE capability, so that field workers can access and update City systems while on the road.		

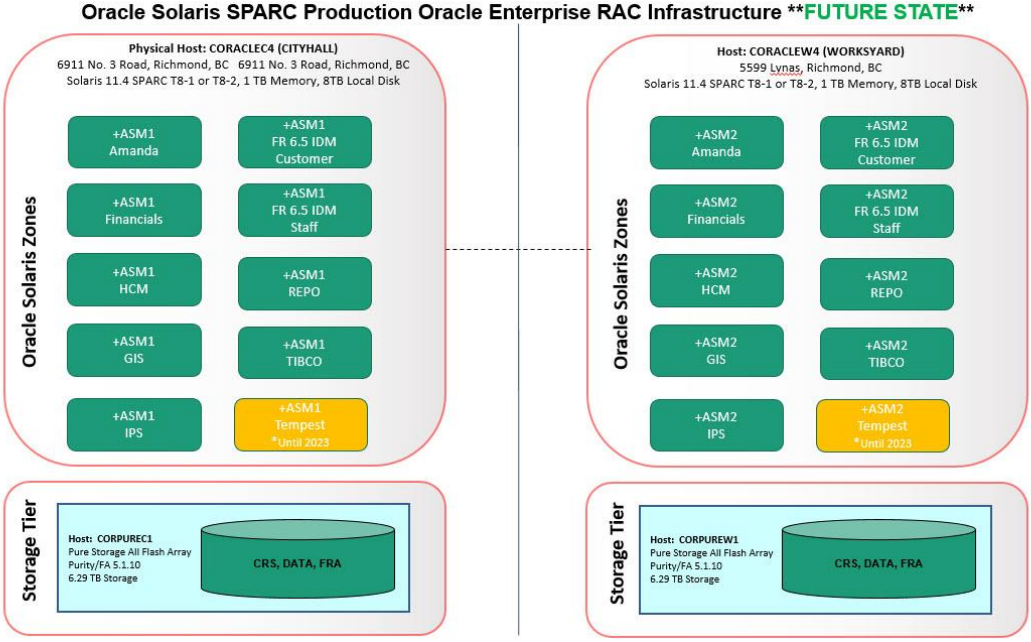
Program:	**Equipment Program**	**Sub-program:**	**Information Technology**
Project Name:	**Network Loadbalancer Refresh (2021)**	**Submission ID:**	**7038**
Location:	City Hall		
Cost:	$163,000	**OBI:**	$24,000
Funding Sources:	Hardware Upgrade: $163,000		
Scope:	Our critical services and applications are implemented a dual data centres. The primary is located at City Hall with the secondary being at Works Yard. A key infrastructure component is known as a load balancer which will direct users to one or both of the data centres in order to connect to City applications. In the event of any failure, the load balancers will direct to the alternate site ensuring minimal disruption for users. This project will update the technology and refresh the hardware which is over eight years old.		



Program:	**Equipment Program**	**Sub-program:**	**Information Technology**
Project Name:	**Network Refresh for City Facilities (Phase 2 of 3)**	**Submission ID:**	**6671**
Location:	All City Buildings and Facilities		
Cost:	$620,700	**OBI:**	$20,306
Funding Sources:	Hardware Upgrade: $620,700		
Scope:	The network refresh will replace the legacy / end of life network equipment including wireless infrastructure at all City facilities. The new infrastructure will ensure continuous service and improved reliability for wireless networks including the @richmondbc public network.		

Program:	**Equipment Program**	**Sub-program:**	**Information Technology**
Project Name:	**Oracle RAC Enterprise and Solaris SPARC Server Upgrades**	**Submission ID:**	**7044**
Location:	City Hall		
Cost:	$850,000	**OBI:**	$57,000
Funding Sources:	Hardware Upgrade: $850,000		
Scope:	In 2019, Oracle Inc, updated their licensing policies that now requires the City to adopt new Oracle Enterprise Database licenses in order to continue to provide highly available services utilizing both data centres at City Hall and Works Yard. This project will implement new database licenses servicing the organzation for critical applications including, Peoplesoft Finance, Peoplesoft HCM / HR / Payroll, INFO Public Sector, MyRichmond. As part of this implementation, the physical server hardware will be refreshed. The existing server environment is seven years old and has reached end of life and end of support.		

Oracle Solaris SPARC Production Oracle Enterprise RAC Infrastructure **FUTURE STATE**



2021 Recommended Equipment Program

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Fire Equipment Replacement from Reserve 116

Program:	**Equipment Program**	**Sub-program:**	**Equipment**
Project Name:	**City Hall and Community Safety Building Lighting Upgrade**	**Submission ID:**	**6124**

Location: various locations

Cost: $550,000 **OBI:** ($31,000)

Funding Sources:

Enterprise:	$215,000
Gas Tax:	$335,000

Scope: To reduce the energy used at City assets, through conversion of the older fluorescent lighting to the new LED technology at the City Hall and the Community Safety Building. The upgrade will reduce the lighting electricity load by approximately 50%. The addition of newer lighting controls will allow both occupancy sensing and daylight sensing to dim the lighting when either there is natural daylight available or if the areas are vacant. Any additional funding will be used for the energy and lighting study.

Because of the much longer life of the newer LED products, electrical maintenance costs will be reduced in addition to the estimated electricity savings.

Program:	**Equipment Program**	**Sub-program:**	**Equipment**
Project Name:	**Fire Equipment Replacement from Reserve**	**Submission ID:**	**5942**

Location:	Various Fire Halls		
Cost:	$228,990	**OBI:**	$ -
Funding Sources:	Fire Equipment: $228,990		

Scope:

Richmond Fire Rescue (RFR) Self Contained Breathing Apparatus (SCBA) program equipment upgrades and replacement are planned and funded by the Fire Equipment Reserve.

Standards exist for the replacement of the Self Contained Breathing Apparatus (SCBA). Depending on the type of SCBA components, the life span is varied. Therefore, Fire-Rescue has established a life cycle schedule to phase in replacement of this inventory.

RFR maintains an inventory of fire hose. Fire Hose is replaced annually using a multi-faceted consideration criterion. The age of the hose, the use of the hose as well as testing results are used to determine the replacement of deteriorating fire hose. Hose Replacement planned and funded by the Fire Equipment Reserve for 2021 is 30 lengths of hose. The objective is to maintain an adequate inventory of fire hose to effectively maintain the services. RFR expects to continue with replacing 30 lengths of hose per year to maintain the hose inventory.

Child Care Program 2021

Child care is an important service for Richmond residents and an essential need for many parents. The 2017-2022 Richmond Child Care Needs Assessment and Strategy was adopted by City Council on July 24, 2017 and outlines the City's commitment to child care through the establishment and maintenance of a comprehensive child care system to help children and families thrive and to address the need for quality, affordable, accessible child care spaces in Richmond.

The City supports the creation of child care spaces by accepting voluntary contributions from developers in the form of built child care facilities or cash-in-lieu contributions to the Child Care Statutory Reserves. The City manages and maintains ten existing City-owned child care facilities and is in the process of developing one additional City-owned child care facilities and two Early Childhood Development Hubs. Dedicated City staff resources help to develop maintain and support the child care system in Richmond. Child Care grants support the work of non-profit child care providers seeking to improve the quality or capacity of care in their facility, or non-profit societies supporting quality programming and/or providing professional development opportunities for the broader child care community in Richmond.

Child care is an important service for Richmond residents and an essential need for many parents. The 2017-2022 Richmond Child Care Needs Assessment and Strategy was adopted by City Council on July 24, 2017 and outlines the City's commitment to child care through the establishment and maintenance of a comprehensive child care system to help children and families thrive and to address the need for quality, affordable, accessible child care spaces in Richmond.

The City supports the creation of child care spaces by accepting voluntary contributions from developers in the form of built child care facilities or cash-in-lieu contributions to the Child Care Statutory Reserves. The City manages and maintains ten existing City-owned child care facilities and is in the process of developing two Early Childhood Development Hubs and one additional City-owned child care facility. The new developer-contributed facilities include:

- The Sprouts ECD Hub, located in the Capstan Village neighbourhood, is currently under construction. It will be completed in 2021 and will offer 77 spaces of licensed child care operated by the YMCA of Greater Vancouver. This facility will be approximately 15,375 square feet indoors and 9,200 square feet outdoors.
- The Seedlings ECD Hub, located in the Brighouse Village area, will offer 87 spaces of licensed child care operated by the Richmond Society for Community Living (RSCL). This facility will be approximately 19,000 square feet indoors and 11,300 square feet outdoors. It is also under construction and scheduled for completion in 2021.
- The child care facility, which was secured as a community amenity contribution in the River Green development, has been named Hummingbird Child Care Facility. Construction of this 37 space facility, to be operated by the YMCA of Greater Vancouver, is underway and will be completed in 2022. This facility will be approximately 5,000 square feet indoors and 5,000 square feet outdoors.

Dedicated City staff resources help to develop maintain and support the child care system in Richmond. Child Care grants support the work of non-profit child care providers seeking to improve the quality or capacity of care in their facility, or non-profit societies supporting quality programming and/or providing professional development opportunities for the broader child care community in Richmond.

2021 Recommended Child Care Program

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Child Care Projects - City-wide (Capital Grants) 119

Child Care Projects - City-wide Non-Capital Grants 120

Program:	**Child Care Program**	**Sub-program:**	**Child Care**
Project Name:	**Child Care - Administration**	**Submission ID:**	**6867**

Location: City Hall

Cost: $112,200 **OBI:** $ -

Funding Sources: Child Care Operating: $112,200

Scope:

A source of funding is required to support the City's Child Care section and to assist in the implementation of specific actions adopted by Council in the 2017-2022 Richmond Child Care Needs Assessment and Strategy.

The Child Care Planner 1 position, which has existed as an auxillary position since 2017 and then as a regular part-time position since 2020, is funded through the Child Care Operating Reserve and plays an important role in supporting the ongoing work to plan, design and build new child care facilities secured as community amenity contributions. Specific job duties include working with developers, and assisting with regular review of these City facilities to ensure they meet health and safety standards. Further work includes assisting with the planning and development of four new child cares (including two Early Childhood Development Hubs), research, developing and updating City publications and working documents, and responding to requests for information from the community, parents and child care providers.

In addition, these funds will be used to pay for costs related to: expenses to support the child care work program; research, production of reports, creation of developer resources, and to support the ongoing development of three new amenities under development including two Early Childhood Development (ECD) Hubs and one child care facility as necessary.

The Child Care Operating Reserve is an appropriate source of funding for such expenses. It was established to support grants, conduct research and fund expenses to support the development of quality child care within the City.

Program:	**Child Care Program**	**Sub-program:**	**Child Care**
Project Name:	**Child Care Projects - City-wide (Capital Grants)**	**Submission ID:**	**5830**
Location:	Various		
Cost:	$50,000	**OBI:**	$ -
Funding Sources:	Child Care Development Reserve: $50,000		
Scope:	To provide sufficient funding to administer the City's 2021 Child Care Capital Grants Program. These grants support non-profit child care operators with capital improvements to enhance their child care programs (e.g., minor renovations, outdoor playground upgrades and the purchase of equipment and furnishings).		

Program:	**Child Care Program**	**Sub-program:**	**Child Care**
Project Name:	**Child Care Projects - City-wide Non-Capital Grants**	**Submission ID:**	**6144**
Location:	Various		
Cost:	$4,000	**OBI:**	$ -
Funding Sources:	Child Care Operating: $4,000		
Scope:	To ensure there is sufficient funding to support the 2021 Child Care Professional and Program Development Grants (non-capital). Grants are advertised in September 2020 and then with Council approval, awarded in February 2021.		

Contingent External Contributions 2021

Contingent external contibutions is an estimate of external grants that may be received throughout the year for a variety of approved capital projects.

2021 Recommended Contingent External Contributions

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Contingent External Contribution 122

Program:	**Contingent External Contributions**	**Sub-program:**	**Contingent External Contributions**
Project Name:	**Contingent External Contribution**	**Submission ID:**	**6009**
Location:	City Wide		
Cost:	$10,000,000	**OBI:**	$ -
Funding Sources:	Grant: $10,000,000		
Scope:	The Financial Plan includes an estimate for external grants that may be received throughout the year for various projects. Spending will only incur if the funds are confirmed. Including an estimate in the Financial Plan will allow staff to request scope changes to existing projects without having to wait until the Bylaw Amendment, which is typically adopted in the fall.		

Internal Transfers/Debt Payment Program 2021

The internal transfers/debt program relates to the use of capital funding for repayment of capital funds borrowed from other internal sources of funding.

2021 Recommended Internal Transfers/Debt Payment Program

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Program:	**Internal Transfers/Debt Payment**	**Sub-program:**	**Internal Transfers/Debt Payment**
Project Name:	**12040 Horseshoe Way Repayment**	**Submission ID:**	**6324**

Location: 12040 Horseshoe Way

Cost: $525,000 **OBI:** $ -

Funding Sources: Affordable Housing: $525,000

Scope: The purpose of this submission is to repay the Capital Reserve - Industrial Use Fund for the previous Affordable Housing acquisition of 12040 Horseshoe Way from the Affordable Housing Reserve.

The 2021 payment of $525,000 is fourth of fifteen payments.

Payments	Year	Balance	Payment	Interest	Principal
1	2018	6,250,000	(525,000)	187,500	337,500
2	2019	5,912,500	(525,000)	177,375	347,625
3	2020	5,564,875	(525,000)	166,946	358,054
4	2021	5,206,821	(525,000)	156,205	368,795
5	2022	4,838,026	(525,000)	145,141	379,859
6	2023	4,458,167	(525,000)	133,745	391,255
7	2024	4,066,912	(525,000)	122,007	402,993
8	2025	3,663,919	(525,000)	109,918	415,082
9	2026	3,248,837	(525,000)	97,465	427,535
10	2027	2,821,302	(525,000)	84,639	440,361
11	2028	2,380,941	(525,000)	71,428	453,572
12	2029	1,927,369	(525,000)	57,821	467,179
13	2030	1,460,190	(525,000)	43,806	481,194
14	2031	978,996	(525,000)	29,370	495,630
15	2032	483,366	(497,867)	14,501	483,366

Program:	**Internal Transfers/Debt Payment**	**Sub-program:**	**Internal Transfers/Debt Payment**
Project Name:	**7080 River Road Repayment**	**Submission ID:**	**6018**

Location: 7080 River Road

Cost: $2,341,384 **OBI:** $ -

Funding Sources:

Parks Acquisition DCC:	$2,202,072
Parks Acquisition City Assist:	$139,312

Scope: The purpose of this submission is to repay the Capital Reserve - Industrial Use Fund for previous Parkland Acquisitions from Parkland Acquisition Developer Cost Charges (DCC's).

The 2021 payment of $2,341,384 is the 5th of 8 payments.

Payments	Year	Balance	Payment	Interest	Principal
1	2017	15,763,942	(2,341,384)	630,558	1,710,826
2	2018	14,053,116	(2,341,384)	562,125	1,779,259
3	2019	12,273,857	(2,341,384)	490,954	1,850,430
4	2020	10,423,427	(2,341,384)	416,937	1,924,447
5	2021	8,498,980	(2,341,384)	339,959	2,001,425
6	2022	6,497,555	(2,341,384)	259,902	2,081,482
7	2023	4,416,073	(2,341,384)	176,643	2,164,741
8	2024	2,251,332	(2,341,384)	90,052	2,251,332

Program:	**Internal Transfers/Debt Payment**	**Sub-program:**	**Internal Transfers/Debt Payment**
Project Name:	**Nelson Road Interchange Repayment**	**Submission ID:**	**6007**

Location: Finance

Cost: $385,098 **OBI:** $ -

Funding Sources: Roads DCC: $385,098

Scope: A total of $2.54M is to be repaid from Roads DCC to Surplus over 8 years.

The 2021 payment of $385,098 is the final installment payment.

Payment	Year	Balance	Payment	Interest	Principal
1	2014	$2,540,065	$(385,098)	114,303	270,795
2	2015	$2,269,270	$(385,098)	102,117	282,981
3	2016	$1,986,289	$(385,098)	89,383	295,715
4	2017	$1,690,574	$(385,098)	76,076	309,022
5	2018	$1,381,552	$(385,098)	62,170	322,928
6	2019	$1,058,624	$(385,098)	47,638	337,460
7	2020	$ 721,164	$(385,098)	32,452	352,646
8	2021	$ 368,518	$(385,098)	16,583	368,515

Program:	**Internal Transfers/Debt Payment**	**Sub-program:**	**Internal Transfers/Debt Payment**
Project Name:	**River Road/North Loop (2005) Repayment**	**Submission ID:**	**6008**

Location: Finance

Cost: $1,334,953 **OBI:** $ -

Funding Sources: Roads DCC: $1,334,953

Scope: In 2005, $18.2M borrowed from surplus for the acquisition of the CP rail land between No. 2 and No. 3 Rd and for the re-alignment of River Road.

This $18.2M was separated as $17.1M borrowed in 2005 with repayments commencing in 2006 and a second amount of $950,000 beginning repayment in 2008. The $18.2M is to be repaid from Roads DCCs to Surplus over 18 years. The 2021 payment of $1,334,953 is the 16th payments.

Payments	Year	Balance	Payment	Interest	Principal
1	2006	17,100,000	(1,769,576)	598,500	1,171,076
2	2007	15,928,924	(1,200,000)	557,512	642,488
3	2008	16,236,436	(1,867,000)	568,275	1,298,725
4	2009	14,937,712	(1,867,000)	522,820	1,344,180
5	2010	13,593,532	(468,210)	475,774	(7,564)
6	2011	13,601,095	(300,000)	476,038	(176,038)
7	2012	13,777,133	(200,000)	482,200	(282,200)
8	2013	14,059,333	(1,939,202)	492,077	1,447,125
9	2014	12,612,208	(1,317,000)	441,427	875,573
10	2015	11,736,635	(1,685,056)	410,782	1,274,274
11	2016	10,462,361	(1,685,056)	366,183	1,318,873
12	2017	9,143,488	(1,685,056)	320,022	1,365,034
13	2018	7,778,454	(1,685,056)	272,246	1,412,810
14	2019	6,365,644	(1,685,056)	222,798	1,462,258
15	2020	4,903,386	(1,334,953)	171,618	1,163,335
16	2021	3,740,051	(1,334,953)	130,902	1,204,051
17	2022	2,536,000	(1,334,953)	88,760	1,246,193
18	2023	1,289,807	(1,334,950)	45,143	1,289,807

Infrastructure Program 2021 – Recommended but insufficient funding

The following infrastructure projects are recommended but due to funding constraints and other higher priority projects, it is not included as recommended in the 2021 Capital Budget Report.

2021 Recommended but insufficient funding Infrastructure – Roads Program

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Bridge Rehabilitation Program 129
Citywide Sidewalk and Street Light Replacement Program 130
Street Light LED Upgrade Program 131

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Bridge Rehabilitation Program**	**Submission ID:**	**6208**
Location:	City Wide		
Cost:	$300,000	**OBI:**	$ -
Funding Sources:	Capital Revolving: $300,000		

Scope:

The City completed inspections on a number of road and pedestrian bridges and identified select bridges that are in need of repair or replacement. The scope of work for this project includes further structural inspections, engineering design, and repair or replacement of bridge structures.

Repair or replacement work may include, but not be limited to, culvert installation, utility relocation, restoration, railing improvements, barrier installation, sidewalk repair, signage installation, crack sealing, erosion repair, expansion joint sealing and ancillary works associated with bridge repair or replacement.

This project will improve road user and pedestrian safety, and reduce the potential for unplanned maintenance that is unpredictable and costly through proactive management of ageing infrastructure.

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Citywide Sidewalk and Street Light Replacement Program**	**Submission ID:**	**6193**
Location:	Various Locations		
Cost:	$500,000	**OBI:**	$ -
Funding Sources:	Capital Revolving: $500,000		

Scope:

Over time, street lighting infrastructure deteriorates and can become a hazard to residents and traffic without proper maintenance and replacement programs. Per the City's ageing infrastructure assessment program, several street lights and street light service panels are at the end of their design life and need to be replaced. Sidewalks that have subsided, are damaged from tree roots, or have become misaligned pose tripping hazards to pedestrians. Replacing these sidewalks will improve pedestrian safety and encourage non-vehicular forms of transportation.

This project includes removal and replacement of street light poles, service panels, and luminaires that have reached the end of their service life, retrofit of deteriorated concrete bases and the associated ancillary works, inspection of street lights that are nearing the end of their service life, installation of new street lights to eliminate gaps in the street lighting network and repairing deteriorated sidewalks.

Program:	**Infrastructure Program**	**Sub-program:**	**Roads**
Project Name:	**Street Light LED Upgrade Program**	**Submission ID:**	**6758**
Location:	City Wide		
Cost:	$490,000	**OBI:**	($30,000)
Funding Sources:	Capital Revolving: $490,000		
Scope:	The City has 6,100 aged HPS (high pressure sodium) light fixtures that require replacement. Replacing HPS with LEDs (light-emitting diodes) will significantly reduce annual energy consumption. It is estimated that this project will reduce electricity use by 350,000 kWh, which translates to approximately $30,000 in cost savings. This project will replace approximately 1,000 luminaires with LED lights.		

Building Program 2021 – Recommended but insufficient funding

The following building projects are recommended but due to funding constraints and other higher priority projects, it is not included as recommended in the 2021 Capital Budget Report.

2021 Recommended but insufficient funding Building – Building Program

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City Hall Mechanical Renewals 133
Community Safety Building Emergency Power and Interior Upgrades 134
Hamilton Community Centre - HVAC Replacement 135

Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**City Hall Mechanical Renewals**	**Submission ID:**	**7079**

Location: 6911 No. 3 Road

Cost: $1,770,000 **OBI:** $ -

Funding Sources: Building and Infrastructure: $1,770,000

Scope: Mechanical ($1,770,000):

The domestic water branch lines are original to the facility and have failed in numerous areas. These pipes have developed leaks and corroded connections throughout the facility as to be expected with 20 year old piping.

We will renew all remaining branch lines, thus completing the renewal of all water lines throughout the facility.

Not proceeding with this work increases the risk of failure, damage to assets, and loss of service throughout City Hall, as well as increases ongoing maintenance costs.

Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**Community Safety Building Emergency Power and Interior Upgrades**	**Submission ID:**	**6904**
Location:	11411 No. 5 Road		
Cost:	$890,000	**OBI:**	$ -
Funding Sources:	Building and Infrastructure: $890,000		

Scope:

Electrical ($600,000):

The emergency power system in this facility has failed more than eight times in recent years, putting Richmond residents health and safety at undue risk. These failures often occur as a result of hydro power failures which have happened twelve times in 2020 and fifteen times in 2019 and can last up to 3 hours per incident.

This system can no longer accommodate the load required by the RCMP and continues to fail during power outages. The electrical grid will be upgraded and existing power supplies will be re-routed as needed to ensure the system can handle the demand placed on it in any situation.

Interior Upgrades ($290,000):

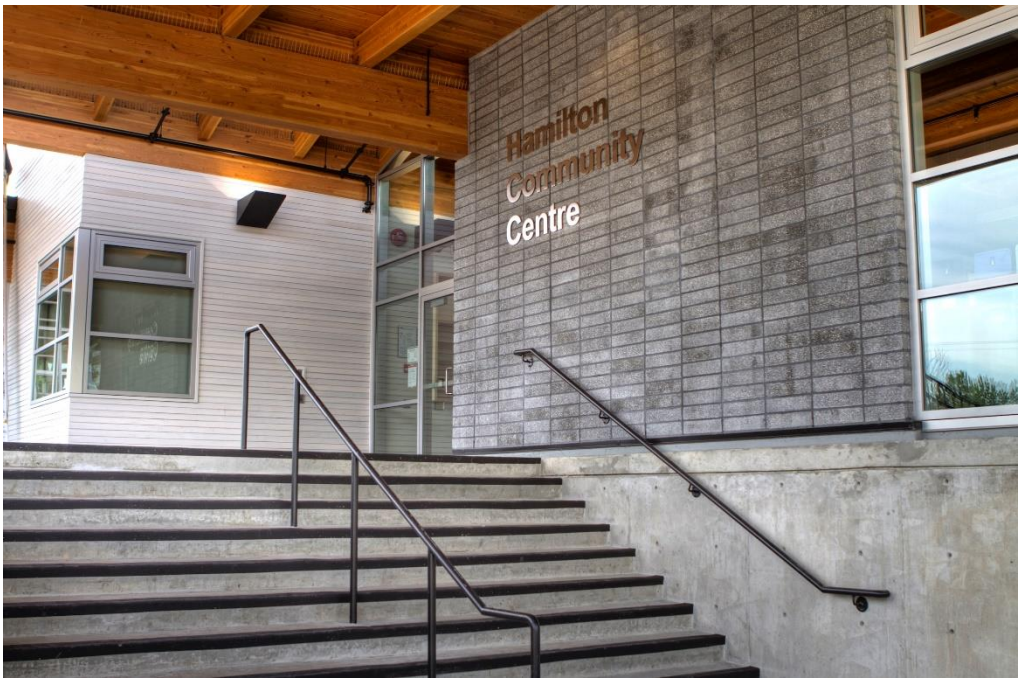
Washroom and flooring systems throughout the facility have degraded over time due to demand placed on them by an operation that runs 24/7.

Program:	**Building Program**	**Sub-program:**	**Building**
Project Name:	**Hamilton Community Centre - HVAC Replacement**	**Submission ID:**	**7019**
Location:	5140 Smith Drive		
Cost:	$500,000	**OBI:**	$ -
Funding Sources:	Building and Infrastructure: $500,000		
Scope:	HVAC ($500,000):		

The heat pump system in this facility is constantly failing and does not meet the Community Centre's operational needs. Staff are frequently required to attend the site due to numerous complaints from staff and the public.

The new unit will not only providing heating and cooling throughout the facility, but will also recover heat from zones which are cooling and redistribute it to areas in need which provides energy savings.

Failure to replace this system will result in continued service disruptions, increased maintenance costs, and a high risk of complete equipment failure and emergency replacement.



Infrastructure Program 2021 – Not Recommended

Due to funding constraints and higher priority projects, the following infrastructure projects are not recommended for funding.

2021 Not Recommended Infrastructure – Minor Capital Program

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Public Works Minor Capital - Roads 137
Public Works Minor Capital - Traffic 138

NOT RECOMMENDED FOR FUNDING IN 2021

Program:	**Infrastructure Program**	**Sub-program:**	**Minor Capital**
Project Name:	**Public Works Minor Capital - Roads**	**Submission ID:**	**5919**

Location:	City Wide		
Cost:	$400,000	**OBI:**	$ -
Funding Sources:	Capital Revolving: $400,000		

Scope:

This project involves minor work related to road infrastructure, including installation of wheelchair ramps, replacement of uneven sidewalks, curbs and small road sections that may have been damaged through tree root ingress or settlement, repair of street lights, and response to resident complaints that require site specific repairs.

Every year, Engineering and Public Works receives a number of requests for minor projects. The minor capital program allows the department to respond to these requests in a timely and cost effective manner.

NOT RECOMMENDED FOR FUNDING 2021

Program:	**Infrastructure Program**	**Sub-program:**	**Minor Capital**
Project Name:	**Public Works Minor Capital - Traffic**	**Submission ID:**	**5906**
Location:	Various Locations		
Cost:	$250,000	**OBI:**	$8,512
Funding Sources:	Capital Revolving: $250,000		

Scope:

Minor work related to traffic operations and traffic signals infrastructure including installation, repairs, or replacement of traffic/parking signage, pavement marking, traffic measure and signal device, upgrades to meet changes in safety requirements, testing of new technologies to improve efficiencies, and response to unforeseen public requests for minor upgrades. These are separate from DCC programs which fund specific projects/locations.

Note: Transportation receives public requests throughout the year for minor transportation projects. The minor capital program allows the department to respond to these requests in a timely and cost effective manner.

Funding: Non-DCC sources (i.e. general revenue); potential from TransLink and ICBC

NOT RECOMMENDED FOR 2021

Equipment Program 2021 – Not Recommended

Due to funding constraints and higher priority projects, the following equipment projects are not recommended for funding.

2021 Not Recommended Equipment – Equipment Program

Table of Contents

Community Services Security Systems 140
Inter-Agency Command Vehicle Replacement 141
Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet) 142

NOT RECOMMENDED FOR FUNDING IN 2021

Program:	**Equipment Program**	**Sub-program:**	**Equipment**
Project Name:	**Community Services Security Systems**	**Submission ID:**	**7039**
Location:	Various Community Centres/Facilities		
Cost:	$146,000	**OBI:**	$6,000
Funding Sources:	Capital Revolving: $146,000		

Scope:

The installation of surveilance cameras and systems in various community centres and City owned facilities in Community Services would further enhance safety and crime prevention for Richmond residents. These devices would also assist in the protection of City and partner(s) assets and be a resource for law enforcement.

The surveillance systems would include a network video recorder and a network switch at each site, an uninterruptible power supply for backup power to the video system in the event of power failure and to protect the system from surges, a monitor to view the images and retrieve footage, a secured cabinet to house the system and protect the system from tampering, and the cameras, hard wiring and conduit at pre-determined locations within each facility connecting back to the head unit.

The surveillance systems would be installed at Richmond Ice Centre, Minoru Arena, South Arm Community Centre, West Richmond Community Centre, Lang Centre, Cambie Community Centre, Hamilton Community Centre, SCC Japanese Cultural Centre, SCC Martial Arts Building, Cultural Centre Annex, Britannia Shipyards, Steveston Museum, Steveston Interurban Tram, Nature Park, and Brighouse Pavilion.

AMENDED IN 2021

Program:	**Equipment Program**	**Sub-program:**	**Equipment**
Project Name:	**Inter-Agency Command Vehicle Replacement**	**Submission ID:**	**6617**

Location: Various Locations

Cost: $1,197,685 **OBI:** $ -

Funding Sources: Capital Revolving: $1,197,685

Scope:

An Inter-Agency Command Vehicle is a mobile Incident Command Post for emergency response and support operations for use by Richmond Fire, RCMP, BC Ambulance Service, Public Works, Coast Guard and Emergency Programs.

The vehicle operates as both a dispatch centre and a command centre to provide incident commanders with access to multiple communication systems in a fully integrated command centre. This is part of the critical infrastructure required Emergency Response under certain significant events.

The City of Richmond utilized a 1997 Inter-Agency Command Vehicle that was years beyond the end of its expected life cycle. The vehicle had cracks in the exterior façade due to the age of the vehicle and exposure to the elements. These cracks were identified in 2014 as the source for the black mould that appeared in the main cabin and since the vehicle was no longer serviceable was ultimately taken out of service.

Replacement of this vehicle is urgent as the loss of the Inter-Agency Command Vehicle has impaired the City's ability to respond to emergencies or disasters in a coordinated manner resulting in potentially higher response costs, a poorer response, a loss of reputation and the trust of the community in providing community safety and protection of residents, businesses and stakeholders.

NOT APPROVED IN 2021

Program:	**Equipment Program**	**Sub-program:**	**Vehicle**
Project Name:	**Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet)**	**Submission ID:**	**7092**
Location:	Works Yard and Various City Departments		
Cost:	$80,000	**OBI:**	$22,150
Funding Sources:	Capital Revolving: $80,000		
Scope:	Facility Services currently has 8 Building Maintenance Coordinators (BMC) with an additional 2 joining as TFT and 6 vehicles to service approximately 170 buildings. BMC's are required to be at their building sites on a daily basis with appropriate tools and equipment to coordinate maintenance, contractors and respond to emergencies. Without the vehicles requested BMC's will not be able to attend their sites as required.		

NOT RECOMMENDED FOR FUNDING 2021

CITY OF RICHMOND
5 YEAR CAPITAL PLAN SUMMARY (2021 - 2025)
(in $000s)

	2021	2022	2023	2024	2025
Infrastructure Program					
Roads	16,519	19,455	20,347	22,583	18,221
Drainage	14,226	18,704	15,240	25,810	20,415
Water	7,932	9,014	7,981	7,383	8,441
Sanitary Sewer	4,000	5,650	7,950	9,150	8,650
Infrastructure Advanced Design and Minor Public Works	3,728	4,280	4,880	4,080	4,380
Total Infrastructure Program	**$ 46,405**	**$ 57,103**	**$ 56,398**	**$ 69,006**	**$ 60,107**
Building Program					
Building	7,350	124,600	13,700	28,714	17,200
Heritage	-	4,150	-	-	-
Total Building Program	**$ 7,350**	**$ 128,750**	**$ 13,700**	**$ 28,714**	**$ 17,200**
Parks					
Parks	7,800	3,030	3,310	4,100	3,350
Parkland	5,000	4,000	4,000	4,000	4,000
Total Parks Program	**$ 12,800**	**$ 7,030**	**$ 7,310**	**$ 8,100**	**$ 7,350**
Public Art Program	**$ 150**	**$ 150**	**$ 150**	**$ 150**	**$ 150**
Land Program	**$ 10,000**	**$ 5,000**	**$ 5,000**	**$ 10,000**	**$ 10,000**
Affordable Housing	**$ 650**	**$ 400**	**$ 400**	**$ 400**	**$ 400**
Equipment Program					
Vehicle	2,949	2,334	3,995	4,434	2,700
Fire Vehicle	1,186	1,221	1,258	0	52
Information Technology	2,812	1,283	539	554	570
Equipment	779	580	581	582	783
Total Equipment Program	**$ 7,726**	**$ 5,418**	**$ 6,373**	**$ 5,570**	**$ 4,105**
Child Care Program	**$ 166**	**$ 174**	**$ 177**	**$ 179**	**$ 182**
Internal Transfers/Debt Payment	**$ 4,586**	**$ 4,201**	**$ 4,201**	**$ 2,866**	**$ 525**
Contingent External Contributions	**$ 10,000**	**$ 10,000**	**$ 10,000**	**$ 10,000**	**$ 10,000**
Total Capital Program	**$ 99,833**	**$ 218,226**	**$ 103,709**	**$ 134,985**	**$ 110,019**

CITY OF RICHMOND
5 YEAR CAPITAL PLAN BY FUNDING SOURCES (2021 - 2025)
(in $000s)

DCC Reserves	2021	2022	2023	2024	2025
Drainage DCC	1,521	-	990	2,144	990
Park Development DCC	5,690	1,881	1,928	1,129	2,304
Park Land Acquisition DCC	6,905	5,964	5,964	5,964	3,762
Roads DCC	10,194	9,059	9,626	8,964	6,899
Sanitary DCC	-	-	-	1,436	103
Water DCC	360	1,532	-	312	617
Total DCC	**$ 24,670**	**$ 18,436**	**$ 18,508**	**$ 19,949**	**$ 14,675**
Statutory Reserves					
Affordable Housing	1,175	925	925	925	925
Capital Building and Infrastructure	5,820	60,527	13,700	14,250	6,600
Capital Reserve	13,413	69,807	11,584	32,430	26,370
Child Care	166	174	177	179	182
Drainage Improvement	10,851	15,540	13,368	22,296	18,180
Equipment Replacement	3,962	3,310	4,833	4,066	2,685
Leisure Facilities	-	4,934	-	-	-
Neighbourhood Improvement	78	-	-	-	-
Public Art Program	150	150	150	150	150
Sanitary Sewer	5,585	6,400	8,500	8,724	9,287
Watermain Replacement	7,207	7,750	7,808	7,125	7,789
Total Statutory Reserves	**$ 48,407**	**$ 169,517**	**$ 61,045**	**$ 90,145**	**$ 72,168**
Other Sources					
Enterprise Fund	215	550	550	550	550
Grant and Developer Contribution	14,464	16,215	14,975	16,513	14,846
Other Sources	9,791	11,647	5,795	5,842	5,893
Rate Stabilization	-	-	800	-	-
Sewer Levy	150	-	50	50	150
Solid Waste and Recycling	350	300	300	300	300
Water Levy	1,786	1,561	1,686	1,636	1,436
Total Other Sources	**$ 26,756**	**$ 30,273**	**$ 24,156**	**$ 24,891**	**$ 23,175**
Total Capital Program	**$ 99,833**	**$ 218,226**	**$ 103,709**	**$ 134,985**	**$ 110,018**

CITY OF RICHMOND
5 YEAR CAPITAL PLAN BY PROGRAM (2020 - 2024)
(in $000s)

	2021	2022	2023	2024	2025
Infrastructure Program					
Roads					
Active Transportation Improvement Program	700	700	700	600	600
Annual Asphalt Re-Paving Program - MRN	1,589	1,621	1,653	1,686	1,720
Annual Asphalt Re-Paving Program - Non-MRN	3,344	3,113	3,113	3,113	3,113
Arterial Roadway Improvement Program	1,000	1,000	1,000	700	700
Bridge Rehabilitation Program	-	643	300	300	300
Citywide Connector Walkways Rehabilitation Program	250	250	250	-	-
Citywide Sidewalk and Street Light Replacement Program	-	500	500	500	500
Gilbert Road Off-road Cycling Facility, Granville Avenue to Elmbridge Way	-	-	-	-	2,900
Lansdowne Road Off-road Cycling Facility, Gilbert Road to Pearson Way	300	-	-	-	-
LED Street Name Sign Program	300	300	300	300	300
Local Road Paving Program	-	1,000	1,000	1,000	1,000
Neighbourhood Walkway Program	750	750	750	500	500
No 2 Road Multi-Use Pathway, Steveston Highway to Williams Road	2,400	-	-	-	-
River Road Multi-Use Pathway, McCallan Road to No 2 Road	-	1,500	-	-	-
Shell Road Multi-Use Pathway, Highway 99 to River Road	-	-	-	7,300	-
Special Crosswalk Program	200	200	200	200	200
Steveston Highway Multi-Use Pathway, No 2 Road to Railway Avenue	-	-	2,700	-	-
Street Light LED Upgrade Program	-	490	490	490	490
Top 20 Collision Prone Intersections- Implementation of Medium-/Long-term Improvements	3,000	3,000	3,000	1,500	1,500
Traffic Calming Program	300	300	300	300	300
Traffic Signal Power Backup System (UPS)	200	200	200	200	200
Traffic Signal Program	700	700	700	700	700
Traffic Video and Communication Program	400	400	400	400	400
Transit-Related Amenity Improvement Program	25	25	25	25	25
Transit-Related Roadway Improvement Program	500	500	500	500	500
Transportation Planning, Functional and Preliminary Design	260	263	266	269	273
Undergrounding - City Centre	-	-	-	-	2,000
Undergrounding - Ferndale Road	-	-	-	2,000	-
Undergrounding - Garden City Road	-	-	2,000	-	-
Undergrounding - No. 3 Road Granville to Blundell	-	2,000	-	-	-

	2021	2022	2023	2024	2025
West Richmond Sidewalk Rehabilitation Program - Phase 2	300	-	-	-	-
Total Roads	**$ 16,519**	**$ 19,455**	**$ 20,347**	**$ 22,583**	**$ 18,221**
Drainage					
Box Culvert Repair	1,450	1,000	1,000	1,000	1,000
Burkeville Utility Improvements Drainage	2,026	1,924	1,483	2,170	1,811
Canal Stabilization and Drainage & Irrigation Upgrades	1,300	1,500	1,500	1,500	1,500
Development Coordinated Works - Drainage	250	250	250	250	250
Disaster Mitigation and Adaptation Fund Infrastructure Upgrades	5,000	9,600	5,000	4,500	5,834
Drainage Network Ecological Enhancement	100	150	150	150	150
Drainage Pump Station Rehabilitation and Generator Upgrade	250	250	250	250	250
Environmental Enhancement and Monitoring	-	100	100	100	100
Flood Protection & Dike Improvements	1,300	1,000	2,000	1,000	1,000
Habitat Offsetting Requirements: Monitoring and Reporting	100	-	-	-	-
Invasive Species Management	-	200	200	200	200
Laneway Drainage Upgrade	800	1,180	1,258	1,150	1,270
No. 3 Road South Pump Station Upgrade	-	-	-	9,140	-
No. 3 Road South Pump Station Upgrade - Design	-	-	1,000	-	-
Queens North Drainage Pump Station Upgrade	-	-	-	-	6,000
SCADA System Improvements	350	150	150	150	150
Storm Main Drainage Upgrade	950	1,000	500	3,850	500
Watercourse Crossing Rehabilitation & Replacement	350	400	400	400	400
Total Drainage	**$ 14,226**	**$ 18,704**	**$ 15,241**	**$ 25,810**	**$ 20,415**
Water					
Development Coordinated Works - Water	250	250	250	250	250
Pressure Reducing Valve Upgrades	-	2,000	-	-	-
Water Metering Program	1,286	1,286	1,286	1,286	1,286
Watermain Replacement Upgrades Program	6,196	5,178	6,145	5,447	6,505
Watermain Tie-in and Restoration	200	300	300	400	400
Total Water	**$ 7,932**	**$ 9,014**	**$ 7,981**	**$ 7,383**	**$ 8,441**
Sanitary Sewer					
Bennett West Pump Station Replacement	-	-	-	-	2,300
Development Coordinated Works - Sanitary	250	250	250	250	250
Gravity Sewer Assessment Program	-	-	-	150	150
Gravity Sewer Assessment, Rehabilitation and Upgrades	-	2,650	5,350	-	-
Gravity Sewer Rehabilitation and Upgrades	2,400	-	-	-	-
Gravity Sewer Replacement & Rehabilitation	-	-	-	3,000	5,500
Manhole and Inspection Chamber Replacement Program	100	-	250	-	-

	2021	2022	2023	2024	2025
Sanitary Forcemain Assessment, Rehabilitation and Upgrades	-	2,150	1,650	-	-
Sanitary Pump Station Assessment and Rehabilitation	-	450	300	-	-
Sanitary Pump Station Assessment, Rehabilitation and Upgrades	500	-	-	-	-
Sanitary Pump Station Rehabilitation	-	-	-	300	300
Sanitary Sewer Assessment and Upgrades	600	-	-	-	-
Sanitary Sewer Tie-in and Restoration	150	150	150	150	150
Van Horne Pump Station Replacement	-	-	-	5,300	-
Total Sanitary Sewer	**$ 4,000**	**$ 5,650**	**$ 7,950**	**$ 9,150**	**$ 8,650**
Infrastructure Advanced Design and Minor Public Works					
City Centre Community Centre North - Furniture, Fixtures and Equipment (FF&E) and OBI	-	-	800	-	-
Public Works Infrastructure Advanced Design	2,280	2,230	1,930	1,930	1,930
Public Works Minor Capital - Drainage	400	400	400	400	700
Public Works Minor Capital - Roads	-	400	400	400	400
Public Works Minor Capital - Sanitary	450	300	400	400	400
Public Works Minor Capital - Sanitation & Recycling	350	300	300	300	300
Public Works Minor Capital - Traffic	-	250	250	250	250
Public Works Minor Capital - Water	-	400	400	400	400
Welding Shop Office Relocation and Equipment Upgrades	248	-	-	-	-
Total Infrastructure Advanced Design and Minor Public Works	**$ 3,728**	**$ 4,280**	**$ 4,880**	**$ 4,080**	**$ 4,380**
Total Infrastructure Program	**$ 46,405**	**$ 57,103**	**$ 56,399**	**$ 69,006**	**$ 60,107**
Building Program					
Building					
Britannia Shipyards Complex System Renewals	-	2,200	-	-	-
Capital Buildings Project Development Advanced Design	950	-	-	-	-
City Hall Annex Infrastructure Replacements	-	-	-	800	-
City Hall Mechanical and Interior Finish Renewals	-	-	-	-	6,800
City Hall Council Chamber Roof Replacement	1,640				
Citywide Caretaker Suite Renewals	-	-	2,500	-	-
Community Safety Building Mechanical System Renewals	-	-	-	-	1,400
Fire Hall Renewals	-	-	3,000	-	-
Gateway Theatre Mechanical and HVAC Renewals	-	-	-	-	5,500
Hugh Boyd Field House	-	-	-	13,854	-
Library Cultural Centre Envelope System Renewals	-	-	-	-	2,400
Minor Capital	400	-	-	-	-
Minoru Arenas - Mechanical & Life Safety System Renewals	1,280	-	-	-	-
Outdoor Pool Renewals	-	-	-	610	-

	2021	2022	2023	2024	2025
Richmond Courthouse Roof Replacement	-	-	-	1,150	-
Richmond Ice Centre Renewals – Phase 2 Design and associated works	850	-	-	-	-
Richmond Ice Centre Renewals – Phase 2 Construction and associated works	-	6,000	-	-	-
Richmond Ice Centre Life / Safety and Interior Renewals	-	-	1,700	-	-
Richmond Ice Centre Mechanical and Electrical Renewals	-	-	-	3,700	-
South Arm Community Centre - Envelope and Interior Finish Renewals	-	800	-	-	-
South Arm Hall Infrastructure Renewal	-	-	700	-	-
Steveston Community Centre and Branch Library	-	93,500	-	-	-
Thompson Community Centre - Interior Finish Renewals	-	-	1,800	-	-
Thompson Community Centre & Hall Infrastructure Renewals	900	-	-	-	-
Watermania Infrastructure Renewals	-	-	2,000	-	-
Watermania Mechanical and Pool Equipment Renewals	-	2,100	-	-	-
West Richmond Community Centre - HVAC and Mechanical renewals	1,330	-	-	-	-
Works Yard Building System Renewals	-	-	-	-	1,100
Works Yard Infrastructure Renewals - Phase 1	-	20,000	-	-	-
Works Yard Infrastructure Renewals - Phase 2	-	-	-	8,600	-
Works Yard Replacement - Concept Design	-	-	2,000	-	-
Total Building	**$7,350**	**$124,600**	**$13,700**	**$28,714**	**$17,200**
Heritage					
Japanese Duplex and First Nations Bunkhouse Reconstruction and Exhibit Development	-	4,150	-	-	-
Total Heritage	**$ -**	**$4,150**	**$ -**	**$ -**	**$ -**
Total Building Program	**$ 7,350**	**$ 128,750**	**$ 13,700**	**$ 28,714**	**$ 17,200**
Parks Program					
Parkland					
Parkland Acquisition	5,000	4,000	4,000	4,000	4,000
Total Parkland	**$5,000**	**$4,000**	**$4,000**	**$4,000**	**$4,000**
Parks					
City-Wide Community Gardens	200	-	-	-	-
Dog Park Upgrades	200	-	-	-	-
Garden City Lands - Phase 4	-	350	-	-	-
Garden City Lands - Phase 5	-	-	350	-	-
Garden City Lands - Phase 6	-	-	-	-	500
King George Artificial Turf	850	-	-	-	-
Lulu Island Park - Design and Construction Phase	-	-	-	-	750
Lulu Island Park - Master Planning Phase	-	-	500	-	-
Lulu Island Park - Preliminary Planning and Site Study	-	250	-	-	-

Phase	2021	2022	2023	2024	2025
Lulu Island Park Design and Site Remediation 2024	-	-	-	2,000	-
Minoru Lakes Renewal: Phase Two	4,000	-	-	-	-
Minoru Park Central Amenity Space - Playground Expansion	-	300	-	-	-
Minoru Park Central Amenity Space Detailed Design	-	-	-	200	-
Minoru Park Central Amenity Space: Phase One Construction	-	-	-	-	500
Parks Advance Planning and Design	700	300	300	300	300
Parks Ageing Infrastructure Replacement Program	150	530	560	500	500
Parks General Development	550	400	400	400	400
Parks Interpretive Signage Program - Phase 1	100	-	-	-	-
Parks Interpretive Signage Program - Phase 2	-	-	-	100	-
Playground Improvement Program	400	500	700	400	400
Safety and Environmental Enhancement to Richmond High Turf Field Warranty Repair	350	-	-	-	-
South Arm Park Renewal	300	-	-	-	-
Steveston Community Park Playground Expansion	-	-	300	-	-
The Gardens Agricultural Park - Phase 4	-	400	-	-	-
Trails Network Enhancements	-	-	200	200	-
Total Parks	**$ 7,800**	**$ 3,030**	**$ 3,310**	**$ 4,100**	**$ 3,350**
Total Parks Program	**$ 12,800**	**$ 7,030**	**$ 7,310**	**$ 8,100**	**$ 7,350**
Public Art Program					
Public Art					
Public Art Program	150	150	150	150	150
Total Public Art Program	**$150**	**$150**	**$150**	**$150**	**$150**
Land Program					
Land					
Strategic Land Acquisition	10,000	5,000	5,000	10,000	10,000
Total Land Program	**$10,000**	**$5,000**	**$5,000**	**$10,000**	**$10,000**
Affordable Housing					
Affordable Housing Operating Initiatives	400	400	400	400	400
Bridgeport Supportive housing	250	-	-	-	-
Total Affordable Housing	**$ 650**	**$ 400**	**$ 400**	**$ 400**	**$ 400**
Equipment Program					
Vehicle Replacement					
Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet)	2,949	2,334	3,995	4,434	2,700
Total Vehicle Replacement	**$ 2,949**	**$ 2,334**	**$ 3,995**	**$ 4,434**	**$ 2,700**
Fire Vehicle					

	2021	2022	2023	2024	2025
Fire Vehicle Replacement Reserve Purchases	1,186	1,221	1,258	-	52
Total Fire Vehicle	**$ 1,186**	**$ 1,221**	**$ 1,258**	**$ -**	**$ 52**
Information Technology					
Annual Hardware Refresh	531	531	539	554	570
Business Continuity Transition to Laptops	365	-	-	-	-
Data Centre Server Refresh / Update (Phase 2 of 2)	-	360	-	-	-
Field devices	282	-	-	-	-
Network Loadbalancer Refresh (2021)	163	-	-	-	-
Network Refresh for City Facilities (Phase 2 of 3)	621	-	-	-	-
Network Refresh for City Facilities (Phase 3 of 3)	-	391	-	-	-
Oracle RAC Enterprise and Solaris SPARC Server Upgrades	850	-	-	-	-
Total Information Technology	**$ 2,812**	**$ 1,282**	**$ 539**	**$ 554**	**$ 570**
Equipment					
City Hall and Community Safety Building Lighting Upgrade	550	-	-	-	-
Energy Management Projects	-	550	550	550	550
Fire Equipment Replacement - Fire Hose	-	30	31	32	-
Fire Equipment Replacement from Reserve	229	-	-	-	233
Total Equipment	**$ 779**	**$ 580**	**$ 581**	**$ 582**	**$ 783**
Total Equipment Program	**$ 7,725**	**$ 5,418**	**$ 6,372**	**$ 5,570**	**$ 4,105**
Child Care Program					
Child Care					
Child Care - Administration	112	114	117	119	122
Child Care Projects - City-wide (Capital Grants)	50	50	50	50	50
Child Care Projects - City-wide Non-Capital Grants	4	10	10	10	10
Total Child Care Program	**$ 166**	**$ 174**	**$ 177**	**$ 179**	**$ 182**
Internal Transfers/Debt Payment					
Internal Transfers/Debt Payment					
12040 Horseshoe Way Repayment	525	525	525	525	525
7080 River Road Repayment	2,341	2,341	2,341	2,341	-
Nelson Road Interchange Repayment	385	-	-	-	-
River Road/North Loop (2005) Repayment	1,335	1,335	1,335	-	-
Total Internal Transfers/Debt Payment	**$ 4,586**	**$ 4,201**	**$ 4,201**	**$ 2,866**	**$ 525**
Contingent External Contribution					
Contingent External Contribution					
Contingent External Contribution	10,000	10,000	10,000	10,000	10,000
Total Contingent External Contribution	**$10,000**	**$10,000**	**$10,000**	**$10,000**	**$10,000**
Grand Total	**$99,833**	**$218,227**	**$103,710**	**$134,986**	**$110,019**

The following is an overview of the major Capital programs proposed for the years 2022 to 2025.

INFRASTRUCTURE PROGRAM

- **Disaster Mitigation and Adaptation Fund Infrastructure Upgrades (2022-2025: $24,934,000)**

  The City of Richmond invests in major disaster mitigation infrastructure to contribute to the Province of British Columbia and Canada's economic growth, public safety and ability to build a community more resilient to climate change.

  This project includes the design and construction of drainage pump station upgrades and perimeter dike raising included in the Disaster Mitigation and Adaptation Fund grant. The project will be completed in multiple phases. The initial phases of the project will primarily include dike upgrades.

- **No. 3 Road South Pump Station Upgrade (2024: $9,140,000)**

  This project includes demolishing the existing pump station at (No. 3 Road South) and rebuilding it to a modern standard. The project will increase pumping capacity, increase station resilience, make local dike upgrades and landscape the construction area. This project is part of a larger strategy to increase the City's drainage capacity, increase pump station reliability and reduce flooding in order to accommodate climate change and growth as outlined in the City's Official Community Plan.

  The project is estimated to take 12-16 months. Construction will be scheduled for spring 2025.

  Major Cost Components:

Civil (65%)	$5,941,000
Mechanical (19%)	$1,736,600
Electrical (16%)	$1,462,400
Total	$9,140,000

- **Van Horne Pump Station Replacement (2024: $5,300,000)**

  This project involves replacement of the Van Horne sanitary sewer pump station and upgrades to the surrounding sanitary system. The existing pump station will not have adequate capacity to service the growing population within the catchment area. The new pump station will be designed to service the projected 2041 OCP population in the catchment area, which is currently undergoing high-density redevelopment. The requirement for the Van Horne pump station upgrade was identified by the 2041 OCP Sanitary Modelling project.

  This project involves construction of a new pump station to replace the existing, including construction of a new wet well, variable frequency drive (VFD) pumps, electrical kiosk, 50 meters of 650 mm diameter gravity pipe and 320 meters of 400 mm diameter forcemain. This project will require land acquisition.

- **Bennett West Pump Statement Replacement (2025: $6,000,000)**

  The Bennett West sanitary pump station is at the end of its service life and requires replacement. This project involves the construction of a new sanitary pump station complete with wet well, variable frequency drive (VFD) pumps, kiosk, back-up generator, antenna, valve chamber, and BC Hydro transformer to replace the existing station. Construction of the pump station will be coordinated with adjacent developments.

BUILDING PROGRAM

- **Richmond Ice Centre Infrastructure Renewals (2022 - 2024: $11,400,000)**

  Multiple systems in the Richmond Ice Centre facility, constructed in 1994, have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will serve to prolong the life of the building and ensure the health and safety of its users/inhabitants.

  Interior:
  The interior flooring systems will be replaced to prevent a tripping hazard and ensure safe mobility for all occupants throughout the facility. Washroom accessories have all exceeded their serviceable life span and will be replaced/renewed as needed.

  Envelope:
  The exterior paint and window seals have reached the end of their serviceable life span and will be renewed/replaced as needed.

  Mechanical:
  The boilers, dehumidifiers, bay heaters and water distribution system have reached the end of their serviceable life span and will be replaced/renewed as needed. Potential risk of no hot water as well as temperature controls are at risk.

  Electrical:
  Main electrical service systems throughout the facility have reached the end of their serviceable life cycle and require renewal. If units are not replaced, there is potential for unit failure causing fire/electrocution/power failure.

- **Works Yard Infrastructure Renewals (2022 - 2024: $28,600,000)**

  Multiple systems in multiple buildings at the works yard complex constructed in 1980 have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will serve to prolong the life of the building and ensure the health and safety of its users. All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.

  Interior:
  Flooring, lighting, wall and restroom systems throughout the administration, garage workshop, stores, sanitation office, survey and dispersal buildings have all reached the end of their serviceable life span and will be renewed or replaced as needed.

  Envelope:
  Roofing systems inclusive of hatches, skylights and access ladders; as well as aluminum framed glass wall/window systems at the administration, garage workshop, stores, sanitation office, survey and dispersal building have all reached the end of their serviceable life span and will be replaced.

  Mechanical:
  Heating/cooling, water distribution, exhaust ventilation, and gas supply systems throughout the administration, garage workshop, stores, sanitation office, survey and dispersal buildings have all reached the end of their serviceable life span and will be renewed or replaced as needed.

- **Steveston Community Centre and Branch Library (2022: $93,500,000)**

  Site location selection for the new Steveston Community Centre and Branch Library was approved by Council on December 15, 2020. Next step will be concept design development. This submission will be revised accordingly in the Consolidated 5 Year Financial Plan (2022-2026).

PARKS PROGRAM

- **Garden City Lands Phase 4 to 6 (2022 - 2025: $1,500,000)**

  The continuation of the development of the Garden City Lands will increase public access to the site and add a greater diversity of activities and experiences. Boardwalks and interpretive signage are planned to provide greater access and opportunities for interaction with the bog ecosystem while a network of trails, community gardens and gathering areas are planned to allow more people to access the western side of the site along with expansion of farm related uses and programs. All planned works will be subject to Council and Agricultural Land Commission approval and are consistent with the Council approved Legacy Landscape Plan.
  - Phase 4 will focus on the construction of a washroom facility and parking lots, associated site and landscape improvements, and the further development of park-wide infrastructure.
  - Phase 5 is the continuation of the construction of community facilities including amenities such as boardwalks through the bog conservation area and directional and interpretive signage.
  - Phase 6 is the continuation of the construction of community facilities including amenities such as a site observation tower, interpretive signage and public art.

- **Lulu Island Park Design and Site Remediation (2024: $2,000,000)**

  This capital request follows the master planning phase in 2023, and will allow the City to begin to secure funding for the design and construction phase for Lulu Island Park. 2024 will see the commencement of design, detailed design, and preparation of a five-year budget. The leases for the City-owned industrial properties will expire in 2024, at which point demolition is tentatively scheduled to begin.

  The concept for Lulu Island Park was approved by Council in 2007 and incorporated in the City Centre Area Plan in 2009. Lulu Island Park is envisioned as the City's premier downtown park and a crucial part of its waterfront, supporting formal and informal recreation, cultural events, enhanced ecological values, and heritage interpretation. Sustained population growth in the City Centre demonstrates the need for this park, which is expected to serve as a catalyst for development in the adjacent commercial zone.

- **Playground Improvement Program (2022 - 2025: $2,000,000)**

  This capital program addresses playgrounds that are at the end of their useful life and do not meet the current safety guidelines (according to the industry standard, the Canadian Standards Association's "Children's Playspaces and Equipment"), or can no longer be maintained to meet the guidelines due to obsolescence or vandalism. The program is directed towards replacing all or part of a playground and includes replacement of playground equipment, playground infrastructure (e.g., resilient surfacing, borders, drainage) and landscape features.

LAND PROGRAM

- **Strategic Land Acquisition (2022 - 2025: $30,000,000)**

  Funds for land acquisition to meet the Council Approved Strategic Real Estate Investment Plan. Availability of funds in the capital budget provides the ability to act quickly when necessary and avoid costs incurred to repay the Revolving Fund.

EQUIPMENT PROGRAM

- **Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet) (2022-2025: $13,463,270)**

  Annual replacement of vehicles eligible due to age and condition in accordance with Sustainable Green Fleet Policy 2020.

  Process for replacement of ageing fleet is to establish needs and develop specifications for vehicle/equipment replacements. Send bid information out to the marketplace, evaluate submissions and award accordingly.

2MVA	2 Mega-Volt Ampere
5YFP	5 Year Financial Plan
AC	Air Conditioning
APS	Accessible Pedestrian Signal
CCTV	Closed Circuit Television
CLCM	Contract Life-Cycle Management
CMBC	Coast Mountain Bus Company
CPI	Consumer Price Index
DCC	Development Cost Charges
EV	Electrical Vehicle
GCL	Garden City Lands
GHG	Greenhouse Gas
GPS	Global Positioning System
HPS	High Pressure Sodium
HVAC	Heating, Ventilation, and Air Conditioning
ICBC	Insurance Corporation of British Columbia
IPS	Infor Public Sector
KPI	Key Performance Indicator
LED	Light-Emitting Diodes
MPI	Municipal Price Index
MRN	Major Road Network
MUP	Multi-Use Pathway
NIC	Neighbourhood Improvement Charges
OBI	Operating Budget Impact
OCP	Official Community Plan
PDF	Portable Document Format
PRV	Pressure Reducing Valve
PW	Public Works
RCMP	Royal Canadian Mounted Police
RFP	Request for Proposal
RFR	Richmond Fire-Rescue
RPL	Richmond Public Library
RSA	Rate Stabilization Account
RWIS	Road Weather Information System
SCADA	Supervisory Control and Data Acquisition
TMC	Traffic Management Centre
UPS	Uninterruptable Power Supply