

TO: CHAIR AND MEMBERS FINANCIAL MANAGEMENT COMMITTEE **DATE:** 2020 January 31

FROM: DIRECTOR ENGINEERING **FILE:** 32000-05

SUBJECT: 2020 FEBRUARY ENGINEERING CAPITAL INFRASTRUCTURE BYLAW FUNDING REQUEST

PURPOSE: To request the use of Water and Sewer Reserves and to request a Capital Reserve Fund Bylaw to finance 2020 - 2024 Engineering capital infrastructure projects.

RECOMMENDATION:

1. **THAT** the Financial Management Committee recommend Council authorize the City Solicitor to bring forward a Capital Reserves Fund Bylaw in the amount of \$17,203,900, the use of Sanitary Sewer Capital Reserves in the amount of \$1,350,000 and the use of Waterworks Utility Capital Reserves in the amount of \$1,242,500 to finance Engineering capital infrastructure improvement projects, as outlined in this report.

REPORT**INTRODUCTION**

The 2020 – 2024 Provisional Financial Plan will provide funding for various multi-year capital improvement projects. Upon approval of this funding request by Council, these expenditures will be included in the 2020 – 2024 Financial Plan (Engineering Section). In order to proceed with the award of contracts for design, contract administration and construction, funding approval is requested for the projects listed below. This report is to seek Council approval of fund allocation for Engineering projects in advance of council adoption of the 2020 - 2024 Financial Plan.

POLICY SECTION

The following project is aligned with the City of Burnaby's Corporate Strategic Plan by supporting the following goals and sub-goals of the Plan.

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Goal

- A Safe Community
 - Transportation safety –
Make City streets, pathways, trails and sidewalks safer.
- A Dynamic Community
 - City Facilities and infrastructure –
Build and maintain infrastructure that meets the needs of our growing community.
- A Thriving Organization
 - Reliable services, technology and information –
Protect the integrity and security of City information, services and assets.

1.0 Infrastructure

1.1 Albert and Cambridge Combined Sewer Separation *Estimated \$375,000*

This project is part of the City's ongoing infrastructure renewal program involving separation of combined sewers as required under the local Liquid Waste Management Plan (ILWRMP). Sewer separation minimizes volumes of combined sewer over-flow to the environment and the amount of wastewater that needs to be treated resulting in better allocation of resources, lower energy use and reduced environmental impact.

This project includes separation of combined sewers, including detailed design of sanitary and storm sewer systems and related road rehabilitation, for Cambridge Street, Gilmore Avenue to Rosser Avenue, and Oxford Street, Rosser Avenue to Willingdon Avenue.

Early funding is being requested to facilitate the award for design and contract administration.

Project Mask(s)	2020	2021	Total
EKA.3192	\$175,000	\$200,000	\$375,000

1.2 Burnaby Heights Combined Sewer Separation *Estimated \$275,000*

This project is part of the City's ongoing infrastructure renewal program involving separation of combined sewers as required under the local Liquid Waste Management Plan (ILWRMP). Sewer separation minimizes volumes of combined sewer over-flow to the environment and the amount of wastewater that needs to be treated resulting in better allocation of resources, lower energy use and reduced environmental impact.

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As a fully integrated project, the scope of this project includes separation of combined sewers, replacement of water mains, related road upgrades and rehabilitation in the Burnaby Heights area; Trinity Street, Ingleton Avenue, lane north of Eton Street and lane north of McGill Street.

Early funding is being requested to facilitate the award for design and contract administration.

Project Mask(s)	2020	2021	Total
EKA.3193	\$225,000	\$50,000	\$275,000

1.3 Culvert Rehabilitation Program

Estimated \$1,454,000

This project includes a review of existing culverts considered to be in poor condition by City Operations and to rehabilitate these culverts.

There are 17 critical culverts across the City in various conditions. After review, the construction effort will take place in stages as work is dependent on Department of Fisheries and Oceans approvals or notifications.

Please see Appendix 1 for a detailed list of proposed locations and scope of work.

Early funding is being requested to enable the construction contract award.

Project Mask(s)	2020	2021	Total
ELA.3183	\$700,000	\$754,000	\$1,454,000

1.4 North Burnaby Watermains and Road Rehabilitation **Estimated \$2,000,000**

This is a watermain replacement and roads rehabilitation package which involves replacement of existing watermain and services, complete with pavement rehabilitation on local/collector streets in various locations of North Burnaby in the Aubrey and Buchanan neighbourhoods. Construction will occur along Aubrey Street, Charles Street, Fell Avenue, Stratford Avenue and Dunlop Avenue.

Water works have been completed by City Forces and the next phase will be to contract out the road works to be completed by a paving contractor.

The road works is planned to be completed in 2 phases. The first phase is to complete permanent paving on trenches that have temporary patching, and the second phase will be to complete full width restoration on the remaining streets.

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Early funding is being requested to enable the construction contract award.

Project Mask	2020
EMC.3147	\$2,000,000

1.5 Sidewalk Expansion Package 1

Estimated \$4,250,000

This is the first package of the sidewalk expansion program. In 2019, Council instructed staff to accelerate net new sidewalk construction at a value of \$10 million per year. Boulevard trees would also be replaced and added as necessary. Staff have selected sidewalk construction locations based on prioritization and cost-effectiveness (e.g. near schools, community centres, parks, transit, network gaps, and neighbourhoods without sidewalks).

Please see Appendix 1 for a detailed list of proposed locations and scope of work.

\$750,000 has been prefunded by Council in 2019 in advance to prepare for the commencement of this project. Early funding is being requested to enable the construction contract award.

Project Mask(s)	2020
AEC.3188 – Conduit	\$250,000
EMC.3188 – Roads	\$4,000,000
Total	\$4,250,000

1.6 South Burnaby Street Upgrades

Estimated \$8,017,400

This project is part of the City's ongoing infrastructure renewal strategy to sustainably maintain roads, sidewalks, multi-use paths and street lighting. Roadworks in this package include street paving, street upgrades, curb & gutter, boulevard, sidewalk improvements, and pathway lighting.

Project locations include streets in the Riverside, East Burnaby, and South Slope neighborhoods. The Burnaby Mountain Urban Trail in the Stoney Creek Ravine Park area will be paved and provided with lighting as part of this project. The Projects division also captured opportunities for installation of civic communications conduit and safety improvements. Projects were selected based on condition data and input from Operations.

Please see Appendix 1 for a detailed list of proposed locations and scope of work.

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There is TransLink funding expected to be available for a portion of this work which will be applied at project completion and at which time bylaw funding will be returned.

Early funding is being requested to enable the construction contract award.

The Annual Capital Plan will be updated to reflect the funding request below.

Project Mask(s)	2020	2021	Total
AEC.3151 – Conduit	\$186,400	\$2,000,000	\$2,186,400
EMA.3151 – Roads	\$630,000	-	\$630,000
EMC.3151 – Roads	-	\$4,433,500	\$4,433,500
EJA.3151 – Water	\$767,500	-	\$767,500
Total	\$1,583,900	\$6,433,500	\$8,017,400

1.7 Storm Extensions 2020A Summer Package

Estimated \$1,350,000

This project involves development coordinated works related to storm sewer extensions and the *Storm Sewer Extension Contribution and Fee Bylaw*, with associated road repair and upgrades if applicable. Long term costs are fully recovered by initiating and benefitting property owners.

Please see Appendix 1 for a detailed list of proposed locations and scope of work.

Early funding is being requested to enable the design and construction contract award.

Project Mask(s)	2020	2021	Total
ELA.3163 – Drainage	-	\$700,000	\$700,000
EMC.3163 – Roads	\$100,000	\$300,000	\$400,000
EKA.3163 – Sewer	\$250,000	-	\$250,000
Total	\$350,000	\$1,000,000	\$1,350,000

1.8 Wright Street Watermain and Road Upgrades

Estimated \$250,000

This watermain and roads package consists of project sites in the Cariboo-Armstrong neighborhood of Burnaby; Wright Street, 17th Avenue and 14th Avenue. The project involves replacement of existing aged watermains, hydrants and services, a limited section of new storm and sanitary sewers (sewer separation) complete with pavement rehabilitation and upgrade to local/collector streets. This project is intended for design by an engineering consultant(s) and construction by City forces with separate tender of roadworks.

Early funding is being requested to facilitate the award for design and contract administration.

Project Mask(s)	2020	2021	Total
EJA.3194 – Water	\$100,000	\$150,000	\$250,000

1.9 Bridge Expansion Joint Replacements

Estimated \$325,000

As part of the City's Roads Asset Management Plan, bridge expansion joints will be replaced as necessary in accordance with regular inspections performed by Associated Engineering and the current bridge inspection consultant. The work will be performed as part of a tender involving other operational work on bridges identified by Associated Engineering as part of a 5-year plan to keep the bridges in good condition. The capital portion of the project will be at Willingdon Avenue Overpass, Royal Oak Avenue Bridge and Gaglardi Way Overpass.

Early funding is being requested to enable the construction contract award in March 2020. The Annual Capital Plan will be updated to reflect the funding request below.

Project Mask(s)	2020
EMC.8000	\$325,000

1.10 Developer Coordinated Works

Estimated \$850,000

As a condition of development approval, developers are required to upgrade infrastructure. Sometimes, while the developer is already mobilized to complete work, it can be cost-effective and less disruptive to the neighbourhood to include additional works paid for by Burnaby. Developer-coordinated works provide funding as necessary to complete these additional works. This funding also covers a portion of the salaries for City of Burnaby Engineering Development Technologists, working to review and approve servicing requirements for development projects.

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Early funding is being requested to proceed with additional works starting in February 2020.

Project Mask(s)	2020
EJA.8003 – Water	\$225,000
EKA.8003 - Sewer	\$200,000
ELA.8003 – Drainage	\$100,000
EMC.8003 – Roads	\$325,000
Total	\$850,000

1.11 Kensington Overpass Resurfacing

Estimated \$150,000

Project Mask(s)	2020	2021	Total
EMA.8002	\$100,000	\$50,000	\$150,000

The Kensington Overpass was constructed in 1985 and has a replacement value of \$41 million. The City has a regular inspection and maintenance program for this bridge to protect the City's investment. Inspections since 2013 have indicated that the concrete deck has begun to deteriorate. In 2018, the City's Consultant recommended resurfacing of the bridge deck to proactively extend the life of this structure while the deck is still in good condition and before other components of the bridge are affected by deterioration of the deck. Three alternatives were compared based on lifecycle costs, durability, constructability, etc.

This project involves design and construction of the PPC overlay for the main span, west ramp and east ramp of the Kensington Overpass. The resulting product should extend the life of the deck by at least 30 years. Ride quality on the bridge will also be improved. There will also be minor traffic improvements with new pavement markings and reflective road markers.

This project will be submitted for competition of TransLink's MRN Structures funding grant which if successful, will be applied at project completion at which time bylaw funding will be returned.

Early funding is being requested to facilitate the award for design and contract administration.

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1.12 Relining

Estimated \$500,000

Pipes eligible for relining are first cleaned and then a new liner is inserted into the pipe to renew the asset and extend its useful life. The City inspects storm and sanitary pipes on a 20 year cycle. Pipes that are discovered to be in poor condition are evaluated for re-lining, a cost-effective, environmentally sensitive, and less disruptive methodology of rehabilitating a pipe. This work is released through BC Bid for qualified contractors to provide tenders to complete the work, with inspection completed by City staff and specialized consultants.

Please see Appendix 1 for a detailed list of proposed locations and scope of work.

Project Mask(s)	2020
EKA.8004 – Sewer	\$250,000
ELA.8004 – Drainage	\$250,000
Total	\$500,000

Early funding is being requested to enable the tender contract award.

These expenditures will be included in the 2020 – 2024 Provisional Financial Plan and sufficient Capital Reserves & Reserve Funds are available to finance the capital projects outlined in this report.

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RECOMMENDATION

It is recommended that the Financial Management Committee recommend Council authorize the City Solicitor to bring forward a Capital Reserves Fund Bylaw in the amount of \$17,203,900, the use of Sanitary Sewer Capital Reserves in the amount of \$1,350,000 and the use of Waterworks Utility Capital Reserves in the amount of \$1,242,500 to finance Engineering capital infrastructure improvement projects, as outlined in this report.



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DIRECTOR ENGINEERING

RS/JM/ac

Copied to: City Manager
Director Finance
City Solicitor
Deputy Director Engineering
Assistant Director Infrastructure & Development
Manager, Engineering Projects

Appendix 1

Project: Culvert Rehabilitation Program (Section 1.3)

Stream	Intersection
Eagle Tributary 6-1-1	Burnaby Mountain Pkwy/Centennial Way
Eagle Tributary -5	Burnaby Mountain Pkwy/Centennial Way
Silver Tributary 1-1-1	Gaglardi Way/Burnaby Mountain Pkwy
Simon Tributary	Barnet Road/Takeda Drive
Still Creek Tributary	Still Creek Drive/Myrtle Street
Ramsay Creek	19th Avenue/East of 4th Street
Stoney Unnamed Tributary	Noel Drive/North of Beaverbrook Drive
Guichon Creek	Price Crescent/West of Gilpin Crescent

Project: Sidewalk Expansion Package 1 (Section 1.5)

Construction is being planned at the following locations:

Location	Streets	Length (m)
1	Carnegie Street, Kensington Avenue to Brooklyn Avenue	430
2	Dunedin Street, Invergarry Avenue to Carnegie Street	360
3	Cliff Avenue, Union Street to Curtis Ave	270
4	Chaffey Avenue, Grange Street to Burke Street	425
5	Eastlake Drive, Underhill Avenue to 300 meters east	300
6	Venture Street, Lake City Drive to Cul-de-sac	460
7	Express Street, Lake City Drive to Cul-de-sac	475
8	Halley Avenue, Fir Street to Spruce Street	190
9	Darwin Avenue / Pine Street, Moscrop Street to Huxley Avenue	800
10	Huxley Avenue, Moscrop Street to Spruce Street	400

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11	Smith Avenue, Thurston Street to 50 meters south	55
12	Yeovil Avenue, Halifax Street to Yeovil Place	580
13	Yeovil Place, Woodvale Street to Cul-de-sac	420
14	Karen Street, Yeovil Avenue to Cliff Ave	390
15	Government Street, Brighton Avenue to 45 meters east	45
16	Cliff Avenue, Kitchener Street to Halifax Street	380
17	Parklawn Drive, Eastlawn Drive to Springer Avenue	380
18	Crestlawn Drive, Dellawn Drive to Parklawn Drive	650
19	Dow Avenue, Rumble Street to Portland Avenue	550
20	Irmin Street, Macpherson Avenue to Buller Avenue	360
21	Joffre Avenue, Clinton Street to Marine Drive	550
22	Lochdale Avenue, Fell Street to east of Sperling Avenue	1,830
23	Fir Street, Huxley Avenue to Halley Avenue	440
Total		10,740

Project: South Burnaby Street Upgrades (Section 1.6)

Construction will be for Roadworks and Street Lighting at the following locations:	
10 th Ave, Newcombe Street to Cumberland Street	10 th Avenue, Griffiths Drive to Kingsway
Thorne Avenue, Willard Street to Marine Drive	10 th Avenue, Meadow Avenue to Willard Street
14 th Avenue, Meadow Avenue to Marine Drive	16 th Avenue, 6 th Street to 1 st Street
Carson Street, Bradley Avenue to Sussex Avenue	Burnaby Mountain Trail, Government Street to Ganymede Place
1 st Street, path at 10 th Avenue	6 th Street, Berkley Street to Mayfield Street

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Project: Storm Extensions 2020A Summer Package (Section 1.7)

Construction will be along the lanes behind the following addresses:	
4542 Rumble Street	115 Holdom Avenue North
6089 Portland Street	3905 Elmwood Street
6790 Halifax Street	248 Gamma Avenue
5055 Pioneer Avenue	5865 Sperling Avenue
4840 Mckee Place	6282 Dawson Street
4178 Napier Street	

Project: Relining (Section 1.12)

Relining has been planned at the following locations:	
ROW north of Government Road, east of Piper Avenue	Triumph Street, Madison Avenue– Willingdon Avenue
Beta Avenue, north of Willingdon Green	ROW through 5408 Laurel Street
ROW west of Willingdon Avenue, north of Imperial Street	ROW north of Government Road, east of Piper Avenue
ROW through 5839 Sherban Court	Halifax Street, west of Taralawn Court
Wright Street, 14th Avenue– 15 th Avenue	Gilmore Avenue, Lougheed Hwy – Halifax Street