



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: January 11, 2019

From: John Irving, P.Eng. MPA
Director, Engineering

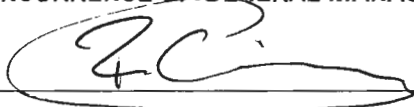

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Re: **Burkeville Drainage Update**

Staff Recommendation

That the staff report titled "Burkeville Drainage Update", dated January 11, 2019 from the Director, Engineering, be received for information.

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

REPORT CONCURRENCE		
ROUTED TO: Sewerage and Drainage Policy Planning Transportation Corporate Communications	CONCURRENCE <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	CONCURRENCE OF GENERAL MANAGER 
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: CJ	APPROVED BY CAO 

Staff Report

Origin

Burkeville's drainage system, consisting primarily of a shallow ditch network that allows percolation of rainwater through the soil, has not been significantly upgraded for decades. In recent years, requests for private ditch infills as well as non-permitted ditch infills have increased as a result of new home construction and renovations. This created concerns for the drainage network within the neighbourhood as the conversion from ditches to pipes reduces the opportunity for percolation and increases demand on the system.

At the November 27, 2017 Regular Council Meeting, Council endorsed the following motion:

That a moratorium on ditch infills in the Burkeville neighbourhood, until a piped drainage network is implemented as outlined in the report titled "Burkeville Drainage" dated October 27, 2017, from the Director, Engineering, be endorsed.

The purpose of this report is to provide an update on the status of drainage upgrades within Burkeville and address some of the recent questions on the project status.

Analysis

Initially constructed in 1941, Burkeville is a small neighbourhood of approximately 300 homes located on Sea Island. Burkeville's drainage system was originally designed using shallow ditches and small diameter culverts for road crossings. As houses within the neighbourhood are re-developed, there is desire to infill existing ditches. Private ditch infills change the nature of the drainage system in a way that could potentially cause flooding. As such, a moratorium on private ditch infills was placed in the Burkeville neighbourhood in November 2017. To provide adequate drainage for the neighbourhood, a comprehensive drainage improvement program is proposed. The program involves:

- Regrading existing ditches along Airport Road and Miller Road to increase system capacity;
- Maintaining existing concrete pipe crossings under Russ Baker Way to minimize construction impacts and cost; and
- Continued assessment on the Miller Road pump station and potential upgrades to increase station capacity.

Program Implementation

The overall implementation cost for the drainage improvement program is estimated at \$13 million. Staff have reviewed multiple options for upgrading the drainage system and have selected the proposed plan as it avoids the need for high cost items such as upsizing the Russ Baker Way crossing. To achieve cost efficiencies and minimize construction impacts, staff have also identified opportunities to replace ageing local sanitary and water infrastructure in alignment with the City's Ageing Infrastructure Replacement strategy together with the drainage improvement works. Construction is proposed to be implemented in phases over 5 to 10 years, with phasing designed to prioritize addressing areas of known drainage concerns and mitigate the impacts of

construction to the community. During each phase, all water, sanitary and drainage infrastructure improvements within the identified area will be completed. Upon completion of the projects, roadways and laneways will be restored to their current conditions.

The approved 2018-2022 Capital Budget includes \$2 million as part of the 2018 Capital Program to complete Phase 1 of the drainage improvement project, and \$1 million each year from 2019 to 2022 for subsequent phases. Design of the infrastructure upgrades is underway, with construction of Phase 1 (Figure 1) anticipated to begin in summer 2019. Funding needs will be refined as design is completed and subsequent projects that form part of the Burkeville Utility Upgrade Program will be brought forward for Council’s consideration as part of the capital planning process in future years.

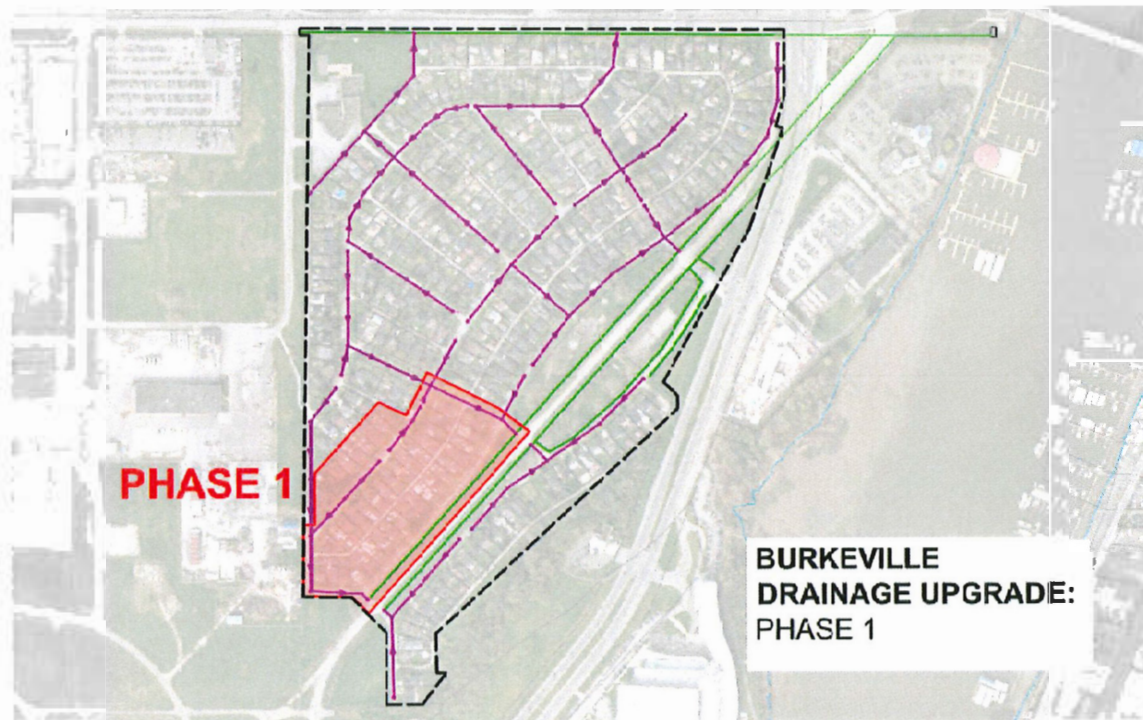


Figure 1 - Burkeville Drainage Upgrades - Phase 1 Works

Environmental Considerations

Design of the infrastructure upgrades will include input from Qualified Environmental Professionals to ensure that environmental best management practices are incorporated into the drainage improvement works.

Public Consultation

A series of public consultation activities took place in early 2018 to obtain local resident feedback on the proposed drainage upgrade strategy. An open house was held at Sea Island Elementary School on February 20, 2018. In addition, project information and an online feedback form were available through LetsTalkRichmond.ca between February 20, 2018 and March 4, 2018.

The open house was advertised to local residents through hand-delivered letters as well as printed advertisements in Richmond News. Approximately 50 local residents attended the open house. A total of 41 residents provided feedback through the open house and LetsTalkRichmond.ca.

A summary of the responses received is as follows:

- Over 65% of respondents identified localized flooding after significant storms as a concern for the neighbourhood;
- Over 85% of respondents were supportive of the proposed drainage improvement program;
- Residents wished to infill existing local ditches to address the need for sidewalks and walkways to enhance pedestrian, traffic safety, as well as parking; and
- Residents valued the existing ditch along Miller Road as a barrier between the neighbourhood and Miller Road as well as its ecological value and supported its preservation.

An additional open house is planned for spring 2019 to obtain resident feedback on the design, as well as to communicate the construction schedule and anticipated construction impacts prior to beginning construction.

Financial Impact

None at this time. Projects for Burkeville Utility Upgrades will be presented to Council for consideration as part of the annual capital budget process.

Conclusion

The drainage system in Burkeville currently relies on percolation to minimize flows in the ditched drainage network. Ditch infills reduce the drainage system's capacity for percolation, increasing drainage system flows which ultimately cause flooding in the neighbourhood. As such, staff recommend maintaining the moratorium that has been placed on ditch infills within the neighbourhood.

A phased drainage improvement program has been developed to facilitate future development within Burkeville while maintaining high levels of drainage service for the neighbourhood. Implementation of the Burkeville Utility Upgrade Program is currently underway through the City's capital construction program, with construction of the first phase anticipated to begin in summer 2019. Subsequent projects that form part of the Burkeville Utility Upgrade Program will be brought forward for Council's consideration as part of the capital planning process in future years.



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