

Flood Control Strategy Update – Churchill Park

ISSUE

In December 2018, City Council approved implementation of the nine-year \$54 million Flood Control Strategy (FCS) to mitigate flooding in ten areas that experience frequent flooding. The purpose of this report is to provide an update for the strategy including the results of the feasibility assessment for a dry storm water pond at Churchill Park to mitigate flooding, and to request approval to proceed with the project.

RECOMMENDATION

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council that detailed design and construction of a dry storm water pond at Churchill Park proceed in 2022 to mitigate flood damage.

BACKGROUND

The FCS is based on the principles of reducing flood impacts for the maximum number of properties within the available budget while maintaining the existing quality and service levels for recreation opportunities in parks where dry storm ponds are constructed. The FCS framework for each project includes the following four phases:

- Phase One: High Level Assessment
- Phase Two: Feasibility Assessment
 - City Council to approve projects prior to proceeding to Phase Three
- Phase Three: Detailed Design
- Phase Four: Construction

The first approved project was a dry storm water pond in W.W. Ashley District Park. In 2019 and 2020, a multi-purpose sports field was reconstructed at Aden Bowman Collegiate along with additional parking to allow the City of Saskatoon (City) to offer a continuing level of programming under a Joint Site Agreement with Saskatoon Public Schools. The W.W. Ashley dry pond and underground storm water infrastructure was tendered in December 2020, with winter excavation starting in February 2021. See Appendix 1 for the Design Renderings for W.W. Ashley Park Dry Pond.

A feasibility assessment completed for the second project, a dry storm water pond at Churchill Park, shows that the project is technically feasible and is expected to reduce flood risk for 71 properties in a 1-in-10 year rain event for three high risk flood areas near the following intersections:

- 1) Ruth Street/Cairns Avenue including Bute Street/Munroe Avenue;
- 2) Ruth Street/York Avenue; and
- 3) Bute Street/Albert Avenue.

Appendix 2, Churchill Park Dry Pond Feasibility Assessment, provides the concept design, a summary of the technical feasibility and estimated costs.

DISCUSSION/ANALYSIS

The proposed Churchill Park dry pond project will reduce flood risk in an area with a history of frequent flooding and expected future flooding with climate change. In 2014, the Ruth Street/Cairns Avenue and Bute Street/Munroe Avenue intersection area was rated highest among 30 areas under a formula incorporating the probability of flooding and the number of properties expected to flood during intense rain events. Survey results of residents living adjacent to these intersections following the August 8, 2017 rain event identified 16 properties with flood water entering the home, and an additional 20 properties with water pooling on the property. The project is expected to also be cost effective in reducing flooding in the areas ranked 24th and 25th among the 30 areas assessed in 2014.

FINANCIAL IMPLICATIONS

In 2019, the Government of Canada (Government) approved 40% cost sharing of the total \$54.0M estimated FCS eligible expenses to a maximum of \$21.6M through the Disaster Mitigation and Adaptation Fund (DMAF). The City approved Storm Water Utility funding of \$32.4M (60%) through previously approved increases to the Storm Water Management Charge.

The updated estimated cost for the first project, W.W. Ashley Dry Pond and related infrastructure (previously approved at \$5.7M), is \$5.3M including \$3.9M in eligible costs, and \$1.4M in ineligible costs for internal design, project management, and administrative expenses (\$600K) and the relocation of the multi-purpose sports field (\$800K) from W.W. Ashley Park to Aden Bowman. The sports field relocation provides for enhanced recreation opportunities for citizens, and more flexibility and lower construction costs for the dry pond design. However, because the sports field costs have not been approved for cost sharing by the Government, the City's portion of the costs for the overall project are expected to increase by \$0.3M from \$3.4M to \$3.7M.

The updated estimated cost for the Churchill Park storm water project (previously estimated at \$10.4M), is \$10.1M which includes \$9.6M in eligible costs for the dry pond and underground infrastructure, and \$500K for additional internal costs. The City's estimated total costs for the project are \$6.2M. A more detailed cost estimate for the Churchill Park project is provided in Appendix 2.

Revised total estimated FCS costs are \$57.3M, an overall increase of \$3.3M. The City's costs are estimated to be approximately \$4.0M more than previously approved, primarily due to sports field relocation and ineligible salary costs. See Table 1, FCS Project Eligible and Ineligible Costs, for details. Funding for the FCS is available through Capital Project #1619 - TU-Storm Sewer Trunk and Collection (2019 to 2027). The Storm Water Utility will address the overages through the Storm Water Utility capital and operational reserves, review of asset preservation annual spending, and potentially recovering additional costs through the DMAF agreement.

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Table 1 - FCS Project Eligible and Ineligible Costs

Project Information			2018 DMAF Agreement Estimate (\$ in Millions)			2021 Cost Estimate Update (\$ in Millions)					Change in CoS Costs 2018 vs. 2021
Project No.	Project Location	Const. Year	Total Eligible Costs	GoC Eligible Costs (40%)	CoS Eligible Costs (60%)	Total Eligible Costs	GoC Eligible Costs (40%)	CoS Eligible Costs (60%)	CoS Ineligible Costs	Total CoS Costs	
0	DMAF Agreement (Indigenous Consultation & GHG Report) ¹	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.1	\$ 0.1	\$ 0.1
1	Aden Bowman-CoS Sportsfield ¹	2019/ 2020	\$ 5.7	\$ 2.3	\$ 3.4	\$ -	\$ -	\$ -	\$ 0.8	\$ 3.7	\$ 0.3
	W.W. Ashley District Park Dry Pond ²	2021									
2	Churchill Neighbourhood Park Dry Pond ³	2022	\$ 10.4	\$ 4.2	\$ 6.2	\$ 9.6	\$ 3.8	\$ 5.7	\$ 0.5	\$ 6.2	\$ (0.0)
3	Cascade St & Dufferin Ave ³	2023	\$ 7.7	\$ 3.1	\$ 4.6	\$ 7.5	\$ 3.0	\$ 4.5	\$ 0.5	\$ 5.0	\$ 0.3
4	Early Dr & Tucker Cres ³	2024	\$ 7.8	\$ 3.1	\$ 4.7	\$ 6.5	\$ 2.6	\$ 3.9	\$ 0.5	\$ 4.4	\$ (0.3)
5	Main St & Cumberland Ave ³	2025	\$ 3.2	\$ 1.3	\$ 1.9	\$ 3.7	\$ 1.5	\$ 2.2	\$ 0.5	\$ 2.7	\$ 0.8
6	14th St & Cumberland Ave ³	2025	\$ 3.2	\$ 1.3	\$ 1.9	\$ 2.8	\$ 1.1	\$ 1.7	\$ 0.5	\$ 2.2	\$ 0.2
7	John A MacDonal Rd & McCully Cres ³	2026	\$ 4.4	\$ 1.8	\$ 2.7	\$ 6.2	\$ 2.5	\$ 3.7	\$ 0.5	\$ 4.2	\$ 1.5
8	21st St & Ave W ³	2027	\$ 3.2	\$ 1.3	\$ 1.9	\$ 3.6	\$ 1.4	\$ 2.2	\$ 0.5	\$ 2.6	\$ 0.7
9	24th St & 3rd Ave ⁴	2027	\$ 8.3	\$ 3.3	\$ 5.0	\$ 8.3	\$ 3.3	\$ 5.0	\$ 0.5	\$ 5.5	\$ 0.5
Totals:			\$ 54.1	\$ 21.6	\$ 32.4	\$ 52.1	\$ 20.8	\$ 31.3	\$ 5.2	\$ 36.4	\$ 4.0

Notes: ¹Projects are complete (confirmed costs).

²Project dry pond excavation and sewer work is awarded. Landscape construction is based on pre-procurement estimate (Class 1 Estimate).

³Projects are based on average of all bids received from W.W. Ashley Project plus contingency (Class 3 Estimate).

⁴Project design plan needs additional analysis (Class 5 Estimate).

OTHER IMPLICATIONS

Consultations with both the Parks Department and Recreation and Community Development Department, Community Services Division, emphasized the high community value of the quality recreation and green infrastructure currently offered in Churchill Park. The dry pond will be designed to maintain the sizes for existing sports fields and to drain within 24 hours after a rain event. Existing neighbourhood sports field programs will need to be relocated during 2022 and potentially 2023 depending on the health of the new sod. A layer of sub-drainage will be further evaluated as an additional measure to ensure that drainage meets standards while also considering geotechnical conditions and irrigation benefits. The dry pond will be designed to maximize the protection of trees in the park, and if trees require removal, Policy C09-11 Trees on City Property, will be followed (i.e. replacement or compensation).

Further consultations will help to identify ways to maintain the quality of valued recreation and minimize risks of disrupting the current quality of life offered by Churchill Park. A Crime Prevention Through Environmental Design (CPTED) evaluation is underway to identify opportunities for the park design to minimize crime while being accessible and inviting for desired community usage.

NEXT STEPS

Next steps include the following:

- Public engagement on the concept design with citizens and park users including sports groups, summer theatre, summer playground program representatives, Adelaide Park – Churchill Community Association, and the Churchill Park Community Garden through the Engage website, flyers and e-mails (March to April 2021);
- Detailed design, costing, and construction plan (March to November 2021);
- Construction tender and award (December 2021 to January 2022); and
- Construction (February 2022 to November 2022).

APPENDICES

1. Design Renderings for the W.W. Ashley Park Dry Pond
2. Churchill Park Dry Pond Feasibility Assessment

Report Approval

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