

## STAFF REPORT TO COUNCIL

**Report Prepared By:** Infrastructure services, Geoff Goodall  
**Meeting Date:** June 16, 2020  
**File No:**  
**RE:** **CHICKEN LADDER FLOOD HARDENING FEASIBILITY STUDY**

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### **RECOMMENDATION:**

That Council:

1. Waive the Town of Ladysmith Purchasing Policy and direct award the hydrologic work for the Chicken Ladder Flood Hardening Feasibility Study to Tetra Tech at an estimated cost of \$32,000; and
2. Amend the 2020-2024 Financial Plan accordingly, with funding to come from the Water Capital Reserve.

### **EXECUTIVE SUMMARY:**

A significant storm event in November of 2019 caused erosion at the Chicken Ladder intake. Remediation work needs to be completed at the site to protect the infrastructure from future high water events. Staff have requested a proposal from Tetra Tech to complete some feasibility work that will lead to the development of remediation options for the site. Tetra Tech is well suited to complete this work as they have done previous hydrologic work on this watershed. The cost for the work is estimated at \$32,000.

### **PREVIOUS COUNCIL DIRECTION**

N/A

### **INTRODUCTION/BACKGROUND:**

During the heavy rain event that occurred in November of 2019, significant flooding occurred at the Chicken Ladder intake. The flooding washed out the paved area adjacent to the dam exposing critical piping. In addition to this damage, a significant gravel bar was created above the dam which is now influencing flow direction.

Water levels at this location were higher than previously observed by staff. Staff completed some emergency remedial works after the storm to fill in eroded areas, but the site remains vulnerable to another high flow event.

Staff have met on site with Koers & Associates Engineering (the Town's water engineering consultant) and Tetra Tech to discuss options for hardening the site in order to withstand future high water events. Tetra Tech has provided engineering services related to the Holland Lake

system and has done past hydrologic work on this watershed for the Town.

Staff propose completing the remediation work in phases, with the Flood Hardening Feasibility Study being Phase 1. The work involved in this phase will include the following:

1. Determine the design flood event. The design event is to consider impacts of climate change, as recent storms/events have been significantly more intense than the historical records. Tetra Tech is to review its previous work and confirm the hydrologic changes for this watershed.
2. Develop alternative options designed to protect the intake while maintaining access for future maintenance and dredging. These alternatives are to be presented for review and approval by both the Town and Koers. These alternatives are also to be developed so as to protect the proposed sensors and weir upgrades.
3. Develop a preliminary set of design drawings detailing the preferred approach and providing a Class D cost estimate allowing the Town to budget the proposed upgrades.

The cost for Tetra Tech to complete the above tasks is estimated at \$32,000. Staff are recommending that Council direct award this work to Tetra Tech because of their familiarity with the system and past hydrologic work done on this watershed.

After completion of the feasibility study, staff will report back to Council with a recommended remediation option complete with cost estimates.

**ALTERNATIVES:**

Council can choose to direct staff to prepare a Request for Proposals for this work rather than direct award.

**FINANCIAL IMPLICATIONS;**

This project is not included in the 2020-2024 Financial Plan. Sufficient monies exist in the Water Capital Reserve to cover this project. Additional phases of this project will also need to be funded.

**LEGAL IMPLICATIONS:**

Staff have found no legal implications related to this project.

**CITIZEN/PUBLIC RELATIONS IMPLICATIONS:**

N/A

**INTERDEPARTMENTAL INVOLVEMENT/IMPLICATIONS:**

This project will be administered through the Engineering Department and will involve multiple staff. The bulk of the work will be completed by engineering consultants.

**ALIGNMENT WITH SUSTAINABILITY VISIONING REPORT:**

- |  |  |
|--|--|
| <input type="checkbox"/> Complete Community Land Use | <input type="checkbox"/> Low Impact Transportation |
| <input type="checkbox"/> Green Buildings             | <input type="checkbox"/> Multi-Use Landscapes      |
| <input type="checkbox"/> Innovative Infrastructure   | <input type="checkbox"/> Local Food Systems        |
| <input type="checkbox"/> Healthy Community           | <input type="checkbox"/> Local, Diverse Economy    |
| <input checked="" type="checkbox"/> Not Applicable   |  |

**ALIGNMENT WITH STRATEGIC PRIORITIES:**

- |   |  |
|---|--|
| <input type="checkbox"/> Infrastructure | <input type="checkbox"/> Economy                   |
| <input type="checkbox"/> Community      | <input checked="" type="checkbox"/> Not Applicable |
| <input type="checkbox"/> Waterfront     |  |

***I approve the report and recommendation(s).***

**Erin Anderson, A/Chief Administrative Officer**

**ATTACHMENT(S):**

None