

# Memo



**TO:** Joshua Frederick, P.Eng  
Manager, Environmental Engineering

**FROM:** Ben Martin, P.Eng  
Senior Project Engineer, Environmental Engineering

**DATE:** November 21, 2016

**FILE:** 16-1856

**SUBJECT: GARDOM POND CAPITAL COST ESTIMATE**

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On October 17, 2016 Environmental Engineering was requested to develop a project charter and capital cost estimate for the dam related work proposed at Gardom Pond located on North Pender Island, BC. A link to the project charter is provided for reference below:

15(1)(l)

[Gardom%20Pond/16-1856\\_ProjectCharter\\_GardomPondMitigation.pdf](#)

The capital cost estimates were developed based on the review of the following reports:

1. *Dam Safety Review*, dated August 31, 2011 by Ryzuk Geotechnical
2. *Dam Safety Review Addendum 1*, dated October 20, 2011 by Ryzuk Geotechnical
3. *Gardom Pond Dam Evaluation*, dated June 19, 2013 by AECOM
4. *Gardom Pond Dam Evaluation – Additional Investigations*, dated February 5, 2014 by AECOM
5. *Gardom Pond Dam – Decommissioning of Low-Level Outlet*, dated March 3, 2015 by AECOM

The base construction cost estimate used in the development of the rehabilitation estimate was obtained in report 5. The base construction cost estimate used in the development of the decommissioning estimates were obtained in report 3 and 4. Additional project related costs have been included as shown in the attached capital cost estimating form.

Note that the scope of the proposed dam rehabilitation work is provided in the AECOM reports listed above. Note that annual inspection, reporting and maintenance is not provided in the capital cost estimate. The AECOM report 3 *Gardom Pond Dam Evaluation* provides an estimate of \$2,000 for annual Dam Safety reporting and \$35,000 for 10-year inspections. A value of 2% of the asset value was used to estimate annual inspection, reporting and reserve contributions.

The reserve contributes to a capital replacement fund which funds future repairs and ultimately replacement of the asset.

The next effort with estimating would include a more detailed internal engineering review of the provided estimates. This effort would include a site visit/quantity survey, unit cost comparison, review of available labour and materials, discussions with AECOM and further evaluation of total project costs.

Memo

CRD

Regards,

Ben Martin, P.Eng.  
Senior Project Engineer  
Environmental Engineering

Attachment(s): Gardom Pond Rehabilitation Capital Cost Estimate – Rehabilitation & Decommissioning Options

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