

Request for Proposal

For

Lower and Upper Arden Rock Anchor Design

In Central Frontenac



— Quinte —
CONSERVATION
—

Requested by Quinte Conservation Authority
November 5, 2024

RFP Contact:
msmith@quinteconservation.ca

Closing:
Thursday, November 21, 2024 @ 2:30 pm

Quinte Conservation
RR#2
2061 Old Highway 2
Belleville, ON
K8N 4Z2

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Introduction

Through the support of the Water Erosion Control Infrastructure (WECI) and Central Frontenac, Quinte Conservation (QC) is undertaking a design to install rock anchors in both the Lower and Upper Arden dams.

We are seeking proposals from suitably qualified consulting engineering firms (“consultants”) to provide professional engineering services to perform this work.

Background

Lower Arden Dam

The Lower Arden Dam is an old mill dam situated along Arden Creek between Big Clear Lake and Arden Lake, approximately 200m downstream of Upper Arden Dam and 150m downstream of Middle Arden Dam in the hamlet of Arden. Arden Creek is a headwater tributary of the Salmon River watershed. Approximately 33.2 km² of drainage area is a tributary to the dam. The original function of the dam was to provide waterpower to an adjacent mill. The mill is no longer in operation, nonetheless the dam maintains a head pond that provides water supply and limited recreational uses.

The original construction of the dam is unknown. The dam is a concrete overflow structure 2.75 m high and 25.5 m long. The crest of the dam is 0.92m wide. Water discharge through the dam is over an uncontrolled 7.6m long and 0.75m high spillway situated at the middle of the dam and a 0.3m gate valve. The dam is not operated.

Hatch performed a DSR on this dam in 2009 based on the Ontario Dam Safety Guidelines prepared by the MNR, 1999.

KGS performed a DSR on this dam in 2023 based on the Ontario Dam Safety Guidelines prepared by the MNR, 2011. This DSR found that the factor of safety is below the MNR Guidelines for the winter usual and winter unusual loading conditions. This RFP is for the design of post-tensioned rock anchors through the dam abutment sections and overflow weir to achieve the required factor of safety in all loading conditions.

Upper Arden Dam

The Upper Arden Dam is situated along Arden Creek at the outlet of Big Clear Lake. Arden Creek is a headwater tributary of the Salmon River watershed. Approximately 33.2km² of drainage area and is a tributary to the dam.

The function of the dam is primarily to maintain Big Clear Lake water levels for recreational purposes and to provide area residents with water supply and flood attenuation during high flow events. Big Clear Lake has a surface area of approximately 310.8ha.

The original construction date of the dam is unknown. The dam, routinely operated, is a concrete overflow type structure 1.8m high and 14.9m long complete with a 2.55m wide stop log sluiceway. The crest of the dam is 1.1m wide.

Hatch performed a DSR on this dam in 2009 based on the Ontario Dam Safety Guidelines prepared by the MNR, 1999.

Ahydtech performed a Dam Break Analysis in 2017.

KGS performed a DSR on this dam in 2023 based on the Ontario Dam Safety Guidelines prepared by the MNR, 2011. The stability analysis concluded that both the representative gravity section and a combined section of the rollway with 1.5m width of the abutment gravity section on either side met the MNR requirements for the Usual Summer loading conditions, and the Post-Earthquake conditions, but fail to meet the requirements for the Winter Usual and Unusual conditions. The gravity abutment section fails to meet the factor of sliding safety requirements for the Flood conditions, while the combined rollway and abutment section fails to meet the requirements under the Earthquake loading conditions. This RFP is for the design of post-tensioned rock anchors to achieve the required factor of safety in all loading conditions.

Scope of Work

- For each dam, provide a P.Eng. stamped design report noting the factor of safety for the loading conditions before and after anchoring, and drawings and specifications for post-tensioned rock anchors to achieve the factor of safety required for all loadings as noted in the OMNR, 2011 guidelines. Drawings are to note any construction constraints or common installation practices.
- Due to funding requirements all invoices need to identify the work associated with Upper Arden Dam and work associated with Lower Arden Dam separately.

Available Data

Quinte Conservation will provide available documentation pertinent to the study. To this end we have completed a preliminary review of the documents and find the reports listed below may be of some assistance. Some data may require the establishment of a data sharing agreement for the duration of the project.

Known Reports or Data

Lower Arden Dam

- Dam Safety Review – Hatch, 2009
- Upper Arden Dam Break Analysis – Ahydtech Geomorphics, 2017
- Dam Safety Review – KGS Group, 2023

Upper Arden Dam

- Dam Safety Review – Hatch, 2009
- Dam Break Analysis – Ahydtech Geomorphic, 2017
- Dam Safety Review – KGS Group, 2023

Schedule

As stipulated in agreements with the Provincial funding partner (Ministry of Natural Resources) the project must be fully completed no later than March 1, 2025. An estimated schedule and work plan must be provided in the proposal with estimated completion dates for the various project milestones and deliverables.

The Schedule Milestones are set as a minimum requirement:

Proposal Posted for Tender	Wednesday, November 6, 2024
Questions Due	Monday, November 18, 2024 @ 1000
Addenda Posted if required	Tuesday, November 19, 2024
Tender Close	Thursday, November 21, 2024 @ 1430
Project Start-up	Monday, November 25, 2024
Draft Design Report & Drawings	Friday, January 31, 2025
Project Complete (All deliverables and final invoices)	Thursday, February 27, 2025

Note: Allocate 3 weeks for Quinte Conservation review of drafts.

Proposal Submission Requirements

The proposal must be submitted **no later than 2:30 pm, Thursday, November 21, 2024**. Copies of the proposal must be submitted electronically to:

Attention: Mike Smith

Email: msmith@quinteconservation.ca

The proposal shall be limited to 8 pages, not including staff and corporate experience records which may be appended. The proposal shall include:

- The proposed approach to achieve the scope of work deliverables;
- contact person and phone number and people involved in the preparation of the proposal;
- Gantt chart schedule showing activities, meetings, report submissions, etc;
- a list of key staff, their related experience in Ontario and role in this project;
- corporate experience on similar projects in Ontario and elsewhere; and
- sub-consultants to be used, their role, corporate experience in Ontario, key personnel, hourly rates and the mark-up rate to be used.

Any questions regarding the RFP should be emailed to msmith@quinteconservation.ca with the subject “**Lower and Upper Arden Dam Rock Anchor Design**” prior to

by **10:00am on Monday, November 18th, 2024**. An addendum synthesizing all questions and posting the responses will be available on the Quinte Conservation website no later than Tuesday, November 19, 2024.

Evaluation Criteria

QC will select the successful consultant based on an assessment of the submitted proposals based on a consistent evaluation criterion. The proposal with the lowest bid may not necessarily be accepted.

Criterion	Weighting
Understanding and meeting project requirements	40%
Project team experience related to project	30%
Project cost	30%

General Terms and Conditions

Acceptance of Proposals

This RFP is not an offer to enter into any contract or Project Agreement of any kind whatsoever. This RFP is not intended to create a binding contract. This RFP process shall be governed by and construed in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable therein.

This RFP document or addenda to the RFP document contains the entire requirements related to the RFP. Other information and/or documentation provided to the Proponent or obtained by the Proponent prior to the release of the RFP shall not have any force or effect.

Rejection of Proposals

The selection committee reserves the right to reject any or all proposals for failure to fully satisfy the specifications and requirements of the RFP.

Any award resulting from this RFP is subject to the successful completion of a contract between the consultant and QC.

Right to Amend

The QC reserves the right to amend or supplement the RFP, giving equal opportunities to all consultants who have bid, by way of an issued addendum.

Acceptance or Non-Acceptance of Proposal

Neither the lowest priced nor any proposal shall necessarily be accepted, and the decision of the selection committee is final. If the selection committee decides to accept a proposal, then this acceptance and the making of an award will be in writing. Unless and until such written notification has been given, there is no successful consultant, and no award has been made.

Associated Costs

There will be no payment to consultants for the work related to and material supplied in the preparation of responses to this RFP.

Confidentiality & Ownership of Documents

The consultant is advised that confidentiality issues may arise with respect to this project and will need to be cognizant of these issues.

The information contained in this RFP is confidential and proprietary. This RFP is provided for the exclusive use of the Respondent (potential “Contractor”) and copies shall not be made available to any other party, without written consent from QC. No other distribution of submissions or proposals is to be made by the Respondent. All proposals and supporting documentation shall become the property of QC and will not be returned.

Intellectual Property arising as a result of the Contract, including reports and drawings, will be the property of QC.

Information Ownership

All information collected and produced in report or digital form by the respondent shall become the property of Quinte Conservation and subject to the provisions of the Municipal Freedom of Information and Protection of Privacy Act. All public reports approved by the Full Authority Board will become public information.

Insurance

The successful bidder shall carry and maintain insurance written by an insurance company licensed to do business in Ontario for the term of the contract and must provide for the following:

1. Workplace Safety & Insurance Board (WSIB) clearance certificate
2. General Liability Insurance – minimum \$2 million coverage with Quinte Conservation Authority as an additional insured
3. Automobile Liability – minimum \$2 million coverage
4. Professional Liability - minimum \$2 million coverage

All policies and certificates shall provide for 30 days notification to Quinte Conservation in the event of cancellation, reduction in limits or changes in coverage.

Previous Communications

This RFP document and attachments and any addenda contain the entire requirements relating to this RFP. Other information and/or documentation provided to a prospective consultant or obtained by a prospective consultant prior to the release of this RFP, or any other time shall not have any force or effect.

Conflict of Interest

Each Proponent representative, on behalf of the team members must declare and continue to be under an obligation to declare all Conflicts of Interests or any situation that may be reasonably perceived as a Conflict of Interest that exists now or may exist in the future.

In connection with its RFP Submission, each Proponent shall:

- i i. avoids any Conflict of Interest in relation to the Project.
- ii ii. disclose to QC without delay any actual or potential Conflict of Interest that arises during the RFP process; and
- iii iii. comply with any requirements prescribed by QC to resolve a Conflict of Interest.

In addition to all contractual or other rights or rights available at law or in equity or legislation, QC may immediately exclude a Proponent from further consideration or remove the Proponent from the RFP process if:

- i i. the Proponent fails to disclose an actual or potential Conflict of Interest.
- ii ii. the Proponent, or any Team member fails to comply with any requirements prescribed by QC to resolve a Conflict of Interest; or
- iii iii. the Proponent's Conflict of Interest issue cannot be resolved.

Upon receipt of the Proponent's submission, QC shall, in its discretion, decide as to whether they consider there to be a real, perceived, or potential Conflict of Interest and whether such a Conflict of Interest can be mitigated. The proponent shall be notified of QC's decision. Attachment #2 – Declaration of Conflict of Interest must be signed and included with the Proposal.

Cancellation of RFP

Due to unanticipated expenditure constraints, this RFP may be cancelled at any time without liability by the QC to prospective consultants or to any other entity.

Authorization

To be considered a valid response, a consultant's submission must be completed and signed by an authorized company official.

Irrevocable

Bid submissions will be irrevocable for a period of sixty days from the closing date.

Accessibility

The supplier covenants and agrees to ensure that the Deliverables provided hereunder are consistent with the Ontario Human Rights Code ("OHRC"), the Ontarians Disabilities Act, 2001 ("ODA") and the Accessibility for Ontarians with Disabilities Act, 2005 ("AODA") and their respective regulations to achieve accessibility for Ontarians with disabilities. Without limiting the generality of the foregoing, the Supplier covenants and agrees to comply with QC's and the Township's accessibility standards, policies, practices, and procedures, as same may be in effect during the term of the Agreement and apply to the Deliverables to be provided hereunder by the Supplier.



Figure 2.1: Upper Arden Dam, Upstream Side from Right Bank, 2024



Figure 2.2: Upper Arden Dam, Dam Crest from Right Bank, 2024



Figure 3.1: Lower Arden Dam, Spillway from Downstream of Dam, 2021



Figure 3.2: Lower Arden Dam, Left Crest of Dam and Spillway from ight Dam Crest, 2024



Figure 3.3: Lower Arden Dam, Right Crest and Spillway of Dam from Downstream Right Bank, 2024