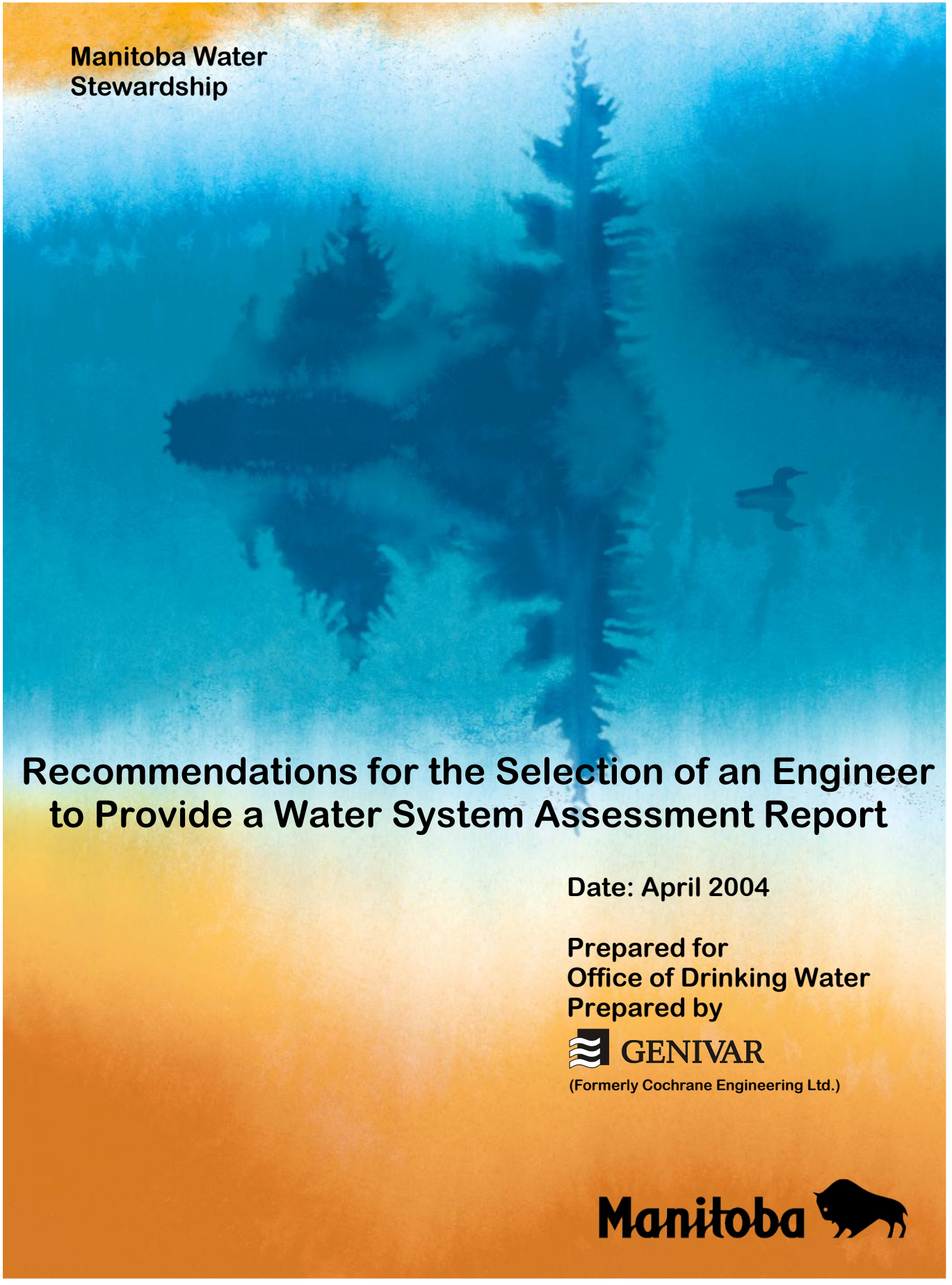
Manitoba Water Stewardship



Recommendations for the Selection of an Engineer to Provide a Water System Assessment Report

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Office of Drinking Water
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Manitoba

RECOMMENDATIONS FOR THE SELECTION OF AN ENGINEER TO PROVIDE A WATER SYSTEM ASSESSMENT REPORT

The following document is intended to assist the Owner of a Water System in acquiring the services of a Professional Engineer to conduct a water system assessment. Several options are presented as methods for acquiring a Professional Engineer's services. However, the final decision on how to proceed will be at the Owner's discretion.

For more information on acquiring services of a Professional Engineer, refer to the "Guide to the Engagement of a Consulting Professional Engineer" adopted by the Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM) and the Consulting Engineers of Manitoba (CEM). This information can be found at their representative web sites; www.apegm.mb.ca and www.consultingengineersmanitoba.com.

RECOMMENDED METHODS FOR SELECTING AN ENGINEERING CONSULTANT

The client should select an Engineer on the basis of knowledge and quality of service, rather than price. ***The practice of selecting an Engineer on the basis of fee is strongly discouraged***, as services selected on that basis can affect the objectivity of the Engineer and may not be in the best and long-term interest of the client.

It is required that the engineering personnel conducting the assessments have at minimum five (5) years direct experience in sanitary engineering and water system assessments.

CERTIFICATE OF AUTHORIZATION

It is a requirement of *The Engineering and Geoscientific Professions Act* that any corporation, partnership or other legal entity which contracts to, or otherwise engages in the provision of services which constitute the practice of professional engineering, directly or indirectly, must hold a Certificate of Authorization issued by APEGM. A condition of the Certificate of Authorization is that the entity must have professional liability insurance coverage. A sole proprietorship (i.e. not an incorporated entity) is not required to hold a Certificate of Authorization. ***However, if the sole proprietor does not have professional liability insurance coverage in the same amounts and on the same terms and conditions as are required for a Certificate of Authorization, he or she must notify the client of the absence of such insurance and must, before proceeding, also obtain written authorization from each client to provide the professional services being contracted.***

Professional liability insurance is strongly recommended for this type of work.

SELECTION METHODS

Three options are presented. Option 1 and Option 2 are endorsed by APEGM and CEM.

OPTION 1: DIRECT ASSIGNMENT METHOD

Direct assignment is the preferred method for small projects (under $25,000 in fees), as well as many larger projects. This is especially applicable where an engineering firm has a long-standing relationship with a client or has satisfactorily completed previous phases of the same project, and providing that firm has the qualifications to conduct the assessment. If direct assignment is

favoured, the client may request a work scope and budget from their preferred consultant, prior to authorizing the work.

OPTION 2: QUALIFICATIONS BASED SELECTION (QBS) METHOD

If no suitable relationship exists with a particular firm, or where the client's preferred firm does not hold the qualifications to conduct an assessment, the QBS method is recommended in order to contract with the best qualified engineering firm.

It is recommended that a "Two Envelope System" be implemented. Proposals should be requested in two separately sealed envelopes: Where Envelope #1 contains the technical qualifications, methodology, and schedule, and Envelope #2 contains the proposed level of effort and fee. Envelope #1 for all proposals is opened and each is evaluated on its merits. Only Envelope #2 of the top rated engineering firm is opened. Envelope #2 from all other firms is returned to firms unopened. The Two Envelope System promotes unbiased selection of the best technical proposal before contract negotiation.

OPTION 3: VALUE BASED SELECTION (VBS) METHOD

The VBS method is similar to the QBS method, but the contract is awarded to the engineering firm with the combination of best qualifications and price.

The following table is a summary of the steps in each of the three suggested selection processes.

Summary		
OPTION 1: **DIRECT ASSIGNMENT**	**OPTION 2:** **QUALITY BASED SELECTION**	**OPTION 3:** **VALUE BASED SELECTION**
Contact preferred engineering firm and Invite credentials	Invite credentials based on the Terms of Reference (TOR)	Invite credentials based on the Terms of Reference (TOR)
	Evaluate credentials and select shortlist of three firms	Evaluate credentials and select shortlist of three
Invite proposal based on TOR if firm has credentials	Invite proposals based on TOR using two envelope system	Invite proposals based on detailed TOR using the Two Envelope System
	Open Envelope #1 only, and evaluate proposals	Open Envelope #1 only, and evaluate proposals
	Select preferred Engineering firm and open Envelope #2	Open Envelope #2 for all submissions, unless disqualified
Finalize/negotiate fee and contract terms. Award contract.	Finalize/negotiate fee and contract terms. Award contract.	Finalize/negotiate fee and contract terms. Award contract.

SUGGESTED REQUEST FOR PROPOSAL (RFP) FORMAT

A Letter of Interest should first be sent to the prospective firm(s). The Letter of Interest will describe what is required and request qualifications of key staff. The client will then evaluate the credentials of those firms responding, and shortlist those with the best qualifications for the RFP process.

The following is the recommended format of the RFP based on a "Two Envelope System".

1. Cover sheet

   Indicate project title and client contact. Submission deadline is to be stated.

2. Project Description

   Provide short description of client, and scope of work.

3. Schedule

   Indicate milestones and completion date(s).

4. Engineering Services Required

   Statement of scope of work as per the TOR - Insert the Office of Drinking Water TOR

   Indicate any additional tasks that are required

5. Suggested Proposal Format

   Summarise Proposal format to be followed by firms [sample attached]

6. Evaluation Method

   Indicate scoring system to be used for evaluations

7. Mandatory Requirements

   To be included in the Proposal:

   - Copy of Certificate of Authorization
   - Copy of Certificate of Professional Liability Insurance
   - Signed declaration that qualified staff will be undertaking the assessment.

   Example Declaration to be provided in the Proposal:

   "I, the undersigned, hereby certify that the personnel who will be involved in assessment of the Water System are competent by virtue of training and experience in engineering relating to drinking water supplies, to engage in practices that fulfil the requirements of the "Terms of Reference for an Assessment of Water System Infrastructure and Water Supply Sources"

   Name: _____ Title: _____

   Signature: _____ Date: _____ "

8. Invitation List

   Provide list of firms participating in the RFP process.

9. Reference Documents

   The Owner should endeavour to gather and list relevant documents, drawings, etc… Doing so will reduce the overall engineering fees for the Owner.

SUGGESTED PROPOSAL FORMAT

Three (3) copies of the proposal should be submitted in bound form. If QBS or VBS method is selected, the engineering cost portion of the proposal is to be submitted in a separate sealed envelope with the project title and the Engineering firm's name clearly marked on the envelope. The following format is suggested.

1. Title
2. Letter of Transmittal
3. Table of Contents
4. Introduction

   Describe the background, purpose, and scope of the project.
5. Technical

   Describe the specific technical services to be provided.
6. Personnel

   Describe the project team organization, provide resumes of qualifications, education and experience of the team members, and indicate backup capabilities and where sub-consultants will be used.
7. Schedule

   Indicate time required for various phases of the work, and anticipated completion date.
8. Engineering Cost (Excluding GST)

   Provide a detailed price breakdown for each category of work and a statement of the total engineering cost. List the individuals assigned to each category, their position classification and their charge out rate. Include disbursements and other applicable engineering costs.
9. Mandatory Documents

   Include those requested in the RFP

SUGGESTED PROPOSAL EVALUATION METHOD

The following point system is suggested.

From Envelope #1:

1.	Technical	- understanding of the TOR	15
		- technical services provided and approach	15
2.	Personnel	- project management	10
		- staff and specialists	10
		- local experience	10
3.	Schedule		10
		SUB –TOTAL	**70**

Candidate firms receiving 50 or less points should be disqualified. The sealed engineering cost portion (Envelope #2) of the proposal is to be returned unopened to those firms whose proposal will not be considered further.

If it is a QBS method, the preferred firm's Envelope #2 can be opened to finalize fee and contract terms.

If it is a VBS method, Envelope #2 from those firms meeting the qualifications may be opened and the engineering cost portion of the proposal can be evaluated with the following point system

4. Detailed Price Breakdown, including charge out rates 10

5. Total Engineering Cost [1st place = 20 pnts; 2nd = 18; 3rd = 16; etc...] 20

TOTAL POINTS 100

If the firm with the highest score is available to execute the work, then contract terms can be finalized.

EVALUATION CRITERIA

Technical

Understanding Terms of Reference

The engineer should describe clearly the objectives of the water system assessment, to confirm that they understand the requirements stipulated by the Office of Drinking Water.

The engineer should describe clearly their knowledge of the water system for which the assessment is being requested. Does the engineer understand the scope and nature of the water source, the treatment facilities and distribution network?

Technical Services Provided and Approach

Does the engineer clearly describe what steps will be taken and what tasks will be completed in the course of completing the assessment? Do the tasks appear to address the workscope defined in the Terms of Reference? Does the level of effort appear to be adequate? Does the technical approach appear to be professional? Does it reflect a thorough understanding of the issues facing water systems?

Personnel

Project Manager

Is the project manager well experienced (15+ years) in water supply, treatment and distribution projects? Are they active in professional and technical organizations devoted to water works issues? Is the project manager familiar with the community and water system being assessed?

Staff and Specialists

Assess the qualifications of the project engineer who will actually conduct the on-site assessment and prepare the report. Does this engineer have the mandatory minimum five years experience in sanitary engineering, specializing in water supply, treatment and distribution projects? Is this engineer an active member of technical associations devoted to water?

For any specialists who are identified in the proposal, are they well-qualified and experienced in water projects?

Local Experience

Does the engineer's team have specific local experience on process projects on this water system? On any infrastructure projects in this community? Are they familiar with the community, the Owner's staff, etc? Do they have experience in neighbouring communities?

Schedule

Does the consultant propose a schedule that comfortably accommodates their proposed workplan? Do they allow adequate time to complete key tasks? Does the proposed completion date conform to the Owner's expectations?

Fee

Breakdown and Hourly Rates

Does the consultant provide a workplan matrix showing how many hours will be spent by each team member on each of the work tasks? Do the allocated hours seem adequate to complete each task? Are the hourly rates for the staff adequate for the experienced, qualified, staff that are needed to complete the assessment in the manner contemplated by the Office of Drinking Water?

Total Engineering Cost

Is the fee quoted by the best qualified engineering team adequate to successfully complete a thorough and detailed assessment? Is it reasonable in the context of the critical importance of the assessment and of the due diligence needed to assure owners as to the capabilities and potential deficiencies of systems that constitute the first line of defence of public health?

CONTRACTUAL AGREEMENT

The size, complexity, duration and other aspects of the assignment govern the agreement between Client and Consulting Engineer. In general, a simple agreement should suffice appended with a mutually accepted set of standards, terms and conditions. The primary reason for such agreements is to indicate clearly and precisely to each party the conditions under which the assignment will proceed. The agreements are a means of avoiding misunderstandings of duties, rights and responsibilities.