

REGIONAL MUNICIPALITY OF OTTAWA-CARLETON  
MUNICIPALITÉ RÉGIONALE D'OTTAWA-CARLETON

REPORT  
RAPPORT

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Our File/N/Réf. Your File/V/Réf.	<b>31-18-96-0010W</b>
DATE	24 March 1997
TO/DEST.	Co-ordinator Corporate Services and Economic Development Committee
FROM/EXP.	Environment and Transportation Commissioner
SUBJECT/OBJET	<b>BRITANNIA WATER PURIFICATION PLANT SULPHURIC ACID SYSTEM CONTRACT CC-6053 CONSULTANT DESIGN AND CONSTRUCTION SERVICES</b>

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**DEPARTMENTAL RECOMMENDATION**

**That the Corporate Services and Economic Development Committee and Council approve the next phase of Contract CC-6053 with CH2M Gore & Storie Limited, Ottawa, to provide engineering design and construction services at an estimated fee of \$63,000, bringing the revised total contract provision to \$80,000.**

**BACKGROUND**

The removal of colour from the raw water at the Region's water purification plants is accomplished using alum as a coagulant with sodium silicate as a coagulant aid. The efficiency of the coagulation process is dependent upon the pH of the water and must be adjusted for effective process performance. Prior to 1995, the control of pH at the Britannia Water Purification Plant was accomplished through the addition of extra alum.

Beginning in 1996, the use of acidified alum was piloted at the Britannia Plant and demonstrated a cost saving of about \$60,000 per year in net chemical costs. With the addition of a separate sulphuric acid feed system, further savings of an additional \$85,000 per year are expected. With a total estimated project cost of \$530,000, this corresponds to a payback period of roughly seven years. Additional benefits will be simpler and more precise process control, increased ability to

optimize the process for varying conditions, simpler chemical tendering and inventory control and a significant reduction in the amount of waste sludge produced. The same sulphuric acid addition process will be used at the Lemieux Island Water Purification Plant following completion of the new Chemical Storage and Feed Project later this year providing consistency of process control and simplifying operator training.

### RATIONALE

CH2M Gore & Storie Limited (CG & S) have extensive experience in potable water treatment plant design, water treatment process and knowledge of the operating philosophy of both Regional water purification plants. CG & S were responsible for the initial design, expansion and chemical modification projects at the Britannia Plant and also the design, expansion and rehabilitation of the Lemieux Island Plant. CG & S was the only firm requested to submit a proposal for the design and construction services based on their expertise and work performed on the predesign component. The breakdown for this engineering assignment is as follows:

Previous Authority	
- Predesign	\$ 17,000
This Request	
- Detailed Design	\$ 40,000
- Construction Services	\$ 18,000
- Contingency Allowance	<u>\$ 5,000</u>
Total	\$ 80,000
(all amounts include G.S.T.)	

This report seeks approval for the design and construction services in the amount of \$58,000, plus a contingency allowance of \$5,000 for a total fee of \$63,000.

The budget for the construction component of this project was identified in the 1996 Capital Budget, and is estimated at \$450,000.

### CONSULTATION

The public consultation process is not applicable.

### EXPENDITURE JUSTIFICATION

Improvements to the treatment process will reduce operating costs at the Britannia Plant, maintain consistent operation of the chemical processes at both water purification plants and help to ensure continued high quality water is provided to Ottawa-Carleton.

FINANCIAL STATEMENT

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Approved Budget to Date	\$540,000
Total Paid & Committed	<u>(24,742)</u>
Balance Available	\$515,258
THIS REQUEST	<u>(63,000)</u>
Balance Remaining	<u>\$452,258</u>

Funds were provided in the 1996 Capital Budget, Account No. 922-41756, Britannia Water Purification Plants Sulphuric Acid System.

*Approved by  
M.J.E. Sheflin, P.Eng.*

MS/jb

FINANCE DEPARTMENT COMMENT

Funds are available as indicated.

*Approved by T. Fedec  
on behalf of the Finance Commissioner*