

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

REPORT
RAPPORT

Our File/N/Réf.
Your File/V/Réf.

DATE 13 August 1997

TO/DEST. Co-ordinator
Corporate Services and Economic Development Committee

FROM/EXP. Environment and Transportation Commissioner

SUBJECT/OBJET **CORROSION CONTROL STUDY - RMOC WATER
TREATMENT PLANTS - CONSULTANT APPOINTMENT
CONTRACT NO. CC 7632**

DEPARTMENTAL RECOMMENDATION

That the Corporate Services and Economic Development Committee approve the appointment of CG&S (CH2M Gore & Storrie Limited), Ottawa, to conduct a Corrosion Control Study at the RMOC's Water Purification Plants, for a total contract provision of \$72,919.

BACKGROUND

The need to develop a corrosion control strategy for the RMOC's water distribution system has become a priority for the Water Division. At the present time, quicklime is the chemical used to raise the pH level in treated water in order to minimize corrosion and prolong the existence of the distribution system's infrastructure. The quicklime chemical feeding equipment at both the Lemieux and Britannia Water Purification Plants has been in operation for over 30 years and has reached its life expectancy. Parts and service are difficult to obtain due to the obsolescence of the particular equipment in place.

Recently completed studies into disinfection effectiveness have identified an opportunity to improve water treatment process effectiveness, if changes to either the point of application of the present pH adjustment chemical can be made, or alternative pH adjustment processes are employed.

RATIONALE

A study of the current process and alternatives will begin with establishing treated water goals with respect to pH, alkalinity, corrosivity, and turbidity. The study will review the use of different chemicals, as well as, process and infrastructure modifications to determine the most cost-effective corrosion control alternatives suitable for further detailed assessment.

A cost/benefit analysis of the determined options will follow for comparison to the current process. The design, construction and operation of a pilot plant at the Britannia Water Purification Plant for one year will ensue. The goals are to obtain data regarding corrosivity of the existing infrastructure given the alternative pH adjustment chemical processes, confirm optimum chemical dosages, establish treated water quality and determine the effects on disinfection practices of the identified alternatives. It is expected that the study will be complete within a two year period and will include a final report, complete with all results, analyses and recommendations.

CG&S have submitted a solicited proposal to study the current process and alternatives to determine a corrosion control strategy to preserve the infrastructure of the water distribution system. CG&S offers a strong team with extensive experience and knowledge of the treatment processes in place at both Lemieux and Britannia Water Purification Plants. This site specific knowledge and experience coupled with experience gained in other corrosion treatability studies, water treatment chemistry and water treatment process engineering makes CG&S the appropriate consultant to carry out this work.

CG&S will undertake this project at a cost of \$61,980, plus GST of \$4,339, and a contingency allowance of \$6,600, bringing the total contract provision to \$72,919.

CONSULTATION

The consultation process was not applicable.

EXPENDITURE JUSTIFICATION

The need to replace the quicklime chemical feeding equipment at both the Lemieux and Britannia Water Purification Plants has presented the opportunity to develop a corrosion control strategy. A study of the current process and alternatives, including the use of different chemicals, as well as, process and infrastructure modifications will identify the most cost-effective corrosion control options.

FINANCIAL STATEMENT

	\$
Approved Budget to Date	1,222,000
Total Committed	<u>(762,341)</u>
Balance Available	459,659
THIS REQUEST	<u>(72,919)</u>
Balance Remaining	<u>386,740</u>

Funds are available in the 1997 Capital Budget, Account No. 922-41718-3603, Water Purification Plants Process Modifications (Reference page 236).

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

DW/FM/jw

FINANCE DEPARTMENT COMMENT

Funds are available as indicated.

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