

REGION OF OTTAWA-  
CARLETON

REPORT

RÉGION D'OTTAWA-CARLETON

RAPPORT

Our File/N/Réf.                   **50 18-00-0007U**  
Your File/V/Réf.

DATE                               07 June 2000

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

FROM/EXP.                       Environment and Transportation Commissioner

SUBJECT/OBJET                 **WATERMAIN CLEANING AND LINING PROGRAM  
CONSULTANT APPOINTMENT (ETL00-3040)**

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**DEPARTMENTAL RECOMMENDATION**

**That the Corporate Services and Economic Development Committee approve the award of Contract ETL00-3040 to WSA Consultants, Ottawa, to provide engineering services for the Cleaning and Lining Program for a total contract provision of \$391,753.**

**BACKGROUND**

Part of the Region's water distribution system consists of approximately 500 kilometres of unlined cast iron pipes which were built during the period from 1874 to 1959. The replacement cost for this pipe would exceed \$300 million. Much of the pipe has reached the end of its structural design life due to age and high breakage rates and will require replacement. Analysis of the break histories of cast iron pipe installed between 1950 and 1959, however, indicate that this pipe is still structurally sound and therefore would not require immediate replacement.

A problem experienced with unlined cast iron watermains is that the pipes are often heavily tuberculated with internal corrosion which results in significant reduction in flow capacity. Cleaning and lining of the pipe is a proven method of rehabilitation to restore the carrying capacity of the pipe and improve the domestic and fire water supply.

Epoxy lining has recently been introduced in North America as an effective method for lining an existing pipe with minimal disruption to water supply. The technology was developed in England and has been extensively used as part of their rehabilitation strategy. This method has proven to be cost-effective,

with a cost of one-third to one-half the cost of total replacement and has an expected design life of 40 to 50 years.

In September 1998, the Region successfully completed its first cleaning and epoxy lining project of approximately 780 metres of unlined cast iron watermain in the Village of Rockcliffe. This rehabilitation was a proactive approach selected to successfully resolve a red water problem. Based on our first experience, the epoxy lining technology was used in an expanded cleaning and lining contract in 1999. This contract involved the cleaning and epoxy lining of approximately 3,600 meters of existing 152 mm. and 203 mm. watermains on six streets located in the Copeland Park, Nepean area. This project will be completed in June 2000.

The 2000 Water Distribution System Rehabilitation Program identified a budget allocation of \$1,400,000 for the 2000 Cleaning and Lining component. This rehabilitation component will continue in 2001 with a proposed budget allocation of \$1,500,000.

#### DESCRIPTION OF ASSIGNMENT

The proposed assignment is intended to undertake the specialized engineering services required to effectively complete the proposed watermain rehabilitation work. The major tasks to be completed within this assignment include:

- assistance in the planning and selection of candidate locations;
- attendance at public information sessions;
- preparation of required design drawings and specifications;
- construction co-ordination and quality control inspection;
- final project reports.

It is intended that the scope of this assignment will be undertaken for the proposed cleaning and lining programs in both the year 2000 and 2001.

As noted above, epoxy lining technology is relatively new to the local construction industry and it is imperative that the Region establish proper specifications and inspection procedures to obtain the expected results. In order to develop some internal expertise in the cleaning and lining technology the following additional tasks have been requested:

- prepare and conduct training sessions to staff on epoxy lining technology;
- research, evaluate various cleaning and lining processes and techniques used within Ontario and Eastern Canada.

The proposed completion date for the assignment is 31 December 2001.

#### CONSULTANT SELECTION PROCESS

The Consultant Selection Process was carried out in accordance with the Guidelines for procurement of Consulting Engineering Services.

A Request for Qualification (RFQ) was issued on the open Internet-based MERX bid distribution system by the Supply Management Division (SMD) of the Finance Department and only two firms responded. These responses were evaluated by a panel comprised of staff from the Environment and Transportation Department, facilitated by a Purchasing Officer from the SMD.

The responses were evaluated on the basis of the following criteria:

- Previous relevant experience in each of the major tasks of the assignment;
- Qualifications of the team members;
- Local availability;
- Client references of relevant projects completed.

The evaluation concluded that only one of the two responses submitted, represented the best overall value to the Region. The North American experience presented in the response by WSA Consultants was very complementary to the specialized nature of the engineering services requested. WSA Consultants is located in Ottawa and has formed a partnership with Robinson Consultants Inc. from Kanata to complete this assignment, which ensures a local availability of the team members will exist during each work phase of the program.

Based upon our evaluation of the two responses to the Request For Qualification (RFQ), and with the concurrence of the Supply Management Division, the Request For Proposal (RFP) stage was replaced with a submission of sole-source negotiated scope of work and cost estimate by WSA Consultants. The submission was evaluated with reference to documents published by the Professional Engineers Ontario (PEO) which establishes guidelines for provision of specialized engineering services. The Department recommends the award of Contract ETL00-3040 to WSA Consultants, Ottawa with a contract provision of \$332,840, a contingency of \$33,284, plus G.S.T. of \$25,629 for a total contract amount of \$391,753.

### CONSULTATION

The Cleaning and Lining component of the Water Distribution System Rehabilitation Program is a Schedule 'A' activity under the Class Environmental Assessment. Once locations are selected, information bulletins and Open Houses are proposed to present the construction methods, timing and expected results.

### EXPENDITURE JUSTIFICATION

Cleaning and epoxy lining has proven to be a cost-effective method of watermain rehabilitation with a cost of about one-third to one-half the cost of total replacement. Cleaning and lining will improve the carrying capacity of existing unlined pipes in areas where flow has become insufficient to meet domestic and fire water supply demands. A cleaning and lining program initiated now will defer the major expenditures required for the replacement of the unlined cast iron pipe watermains.

FINANCIAL STATEMENT AND APPROVAL

	900435
	\$
Approved Budget to Date	14,250,000
Total Paid and Committed	<u>(3,197,483)</u>
Balance Available	11,052,517
THIS REQUEST	<u>(391,753)</u>
Balance Remaining	<u>10,660,764</u>

Funds have been provided in the 2000 Capital Budget, Order No. 900435, Water Distribution System Rehabilitation Program (Reference page 344), Purchase Requisition No. 10062978.

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

FM/jw

SUPPLY MANAGEMENT DIVISION

I concur,

*G. Ford on behalf of*  
*the Finance Commissioner*