REGION OF OTTAWA-CARLETON | REPORT
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Our File/N/Réf. 46-00-0097

DATE 2 March 2000

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

FROM/EXP. Planning and Development Approvals Commissioner

SUBJECT/OBJET **VILLAGE OF RICHMOND SANITARY SEWER FLOW MONITORING AND FLOW REMOVAL STUDY CONSULTANT APPOINTMENT**

DEPARTMENTAL RECOMMENDATION

That the Corporate Services and Economic Development Committee and Council approve the appointment of Robinson Consultants Inc., Kanata, to undertake the Village of Richmond Sanitary Sewer Flow Monitoring and Flow Removal Study, for a total contract provision of $142,010, of which $25,000 will be contributed by the Township of Goulbourn.

BACKGROUND

The Richmond sanitary sewer system experiences significant inflow and infiltration during wet weather conditions, well above the Ministry of Environment's and Region's design criteria. The pumping station and forcemain, constructed in 1983 to replace the Richmond sewage lagoons, are owned and operated by the Region of Ottawa-Carleton. The station's maximum pumping rate is 160 l/s. Normal dry weather flow to the station ranges from 10 l/s to 40 l/s and up to 80 l/s during typical wet weather periods. When the inflow and infiltration exceed 160 l/s during rare wet weather events, sewage must be bypassed to the Richmond Lagoons, an area which is now otherwise managed for conservation purposes.

While the PS inflows have been monitored on a continuous basis since 1993, flow monitoring of the sanitary system was last conducted in 1989. The monitoring results suggested that the problem may be distributed equally over the village area. It is suspected that sump pumps connected directly to the sanitary sewer system may be a problem, in particular for those areas immediately adjacent to the Jock River. The 1989 monitoring program did not specifically isolate these areas, likely in part due to the number of monitors required and the lack of information suggesting that such a strategy would be appropriate.

Since 1989, the Township of Goulbourn has made significant efforts to correct the extraneous flow conditions. However, in spite of all of these efforts, the problem of excessive flows still exists - resulting in occasional sewage bypassing, increased pumping and maintenance costs and use of existing capacity in the Regional trunk sewers and the treatment plant. Bypass events have occurred approximately once every two years with the last event noted over a 24 hour period between April 8 and 9, 1999.

STUDY PURPOSE AND SCOPE

This study is a joint project between the Region of Ottawa-Carleton and the Township of Goulbourn. The main purpose of the study is to identify sources of excessive extraneous flows (inflow and infiltration) into the Richmond sewage system, based on the results of an inspection and flow monitoring program, and to use this information as a basis for providing specific recommendations for a cost effective flow removal work plan.

The proposed scope of work includes:

A. Review of existing monitoring data and operational information available from the Township of Goulbourn and the Region.

B. Installation and maintenance of an appropriate number of temporary flow monitors at key locations to establish existing flow conditions within the Village of Richmond wastewater collection system.

C. Collection and analysis of flow monitoring data including dry (DWF) and wet (WWF) weather flows for each monitored area including the calculation of the design average and peak flows. Compare this with the monitored data. Assess the impact of ground water levels on infiltration rates, and estimate the relative importance of the inflow.

D. Identification of areas and sources of excessive inflow and infiltration based on acquired flow monitoring data.

E. Preparation of a communications plan to facilitate the inspection of private home services. Such a plan must be prepared to ensure community and individual homeowner acceptance of the inspection program.

F. Inspection of an appropriate number of homes in areas of high inflow rates to assess the extent of sump pump connections to the sanitary system. The number of homes selected should be based on considerations of statistical significance.

G. CCTV inspection of service connections at the homes selected to assess the average condition of service pipes and potential for groundwater infiltration. (To be coordinated with Item F. - Sump pump inspection).

H. Evaluation of potential solutions and preparation of specific detailed recommendations including cost estimates for effective flow removal measures. These recommendations must also include a detailed plan for monitoring the effectiveness of the flow removal measures.

DISCUSSION

Four consultants submitted proposals for this assignment. The proposals were evaluated based upon the following criteria.

Resources and Experience of Firm
Experience, Qualifications and Availability of Team Members
Understanding of Objectives
Quality of Approach and Methodology
Proposed Work Plan, Schedule and Level of Effort
Financial Proposal

The engineering consulting firm of Robinson Consultants Inc. received the highest point total score and is recommended for this assignment. The assignment cost consists of $120,719 for consulting fees, a contingency allowance of $12,000 and G.S.T of $9,290 for a total of $142,010.

CONSULTATION

A communications plan to elicit community and homeowner acceptance of the inspection program is an integral part of the consultant assignment.

TOWNSHIP OF GOULBOURN FINANCIAL CONTRIBUTION

The Township of Goulbourn will contribute $25,000 to the study cost, subject to final approval of the Township of Goulbourn Council.

EXPENDITURE JUSTIFICATION

The Wastewater Master Plan, in keeping with Policy 10.1.4 of the Regional Official Plan, recommended that the Village of Richmond be a pilot project for a flow management study. Development in the Village of Richmond is limited by high flows rates during wet weather which reach the capacity of the existing pumping station - forcemain configuration.

FINANCIAL STATEMENT AND APPROVAL

	$ (900211)	$ (900258)
Approved Budget to Date	1,700,000	3,091,467
Total Paid and Committed	(43,223)	(1,854,362)
Balance Available	1,656,777	1,237,105
THIS REQUEST	(79,756)	(62,254)
Goulbourn contribution	14,000	11,000
Balance Remaining	1,591,021	1,185,851

Funds are available in the 2000 Capital Budget, Internal Order Nos. 900211, Flow Management Strategy and 900258 Flow Monitoring Program (reference pages 353 and 373) under purchase requisition nos. 10045093 and 10045095 respectively.

Approved by Nick Tunnacliffe
Planning and Development Approvals Commissioner