

TO: His Worship and Members

MASTERTON WATER TREATMENT WORKS FILTER UPGRADE

Purpose of Report

To advise Council of the investigations undertaken and to recommend a preferred procurement process for the upgrading of the Masterton Water Treatment Works (WTW) filters.

Background

Investigation into replacing the WTP filter distributors identified risks regarding the structural integrity of the 3 older circular filters, highlighting potential non-compliance with the new earthquake standards.

Opus International Consultants has undertaken a desktop study of the treatment process with emphasis on capacity and structural issues. They recommend that the most cost effective solution to maintain the treatment works capacity and standard was for distributor replacement on filters 4 & 5, and complete replacement of filters 1, 2 and 3, (utilising the existing pumps and control equipment etc.) due to their non-compliance with the new earthquake standards.

The distributor replacement of filter 4 has just been successfully commissioned and filter 5 will be completed in March. The existing media has been reused as an investigation into using alternatives confirmed that the slight improvement in treatment performance would not justify the \$650,000 investment required.

Concrete Tank Consultants were engaged to carry out a specific investigation into filters 1, 2 and 3, to see if these could be brought up to compliance with the new earthquake standards. They reported that the filter walls could potentially be strengthened with reinforcing and spray concrete. However, there was uncertainty as to the structural integrity and connectivity of the filter shell to the concrete floor.

During subsequent maintenance to filter 3, it was found tree roots had grown into the filter base, and that groundwater leaked into the filter under-drain when it is emptied for maintenance. Based on this evidence of structural compromise it has been recommended that filters 1, 2 and 3 be replaced.

Professional Service Provider Selection and Findings

Two consultants tendered for the professional service to provide design and contract management for the WTW filter upgrade project with Filtration Technology Limited being engaged.

Design work for the construction of three new filters (filters 6, 7 and 8) has now been completed. It is proposed to construct the new replacement filter shells, then retire the existing round filters (filters 1, 2 and 3), transferring the existing media to the new filters.

This upgrade will also allow for automation of the backwashing process for all filters and reduce staff time requirements with potential savings on power bills by undertaking backwashing at off-peak times.

The next step in the project is to invite tenders for the civil, mechanical and electrical components of the construction contract. The cost for the filter upgrade project is estimated to be \$1.2 million, which is within the budget allowed in the Council's Long Term Plan.

Recommendation

That the Council approve the invited tender process for the WTW filter upgrade contracts.

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22 February 2013