

MEMORANDUM

DATE: February 15, 2017

TO: William Stowe, CEO and General Manager

FROM: Danny J. Klopfer, P.E., Engineering Services Manager
Nathan Casey, P.E., Project Manager

SUBJECT: Crystal Lake Intakes and Pump Station Design Report

In 2001, Des Moines Water Works staff installed a temporary system to pump water out of the Raccoon River and into Crystal Lake and a secondary pump to pump water from the lake to McMullen Treatment Plant. This was done to increase the source water for the plant and to utilize natural treatment processes to remove nitrate. At the time of its installation, these temporary pumps were not used often, but in recent years, Crystal Lake has become an important part of DMWW source waters. For this reason, a permanent intake and pump station is being planned.

In 2015, DMWW staff began work on design of a permanent river intake, lake intake, and pump station. In early 2016, pumps, variable frequency drives, motor control centers, and a transfer switch were purchased. Due to limited staffing, it was decided to bring in a qualified engineering consulting firm to review the existing design, provide options for improvement, and possibly complete the design.

The Request for Proposals issued on January 17, 2017, was for quasi-value engineering study. A value engineering study is a systematic approach to improve the value of a project by improving functionality and reliability or by reducing cost. This study is an attempt to quantify the costs of construction and provide an overall more reliable and cost-effective system.

Proposals were due February 17, 2017. It is expected that costs for this study will be less than \$50,000. If a qualified engineering firm is found and the performance of the study is considered acceptable, it is expected that the same firm will be hired to make the changes and complete the design. Staff is planning on making a recommendation for award at the February Board Meeting.