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WATER POLLUTION CONTROL

MEMORANDUM

To: Gregg Mandsager, City Administrator

Cc: Nancy Lueck, Finance Director

From: Jon Koch, Director WPCP

Date: February 19th, 2013

Re: ICP Metals Testing Unit

INTRODUCTION: The WPCP Lab does extensive metals testing for local industries, plant discharges to the river and biosolids applied on local farm ground. These tests are required by the IDNR and EPA.

BACKGROUND: The lab is currently using a Thermo Electron M5-Atomic Absorbance Spectrophotometer (M5-AA) to test metals several times a week throughout the year. The M5-AA has reached the end of its life cycle and is considered obsolete by the manufacturer. The manufacturer will no longer support the M5-AA instrument and parts will be limited to what is currently on hand. Circuit boards for the WPCP M5-AA have been replaced twice in the last year and are no longer available.

RECOMMENDATION/RATIONALE: WPCP staff recommends replacing the M5-AA with an Inductive Coupled Plasma Optic Emissions Spectrophotometer (ICP-OES). The ICP-OES tests for more metals at lower detection limits than a standard AA machine. ICP machines also eliminate the need to purchase acetylene and nitrous oxide gas. Three bids were received: a Thermo 6200 ICP-OES for \$70,939.70, a Thermo 6300 ICP-OES for \$75,668.78 and a Perkin Elmer for \$80,358.78. WPCP staff recommends the purchase of the Thermo 6300 due to increased metals testing capabilities, better data manipulation with the software and electronic pressure controls for the plasma torch to allow the user to have better control of the system for more accurate measurements. The 6300 upgrade in software (over the 6200) will also better allow for future testing of aluminum, an IDNR designated pollutant of concern for the Mississippi River.

