MUSCATINE

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WATER POLLUTION CONTROL

MEMORANDUM

To: Gregg Mandsager, City Administrator

CC: Nancy Lueck, Finance Director
Cinda Hilger, Secretary

From: Jon Koch, WPCP Director

Date: May 16, 2018

Re: WPCP Lab Water Purification System

INTRODUCTION: The Muscatine Environmental Laboratory has budgeted to purchase a new water purification system required to perform analysis on water samples from the Water Pollution Control Plant (WPCP) and private regional customers. Bids were received with the low bid coming from Aqua Solutions, Inc. in the amount of $12,200.00. $12,000 was budgeted for this purchase.

BACKGROUND: The WPCP Environmental Laboratory is a State licensed lab that performs hundreds of analysis daily. These include samples from the treatment process as well as biosolids for land application and water samples for local industry pretreatment compliance. It also performs lab work for customers such as local pools and spas as well as drinking water for private well systems in the surrounding communities. Private industries such as Monsanto utilize the lab as well for multiple purposes.

Certification of the lab is vital to maintaining this client base and remaining in compliance with DNR and EPA discharge limits. Purified water is the basis of almost all lab analysis and must meet very strict standards for viable testing. The current water purification system is not able to produce the amount of water that is required since opening the new lab and the inflow of new customers. The current system has also had multiple maintenance issues that were costing nearly $1,000/month and down time that could jeopardize these new clients.

The system being recommended will produce Type I and Type II water, both of which are needed to perform the required testing. The budgeted $12,000.00 was intended for only a Type II system with a subsequent purchase of a Type I system during the next budget cycle. This unit will produce both Type I and Type II water without the planned $10,000.00 future purchase.

RECOMMENDATION/RATIONALE: Staff recommends the purchase of the Aqua Solutions, Inc. 2018571 RO & DI Water Purification System in the amount of $12,200.00.

BACKGROUND:

1. Lab Purchase Memo

INTEROFFICE MEMORANDUM

TO: JON KOCH

FROM: PATTI FULLER-BLOECHL

SUBJECT: LABORATORY WATER SYSTEM

DATE: 5/11/2018

LABORATORY COMBINED TYPE II & TYPE I WATER SYSTEM

The Muscatine WPCP Lab budgeted $12,000 for a laboratory water Type II system for the 2017/2018 budget. The Muscatine WPCP Laboratory requires a Type I (Pure Water) and a Type II water system. A Type I water system for $10,000 was to be in the 2018/2019 budget.

A new system is necessary, since the current system is near the end of its lifecycle, and the manufacturer will cease to support the system. The cost of the consumables of the current system is expensive and the consumable parts continues to increase in price. Several repairs have been performed on both water systems in the last 10 years. While looking for a Type II System, a system within the $12,000 budget with a Type I and II system was found. The lower priced system also comes with less expensive consumables.

The water system that is selected should be able to keep up with the current demand of both flask ware washers, which use Type II water for the final rinse and production for the type of Type I water demands. The current Type II system and a Type I laboratory water systems were purchased in 2008. The Type II currently produces 12 Liters/hr. and requires a day to fill the 100-L storage tank (purchased in 1995). The new system water production will be 20-L per hour water production and a 200 L water storage tank, included in the purchase price.

I recommend that the laboratory purchase a system from Aqua Solutions. This system is a Type II and a Type I system that is combined. The operating cost for the laboratory water system should be one third of the current operating cost of the current system if the water filters turn over at the predicted rate.

	Vendor	Quote No.	2 year Operational Cost	Price
1.	Aqua Solutions, Inc	2018571 RO & DI	$ 2,320	$ 12,200
2.	Thermo Fisher	574226	$ 9,400	$ 22,087
3.	Fisher Sci. – Lab Supply Company		$ 9,400	$ 22,000