

ITEM #: 22  
DATE: 02-27-24  
DEPT: P&R

**COUNCIL ACTION FORM**

**SUBJECT: LEASE AGREEMENT WITH CARRICO AQUATIC RESOURCES, INC., FOR FURMAN AQUATIC CENTER CHLORINATION EQUIPMENT**

**BACKGROUND:**

The Furman Aquatic Center (FAC) opened in 2010 and averages approximately 90,000 patrons per year. In order for patrons or staff to be in the water, certain standards outlined in the State of Iowa Pool Code, need to be met. **One of those standards requires the chlorine content to be between one and eight parts per million. In order to achieve that requirement, chlorine is injected into the disinfection system. Since FAC opened in 2010, liquid chlorine (Sodium Hypochlorite) has been used to meet State Pool Code Requirements at an annual usage rate of approximately 5,000 gallons.**

Liquid chlorine is very caustic, volatilizes very easily, and is a skin irritant. It also loses its efficacy over a short period of time. Additionally, liquid chlorine has more than doubled in price over the last three years. **An alternative to a liquid chlorine disinfection system is the use of solid chlorine briquettes. Solid chlorine briquettes can be stored for many months or years in a sealed container and no efficacy is lost. Chlorine briquettes are planned to be used at the Fitch Family Indoor Aquatic Center, Steven L. Schainker Plaza, and the Daley Park Splash Pad.** Over the past year, staff researched converting the disinfection system at FAC from liquid chlorine to solid chlorine briquettes, which would address the issues with cost, safety, and efficacy, as well as provide standardized equipment at all of the City's aquatic facilities.

The City spent just over \$18,000 for liquid chlorine in 2023 for FAC. Liquid chlorine is around 13 on the pH scale. State Pool Code requires pool water to have a pH between 7.2 and 7.6. When liquid chlorine is added to water, the pH increases, which requires the injection of carbon dioxide to lower the pH to the required range. Solid chlorine briquettes have a pH of 7.8. When chlorine briquettes are added to water, the pH of the water will increase only slightly and will require less carbon dioxide to lower the pH of the water to the required range. **This in turn will reduce annual carbon dioxide costs for FAC, which totaled over \$11,000 in 2023.**

Carrico Aquatic Resources (CAR), Oelwein, Iowa, produces the solid chlorine briquette system being specified for the City's future aquatic facilities. Therefore, staff obtained a proposal from CAR to supply all new equipment to convert to a solid chlorine briquette system at FAC (Attachment A). **CAR's proposal is in the form of a one-year lease proposal. The lease provides the City with the feed systems (valued at approximately \$23,200) at no charge. The City must purchase a minimum supply of 5,000 lbs. of chlorine briquettes, which is the amount estimated to be necessary for one season of operation. The estimated cost of the chlorine briquettes, including delivery, is \$20,290.**

The City would need to purchase a booster pump separately from the agreement (estimated to cost \$2,122). The City would pay CAR to install the feed systems and booster pump, and would pay required permit fees to the State for the conversion. The cost for these components is \$3,022, including the \$900 permit fee. The total project cost, including the contract with CAR, installation, permit fees, and the separately purchased booster pump, is \$25,434. Since funding is already budgeted for chlorine

and carbon dioxide, the only additional costs to the City for the project are the booster pump and permit fees. However, staff believes sufficient savings in chemical costs will be experienced to offset these additional expenses.

CAR provides a one year parts and repair warranty and a maximum response time of 24 hours for all service related for the equipment. After one year, the chlorine system becomes property of the City for no additional charge.

**ALTERNATIVES:**

1. Approve the Pulsar Precision Feeder Lease Agreement with Carrico Aquatic Resources, Inc., Oelwein, Iowa in the amount of \$23,312.
2. Do not approve the Pulsar Precision Feeder Lease Agreement with Carrico Aquatic Resources, Inc., Oelwein, Iowa in the amount of \$23,312.
3. Refer this item to staff for further information.

**CITY MANAGER'S RECOMMENDED ACTION:**

**Converting from liquid chlorine to solid chlorine briquettes is a win-win for the City. The benefits include reduced annual operating costs and a standardized chlorine system for all aquatic facilities.** The same solid chlorine briquette disinfection system will be installed at Steven L. Schainker Plaza, the Fitch Family Indoor Aquatic Center, and the Daley Park Splash Pad. **The proposed conversion provides for increased safety, lower costs, and standardization of equipment at the City's aquatic facilities. Therefore, it is the recommendation of the City Manager that the City Council approve Alternative #1, as described above.**

**ATTACHMENT(S):**

[Attachment A: City of Ames Pulsar ESA REV 02.21.2024.pdf](#)