

## **MEMORANDUM**

**TO:** Claire Powell, City Manager

**VIA:** Aaron Russell, P.E., Director of Public Services

**FROM:** Katelyn Hearon, Assistant Director of Public Services

**DATE:** December 15, 2025

**SUBJECT:** **Approval of a Professional Services Agreement with HDR Engineering, Inc. for the C.R. Feaster Water Treatment Plant Process Study – Phase 2 Testing in the Amount of \$1,263,724; and Authorization for the City Manager, or Her Designee, to Execute the Agreement.**

### **BACKGROUND**

The City of Lewisville owns and operates the C.R. Feaster Water Treatment Plant (CRFWTP), a 20.49 million-gallon-per-day facility that provides drinking water to the community. As outlined in the City's Comprehensive Water System Master Plan (CWSMP), the City is evaluating process improvements to enhance treatment capacity, improve taste and odor control, and position the City to meet emerging water-quality regulations.

The CWSMP recommended a plant process study to assess proposed changes to the treatment process, including the addition of ozone treatment and a transition to biofiltration. Ozone treatment includes distribution of ozone gas (O<sub>3</sub>) through water so its strong oxidizing power can destroy pathogens and break down organic pollutants, removing odors and color. Biofiltration is when water is passed through a filter media that has a thin layer of beneficial microorganisms on it. Those microbes biologically break down dissolved organic matter and some contaminants as the water flows through, improving taste, odor, and overall water quality. These changes would enhance the City's multi-barrier treatment capabilities, reduce seasonal taste and odor issues from algal blooms in Lewisville Lake, and help address potential contaminants. The use of ozone and biofiltration will significantly reduce the need for chlorine for disinfection.

This improvement supports *Strategy #1: Maintain the Quality of Water Supply* of the Water Focus Area of the City of Lewisville Sustainability Action Plan.

Phase 1 of the study, completed by HDR Engineering, developed the bench- and pilot-scale test plan and identified key process objectives. Phase 2 of the study will carry out bench- and pilot-scale testing to validate process performance, optimize chemical application strategies, and collect data to right-size future facility designs.

## **ANALYSIS**

HDR Engineering, Inc. was selected to perform Phase 2 based on its experience and previous work on Phase 1. Under the attached Professional Services Agreement (PSA), HDR will provide engineering services including:

- Bench-scale testing of coagulation, manganese oxidation, and adsorption processes.
- Twelve-month pilot testing to evaluate ozone and biofiltration performance using a package treatment plant intended for pilot studies.
- Monthly data summaries and technical workshops with City staff.
- Preparation of a final Process Study Report with recommendations for future implementation.

The total fee for Phase 2 services is \$1,263,724, which includes engineering labor, pilot equipment rental, and analytical costs. The study duration is approximately 16 months, including 12 months of pilot operation.

Funding for this project is available in the Ozonation project CIP budget. The study will guide the design of ozone and biofiltration facilities to be included in future CIP projects.

## **CITY STAFF'S RECOMMENDATION**

That the City Council approve the agreement and authorize the City Manager, or her designee, to execute the agreement as set forth in the caption above.