



## Agenda Memorandum

Agenda Item – {{section.number}}.E.

City Council Meeting  
October 14, 2024



### **Strategic Priority 3: Community Health and Safety**

Invest in innovative and collaborative approaches to provide a continuum of services that preserve, promote, and protect the health, safety, and environment of Westminster.



### **Strategic Priority 5: Resilient Infrastructure**

Maintain and invest in resilient infrastructure that creates the highest return for safety, community connectivity, enjoyment of life, and local economic success.

**Subject:** Authorize the City Manager to Purchase a Replacement Water Quality Profiling System from the Sole Source Provider YSI/Xylem, Inc. for use at Standley Lake

**Prepared By:** Andy Cross, Water Quality Supervisor  
Kelly Cline, Water Quality Administrator

### **Recommended City Council Action:**

Authorize the City Manager to purchase a Water Quality Profiling System in the amount of \$76,162 from the sole source provider YSI/Xylem, Inc. for use at Standley Lake.

### **Summary Statement:**

- Real-time water quality data from Standley Lake is critical to assess the health of the reservoir, identify trends, and monitor for changes or events that can directly impact drinking water treatment processes.
- To check the water quality in Standley Lake, the City installed a YSI/Xylem Water Quality Profiling System (Profiler). The Profiler takes in-situ water-quality measurements through the full length of the water column by lowering a suite of water-quality sensors from the surface down to the bottom of the reservoir, collecting measurement data at one-meter intervals.
- There is currently \$170,000 worth of compatible sensors and peripheral equipment deployed in Standley Lake. There are no other manufacturers in the United States that build similar systems compatible with these sensors and peripherals.
- The current Profiler was installed in 2008, but it is now experiencing mechanical issues that require increasing amounts of time to repair. To maintain proactive water quality data,

purchasing a new Profiler is recommended as it is more cost-effective than attempting further updates or multiple short-term fixes.

- Westminster Municipal Code requires authorization by City Council for sole source purchases over \$50,000 and cumulative purchases over \$250,000.
- Adequate funds are available for this expenditure.

**Fiscal Impact:**

\$76,162 in expenditures

**Source of Funds:**

Utility Fund: Water Quality Lab R&R capital project

**Policy Issue(s):**

Should City Council authorize the sole source purchase of a new Profiler for Standley Lake from YSI/Xylem, Inc.?

**Alternative(s):**

1. City Council could choose not to authorize the sole-source purchase of a new Profiler. This alternative is not recommended as it would likely result in a decline in the ability to monitor water quality in Standley Lake.
2. City Council could direct Staff to competitively bid the purchase of a new Profiler. There are limited options for this specific type of instrumentation and none in the United States that would be compatible with existing equipment deployed in the field. Competitively bidding this purchase would likely not result in lower costs and would cause delay in ensuring reliable water quality testing at Standley Lake.

**Background Information:**

Standley Lake provides water storage for the City of Westminster. In 2002, a Profiler was installed in the reservoir to automatically collect in-situ water-quality measurements through the full length of the water column by lowering a suite of water quality sensors from the surface down to the bottom of the reservoir, recording measurement data at one-meter intervals four times daily when the lake is ice-free. Data from the Profiler is downloaded remotely using cellular telephone modem telemetry, and the Profiler can be remotely controlled.

The data from the Profiler is used to assess the health of Standley Lake, identify long-term trends and seasonal patterns in water quality, and monitor for changes or events that are potentially problematic for drinking water treatment processes. The Profiler data can be used to spot developing algae blooms and monitor flood events. In 2013, Staff was able to see water quality impacts develop in the lake that ultimately forced the City's Semper Water Treatment Facility to shut down until a temporary polymer feed system was set up. The Profiler is also able to help identify when hypoxia in the lake will cause manganese releases from lake-bottom sediments, at which point the treatment plant operators can proactively adjust the lake intakes to optimize their oxidizing chemical usage.

Profiling systems can monitor changes in water chemistry and identify the influx of contaminants from runoff impacted by wildfire or other contamination events. By collecting comprehensive data on various water quality indicators including temperature, conductivity, pH, dissolved oxygen, chlorophyll, and dissolved organic matter, the system supports informed decision-making. This allows for better management strategies to address things like hypoxia, the effects of storms, or wildfire runoff, ensuring the reservoir remains safe for aquatic life and human use. A sample report of the profiler data is attached (Attachment 2).

The original 2002 Profiler began to experience technical failures in 2007, and the company that built it (Apprise Systems Inc.) went out of business and the Profiler was no longer compatible with newer water quality sensors. In 2008, a new Profiler manufactured by YSI/Xylem, Inc. was installed. That system has been updated twice, but is now experiencing mechanical issues that require increasing amounts of staff time to repair. Replacing the existing Profiler is recommended to maintain reliable water quality data.

The purchase of a replacement Profiler supports the City's Strategic Priority of Resilient Infrastructure by monitoring and safeguarding the City's critical raw water supply in Standley Lake.

Respectfully submitted,

*Jody Andrews*

Jody L. Andrews  
City Manager

**Attachments:**

Attachment 1 – Xylem Sole Source Justification  
Attachment 2 – Sample of Profiler Data 2024