



# The City of *Saline*

Saline City Hall | 100 N. Harris St. Saline, Michigan 48176  
Phone: (734) 429-4907 | Fax: (734) 429-0528  
[www.cityofsaline.org](http://www.cityofsaline.org)

## Memorandum

**From:** City Engineer Tesha Humphriss

**Date:** January 22, 2024

**Subject:** 24-15 Water Master Plan

**Background Brief:**

Part 12 of Michigan Act 399 of 1976, known as the Safe Drinking Water Act, requires owners of public water systems to complete a study every five years to evaluate the reliability of the system to ensure a continuous supply of water. The last Water Reliability Study for the City of Saline was finalized in November 2016.

A Water Reliability Study is a comprehensive document that analyzes all water system infrastructure, including water supply wells, the water treatment plant, water distribution mains, and storage towers. The hydraulic water model is calibrated as part of the Reliability Study and then utilized to evaluate the system performance under different operating conditions. Both current and future demand conditions are evaluated. This modeling analysis can then be used to recommend capital improvements to the water infrastructure.

The city started updating the water reliability study in December 2021 by completing hydrant flow tests throughout the water system to calibrate the water model. The December 2021 hydrant flow tests indicated that there were broken or closed valves in our distribution system. Closed valves create artificial dead ends within the water system, which decreases reliability, decreases water pressure, decreases water clarity, and increases maintenance costs. More information on the December 2021 calibration flow tests can be found on page 2 of the attached April 2022 DPW newsletter. We are pleased to report that DPW completed the water system valve inventory program in 2022 which eliminated some artificial dead ends. The next step after valve inventory is re-calibration of our hydraulic water model.

Unfortunately, in 2022 water supply well #4 went down, resulting in not enough water supply available to complete the necessary fire flow tests for model re-calibration. More information on the impact of well #4 being out of service can be found in the October 2023 Water Clarity Summary (attached). Staff expects new replacement well #7 will be operational this spring. Therefore, we are now

ready to move forward with the next steps in the State mandated reliability study.

Although losing well #4 was a huge setback in analyzing our distribution system, the new management team has learned a lot about our water system over the last 2 years. We are proud of the progress we have made towards the first step of a good asset management program - inventory of our distribution system. We are using a GIS database to store inventory of the water distribution system and we appreciate Council's support in investing in updated asset management tools to better manage our essential infrastructure.

As part of our overall goal to implement an asset management based capital improvement plan, we have budgeted for the preparation of a water master plan in fiscal year 2024 and 2025. The master plan will incorporate the components of a water reliability study, general plan, and asset management plan into one document. Completing these together will result in a more efficient comprehensive study and robust capital improvement plan. Attached is a proposal from OHM with more detail on the scope of work proposed.

**Previous Action:** Council authorized an updated water reliability study at the December 6, 2021, meeting. As outlined in the background section above, work was completed through initial model calibration and was put on hold after well #4 went out of service.

**Economic Impact:** \$97,100 from Water Funds

**Budget Line Items:** 591-556-801-003 and 591-556-806-000

**Amendment Required:** No.

**Recommended Motion:**

MOVED

SECONDED

To **acknowledge** receipt of the memo from Engineer Humphriss and to **approve or not approve** the contract with OHM for a Water Master Plan in an amount not to exceed \$97,100.

**ATTACHMENTS:**

[City of Saline Water Master Plan - Proposal.pdf](#)

[April 2022 DPW Newsletter.pdf](#)

[October 2023 Water System Handout.pdf](#)