



Department Source: City Utilities - Sewer/Stormwater

To: City Council

From: City Manager & Staff

Council Meeting Date: March 6, 2023

Re: Authorizing an agreement for professional engineering services with Olsson Inc. to calibrate the hydraulic wet weather sewer model and generate a final report of findings.

Executive Summary

Staff has prepared for Council consideration a resolution authorizing the City Manager to execute an agreement with Olsson Inc. in the amount not to exceed \$116,373.60 to provide professional engineering services associated with hydraulic wet-weather model calibration.

Discussion

The Columbia Wastewater and Stormwater Integrated Management Plan (IMP), dated September 28, 2018, was adopted by City Council on December 3, 2018, and acknowledged by the Missouri Department of Natural Resources (MDNR) on March 21, 2019. The IMP outlines anticipated schedules for following long-range management actions and investments with regard to wastewater treatment improvements, wastewater collection system capacity, renewal and maintenance, and storm water management. The wet weather planning goal in the 5-year action plan is to develop a collection system model and evaluate system capacity enhancements. In order to support this goal, the base data for a sanitary sewer collection system hydraulic model was developed by internal staff and a third party consultant.

In Winter 2022-2023, Olsson Inc. provided professional engineering services to review, refine and provide dry weather calibration of the hydraulic model and develop recommendations for further development for the hydraulic model. Additionally, Olsson Inc. developed a flow and rainfall monitoring plan to specify the number and location of flow metering sites and rainfall gauging sites. The flow monitoring plan was used to contract for the flow monitoring work.

Data collected from the flow monitoring will be used by Olsson Inc. to calibrate the hydraulic wet weather model and establish rainfall-derived inflow and infiltration (RDII) that impacts the system. After the model has been calibrated, a final report of findings will be generated and presented to the City of Columbia. The final report will identify future areas of focus for data collection for system monitoring that will analyze system capacity needs, identify areas for future upgrades, and study areas to reduce sanitary sewer overflows (SSOs).

Olsson Inc. will provide synthetic unit hydrographs (SUH's) and complete wet weather modeling for 1-, 2-, 5-, 10-, and 25-year return interval rain events. A tabulation of sub-basin RDII results and related figures summarizing the results shall also be provided. Future inflow and infiltration study areas will be selected based upon the hydraulic model. The agreement with Olsson Inc. is for a not to exceed amount of \$116,373.60 and will be paid from the Sewer Utility operating budget.



Fiscal Impact

Short-Term Impact: The proposed agreement is not to exceed \$116,373.60.

Long-Term Impact: There is no long term impact associated with the services provided.

Strategic & Comprehensive Plan Impact

Strategic Plan Impacts:

Primary Impact: Reliable Infrastructure, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Environmental Management, Tertiary Impact: Land Use & Growth Management

Legislative History

Date	Action
02/08/2023	R26-23 Authorizing an agreement for professional engineering services with Trekk Design Group, LLC for sanitary sewer flow monitoring for calibration of the sewer hydraulic model and to establish rainfall derived inflow and infiltration impacts.
10/03/2022	R149-22 Authorizing an agreement for professional engineering services with Olsson Inc. for sanitary collection system model review, refinement and dry weather calibration services, and development of a flow and rainfall monitoring plan.
02/01/2021	REP12-21 Wastewater and Stormwater Integrated Management Plan 5-Year Action Plan Annual Summary.
12/03/2018	R198-18 Adopting the Columbia Wastewater and Stormwater Integrated Management Plan Final Report
12/03/2018	PH47-18 Consider adoption of the Columbia Wastewater and Stormwater Integrated Management Plan Final Report
11/05/2018	R166-18 Setting a Public Hearing: consider adoption of Columbia Wastewater and Stormwater Integrated Management Plan Final Report
08/07/2017	TMP-5384 City Council Work Session Wastewater/Stormwater Integrated Management Plan Update Presentation
12/19/2016	B331-16 Authorizing a memorandum of understanding with the Missouri Department of Natural Resources relating to the development of an integrated management plan for City of Columbia wastewater and stormwater systems; authorizing approval of an Abatement Order on Consent with the Missouri Department of Natural Resources.

Suggested Council Action

Approve the resolution authorizing the City Manager to execute this agreement.