



# City of Columbia

701 East Broadway, Columbia, Missouri 65201

Department Source: City Utilities - Sewer/Stormwater

To: City Council

From: City Manager & Staff

Council Meeting Date: August 21, 2017

Re: Agreement with the United States Geological Survey for Groundwater Monitoring of the McBaine Bottoms, including the Eagle Bluffs Conservation Area

## Executive Summary

Staff has prepared for Council consideration, an ordinance authorizing the City Manager to execute an agreement with the United States Geological Survey (USGS) for ground water monitoring in the McBaine Bottoms, around the City's wetland treatment units, and on the Eagle Bluffs Conservation property, for a one year period. These wells will be monitored for constituents of interest to the City including, inorganic ions, pesticides, wastewater organics and pharmaceutical compounds. The cost for this monitoring is shared between the Sewer Division and the Water Division of the Utilities Department and funds are included in the operating budgets of both divisions.

## Discussion

In 1992 a collaborative agreement among the USGS, the City of Columbia and the Missouri Department of Conservation began groundwater monitoring in the McBaine Bottoms around the City's wetland treatment units and on the Eagle Bluffs Conservation property. The purpose of the study was to assess the effect of the constructed wetlands on the ground water quality and flow. This initial study was completed in 1999 and a significant conclusion was that the compounds associated with the sewage effluent in the wetlands could potentially migrate from the wetlands toward the City's municipal drinking water supply well field. Based on the results, all parties involved concurred that the water quality monitoring should continue and that all analysis should be performed by the USGS laboratory for consistency. The objective of performing these studies is to continue to monitor the water quality throughout the McBaine Bottoms to track changes in groundwater quality in the vicinity of the public supply well field and the Eagle Bluffs Conservation Area. is to provide the City with the information needed to protect the well field and ensure good quality drinking water.

The USGS has provided the City an updated proposal to continue the monitoring through 2023 with annual approval. The proposal is attached and includes detailed information on the purpose and objective of the study, the wells to be monitored, analysis to be performed and the annual cost for each year.



## Fiscal Impact

Short-Term Impact: The cost to the City for FY18 of the proposal is \$69,550.00 with the Sewer Division paying 80% and the Water Division paying 20%. The funding for this has been included in the FY18 proposed operating budgets for each division.

Long-Term Impact: The future costs for fiscal years 2019, 2020, 2021, 2022 and 2023 are anticipated to be \$73,400, \$74,450, \$78,150, \$78,960 and \$87,500 respectively. These annual amounts will be included in the operating budgets for both utilities.

## Strategic & Comprehensive Plan Impacts

### Strategic Plan Impacts:

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

### Comprehensive Plan Impacts:

Primary Impact: Environmental Management, Secondary Impact: Infrastructure, Tertiary Impact: Not Applicable

## Legislative History

Date	Action
10/03/2016	B249-16 Authorizing a joint funding agreement with the USGS for groundwater monitoring of well sites in the vicinity of the wetland treatment units and Eagle Bluffs Conservation Area.
01/04/2016	B376-15 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and Eagle Bluffs.
10/20/14	Res. 201-14 Authorizing a joint funding agreement with the USGS for water resources investigations relating to the hydrologic monitoring of well sites in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
08/20/2012	Res. 135-12 Authorizing a joint funding agreement with the USGS for groundwater monitoring of well sites in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
09/19/2011	Res. 166-11 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
09/20/2010	Res. 195-10 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
11/17/2008	Res. 261-08 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland



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12/03/2007	treatment units and the Eagle Bluffs Conservation Area. Res. 278-07 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
10/16/2006	Res. 224-06 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
11/07, 2005	Res. 245-05 Authorizing an agreement with the USGS for groundwater monitoring in the vicinity of the wetlands.
11/15/2004	Res. 236-04 Authorizing an agreement with the USGS for groundwater monitoring in the vicinity of the wetlands.
01/05/2004	Res. 10-04 Authorizing an agreement with the USGS for groundwater monitoring in the vicinity of the wetlands.
12/16/2002	Res. 233-02 Authorizing agreements with the USGS RE: Groundwater Monitoring in the Vicinity of the Wetlands.
10/01/2001	Res. 209-01 Agreements with USGS RE: Groundwater Monitoring in the Vicinity of the Wetlands.
10/02/2000	Res. 197-00 Agreements with USGS RE: Groundwater Monitoring in the Vicinity of the Wetlands.
09/28/1999	Res. 185-99 Agreements with USGS RE: Groundwater Monitoring in the Vicinity of the Wetlands.
10/05/1998	Res. 197-98 Agreements with USGS for Groundwater Monitoring in the Vicinity of Wetlands Project.
09/02/1997	Res. 137-97 Agreements with USGS for Groundwater Monitoring of Well Sites Around Wetland Treatment Units.
09/16/1996	Res. 134-96 Agreement for Groundwater Monitoring of Well Sites at the Wastewater Treatment Units (USGS).
12/18/1995	Res. 231-95 Agreement with USGS for Ground Water Monitoring in Wetlands Vicinity.
03/20/1995	Res. 62-95 Agreement for Groundwater Monitoring of Well Sites Around Wetlands Treatment Units.
09/07/1993	Res. 143-93 Agreement with USGS for Groundwater Monitoring of Wells around Wetlands.
07/06/1992	Res. 105-92 Authorizing agreement with Missouri Department of Conservation in connection with groundwater monitoring at the wetlands.

## Suggested Council Action

Authorize the City Manager to approve the agreement with the USGS for groundwater monitoring.