



## Legislation Text

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**File #:** 1991-2015, **Version:** 1

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In the fall of 2013, the City of Columbus water supply from the Hoover Reservoir developed a taste and odor problem. The problem was derived from cyanobacteria (*Anabaena*) in the reservoir, which produced the compounds geosmin and 2-methylisoborneol (MIB). These compounds are known to cause taste and odor problems. During the months that the problem persisted, the City of Columbus spent an extra \$723,000.00 on water treatment at their Hap Cremean Water Treatment Plant and was prepared to spend up to \$970,000.00 in treatment in the fall and early winter of 2014-2015 as a preventative measure.

City of Columbus officials speculated that the 2013 taste and odor problem at Hoover Reservoir may have been exacerbated by nutrients absorbed by sediment or in decaying plant material that had settled to the bottom of the reservoir while it was stratified in the late-summer and early fall. Once the reservoir turned over in the fall, these nutrients were resuspended which contributed to the bloom of *Anabaena* in the fall and early winter.

The dam at Hoover Reservoir has three valves that the City can use to release water downstream: an upper valve, a middle valve and a lower valve. Prior to 2014, the City usually released water from the middle valve. However, during the summer-early fall stratification period of 2014, the releases were made from the lower valve. The rationale being that nutrients and sediment would be less likely to settle on the bottom of the reservoir during stratification if water was being released from the bottom; this was hoped to result in more nutrients being released downstream during stratification, meaning fewer nutrients would be available to promote cyanobacteria growth, which would result in less geosmin and MIB in the reservoir. The effectiveness of this practice is, however, largely unknown.

The objective of the proposed work is to do a synoptic survey of the physical and water-quality characteristics of the lower portion of Hoover Reservoir. Specific objectives include: 1) measuring and mapping the bathymetry of the lower Hoover Reservoir, 2) measuring and mapping velocity vectors and selected water-quality parameters in the lower Hoover Reservoir during separate extended releases from two different intake valves, and 3) publishing a USGS Scientific Investigation Report detailing the methods and results of the study.

The results from the study will provide the City of Columbus with information to make more informed decisions on reservoir releases and could potentially have local, state, and national relevance in terms of reservoir management, drinking water quality, and harmful algal blooms.

A USGS report will be published to present the study methods and the results of the investigation. Copies of the report, in portable document format (PDF), will be available via the Internet through the USGS Publications Warehouse. The draft text of the final report will be reviewed by peers and editorial staff to ensure accuracy, logical organization, and readability.

This project will begin August 15, 2015 and the final report will be delivered to the City of Columbus by September 30, 2016. These dates are contingent upon the USGS and City of Columbus signing a cooperative joint funding agreement on or before August 15, 2015. Provisional data and results will be released to the City of Columbus before the end of the study as work is completed.

This ordinance is being submitted as an emergency because, without emergency action, no less than 37 days will be added to this procurement cycle. Emergency legislation will expedite delivery of this critical service for the Division of Water.

**ORGANIZATION:** Geological Survey, United States Department of Interior (53-0196958)

**FISCAL IMPACT:** Funds are budgeted in the 2015 Water Operating Fund to fund this purchase which totals \$20,000.00.

To authorize the Director of Public Utilities to enter into a joint funding agreement with the Geological Survey, United States Department of Interior, for a Synoptic Survey of Physical and Water-Quality Characteristics of the Lower Hoover Reservoir, Columbus, Ohio for the Division of Water; to authorize the expenditure of \$20,000.00 from the Water Operating Fund, and to declare an emergency. (\$20,000.00)

**WHEREAS,** it is necessary to conduct a Synoptic Survey of the Physical and Water-Quality Characteristics of the Lower Portion of Hoover Reservoir. Specific objectives include: 1) measuring and mapping the bathymetry of the lower Hoover Reservoir, 2) measuring and mapping velocity vectors and selected water-quality parameters in the lower Hoover Reservoir during separate extended releases from two different intake valves, and 3) publishing a USGS Scientific Investigation Report detailing the methods and results of the study; and

**WHEREAS,** the results from the study will provide the City of Columbus with information to make more informed decisions on reservoir releases and could potentially have local, state, and national relevance in terms of reservoir management, drinking water quality and harmful algal blooms; and

**WHEREAS,** a USGS report will be published to present the study methods and the results of the investigation. Copies of the report, in portable document format (PDF), will be available via the Internet through the USGS Publications Warehouse. The draft text of the final report will be reviewed by peers and editorial staff to ensure accuracy, logical organization, and readability; and

**WHEREAS,** this project will begin August 15, 2015 and the final report will be delivered to the City of Columbus by September 30, 2016. These dates are contingent upon the USGS and City of Columbus signing a cooperative joint funding agreement on or before August 15, 2015. Provisional data and results will be released to the City of Columbus before the end of the study as work is completed; and

**WHEREAS,** it is necessary to authorize the Director of Public Utilities to enter into a joint funding agreement between the Geological Survey, United States Department of Interior, and the City of Columbus, Department of Public Utilities, for a Synoptic Survey of Physical and Water-Quality Characteristics of the Lower Hoover Reservoir, Columbus, Ohio for the preservation of public health, peace, property and safety now, therefore,

**WHEREAS,** an emergency exists in the usual daily operation of the Department of Public Utilities, Division of Water, in that it is immediately necessary to authorize a joint funding agreement for a Synoptic Survey of Physical and Water-Quality Characteristics of the Lower Hoover Reservoir, Columbus, Ohio, thereby preserving the public health, peace, property, safety and welfare; now, therefore:

**BE IT ORDAINED BY THE COUNCIL OF THE CITY OF COLUMBUS**

**SECTION 1.** That the Director of Public Utilities be and is hereby authorized to enter into a joint funding agreement between the Geological Survey, United States Department of Interior, and the City of Columbus, Department of Public Utilities, for a Synoptic Survey of Physical and Water-Quality Characteristics of the Lower Hoover Reservoir, Columbus, Ohio for the Division of Water, for the period of August 15, 2015 to and including September 30, 2016.

**SECTION 2.** That the funds necessary to carry out the purpose of this ordinance are hereby deemed appropriated, and

the City Auditor shall establish such accounting codes as necessary.

**SECTION 3.** That the expenditure of \$20,000.00 or as much as may be needed, is hereby authorized as follows:

Water Operating Fund, Fund 600

Division: 60-09

OCA Code: 601989

Object Level Three: 3407

Amount: \$20,000.00

**TOTAL AMOUNT: \$20,000.00**

**SECTION 4.** That for the reasons stated in the preamble hereto, where is hereby made a part hereof, this Ordinance is hereby declared to be an emergency measure, which shall take effect and be in force from and after its passage and approval by the Mayor, or ten days after passage if the Mayor neither approves nor vetoes the same.