

# **OGDEN CITY**

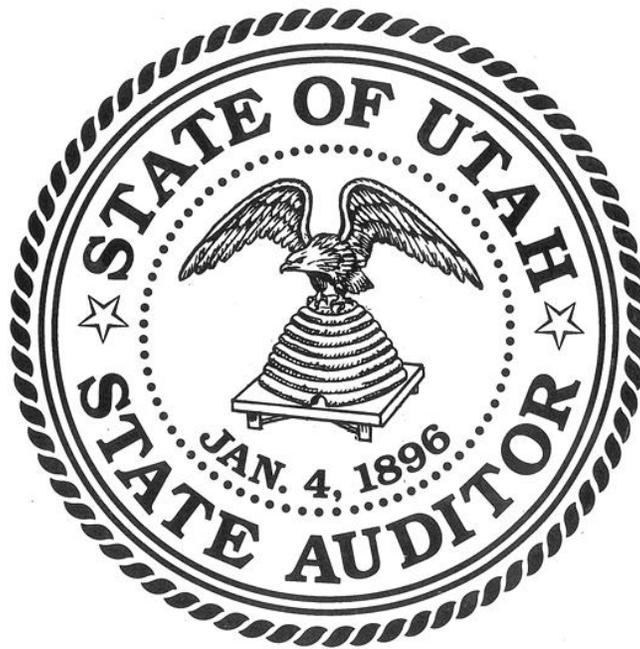
## **Water Utility Division**

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Finding Related to  
Flooding in the Douglas-Hiland Neighborhood of Ogden City, Utah

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Report No. 16-WBEC-8Lb



**OFFICE OF THE**  
**UTAH STATE AUDITOR**

# **OGDEN CITY**

## **Water Utility Division**

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**AUDIT LEADERSHIP:**

Van Christensen, CPA, CFE, Audit Director  
Tyson Plastow, Special Projects Senior Auditor



OFFICE OF THE  
UTAH STATE AUDITOR

**REPORT NO. 16-WBEC-8Lb**

November 10, 2015

Ogden City Council  
and  
Mike Caldwell, Mayor  
Ogden City  
133 West 29<sup>th</sup> Street  
Ogden, Utah 84401

Dear Mayor Caldwell and City Council Members:

The Office of the Utah State Auditor has a hotline program, through which we receive complaints related to state and local governments. We received complaints related to the groundwater flooding which began to occur in the Douglas-Hiland neighborhood in Ogden City, Utah at the end of June 2015. The primary complaints centered on the perception that all of the providers of water were not adequately working to identify the cause of the flooding.

The results of our investigation into the complaints as they relate to Ogden City's Water Utility Division are included in the attached finding section of this report.

We appreciated the courtesy and assistance extended to us by the personnel of Ogden City during the course of the engagement, and we look forward to a continuing professional relationship. If you have any questions, please contact me.

Sincerely,

Van Christensen, CPA, CFE  
Audit Director  
801-538-1394  
[vchristensen@utah.gov](mailto:vchristensen@utah.gov)

cc: Weber-Box Elder Conservation District Board of Trustees  
Terel H. Grimley, General Manager, Weber-Box Elder Conservation District  
Weber County Commission

**OGDEN CITY**  
**Water Utility Division**

FINDING RELATED TO  
FLOODING IN THE DOUGLAS-HILAND NEIGHBORHOOD OF OGDEN CITY, UTAH

**BACKGROUND**

At the end of June 2015, groundwater flooding began to occur in the Douglas-Hiland neighborhood (Neighborhood) of Ogden City, Utah (City). The City's Water Utility Department provides culinary water to the area and the Weber-Box Elder Conservation District (District) provides secondary water to the area. This report addresses our finding specific to the City. A separate report addresses our investigation in regards to the District.

**FINDING**

**THE CITY RESPONDED TIMELY AND IN ACCORDANCE WITH INDUSTRY BEST PRACTICES**

When groundwater flooding was reported in the Neighborhood, both the District and City responded to evaluate the possibility that a leak in their system was the source of the water flooding the basements of homes in the Neighborhood. As flooding continued, affected homeowners grew frustrated with both entities for not doing enough to find a solution to stop the flooding and pay for repairs and clean up. Homeowners reached out to a number of public officials, including City leaders who oversee the water utility services.

In order to evaluate the appropriateness of the City's response, we contacted the Utah Water Users Association (Association) and asked for a recommendation of an expert in this area. The Association recommended two individuals, one of which was a professional engineer with a Ph.D., from the engineering firm of Hansen, Allen & Luce Engineers. The engineering firm stated the City responded very appropriately to the reported flooding. The City responded immediately and tested for chlorine with negative results. A chlorine test is a sufficient procedure to identify or eliminate the City as the source of the leak. After the initial emergency response, the City continued to test for chlorine, sound its pipes, and search for leaks. The City also provided dumpsters and other services to aid the Neighborhood with clean up of the flooding debris.

We also contacted managers at four separate districts that provide secondary water in order to identify best practice methods for dealing with flooding caused by leaks. These managers identified various methods of response; however, based upon our discussions, three procedures were consistently identified, as noted in A, B, and C, below. The City used at least one of the following methods for procedures A, B, and C within 10 days of the first reported ground water flooding.

**A. Discover the source of the water.** Methods include:

- Dye testing
- Chemical tracer testing

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FINDING RELATED TO  
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- Chlorine testing
- Fluoride testing
- Water chemical composition testing

**B. Stop or slow the flow of water.** Methods include:

- Shutting off lines near the flooding
- Shutting off water in the region
- Shutting off the system

**C. Find and fix the leak.** Methods include:

- Pipe sounding
- Digging test holes
- Surface surveys
- Placing camera or sonar inside the pipe
- Piezometer

Because the City's response to the reported flooding was timely and in accordance with best practices, we have no recommendation to make to the City in this regards.