



LIBERTY LAKE

SEWER & WATER DISTRICT 1

"Serving People and the Environment."

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January 10, 2020

RE: Liberty Lake Sewer and Water District Boil Water Advisory

Dear LLSWD Customer,

This letter is intended to provide a summary of what prompted the recent Boil Water Advisory, what actions were taken to resolve it, and what remedial actions are being taken to prevent it from happening in the future.

On November 16, through courtesy investigative sampling, the District received results of E. coli bacteria in a fire hydrant that was located on the end of a water main that serves two homes on the farthest northeast reaches of our water system. Those two customers were immediately contacted, and advised to use boiled or bottled water for drinking. After discovering the E. coli, the District chlorinated, flushed, and conducted additional investigative sampling. The District sampled the adjacent areas as well as sensitive populations (day cares, assisted living facilities, medical facilities, schools, etc.) in addition to the District's well sources on November 16, 17, 18 and 19. One sample from the November 19 sampling was found to have E. coli bacteria from a commercial area adjacent to the previously mentioned two homes. As a precautionary measure, the District, in cooperation with Washington State Department of Health – Office of Drinking Water, announced a system-wide Boil Water Advisory after receiving the results on November 20. In the days following the Boil Water Advisory, the District successfully isolated the commercial section of the distribution system where the E. coli was found, chlorinated and flushed the entire water system. Additional samples were collected from the entire water system daily, including daily samples taken from locations with sensitive populations. In order to remove the advisory, the District was required to have two consecutive representative sets of satisfactory (zero bacteria present) samples. The Boil Water Advisory was lifted for the main portion of the District on November 27, which was the original estimated timeline of 1 week. The isolated section where the E. coli was found had the Boil Water Advisory lifted the following day on November 28. Throughout the Boil Water Advisory, the District collected 224 samples in total. Although not required, following the lift of the Boil Water Advisory the District continued to take representative samples in the commercial area where the E. coli was found. The samples were collected at 7 days following (12/5) and 21 days following (12/19) the lift of the Boil Water Advisory. All of the follow-up samples have come back satisfactory.

The biggest question is how did this happen and how can we prevent it from happening in the future? To address these questions, it is important to understand that E. coli is not found naturally in the water distribution system, it had to come from outside the system. There are three possible pathways that this could have happened.

1. The first is a potential cross-connection at one of the commercial businesses in the isolated area. A cross-connection is defined as a physical connection between the water system and any source that could contaminate the public water supply (i.e. plumbing fixtures or water utilizing equipment). If improperly protected, contamination can result when a backflow event occurs; allowing contaminants to reverse flow from the fixture/equipment back into the drinking water system. To address this, the District performed inspections of all of the 35 commercial businesses in the isolated area where E. coli was found. From our inspections, we found no clear indication that the E. coli came from a commercial business cross-connection. The District also notified and required the commercial businesses to submit test results of all domestic backflow devices no later than January 31, 2020.
2. The second is a possible illicit connection to a fire hydrant. It is the District's policy that all connections to a fire hydrant require a permit and approved backflow protection. It is possible that a user connected to a fire hydrant without our permission or knowledge. In response to the Boil Water Advisory, and effective immediately, the District limited all of the hydrant permit holders to use one single hydrant equipped with the highest degree of backflow protection. Next, the District engaged Spokane Valley Fire Department in a conversation about placing locks on all District fire hydrants. Following the conversation with the Fire Department, the District purchased locking mechanisms to lock all of the fire hydrants in the District (602 in total). The District will begin locking hydrants upon receipt of the equipment and we will begin working on establishing dedicated fill stations for hydrant permit holders. The District will no longer allow connections to our fire hydrants, except to the Fire Department.
3. The third, and most likely potential, is that E. coli entered the water system through sprinkler blowouts. Sprinkler systems are required to have backflow devices that are designed to prevent contaminants from entering the water supply. These backflow devices are installed on the domestic water service lines to protect against both back-siphonage and back-pressure. If a backflow device is not installed properly, or is not functioning properly, contaminated water from the sprinkler system can be forced back into the water system via pressure from the blow-out activity. Following the lift of the Boil Water Advisory, the District notified and locked out all of the irrigation meters in and adjacent to the isolated commercial area. The purpose of this is to require and receive backflow test reports when the irrigation systems are energized in the spring. In addition, the District is strengthening our backflow program and we will be requiring that all customers, residential and commercial, test their backflow device(s) annually. To administer this program the District also hired a full-time Cross Connection Control Specialist. In the coming months the District will develop and lay out the requirements for this program and we will be following up with education on the program requirements to our customers.

Recently the District held a facilitated staff debrief session. Topics discussed included what worked, where we can improve, lessons learned, and action plans. We realize our biggest

difficulty was public notification, and we understand that public notification in the event of an emergency is paramount. Recognizing that people receive their information from various sources. The District notified our customers through the following conduits: news releases to local media, Department of Health Active Alerts, ALERT Spokane/Code Red, City of Liberty Lake Emergency Alerts, LLSWD social media pages (Facebook, Twitter), City of Liberty Lake electronic reader board, Central Valley School District email distribution list, and Liberty Lake Gazette email distribution list. We also recognize that there is no one way to reach all of the approximately 10,000 residents of Liberty Lake. This is why we notified in a multi-faceted approach. These methods also have their limitations and they all require your participation. For example, ALERT Spokane (a.k.a. Reverse 911) is the program behind the public alert and warning messages that are disseminated throughout the greater Spokane area. The mass notification system supporting the program is called CodeRED. CodeRED can distribute emergency notifications via landline, cellular phone and/or Voice over Internet Protocol (VoIP) phones. It can also notify via text, TTD, TTY and email. ALERT Spokane in the Liberty Lake area only delivered 3,877 phone calls, 399 emails, and 416 text messages when the initial alert was sent out. Similarly, the City of Liberty Lake's Emergency Alert notification system only has approximately 450 participants. Likewise the Liberty Lake Gazette has a reach of about 500. Social media (e.g. Facebook), the largest community page has ~3,900 members. As you can see even the most robust informational systems only reach a subset of the population in Liberty Lake. I would encourage everyone to sign up for these services to receive emergency alerts:

For ALERT Spokane/CodeRED go to:

<https://www.spokanecounty.org/3007/Alert-Spokane>

For the City of Liberty Lake's Alert Center visit:

<https://www.libertylakewa.gov/AlertCenter.aspx>

To conclude, we apologize for this unfortunate event and we appreciate the support and understanding of our customers as we worked to resolve it. We also appreciate the support from our fellow governmental entities, the Washington State Department of Health, Spokane Regional Health District, Greater Spokane Emergency Management, Consolidated Irrigation District No. 19, Spokane Valley Fire Department, Spokane County Water District #3, City of Spokane, and the City of Liberty Lake. The District will continue to research and implement new ways to safeguard our water system and we appreciate your continued support of our mission to operate a safe, secure, and reliable sewer and water utility. If you have any questions please do not hesitate to reach out to us at 922-5443 or info@libertylake.org.

Sincerely,



BiJay Adams

General Manager

Liberty Lake Sewer and Water District