



2016 Water Quality & Annual Business Report

Our Water. Our Community. Our Future

Dear Lakewood Water District Customers,

This has been a year during which much time has been spent “planning.” Planning what (?), you ask. Let’s start with some major projects.



First, the possible expansion of our water system east to provide water to the Spanaway, Rainier View, Summit, and Firgrove water companies. This includes “partnering” with these entities to construct the system and fulfill their present and future needs, while ensuring the present and future needs of our customers here in Lakewood Water District are guaranteed as well.

Next, the possible addition of the JBLM water system to our operations. Along with Pierce County and several out-of-state companies, we submitted a proposal and are waiting for a decision by the feds. By the time you’re reading this, we should know if we’re still in the hunt or not.

While we are proud of the present administration and operation of the District, we must plan ahead to the retirement of a significant number of our people. Consequently, a succession plan has been developed and will be maintained and updated when necessary.

There is ongoing planning for the implementation of our 50-year R&R (Rehabilitation and Replacement) Program, including location, timing and, of course, financing.

Then there are matters for which planning is difficult but still necessary. During the past year, you have undoubtedly noticed lots of road repair and construction in Lakewood. When the City decides to do these projects in areas under which our mains exist, the District likes to take the opportunity to replace old mains in those areas, thereby saving the considerable expense of road restoration. We can plan for these projects when the

City has finalized its plans, but when projects arise unplanned but necessary, we must be ready to act. Our ongoing planning process includes maintaining cash reserves sufficient to cover the best guesses of the City and the District each year. Fortunately, we have a good working relationship with the City that allows us both to plan accordingly.

Your Board of Commissioners thanks the dedicated employees of the District for their continuing efforts to fulfill our mission. We are fortunate to have each one of them.

And in case you’ve forgotten or never heard our mission, it goes like this: *Lakewood Water District will provide its customers with water service that meets or exceeds all water quality standards, maintaining policies and practices that benefit the health and welfare of the community it serves.* And of course, we do this in the most cost-effective manner possible.

And last, but certainly not least, we thank you, our customers, for your faithful support. Take care, and have a good summer.

Your Board of Commissioners



(Left to right) **Larry Ghilarducci**, President; **John Korsmo**, Vice President; **Greg Rediske**, Secretary

The Source of Your Water

The District’s sole source of water is from underground aquifers, water-bearing strata of permeable rock, sand, or gravel. No surface water, desalinated water, or recycled water is used. The District has a total of 30 active wells which together provide a maximum production capacity of approximately 30 million gallons per day (mgd), with a total water-right capacity to pump up to over 60+ mgd.

The District’s 30 active wells are in four aquifers—A, C, E, and G—with A being the shallowest and G being the deepest. Aquifers are generally of glacial origin and tend to be coarse-grained and highly permeable. There are three Aquitards, B, D, and F, layered between the four aquifers. Aquitards are strata of finer-grained and less permeable layers and usually of interglacial origin. The District’s aquitards are made up of sediments deposited by the ancestral Nisqually and Puyallup rivers. Historical sedimentation is not unlike the alluvium presently being deposited by these rivers today.

Recharge (replenishing) of the aquifers comes from local rainfall in the Clover/Chambers drainage basin. The District’s deepest aquifers, E and G, will most likely receive some additional, deep underflow recharge from the south Puyallup/Graham area westward to Puget Sound, including snowpack from Mt. Rainier.

For Your Health

Important Information from the Environmental Protection Agency (EPA)

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk.

Some people may be more vulnerable to contaminants in drinking water than the general population. The following can be particularly at risk of infection: the immuno-compromised, such as those with cancer undergoing chemotherapy; those having had organ transplants, HIV/AIDS, or other immune system disorders; and some elderly and infants. These should seek advice about drinking water from their healthcare providers.

More information about contaminants and potential health effects, and EPA/CDC guidelines on appropriate means to lessen the risk for infections by cryptosporidium and microbial contaminants, is available from the Safe Drinking Water Hotline at 1.800.426.4791.



Sometimes Jake finds himself with a friend to help him monitor water

Monitoring Our Lakes and Streams

We consistently keep an eye on the levels of select lakes and streams in our service area.

The lake levels are indicators of the water table level in the Steilacoom Gravel deposited by the receding Vashon Glacier. Water in the gravel also leaks through the Vashon till or springs out above the till, adding to the flows of the area’s major springs such as Ponce de Leon, Chambers, Garrison, and Sequelichew. The District collects monthly data from gauges on Ponce de Leon and on five lakes (American, Gravelly, Hidden, Louise, and Waughop). This information, together with the data collected from the Pierce County Stream Team, is vital to the District’s aquifer management program as well as the Tacoma-Pierce County Health Department’s long-term groundwater monitoring program.

Here **Jake**, a water quality specialist for the Lakewood Water District, monitors levels on Hidden Lake



Capital Projects

Capital Projects Completed in 2016

South Tacoma Way SR 512 to 96th

This project was designed by the City of Lakewood with input from the District as part of a larger City project. The District replaced old asbestos-cement (A/C) mains with upsized ductile iron mains totaling over 5,200 lineal feet, including fittings on both sides of the road along the project. This will increase water flow and provide greater fire flow volumes along this busy corridor. In partnering with the City, the District benefited from greatly reduced restoration and design costs. The water portion of this project was completed at the end of October by Pape and Sons Construction near the bid price, with the balance of the work recently finalized.

Seattle Avenue Crossing of I-5

Design for this project was completed in 2014 with the assistance of CHS Engineers. Work began in late 2015. This project took advantage of an existing Pierce County casing under I-5, saving the District the cost of boring another. The existing sewer line was removed from the casing and reinstalled with a welded line. In addition, two 12-inch water mains were installed inside the casing. About 1,600 feet of 16-inch water main was installed along Pacific Highway and in Seattle Avenue. This project increased the flow of water to the Springbrook area. The project was completed after a significant delay due to higher than normal ground water conditions. After a long wait, the contractor was able to successfully complete the work for a little lower than the bid price.

Bridgeport Way from I-5 to San Francisco

This was another City project. The District collaborated on the design with the City to replace about 1300 lineal feet of old asbestos cement main with 16-inch water main. This project tied into the Seattle Avenue project mentioned above. A stream crossing was involved, and the District contracted with RH2 Engineers to design that portion of the project. The project was awarded in April of 2016 to contractor Johansen Excavating, and the work was completed in mid-December 2016, on time and with only minor changes.



Pumping Department Lead, Don Stanley, reads levels at American Lake

Tablets

In late 2016, the District launched a program to reduce paperwork, increase efficiency, and allow for easy mobile access to vital information in the field for the staff by digitizing and storing service orders and maps on tablets (iPads). These tablets allow work orders to be transmitted electronically and loaded into the District's accounting software to eliminate double entry of information, greatly enhancing inventory accuracy. This gives us a tool to compare service orders and preventive maintenance actions scheduled with the work actually completed, indicating where our staffing levels are in relation to the workload, etc.



Crews replaced 5,200 lineal feet of asbestos-cement main with ductile iron pipe on South Tacoma Way

GIS Data Management/Asset Management:

The District completed the implementation of the GIS (Geographic Information System) in 2016. Data was collected by the AMI Meter Replacement Program contractor/installer and transmitted to the District which provided the data entry and verification work required to input field data into the GIS system. Critigen developed software to bring all the contractor data into the GIS, and this data was subsequently verified by the District's GIS Coordinator. The District's GIS Coordinator is now finishing the cleanup of the information and starting to mine the data for valuable information that will be utilized a great deal in the District's long-term plans. GIS is taking its place in the center of our technological grid and is the repository for the information from which our accounting, AMI, and work order software draw.

Developer Extension Projects 2016

The Walker Ridge Development project began in December 2015. The District was able to competitively bid the installation of 1,800 lineal feet of water main, 43 services, and connections to the existing mains. The project was completed on time and under budget. The District was able to provide some great opportunities for hands-on training to some of its newer employees during the course of the project. The work performed by District crews was highly praised by the developer on the project.

The District has continued to offer developers the option to have the District install all of the water system in their various projects, and several developers have taken advantage of that offer. Below is a list of some of the larger, more substantial developments within the District in 2016:

- **Whelcher's Gun Shop**—completed on time and under budget;
- **The Marriott Townplace Suites on Pacific Avenue**—completed on time and under budget;
- **Megan Court Subdivision**—pending developer completing dry utilities;
- **The Lee Medical Building**—completed on time and under budget;
- **The Sound Transit Sounder Yard Expansion**—completed on time and under budget;
- **Habitat for Humanity New Tillicum Project**—pending developer completing dry utilities.

City Projects Proposed for 2017

The City of Lakewood has several projects planned for this year, many of which the District will combine efforts on; there are 4-5 other City projects planned where the moving of valves, meters, and hydrants will be required of the District. The District has not done much City Franchise work over the last few years and only one in 2016. This is anticipated to change in 2017 and beyond as the City receives funds from the license plate tab fees. Both 2017 and 2018 are anticipated to be big construction years for the City, and that will lead to an increase of activity for the District.



LWD "Ace" Service Crew Laying Pipe at Walker Ridge Development

Proposed R&R Projects for 2017:

Thorne Lane/Portland Avenue to Spruce

This project will include the installation of approximately 1,500 lineal feet of 8-inch ductile iron water main, including fittings, to replace old AC mains, valves, hydrants, and water services along Harry Todd Park. Hydrants and water services from an old 4-inch water main will also be transferred to an existing 8-inch water main, all at a cost of about \$560,000. Pape and Sons Construction of Gig Harbor, Washington was the low bidder, commencing work in January and completing the project in April, on time and over budget by less than 1%. The project was a success and will improve fire capacity and water available to an area that very much needed it to grow.

Pacific Highway at 47th Avenue

On this project, District crews will replace a 450-foot section of old water main from 47th Avenue to the Sound Transit center.

Pacific Highway at Grocery Outlet

This project will replace existing 8-inch water main with 12-inch main plus a PRV (Pressure Reducing Valve) on Pacific Highway near the Grocery Outlet (old Costco location) and will help with the delivery of wholesale water. This project is being designed in-house, and is moving along as scheduled. This project will not be bid until we have determined we can complete this work under our annual R&R budget. Should we not be able to complete this project in 2017, it will be moved to 2018.

Sylvan Park Phase 2

This project will be an extension of the Phase 1 project which upsized the mains on 88th and then ran down Loraine and Carol to 92nd Street. The second phase will replace the mains running between Loraine and Carol and also replace the main running from 88th to 92nd along Gayle. The mains and services along these alignments will be updated, and this should increase flow thru this area and throughout the northwesterly portion of the District. Contractor bids were slightly under the Engineer's Estimate, with Johnson & Maddox of Olympia being the successful low bidder. This project is under construction and is on schedule to finish on time in early to mid-July.

Project Design and Permitting

The District plans to complete design on three projects in 2017 which include 1) Sylvan Park, Phase 3; 2) a Tillicum neighborhood project, Arrowhead Phase 2; and 3) the easterly side of Pacific Highway from 112th to 109th including a pressure control station.



Crew safely installing new 16" water main on busy Bridgeport Way

04/19/2016



Construction Inspector, Sam Bosma, watching over the work at Sylvan Park



Our Staff Here to Serve You

Our staff is a dedicated, hard-working, multi-talented combination of seasoned veterans and young professionals with over 260 years of collective service to the customers of Lakewood Water District and our community. As a united team, we genuinely care about our customers and are committed to our mission to provide our customers with water service that meets or exceeds all water quality standards, maintaining policies and practices that benefit the health and welfare of the community.

Water Use Efficiency Rule

The District was ever so close to meeting its goal of reducing the unaccounted for water by 0.25% per year but ended up with a reduction of 0.20% from 10.7% to 10.5% year over year. The District continues to be compliant with all facets of the Water Use Efficiency Rule except in the area of unaccounted-for water and only since 2010. The Rule requires municipal water suppliers to maintain a standard of having no more than 10 percent of water loss (the difference between water pumped and water sold). Once as high as 15 percent in 2012, the District's lost water was down to 10.7 percent in 2016 and presently at 10.50 percent.

The continued success of our AMI System, 50-year R&R, and ever expanded Leak Detection Programs should allow us to meet our WUE goals per the State Department of Health within the next couple years.

Another Clean Audit...21 Years and Counting

Well, our clean audit record is now old enough to have an adult beverage... it's 21 years young. For the 21st year in a row, the State Auditor's Office completed its annual audit of the District's accounts and records and again awarded the District a clean report. The SAO's official Accountability Audit and Financial Statement Audit Reports again noted no deficiencies and, again, complimented the District on its strong financial policies, precise accounting internal controls, and competent and cooperative staff.

Each District staff member—led by our Finance Director and General Manager and closely overseen by our Board of Commissioners—is committed to delivering the highest level of integrity, accuracy, and regulatory compliance through exceptional financial and compliance practices. The District continues to be transparent and efficient in safeguarding public funds and assets. We are proud of our record of consistently clean audits and remain steadfast in our devoted efforts to maintain our financial viability and stability so we can serve you most effectually.

Lakewood Water District Balance Sheet Year Ended December 31, 2016 (unaudited)

Assets	(\$) Dollar amounts
Total Net Utility Plant	69,033,125
Cash	4,523,182
Other Current Accrued Assets	934,911
Other Assets/Deferrals	1,016,845
Total Assets	75,508,063
Current Liabilities	
Current Liabilities	651,346
Other Liabilities	2,925,214
Contributions in Aid of Construction	-
Bonds Payable	20,060,414
Unappropriated Retained Earnings	51,871,090
Total Liabilities & Equity	75,508,063

2016 Water Quality Sampling/Monitoring Report

Your water meets all federal, state, and local quality standards, ensuring that you enjoy safe, clean, potable water. Not listed are 63 volatile organic chemicals for which we tested, all resulting in either Not Detected (ND) or well below the MCL. The number and frequency of non-bacteriological samples are determined by the Water Quality Monitoring Schedule (WQMS) issued by the Washington State Department of Health.

Sample Type	Samples Taken Per Year	Last Sample Year	Next Sample Year	EPA/DOH MCL (max level allowed)	LWD Highest Level Detected	LWD Lowest Level Detected	Number of Samples Over MCL	AL	Typical Sources
Arsenic ¹	DOH WQMS List	2016	2018	10 ppb	5 ppb	<1 ppm	0		Erosion of natural deposits
Asbestos	1 every 9 yrs	2011	TBD	--	--	--	--	--	Friable fiber
Copper	30 every 3 yrs	2014	2017	N/A	0.72 ppm	<.02 ppm	0	1.3 ppm	Household plumbing
Fecal Colliform	840 per yr	2016	2017	0	ND	ND	0	0	Human and animal fecal waste
Total Colliform	840 per yr	2016	2017	<5% positive	ND	ND	0	0	Found throughout the environment
Haloacetic Acids	2 per yr	2016	2017	60 ppb	ND	ND	0	0	Disinfectant by-product
Lead ²	30 every 3 yrs	2014	2017	N/A	5 ppb	<1 ppb	0	15 ppb	Household plumbing
Nitrates	22 per yr	2016	2017	10 ppm	2.2 ppm	<0.2 ppm	0	0	Erosion of natural deposits
Total Trihalamethanes	2 per yr	2016	2017	80 ppb	3.2 ppb	ND	0	0	Disinfection by-product

Our Testing Resulted In No Violations

The chart above only reflects a portion of the testing LWD performs. Complete Source Water Assessment (testing result information) is available at the District office.

Table Definitions:

- **AL:** Federal Action Level. Must report to State DOH if concentrations exceed these levels.
- **MCL:** Maximum Contaminant Level. The highest level of a contaminant allowed in drinking water.
- **ND:** Not Detected
- **ppb:** parts per billion, or micrograms per liter (ug/L)
- **ppm:** parts per million, or milligrams per liter (mg/L)
- **TBD:** To Be Determined
- **WQMS:** Water Quality Monitoring Schedule*

One part per million corresponds to one minute in two years or a single penny in \$10,000.
One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

¹ Your drinking water currently meets EPA's revised drinking water standard for arsenic. However, it does contain low levels of arsenic. There is a small chance that some people who drink water containing low levels of arsenic for many years could develop circulatory disease, cancer, or other health problems. Most types of cancer and circulatory diseases are due to factors other than exposure to arsenic. EPA's standard balances the current understanding of arsenic's health effects against the costs of removing arsenic from drinking water.

² If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Lakewood Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline 800.426.4791 or at www.epa.gov/safewater/lead.

If you would like to learn more about our water, or have questions regarding water quality or what you can do to help keep our water supply clean and safe, please contact us at Lakewood Water District or any of the following:

Lakewood Water District
 11900 Gravelly Lake Drive SW
 Lakewood, WA 98499
www.lakewood-water-dist.org, 253.588.4423

Randall M. Black, General Manager
 Email: rblack@lakewood-water-dist.org

Washington State Department of Health (WDOH)
www.doh.wa.gov/ehp/dw

Environmental Protection Agency (EPA)
www.epa.gov/safewater

Safe Drinking Water Hotline
 800.426.4791, email: hotline-sdwa@epa.gov

To request additional copies of this year's Water Quality & Annual Business Report, please contact the District office at 253.588.4423 or csweb@lakewood-water-dist.org.

You can also access this report on our website at www.lakewood-water-dist.org.

Comparisons of Lakewood Water District Rates with Surrounding Utilities

May 15, 2017 Bi-Monthly Billing per 1500/cf

LAKEWOOD \$37.10



PARKLAND \$50.07



SPANAWAY \$56.00



TACOMA WINTER INSIDE CITY \$60.80



STEILACOOM \$62.25



TACOMA SUMMER INSIDE CITY \$64.70



SUMMIT \$64.91



DUPONT \$65.45



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LWD Staff pose with Eddy the Water Drop at the 2016 ACE Conference for the American Water Works Association



Junior LWD customer enjoys "refreshing" his family with Lakewood water