Annual Water Report
2024

Water System Description

The Alto Utilities Ltd. water system provides water for approximately 430 domestic unmetered connections, 1 school and 1 metered church (approximately 1000 people).

Untreated groundwater is drawn from two deep wells located on Lodge Road. These wells replenish three concrete reservoirs with a total capacity of over 1,700m^3. The reservoirs are situated above the subdivision where gravity feeds the system through a series of mains, 29 fire hydrants, and two pressure reducing valve stations (PRVs).

Alto Utilities operates as required, and in accordance with the following programs:

- Environmental Operators Certification - Alto continues to provide Level II Operator oversight as per Alto's Operating Permit.
- Emergency Response Plans – Each year Alto reviews it's Emergency Response Plan to ensure that it is prepared for any kind of emergency. This includes keeping emergency contact information current, as well as developing strategies for drought and wildfire situations.
- Water Quality Monitoring Plan – Alto maintains daily and weekly monitoring and weekly testing to ensure safe drinking water for its customers. Bacteriological testing is conducted weekly to ensure that the Drinking Water Protection Regulations continue to be met, and these results are reported each month to Alto Utilities' Health Officer.
- Capital Plan – Alto continues to develop both near and long-term plans for source, treatment, and distribution infrastructure upgrades. A Long-Term Asset Management Plan (LAMP) was completed early in 2024. The LAMP determined that contributions for infrastructure replacement needed to increase to meet future infrastructure renewal needs. As a result, a rate increase was secured that will ensure future infrastructure funding.
- Cross Connection Control Program – The cross-connection program was updated in 2021 and we will provide suggestions in future correspondence about ways that you can help protect your drinking water from cross connection dangers.

Conditions on Permit:

- Develop a water treatment and implementation plan – A Ground Water Protection Plan completed in July 2021 determined that Alto's two wells were at risk for viral pathogens. This plan determined that meeting the provincial drinking water objectives for viruses would require Alto to develop a water treatment and implementation plan. Alto will begin developing a treatment plan in 2025.
- Develop a Well Protection Plan – The purpose of the Ground Water Assessment was to improve understanding of the water source, document observed and potential hazards, identify the risks associated with natural and human-made hazards, and to inform the treatment design. The Ground Water Assessment is the basis for the development of a Well Protection Plan. The purpose of the Well Protection Plan is to identify areas and activities that could affect the quality and quantity of the drinking water source. Alto will use the recommendations from the Ground Water Assessment to develop a Well Protection Plan.

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Lodge Road Pump House

Inside the Lodge Road Pump House

System Improvements & Maintenance

The distribution system was originally constructed in 1970 and has seen many upgrades over the years and 2024 was no exception.

Increased frequency of catastrophic weather events, regularity of fires, aging infrastructure, and always present potential for contaminants entering Alto's system highlight the importance of communication in emergency situations. With this in mind, Alto installed a digital sign in the spring 2024 to improve communication in both emergency situations and non-emergency general communication.

In March Alto purchased and installed a new SCADA system and accompanying computer hardware. Several factors precipitated this purchase; a backup disk failed, Windows 10 software no longer receiving support from Microsoft, and the need to update Alto's SCADA software. This update along with improving communication between Alto's reservoirs and PRV has resulted in a significant improvement in the network stability and nuisance call outs have dramatically decreased.

In May, the drive on Alto's 30hp pump failed. The timing was good as it occurred before the summer peak water use. Alto used the opportunity to replace the direct on-line drive with a variable frequency drive. The VFD also reduces water hammer by allowing the motor to decelerate slowly. This reduces the stress on mailines.

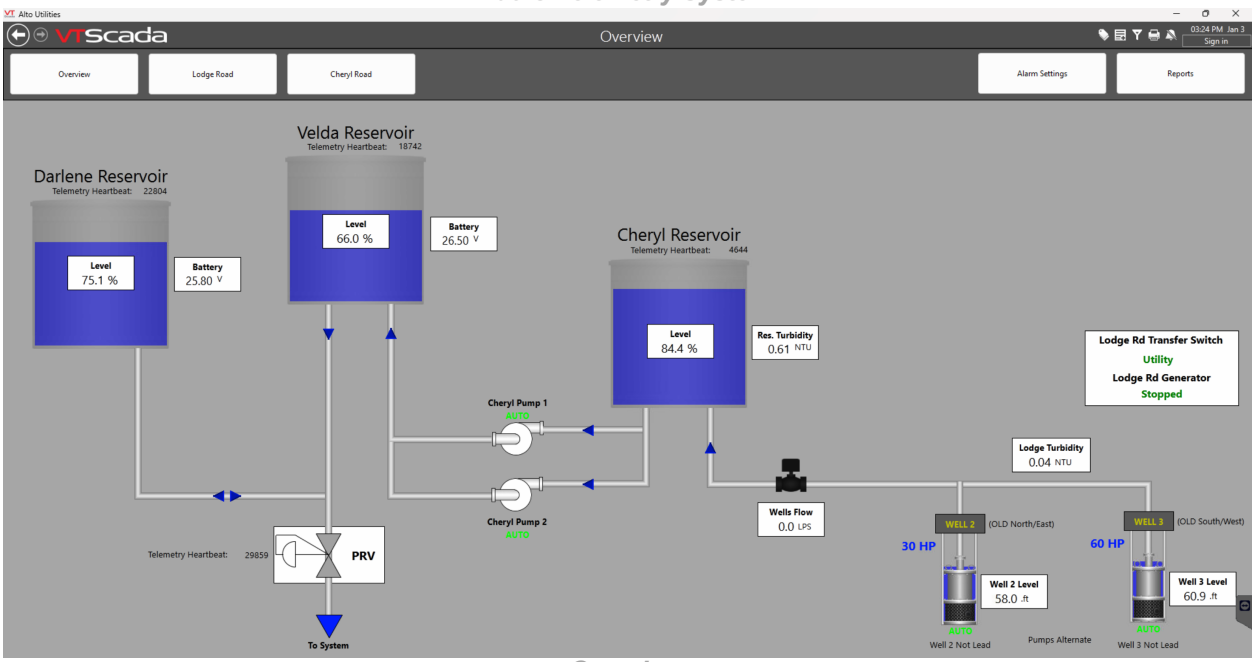
This summer Alto completed its Long-Term Asset Management Plan. Interior Health regulates, issues operating permits, and requires water quality reporting from all water purveyors in the interior of British Columbia. In 2020, Interior Health mandated several changes on Alto's operating permit. Since then, Alto has been working towards compliance with these requirements. In 2023 Alto began to update its Long-Term Asset Management Plan (LAMP) as part of a continuing provincial mandate to protect its citizen's health and the water sources they use.

The LAMP has focused on Alto's current infrastructure to identify future infrastructure needs and project costs so that Alto can make long-term plans for infrastructure replacement and upgrades. Recent leak detection testing confirms that there is minimal water loss and suggests mainlines are in good condition. Mainline repairs are infrequent (the last repair was due to a tree root and occurred 7 years ago) and reinforce the findings from the leak detection testing on Alto's mainlines. Regardless, time eventually catches up with all infrastructure and Alto must plan for future spending on pumps, wells, pipes, PRV, valves, reservoirs, computers, and software, etc. The LAMP determined the timeline for, and cost of, replacing **all** of Alto's infrastructure out as far as 2111. It is obvious that the further in time one goes the less accurate the estimates are. While estimates for infrastructure replacement 70-90 years from now are imprecise, the LAMP also incorporates a module that can be updated as infrastructure is replaced. As information is entered into the module the predictive ability and accuracy of the model will improve.

The entire system is flushed semi-annually in to ensure water is refreshed and minor sediment within the pipes is removed. Monthly flushing is also performed on all ends of the system.

Billing continues to be streamlined with the introduction of an electronic billing system. We are thankful that so many of you have already taken this step and would encourage all of Alto's customers to help us reduce costs and use less paper.

Radio Telemetry System



Overview

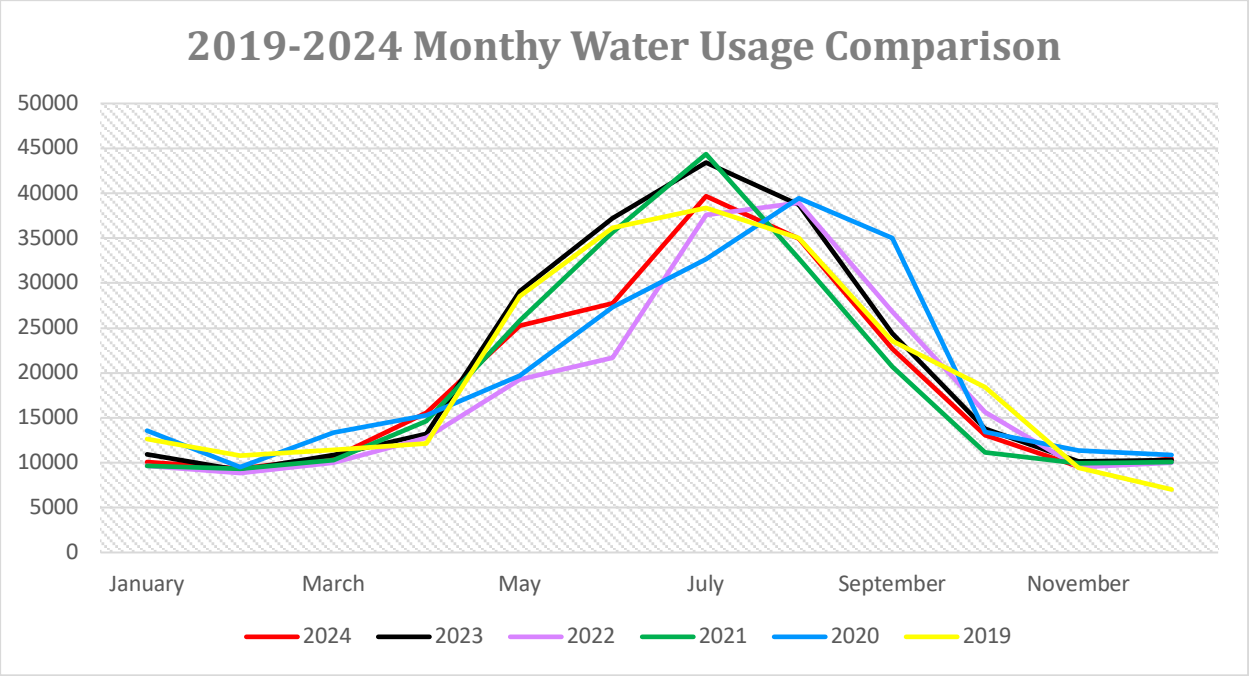
ALTO UTILITIES

Water Consumption

Below is the annual consumption for the last five years in cubic meters. Usage generally reflects weather patterns with highest usage occurring during the summer months.

2024	2023	2022	2021	2020	2019
228,880	251,155	220,698	234,379	241,517	243,474

The graph below shows the monthly water usage over the last five years.



Water Sampling & Quality Monitoring

Every utility that supplies water to Canadians is governed and regulated by the *Guidelines for Canadian Drinking Water Quality*. These guidelines set both water quality parameters and priorities. As these guidelines state*, "the highest priority guidelines are those dealing with microbiological contaminants"*, and in this regard Alto Utilities continues to meet the Canada guidelines for drinking water as it has done for the last 45 years without any water treatment.

Water samples are collected on a weekly basis and analyzed for indicator pathogens (*Escherichia coli* and *total Coliforms*). In addition to this, every Spring and Fall a comprehensive water analysis is performed to track water quality factors that change with seasonal conditions and to establish a baseline for the chemical parameters. Alto then submits monthly reports to Interior Health. We have four distribution points from which we collect and one source point; these are tested by an accredited laboratory. All bacteriological analysis in 2024 met the standards set out in the *B.C Drinking water Protection Regulation*.

It is true that in 45 years, Alto Utilities has never had to issue a Boil Water Advisory and has met all the requirements found in the *Guidelines for Canadian Drinking Water Quality*. However, the regulations are evolving and reflect the most recent water quality and health research. While Alto continues to meet these *Guidelines*, one

of Alto's wells slightly exceeds the limits for Manganese. Since Alto uses two wells to supply water to its customers the combined average is below the parameters found in the *Guidelines for Canadian Drinking Water Quality*. This is an issue that Alto takes seriously and is monitoring. One of the goals of the Asset Management Plan is to identify infrastructure upgrades and costs associated with them. The Water Treatment and Implementation Plan that Alto will begin in 2024 will determine the best course of action to continue provide safe drinking water to Alto's customers and will likely include chlorine treatment. Alto will continue to work with Interior Health, its engineers, and industry leaders to develop a strategy to continue to provide safe drinking water to its customers on into the future.

Alto Water System	Total # of samples in 2024	E. Coli	positive for Coliform
Source	18	0	0
Distribution	47	0	0

*No Total Coliform detected on resample

Sample Locations

- Woodsdale Road Test Station
- Darlene Road Test Station
- Velda Road Test Station
- Peter Greer Elementary School
- Main Pump House, Lodge Road

In addition, a complete chemical analysis of each well source is completed every other year by an accredited laboratory in the spring and fall; the most recent one was completed in the fall of 2024.

If you are interested in the Comprehensive Analysis, these are available on Alto's website.