



**2017
FRENCH CREEK
PERFORMANCE REPORT**



PROVIDING MORE

TABLE OF CONTENTS

About us	3
Quality Assurance	4
Safety and Environment	7
Customer Care	8
Operational Excellence	9



ABOUT US

EPCOR has been providing clean drinking water and wastewater service for more than one hundred years. We serve more than one million people in over 85 communities and industrial sites across Western Canada and the United States.

EPCOR has been providing water services to the French Creek community for 12 years. We work to ensure the performance of the utility meets the consistently high standards that French Creek residents expect. This report is part of our commitment to accountability and transparency.

We work closely with our regulators: the BC Water Comptroller's Office and the Vancouver Island Health Authority (VIHA). The capital program and operations budgets are approved by the BC Water Comptroller's Office and detailed reporting is submitted to both regulators.

We are accountable to deliver service that meets key measures for Quality Assurance, Safety, Environment, Customer Care, Capital Programs and Operational Excellence.



QUALITY ASSURANCE

At EPCOR, our employees are proud to deliver safe, clean drinking water to the French Creek community. We go above and beyond the minimum standards to produce high quality water that's clean and safe to drink.

The Guidelines for Canadian Drinking Water Quality, established by Health Canada, set the maximum acceptable concentrations of microbial, radiological and chemical contaminants found in water. They also address the aesthetic water quality issues around colour and taste.

These guidelines are the basis for the work we do to ensure our customers receive the best quality drinking water every day of the year.

Water Quality in French Creek exceeds the Guidelines for Canadian Drinking Water, as well as those set out by the BC Comptroller of Water Rights.

Ensuring Water Quality

In 2017, French Creek obtained its drinking water from 16 active wells in four well fields. The aquifers in the area provide good quality drinking water. The water is chlorinated before it enters EPCOR's storage reservoirs.

This year, EPCOR carried out more than 5,000 water quality tests. All testing showed that French Creek's drinking water successfully met both Health Canada and BC water quality regulatory requirements.

Tests at various levels and for different parameters are conducted daily, weekly and monthly. In 2017, EPCOR tested for chlorine residual, turbidity, conductivity, temperature, iron, manganese and microbial contaminants, as well as various other external laboratory tests.

Not only do our local operators test and calibrate the equipment used in reporting water quality results daily but certified technicians also test all water lab equipment annually. In addition, EPCOR continues to monitor the distribution system through the eight sample locations chosen in conjunction with the VIHA Drinking Water Coordinator.

We report our quality assurance, environmental, safety and security data and information to VIHA for review. VIHA must be satisfied that French Creek's drinking water successfully meets all water quality regulatory requirements, including microbial requirements.

The following tables provide detailed information on the sampling and testing completed in 2017.

Physical and Chemical Water Quality Data for French Creek Source and Distribution Water for 2017

Parameter	Units of Measure	Annual Minimum Recorded	Annual Maximum Recorded	Annual Average Recorded	Guidelines ¹
BACTERIA					
E. Coli	CFU/100 ml	<1	<1	<1 GM	0
Total Coliforms	CFU/100 ml	<1	<1	<1 GM	0
DISINFECTION BY-PRODUCTS					
Trihalomethanes	mg/L	0.057	0.059	0.058	0.1
Haloacetic Acid	mg/L	0.028	0.050	0.039	0.08
OTHER					
Free Chlorine	mg/L	0.20	1.36	0.65	>0.20
pH		6.7	8.6	7.3	6.5-8.5 (AO)
Temperature	°C	5	20	11	15 (AO)
Turbidity	NTU	0.07	0.98	0.19	1

¹ The Guideline is the Maximum Acceptable Concentration (MAC), the Aesthetic Objective (AO) or the operational guidelines (OG) as per the Guidelines for Canadian Drinking Water Quality established by Health Canada.

Summary of Total Coliform and Chlorine Residual (2017)

Sampling Location	No. of Samples	Total Coliform max	E. Coli max
Admiral Tryon	24	0	0
Kasba Circle	24	0	0
Black Brant	24	0	0
Hawthorne Rise	24	0	0
Miller Road	24	0	0
French Creek House	24	0	0
Sunrise Drive	24	0	0
Mid Island Co-op	24	0	0

Abbreviations	
<	Less than detection limit
>	More than detection limit
AO	Aesthetic Objective
CFU	Colony-forming unit
GM	Gross Mean
mg/L	Milligram per Litre
NA	Not Applicable
NTU	Nephelometric Turbidity Unit

**Physical and Chemical Water Quality Data for French Creek
Source and Distribution Water for 2017**

Substance	Units of Measure	Annual Minimum Recorded	Annual Maximum Recorded	Annual Average Recorded	Guidelines ¹
TRACE METALS					
Aluminum	mg/L	<0.001	<0.0050	<0.0050	0.1/0.2 (AO)
Antimony	mg/L	<0.00002	<0.00020	<0.00020	0.006
Arsenic	mg/L	<0.00050	0.0007	0.0006	0.01
Barium	mg/L	0.0091	0.0161	0.0126	1
Boron	mg/L	0.0176	0.053	0.0353	5
Calcium	mg/L	42.9	44.6	43.8	NA
Chromium	mg/L	<0.00005	0.00166	0.00085	0.05
Cobalt	mg/L	0.00003	<0.00010	<0.00010	NA
Copper	mg/L	0.0108	0.074	0.0424	≤1.0 (AO)
Iron	mg/L	0.008	<0.010	0.009	0.3 (AO)
Lead	mg/L	0.000169	0.00025	0.00021	0.01
Magnesium	mg/L	17.2	22.4	19.8	NA
Manganese	mg/L	0.00078	0.0020	0.00139	0.05 (AO)
Nickel	mg/L	<0.0002	<0.00040	<0.00040	NA
Potassium	mg/L	0.96	3.2	2.08	NA
Selenium	mg/L	<0.0002	<0.00050	<0.00050	0.01
Silicon	mg/L	13.3	14.3	13.8	NA
Sodium	mg/L	12.5	25.5	19.0	200
Thallium	mg/L	<0.00001	<0.000020	<0.000020	NA
Tin	mg/L	<0.0001	<0.00020	<0.00020	NA
Titanium	mg/L	<0.0050	0.008	0.0065	NA
Uranium	mg/L	0.000028	0.000338	0.000183	NA
Vanadium	mg/L	0.000326	0.0046	0.002463	0.0036
Zinc	mg/L	0.003	0.0069	0.0050	≤5.0 (AO)
Zirconium	mg/L	<0.00010	0.0002	0.00015	NA

How to Measure

Most substances listed are reported in milligrams per litre (mg/L).

- One milligram per litre is commonly referred to as one part per million.
- One part per million is equivalent to one drop in 1/2 a bathtub full of water or one second in 12.5 days.

Some substances are measured in parts per billion.

- One part per billion is also referred to as one microgram per litre (µg/L).
- One part per billion is equivalent to one drop in 520 bathtubs full of water or one second in 32 years.

SAFETY AND ENVIRONMENT

Ensuring the safety of our customers and our employees is a top priority for EPCOR, as is our commitment to environmental stewardship.



Making sure our employees and contractors get home safely after work is a top priority for EPCOR.

We are proud to report that our team in French Creek hasn't had a single lost time incident in the past 11 years.

These positive results stem from our continual emphasis on safety training for our employees and contractors. This past year, employees received training on various topics, such as Transportation of Dangerous Goods, Violence in the Workplace, Ground Disturbance and Respiratory Protection.

EPCOR French Creek also met all its internal Safety Key Performance Measures for leadership, hazard management, monitoring and training.

The French Creek site's Emergency Response Plan is reviewed quarterly and updated annually. Monthly safety meetings, safe work plans, tailgate talks and work site inspections also contribute to our strong safety culture.

Developing Water Professionals

EPCOR French Creek is a Class III Water Treatment Plant and Class III Water Distribution System as designated through the Provincial Environmental Operators Certification Program, in recognition of our employees' qualifications.

To ensure ongoing operational excellence, EPCOR works with our operators to maintain or expand upon their current level of certification.

EPCOR has a team of professionals treating water in the community including our Senior Operator certified at the highest level (Level 4 Water Treatment), and a second Operator who holds the next highest certification (Level 3 Water Treatment).

Protecting the Environment

EPCOR goes above and beyond to protect the environment while ensuring future generations have access to clean and safe water.

We are proud to report that for the 12th consecutive year, EPCOR French Creek has not had a reportable environmental incident.



CUSTOMER CARE

Our customers push us to achieve the highest customer standards possible. We understand the importance our customers place on reliable water service. It's why we work hard to provide our customers with great service.

Responding to Outages

Our crews work quickly and safely to restore service when an outage occurs. In 2017, EPCOR responded to, and resolved five outages in the French Creek system and restored all outages within four hours.

Community Engagement

Through EPCOR's Charitable Partnership Program and Helping Hands grant, we support organizations that enhance the community's quality of life.

In 2017, EPCOR supported the following associations and initiatives:

- Parksville Beach Festival Society - Sand Sculpting Competition & Exhibition
- Qualicum Beach Fire & Ice Festival
- Pacific Salmon Foundation
- United Way
- Local Food Bank

Looking ahead, EPCOR French Creek will continue to support great organizations that are making a difference in our community.

Community Advisory Panel

French Creek's Water Community Advisory Panel (CAP) brings together people representing a variety of viewpoints within the community to share information and gather stakeholder input on initiatives and emerging issues. EPCOR benefits from hearing firsthand from these volunteers who commit to a three-year term and meet three to four times annually.

In 2017, the CAP met three times to discuss the following topics, which were presented and led by EPCOR:

- Overview of French Creek's water supply, treatment and service delivery
- CAP purpose, mandate and terms of reference
- Regulatory processes and requirements
- Site tour of the water treatment plant
- Revenue requirement and rates application
- Water utility privatization in North America
- Operational update regarding current projects and initiatives

OPERATIONAL EXCELLENCE

Maintenance and capital programs are critical to delivering operational excellence for the water system in the French Creek community.



Since EPCOR began operating the French Creek Utility in May 2006, we have made significant improvements. These include the construction of the Drew Road Water Treatment Plant, continued maintenance programs and increased water quality monitoring.

Capital Programs

We proactively manage the infrastructure through regular maintenance, evaluations and improvement programs.

Capital programs vary from those included in the maintenance program to ideas identified by EPCOR subject matter experts to help ensure the utility is at the forefront of industry best practices.

In 2017, we completed the following improvements:

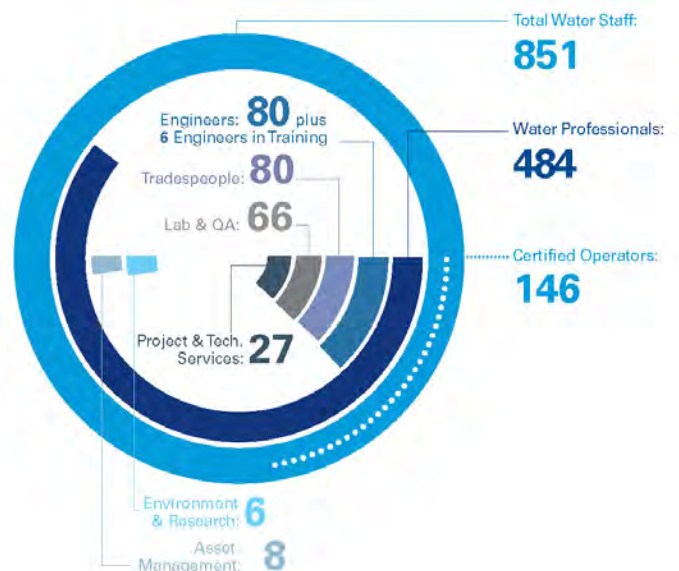
- Drew Road Pumphouse and Water Treatment Plant Upgrade
- Church Road Booster Pump Upgrade
- Installation of new fire hydrants in deficient areas
- Installation of roof liner on Church Road Reservoirs #2 and #3

EPCOR Advantage

As partners in the delivery of essential services to the community, we utilize the critical resources required to ensure that customers in French Creek are satisfied with their water service. The depth of our expertise stretches beyond basic services.

EPCOR supports the community and our partners with value-added programs including stakeholder engagement, community investment, integrated health and safety and supply chain management, among others.

A complete look at our specialized resources in Western Canada is shown in the image below.





**EPCOR French Creek
10D – 1343 Alberni Hwy
Parksville, BC
V9P 2B9**