

REGIONAL DISTRICT OF NANAIMO

Water Service Area Annual Report 2015



French Creek Water Service Area

June 2016

REGIONAL DISTRICT OF NANAIMO
Water & Utility Services Department

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Appendix A - Map of French Creek Water Service Area

Appendix B - Water Quality Testing Results

Appendix C - Emergency Response Plan

1. Introduction

The following annual report describes the French Creek Water Service Area and summarizes the water quality and production data from 2015. This report also includes a summary of inquiries and complaints, completed and proposed maintenance activities, the Emergency Response Plan, and the Cross Connection Control Program.

This report is to be submitted to Island Health by the Spring of 2016.

2. French Creek Water Service Area

The French Creek Water Service Area was established in 1980 and comprises an area west of Drew Road and south of the Island Highway between the City of Parksville and the Town of Qualicum Beach. There are 237 water service connections in the French Creek Water System. The water source comes from a series of groundwater wells located within the Sandpiper subdivision. The water supply is chlorinated and stored in one reservoir. In the event of a power failure or water system emergency, back-up water supply is immediately provided by the Town of Qualicum Beach through a pressure-sensing valve located on Ormonde Road. A map of the French Creek Water Service Area is provided in Appendix A for reference.

2.1 Groundwater Wells

Six groundwater production wells are present in the French Creek Water Service Area.

| Well / Name | Well Depth | In Use | Wellhead Protection | Treated/Untreated with Chlorine |
|-------------|------------|--------|---------------------|---------------------------------|
| #1 | 39.6 m | No | Yes | n/a |
| #2 | 40.5 m | Yes | Yes | Treated |
| #4 | 40.2 m | Yes | Yes | Treated |
| #5 | 50.3 m | No | Yes | n/a |
| #6 | 52.4 m | No | Yes | n/a |
| #7 | 39.6 m | Yes | Yes | Treated |

French Creek Well #1 was converted to a monitoring well in 2013 due to low production and high iron levels. Wells #5 and #6 are temporarily not in use due to elevated levels of iron and manganese.

2.2 Reservoirs

One service reservoir (steel construction) is present at 1225 Sunrise Drive, Parksville, B.C. and has a capacity of 364 m³ (80,000 imperial gallons).

2.3 Distribution System

The water distribution system in the French Creek Water Service Area is summarized in the table below. Fire hydrants (68) are located throughout the water service area.

| Watermain Material | Length of mains in service area | Prevalence in service area |
|--|---------------------------------|----------------------------|
| <u>Asbestos-concrete:</u> 150mm or smaller 200mm or larger | 3.5 km 0.8 km | 52% 12% |
| <u>PVC:</u> 150mm or smaller 200mm or larger | 0.9 km 1.5 km | 14% 22% |

Note: 'PVC' is poly-vinylchloride (plastic)

3. **Water Sampling and Testing Program**

Water sampling and testing is carried out weekly in the distribution system. The following table includes a summary of all testing.

| Timing | Location | Tests |
|--|-------------------------------|---|
| Weekly | RDN (in-house) Laboratory | Total coliforms, E.Coli, Temperature, pH, Conductivity, Chlorine residual, Salinity, TDS, Monthly- Iron and Manganese |
| Semi-Monthly | BC Centre for Disease Control | Total coliforms, E.Coli |
| Annual Source Water Testing (every Fall) | Maxxam Labs | Complete potability testing of raw well water, including T-Ammonia |
| Annual System Water Testing (every Spring) | Maxxam Labs | Complete potability testing of distribution system, including T-Ammonia |

4. **Water Quality - Source Water and Distribution System**

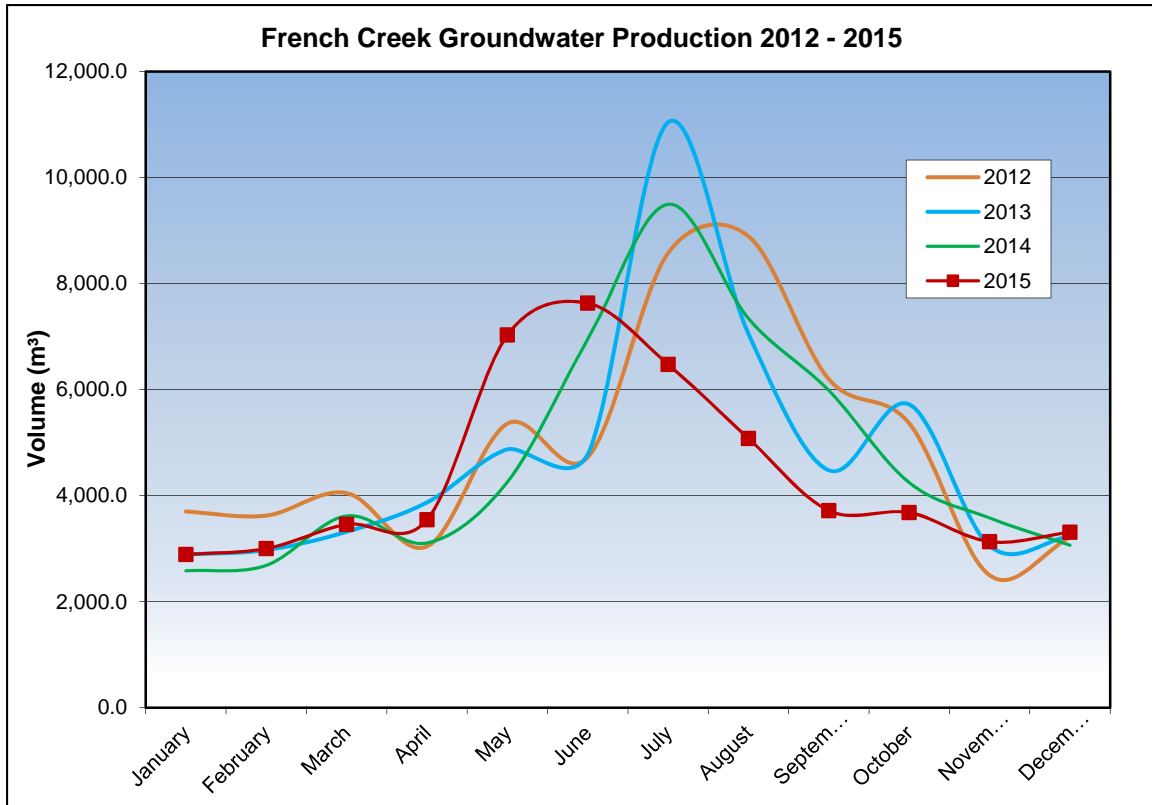
Up-to-date water quality reports and lab data are posted monthly on the RDN website at www.rdn.bc.ca in the Services section, under “Water & Utility Services” then “WaterSmart Communities”. Tables of water quality testing results for both the source water and distribution system are provided at the end of this report under Appendix B.

5. **Water Quality Inquiries and Complaints**

A few complaints and inquiries were received from the French Creek water service area in 2015, and were typically related to isolated incidents of iron discoloration in the water.

6. Groundwater Production and Consumption

The monthly groundwater production in the French Creek Water Service Area for the past 4 years is shown in the chart below. Groundwater production in 2015 was characterized by higher than normal use in April and May, followed by a period of lower than normal use from June through October. This pattern may be attributed to unseasonably warm spring temperatures and less-than-average precipitation, which resulted in an early start to the watering season. This was followed by the implementation of heightened watering restrictions in June and July, resulting in lower than normal use.



Consumption

In the Fall/Winter of 2015, the average usage per home in French Creek was 0.44 cubic metres per day (97 imperial gallons). In the summer, the average water usage was 0.83 cubic metres per day (183 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 243 L/day (based on 2.4 people per household). This consumption is 9% less than the RDN system average of 276 L/day/capita for 2015.

7. Maintenance Program

Weekly pump station inspections are carried out to reduce or eliminate the risk of contamination and system failure, and to ensure the consistent application of chlorine for treatment purposes. Watermains are flushed twice annually: once in the Spring and once in the Fall.

Fire hydrants are serviced once per year (either ‘A-level’ or ‘B-level’ maintenance). The water storage reservoir is drained and cleaned once every two years. Twenty four hour on call coverage is in place to respond to water system emergencies and alarms.

**French Creek
Main Pump
House and
Reservoir**



8. Water Service Area Projects

8.1 2015 Completed Studies & Projects

- Drained/cleaned reservoir, and undertook repairs;
- Upgraded certain fire hydrants;
- Offered irrigation audits to high water users;
- Updated Standard Operating Procedures;
- Updated the Water Services asset database;
- Achieved two Operators’ Backflow Assembly Tester certification;
- Enforced the outdoor sprinkling regulations;
- Completed annual fire hydrant maintenance;
- Authorized several water bill rebates under the RDN’s Leak Policy;
- Carried out a comprehensive water conservation campaign (Team WaterSmart);
- Updated and improved the RDN website at www.rdn.bc.ca;
- Updated the Emergency Response Plan;
- Utilized the Auto E-message service to notify member residents of water service disruptions and upcoming maintenance activities;
- Applied a rainwater harvesting incentive (rain barrels);
- Maintained a high level of water quality;
- Maintained excellent customer complaint and service request response times;
- Continued quality control through regular testing and monitoring of our water systems; and,
- Completed additional educational programs.

8.2 2016 Proposed Projects & Upgrades

- Update the Emergency Response Plan;
- Complete annual fire hydrant maintenance;
- Enforce the outdoor sprinkling regulations;
- Offer more irrigation audits to high water users;
- Continue to offer a rainwater harvesting (rain barrel) and other water-saving incentives;
- Utilize the Auto E-message service to notify member residents of water service disruptions and upcoming maintenance activities;
- Maintain excellent customer complaint and service request response times;
- Continue quality control through regular testing and monitoring of our water systems; and,
- Complete additional educational programs.

9. Emergency Response Plan

The Regional District Emergency Response Plan (ERP) contains procedures and contact information to efficiently respond to water system emergencies such as contamination of water supply, loss of supply, and pump failure. The ERP was reviewed and updated in 2015, and copies are available on our website, at each RDN office, in each pumphouse, and in each Water Services vehicle. A copy of the ERP is also attached to this report in Appendix C.

10. Cross Connection Control

In 2012, *Regional District of Nanaimo Water Use Regulation Bylaw No. 1654* was adopted which includes enhanced cross connection control and backflow protection wording. A separate Cross Connection Control bylaw was deemed not to be required.

A database of commercial customers was set-up in order to keep track of the maintenance history of testable backflow assemblies at each site. Two RDN Operators achieved their Backflow Assembly Tester certification in 2015.

11. Closing

An annual report for the year 2016 will be prepared and submitted to Island Health in the Spring of 2017. Annual reports are also available on our website at www.rdn.bc.ca in the SERVICES section, under “Water & Utility Services” then “WaterSmart Communities”.



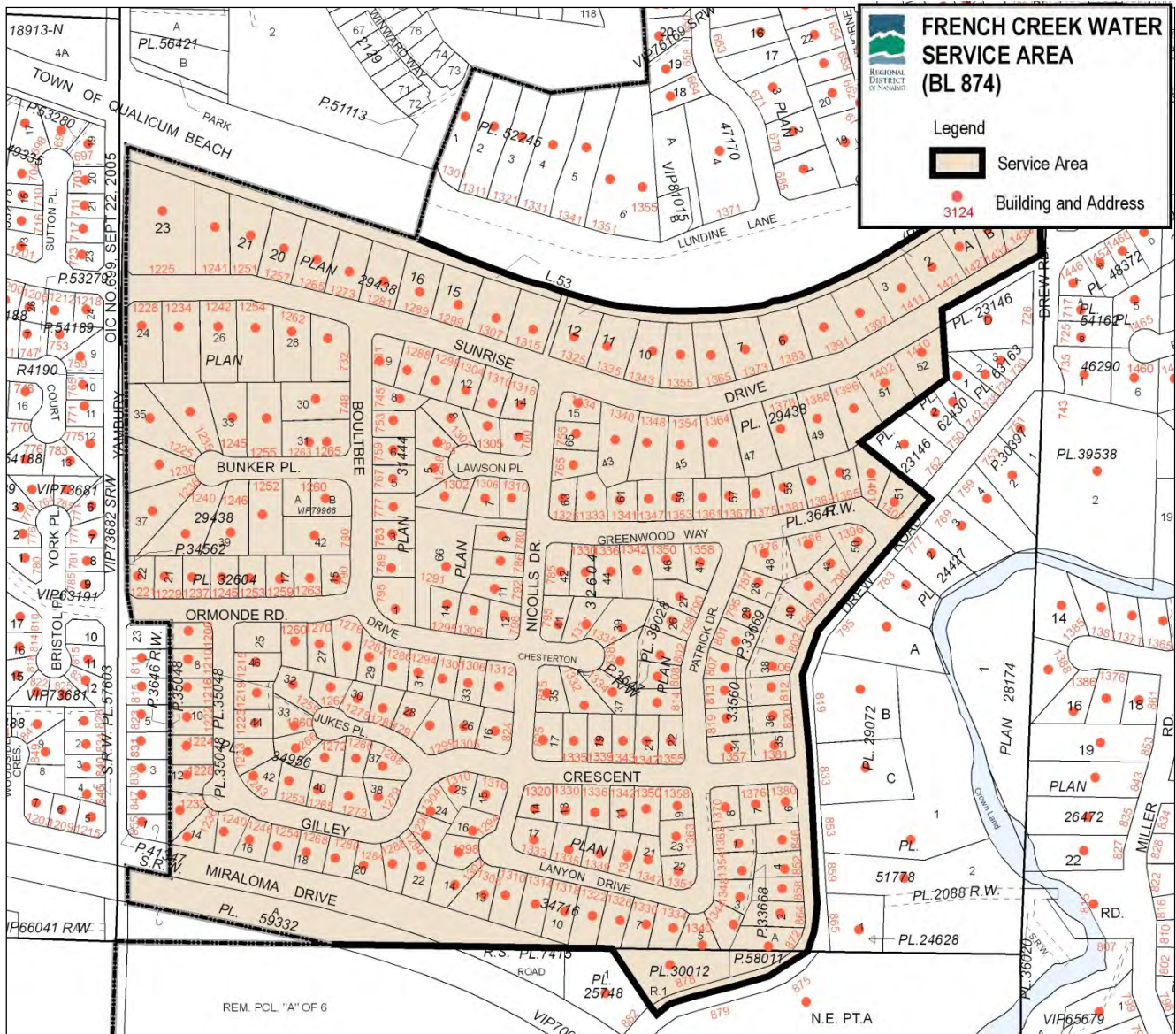
Yambury Road right-of-way near FC Well No.2

APPENDIX A

MAP OF FRENCH CREEK

WATER SERVICE AREA

**FRENCH CREEK
WATER SERVICE AREA**



APPENDIX B

WATER QUALITY TESTING RESULTS