

# REGIONAL DISTRICT OF NANAIMO

## Water Service Area Annual Report 2015



### **Whiskey Creek Water Service Area**

June 2016

**REGIONAL DISTRICT OF NANAIMO**

*Water & Utility Services Department*

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## Table of Contents

1.	Introduction.....	1
2.	Whiskey Creek Water System .....	1
2.1	Source Water .....	1
2.2	Reservoirs .....	1
2.3	Distribution System.....	1
3.	Water Sampling and Testing Program.....	2
4.	Water Quality - Source Water and Distribution System .....	2
5.	Water Quality Inquiries and Complaints .....	2
6.	Water Consumption .....	3
7.	Maintenance Program.....	3
8.	Water Service Area Projects.....	4
8.1	2015 Completed Studies & Projects.....	4
8.2	2016 Proposed Projects & Upgrades.....	4
9.	Emergency Response Plan.....	4
10.	Cross Connection Control.....	5
11.	Closing .....	5

Appendix A - Map of Whiskey Creek Water Service Area

Appendix B - Water Quality Testing Results

Appendix C - Emergency Response Plan

## 1. Introduction

The following annual report describes the Whiskey 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. Whiskey Creek Water System

The Whiskey Creek water system was constructed in the 1970s and was initially operated by the subdivision developer, Westerlea Estates Ltd. The water system is located eight kilometres southwest of Qualicum Beach on the south side of Highway 4. There are 123 residential lots connected to the water system. In January 2011, the ownership and operation of the Whiskey Creek Water District was transferred to the RDN. A map of the Whiskey Creek Water Service Area is provided in Appendix A for reference.

### 2.1 Source Water

Two water licenses allow surface water to be extracted from nearby Crocker Creek. An emergency backup generator is available in the event of a power failure. Water from Crocker Creek is temporarily stored in a raw water storage pond next to the pumphouse on Hebert Road. Perforated pipe under the bed of the pond carries water into a concrete wet well containing two submersible pumps. These pumps deliver water through a pressure filter to a water storage reservoir. The water is dosed with a polymer upstream of the filter and then chlorinated. Drinking water is pumped into the water system via two booster pumps.

### 2.2 Reservoirs

One service reservoir (concrete) is present at 979 Poplar Way, and has a capacity of 195 m<sup>3</sup> (43,000 imperial gallons).

### 2.3 Distribution System

The water distribution system in Whiskey Creek is summarized in the table below. There are 9 fire hydrants and 4 flush-outs in the system.

Watermain Material	Length of mains in Whiskey Creek Water Service Area	Prevalence in Water Service Area
<u>Asbestos-concrete:</u>		
100mm or smaller	1,280 m	40%
150mm or larger	1,920 m	60%

**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	BC Centre for Disease Control	Total coliforms, E.Coli
Weekly	RDN (in-house) Laboratory	Total coliforms, E.Coli Temperature, pH, Conductivity Chlorine residual, Salinity, TDS Monthly- Total Iron and Manganese
Quarterly	Maxxam Labs	Trihalomethanes (THMs), Total coliforms, and E.Coli at the reservoir site
Annual Source Water Testing (every Fall)	Maxxam Labs	Complete potability testing of raw source water incl. tannins and lignins
Annual System Water Testing (every Spring)	Maxxam Labs and Hyperion Research	Complete potability testing of distribution system water incl. tannins, lignins, Giardia, Cryptosporidium (Hyperion)

**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](http://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.

The turbidity of water in the distribution system is closely monitored with an online turbidity meter and alarm. Occasionally, during high turbidity events, such as heavy rainfall in/near Crocker Creek, the filtration system cannot effectively filter the surface water. In these cases, the surface water intake is temporarily shut down while drinking water is trucked in from another RDN water system nearby to top up the water storage reservoir until the high turbidity event passes.

No Boil Water Advisories or Orders were issued for the Whiskey Creek water system in 2015.

**5. Water Quality Inquiries and Complaints**

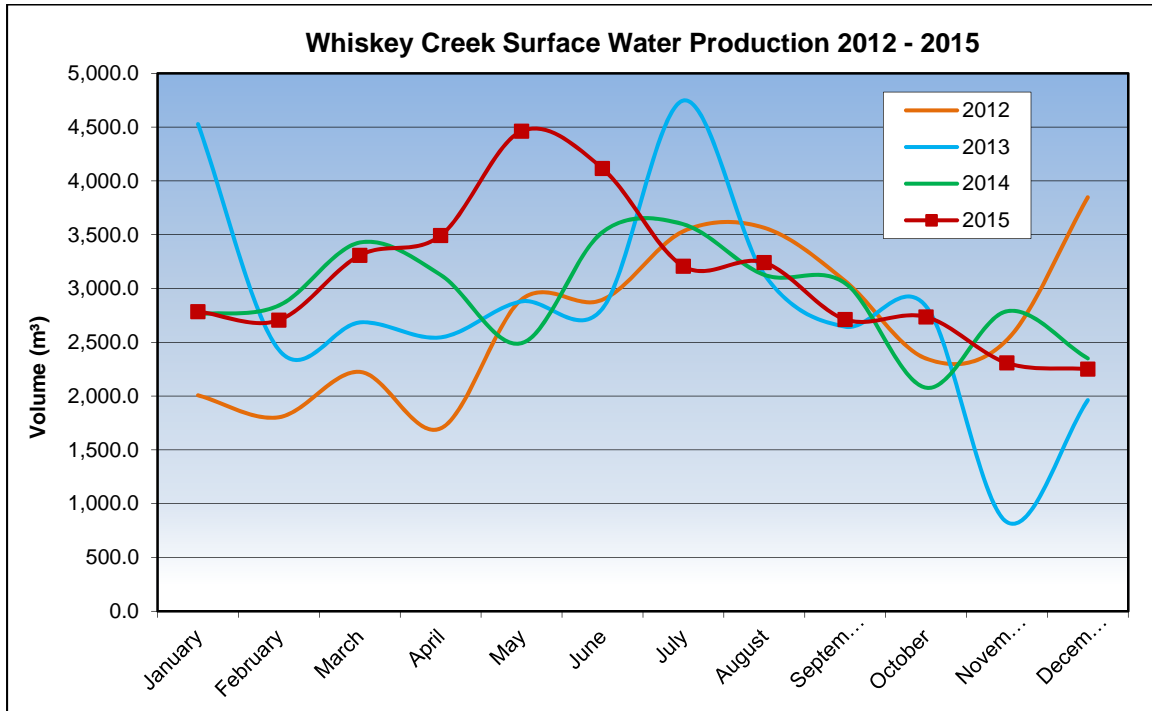
A few inquiries were received from the Whiskey Creek water service area in 2015 and were typically related to water billing.



Intersection of Brittain Blvd and Poplar Way in Whiskey Creek

## 6. Water Consumption

Monthly water production for the Whiskey Creek Water Service Area for the past 4 years is shown in the chart below. Water production in 2015 was average in comparison to previous years, except with an earlier peak in May and June due to high water use in hot weather conditions. Water production in July 2015 dropped substantially when the RDN imposed Stage 4 watering restrictions.



### Consumption

In the Fall/Winter of 2015, the average usage per home in Whiskey Creek was 0.49 cubic metres per day (108 imperial gallons). In the summer, the average water usage was 0.65 cubic metres per day (143 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 206 L/day (based on 2.4 people/household). This consumption is 23% less than the RDN system average of 276 L/day/capita in 2015.

## 7. Maintenance Program

Daily 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 once annually in the Spring. Fire hydrants (9) are serviced once per year (either 'A-level' or 'B-level' maintenance) in the Fall. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

Fire hydrants in the Whiskey Creek water system cannot be relied on for fire insurance purposes due to insufficient supply and capacity for fire flows. Upgrades to water supply volumes and reservoir storage may be required in the future, but would not proceed without community support and financing.

## 8. Water Service Area Projects

### 8.1 2015 Completed Studies & Projects

- Completed a desktop review of groundwater supply options;
- Initiated a request to drill a test well on Crown land;
- Offered free irrigation audits to high water users;
- Authorized several water bill rebates under the RDN Leak Policy;
- Updated the Emergency Response Plan;
- Updated the Standard Operating Procedures;
- Completed annual fire hydrant maintenance;
- Enforced the outdoor sprinkling regulations;
- Carried out a comprehensive water conservation campaign (Team WaterSmart);
- Updated and improved the RDN website at [www.rdn.bc.ca](http://www.rdn.bc.ca);
- Applied a low-flush toilet and rainwater harvesting (rain barrel) incentive;
- Maintained excellent customer complaint and service request response times; and
- Maintained quality control through regular testing and monitoring of the water system.

### 8.2 2016 Proposed Projects & Upgrades

- Drill a test well for groundwater supply;
- Offer free irrigation audits to high water users;
- Update the Emergency Response Plan;
- Continue quality control through regular testing and monitoring of water system;
- Complete additional educational programs;
- Meet the new Water Sustainability Act as it applies to well licensing; and
- Apply the rainwater harvesting (rain barrel) incentive.

## 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 updated in 2015, and copies of the ERP 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 prevention assemblies at each site. Two RDN Operators achieved their Backflow Prevention Tester re-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](http://www.rdn.bc.ca) in the SERVICES section, under “Water & Utility Services” then “WaterSmart Communities”.



**Water Intake Location  
and Pumphouse**

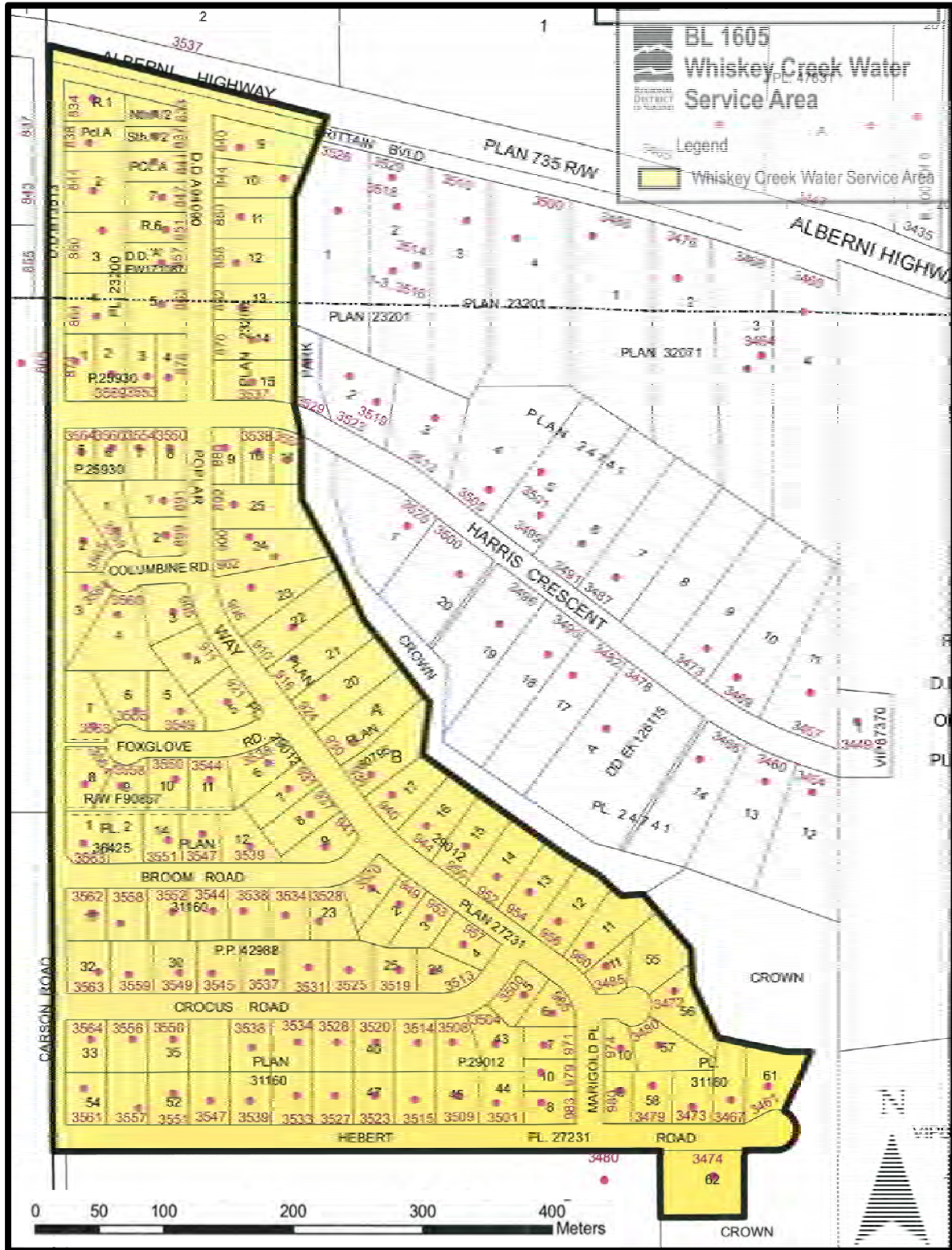
**APPENDIX A**

**MAP OF WHISKEY CREEK**

**WATER SERVICE AREA**



WHISKEY CREEK WATER SERVICE AREA



## **APPENDIX B**

### **WATER QUALITY TESTING RESULTS**