

# REGIONAL DISTRICT OF NANAIMO

## Water Service Area Annual Report 2015



## Melrose Terrace Water System

June 2016

REGIONAL DISTRICT OF NANAIMO

*Water & Utility Services Department*

6300 Hammond Bay Rd, Nanaimo, BC Canada V9T 6N2 | Ph 250-390-6560 | Fax 250-390-1542

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Appendix A - Map of Melrose Water Service Area

Appendix B - Water Quality Testing Results

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**1. Introduction**

The following annual report describes the Melrose 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. Melrose Water Service Area**

The Melrose Water Service Area was established in April 2005 when the RDN acquired the existing Melrose Terrace Strata Plan VIS3747 water system. The water service area is comprised of 28 residential properties on Melrose Road located near the Alberni Highway, southwest of Coombs. The water source for the Melrose Water Service Area comes from one groundwater well located nearby. The water is chlorinated and stored in a single reservoir. The water is then filtered through sand and charcoal filters before entering the distribution system. A portable generator is available in the event of a power outage. A map of the Melrose Water Service Area is provided in Appendix A for reference.

**2.1 Groundwater Wells**

One groundwater production well is present at the reservoir site on Melrose Road, west of Coombs, B.C.

Well / Name	Well Depth	Wellhead Protection In Place	Treated/Untreated with Chlorine
#1	26.2 m	Yes	Treated

**2.2 Reservoirs**

One service reservoir (steel structure) is present at 3853 Melrose Road, and has a capacity of 136 m<sup>3</sup> (30,000 imperial gallons).

**2.3 Distribution System**

The water distribution system in Melrose is comprised of 0.3 km of 150mm PVC watermains. There are no fire hydrants located within the system.



**Melrose Pumphouse and Reservoir**

**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
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 in 2012)
Annual System Water Testing (every Spring)	Maxxam Labs	Complete potability testing of distribution system (including T-Ammonia in 2012)

**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.

**5. Water Quality Inquiries and Complaints**

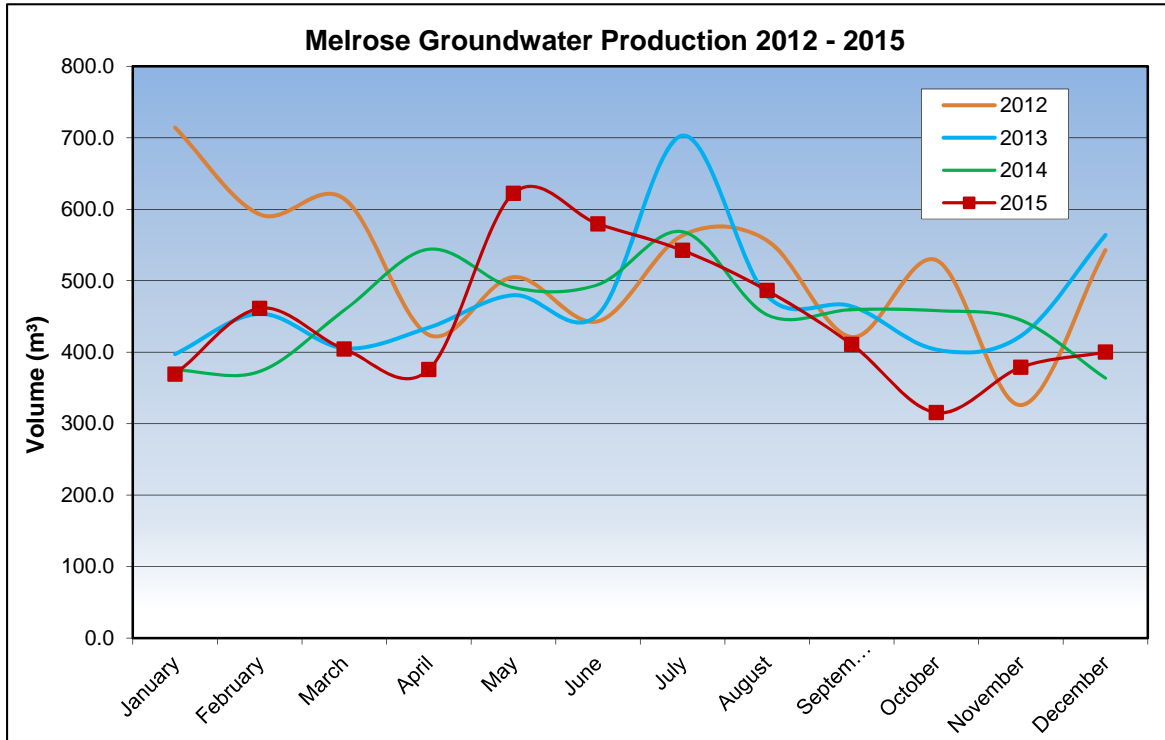
No complaints were received from the Melrose water service area in 2015.



Melrose Road

## 6. Groundwater Production and Consumption

The monthly groundwater production in the Melrose system for the past 4 years is shown in the chart below. Groundwater production in 2015 was similar to or lower than previous years, with the exception of an earlier than normal peak in April - May.



### Consumption

In the Fall/Winter of 2015, the average usage per home in the Melrose water service area was approximately 0.36 cubic metres per day (79 imperial gallons). In the summer, the average water usage was 0.51 cubic metres per day (112 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 178 L/day (based on 2.4 people per household). This consumption is 33% less than the RDN system average of 276 L/day/capita in 2015.

## 7. Maintenance Program

Regular maintenance and inspections are completed around the wellhead area 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. There are no fire hydrants on the system. The water storage reservoir is cleaned annually.

Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

## 8. Water System Projects

### 8.1 2015 Completed Studies & Projects

- Cleaned the water storage reservoir;
- Achieved two Operators' Backflow Assembly Tester certification;
- Updated the Water Services asset database;
- Updated the Emergency Response Plan;
- Updated the Standard Operating Procedures; and
- 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);
- 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 water system; and,
- Completed additional educational programs.

### 8.2 2016 Proposed Projects & Upgrades

- Clean and inspect the water storage reservoir;
- Continue to offer a rainwater harvesting (rain barrel) and other water-saving incentives;
- Update the Emergency Response Plan;
- Enforce the outdoor sprinkling regulations;
- Maintain a high level of water quality;
- Maintain excellent customer complaint and service request response times;
- Continue quality control through regular testing and monitoring of water system; 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 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.



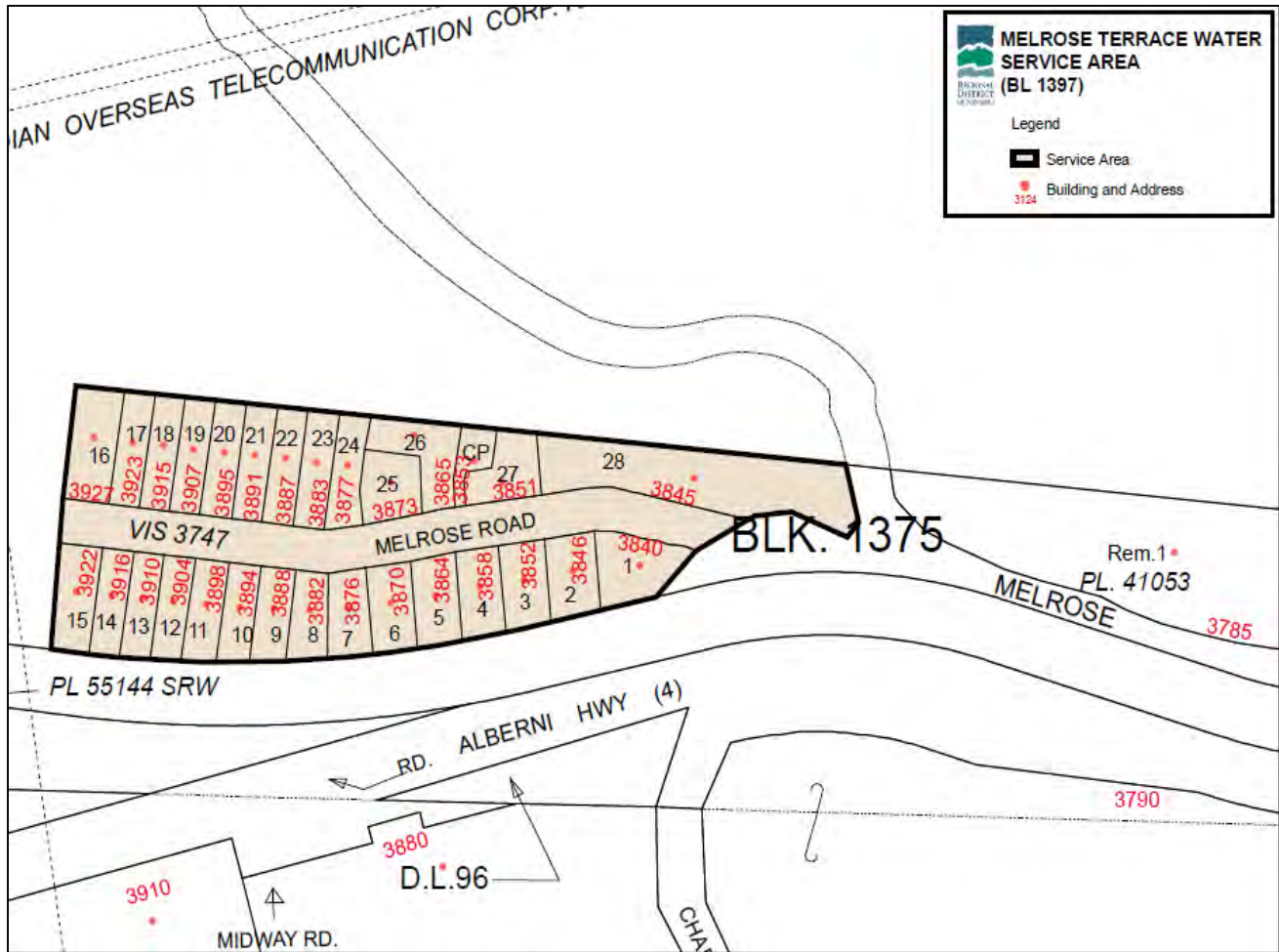
Melrose Road

**APPENDIX A**

**MAP OF MELROSE  
WATER SERVICE AREA**



MELROSE  
WATER SERVICE AREA



## APPENDIX B

### WATER QUALITY TESTING RESULTS