

Regional District of Nanaimo

**ARBUTUS
PARK**

**Water Local Service Area
Annual Report**

2006

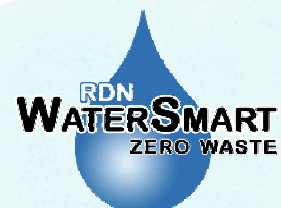


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Appendix A - Map of Arbutus Park Water Local Service Area

Appendix B - Water Quality Testing Results

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1. Introduction

The following annual report describes the Arbutus Park Water Local Service Area and summarizes the water quality and production data from 2006. 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 the Vancouver Island Health Authority by the Spring of 2007.

2. Arbutus Park Water System

The Arbutus Park Water Service Area was established in 1983 and comprises an area lying north and south of Powder Point Road, near Garry Oak Drive, Anchor Way, and Florence Drive on the Nanoose Peninsula. The water source for the Arbutus Park Water Service Area comes from a series of groundwater wells located nearby. The water source is chlorinated and stored in the Arbutus Park reservoir and in the shared Fairwinds reservoirs. A map of the Arbutus Park Water System is provided in Appendix A for reference.

2.1 Groundwater Wells

An abandoned groundwater production well is present at the corner of Powder Point Road and Rowland Road in Nanoose Bay, B.C. The well was closed permanently in 2005 due to inclining mineral concentrations. Well closure was completed by Drillwell Enterprises Ltd. on July 14, 2005 by filling the entire length of the hole with bentonite clay. A well closure report was forwarded to the Ministry of Environment and the Vancouver Island Health Authority in November 2006.

Well / Name	Well Depth	Wellhead Protection	Treated/Untreated with Chlorine
Arbutus Park #1 (Closed)	86.9 m	n/a	n/a

2.2 Reservoirs

One concrete service reservoir is located at 2976 Link Place, and has a capacity of 568 m³ (125,000 imperial gallons). Groundwater supply to the Arbutus Park reservoir comes from the Fairwinds wells located nearby.

2.3 Distribution System

The water distribution system in Arbutus Park is comprised of 100mm and 150mm asbestos-concrete watermains, and 150mm, 200mm, and 250mm PVC watermains. Fire hydrants are located throughout the system.

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, Fecal coliforms Temperature, pH, Conductivity Chlorine residual, Salinity Total Dissolved Solids Iron, Manganese
Weekly (Health Dept. Requirement)	North Island Labs	Total, Fecal coliforms
Annual Source Water Testing	North Island Labs	Complete potability testing of each well
Annual System Water Testing	North Island Labs	Complete potability testing of distribution system

4. Water Quality - Source Water and Distribution System

Up-to-date water quality reports and lab data are posted monthly on the RDN website (www.rdn.bc.ca/WaterSmart). 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

Very few complaints and inquiries were received from the Arbutus Park Water Service Area, and were typically related to objectionable odours in the water.

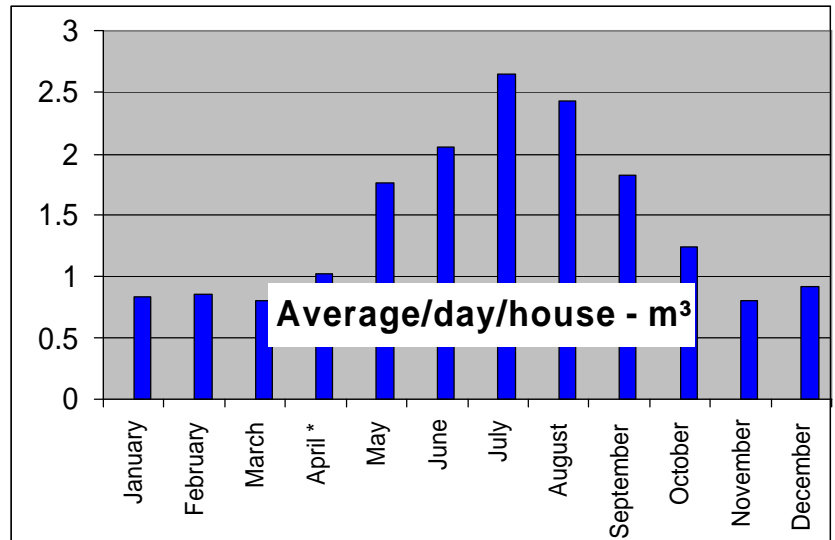
6. Groundwater Production and Average Consumption

No groundwater production currently takes place in the Arbutus Park Water Service Area. The average household water consumption per month is shown in the table and chart below.

Average / Day / House

January	0.8	m ³
February	0.9	m ³
March	0.8	m ³
*April	1.0	m ³
May	1.8	m ³
June	2.1	m ³
July	2.6	m ³
August	2.4	m ³
September	1.8	m ³
October	1.2	m ³
November	0.8	m ³
December	0.9	m ³

* indicates watermain flushing in April



Groundwater production and household water consumption both increased dramatically from May to September despite the implementation of outdoor watering restrictions.

7. Maintenance Program

Regular maintenance and inspections are completed around the reservoir site to reduce or eliminate the risk of contamination and system failure. Watermains are flushed once annually; in the Spring.

8. Water System Projects

8.1 2006 Completed Projects

- Roof of reservoir on Link Place was reviewed. No replacement was necessary.
- Water audit for the whole Nanoose Bay Peninsula (including Arbutus Park) was completed.
- A comprehensive water conservation program was carried out from May to October.
- A Standard Operating Procedures Manual was created for all routine Utilities duties.
- The Emergency Response Plan was reviewed and updated.
- A security review was completed by an independent agency and a report with recommendations was provided.
- A web-based Capital Asset Management Program was completed to inventory all water system pipes, valves, wells, reservoirs, hydrants, and manholes, etc. to assist with infrastructure replacement priorities.

8.2 2007 Proposed Projects & Upgrades

- Iron and Manganese removal pilot project (Worleyparsons Komex).
- Re-keying all locked facilities.
- Other security improvements.
- Developing objectives for a SCADA system.

8.3 2007 Proposed Studies

- Innovative water supply and re-use.
- Well redevelopment planning.
- Water Use Bylaw/Best Practices Review.

9. **Emergency Response Plan**

The Emergency Response Plan (ERP) was reviewed and updated in 2006. A copy of the ERP is attached in Appendix C.

10. **Cross Connection Control**

A formalized Cross Connection Control Program will be initiated in 2007. Cross connection controls already in-place include check valves at each residential water meter.

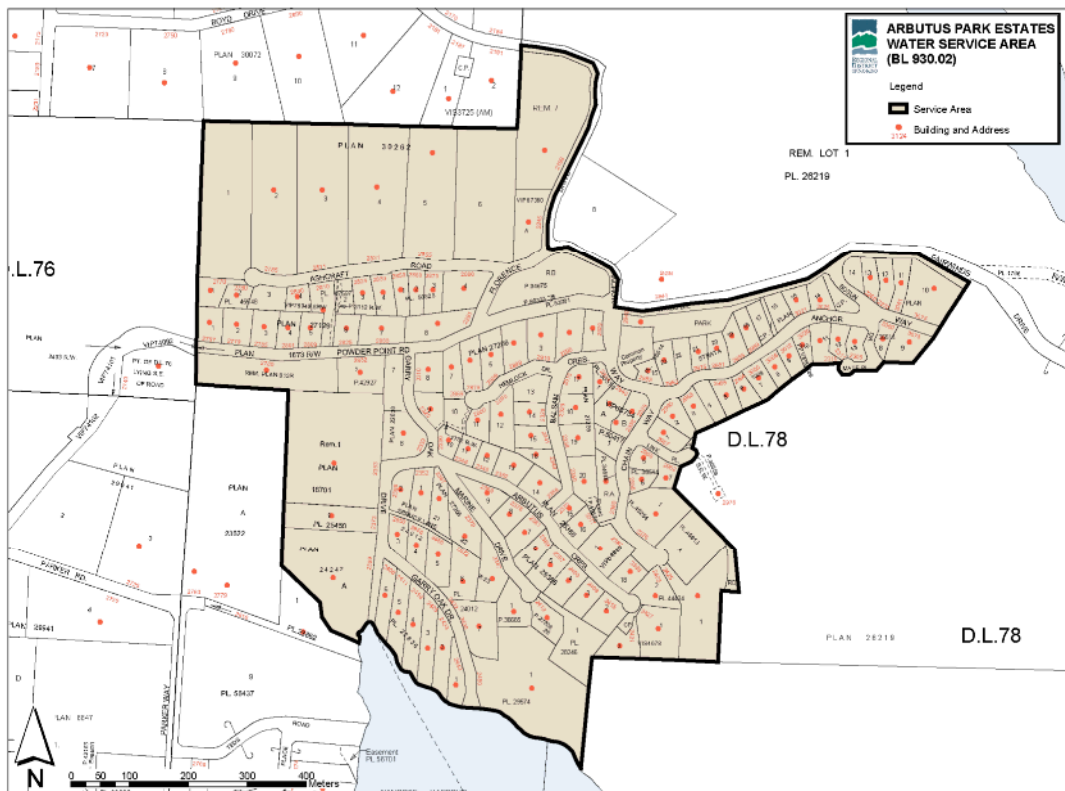
11. **Closing**

An annual report for the year 2007 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2008. Annual reports are also available on our website at www.rdn.bc.ca/WaterSmart.

APPENIDX A

**MAP OF ARBUTUS PARK
WATER LOCAL SERVICE AREA**

ARBUTUS PARK WATER LOCAL SERVICE AREA



APPENDIX B

WATER QUALITY TESTING RESULTS

APPENDIX C

EMERGENCY RESPONSE PLAN