SAN PAREIL

Water Service Area Annual Report 2011

Prepared by:

REGIONAL DISTRICT OF NANAIMO
Water Services Department
June 2012

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1. Introduction

The following annual report describes the San Pareil Water Service Area and summarizes the water quality and production data from 2011. 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 2012.

2. San Pareil Water System

The San Pareil Water Service Area was established in 1999 when the RDN acquired the existing Bubbling Springs Water Utility. This system is located to the northeast of the Englishman River bridge on the east side of the City of Parksville. There are 280 water service connections in San Pareil. The water source for the San Pareil Water Service Area comes from a series of groundwater wells located in the well field on Plummer Road. The well water is chlorinated and stored in one reservoir. A back-up propane generator is present on site. A map of the San Pareil Water System is provided in Appendix A.

2.1 Groundwater Wells

Four groundwater production wells are present in the well field at 1090 Plummer Road, Parksville, B.C. Two of the wells are not currently in use: Well #2 is an older, shallow well that is kept on stand-by. Well #3 was converted to a monitoring well when Well #4 was drilled.

<table>
<thead>
<tr>
<th>Well / Name</th>
<th>Well Depth</th>
<th>Wellhead Protection</th>
<th>Treated/Untreated with Chlorine</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>4.4 m</td>
<td>Yes</td>
<td>Treated</td>
</tr>
<tr>
<td>#2</td>
<td>5.5 m</td>
<td>Yes</td>
<td>Not in use</td>
</tr>
<tr>
<td>#3</td>
<td>7.0 m</td>
<td>Yes</td>
<td>Not in use</td>
</tr>
<tr>
<td>#4</td>
<td>5.7 m</td>
<td>Yes</td>
<td>Treated</td>
</tr>
</tbody>
</table>

2.2 Reservoirs

One concrete service reservoir is present at 1090 Plummer Road, and has a capacity of 340 m³ (75,000 imperial gallons).

2.3 Distribution System

The water distribution system in San Pareil is summarized in the table below. Fire hydrants (16) are located throughout the water service area, but the hydrants do not meet current requirements for spacing and/or fire flows.

<table>
<thead>
<tr>
<th>Watermain Material</th>
<th>Length of mains in San Pareil Water Service Area</th>
<th>Prevalence in Water Service Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC: 150mm or smaller AC: 200mm or larger</td>
<td>6.0 km none</td>
<td>91% n/a</td>
</tr>
<tr>
<td>PVC: 150mm or smaller PVC: 200mm or larger</td>
<td>0.2 km 0.4 km</td>
<td>3% 6%</td>
</tr>
</tbody>
</table>

Note: ‘AC’ is Asbestos-Concrete, ‘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:

<table>
<thead>
<tr>
<th>Timing</th>
<th>Location</th>
<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly</td>
<td>RDN (in-house) Laboratory</td>
<td>Total coliforms, E.Coli</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Temperature, pH, Conductivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chlorine residual, Salinity, TDS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monthly- Iron and Manganese</td>
</tr>
<tr>
<td>Monthly</td>
<td>BC Centre for Disease Control</td>
<td>Total coliforms, E.Coli</td>
</tr>
<tr>
<td>Annual Source Water</td>
<td>North Island Labs</td>
<td>Complete potability testing of raw well water (including T-Ammonia in 2012)</td>
</tr>
<tr>
<td>Testing (every Fall)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual System Water</td>
<td>North Island Labs</td>
<td>Complete potability testing of distribution system (including T-Ammonia in 2012)</td>
</tr>
<tr>
<td>Testing (every Spring)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**

Very few complaints or inquiries were received from the San Pareil water service area in 2011, and were typically related to water leaks or high water bills.

Fire insurance and the necessary water supply upgrades were discussed at length with residents of the San Pareil water service area in 2011. Updates on the upcoming construction and improvements can be found at [www.sanpareilwater.ca](http://www.sanpareilwater.ca).

San Pareil Well Site
6. **Groundwater Production and Consumption**

The monthly groundwater production for San Pareil for the past 5 years is shown in the chart below. Groundwater production in 2011 was typically lower than previous years.

![San Pareil Groundwater Production 2007-2011](chart)

**Consumption**

In the Fall/Winter of 2011, the average usage per home in San Pareil was 0.46 cubic metres per day (101 imperial gallons). In the summer, the average water usage was 0.88 cubic metres per day (193 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 251 L/day (based on 2.4 people/household). This consumption is 7% less than the RDN system average of 269 L/day/capita in 2011.

7. **Maintenance Program**

A weekly pump station inspection is 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 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.
8. Water System Projects

8.1 2011 Completed Studies & Projects

- Completed the San Pareil Fire Protection Service Area Establishing & Borrowing Bylaws;
- Achieved public approval and tendering of pumpstation and reservoir upgrades;
- Installed surface seal around San Pareil Well #1;
- Completed San Pareil Wellhead Protection Plan;
- Undertook a GWUDI Assessment of San Pareil wells;
- Completed a well yield assessment of San Pareil Well #4;
- Completed annual fire hydrant maintenance;
- Amalgamated RDN water systems’ rates & regulations into one bylaw;
- Enforced the outdoor sprinkling regulations;
- Prepared a Draft Cross-Connection Control Bylaw;
- 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 low-flush toilet incentive;
- 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 **2012 Proposed Projects & Upgrades**

- Upgrade watermains to help improve fire flows;
- Clean and flush San Pareil Well #4;
- Finalize GWUDI report (for wells potentially under the direct influence of surface water);
- Install signs along Plummer Road to encourage groundwater protection awareness;
- Complete the Cross-Connection Control bylaws, and establish a procedure for reviewing commercial and industrial properties for water system risks;
- Update the Standard Operating Procedures; and
- Apply a 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 reviewed and updated in 2011, 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**

A formalized Cross Connection Control Program was initiated in 2007. Cross connection controls in-place include dual check valves at each service connection, fire hydrant use permits, and water supply bylaws noting discontinued service if a threat to the water supply is perceived by staff.

In 2010, a Draft Cross-Connection Control Bylaw was prepared, and is anticipated to be finalized in 2012. Additionally, the program in 2012 will include:

- A formal survey of existing and potential cross-connections, and
- An audit of RDN-owned facilities in each water service area.

11. **Closing**

An annual report for the year 2012 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2013. 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”.
APPENDIX A

MAP OF SAN PAREIL

WATER SERVICE AREA
SAN PAREIL

WATER SERVICE AREA
APPENDIX B

WATER QUALITY TESTING RESULTS