



# ENGLISHMAN RIVER

Water Service Area  
Annual Report  
2010

Prepared by:



**REGIONAL DISTRICT OF NANAIMO**  
*Water Services Department*  
June 2011



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Appendix A - Map of Englishman River Water Service Area

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**1. Introduction**

The following annual report describes the Englishman River Community Water Supply Service Area and summarizes the water quality and production data from 2010. 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 2011.

**2. Englishman River Water Service Area**

The Englishman River Water Service Area was established in 2003 and comprises an area near the southern boundary of the City of Parksville between the Island Highway and the Englishman River. There are 132 water service connections in the Englishman River Water Service Area. The water source comes from a series of groundwater wells located nearby. The water is chlorinated and stored in one reservoir. A portable generator is available for emergency power outages. A map of the Englishman River Water Service Area is provided in Appendix A for reference.

**2.1 Groundwater Wells**

Groundwater production wells PW #2 and PW #3 are located in the well field at 2231 Rascal Lane, Parksville, B.C. Test well PW #1 is located on Peterson Road and Test Well PW #4 is located on Rivers Edge Drive.

Well / Name	Well Depth	In Use	Wellhead Protection In Place	Treated/Untreated with Chlorine
PW #1	52.4 m	No	Yes	n/a
PW #2	29.3 m	Yes	Yes	Treated
PW #3	32.6 m	Yes	Yes	Treated
PW #4	29.6 m	No	Yes	n/a

**2.2 Reservoirs**

One dual-chambered concrete service reservoir is present at 890 Stonefly Close, and has a capacity of 795 m<sup>3</sup> (175,000 imperial gallons).

**2.3 Distribution System**

The water distribution system is summarized in the table below. Fire hydrants (24) are located throughout the system.

Watermain Material	Length of mains in service area	Prevalence in Water Service Area
Asbestos-concrete	none	n/a
<u>PVC</u> : 150mm or smaller	3.6 km	28.8%
200mm or larger	8.9 km	71.2%

*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 (Health Dept. Requirement)	BC Centre for Disease Control	Total coliforms, E.Coli
Monthly	RDN (in-house) Laboratory	Total Iron and Manganese
Annual Source Water Testing	North Island Labs	Complete potability testing of raw well water (every Fall)
Annual System Water Testing	North Island Labs	Complete potability testing of distribution system (every Spring)

### 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 Environmental/Water section, under “Water Service Areas” 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

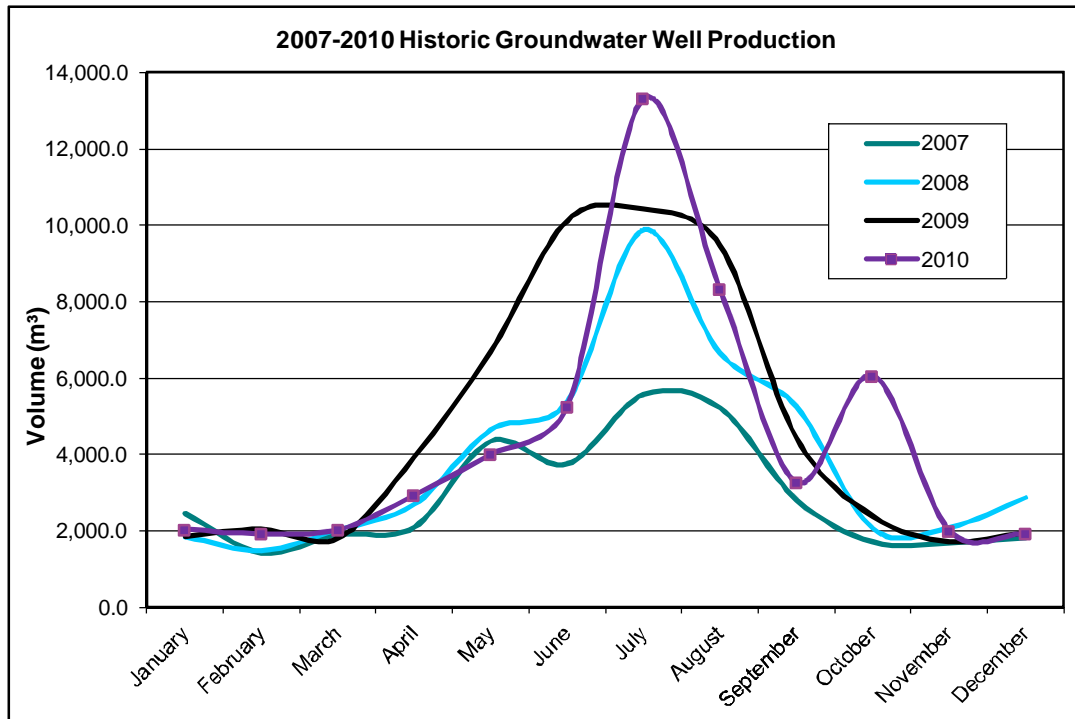
A few complaints and inquiries were received from the Englishman River Water Service Area in 2010, and were typically related to irrigation leaks and high water bills.



Watering Sampling Station on Rascal Lane

## 6. Groundwater Production and Consumption

The monthly groundwater production in the Englishman River Water Service Area for the past 4 years is shown in the chart below. Groundwater production in 2010 was higher than in previous years, likely due to the new homes and landscaping being installed in this subdivision.



### Consumption

In the Fall/Winter of 2010, the average usage per home in the Englishman River Water Service Area was 0.56 cubic metres per day (123 imperial gallons). In the summer, the average water usage was 1.8 cubic metres per day (400 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 406 L/day (based on 2.4 people per household). This consumption is 33% more than the RDN system average of 305 L/day/capita for 2010.

## 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. Water mains are flushed once annually in the Spring. 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.

## 8. Water Service Area Projects

### 8.1 2010 Completed Studies & Projects

- Installed stand-alone water sampling stations;
- Updated the outdoor sprinkling regulations;
- Completed annual B-service fire hydrant maintenance;
- 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](http://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 the low-flush toilet incentive;
- 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 2011 Proposed Projects & Upgrades

- Clean the water storage reservoir; and
- Complete the Cross-Connection Control Bylaw, and establish a procedure for reviewing commercial and industrial properties for water system risks

## 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 2010, 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 2008, a review and comparison of successful crossconnection control programs in other small Water Service Areas nearby was undertaken. A database of commercial customers was setup in order to keep track of the maintenance history of testable backflow prevention assemblies at each site. Three RDN Operations staff achieved Backflow Prevention Tester's certification.

In 2010, a Draft Cross-Connection Control Bylaw was prepared, and is anticipated to be finalized in 2011. Additionally, the program in 2011 will include:

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

## **11. Closing**

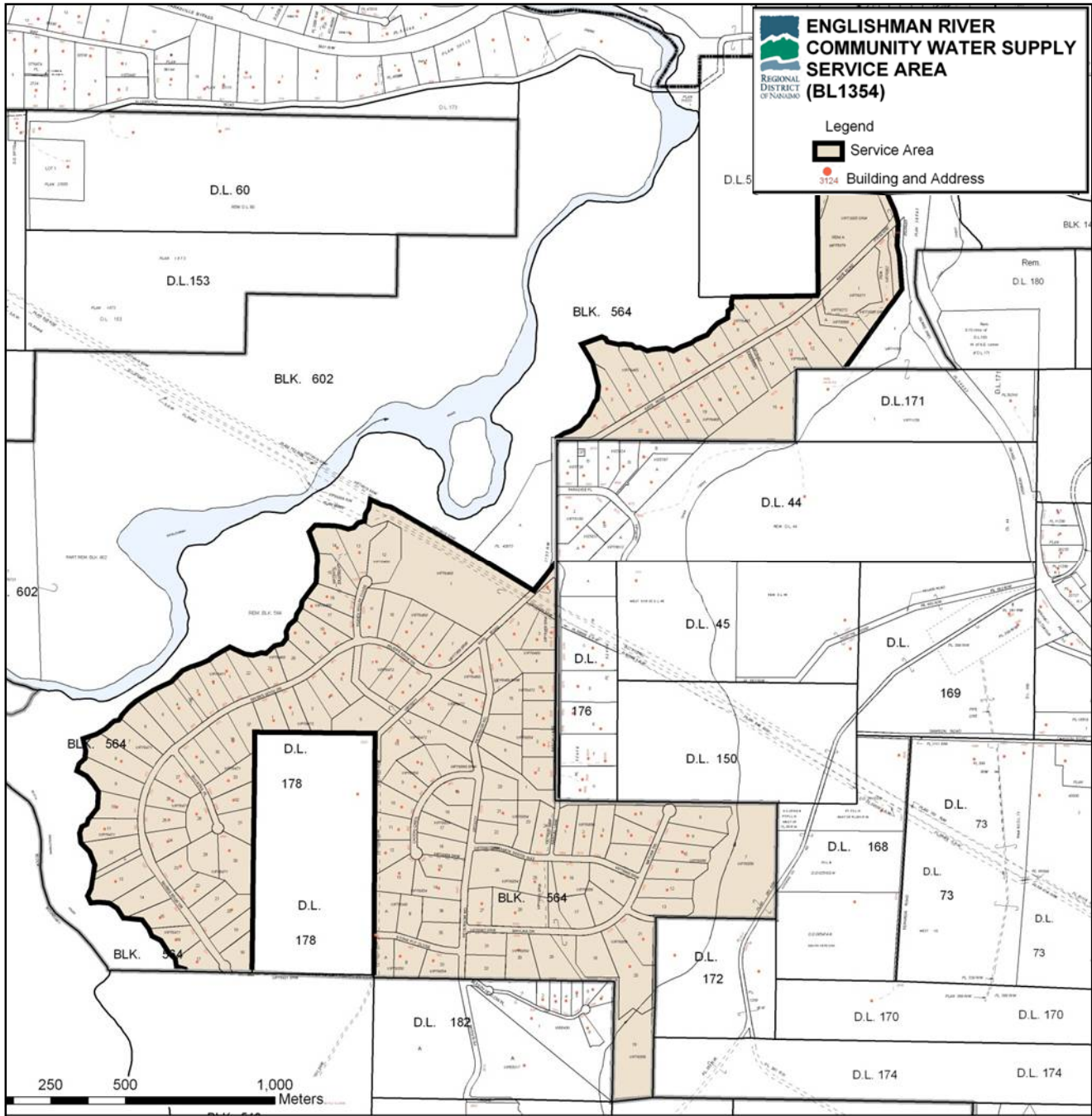
An annual report for the year 2011 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2012. Annual reports are also available on our website at [www.rdn.bc.ca](http://www.rdn.bc.ca) in the Environmental/Water section, under “Water Service Areas” then “WaterSmart Communities”.

**APPENIDX A**

**MAP OF ENGLISHMAN RIVER  
WATER SERVICE AREA**



# ENGLISHMAN RIVER WATER SERVICE AREA



## **APPENDIX B**

### **WATER QUALITY TESTING RESULTS**

# Englishman River Distribution Water Analysis Results

**Location: 1969 Kaye Road**

Canadian Drinking Water Guidelines Package

MAC=Maximum Acceptable Concentration IMAC=Interim Maximum Acceptable Concentration AO=Aesthetic Objective

CDWG=Canadian Drinking Water Guidelines BCAWQG=British Columbia Approved Water Quality Guidelines

**Red font indicates non-compliance with Canadian Drinking Water Guidelines**

Parameters	Water Quality Guidelines				1999	2000	2001	2002	2003	2004	20-Apr 2005	17-May 2006	22-May 2007	27-May 2008	13-May 2009	18-May 2010
	Units	CDWG	BCAWQG													
Color	CU	15	<=15	AO							<5	<5	14	<5	8	19
Conductivity	uS		700	MAC							283	286	300	318	340	385
TDS	mg/L	500	<=500	AO							150	167	164	186	222	224
Hardness (CaCO3)	mg/L	80-100	<=500	AO							130	130	140	130	160	150
pH	pH units	6.5-8.5	6.5-8.5	AO							8.1	8.3	8.2	8.24	8.2	8.2
Turbidity	NTU's	5	1	MAC							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Alkalinity	mg/L										140	150	130	130	130	130
Chloride	mg/L	250	<=250	AO							4.4	6.6	10.7	14.9	23.4	32.2
Fluoride	mg/L	1.5	1.5	MAC							<1.0	0.1	<1.0	<1.0	<1.0	<1.0
Sulfate	mg/L	500	<=500	AO							6.8	9.1	8.4	7.3	8.3	8.3
Nitrate	mg/L	10	10	MAC							<0.1	<0.01	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	1									<0.1	<0.01	<0.1	<0.1	0.1	<0.1
T-Aluminum	mg/L		0.2	MAC							<0.005	<0.005	<0.005	<0.05	<0.005	0.01
T-Antimony	mg/L		0.006	MAC							<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002
T-Arsenic	mg/L	0.025	0.025	IMAC							0.002	0.0017	0.0017	0.004	0.0017	0.0016
T-Barium	mg/L	1.0	1	MAC							0.018	0.018	0.019	0.02	0.021	0.022
T-Boron	mg/L	5.0	5	MAC							0.033	0.033	0.038	<0.02	0.04	0.042
T-Cadmium	mg/L	0.005									<0.00001	<0.00001	<0.00001	<0.0003	<0.00001	<0.00001
T-Calcium	mg/L										32	32.4	34.4	31.2	40	38.7
T-Chromium	mg/L	0.05	0.05	MAC							<0.0005	<0.0005	<0.0005	<0.003	<0.0004	<0.0004
T-Copper	mg/L	1.0	<=1	MAC							0.006	0.001	0.005	<0.005	0.004	0.005
T-Iron	mg/L	0.3	<=0.3	AO							<0.1	<0.1	<0.1	<0.05	<0.01	<0.01
T-Lead	mg/L	0.01	0.01	MAC							0.0005	<0.0001	0.0002	<0.0005	0.0001	0.0002
T-Lithium	mg/L														<0.001	<0.001
T-Magnesium	mg/L		<=700	AO							11.6	11	12.2	11.4	13.8	13.9
T-Manganese	mg/L	0.05	<=0.05	AO							0.01	0.014	0.014	0.018	0.0222	0.0208
T-Mercury	mg/L	0.001	0.001	MAC							<0.0002	<0.0001	<0.0001	<0.01	<0.01	<0.01
T-Nickel	mg/L														<0.001	<0.001
T-Phosphorus	mg/L														0.027	0.032
T-Potassium	mg/L										0.8	1	1.1	1	1.4	1.2
T-Selenium	mg/L	0.01	0.01	MAC							<0.0002	<0.0002	<0.0002	0.003	<0.0006	<0.0006
T-Silver	mg/L														<0.00001	<0.00001
T-Sodium	mg/L	200	<=200	AO							11	11.4	12.7	13.8	14.7	16.1
T-Uranium	mg/L	0.1	0.1	MAC							<0.0005	<0.0005	<0.0005	<0.002	<0.0004	<0.0004
T-Zinc	mg/L	5	<5	AO							0.006	0.003	0.011	<0.005	0.01	0.009
Total Coliform	cfu/100ml	<1	<1	cfu/100ml							<1	<1	<1	<1.0	<1.0	<1.0
Fecal Coliform	cfu/100ml	<1	<1	cfu/100ml							<1	<1	<1			
E.coli	cfu/100ml	<1	<1	cfu/100ml								<1	<1	<1.0	<1.0	<1.0
Tannins & Lignins											n/a	n/a				
Trihalomethanes	mg/l	0.1		MAC							n/a	0.002				







# Regional District of Nanaimo - Water Services Department

## Englishman River Water Analysis - 2010 Monthly Report



Date	Sample Location (Address)	Health Department		In-House									
		Fecal Coliform *	Total Coliform *	Fecal Coliform *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
5-Jan-10	1969 Kaye Road	0	0	0	0		6.8	0.38	161	0.2	341	0	0.046
12-Jan-10	900 Stonefly Close			0	0	10	7.4	0.53	162	0.2	342		
20-Jan-10	1969 Kaye Road			0	0	7		0.40	162	0.2	340		
26-Jan-10	900 Stonefly Close			0	0	8	7.5	0.66	162	0.2	342		
	<b>Average</b>	0	0	0	0	8.3	7.2	0.49	161.8	0.2	341.3	0.00	0.046
	<b>Maximum</b>	0	0	0	0	10	7.5	0.66	162	0.2	342	0	0.046
	<b>Minimum</b>	0	0	0	0	7	6.8	0.38	161	0.2	340	0	0.046

**Red font indicates non-compliance with Canadian Drinking Water Guidelines**

Aesthetic Objective for Iron is • 0.3 mg/L

Aesthetic Objective for Manganese is • 0.05mg/L

\*Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

Yellow Column Coliform tests are completed by Health Department

Blue column tests are completed by RDN

**Comments:**

Iron and manganese are found naturally in drinking water. Levels found in these samples are not a health concern.



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		Fecal Coliform *	Total Coliform *	Fecal Coliform *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
9-Feb-10	1969 Kaye Road	0	0	0	0	8	7.5	0.54	162	0.2	342	0.01	0.035
17-Feb-10	900 Stonefly CI			0	0	7	7.5	0.63	163	0.2	342		
23-Feb-10	1969 Kaye Road			0	0	7	6.8	0.54	163	0.2	343		
	<b>Average</b>	0	0	0	0	7.3	7.3	0.57	162.7	0.2	342.3	0.01	0.035
	<b>Maximum</b>	0	0	0	0	8	7.5	0.63	163	0.2	343	0.01	0.035
	<b>Minimum</b>	0	0	0	0	7	6.8	0.54	162	0.2	342	0.01	0.035

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3-Mar-10	900 Stonefly Cl.			0	0	7	7.4	0.72	163	0.2	343	0.01	0.043
9-Mar-10	1969 Kaye Road			0	0	7	6.8	0.53	162	0.2	341		
17-Mar-10	1969 Kaye Road	0	0	0	0	7	7.3	0.63	166	0.2	348		
24-Mar-10	2235 Rascal Ln			0	0	8	7.3	0.59	163	0.2	343		
30-Mar-10	1969 Kaye Road			0	0	7	7.3	0.55	161	0.2	339		
	<b>Average</b>	0	0	0	0	7.2	7.2	0.60	163.0	0.2	342.8	0.01	0.043
	<b>Maximum</b>	0	0	0	0	8	7.4	0.72	166	0.2	348	0.01	0.043
	<b>Minimum</b>	0	0	0	0	7	6.8	0.53	161	0.2	339	0.01	0.043

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7-Apr-10	900 Stonefly			0	0	8	7.3	0.75	163	0.2	343	0	0.033
13-Apr-10	1969 Kaye Rd	0	0	0	0	8	7.4	0.62	163	0.2	343		
20-Apr-10	2235 Rascal Lane			0	0	9	7.3	0.70	162	0.2	341		
27-Apr-10	900 Stonefly			0	0	11	6.8	0.56	165	0.2	348		
	<b>Average</b>	0	0	0	0	9.0	7.2	0.66	163.3	0.2	343.8	0.00	0.033
	<b>Maximum</b>	0	0	0	0	11	7.4	0.75	165	0.2	348	0	0.033
	<b>Minimum</b>	0	0	0	0	8	6.8	0.56	162	0.2	341	0	0.033

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4-May-10	1969 Kaye Rd	0	0	0	0	11	7.3	0.53	160	0.2	357	0.03	0.097
12-May-10	1969 Kaye Rd			0	0	10	6.9	0.54	173	0.2	361		
19-May-10	900 Stonefly			0	0	11	7.5	1	175	0.2	368		
25-May-10	2235 Rascal Ln			0	0	n/a	7.3	0.91	176	0.2	369		
	<b>Average</b>	0	0	0	0	10.7	7.3	0.75	171.0	0.2	363.8	0.03	0.097
	<b>Maximum</b>	0	0	0	0	11	7.5	1	176	0.2	369	0.03	0.097
	<b>Minimum</b>	0	0	0	0	10	6.9	0.53	160	0.2	357	0.03	0.097

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9-Jun-10	1969 Kaye Road	0	0	0	0		8.1	0.73	177	0.2	371	0.01	0.026
15-Jun-10	2235 Rascal Lane			0	0		7.9	0.74	175	0.2	368		
22-Jun-10	900 Stonefly Cl			0	0		7.8	0.59	185	0.2	391		
29-Jun-10	1969 Kaye Road			0	0		7.3	0.62	187	0.2	390		
	<b>Average</b>	0	0	0	0	#DIV/0!	7.8	0.67	181.0	0.2	380.0	0.01	0.026
	<b>Maximum</b>	0	0	0	0	0	8.1	0.74	187	0.2	391	0.01	0.026
	<b>Minimum</b>	0	0	0	0	0	7.3	0.59	175	0.2	368	0.01	0.026

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6-Jul-10	1969 Kaye Rd	0	0	0	0		7.6	0.68	186	0.2	386	0.02	0.041
13-Jul-10	900 Stonefly			0	0		7.9	0.92	179	0.2	376		
21-Jul-10	1969 Kaye Rd			0	0	15	7.6	0.94	186	0.2	384		
27-Jul-10	900 Stonefly			0	0	11	7.8	0.78	183	0.2	456		
	<b>Average</b>	0	0	0	0	13.0	7.7	0.83	183.5	0.2	400.5	0.02	0.041
	<b>Maximum</b>	0	0	0	0	15	7.9	0.94	186	0.2	456	0.02	0.041
	<b>Minimum</b>	0	0	0	0	11	7.6	0.68	179	0.2	376	0.02	0.041

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4-Aug-10	1969 Kaye	0	0	0	0	15	7.9	0.68	184	0.2	385	0.02	0.042
9-Aug-10	900 Stonefly CI			0	0	12	7.1	0.56	187	0.2	392		
17-Aug-10	2235 Rascal			0	0	14	7.1	0.57	188	0.2	394		
23-Aug-10	1969 Kaye			0	0	15.5	7.9	0.84	188	0.2	394		
31-Aug-10	2235 Rascal			0	0	14	8.1	0.58	186	0.2	390		
	<b>Average</b>	0	0	0	0	14.1	7.6	0.65	186.6	0.2	391.0	0.02	0.042
	<b>Maximum</b>	0	0	0	0	15.5	8.1	0.84	188	0.2	394	0.02	0.042
	<b>Minimum</b>	0	0	0	0	12	7.1	0.56	184	0.2	385	0.02	0.042

**Red font indicates non-compliance with Canadian Drinking Water Guidelines**

Aesthetic Objective for Iron is • 0.3 mg/L

Aesthetic Objective for Manganese is • 0.05mg/L

\*Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

Yellow Column Coliform tests are completed by Health Department

Blue column tests are completed by RDN

**Comments:**

Iron and manganese are found naturally in drinking water. Levels found in these samples are not a health concern.



# Regional District of Nanaimo - Water Services Department

## Englishman River Water Analysis - 2010 Monthly Report



Date	Sample Location (Address)	Health Department		In-House									
		Fecal Coliform *	Total Coliform *	Fecal Coliform *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
8-Sep-10	1969 Kaye			0	0	15	7.7	0.64	191	0.2	398	0.02	0.07
15-Sep-10	900 Stonefly			0	0	14	7.4	0.51	189	0.2	396		
21-Sep-10	2235 Rascal			0	0	13	7.5	0.36	187	0.2	391		
28-Sep-10	1969 Kaye	0	0	0	0	14	7.8	0.45	186	0.2	389		
	<b>Average</b>	0	0	0	0	14.0	7.6	0.49	188.3	0.2	393.5	0.02	0.07
	<b>Maximum</b>	0	0	0	0	15	7.8	0.64	191	0.2	398	0.02	0.07
	<b>Minimum</b>	0	0	0	0	13	7.4	0.36	186	0.2	389	0.02	0.07

**Red font indicates non-compliance with Canadian Drinking Water Guidelines**

Aesthetic Objective for Iron is • 0.3 mg/L

Aesthetic Objective for Manganese is • 0.05mg/L

\*Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

Yellow Column Coliform tests are completed by Health Department

Blue column tests are completed by RDN

**Comments:**

Iron and manganese are found naturally in drinking water. Levels found in these samples are not a health concern.



# Regional District of Nanaimo - Water Services Department

## Englishman River Water Analysis - 2010 Monthly Report



Date	Sample Location (Address)	Health Department		In-House									
		Fecal Coliform *	Total Coliform *	Fecal Coliform *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
5-Oct-10	1969 Kaye Road			0	0	13	7.4	0.58	189	0.2	396	0.01	0.039
13-Oct-10	900 Stonefly CI			0	0	10	7.6	0.88	193	0.2	404		
18-Oct-10	1969 Kaye Road	0	0	0	0		7.6	0.84	195	0.2	408		
25-Oct-10	2235 Rascal			0	0	13	8	0.94	190	0.2	402		
	<b>Average</b>	0	0	0	0	12.0	7.7	0.81	191.8	0.2	402.5	0.01	0.039
	<b>Maximum</b>	0	0	0	0	13	8	0.94	195	0.2	408	0.01	0.039
	<b>Minimum</b>	0	0	0	0	10	7.4	0.58	189	0.2	396	0.01	0.039

**Red font indicates non-compliance with Canadian Drinking Water Guidelines**

Aesthetic Objective for Iron is • 0.3 mg/L

Aesthetic Objective for Manganese is • 0.05mg/L

\*Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

Yellow Column Coliform tests are completed by Health Department

Blue column tests are completed by RDN

**Comments:**

Iron and manganese are found naturally in drinking water. Levels found in these samples are not a health concern.



# Regional District of Nanaimo - Water Services Department

## Englishman River Water Analysis - 2010 Monthly Report



Date	Sample Location (Address)	Health Department		In-House									
		Fecal Coliform *	Total Coliform *	Fecal Coliform *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
2-Nov-10	2235 Rascal Lane			0	0	10	7.3	0.73	193	0.2	404	0.01	0.047
9-Nov-10	1969 Kaye	0	0	0	0	10	7.6	0.68	191	0.2	399		
16-Nov-10	900 Stonefly			0	0	9	7.9	0.70	190	0.2	399		
24-Nov-10	2235 Rascal Lane			0	0	9	7.6	0.62	187	0.2	391		
30-Nov-10	2235 Rascal Lane			0	1	7	8	0.61	189	0.2	394		
<b>Average</b>		0	0	0	0.2	9.0	7.7	0.67	190.0	0.2	397.4	0.01	0.047
<b>Maximum</b>		0	0	0	1	10	8	0.73	193	0.2	404	0.01	0.047
<b>Minimum</b>		0	0	0	0	7	7.3	0.61	187	0.2	391	0.01	0.047

Red font indicates non-compliance with Canadian Drinking Water Guidelines

Aesthetic Objective for Iron is • 0.3 mg/L

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\*Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

Yellow Column Coliform tests are completed by Health Department

Blue column tests are completed by RDN

### Comments:

Iron and manganese are found naturally in drinking water. Levels found in these samples are not a health concern.

Total coliforms can be an indicator of adverse water quality if the result in the resample is positive (US Environmental Protection Agency). RDN water samples are always tested for fecal coliform bacteria at the same time as total coliforms to rule out the presence of harmful pathogens. If background bacteria (BG), total or fecal bacteria are detected location is resampled. If the bacteria test is overgrown (OG) location is also resampled.





# Regional District of Nanaimo - Water Services Department

## Englishman River Water Analysis - 2010 Monthly Report



Date	Sample Location (Address)	Health Department		In-House									
		Fecal Coliform *	Total Coliform *	Fecal Coliform *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
7-Dec-10	1969 Kaye	0	0	0	0	7	7.1	0.59	191	0.2	400	0.01	0.054
14-Dec-10	900 Stonefly			0	0		7.5	0.76	187	0.2	390		
21-Dec-10	2235 Rascal			0	0		7.4	0.62	191	0.2	400		
30-Dec-10	1969 Kaye			0	1		7.9	0.61	185	0.2	387		
	<b>Average</b>	0	0	0	0.25	7.0	7.5	0.65	188.5	0.2	394.3	0.01	0.054
	<b>Maximum</b>	0	0	0	1	7	7.9	0.76	191	0.2	400	0.01	0.054
	<b>Minimum</b>	0	0	0	0	7	7.1	0.59	185	0.2	387	0.01	0.054

Red font indicates non-compliance with Canadian Drinking Water Guidelines

Aesthetic Objective for Iron is • 0.3 mg/L

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\*Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

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Iron and manganese are found naturally in drinking water. Levels found in these samples are not a health concern.

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## **APPENDIX C**

### **EMERGENCY RESPONSE PLAN**

# EMERGENCY RESPONSE PLAN

REGIONAL DISTRICT  
OF  
NANAIMO

WATER SYSTEMS

REVISION DATE - JUNE 2011

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## Prime Responsibilities

- Provide safe drinking water.
- Provide potable water for sanitation purposes.
- Provide water for fire suppression.
- Prevent unnecessary loss of stored water.
- Restore the integrity of the entire water system as soon as possible.
- Maintain integrity and quality of supply.

## Emergency Response and Recovery Actions

- Analyze the type and severity of the emergency.
- Provide emergency assistance to save lives.
- Reduce the probabilities of additional injuries or damage.
- Provide situational reporting to appropriate agencies as required.
- Perform emergency repairs based on priority demand.
- Return system to normal levels. (recovery)
- Evaluate response and preparedness plan.
- Revise plan as necessary.
- Provide maps, notices, and direction necessary for water recovery.

## Communication Check List

In an emergency it will be important to contact the key people shown below. This will help reduce confusion and assist in ensuring any important messaging is done so correctly and quickly.

*IF REQUIRED, CONTACT P.E.P or V.I.H.A. BEFORE MAKING THE FOLLOWING CONTACTS AS PER THE EMERGENCY PLANS*

### ***RDN Priority Contacts***

<b>MANAGER OF WATER SERVICES .....</b>	<b>MIKE DONNELLY</b> <i>(250) 390-6560</i>
<b>G.M. REGIONAL &amp; COMMUNITY UTILITIES .....</b>	<b>JOHN FINNIE</b> <i>(250) 390-6560</i>
<b>COMMUNICATIONS COORDINATOR.....</b>	<b>ADRIENNE MERCER</b> <i>(250) 390-4111</i>
<b>EMERGENCY COORDINATOR.....</b>	<b>JANI THOMAS</b> <i>(250) 713-2057(cell)</i>

### ***Key Communication Options***

#### **Management Support**

- Contact Electoral Area Director
- Contact the local radio station and provide a brief message if public health and safety are at risk. Follow up with a press release.

#### **Field Staff Support**

- Post notices on household front doors.
- Attach warning signs to existing Water Sprinkling Regulation signs in each community.
- Put up roadside signage at the entrance to the community.

#### **Administrative Support**

- Provide information message on the RDN web site.
- Review after hours office and voice mail messaging.
- Provide notification to other RDN staff.

## *Emergency Contact Numbers*

### *Personnel Contacts*

<i>Name</i>	<i>Position</i>	<i>Phone</i>
<b>Dave</b>	<b>Chief Operator</b>	<b>(250) 248-4914</b>
<b>Randy</b>	<b>Operator II</b>	<b>(250) 248-4914</b>
<b>Heather</b>	<b>Operator III</b>	<b>(250) 248-4914</b>
<b>Brian</b>	<b>Operator III</b>	<b>(250) 248-4914</b>
<b>Brad</b>	<b>Operator II</b>	<b>(250) 248-4914</b>
<b>Lyndon</b>	<b>Operator II</b>	<b>(250) 248-4914</b>
<b>Mike Donnelly</b>	<b>Manager of Water Services</b>	<b>(250) 390-6560</b>
<b>Deb Churko</b>	<b>Engineering Technologist</b>	<b>(250) 390-6560</b>
<b>Jack Eubank</b>	<b>Bylaw Officer</b>	<b>(250) 390-6560</b>
<b>John Finnie</b>	<b>General Manager</b>	<b>(250) 390-6560</b>

### *Electoral Area Directors*

<i>Electoral Area</i>	<i>Director</i>	<i>Phone</i>	<i>email address</i>
A	Joe Burnett	722-2656	quairlanding@shaw.ca
B	Gisele Rudischer	247-8795	giselerudischer@gmail.com
C	Maureen Young	754-5896	Maureen_young@shaw.ca
E	George Holme	468-7237	gholme@shaw.ca
F	Lou Biggemann	248-9078	lwb@shaw.ca
G	Joe Stanhope	248-6401	jstanhope@shaw.ca
H	Dave Bartram	757-9737	dwbartram@shaw.ca

### *Government Agency Contacts*

Ministry of Environment	Nanaimo	(250) 751-3100
Department of Fisheries and Oceans	Nanaimo	754-0230
Provincial Emergency Preparedness (PEP) and Dangerous Goods Spills	Victoria	1-800-663-3456
Environmental Health Office	Parksville	947-8222
Bill Wrathall, Env. Health Officer	Parksville	947-8222
Environmental Health Office	Nanaimo	755-6215
Murray Sexton, Public Health Engineer	Nanaimo	755-6293
Medical Health Officer	Nanaimo	740-6988
		<i>or after hours</i> 1-800-204-6166
City of Parksville Public Works	Parksville	248-5412
Town of Qualicum Beach Public Works	Qualicum Beach	752-6921
District of Lantzville	Lantzville	390-4006

### *Emergency*

Hospital	- Nanaimo	754-2141
	- Parksville phone number (Nanaimo hospital)	248-2332
Ambulance	- Parksville	911 or 248-3511
	- Nanaimo	911 or 758-8181
Police	- Parksville	911 or 248-6111
	- Nanaimo	911 or 754-2345
Fire Department	- Parksville	911 or 248-3242
	- Nanoose Bay	911 or 468-7141
	- Qualicum Beach	911 or 752-6921
	- Cedar	911 or 722-3122



### ***Priority Services***

BC Hydro (Qualicum Beach number)	(250) 752-8012 or
BC Hydro– Derek Leik 755-4734	1-888-769-3766
Telus	811-2323 or
Telus- Paul McGrath cell 248-0983	741-7713 or 741-7716
Teresen Gas	248-4880
Shaw Cable (Nanaimo)	754-5571
CP Rail	1-800-716-9132
French Creek Pollution Control Centre	248-5794
Chlorine Manufacturer (Brentagg)	1-800-661-1830

### ***Community Contacts***

District 69 School Board Office	248-4241
Nanoose Bay School	468-7414
Nanoose Children's Centre	468-1784
Nanoose Place	468-5339
Nanoose Post Office	468-7722
Naval Base (Department of National Defense)	756-5021 or 468-5004

### ***Excavation Services***

Shoreline Equipment (Doug Penny)	468-7759 or 755-9502 (cell)
Lundine Backhoe Service (Jim Lundine)	752-6808 or 951-1508 (cell)

### ***Electrical Contractors***

Canem Electric	468-1887
East Isle Power (Harvey Sommerfeld)	821-0415 or 954-7463 (cell)
TC Trades (Tom Frenette)	756-0077 or 250-668-0078

### *Other Services*

<b>Plumbing Services (Maci Motor – Pump Repair)</b>	<b>(250) 248-4423</b>
<b>Bulk water supply (BC Water Service)</b>	<b>954-3628</b>
<b>Bottled water supply (Water Pure &amp; Simple)</b>	<b>752-1373</b>
<b>EPCOR (Parksville)</b>	<b>951-2460</b>
<b>Sand and Gravel (Ozero)</b>	<b>752-1482</b>
<b>Sand and Gravel (Luissier &amp; Sons)</b>	<b>468-9994</b>
<b>Pump Trucks (Action Tank Service)</b>	<b>248-3833</b>
<b>Pump Trucks and Toilet Rentals (A-1 Septic)</b>	<b>248-4438</b>
<b>Portable Washrooms (Coast Toilet Rentals)</b>	<b>753-7552</b>
<b>Running Water Enterprises (Water Hauling Service)</b>	<b>947-5197</b>
<b>Woods Water Hauling</b>	<b>758-2677</b>
<b>Fyfe’s Well and Water Services</b>	<b>752-4986 or 248-0830 (cell)</b>

### *Suppliers*

<b>Four Star Waterworks (piping)</b>	<b>954-3546</b>
<b>Hwy Four Rentals (equipment &amp; pumps)</b>	<b>248-1100</b>
<b>Iritex Pumps and Irrigation – (pumps)</b>	<b>248-7028</b>
<b>Windsor Plywood (miscellaneous building supplies)</b>	<b>752-3122</b>
<b>Albertsons Hardware (miscellaneous building supplies)</b>	<b>248-6888</b>
<b>Robinson Rentals</b>	<b>753-2465</b>
<b>United Rentals</b>	<b>758-3911</b>

### *Media Services*

<b>Adrienne Mercer, RDN Communications Coordinator</b>	<b>1-877-607-4111 or 713-1075 (cell)</b>
<b>Radio Station (CKWV) Nanaimo and Parksville</b>	<b>758-1131</b>
<b>TV Station (CHEK)</b>	<b>383-2435</b>
<b>Newspaper (PQ News and The Weekender)</b>	<b>248-4341</b>
<b>The Oceanside Star</b>	<b>954-0600</b>
<b>Nanaimo Daily News / Harbour City Star</b>	<b>729-4212</b>

## Emergency Response Plans

### *Contamination of Source (Spills, Accidents, Vandalism)*

**Actions:** Shut down pump  
Notify Provincial Emergency Program (PEP)  
Notify Health Unit  
Notify all users if necessary under direction of Health Unit  
Contact government agencies for advice and assistance  
Contact local media for public service announcements  
Post signs and deliver notices to homes and businesses. (See attached samples)  
Arrange alternate source if necessary – i.e., bottled or bulk water  
Advise RDN supervisory personnel

**Contacts:** Local Health Unit (Environmental Health Department)  
Provincial Emergency Preparedness, Police, Ministry of Environment  
All schools and community centres – see “*Priority Contacts*” List  
RCMP if there has been vandalism

### *Loss of Source – Loss Of Reservoir or Supply Lines*

**Actions:** Ensure pumps are shut off. (To protect pump)  
Notify all users  
Contact government agencies for advice and assistance  
Arrange alternate source – i.e., bottled water, bulk water, storage tank  
Advise RDN supervisory personnel if necessary

**Contacts:** Local Health Unit (Environmental Health Department) and Ministry of Environment

### *Flood Conditions*

**Actions:** Notify all users regarding the potential for water contamination, loss of pump, power, etc. Users should be advised to store some drinking water in advance, and to boil any suspect water for two minutes or disinfect with chlorine when flood conditions exist  
Phone government contacts  
Contact local media for public service announcement when customers can not be reached by phone  
Post signs or deliver notices if necessary. (See attached samples)  
Arrange alternate source if possible – i.e. bottled water, bulk hauler or storage tank  
Advise RDN supervisory personnel

**Contacts:** Local Health Unit (Environment Health Department), Provincial Emergency Preparedness, and Ministry of Environment

### ***Broken Water Main***

**Actions:** Shut pump off when backflow conditions have been prevented  
Call for repairs as required – i.e. excavator, backhoe  
Notify all users of interruption of service  
Advise local Public Health office  
Arrange alternate source if necessary  
Advise RDN supervisory personnel

**Contacts:** Advise local Public Health office. (Environmental Health Department)

### ***Chlorination Failure***

**Actions:** Advise local Public Health Office  
Shut off well pumps. Monitor reservoir levels.  
Notify all users to boil water for two minutes or take other disinfection procedures in accordance with recommendations of local health officials  
Post signs or deliver notices if necessary. (See attached samples)  
Arrange chlorinator repairs  
Advise RDN supervisory personnel

**Contacts:** Local Health Unit (Environmental Health Officer)  
Chlorinator manufacturer

### ***Pump Failure***

**Actions:** Notify all users of interruption of service  
Call for repairs: pump manufacturer if necessary  
Advise local Public Health office (if interruption not short term)  
Arrange alternate source if necessary – bottled or bulk water, etc.  
Advise RDN supervisory personnel if necessary

**Contacts:** Local Health Unit (Environmental Health Department)

### ***Power Failure***

**Actions:** Call BC Hydro. Find out when power will be restored  
Start back-up generator or arrange to get one  
Notify all users about interruption of service if backup not capable of maintaining supply  
Post signs or deliver notices if necessary. (See attached samples)  
Advise local Public Health Office  
Arrange alternate source if necessary – bottled or bulk water, etc.  
Advise RDN supervisory personnel

**Contacts:** Local Health Unit (Environmental Health Department)

## ***Backflow or Back Siphonage***

**Actions:** Advise Medical Health Officer at local Health unit  
Notify all users to boil water for two minutes or take other disinfection procedures in accordance with recommendations of local health officials  
Purge and disinfect lines as directed, after corrections have been made  
Post signs or deliver notices if necessary. (See attached samples)  
Advise RDN supervisory personnel

**Contacts:** Local Health Unit (Environmental Health Department)

## ***Bacteria Count (RDN Lab)***

**Actions:** Advise Medical Health Officer at local Health unit  
Follow procedures in accordance with recommendations of local health officials  
Post signs or deliver notices if necessary. (See attached samples)  
Advise RDN supervisory personnel

**Contacts:** Local Health Unit (Environment Health Department)

## APPENDICES

Boil Water Advisory Notice	10
Boil Water Order Notice	11
Unfit for Drinking Notice	12
Service Interruption Notice	13

**sample**

# NOTICE

## Boil Water Advisory

Effective date: \_\_\_\_\_

Please note that all water used for domestic purposes (drinking, cooking, etc.) should be boiled before consumption. The boiling should be at a rolling boil and for a minimum of one minute.

RDN Water Services staff are continually monitoring the water supply system and will provide updates as they become available.

Watch for information updates at [www.rdn.bc.ca](http://www.rdn.bc.ca) (WaterSmart) and listen to your local radio station for more information.

This advisory will be in effect until further notice.

For further information contact the

Regional District of Nanaimo at:  
1-877-607-4111 or 1-250-390-4111  
Water Services Field Office: 1-250-248-4914

*Sample* **NOTICE**  
**Boil Water Order**

**Effective date:** \_\_\_\_\_

Please note that all water used for domestic purposes (drinking, cooking, etc.) should be boiled before consumption. The boiling should be at a rolling boil and for a minimum of two minutes.

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This order will be in effect until further notice.

For further information contact the

Regional District of Nanaimo at:  
1-877-607-4111 or 1-250-390-4111  
Water Services Field Office: 1-250-248-4914



# WARNING

*sample*

**This Water is  
Considered  
Unfit for Drinking  
or Domestic Use**

**Effective date: \_\_\_\_\_**

For further information contact the

Regional District of Nanaimo at:

1-877-607-4111 or 1-250-390-4111

Water Services Field Office: 1-250-248-4914

*Sample*

# NOTICE

## Water Supply Service Interruption

Effective date: \_\_\_\_\_

Please be advised that your water service may be interrupted or off for periods during the day.

When service is resumed, the water may be discoloured. This is due to disturbed deposits in the pipes and is not harmful.

This advisory will be in effect until further notice.

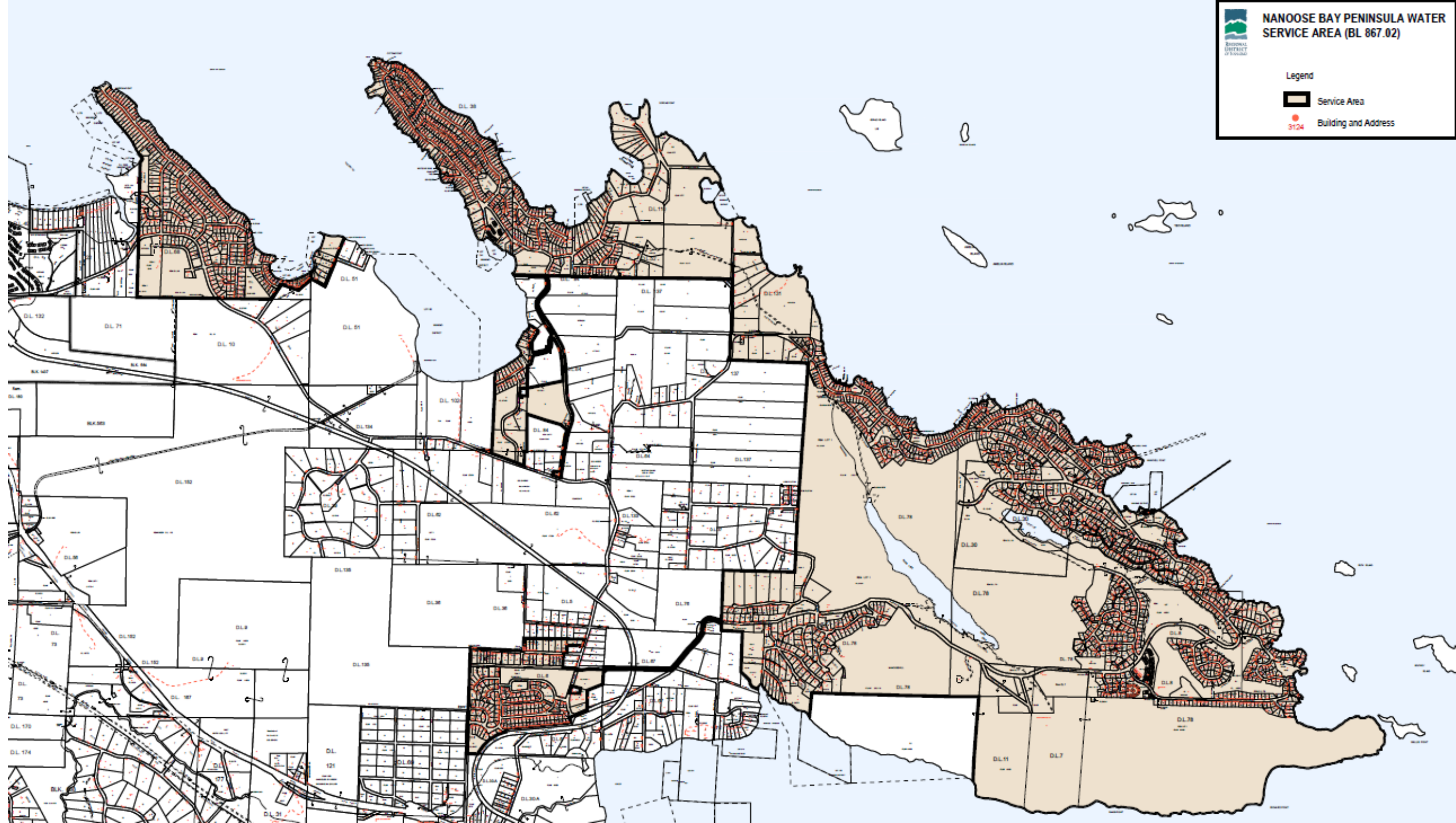
For further information contact the

Regional District of Nanaimo at:  
1-877-607-4111 or 1-250-390-4111  
Water Services Field Office: 1-250-248-4914

# MAPS

## Water Service Areas

Nanoose Bay Peninsula Water Service Area	Map 1
Neighbourhoods: Madrona/Wall Beach	Map 2
Fairwinds	Map 3
Arbutus Park	Map 4
West Bay	Map 5
Driftwood	Map 6
French Creek Water Service Area	Map 7
Surfside Water Service Area	Map 8
San Pareil Water Service Area	Map 9
Englishman River Water Service Area	Map 10
Melrose Water Service Area	Map 11
Decourcey Water Service Area	Map 12
Whiskey Creek Water Service Area	Map 13



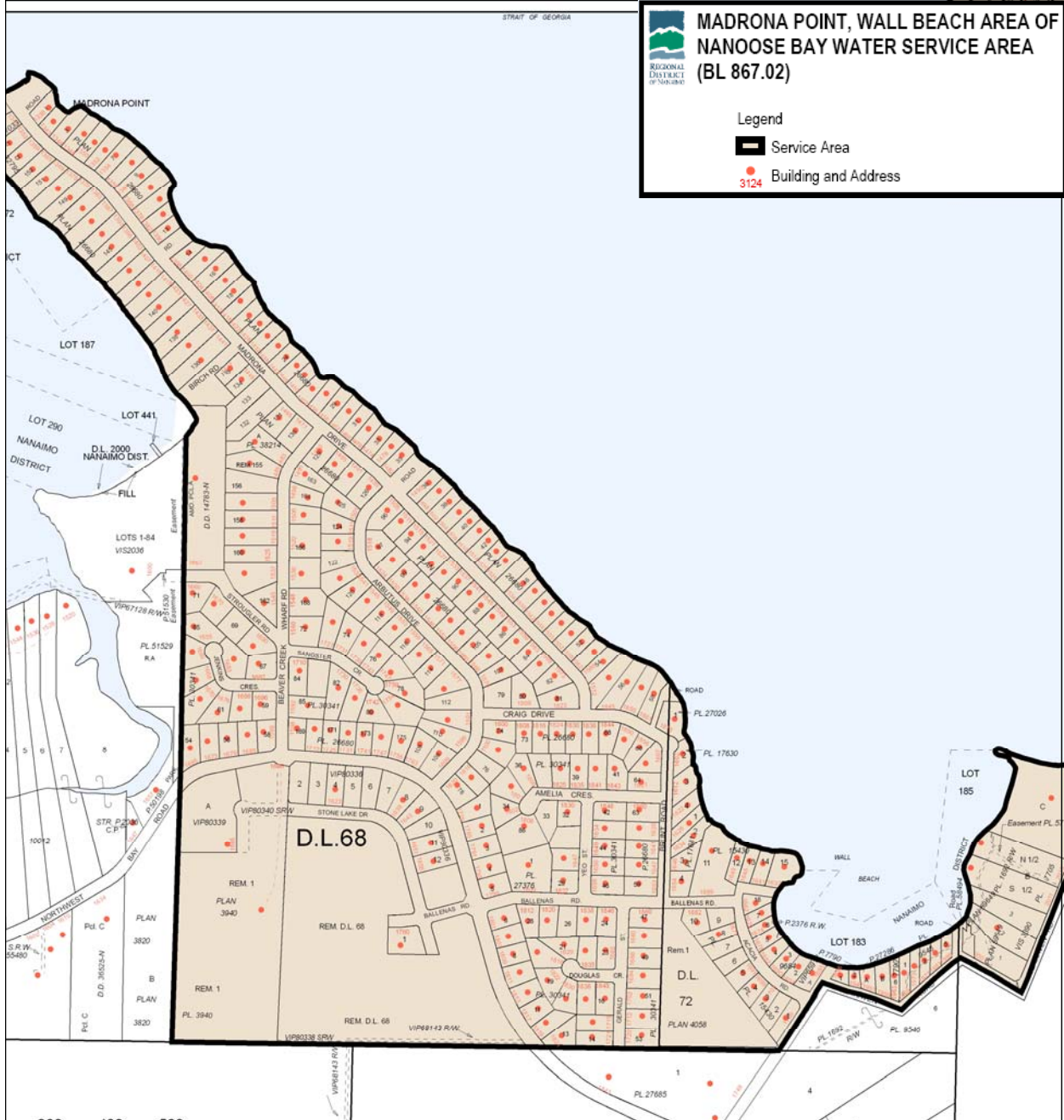
**NANOOSE BAY PENINSULA WATER SERVICE AREA (BL 867.02)**


Legend

- Service Area
- Building and Address

**MAP 1 NANOOSE BAY PENINSULA**







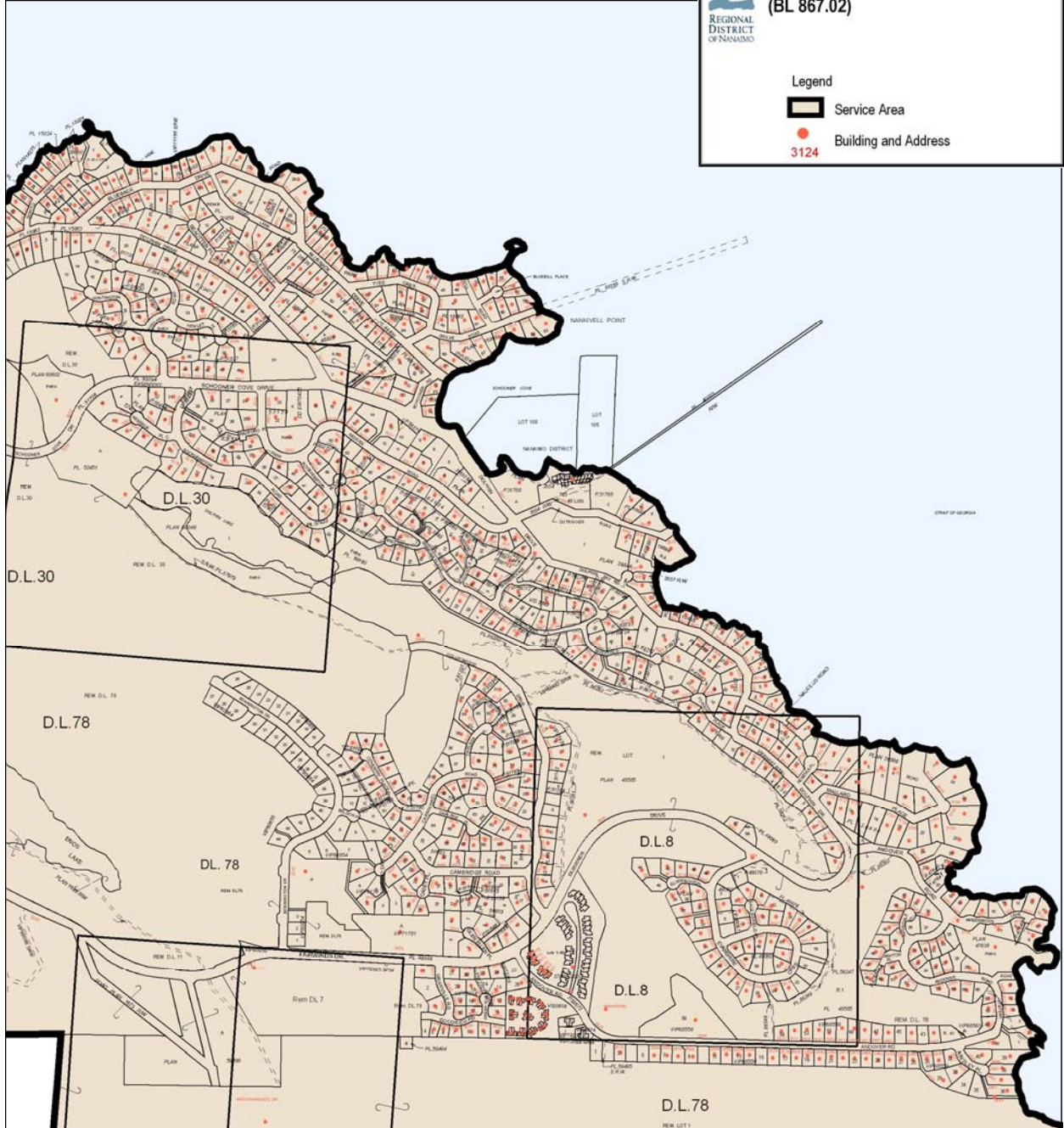


FAIRWINDS AREA OF NANOOSE BAY  
WATER SERVICE AREA  
(BL 867.02)

Legend

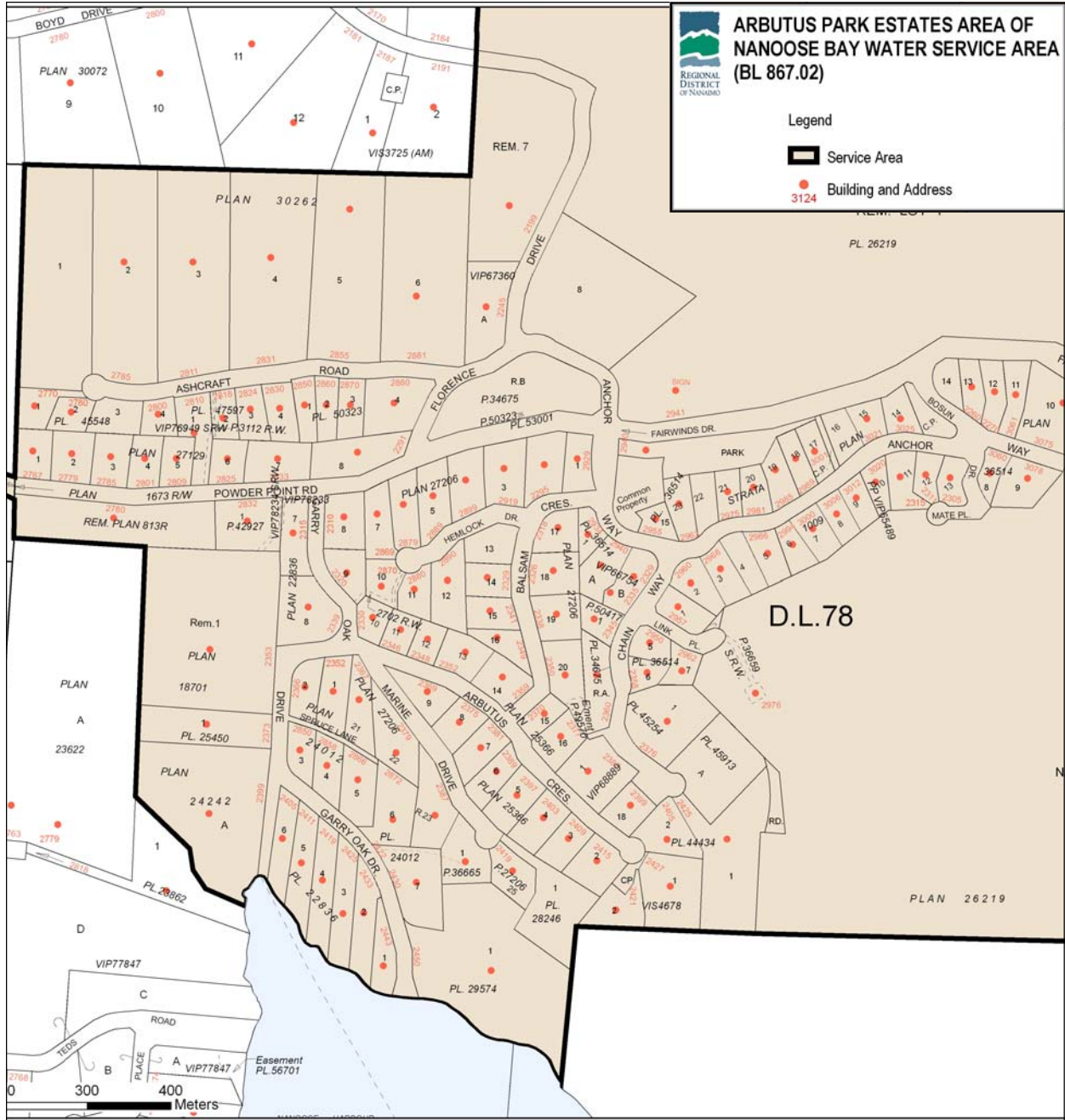
-  Service Area
-  Building and Address

3124

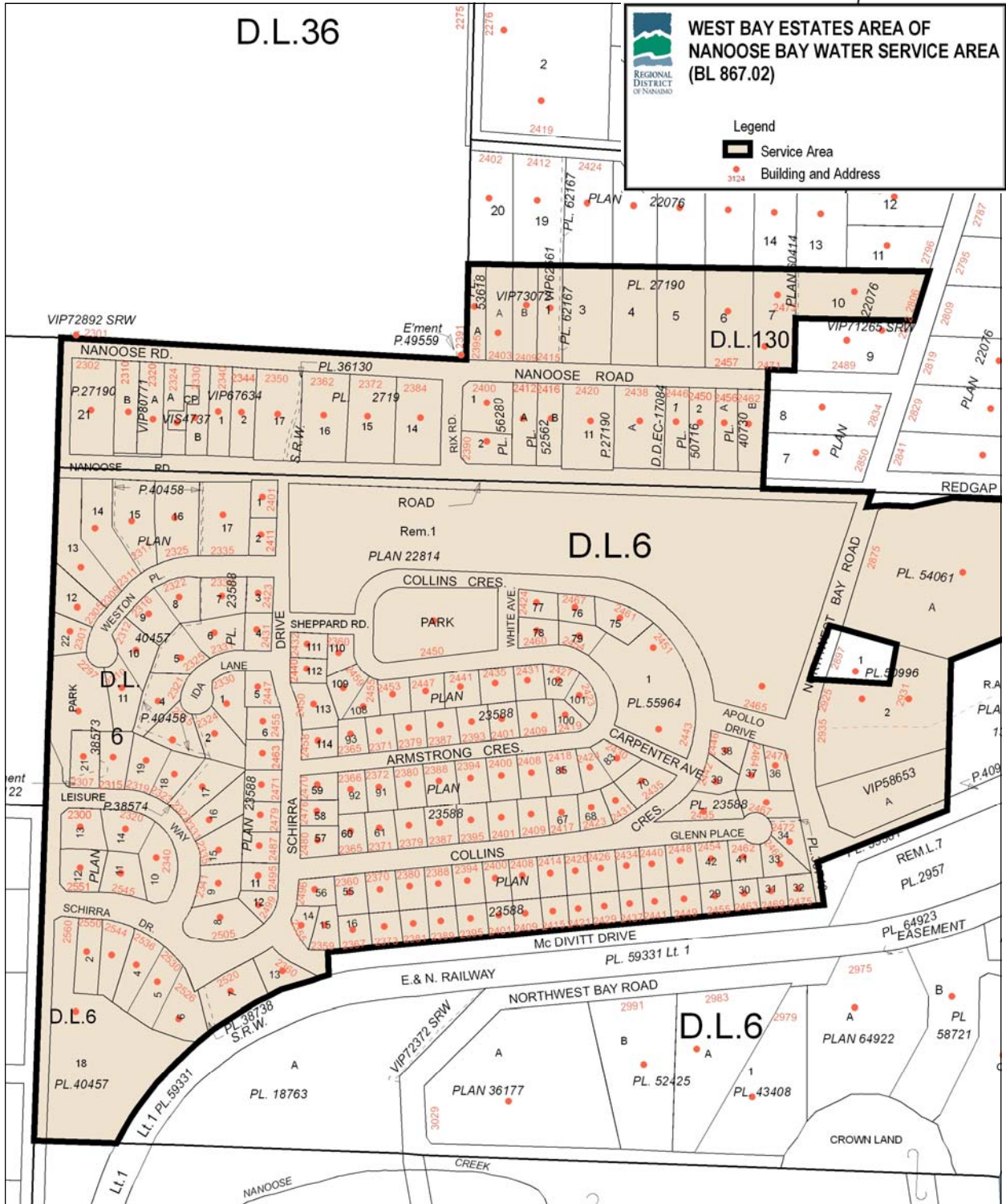


MAP 3 FAIRWINDS

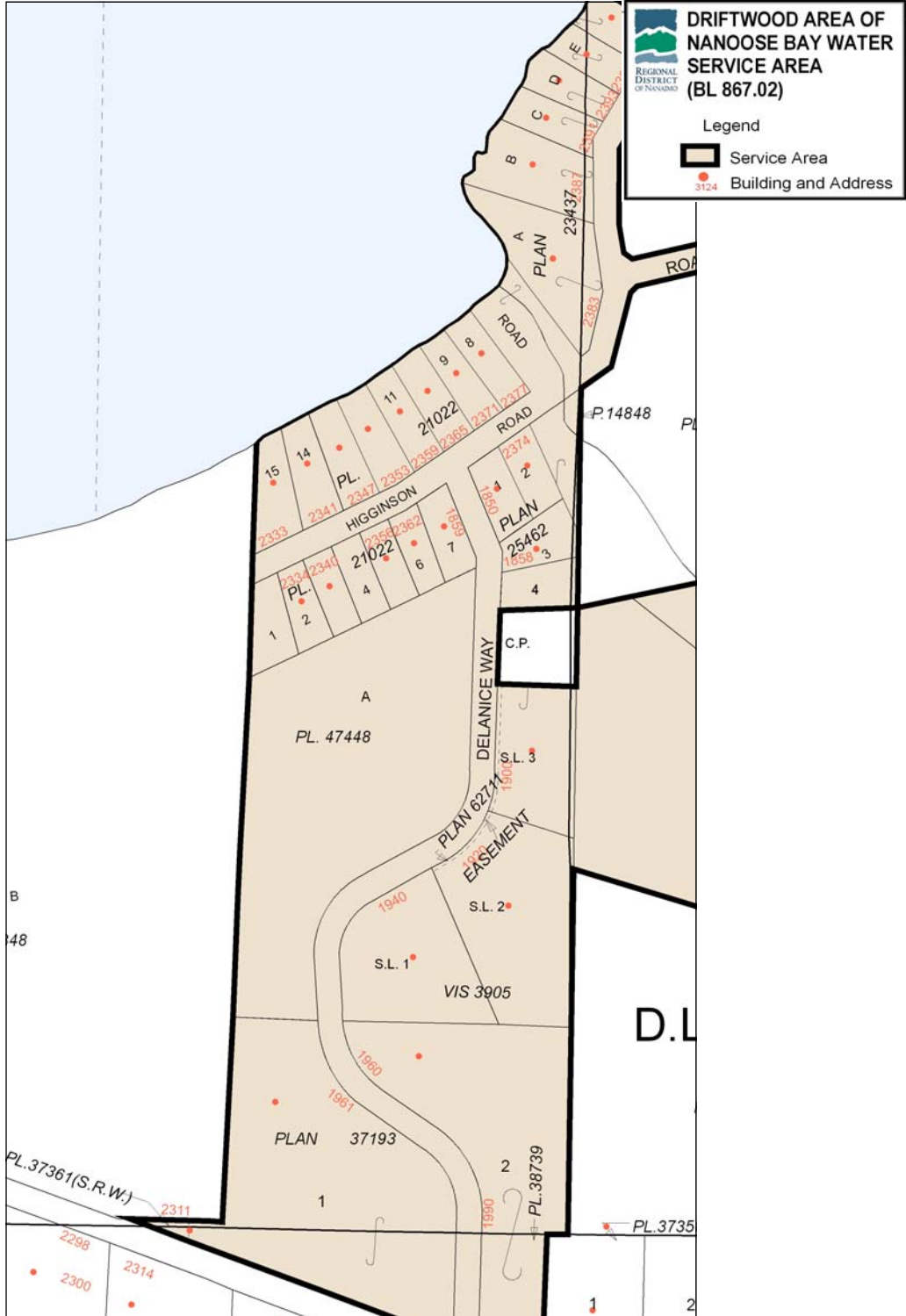




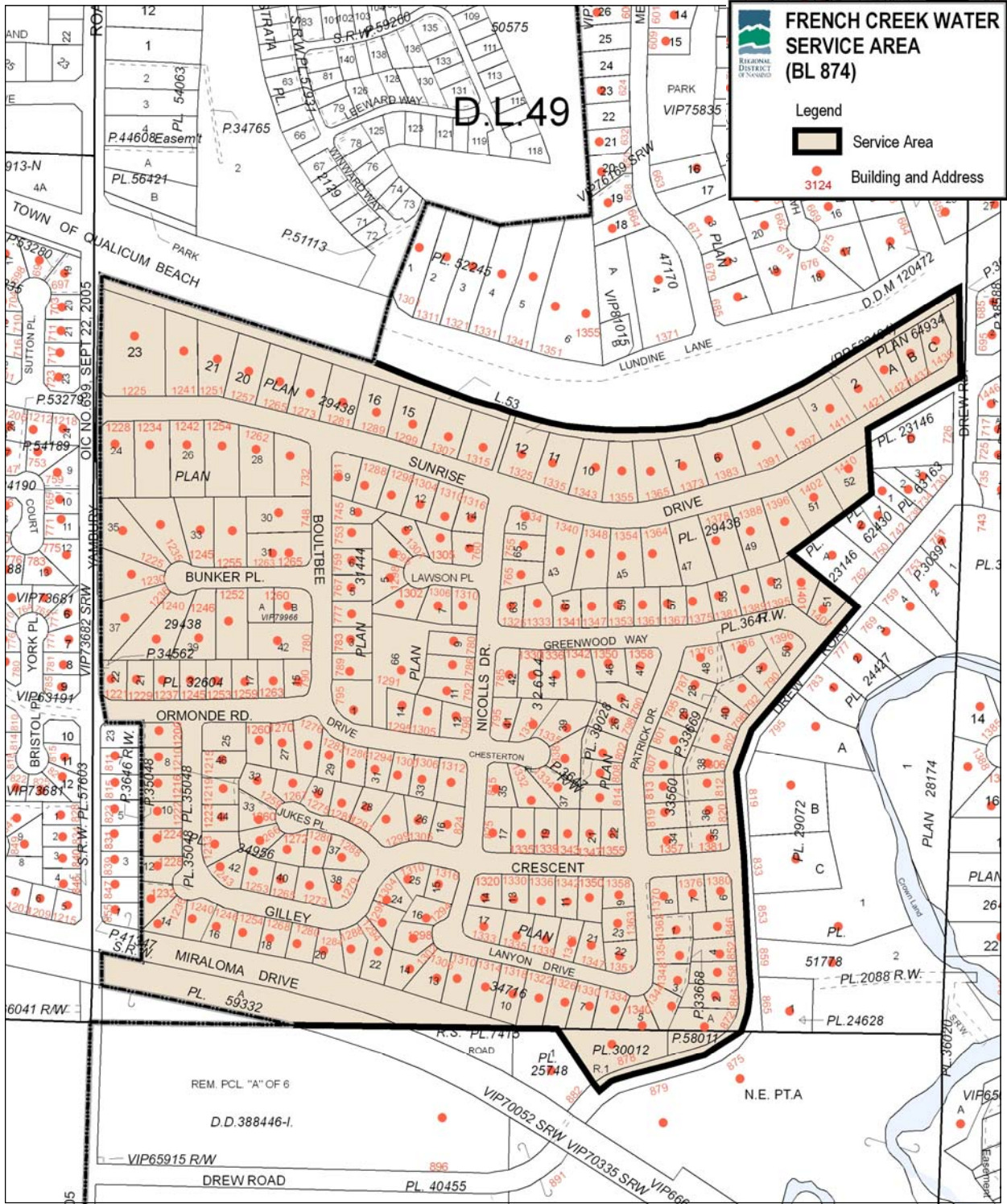
**MAP 4 ARBUS PAK**







MAP 6 DRIFTWOOD



**MAP 7 FRENCH CREEK**





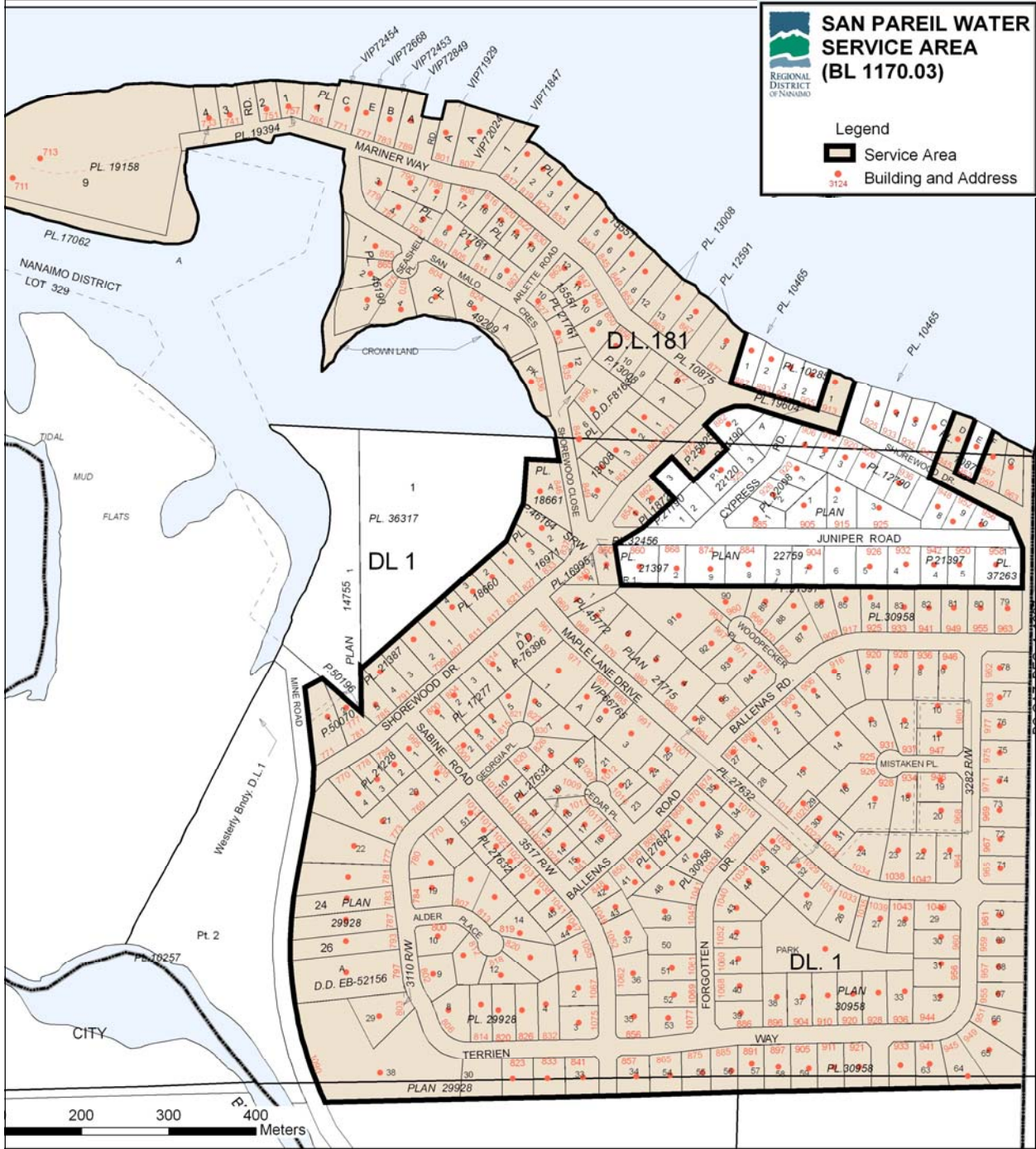
**SURFSIDE PROPERTIES WATER SERVICE AREA (BL 694)**

Legend

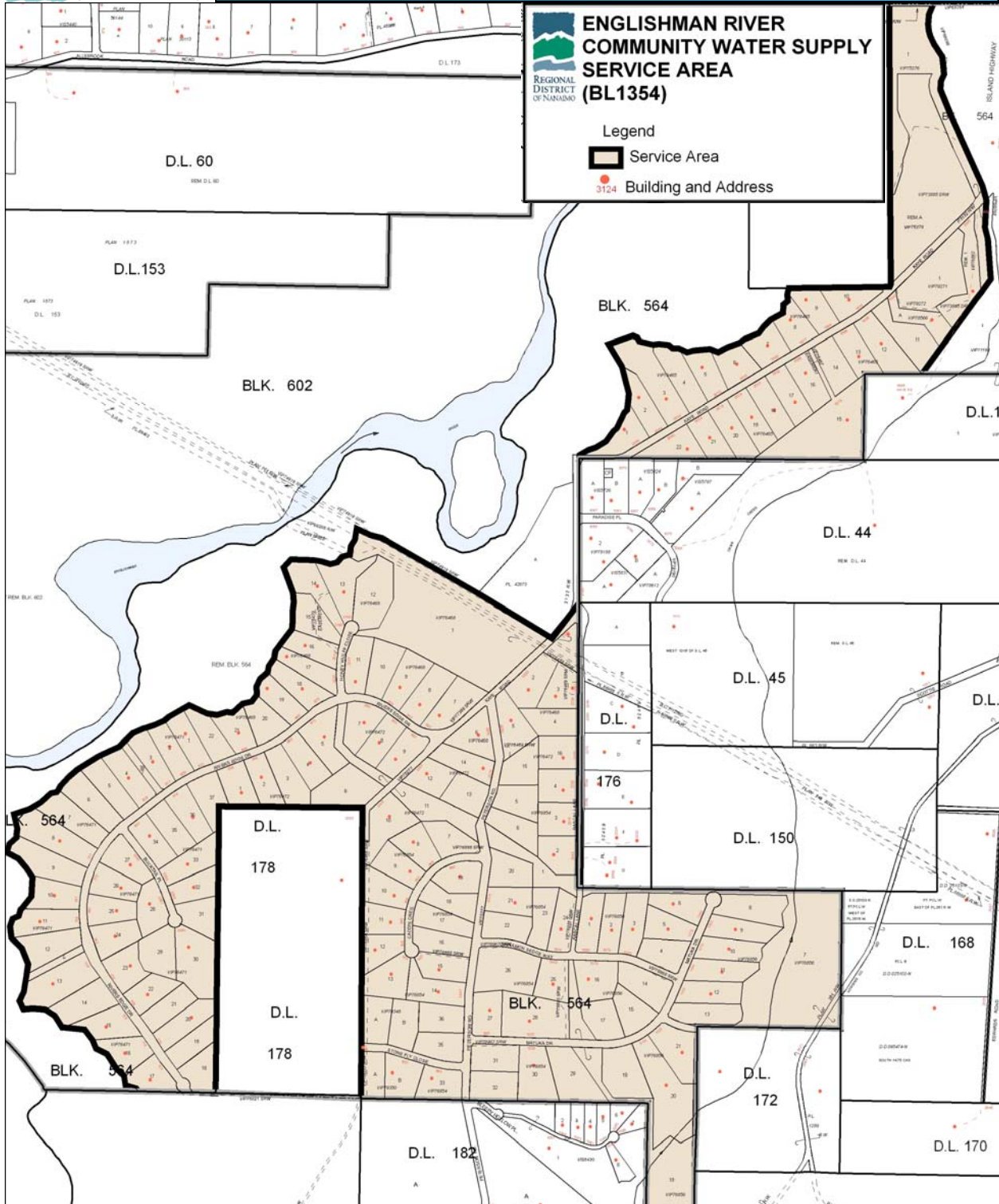
Service Area

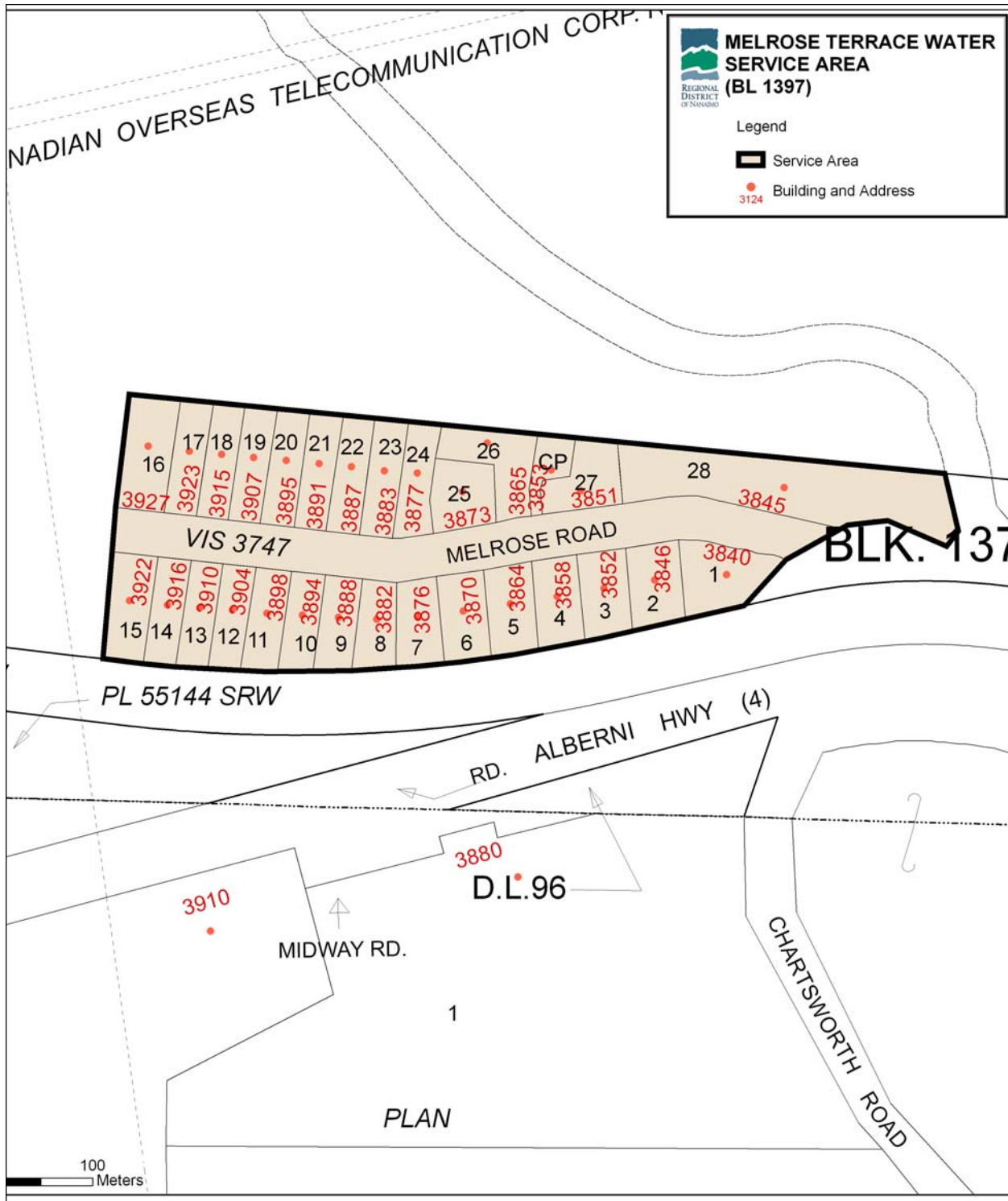
Building and Address  
3124

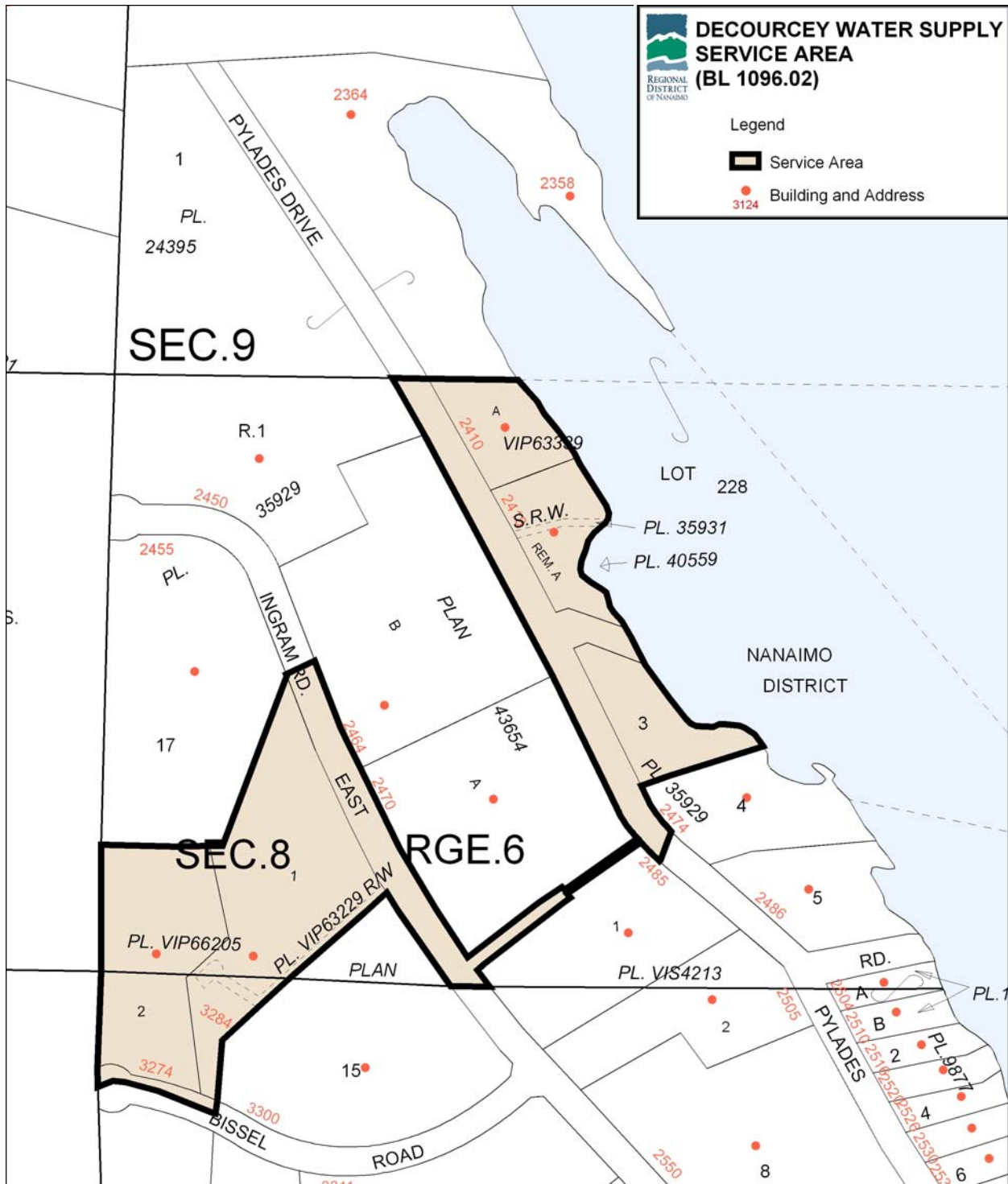






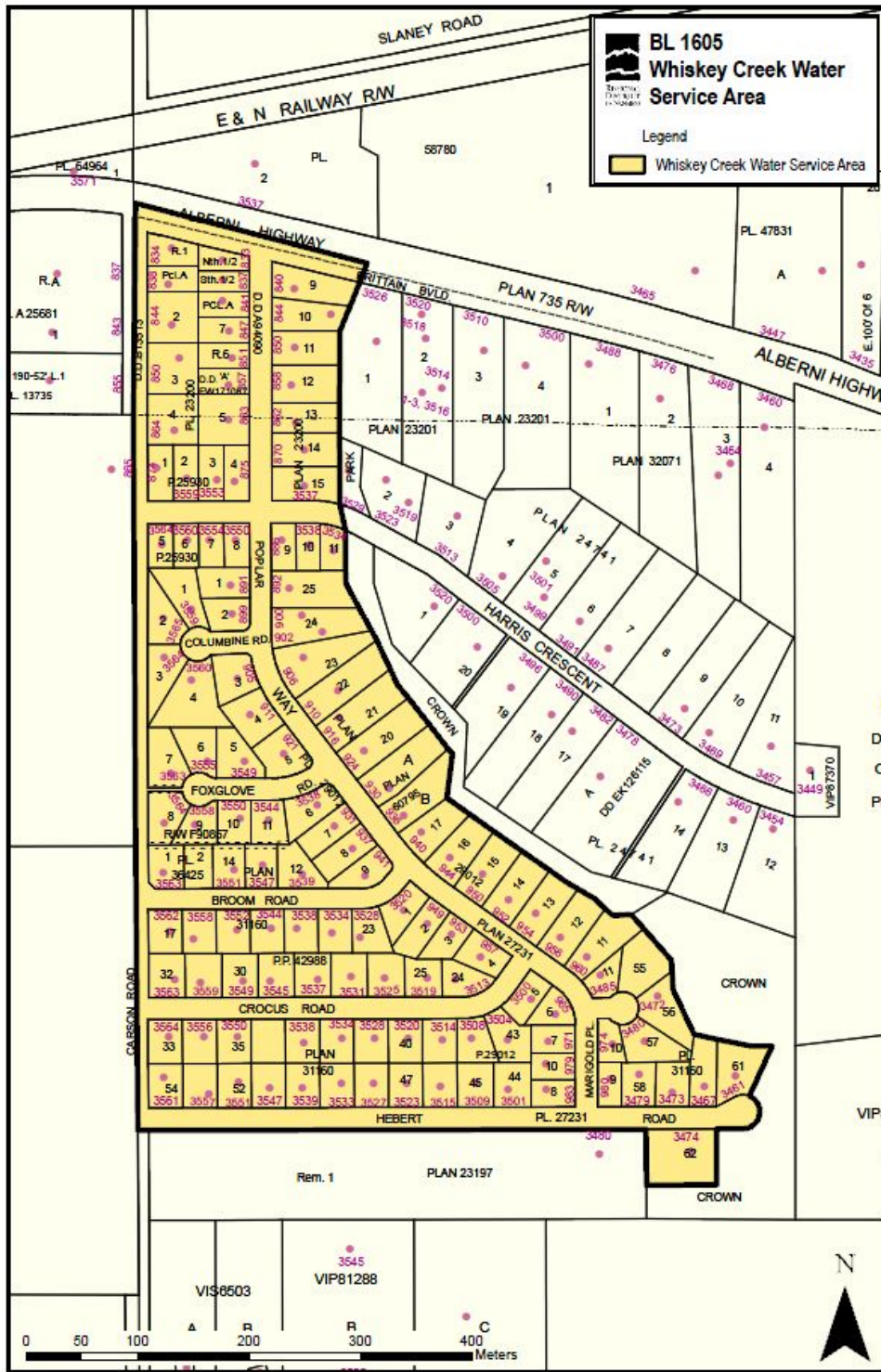






MAP 12 DECOURCEY





MAP 13 WHISKEY CREEK