REGIONAL DISTRICT OF NANAIMO

ENGLISHMAN RIVER

Water Local Service Area

Annual Report

2008

water SMART zero waste

Table of Contents

1. Introduction

The following annual report describes the Englishman River Community Water Supply Service Area and summarizes the water quality and production data from 2008. 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 2009.

2. Englishman River Water System

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. The water source for the RDN Englishman River Water Service Area comes from a series of groundwater wells located nearby. The water is chlorinated and stored in one reservoir. 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	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^3 (175,000 imperial gallons).

2.3 Distribution System

The water distribution system in Englishman River is largely comprised of 100mm, 150mm and 200mm 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 coliforms, E.Coli 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

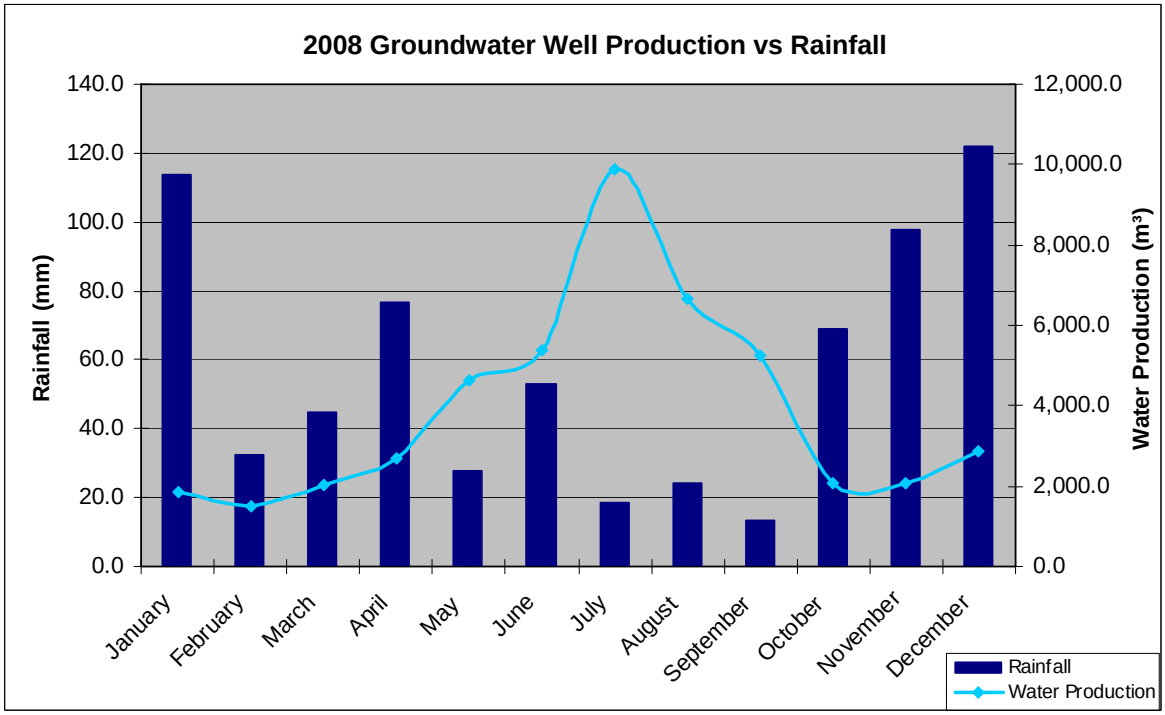
Up-to-date water quality reports and lab data are posted monthly on the RDN website at www.rdn.bc.ca in the WaterSmart section, under "Communities". Tables of water quality testing results for both the source water and distribution system are provided at the end of this report under Appendix B.

5. Water Quality Inquiries and Complaints

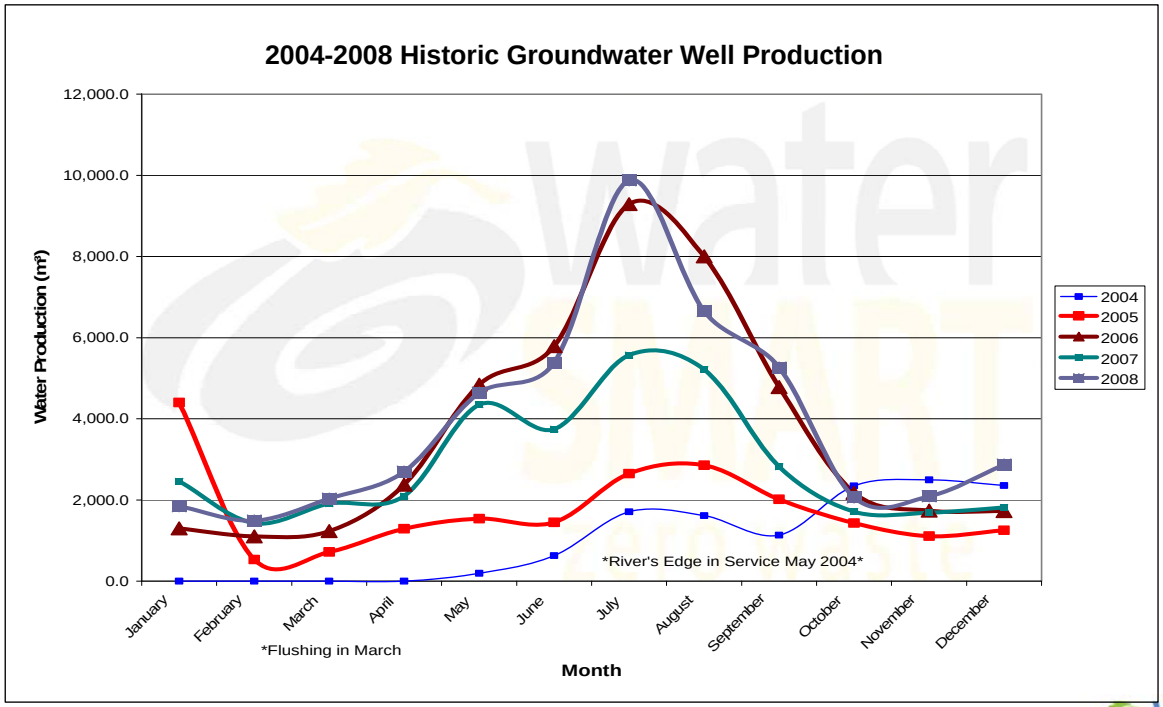
No complaints or inquiries were received from the Englishman River water system in 2008.

6. Groundwater Production and Consumption

The 2008 monthly groundwater production for the Englishman River water system is shown in the chart below. The Englishman River water system is comprised of 108 residential connections. Groundwater production has been charted against rainfall data from the City of Parksville website to show the correlation between rainfall and water consumption.



The monthly groundwater production in the Englishman River water system for the past 5 years is shown in the chart below. Groundwater production in 2008 was higher than in previous years, likely due to the number of new homes being built in this subdivision.



Consumption

In the Fall/Winter of 2008, the average usage per home in the Englishman River water system was 0.61 cubic metres per day (134 imperial gallons). In the summer, the average water usage was 1.7 cubic metres per day (374 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 417 L/day. This consumption is 40% more than the RDN system average of 298.4 L/day/capita for 2008.

7. Maintenance Program

Regular maintenance and inspections are completed around the wellhead areas to reduce or eliminate the risk of contamination and system failure. Watermains are flushed once annually; in the Spring. Annual fire hydrant maintenance is completed in the Fall.

8. Water System Projects

8.1 2008 Completed Studies & Projects

- Replaced all facility signs.
- Began keyless door entry installation (card lock) at the Water Services field office, and all pumphouse sites.
- Re-keyed all gates and points of entry.
- Established electrical connections for the mobile generator at key sites.
- Completed 'B' fire hydrant maintenance.
- Completed annual watermain flushing.
- Completed a comprehensive water conservation program (**Team WaterSmart**) from May to October.
- Initiated the WaterSmart school program in partnership with Nanaimo Recycling Exchange.
- Updated and improved the RDN **WaterSmart** website.
- Updated the Emergency Response Plan.
- Expanded the Operating Procedures binder.
- Completed the SCADA (Supervisory Control and Data Acquisition) Study.
- Completed the Innovative Water Supply and Re-Use study.
- Completed the *Action for Water* referendum process.
- Achieved Backflow Prevention Tester's Certification for 3 Operations staff.
- Created the Auto E-Message notification sign-up on the RDN website.

8.2 2009 Proposed Projects & Upgrades

- Establish the Drinking Water Protection Advisory Committee.
- Review the SCADA report and options for implementation.
- Complete the keyless door entry installations at all field sites.
- Commence the 2009 **Team WaterSmart** education program.
- Develop a rebate / incentive program.
- Develop the *Well Aware* well safety program.
- Install 2 stand-alone water sampling stations.

8.3 2009 Proposed Studies

- Complete the well re-development study.

9. Emergency Response Plan

The Emergency Response Plan (ERP) was reviewed and updated in 2008. A copy of the ERP is attached 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 cross-connection control programs in other small water systems nearby was undertaken. 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. Three RDN Operations staff achieved Backflow Prevention Tester's certification.

The program in 2009 will include:

- A survey of existing and potential cross-connections,
- An audit of RDN-owned facilities in each water service area,
- The preparation of a draft bylaw to allow enforcement of the Cross Connection Control Program.

11. Closing

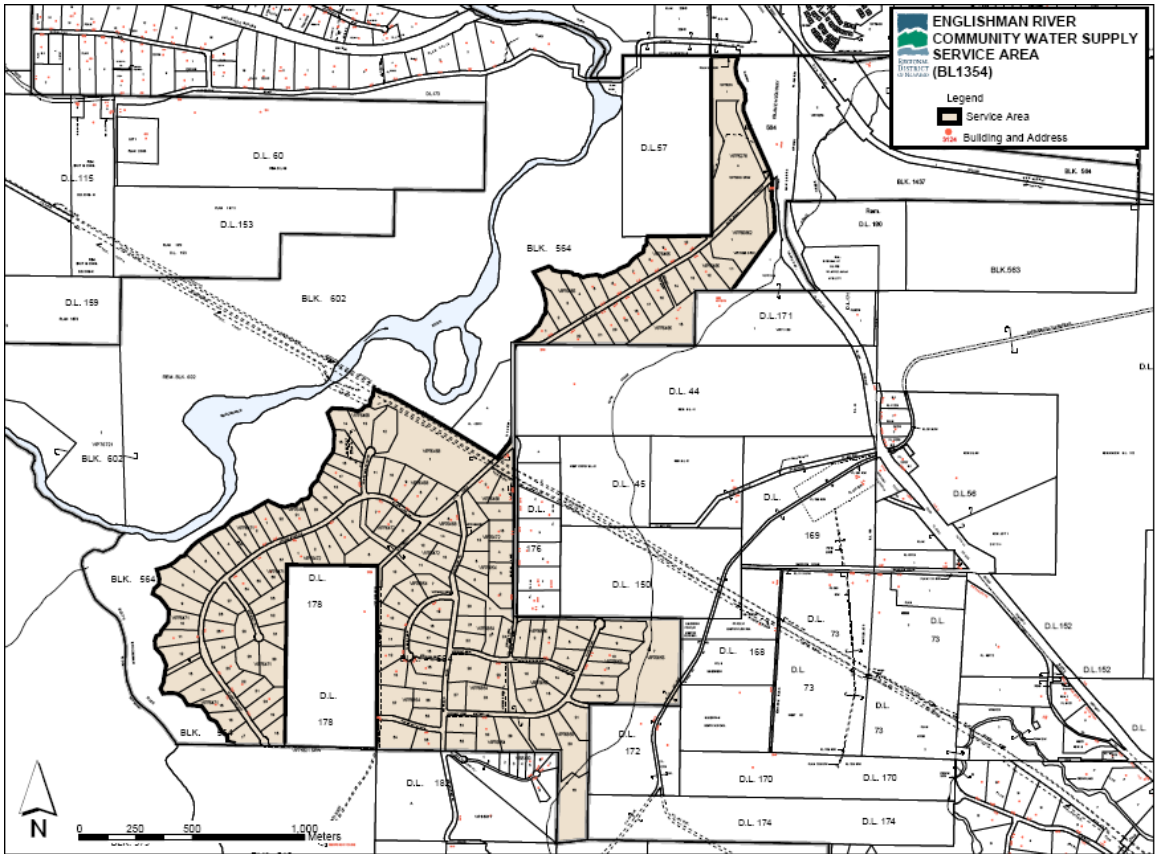
An annual report for the year 2009 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2010. Annual reports are also available on our website at www.rdn.bc.ca in the WaterSmart section, under "Communities".

APPENIDX A

MAP OF ENGLISHMAN RIVER WATER SYSTEM

ENGLISHMAN RIVER

WATER SYSTEM



APPENDIX B

WATER QUALITY TESTING RESULTS

Distribution Potability Test Results - Englishman River

(Treated Drinking Water)

Test	Water Quality Guidelines				Date									
	Units	CDWG	BCAWQG		2001	2002	2003	2004	2005	May 17 2006	May 22 2007	May 27 2008	2009	2010
Color	CU	15	</=15	AO					<5	<5	14	<5		
Conductivity	uS		700	MAC					283	286	300	318		
TDS	mg/L	500	</=500	AO					150	167	164	186		
Hardness (CaCO3)	mg/L	80-100	</=500	AO					130	130	140	130		
pH	pH units	6.5-8.5	6.5-8.5	AO					8.1	8.3	8.2	8.24		
Turbidity	NTU's	5	1	MAC					<0.5	<0.5	<0.5	<0.5		
Alkalinity	mg/L								140	150	130	130		
Chloride	mg/L	250	</=250	AO					4.4	6.6	10.7	14.9		
Fluoride	mg/L	1.5	1.5	MAC					<1.0	0.1	<1.0	<1.0		
Sulfate	mg/L	500	</=500	AO					6.8	9.1	8.4	7.3		
Nitrate	mg/L	10	10	MAC					<0.1	<0.01	<0.1	<0.1		
Nitrite	mg/L	1							<0.1	<0.01	<0.1	<0.1		
T-Aluminum	mg/L		0.2	MAC					<0.005	<0.005	<0.005	<0.05		
T-Antimony	mg/L		0.006	MAC					<0.0002	<0.0002	<0.0002	<0.001		
T-Arsenic	mg/L	0.025	0.025	IMAC					0.002	0.0017	0.0017	0.004		
T-Barium	mg/L	1.0	1	MAC					0.018	0.018	0.019	0.02		
T-Boron	mg/L	5.0	5	MAC					0.033	0.033	0.038	<0.02		
T-Cadmium	mg/L	0.005							<0.00001	<0.00001	<0.00001	<0.0003		
T-Calcium	mg/L								32	32.4	34.4	31.2		
T-Chromium	mg/L	0.05	0.05	MAC					<0.0005	<0.0005	<0.0005	<0.003		
T-Copper	mg/L	1.0	</=1	MAC					0.006	0.001	0.005	<0.005		
T-Iron	mg/L	0.3	</=0.3	AO					<0.1	<0.1	<0.1	<0.05		
T-Lead	mg/L	0.01	0.01	MAC					0.0005	<0.0001	0.0002	<0.0005		
T-Magnesium	mg/L		</=700	AO					11.6	11	12.2	11.4		
T-Manganese	mg/L	0.05	</=0.05	AO					0.01	0.014	0.014	0.018		
T-Mercury	mg/L	0.001	0.001	MAC					<0.0002	<0.0001	<0.0001	<0.01		
T-Potassium	mg/L								0.8	1	1.1	1		
T-Selium	mg/L	0.01	0.01	MAC					<0.0002	<0.0002	<0.0002	0.003		
T-Sodium	mg/L	200	</=200	AO					11	11.4	12.7	13.8		
T-Uranium	mg/L	0.1	0.1	MAC					<0.0005	<0.0005	<0.0005	<0.002		
T-Zinc	mg/L	5	<5	AO					0.006	0.003	0.011	<0.005		
Total Coliform	cfu/100ml	<1	<1	cfu/100ml					<1	<1	<1	<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		
Tannins & Lignins									n/a	n/a	n/a	n/a		
Trihalomethanes	mg/l	0.1		MAC					n/a	0.002	n/a	n/a		

BCAWQG - BC approved water quality guidelines
MAC - maximum acceptable concentrations
IMAC - interim maximum acceptable concentrations
AO - aesthetic objective
Red font indicates non-compliance.

REGIONAL DISTRICT OF NANAIMO

Englishman River Well #2 Water Analysis Results

Canadian Drinking Water Guidelines Package

water SMART zero waste

Red font indicates non-compliance with Canadian Drinking Water Guidelines
MAC=Maximum Acceptable Concentration.
IMAC= Interim Maximum Acceptable Concentration.
AO= Asthetic Objective.

Parameter	Units	CDWG	BCAWQG		2002	2003	2004	2005	Oct 24 2006	Oct 23 2007	Oct 8 2008
Color	CU	15	</=15	AO			<5	<5	<5	<5	<5
Conductivity	µS		700	MAC			257	276	272	281	283
Total Dissolved Solids	mg/L	500	</=500	AO			160	252	160	160	156
Hardness (CaCO3)	mg/L	80-100	</=500	AO			**130**	**120**	**110**	**120**	**120**
pH	pH units	6.5-8.5	6.5-8.5	AO			8.1	8.2	8.3	8.16	7.9
Turbidity	NTU's	5	1	MAC			0.17	<0.5	<0.5	<0.5	<0.5
Alkalinity	mg/L						140	140	120	120	130
Chloride	mg/L	250	</=250	AO			3	4.2	5.3	7.4	8.8
Fluoride	mg/L	1.5	1.5	MAC			<1.0	<1.0	<1.0	<1.0	<1.0
Sulfate	mg/L	500	</=500	AO			7.5	9.2	7.4	7.2	7.6
Nitrate (N)	mg/L	10	10	MAC			<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite (N)	mg/L	1					<0.1	<0.1	<0.1	<0.1	<0.1
T-Aluminum	mg/L		0.2	MAC			<0.005	<0.005	0.006	<0.005	0.02
T-Antimony	mg/L		0.006	MAC			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Arsenic	mg/L	0.025	0.025	IMAC			0.0023	0.0027	0.002	0.0021	0.002
T- Barium	mg/L	1.0	1	MAC			0.018	0.018	0.017	0.019	0.022
T-Boron	mg/L	5.0	5	MAC			0.042	0.038	0.04	0.043	0.042
T-Cadmium	mg/L	0.005					<0.00001	<0.00001	<0.00001	0.00011	<0.00001
T-Calcium	mg/L						30.9	30.6	28.7	30.2	30.7
T-Chromium	mg/L	0.05	0.05	MAC			<0.0005	<0.0005	<0.0005	<0.0005	<0.0004
T-Copper	mg/L	1.0	</=1	MAC			0.002	0.002	0.001	0.001	0.005
T-Iron	mg/L	0.3	</=0.3	AO			<0.1	<0.1	<0.1	<0.1	0.04
T-Lead	mg/L	0.01	0.01	MAC			0.0008	0.004	0.0003	0.0001	**0.0387**
T-Magnesium	mg/L		</=700	AO			11.6	10.7	10.4	10.8	11.4
T-Manganese	mg/L	0.05	</=0.05	AO			0.022	0.023	0.018	0.02	0.0233
T-Mercury	mg/L	0.001	0.001	MAC			<0.0002	<0.0001	<0.0001	<0.0001	<.01
T-Potassium	mg/L						1.1	1	1.1	1.1	1
T-Selenium	mg/L	0.01	0.01	MAC			<0.0002	<0.0002	<0.0002	<0.0002	<0.0006
T-Sodium	mg/L	200	</=200	AO			11.2	11	10.7	11.6	11.4
T-Uranium	mg/L	0.1	0.1	MAC			<0.0005	<0.0005	<0.0005	<0.0005	<0.0004
T-Zinc	mg/L	5	<5	AO			0.022	0.009	0.018	0.008	0.026
Total Coliform	cfu/100ml	<1	<1	cfu/100ml			<1	<1	<1	<1	<1
Fecal Coliform	cfu/100ml	<1	<1	cfu/100ml			<1	<1	<1	<1	<1
E.coli	cfu/100ml	<1	<1	cfu/100ml					<1	<1	<1

Englishman River Well #3 Water Analysis Results
Canadian Drinking Water Guidelines Package

Red font indicates non-compliance with Canadian Drinking Water Guidelines
MAC=Maximum Acceptable Concentration.
IMAC= Interim Maximum Acceptable Concentration.
AO= Asthetic Objective.

Parameter	Units	CDWG	BCAWQG		2002	2003	2004	2005	Oct 24 2006	Oct 23 2007	Oct 8 2008
Color	CU	15	</=15	AO			<5	<5	<5	<5	<5
Conductivity	µS		700	MAC			282	298	303	327	354
Total Dissolved Solids	mg/L	500	</=500	AO			150	338	190	187	190
Hardness (CaCO3)	mg/L	80-100	</=500	AO			**140**	**140**	**130**	**140**	**150**
pH	pH units	6.5-8.5	6.5-8.5	AO			8.1	8.2	8.3	8.19	7.9
Turbidity	NTU's	5	1	MAC			0.18	<0.5	<0.5	<0.5	<0.5
Alkalinity	mg/L						140	140	130	130	130
Chloride	mg/L	250	</=250	AO			3.5	6.4	10.4	14.6	25.9
Fluoride	mg/L	1.5	1.5	MAC			<1.0	<1.0	<1.0	<1.0	<1.0
Sulfate	mg/L	500	</=500	AO			8.8	9.5	9	8.3	8.4
Nitrate (N)	mg/L	10	10	MAC			<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite (N)	mg/L	1					<0.1	<0.1	<0.1	<0.1	<0.1
T-Aluminum	mg/L		0.2	MAC			<0.005	<0.005	<0.005	<0.02	0.01
T-Antimony	mg/L		0.006	MAC			<0.0002	<0.0002	<0.0002	<0.001	<0.0002
T-Arsenic	mg/L	0.025	0.025	IMAC			0.0017	0.0018	0.0015	0.002	0.0016
T- Barium	mg/L	1.0	1	MAC			0.019	0.02	0.019	0.02	0.024
T-Boron	mg/L	5.0	5	MAC			0.038	0.074	0.04	0.04	0.042
T-Cadmium	mg/L	0.005					<0.00001	<0.00001	<0.00001	<0.00005	<0.00001
T-Calcium	mg/L						34.6	35.6	33.2	35	38
T-Chromium	mg/L	0.05	0.05	MAC			<0.0005	<0.0005	<0.0005	<0.002	<0.0004
T-Copper	mg/L	1.0	</=1	MAC			0.001	0.002	<0.001	<0.005	0.002
T-Iron	mg/L	0.3	</=0.3	AO			<0.1	<0.1	<0.1	<0.5	<0.02
T-Lead	mg/L	0.01	0.01	MAC			0.0007	0.0015	0.0006	0.002	0.0006
T-Magnesium	mg/L		</=700	AO			12.2	11.4	11.5	12	13.7
T-Manganese	mg/L	0.05	</=0.05	AO			0.034	0.035	0.032	0.04	0.04
T-Mercury	mg/L	0.001	0.001	MAC			<0.0002	<0.0001	<0.0001	<0.0002	<0.01
T-Potassium	mg/L						1.1	1.5	1.2	<2	1
T-Selenium	mg/L	0.01	0.01	MAC			<0.0002	<0.0002	<0.0002	<0.001	<0.0006
T-Sodium	mg/L	200	</=200	AO			10.7	28.3	12	13	13.7
T-Uranium	mg/L	0.1	0.1	MAC			<0.0005	<0.0005	<0.0005	<0.002	<0.0004
T-Zinc	mg/L	5	<5	AO			0.003	0.006	0.006	0.008	0.007
Total Coliform	cfu/100ml	<1	<1	cfu/100ml			<1	<1	<1	<1	<1
Fecal Coliform	cfu/100ml	<1	<1	cfu/100ml			<1	<1	<1	<1	<1
E.coli	cfu/100ml	<1	<1	cfu/100ml					<1	<1	<1

Regional District of Nanaimo - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Jan-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
08-Jan	1969 Kaye Rd	0	0	0	0	6	7.3	0.38	147	0.1	307	0.01	0.032
15-Jan	Lot 34 Stonefly			0	0	6	7.5	0.51	133	0.1	283		
22-Jan	1969 Kaye Rd					6	7.4	0.27	133	0.1	286		
	Average	0	0	0	0	6.0	7.4	0.39	137.7	0.1	292.0	0.01	0.032
	Maximum	0	0	0	0	6	7.5	0.51	147	0.1	307	0.01	0.032
	Minimum	0	0	0	0	6	7.3	0.27	133	0.1	283	0.01	0.032

Red font indicates non-compliance with Canadian Drinking Water Guidelines / BC Approved Water Quality Guidelines
Coliforms are measured in colony forming units (CFU) per 100 millilitres of water
* Yellow Column Coliform tests are done by Health Department
Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Feb-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
05-Feb	1969 Kaye Rd	0	0	0	0	6	7.2	0.35	132	0.1	284	0.03	0.025
12-Feb	Lot 34 Stonefly			0	0	6	7.3	0.39	132	0.1	280		
20-Feb	1969 Kaye Rd			0	0	6	7.2	0.47	132	0.1	279		
26-Feb	Lot 34 Stonefly			0	0	7	7.4	0.31	132	0.1	282		
	Average	0	0	0	0	6.3	7.3	0.38	132.0	0.1	281.3	0.03	0.025
	Maximum	0	0	0	0	7	7.4	0.47	132	0.1	284	0.03	0.025
	Minimum	0	0	0	0	6	7.2	0.31	132	0.1	279	0.03	0.025

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Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Mar-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
04-Mar	1969 Kaye Rd	0	0	0	0	6	7.2	0.29	132	0.1	280	0.02	0.03
12-Mar	Lot 34 Stonefly			0	0	8	6.8	0.3	131	0.1	277		
18-Mar	1969 Kaye Rd			0	0	7	7.2	0.24	133	0.1	281		
26-Mar	Lot 34 Stonefly					7	7	0.43	131	0.1	281		
	Average	0	0	0	0	7.0	7.1	0.32	131.8	0.1	279.8	0.02	0.03
	Maximum	0	0	0	0	8	7.2	0.43	133	0.1	281	0.02	0.03
	Minimum	0	0	0	0	6	6.8	0.24	131	0.1	277	0.02	0.03

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Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Apr-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
02-Apr	1969 Kaye Rd	0	0	0	0	7	7.1	0.29	132	0.1	283	0.01	
08-Apr	Lot 34 Stonefly			0	0	8	7	0.42	132	0.1	280		
15-Apr	1969 Kaye Rd			0	0	8	7	0.35	133	0.1	280		0.019
22-Apr	Lot 34 Stonefly			0	0	9	7.2	0.43	133	0.1	281		
	Average	0	0	0	0	8.0	7.1	0.37	132.5	0.1	281.0	0.01	0.019
	Maximum	0	0	0	0	9	7.2	0.43	133	0.1	283	0.01	0.019
	Minimum	0	0	0	0	7	7	0.29	132	0.1	280	0.01	0.019

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Regional District of Nanaimo - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date May-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
06-May	1969 Kaye Rd	0	0	0	0	9	7.2	0.36	141	0.1	298	0.06	0.021
21-May	Lot 34 Stonefly			0	0	10	7	0.34	142	0.1	298		
27-May	1969 Kaye Rd			0	0	12	7.1	0.31	142	0.1	298		
	Average	0	0	0	0	10.3	7.1	0.34	141.7	0.1	298.0	0.06	0.021
	Maximum	0	0	0	0	12	7.2	0.36	142	0.1	298	0.06	0.021
	Minimum	0	0	0	0	9	7	0.31	141	0.1	298	0.06	0.021

Red font indicates non-compliance with Canadian Drinking Water Guidelines / BC Approved Water Quality Guidelines
Coliforms are measured in colony forming units (CFU) per 100 millilitres of water
* Yellow Column Coliform tests are done by Health Department
Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Jun-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
04-Jun	1969 Kaye Rd	0	0	0	0	12	7.2	0.83	143	0.1	300	0.01	0.021
11-Jun	1969 Kaye Rd			0	0	13	7.1	0.62	143	0.1	301		
17-Jun	Lot 34 Stonefly			0	0	11	7	0.82	143	0.1	300		
24-Jun	1969 Kaye Rd					14	7.2	0.61	142	0.1	298		
	Average	0	0	0	0	12.5	7.1	0.72	142.8	0.1	299.8	0.01	0.021
	Maximum	0	0	0	0	14	7.2	0.83	143	0.1	301	0.01	0.021
	Minimum	0	0	0	0	11	7	0.61	142	0.1	298	0.01	0.021

Red font indicates non-compliance with Canadian Drinking Water Guidelines / BC Approved Water Quality Guidelines
Coliforms are measured in colony forming units (CFU) per 100 millilitres of water
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Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Jul-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
02-Jul	1969 Kaye Rd	0	0										
09-Jul	Lot 34 Stonefly			0	0	13	7.1	0.51	144	0.1	303	0.02	0.018
15-Jul	1969 Kaye Rd			0	0	16	6.8	0.42	149	0.1	303		
22-Jul	Lot 34 Stonefly			0	0	12	7	0.49	145	0.1	304		
29-Jul	1969 Kaye Rd			0	0	16	6.8	0.37	146	0.1	307		
	Average	0	0	0	0	14.3	6.9	0.45	146.0	0.1	304.3	0.02	0.018
	Maximum	0	0	0	0	16	7.1	0.51	149	0.1	307	0.02	0.018
	Minimum	0	0	0	0	12	6.8	0.37	144	0.1	303	0.02	0.018

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Coliforms are measured in colony forming units (CFU) per 100 millilitres of water
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Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Aug-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
06-Aug	1969 Kaye Rd	0	0	0	0	16	7	0.31	145	0.1	307	0.02	0.022
12-Aug	Lot 34 Stonefly			0	0	13	7	0.29	146	0.1	306		
19-Aug	1969 Kaye Rd			0	0	16	7	0.19	147	0.1	309		
26-Aug	Lot 34 Stonefly			0	0	13	6.9	0.3	147	0.1	310		
	Average	0	0	0	0	14.5	7.0	0.27	146.3	0.1	308.0	0.02	0.022
	Maximum	0	0	0	0	16	7	0.31	147	0.1	310	0.02	0.022
	Minimum	0	0	0	0	13	6.9	0.19	145	0.1	306	0.02	0.022

Red font indicates non-compliance with Canadian Drinking Water Guidelines / BC Approved Water Quality Guidelines
Coliforms are measured in colony forming units (CFU) per 100 millilitres of water
* Yellow Column Coliform tests are done by Health Department
Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Sep-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
03-Sep	1969 Kaye Road	0	0										
16-Sep	Lot 34 Stonefly			0	0	12	7	0.35	150	0.1	315	0.03	0.024
	Average	0	0	0	0	12.0	7.0	0.35	150.0	0.1	315.0	0.03	0.024
	Maximum	0	0	0	0	12	7	0.35	150	0.1	315	0.03	0.024
	Minimum	0	0	0	0	12	7	0.35	150	0.1	315	0.03	0.024

Red font indicates non-compliance with Canadian Drinking Water Guidelines / BC Approved Water Quality Guidelines
Coliforms are measured in colony forming units (CFU) per 100 millilitres of water
* Yellow Column Coliform tests are done by Health Department
Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Oct-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
07-Oct	1969 Kaye Rd	0	0	0	0	13	7.1	0.78	151	0.1	318	0.03	0.02
15-Oct	Lot 34 Stonefly			0	0	11	6.9	0.72	150	0.1	317		
21-Oct	1969 Kaye Rd			0	0	11	7.3	0.68	150	0.1	317		
29-Oct	Lot 34 Stonefly			0	0	11	7.1	0.7	149	0.1	315		
	Average	0	0	0	0	11.5	7.1	0.72	150.0	0.1	316.8	0.03	0.02
	Maximum	0	0	0	0	13	7.3	0.78	151	0.1	318	0.03	0.02
	Minimum	0	0	0	0	11	6.9	0.68	149	0.1	315	0.03	0.02

Red font indicates non-compliance with Canadian Drinking Water Guidelines / BC Approved Water Quality Guidelines
Coliforms are measured in colony forming units (CFU) per 100 millilitres of water
* Yellow Column Coliform tests are done by Health Department
Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Nov-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
04-Nov	1969 Kaye Rd	0	0	0	0	9	7.3	0.59	151	0.1	316	0.02	0.035
12-Nov	Lot 34 Stonefy			0	0	10	7.3	0.62	149	0.1	314		
18-Nov	1969 Kaye Rd			0	0	10	7.1	0.55	149	0.1	314		
25-Nov	Lot 34 Stonefy			0	0	10	6.9	0.53	149	0.1	313		
	Average	0	0	0	0	9.8	7.2	0.57	149.5	0.1	314.3	0.02	0.035
	Maximum	0	0	0	0	10	7.3	0.62	151	0.1	316	0.02	0.035
	Minimum	0	0	0	0	9	6.9	0.53	149	0.1	313	0.02	0.035

Red font indicates non-compliance with Canadian Drinking Water Guidelines / BC Approved Water Quality Guidelines
Coliforms are measured in colony forming units (CFU) per 100 millilitres of water
* Yellow Column Coliform tests are done by Health Department
Green 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 - Utilities Department

Englishman River Estates Water Analysis - Monthly Report

Date Dec-08	Sample Location (Address)	Fecal Coli * Health Dep	Total Coli * Health Dep	Total Coli RDN	E Coli RDN	Temp ^{o} C	pH	Cl_2 ppm	TDS ppm	Sal %	Cond uS/cm	Fe ppm	Mn ppm
02-Dec	1969 Kaye Rd	0	0	0	0	10	7.1	0.47	148	0.1	312	0.01	0.022
09-Dec	Lot 34 Stonefly			0	0	9	7.1	0.67	149	0.1	317		
	Average	0	0	0	0	9.5	7.1	0.57	148.5	0.1	314.5	0.01	0.022
	Maximum	0	0	0	0	10	7.1	0.67	149	0.1	317	0.01	0.022
	Minimum	0	0	0	0	9	7.1	0.47	148	0.1	312	0.01	0.022

Red font indicates non-compliance with Canadian Drinking Water Guidelines / BC Approved Water Quality Guidelines
Coliforms are measured in colony forming units (CFU) per 100 millilitres of water
* Yellow Column Coliform tests are done by Health Department
Green 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.

APPENDIX C

EMERGENCY RESPONSE PLAN

* Emergency Response Plan not included in Public Copy.