

2012 WHITE ROCK PERFORMANCE REPORT



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KEY MEASURES OF SUCCESS

The 2012 Performance Report provides an overview of the achievements of EPCOR White Rock Water Inc. (EPCOR) for 2012 and looks ahead at plans for 2013. We strive to ensure that our performance meets the consistently high standards that our customers expect. We are accountable to deliver service that meets key measures for quality assurance, operational excellence, capital projects, customer care, community, safety and environment.

These measures, set by EPCOR, are submitted to and consistent with the requirements of our regulators: the B.C. Water Comptroller of Water Rights (BC Comptroller) and Fraser Health Authority (Fraser Health). Capital program and operations budgets are approved by the BC Comptroller in accordance with the regulatory process. Detailed reporting is submitted as required to the BC Comptroller and Fraser Health.

OUR STORY

Everyone has a story and EPCOR's is about our people — the ones that keep your water system operating 24 hours a day, all year round and the ones who are always prepared to answer your questions and deal with any issues you may have.

EXCEEDING EXPECTATIONS WITH WATER MAIN REPAIR

In 2012, Simon and his crew of water operators fixed all main breaks and water was restored in four hours or less.

In many communities across North America, it may take 24-48 hours to fix challenging water main breaks and restore full service to customers. In White Rock, however, water main breaks are typically fixed in far less time. In 2012, all breaks were fixed and water was restored in four hours or less.

The work of Simon Pither together with our other water operators has a lot to do with that kind of operational excellence. Simon, who has been with the White Rock utility for a quarter century, started as a backhoe operator and is now Lead Hand Operator.

"When there's water main trouble, we can usually get to the site in about 10 minutes or so during the day," he says. "It takes longer after hours but we'll go out at 3 a.m., if necessary, to tackle the job and get water restored to our customers."

On normal days, Simon and our operators are at work performing system maintenance, upgrading water mains and making other system improvements, connecting new customers, installing hydrants, conducting uni-directional flushing and a host of other projects large and small.

"I like providing good service for the people of White Rock. It's rewarding."



EXCEEDING EXPECTATIONS WITH CUSTOMER SERVICE

Debbie lives in White Rock and has been with the utility for 21 years. She is proud to offer a personal touch to customer service.

When a customer calls with a question or concern, Debbie Servais usually has the answer.

She lives in White Rock and has been with the White Rock utility for 21 years. She is proud to offer a personal touch to customer service. Some customers still come by the office to pay their bills or ask a question and Debbie recognizes most of them.

“Debbie is well known by our customers,” says Utility Manager Betty Icharia. “She deals expertly and professionally with any customer inquiries, on the phone and in person. She exemplifies the kind of customer service that White Rock residents should expect.”

White Rock is experiencing all kinds of new development requiring new water connections and accounts. The utility is a friendly place and Debbie is not alone in offering a personal touch. All staff - including the operators and billing coordinator — work on customer concerns when they arise.

“It’s a great place to work,” says Debbie. “I like interacting with people. We’ve got great customers and terrific co-workers. Everybody gets along and we get a lot of work done.”



2012 PERFORMANCE HIGHLIGHTS

We have a responsibility to meet observed and predicted water demand to ensure that the system remains safe, reliable and efficient.

For EPCOR's White Rock staff, operational excellence takes many forms. As outlined in our performance report, this includes care for the environment, our community and the needs of our customers, quality drinking water, service reliability, safety and ongoing capital projects to improve the system.

In 2012, we completed installation of a new, 145-metre (480 foot) well at our Merklin Street site that includes a chlorination system. White Rock has experienced increased development in recent years and we have a responsibility to meet observed and predicted water demand to ensure that the system remains safe, reliable and efficient.

In addition to our routine 24/7 testing and monitoring of the water supply, we provided increased monitoring of all reservoirs, including weekly sampling to ensure water quality and safety.

In 2012, we conducted a total of 6,410 water quality tests throughout the system.

We continued to upgrade water mains as part of a water system master plan that provides a long-term planning horizon to ensure that the waterworks infrastructure supports existing and future water demands.

OPERATIONAL EXCELLENCE

The uni-directional flushing program helps to maintain water quality in the system by preventing the accumulation of material within the piping.

We proactively manage all infrastructure through regular maintenance, evaluations and improvements.

In 2012, these activities included annual maintenance of all pressure relief valve stations, reservoir inspections and maintenance, water meter maintenance, hydrant inspection and maintenance and exercising and maintenance of distribution system valves.

Our uni-directional flushing program uses a hydraulic modeling system to direct water through specific pipes at high velocity. This helps to maintain water quality by preventing the accumulation of material within the piping. The type of program uses less water than other methods. It is also more effective than regular flushing and maximizes pressure throughout the system.



HOW YOU CAN USE LESS WATER AROUND THE HOME:

- Insulating your water pipes will give you hot water faster and avoid wasting water while waiting for it to warm up
- Keep a jug of drinking water in the refrigerator, rather than running the tap until the water cools off
- Use your automatic dishwasher and washing machine only for full loads
- Check for leaks in household taps and toilets



THE WHITE ROCK WATER SYSTEM

EPCOR White Rock Water Inc. is Canadian owned and operated. EPCOR purchased the privately owned and operated White Rock Utilities in May 2005 and the amalgamation was completed in May 2006. The water utility has served the White Rock area since 1913.



EPCOR owns the water system assets and operates them on behalf of the residents of White Rock. EPCOR also supplies water to certain adjacent areas in the city of Surrey, and the Semiahmoo First Nation. The utility serves a population of approximately 20,000 people with an average consumption of water of 6.9 million litres (ML) per day.

Every water service site in the city is metered. Fire protection service is provided to the residents by means of 325 fire hydrants.

The entire water supply comes from a groundwater source called the Sunnyside Uplands aquifer and is provided through six wells, which range in depth from about 60 to 150 meters (200 to 500 feet). The water is distributed directly to residents with limited treatment.

The distribution system also includes 76.6 km of water mains, of which about 130 meters (427 feet) is galvanized iron pipe. This is being replaced as part of an annual pipe replacement program.

EPCOR White Rock is regulated by the BC Comptroller of Water Rights and Fraser Health Authority. The BC Comptroller’s role is to protect the public interest, ensuring that adequate, safe and reliable water service is being provided at a fair and reasonable price. Water rates and terms of service are determined through a regulatory process established by the BC Comptroller. Fraser Health Authority is responsible for protecting public health and routinely inspects, samples and assesses water systems for compliance with the Drinking Water Protection Act and Regulation. Fraser Health issues operating permits under which water systems operate and the construction permits for new water systems or alterations to existing water systems.



White Rock has uniform structure water rates and three customer groups: single-family residential, multi-residential and commercial. Current rates are effective to December 31, 2013.

We employ seven full-time permanent employees in White Rock. Additional technical and operational support is available through EPCOR’s 27 water professionals in British Columbia and more than 450 water professionals in EPCOR Water Services across Canada.

WATER QUALITY INFORMATION

Water “aesthetics” are characteristics that impact a customer’s willingness to drink or use the water, but do not necessarily have health impacts. Examples include taste, odour and appearance.

We monitor the physical, chemical, and microbiological characteristics of your drinking water. Our level of testing exceeds our permit requirements set by the Fraser Health Authority.

We also work under Health Canada’s science-based guidelines for drinking water known as the Guidelines for Canadian Drinking Water Quality. These guidelines set the maximum acceptable concentrations of chemical, microbiological and radiological contaminants found in water based on potential health effects. They also address water quality issues such as colour, taste and odour by setting aesthetic objectives.

Groundwater tends to contain more minerals than surface water. These minerals are naturally occurring in the earth’s crust and therefore appear in varying levels in groundwater. See pages 11 to 16 for a detailed analysis of White Rocks’ water quality.

In 2012 Fraser Health added an operating permit condition with respect to arsenic and manganese: “Should arsenic levels trend above the Guidelines for Canadian Drinking Water Quality, a treatment system must be operational on or before December 31, 2018. Should the Guidelines for Canadian Drinking Water Quality deem manganese a health criteria, a treatment system must be operational on or before December 31, 2018.”

EPCOR has been monitoring arsenic and manganese closely in the well sources and throughout the system. In 2012, the average manganese concentration in the system met Health Canada’s aesthetic objectives (AO), although the level of manganese exceeded the objective in some of the wells. The arsenic concentration met Health Canada’s Maximum Acceptable Concentrations (MAC). In total, EPCOR carried out 206 tests for arsenic and manganese in 2012. Refer to page 13 for additional information.



WATER FLUSHING FOR COMMERCIAL BUILDINGS AND SCHOOLS

Water quality deteriorates when the water is stagnant within piping in buildings for any length of time. EPCOR recommends that building owners or managers have a program to flush the water through drinking water fixtures in the building after periods of no use, such as over weekends and after holidays, before consumption of the water. This is especially important for buildings that are used intermittently, such as schools or day care facilities. Enough water should be flushed to ensure the water in the piping has been displaced completely. This can usually be determined by running the water until it is cool to the touch. To conserve water, the flushed water can be collected for other uses, such as watering plants.



QUALITY ASSURANCE



A NOTE ON WATER QUALITY:

Water produced from the White Rock system wells is considered high-quality groundwater. With the exception of the Merklin Street wells, White Rock's groundwater supply does not undergo disinfection. As outlined in this report, EPCOR takes measures to prevent microbial contamination, but there is always a small risk of microbial contamination in any type of water system. Immuno-compromised persons may be more vulnerable to microbial contamination than the general population. This includes people with HIV/AIDS or other immune system disorders or people who have undergone chemotherapy, organ transplants or who have received other treatments that suppress the immune system. We advise that these individuals seek advice about drinking the White Rock water from their physician or other health care provider.

Protecting public health is the priority for EPCOR. Water quality is monitored and continually enhanced through diligent operations and high quality standards.

We have made many quality assurance improvements since EPCOR began operating the White Rock utility in 2005. These include increased water quality monitoring, installation of remote monitoring equipment, development of new security methods to protect the water supply, an on-going cross-connection control program and uni-directional flushing to maintain water quality in the water mains.

Protecting public health is our priority. Water quality is monitored and continually enhanced through diligent operations and high quality standards. In 2012, we conducted 6,410 water quality tests.

We work closely with all regulatory and environmental agencies to provide safe water to the community and meet environmental compliance.

Our employees work to provide water in the community that meets or exceeds standards and expectations for safety, reliability and quality. EPCOR White Rock Water is a Class III system. System classification provides an indication of the degree of knowledge and training that is required of an operator of that facility. The Environmental Operators Certification Program (EOCP) has been classifying facilities in BC since 1975 using standards adopted by the Association of Boards of Certification. All operators are certified at the correct levels for the work they conduct. One operator is certified at Level III and three operators are certified at Level II. The community benefits by receiving the technical expertise and knowledge required to deliver a safe and reliable drinking water supply.

SUMMARY

We review the existing water system regularly to assess its current condition and identify upgrades required to meet or exceed utility standards. We continue to implement or enhance our operating procedures and standards. This includes:

- Annual reporting of water-quality information and system upgrades to Fraser Health consistent with provincial regulations.
- Supplementary lab training to allow additional parameters to be tested for in the water supply.
- Routine sampling for bacteria supplemented by quarterly quality testing for metals. All testing is carried out by accredited B.C. laboratories (BCCDC, EXOVA and AGAT).
- Monthly equipment testing and calibration by local operators, combined with annual testing of all water lab equipment by certified technicians.

PHYSICAL AND CHEMICAL WATER QUALITY DATA FOR WHITE ROCK SOURCE AND DISTRIBUTION SYSTEM WATER

Jan 19 2012 to Feb 15 2012 Samples



ABBREVIATIONS	
–	No guideline set by Health Canada
<	Less Than Detection Limit
ACU	Apparent Colour Unit
AO	Aesthetic Objective
as CaCO ₃	Expressed as Calcium Carbonate
GCDWQ	Guidelines for Canadian Drinking Water Quality
HAA	Haloacetic Acids
MAC	Maximum Acceptable Concentration
mg/L	milligram per Litre
N	Nitrogen
NA	Not Applicable
NTU	Nephelometric Turbidity Unit
µg/L	Micrograms/litre
µS/cm	Microsiemens/cm
TCU	True Color Unit
THMs	Trihalomethanes

DID YOU KNOW...

In 2012, EPCOR White Rock conducted 6410 water quality tests.



SUBSTANCE	UNIT OF MEASURE	MIN	MAX	2012 AVERAGE	GCDWQ GUIDELINES
CHEMICALS					
Ammonia	mg/L	<0.01	0.46	0.05	-
Fluoride	mg/L	0.02	0.23	0.18	1.5
Nitrate (as N)	mg/L	<0.01	0.93	0.25	10
Nitrite (as N)	mg/L	<0.01	<0.01	<0.01	-
Total Organic Carbon	mg/L	<0.5	0.60	<0.5	-
MINERALS					
Alkalinity (total, as CaCO ₃)	mg/L	91	118	105	-
Calcium	mg/L	21.0	24.2	22.2	-
Chloride	mg/L	1.7	76.1	29.0	250 (AO)
Hardness (total, as CaCO ₃)	mg/L	87	102	94	-
Sodium	mg/L	9	63	28	200 (AO)
Sulphate	mg/L	1	23	15	500 (AO)
Total Dissolved Solids	mg/L	130	299	192	500 (AO)
OTHER					
Colour	ACU	<5	<5	<5	15TCU (AO)
Conductivity	µS/cm	226	528	323	-
pH	NA	7.0	7.7	7.3	6.5-8.5 (AO)
Turbidity	NTU	<0.1	0.5	0.1	-
TRACE METALS					
Aluminum	mg/L	<0.005	0.01	<0.005	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	0.006
Arsenic	mg/L	0.004	0.010	0.008	0.01
Barium	mg/L	0.011	0.020	0.014	1
Boron	mg/L	0.012	0.083	0.037	5
Cadmium	mg/L	<0.00007	<0.00007	<0.00007	0.005
Calcium	mg/L	21.0	24.2	22.2	-
Chromium	mg/L	<0.0005	0.0016	<0.0005	0.05
Copper	mg/L	<0.001	0.165	0.016	1 (AO)
Iron	mg/L	0.005	0.119	0.019	0.3 (AO)
Lead	mg/L	<0.0001	0.0011	0.0003	0.01
Magnesium	mg/L	8.4	10.7	9.4	-
Manganese	mg/L	<0.001	0.129	0.053	0.05 (AO)
Mercury	mg/L	<0.00001	<0.00001	<0.00001	0.00 1
Phosphorus	mg/L	0.09	0.20	0.16	-
Potassium	mg/L	2.5	4.4	3.3	-
Selenium	mg/L	<0.0006	0.0066	0.0011	0.01
Silicon	mg/L	9.05	9.45	9.24	-
Uranium	mg/L	<0.0005	<0.0005	<0.0005	0.02
Vanadium	mg/L	0.0026	0.0050	0.0034	-
Zinc	mg/L	0.001	0.140	0.010	5 (AO)



PHYSICAL AND CHEMICAL WATER QUALITY DATA FOR WHITE ROCK SOURCE AND DISTRIBUTION SYSTEM WATER

Jan 01 2012 to Dec 2012 Samples

SUBSTANCE	UNIT OF MEASURE	MIN	MAX	2012 AVERAGE	GCDWQ GUIDELINES
BACTERIA					
<i>E. Coli</i>	MPN / 100 ml	<1	<1	<1	0
Total Coliforms*	MPN / 100 ml	<1	5.3	1.5	less than 10%>0
CHEMICALS**					
Chloroform	µg/L	<1	<1	<1	-
Bromodichloromethane	µg/L	<1	<1	<1	-
Dibromochloromethane	µg/L	<1	<1	<1	-
Bromoform	µg/L	<1	<1	<1	-
Total THMs	µg/L	<1	<1	<1	100 ug/L
Monochloroacetic Acid	µg/L	<2.0	<2.0	<2.0	-
Monobromoacetic Acid	µg/L	<2.0	<2.0	<2.0	-
Dichloroacetic Acid	µg/L	<2.0	<2.0	<2.0	-
Bromochloroacetic Acid	µg/L	<2.0	<2.0	<2.0	-
Dibromoacetic Acid	µg/L	<2.0	<2.0	<2.0	-
Trichloroacetic Acid	µg/L	<2.0	<2.0	<2.0	-
Total HAA	ug/L	<2.0	<2.0	<2.0	80 ug/L

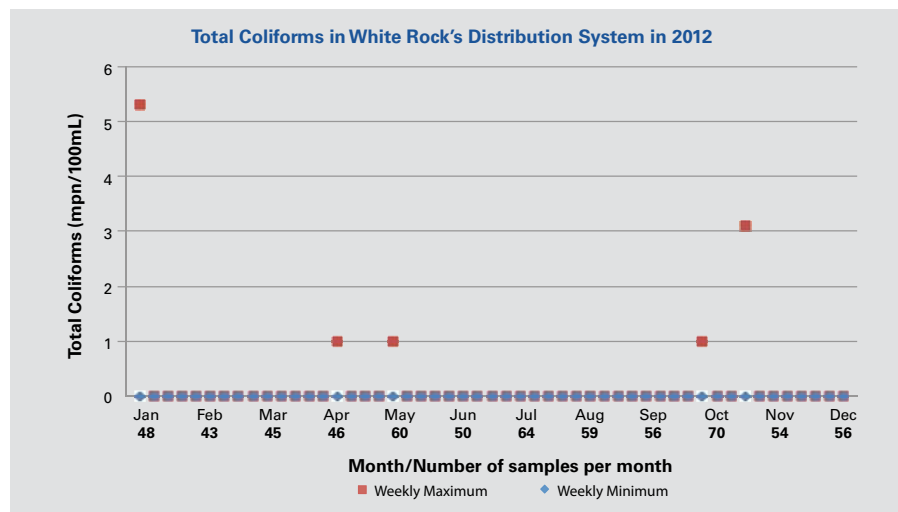
How to Measure:

- Most substances listed are reported in milligrams per litre (mg/L). One milligram per litre is commonly referred to as one part per million
- One part per million is equivalent to one drop in 1/2 bathtub full of water or one second in 12.5 days
- Some substances are measured in parts per billion. One part per billion is also referred to as one microgram per litre (µg/L)
- One part per billion is equivalent to one drop in 520 bathtubs full of water or one second in 32 years

NOTES:

* Samples that tested positive were determined to be “false” positive tests, by additional testing.

**Chemicals tested were disinfection byproducts. During the Boil Water Notice period in 2010, EPCOR established a chlorine feed at well #6 for the Merklin reservoir site. That chlorine feed continues to serve the Merklin reservoir site, as well as a limited area of the system only (the high east zone), which is supplied by water from the Merklin station.



**More water quality
information can be
obtained at
www.epcor.com or
EPCOR's White Rock
office.**

TRACE METALS WATER QUALITY DATA FOR WHITE ROCK SOURCE AND DISTRIBUTION SYSTEM WATER



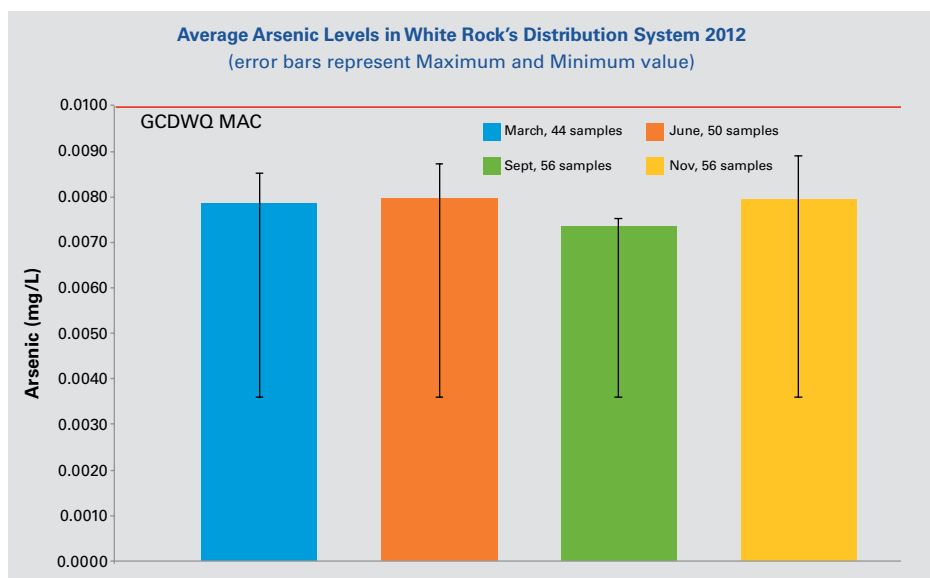
Jan 01 2012 to Dec 31 2012 Samples

SUBSTANCE	UNIT OF MEASURE	MIN	MAX	2012 AVERAGE	GCDWQ GUIDELINES
Arsenic	mg/L	0.0033	0.0099	0.0078	0.01
Copper	mg/L	<0.0005	0.108	0.0121	1 (AO)
Iron	mg/L	<0.01	0.068	0.023	0.3 (AO)
Lead	mg/L	<0.00001	0.00324	0.00026	0.01
Manganese	mg/L	<0.001	0.185	0.076	0.05 (AO)

PHYSICAL AND CHEMICAL WATER QUALITY DATA FOR WHITE ROCK SOURCE AND DISTRIBUTION WATER FOR 2012

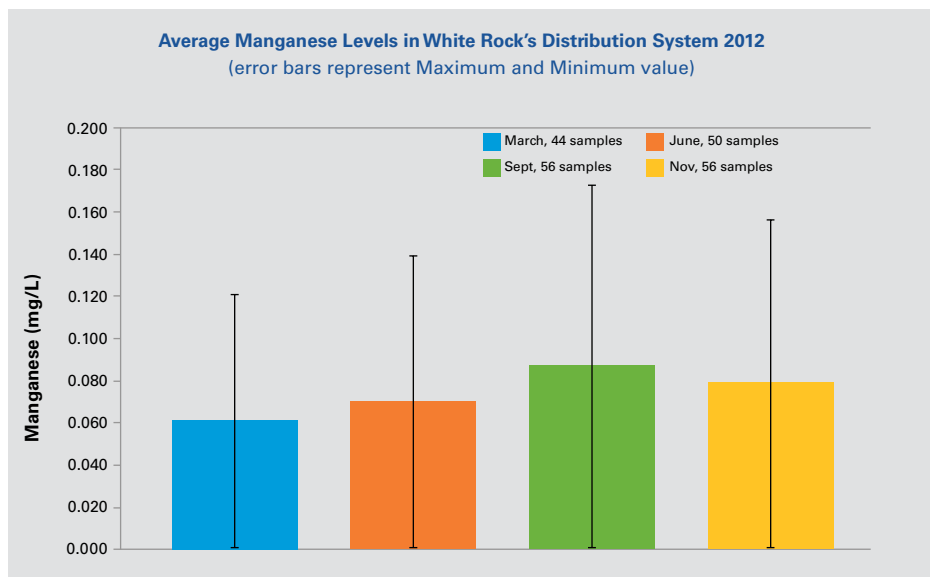
ARSENIC

In 2007, Health Canada reduced the Maximum Acceptable Concentration (MAC) levels for arsenic from 0.025 mg/L to 0.010 mg/L. Although the MAC for arsenic is set at 0.010 mg/L, there may be health risks associated lower levels. Approximately 24% of the samples taken from White Rock's distribution system in 2007 showed arsenic concentrations that exceeded the MAC with the maximum concentration of 0.012 mg/L and an average of 0.008 mg/L. In 2011 and 2012 0% of samples taken from White Rock water system showed arsenic concentrations that exceeded this new guideline limit. EPCOR continues to monitor arsenic levels on a routine basis.



MANGANESE

The GCDWQ aesthetic objective (AO) for manganese is 0.05 mg/L. At levels above 0.15 mg/L, it can cause staining of plumbing, laundry and objectionable taste. New studies, however, are suggesting some levels of manganese may also be associated with health effects. In 2011, the average concentration of manganese in White Rock was 0.066mg/L, which exceeded the AO. Minimum and maximum concentrations were <0.001, 0.129 and 0.053 mg/L, respectively. In 2012, the average concentration was 0.076 which also exceed the AO. Minimum and maximum concentrations were <0.001 and 0.185 respectively.





ORGANICS WATER QUALITY DATA FOR WHITE ROCK SOURCE AND DISTRIBUTION SYSTEM WATER

Nov 20 2012 Samples

TESTING FOR ORGANIC COMPOUNDS

EPCOR tests drinking water periodically for organic compounds indicated in the Guidelines for Canadian Drinking Water Quality (GCDWQ) and some not included in the guidelines. In 2012, EPCOR tested for 11 groups (279 organic compounds in total) and did not detect any of the compounds in White Rock's drinking water. The tables on page 14, 15 and 16 provide information on the compounds tested, their detection limits and Maximum Allowable Concentrations (MAC) where applicable.

Having established this baseline information in 2008, EPCOR continues to perform testing for organic compounds every five years.

SUBSTANCE	UNIT OF MEASURE	MIN	MAX	2012 AVERAGE	GCDWQ GUIDELINES
BENZO(A)PYRENE IN WATER PARAMETER					
Benzo(a)pyrene	µg/L	<0.01	<0.01	<0.01	0.01
CARBAMATE PESTICIDES IN WATER PARAMETER					
Aldicarb	µg/L	<2.0	<2.0	<2.0	-
Bendiocarb	µg/L	<2	<2	<2	-
Carbofuran	µg/L	<5	<5	<5	-
Carbaryl	µg/L	<5	<5	<5	-
Diuron	µg/L	<10	<10	<10	-
Triallate	µg/L	<1	<1	<1	-
Temephos	µg/L	<10	<10	<10	-
DIQUAT & PARAQUAT (WATER) PARAMETER					
Diquat	µg/L	<5	<5	<5	-
Paraquat	µg/L	<1	<1	<1	-
GLYPHOSATE IN WATER PARAMETER					
Glyphosate (ug/ml)	mg/L	<0.02	<0.02	<0.02	-
AMPA	mg/L	<0.02	<0.02	<0.02	-
HERBICIDES (WATER) PARAMETER					
2,4-D	µg/L	<0.5	<0.5	<0.5	-
2,4,5-T	µg/L	<0.5	<0.5	<0.5	-
2,4,5-TP	µg/L	<0.5	<0.5	<0.5	-
Dicamba	µg/L	<0.5	<0.5	<0.5	-
Dichlorprop	µg/L	<0.5	<0.5	<0.5	-
Dinoseb	µg/L	<0.5	<0.5	<0.5	-
Picloram	µg/L	<0.5	<0.5	<0.5	-
Diclofop-methyl	µg/L	<0.5	<0.5	<0.5	-
OC PESTICIDES (WATER) PARAMETER					
Gamma-Hexachlorocyclohexane	µg/L	<0.01	<0.01	<0.01	-
Heptachlor	µg/L	<0.01	<0.01	<0.01	-
Aldrin	µg/L	<0.01	<0.01	<0.01	-
Heptachlor Epoxide	µg/L	<0.01	<0.01	<0.01	-
Endosulfan	µg/L	<0.05	<0.05	<0.05	-
Chlordane	µg/L	<0.04	<0.04	<0.04	-
DDE	µg/L	<0.01	<0.01	<0.01	-
DDD	µg/L	<0.05	<0.05	<0.05	-
DDT	µg/L	<0.04	<0.04	<0.04	-
Dieldrin	µg/L	<0.02	<0.02	<0.02	-
Endrin	µg/L	<0.05	<0.05	<0.05	-
Methoxychlor	µg/L	<0.04	<0.04	<0.04	-
Hexachlorobenzene	µg/L	<0.01	<0.01	<0.01	-
Hexachlorobutadiene	µg/L	<0.01	<0.01	<0.01	-
Hexachloroethane	µg/L	<0.01	<0.01	<0.01	-

ORGANICS WATER QUALITY DATA FOR WHITE ROCK SOURCE AND DISTRIBUTION SYSTEM WATER

Nov 20 2012 Samples



SUBSTANCE	UNIT OF MEASURE	MIN	MAX	2012 AVERAGE	GCDWQ GUIDELINES
OP PESTICIDES [WATER] PARAMETER					
Phorate	µg/L	<0.5	<0.5	<0.5	-
Dimethoate	µg/L	<2.5	<2.5	<2.5	-
Terbufos	µg/L	<0.5	<0.5	<0.5	-
Diazinon	µg/L	<1	<1	<1	-
Malathion	µg/L	<5	<5	<5	-
Chlorpyrifos	µg/L	<1	<1	<1	-
Parathion	µg/L	<1	<1	<1	-
Azinphos-methyl	µg/L	<2	<2	<2	-
TRIAZINE PESTICIDES [WATER] PARAMETER					
Trifluralin	µg/L	<1.0	<1.0	<1.0	-
Simazine	µg/L	<1.0	<1.0	<1.0	-
Atrazine	µg/L	<0.5	<0.5	<0.5	-
Metribuzin	µg/L	<0.25	<0.25	<0.25	-
Prometryne	µg/L	<0.25	<0.25	<0.25	-
Metolachlor	µg/L	<0.11	<0.11	<0.11	-
Alachlor	µg/L	<0.5	<0.5	<0.5	-
Cyanazine	µg/L	<1.0	<1.0	<1.0	-
VOLATILE ORGANIC COMPOUNDS IN WATER PARAMETER					
Chloromethane	µg/L	<1	<1	<1	950
Vinyl Chloride	µg/L	<1	<1	<1	2
Bromomethane	µg/L	<1	<1	<1	51
Chloroethane	µg/L	<1	<1	<1	46
Trichlorofluoromethane	µg/L	<1	<1	<1	11000
Acetone	µg/L	<10	<10	<10	33000
1,1-Dichloroethene	µg/L	<1	<1	<1	14
Dichloromethane	µg/L	<1	<1	<1	50
Methyl tert-butyl ether (MTBE)	µg/L	<1	<1	<1	15
2-Butanone (MEK)	µg/L	<10	<10	<10	22000
trans-1,2-Dichloroethylene	µg/L	<1	<1	<1	730
1,1-Dichloroethane	µg/L	<1	<1	<1	3700
cis-1,2-Dichloroethylene	µg/L	<1	<1	<1	370
Chloroform	µg/L	<1	<1	<1	100
1,2-Dichloroethane	µg/L	<1	<1	<1	5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	10000
Carbon Tetrachloride	µg/L	<0.5	<0.5	<0.5	5
Benzene	µg/L	<0.5	<0.5	<0.5	-
1,2-Dichloropropane	µg/L	<1	<1	<1	9.9
Trichloroethene	µg/L	<1	<1	<1	5
Bromodichloromethane	µg/L	<1	<1	<1	16
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	-



ORGANICS WATER QUALITY DATA FOR WHITE ROCK SOURCE AND DISTRIBUTION SYSTEM WATER

Nov 20 2012 Samples

SUBSTANCE	UNIT OF MEASURE	MIN	MAX	2012 AVERAGE	GCDWQ GUIDELINES
4-Methyl-2-pentanone (MIBK)	µg/L	<10	<10	<10	2900
cis-1,3-Dichloropropene	µg/L	<1	<1	<1	6.7
1,1,2-Trichloroethane	µg/L	<1	<1	<1	12
Toluene	µg/L	<0.5	<0.5	<0.5	-
Dibromochloromethane	µg/L	<1	<1	<1	100
Ethylene Dibromide	µg/L	<0.3	<0.3	<0.3	-
Tetrachloroethene	µg/L	<1	<1	<1	30
1,1,1,2-Tetrachloroethane	µg/L	<1	<1	<1	-
Chlorobenzene	µg/L	<1	<1	<1	30
Ethylbenzene	µg/L	<0.5	<0.5	<0.5	2.4
m&p-Xylene	µg/L	<0.5	<0.5	<0.5	300
Bromoform	µg/L	<1	<1	<1	100
Styrene	µg/L	<0.5	<0.5	<0.5	-
1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	3.4
o-Xylene	µg/L	<0.5	<0.5	<0.5	300
1,3-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	-
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	3
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	-
Total Xylenes	µg/L	<1	<1	<1	-

EPCOR works closely with all regulatory and environmental agencies to provide safe water to the community and meet environmental compliance.

IN HOUSE TESTING WATER QUALITY DATA FOR WHITE ROCK SOURCE AND DISTRIBUTION SYSTEM WATER

Jan 01 2012 to Dec 31 2012 Samples

SUBSTANCE	UNIT OF MEASURE	MIN	MAX	2012 AVERAGE	GCDWQ GUIDELINES
Conductivity	µS/cm	196	559	321	-
pH	-	7.1	8.6	7.9	6.5-8.5 (AO)
Turbidity	NTU	0.04	1.25	0.13	5.0 (AO)
Temp	°C	6.4	21	12.1	15 (AO)



TOTAL WATER QUALITY MANAGEMENT PROJECT



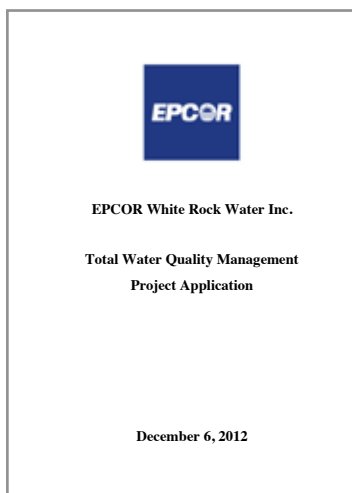
The Fraser Health Authority has directed EPCOR to implement system chlorination by March 31, 2016.

The Total Water Quality Management Project for White Rock includes upgrades to ensure the safe and reliable provision of drinking water to our customers. The project is designed to create a robust multi-barrier system to protect water quality. This includes disinfection of the water supply through chlorination as well as upgrades to aging infrastructure to improve system reliability and safety including replacement of the seismically-deficient Merklein high reservoir and increases to storage and pumping capacity to meet current balancing, fire flow and emergency needs. The project also proposes a modest amount of new capacity to accommodate new customers.

The Fraser Health Authority has directed EPCOR to implement system chlorination by March 31, 2016.

EPCOR's Total Water Quality Management Project Application was filed with the B.C. Comptroller of Water Rights on December 6, 2012. The Application requested the Comptroller to determine whether the project is in the public interest. The application also sought approval to proceed with detailed design of the project and for future recovery of concept and detailed design costs.

Public health is our top priority. The plan is designed to disinfect the water supply at source and maintain the disinfectant residual throughout the reservoirs and distribution system.



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December 6, 2012	

2012 Notice to Customers



CUSTOMER CARE AND COMMUNITY



Chamber of Commerce 2012 Business Excellence Awards Nomination
Business Person of the Year – Corporate
(Betty Icharia)

Our Utility Manager, Betty Icharia was nominated for the South Surrey White Rock Chamber of Commerce’s 2012 Business Excellence Awards Business Person of the Year - Corporate category

Our customer care philosophy is integral to how we operate in the community. We understand the importance our customers place on reliable water services. Our staff provide 24-hour emergency services and are available to answer customers’ questions or concerns. We are committed to resolving customer calls in a timely and professional manner.

Our office location in White Rock has provided an improved environment for serving our customers. We continue to receive positive feedback from local residents about our convenient location and staff accessibility.

As a provider of essential services, it is a natural extension for us to support employee volunteering, donations and other initiatives that help create strong communities and healthy families.

Our community work in 2012 included quarterly meetings with the volunteer Community Advisory Panel (CAP), which represents customers and community and stakeholder groups. We prepared bi-annual customer newsletters that were mailed out with bills and posted on our website. They provide updates on water efficiency, quality and water operations.



EPCOR White Rock United Way Food Bank Drive

We communicate regularly with the City of White Rock to coordinate and align engineering/construction activities, maintenance and development services work.

We are proud to actively support the community of White Rock and we strive to build sustainable partnerships that enhance community life and promote wellness. These partnerships include: the Chamber of Commerce Business Excellence Awards, Semiahmoo House Society's 'A Taste of BC's Finest' event, the Peace Arch Hospital and Community Health Foundation's 'Partners in Caring' gala, the White Rock South Surrey Hospice Society's "Hike for Hospice" and the City of White Rock's "Canada Day by the Bay" and "Tour de White Rock".

We support the United Way, with employee donations directed to organizations of their choice. White Rock employees organized the EPCOR White Rock United Way Food Bank Drive and donated to the South Surrey/White Rock Food Bank.

HELPING HANDS GRANT

The Helping Hands Grant is available to any permanent EPCOR employee who volunteers 30 or more hours in a calendar year. The \$300 grant can be directed to any eligible non-profit or charitable community service organization that they recommend. For Betty Icharia, it makes sense to direct her grant to the organization where she also volunteers. Betty sits on the Peace Arch Hospital and Community Health Foundation's annual gala committee. She believes it's important to give back to an organization that plays such a vital role in the community.

50 BEST CORPORATE CITIZENS

Corporate Knights magazine named EPCOR one of the 50 Best Corporate Citizens in Canada for 2012. Corporations do not apply to be included on this list, but are instead ranked based on information sought out by the editors. Companies are assessed based on their environmental performance, including water and electricity efficiency, as well as social responsibility, diversity, transparent reporting and governance.

YOUR GUIDE TO A SMALLER FOOTPRINT

Our epcor.com website offers an extensive library of resources, including water efficiency and energy guides, plus tips, calculators and tools to help you save energy and water around your homes or small businesses. We also offer educational resources and games for children, parents and teachers through eSmartKids at esmarkids.epcor.ca.





CUSTOMER SERVICE INDEX							
ACTIVITY		2012	2011	2010	2009	2008	2007
Customer calls received, responded to and resolved	Meter Issues	38	57	142	35	82	111
	Aesthetic Issues: - Odour/manganese	42	39	45	100	33	56
	Backflow tests	311	322	283	51	157	41
	Water main breaks	9	10	10	12	10	11
	Line leaks/breaks	3	16	14	0	2	12
	Water Pressure	28	22	9	56	14	0
	Boil Water Notice related calls	0	0	251	N/A	N/A	N/A
	Total:	431	466	754	254	298	231
Customer satisfaction index*	Water Service Supplier	N/A	N/A	95%	N/A	N/A	N/A
	Quality of tap water	N/A	N/A	95%	N/A	N/A	N/A
Community Events Supported		7	10	7	8	10	8

* Customer survey conducted in 2010. The next customer survey will be conducted in 2013.

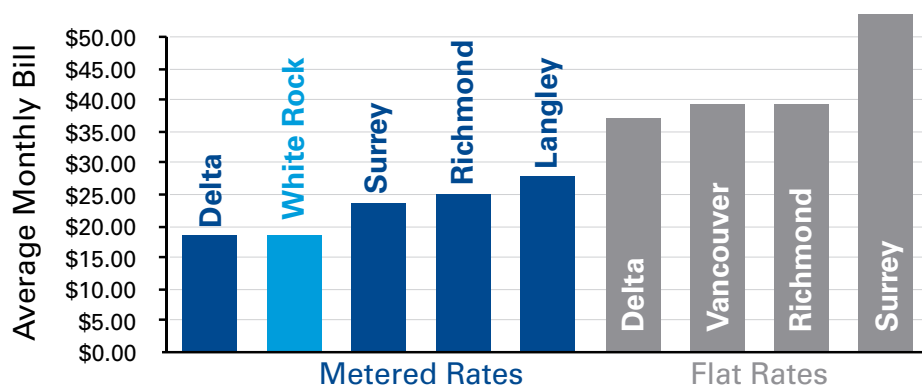
DID YOU KNOW...

A leaking toilet can double or triple your regular household consumption. Be a leak seeker and regularly check toilets, pipes, faucets and other water fittings for leaks and repair them immediately

If your toilet is more than 10 years old, it is probably a water waster. Replacing it with a new, efficient low-flush toilet will use between 50 per cent and 80 per cent less water per flush, depending on the model you buy. Blue food dye placed in the toilet tank can be used to test for leaks.

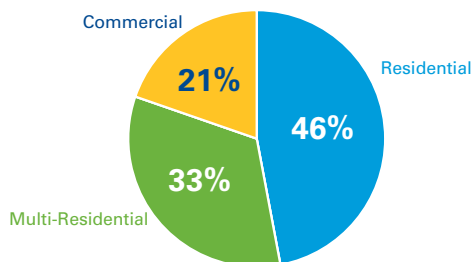
Comparative 2012 Residential Monthly Water Rates for the BC Lower Mainland

Based on average consumption of 825ft³ (or 23m³) per month

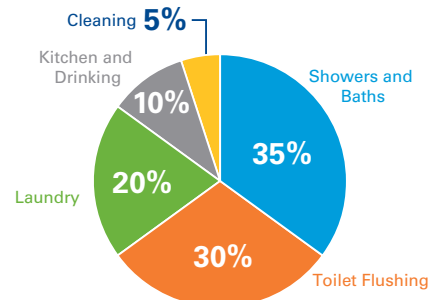


Source: 2012 municipal rates as listed in municipal bylaws and current online data.

2012 EPCOR White Rock Water Consumption By Customer Group



Typical Canadian Household Water Consumption



Source: Environment Canada, *Wise Water Use* — Website

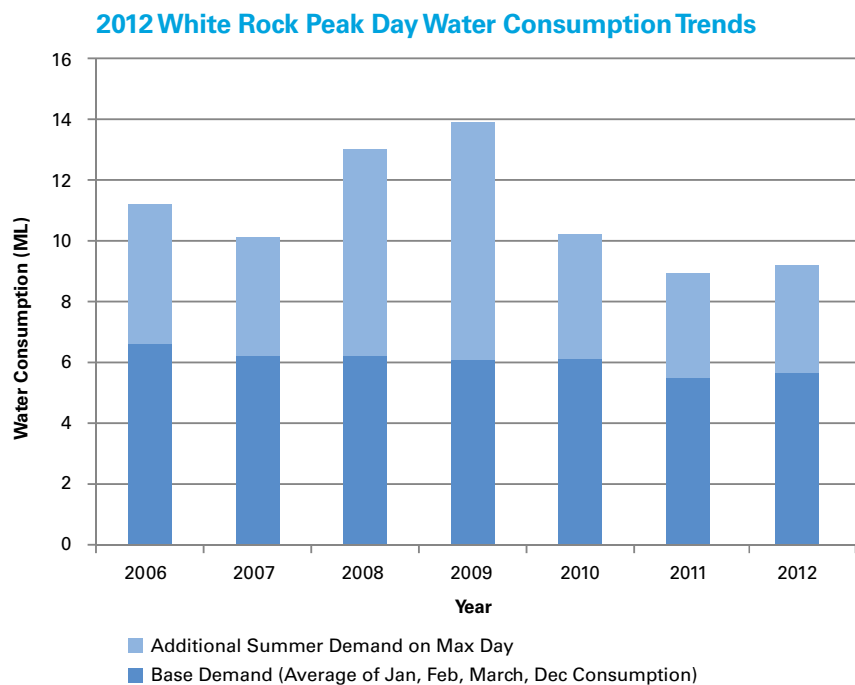
MAXIMUM DAY DEMAND (MDD)

On August 11, 2012, White Rock recorded peak water consumption for the year at 9.2 million litres of water. Average daily water consumption is 6.9 million litres per day.

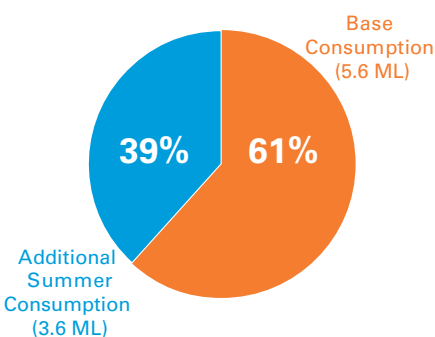
We track annual water consumption patterns to ensure that the White Rock system continues to provide sufficient water service to customers. Key to this tracking is the water consumption recorded on the “peak” day each year, the point of highest demand.

The record of peak demand enables us to design water system resources to meet all customer needs, including fire-fighting and high-use periods.

On August 11, 2012, White Rock consumed 9.2 ML (million litres) of water. Demand on the Peak Day is separated into a base consumption of about 5.6 ML and additional summer consumption of about 3.6 ML. By comparison, the 2011 maximum day total was 9 ML. White Rock’s average consumption is 6.9 ML a day.



2012 Peak Day Water Consumption



DID YOU KNOW:

On August 11, 2012 White Rock recorded peak water consumption for the year at 9.2 million litres of water. Average daily water consumption is 6.9 million litres per day.



SAFETY

KEEP WATER METERS CLEAR

- ✓ Expose the meter box
- ✓ Trim grass, plants, cedars, trees, shrubs, and hedges around the meter box
- ✓ Clear path to the meter box
- ✓ Remove flower pots from on top of meter box



In 2012, our staff and contractors in White Rock did not have a single lost-time incident.

People are at the heart of everything EPCOR does - and protecting the public and making sure our employees and contractors stay safe every day is a priority. In fact, our staff and contractors in White Rock did not have a single lost-time incident in 2012.

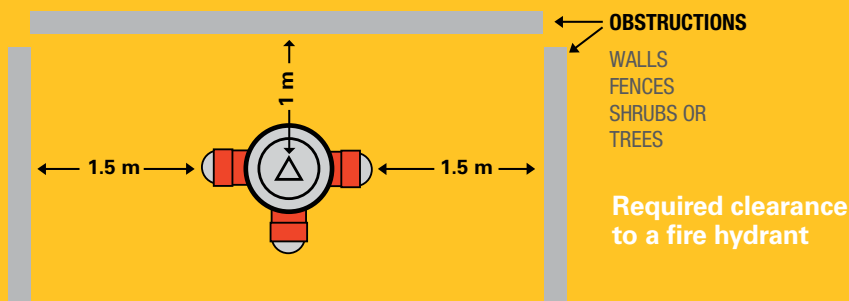
These positive results stem from our continual emphasis on safety training for existing staff, new employees and contractors. We work safe by conducting regular inspections in all work areas. All incidents are reported monthly and a target of zero is set annually.

- We maintained a Safety Performance Index to track safety and environmental activities at all White Rock facilities.
- We held preventive talks and site inspections and incorporated safe work plans into regular work activities.
- EPCOR Corporate Security and Safety conducted an annual review to identify risks and recommend actions to encourage prevention of incidents.
- We updated our Emergency Response Plan.



KEEP FIRE HYDRANTS CLEAR

Please help us provide a clear path to fire hydrants. It is important that the White Rock Fire / Rescue Department can quickly see and access hydrants in case of an emergency. It makes your neighbourhood safer if hydrants are not blocked by grass, shrubs or other items.



DID YOU KNOW...

EPCOR White Rock Water system operated with no lost time incidents for staff and contractors in 2012.



CAPITAL PROGRAM HIGHLIGHTS

We follow a comprehensive set of processes for identifying, approving and executing capital projects.

A water system Master Plan provides a long-term planning horizon to ensure that the waterworks infrastructure supports existing and future water demands and needs for the City of White Rock and surrounding area. The Master Plan includes an assessment of projected growth and demand patterns. It identifies areas such as system integrity and water sources to address capital infrastructure requirements.

Capital projects during 2012 included:

- Completion of a new well at our Merklin Street site, including pump and motor, controls and variable frequency drives.
- Completion of water main upgrades in Blackburn Avenue, Marine Drive, Merklin Street, George Street, Coldicutt Avenue and Finlay Street.
- Completion of a new water main tie-in for Bishop Road.
- Installation of transducers on all six White Rock wells to provide continuous monitoring of the wells as part of System Controls/ SCADA Upgrades. This is part of our 24/7 remote system monitoring to ensure safe and reliable water system operation.
- We replaced 45 meters in various sizes, installed four new hydrants and 87 new water service connections.
- We continued to develop and implement new security measures to protect White Rock's water supply.

ADDITIONAL WATER SUPPLY FOR THE COMMUNITY

We have a responsibility to meet observed and predicted water demands to ensure that the system remains safe, reliable and efficient.

Development continues in the City of White Rock. Our operators were kept busy in 2012 adding new water service connections for additional residential and commercial customers.

This increased development means more water consumption. We have a responsibility to meet observed and predicted water demands to ensure that the system remains safe, reliable and efficient.

For that reason, we completed the drilling, development and testing of a new well at the Merklin Street site in 2012 and tied it into the distribution system. The well, which is 145 metres deep (480 feet) and includes a chlorination system will be fully commissioned for operational use in 2013.



Drilling rig set-up



New well drilling



Merklin Well No. 7



WHAT'S AHEAD



QUALITY ASSURANCE

- We will work with our regulators, Fraser Health Authority and the BC Comptroller of Water Rights, to implement the recommendations from the Total Water Quality Management Project, if approved.
- We will continue our 24/7 monitoring of White Rocks' water quality, system operation and laboratory equipment to ensure the provision of safe and reliable water for our customers.

ENVIRONMENT

- We will continue to work with our customers to increase awareness of the need for efficient water use. We will focus on public awareness and education as part of our groundwater management and protection program.



OPERATIONAL EXCELLENCE

- We will encourage staff to attain highest levels of environmental and safety certification. This results in an increase of operational knowledge and, in turn, a safer and more productive work environment.

SAFETY

- We are committed to EPCOR's Safety Program to ensure the safety of the public and our staff. This includes further training in the Workplace Hazardous Materials Information System, the Transportation of Dangerous Goods, Construction Safety, Confined Space Rescue and Fall Protection.

CUSTOMER CARE AND COMMUNITY

- We will work to enhance customer communication to increase awareness of White Rock's water supply and the importance of using it wisely.
- We will continue to monitor, track and follow-up all customer inquiries and concerns.
- We will continue to support our community through event sponsorships, volunteering and other activities.

CAPITAL PROGRAM

- We will continue to update system security and SCADA controls.
- We will continue our ongoing capital maintenance program for water infrastructure to ensure system reliability and efficiency.
- Pending approval from the BC Comptroller of EPCOR's proposed Total Water Quality Management Project, we will implement capital construction recommendations from the project to meet current and future guidelines and regulations.

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