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## **BEDDIS WATER SERVICE COMMISSION ANNUAL GENERAL MEETING**

Notice of Meeting on Monday, November 20, 2017 at 10:00 AM  
Creekside Meeting Room, Suite 108 121 McPhillips Ave, Salt Spring Island, BC

Wayne McIntyre

Simon Wheeler

Ruth Waldick

Geoff Bartol

Doreen Hewitt

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### **Purpose of the Annual General Meeting**

The agenda for the Annual General Meeting (AGM) is approved by the members of the Commission. The purposes (and hence the agenda items) of the meeting are:

- To have the last year's AGM minutes approved (by Commission members), and to present reports on the work of the Commission on the past year's operation, maintenance, capital upgrades and financial information of the service to the service residents and owners,
- To nominate members for appointment to the Commission, and
- To enable the public to share comments on subjects which relate to the work of the Commission. The Commission can identify (under "new business") issues on which it wants feedback at the meeting. Motions raised by the public at the AGM will be considered by the commission at a subsequent regular meeting.

The Annual General Meeting is for the 2016 fiscal year.

### **AGENDA**

- 1. Call to Order**
- 2. Approval of Agenda**
- 3. Adoption of Minutes of the 2015 Annual General Meeting held on June 21, 2016**
- 4. Chair's Report**
- 5. Report**
  - 5.1 Annual Report for 2016 Fiscal Year**
- 6. Election of Officers**
- 7. New Business**
- 8. Adjournment**

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*To ensure quorum, advise Tracey Shaver 250 537 4448 if you cannot attend.*

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**Minutes of the Annual General Meeting of the Beddis Water Service Commission  
Held June 21, 2016 at the Portlock Portable Meeting Room, 145 Vesuvius Bay Road, Salt  
Spring Island, BC**

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**DRAFT**

**Present:**

**Director:** Wayne McIntyre

**Commission Members:** Simon Wheeler (Chair), Geoff Bartol, Doreen Hewitt

**Staff:** Karla Campbell, Senior Manager SSI Electoral Area; Keith Wahlstrom, Manager, Engineering SSI Electoral Area; Dan Robson, Manager, Saanich Peninsula and Gulf Islands Operations; Peggy Dayton, Senior Financial Analyst; Kyu-Chang Jo, Financial Analyst 2; Tracey Shaver, Recording Secretary

**Absent:** Ruth Waldick

**1. Call to Order**

The Chair called the meeting to order at 11:23 am.

**2. Approval of Agenda**

**MOVED** by Director McIntyre, **SECONDED** by Commissioner Wheeler,  
That the Beddis Water Service Commission Annual General Meeting Agenda of June 21, 2016 be approved.

**CARRIED**

**3. Adoption of Minutes of 2014 Annual General Meeting held September 14, 2015**

**MOVED** by Commissioner Wheeler, **SECONDED** by Commissioner Bartol,  
That the Beddis Water Service Commission minutes of September 14, 2015 be approved with the following amendments: correct the spelling of the word "drought" under item 4.1; insert under item 6.1 a statement to reflect an issue brought to staff's attention from the audience "A Beddis Water subscriber expressed concern over the levels of chlorine in the water he was receiving and questioned the decision not to incorporate the planned chlorine contact chamber when the new plant was installed".

**CARRIED**

**4. Chair and Director Reports**

**4.1 Chair**

Chair Wheeler provided a brief report.

- Lower lake levels with drought conditions
- Subscribers significantly reduced consumption
- Unplanned electrical control work. Expense covered by Capital Reserve Funds.
- Per Ruth Waldick: Water temperature rising = increased growth season for algae = increased treatment = increased undesirable by-products

#### 4.2 Commissioner Hewitt

Commissioner Hewitt provided a brief report

- Lake and rain measurements
- Lake in and out flows
- Lake temperature
- Grant funded restoration of vegetation at St Mary and Cushion lake

### 5. Reports

#### 5.1 Annual Report for 2015 Fiscal Year

Karla left the meeting at 11:33 am

Staff reviewed the various sections of the report including purpose, water production, quality, operations, capital improvements, and financials.

Karla returned to the meeting at 11:40 am

- request for extra funds to be included in 2017 Budget for repeat water testing when abnormal levels are found
- 2 out of 3 capital projects completed-Creekside pressure control station moved to 2016
- CRD is encouraging all surpluses to be transferred to capital or maintenance reserves
- New Toll Free Numbers for general enquires and reporting emergencies

### 6. Election of Officers

Commissioners Bartol and Wheeler agreed to stand for an additional term. No other nominations or objections were brought forward. Commissioners Bartol and Wheeler were nominated by acclamation for terms which begin in 2017.

### 7. New Business

The CRD will be inserting water conservation notices in the next billing cycle and developing roadside messages as reminders to visitors and all island residents.

### 8. Adjournment

**MOVED** by Commissioner Bartol, **SECONDED** by Commissioner Hewitt,  
That the meeting be adjourned at 12:30 pm.

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CHAIR

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SENIOR MANAGER



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# BEDDIS WATER SERVICE 2016 ANNUAL REPORT MONDAY, NOVEMBER 20, 2017

## Introduction

This report provides a summary of the Beddis Water Service for 2016. It includes a description of the service, summary of the water supply, demand and production, drinking water quality, operations highlights, capital project updates and financial report.

## Service Description

The Beddis Water Utility is a rural residential community located on Salt Spring Island. The service was created in 1969 as the Beddis Waterworks District and became a CRD service in 2004. The Beddis Water Utility (Figure 1) is comprised of 137 parcels of land of which 127 are presently connected to the system.

The utility obtains its drinking water from Cusheon Lake, a relatively small lake that lies within an uncontrolled multi-use watershed. The Capital Regional District (CRD) holds two licenses to divert a total of up to 102,850 m<sup>3</sup> per year. Cusheon Lake is subject to seasonal water quality changes and is affected by periodic algae blooms.

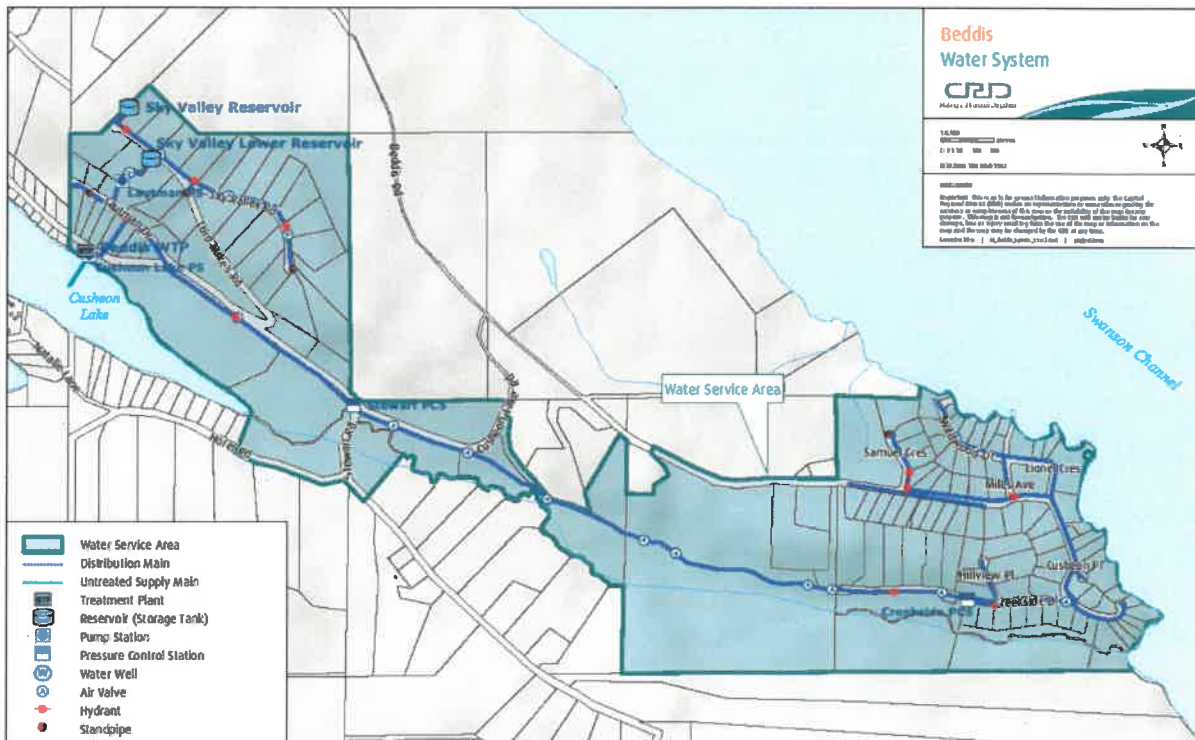


Figure 1: Beddis Water Service

The Beddis water system is primarily comprised of:

- a water treatment plant (WTP) that draws water from Cusheon Lake and treats it at a location on Cusheon Road approximately 250m west of Lautman Drive. The water is treated using a rapid mix system, flocculation, dissolved air floatation (DAF) and filters, then chlorination prior to being pumped, via the distribution system to reservoirs. The water treatment plant (WTP) design flow is rate is 16.35 m<sup>3</sup>/hour (60 lpm);
- approximately 7,200 m of water distribution pipe;
- 2 water reservoirs – one 45 m<sup>3</sup> (10,000 lg) and one 76 m<sup>3</sup> (16,700 lg);
- fire hydrants, standpipes, and gate valves;
- water service connections complete with water meters;
- 2 pressure reducing valve stations – one at Stewart Road and one on Creekside Drive.

### Water Production and Demand

Annual water production since 2011 is shown in Figure 2. A total of 27,304 m<sup>3</sup> of water was abstracted from Cusheon Lake in 2016. This is 17.9% increase from 2015, and 5.1% greater than the average production since 2011 (25,986 m<sup>3</sup>).

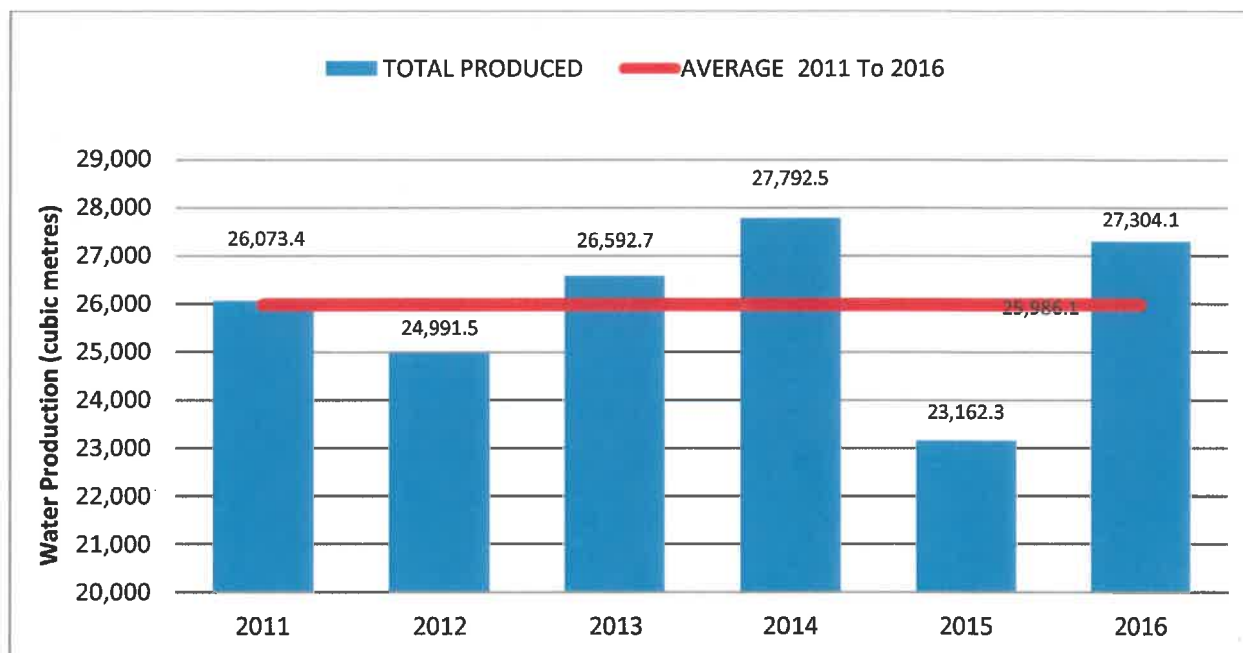
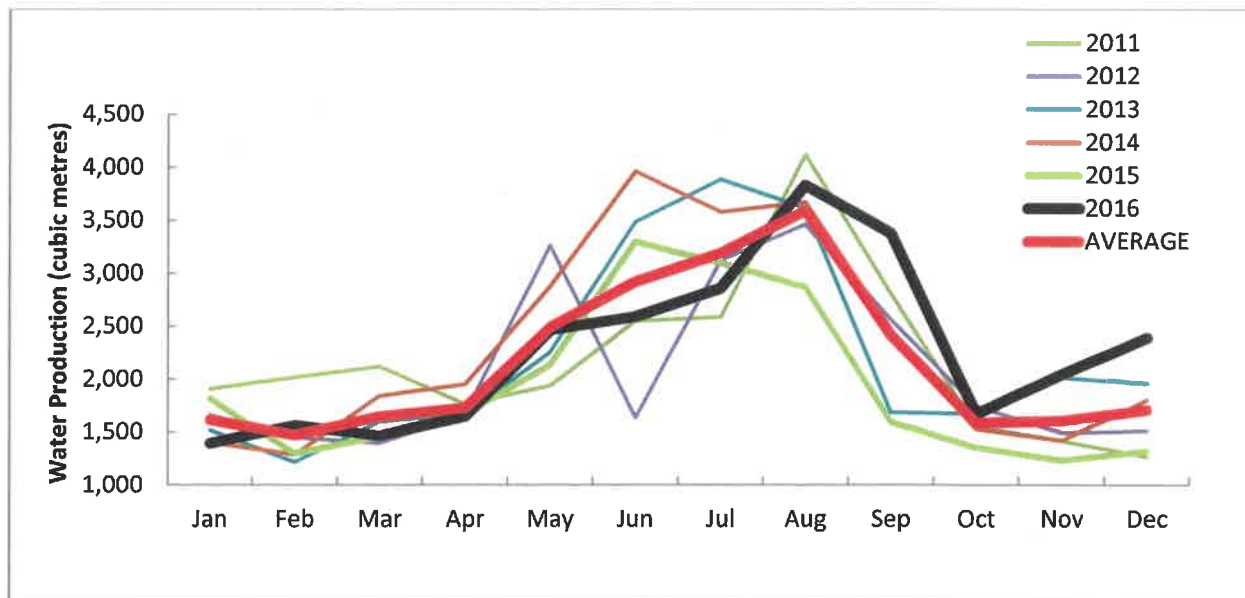


Figure 2: Total Annual Water Production 2011 to 2016



**Figure 3: Water Production by Month 2011 to 2016**

The Beddis Water System is fully metered, and water meters are read every three months. Water meter data enables water production and consumption to be compared in order to estimate leakage losses in the distribution system. The difference between water produced and water sold (total metered consumption) is called non-revenue water and includes distribution leaks, meter error, and unmetered uses such as fire hydrant usage, distribution system maintenance, and process water for the treatment plant. Table 1 summarizes the data for the last 5 years.

The volume of water sold was essentially the same from 2015 (19,634 m<sup>3</sup>) to 2016 (19,604 m<sup>3</sup>) indicating the request to conserve water has been effective for two consecutive years and that the increase was a result of leaks within the system. The 2015 consumer water use decreased as a result of the drought experienced and the direct appeal to customers to use less water.

**Table 1: Non-Revenue Water (Water Produced Versus Water Sold)**

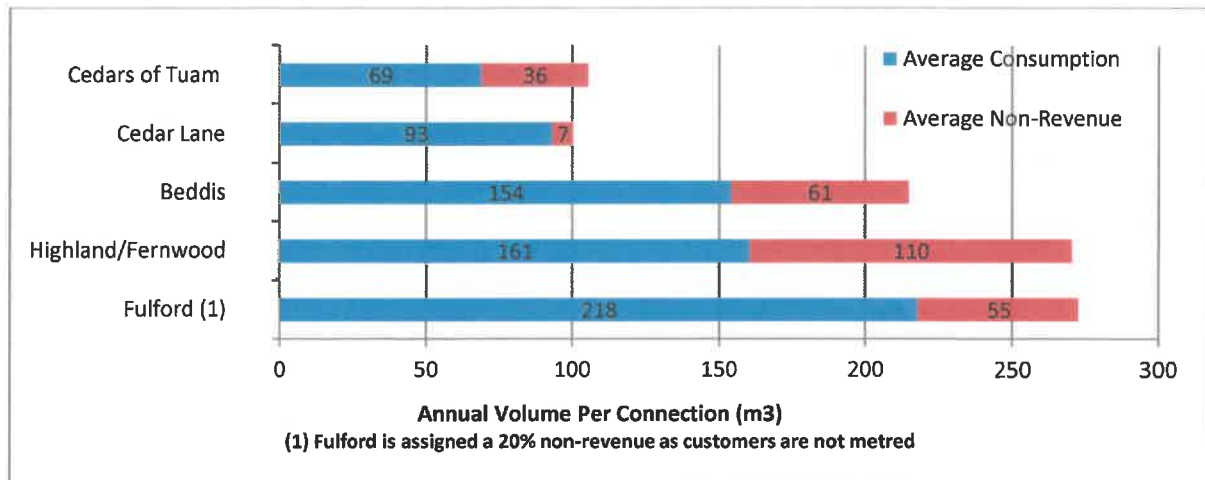
Year	2012	2013	2014	2015	2016
Produced (m <sup>3</sup> )	24991.5	26592.7	27792.5	23162.3	27304.1
Metered (m <sup>3</sup> )	21206.0	20770.0	21983.0	19634.0	19604.0
Unmetered (m <sup>3</sup> )	3785.5	5822.7	5809.5	3528.3	7700.1
Unaccounted	15.1%	21.9%	20.9%	15.2%	28.2%

This amount of non-revenue water is considered high but likely due to on-going process water requirements as well as two significant water leaks this year.

The average single-family residence in the Beddis Water System used 154 m<sup>3</sup> in 2016, essentially unchanged from the 2015 use of 155 m<sup>3</sup>.

Monitoring of future years' flows will help determine if the water users are, as with other water service areas, seeing a reduction in water use as a result of conservation efforts and declining indoor water use resulting from the use of low flow fixtures and high efficiency appliances.

An average water demand by residential service connection for water service areas operated by the Capital Regional District (CRD) on Salt Spring Island is shown in Figure 4. This comparison shows that Beddis customers are mid-level users when compared to other service area customers.



**Figure 4: 2016 Average Annual Consumption and Non-Revenue Volumes Per Customer/Connection - CRD Salt Spring Water Systems**

## Water Quality

In 2016, the analytical results of water samples collected from the Beddis Water System showed that the drinking water supplied to the customers was generally of good quality. The DAF treatment system functioned well and was able to produce good quality drinking water under varying source water conditions. Three disinfection by-product test results from samples at the far end of the distribution system exceeded the limits in the Guidelines for Canadian Drinking Water Quality (GCDWQ). CRD staff is committed to constantly reviewing current practices and if necessary making adjustments to the treatment process to minimize the number and magnitude of any exceedances.

The data below provides a summary of the water quality characteristics in 2016:

- The raw water exhibited typically low concentrations of total coliform and *E. coli* bacteria throughout the year with periods of higher concentrations of total coliforms during the summer months.
- No parasitic oocysts and cysts (*Cryptosporidium* and *Giardia*) were detected.
- The raw water samples indicated fluctuating and elevated concentrations of iron and manganese. Episodes of elevated iron and manganese concentrations can lead to discolouration of the drinking water (only an aesthetic problem).
- The raw water was soft (median hardness 33.7 mg/L CaCO<sub>3</sub>).
- The raw water turbidity (cloudiness) was generally around or slightly above 1 NTU with some higher peaks in the fall when algal blooms occurred (Sept). Highest recorded raw turbidity was 5.00 NTU on September 7.
- The mean annual total organic carbon, and indicator of organic compounds and material in the lake water, was a moderate 5.85 mg/L.
- The treated water was bacteriologically safe to drink. One sample from Wildwood Rd on July 20 tested positive for total coliform bacteria, however a resample did not confirm this

result.

- The treated water turbidity was typically well below the turbidity limit of 1.0 NTU with a range from 0.07 NTU to 0.76 NTU.
- The mean annual levels of disinfection by-products (TTHM and HAA) across the distribution system were below the 100 µg/L and 80 µg/L limits in the GCDWQ. However, we recorded exceedances on three occasions: TTHM reached 112 µg/L on June 10, 121 µg/L on August 3 and 110 µg/L on November 16 at the Samuel standpipe. Likely high water age in the pipes leading up to these standpipes are the cause for the higher concentrations.
- The treated water total organic carbon (TOC) was higher than during the previous year, with a median value of 2.56 mg/L compared to 1.88 mg/L in 2015. There is currently no guideline in the GCDWQ for TOC levels, however the USEPA suggests a treated water TOC concentration of < 2 mg/L as confirmation of effective treatment and disinfection by-product control.
- On November 16, one sample from the distribution system exceeded the aesthetic limit for manganese concentration (55.6 µg/L). Such exceedances can lead to water discolourations. All other metal concentrations in the treated water were well within the Canadian Guidelines limits.

Water Quality data collected from this drinking water system can be reviewed on the CRD website: <https://www.crd.bc.ca/about/data/drinking-water-quality-reports/salt-spring-island-water-quality-reports/beddis-water-quality-reports>

## OPERATIONS

Weekly operations of the Beddis water system is provided by an on-island contract operator under agreement with the CRD. The contract operator performs routine scheduled activities such as system checks, water sampling for laboratory analysis and minor preventative maintenance activities all under the direction of the CRD as detailed in the operations agreement. The contractor also performs more significant preventative and corrective maintenance activities at the request of the CRD. These types of activities may include water system flushing, leak detection, and water leak repairs. In addition to operation and maintenance activities, the on-island contractor also provides stand-by and emergency callout response duties.

Additional operational support and guidance is provided by CRD personnel who typically perform more preventative or corrective maintenance in relation to the electrical and communication electronic equipment. Other operational support provided by the CRD include emergency response and remote water system monitoring and control using the CRD's Supervisory Control and Data Acquisition (SCADA) equipment. The SCADA system is used to alert the on-island contractor and if necessary CRD standby operations staff of a potential water system fault (e.g. reservoir low water level).

The on-island contract operator attended to regular weekly, monthly and annual operational duties as detailed in the Beddis water system operating agreement. The contractor however also performed additional services related to either emergency response, additional maintenance activities or capital improvement work.

Table 2 below details the additional work performed by the on-island contractor:



**Table 2: Additional work completed by contract operator**

TASK	NOTES
Leak repairs (3)	Water system leak repairs: 1.) Creekside at Hillview Place. The leak was the result of tree root intrusion. 2.) 441 Sky Valley. The leak was the result of tree root intrusion. The repair work included the removal of a large tree. 3.) 125 Creekside. Service line leak.
Pump repair	Replaced mechanical seals on the treated water booster pumps. These pumps are located at the water treatment plant.
Raw water intake inspection and cleaning	Assist the diving contractor with the annual raw water intake inspection and cleaning
Water system flushing	Annual water system flushing preventative maintenance program.
Emergency response to a water concern from the public	As a result of a water quality complaint, additional water system flushing was performed by the contractor in a localized area of the water system. The water quality concern was related to discoloured water and likely an isolated incident.
DAF cleaning	Drained, cleaned and inspected the dissolved air floatation (DAF) flocculation chambers. This activity is part of a preventative maintenance program to ensure the water treatment process functions optimally.

## CAPITAL IMPROVEMENTS

The following three capital projects were planned for 2016:

1. Creekside Pressure Control Station Rebuild (\$50,000 allocated, \$2,064 spent). This project was put on hold in 2015 as there have been WorkSafeBC concerns raised relative to confined space entry requirements and an additional \$25,000 was allocated in 2016 to help address those concerns. An operational review of how maintenance is performed at the location and the impact of creating a non-confined space facility was completed. The increased cost to construct the non-confined space was deemed not to be warranted at this time (there is a relatively new pressure control station at Stewart Road that requires confined space entry as well, therefore staffing and the required safety equipment is already being deployed). This project was not completed in 2016 due to the required review, however, the mechanical components were ordered in late 2016 with the expectation the mechanical re-building will be done in early 2017 and the access hatch improvements later in 2017.
2. Safety Equipment (\$10,000 allocated, \$7,642 spent). Work included purchasing equipment and completion installations so potassium permanganate can be added to the water to reduce precipitate in the system. The project is complete.
3. Install Additional Backwash Fresh Water Tank (\$8,000 allocated, \$89 spent). This project was not completed in 2016 due to the need to review suitable tank options, review of alternatives to additional tankage and the overall workloads. The review reconfirmed an additional tank would be the most cost effective and reliable solution and the work is

scheduled for early 2017.

## 2016 FINANCIAL REPORT

Please refer to the attached [Statement of Operations](#). Revenue includes parcel taxes (Transfers from Government), fixed user fees (User Charges), consumption based revenue (*Water Sales*), interest on savings (Interest Earnings), a transfer from the maintenance reserve account, and miscellaneous revenue such as late payment charges (Other Revenue).

Expenses includes all costs of providing the service. General Government Services includes budget preparation, financial management, utility billing and risk management services. CRD Labour and Operating Costs includes CRD staff time as well as the costs of equipment, tools and vehicles. Debt servicing costs are interest and principal payments on long term debt. Other Expenses includes all other costs to administer and operate the water system, including insurance, supplies, water testing and electricity.

The difference between Revenue and Expenses is reported as Net Revenue (expenses). Any transfers to or from capital or reserve accounts for the service (Transfers to Own Funds) are deducted from this amount and it is then added to any surplus or deficit carry forward from the prior year, yielding an Accumulated Surplus (or deficit) that is carried forward to the following year.

2016 User Fee charges were \$561.10 per Single Family Equivalent (SFE) and 2016 Parcel Tax charges were \$549.99 per Taxable Parcel.

The balances in the Beddis Water service capital funds and reserve accounts at December 31, 2016 were:

Description	Balance at end of 2016
Maintenance Reserve Account	\$18,648
Capital Reserve Fund (1069 101894)	\$36,825
Funds remaining to spend on projects in progress (WLA3193)	\$23,852
Funds remaining to spend on projects in progress (WLA3825)	\$55,809

### Water System Problems - Who to Call:

To report any event or to leave a message regarding the Beddis Water System, call either:

<b>CRD water system emergency call centre:</b>	<b>1-855-822-4426 (toll free)</b>
<b>CRD water system emergency call centre:</b>	<b>1-250-474-9630 (toll)</b>
<b>North Salt Spring Waterworks District (contract operator):</b>	<b>250 537-9902</b>
<b>CRD local operator (Ganges Wastewater Treatment Plant):</b>	<b>250-537-4314</b>
<b>CRD water system general enquiries (toll free):</b>	<b>1-800-663-4425</b>

When phoning with respect to an emergency, please specify to the operator, the service area in which the emergency has occurred.

The toll free number for reporting emergencies was piloted in 2016. Its use was monitored and evaluated during the year and it has been decided to continue using it. Periodic reviews will be undertaken, but there is presently no plan to terminate its use.

Submitted by:	Matt McCrank, M.Sc., P.Eng., Senior Manager, Infrastructure Operations
	Glenn Harris, Ph.D., R.P.Bio., Senior Manager, Environmental Protection
	Rianna Lachance, BCom, CPA, CA, Senior Manager Financial Services
	Karla Campbell, Senior Manager, Salt Spring Island Electoral Area

KW/DR/KC:ts

## CAPITAL REGIONAL DISTRICT

### BEDDIS WATER

#### Statement of Operations (Unaudited) For the Year Ended December 31, 2016

	2016	2015
<b>Revenue</b>		
Transfers from government	71,590	71,590
User Charges	71,262	57,531
Sale - Water	70,491	71,927
Other revenue from own sources:		
Interest earnings	107	117
Other revenue	506	493
Transfer from Operating Reserve Account		
<b>Total revenue</b>	<u>213,956</u>	<u>201,658</u>
<b>Expenses</b>		
General government services	7,820	7,820
Contract for Services	65,528	55,607
CRD Labour and Operating costs	14,912	13,715
Debt Servicing Costs	66,539	71,341
Other expenses	43,351	41,028
<b>Total expenses</b>	<u>198,150</u>	<u>189,510</u>
<b>Net revenue (expenses)</b>	15,806	12,148
Transfers to own funds:		
Capital Reserve Fund	6,550	20,328
Operating Reserve Account	9,256	3,710
<b>Annual surplus (deficit)</b>	-	(11,890)
Accumulated surplus, beginning of year	-	11,890
<b>Accumulated surplus, end of year</b>	<u>\$ -</u>	<u>0</u>

## CAPITAL REGIONAL DISTRICT

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### BEDDIS WATER

#### Statement of Reserve Balances (Unaudited) For the Year Ended December 31, 2016

	Capital Reserve	
	2016	2015
<b>Beginning Balance</b>	72,524	99,693
Transfer from Operating Budget	6,550	20,328
Transfers from completed capital projects	-	2,131
Interest Income	751	1,121
Transfer to Capital Project	(43,000)	(50,750)
<b>Ending Balance</b>	<u>36,825</u>	<u>72,523</u>

	Operating Reserve	
	2016	2015
<b>Beginning Balance</b>	8,710	5,000
Transfer from/(to) Operating Budget	9,256	3,710
<b>Ending Balance</b>	<u>17,966</u>	<u>8,710</u>