



Making a difference...together

**CEDARS OF TUAM WATER SERVICE
ANNUAL REPORT ON OPERATIONS
27 SEPTEMBER 2010**

The following information is provided for the Cedars of Tuam water service area.

Operations and Projects

The Cedars of Tuam water system has operated reliably and within budget in the past year. The well has consistently met system demand without drawdown beyond the normal operating range. No water was required to be trucked in to augment the well, and an adequate quantity of water has been maintained in the storage reservoir throughout the year. Beyond routine operation and maintenance, the only work required on the distribution system was a repair in 2009 of a leaking service connection, which had previously been inactive for an extended period of time with the leak isolated.

Currently, the only means of vehicle access to the well site is by permission of the land owner to use his private driveway. Limited access to the well site has had only a minor impact on operation of the system in the past year. Generally CRD staff have been permitted to access the well site by vehicle via the owner's driveway, but to avoid damage to the owner's property particularly during wet weather, operators have been required to walk a significant distance to deliver supplies and to operate the well system and reservoir.



Figure 1. Vortex Filter Installed in Pumphouse

Although the existing well has operated reliably in the past year, in previous years it has not been capable of meeting system demand. At the 2009 Annual General Meeting of the Cedars of Tuam Water Service, staff reported that efforts over several years to secure a new source of water for the service area within the available capital budget had proven unsuccessful. The committee stated its intention to focus available resources on drilling and testing a well at the site of the former Isabella Point School, at the intersection of Isabella Point Road and Meadow Drive. At that time, securing permanent access to a portion of the school property for a well installation did not appear feasible within the available budget and grant timeline due to legal constraints imposed by a provincial land grant. However, staff determined in June 2009 that the Gulf Islands School District could establish a right of way on the property for CRD community water supply purposes without requiring the more onerous provincial land transfer process.

In the summer of 2009, the School District granted approval for the CRD to drill and test a well on the Isabella Point site and the future establishment of a right of way for development and use of a well, subject to the opportunity to use some of the water from a viable well for future school uses on the property. At its 16 November 2009 budget meeting, the Cedars of Tuam Water Service Committee directed staff to proceed with drilling and testing a well at the Isabella Point School site and obtaining an agreement with the Gulf Islands School District for its use (budget \$50,000); and providing improved filtration and a remote monitoring system and for the existing well system (budget \$30,000). The current status of the work is as follows:

- The Isabella Point well has been completed to a depth of 67m, where the anticipated major bedrock fracture zone was encountered. The well has been evaluated by a consulting hydrogeologist, and rated to a

sustainable yield of 1.8 litres per second (about 23 lgpm) based on a 72-hour drawdown test. The quality of the water is suitable for drinking water supply, although treatment to reduce manganese may be required. The wellhead has been protected from vehicle traffic and has been capped and locked to prevent contamination. A covenant on title and agreement for use of the well have not yet been completed with the School District.

- A SCADA (remote monitoring) system and a vortex supply line filter are installed and operating at the existing well site. The system now enables the operator to remotely monitor well pump and chlorine pump on/off status, well pump thermal overload status, reservoir level, and a switch indicating that the pumphouse door is open. The remaining work to be completed includes programming the SCADA system to allow remote adjustment of system settings by an operator.

The original upgrade project budget established in 2003 upon conversion of the service to the Capital Regional District was \$100,000, of which \$66,667 was a grant under the BC Community Water Improvement Program (BCCWIP), \$24,000 was provided through a borrowing under the Municipal Finance Authority, and the balance of \$9,333 was to be provided from cash reserves of the former Cedars of Tuam Water District (\$9,187 was actually transferred). In November 2009, at the request of CRD Salt Spring Island Electoral Area Director Garth Hendren, the CRD Board assigned \$30,400 in Community Works (Gas Tax) funding to the Cedars of Tuam upgrade project, increasing the project budget to \$130,400. Of this, a total of \$106,004 is spent or committed (Table 1).

Table 1. Project Financial Summary

| Project Activity | Start Date | Finish Date | Actual Expense to 13 Aug 2010 | Estimated Expense to complete | Total Expense |
|---|-------------------|--------------------|--------------------------------------|--------------------------------------|----------------------|
| Engineering and Project Management | 10/12/2003 | 16/06/2010 | \$ 18,170 | \$ 500 | \$ 18,670 |
| Existing Well - Chlorination and Mechanical Upgrade | 31/10/2008 | 31/12/2008 | \$ 8,883 | | \$ 8,883 |
| Existing Well - Filter Upgrade | 31/03/2010 | 25/07/2010 | \$ 1,253 | \$ 200 | \$ 1,453 |
| Existg Well - SCADA | 21/03/2010 | 01/08/2010 | \$ 8,954 | \$ 1,000 | \$ 9,954 |
| Existing Well - Inspection and Rehabilitation | 31/03/2008 | 30/11/2008 | \$ 9,878 | | \$ 9,878 |
| New Well at Isabella Point School | 31/12/2009 | 23/08/2010 | \$ 50,908 | | \$ 50,908 |
| Investigation of Potential Well Sites | 10/12/2003 | 26/08/2009 | \$ 6,258 | | \$ 6,258 |
| TOTAL | | | \$ 104,304 | \$ 1,700 | \$ 106,004 |
| Funding Source | | | | | Funding |
| Community Water Improvement Program Grant | | | | | \$ 66,667 |
| Municipal Finance Authority Loan (LA Bylaw 3024) | | | | | \$ 24,000 |
| Reserve Funds (transferred to project 2006) | | | | | \$ 9,187 |
| Gas Tax Grant 2009 | | | | | \$ 30,400 |
| TOTAL | | | | | \$ 130,254 |
| Available funding remaining for further project work | | | | | \$ 24,250 |

Staff are working with the Cedars of Tuam Water Service Commission to determine plans and priorities for the use of the remaining project budget of \$24,250.

Water Supply and Demand

Due to the presence of silt in the raw well water, the water production meter has not operated consistently and reliably in the past year so well production data are unavailable for 2009. Based on prior data and stable reservoir levels, there is minimal leakage in the Cedars of Tuam water distribution system.

Total water demand in the Cedars of Tuam service area in 2009 was 1,594 cubic metres (m³), about 4% less than 2008 (1,656 m³) and 9% less than 2007 (1,761 m³). The three-year water use trend is shown in Figure 2.

Water Consumption per Billing Period, 2007-2009
 Cedars of Tuam

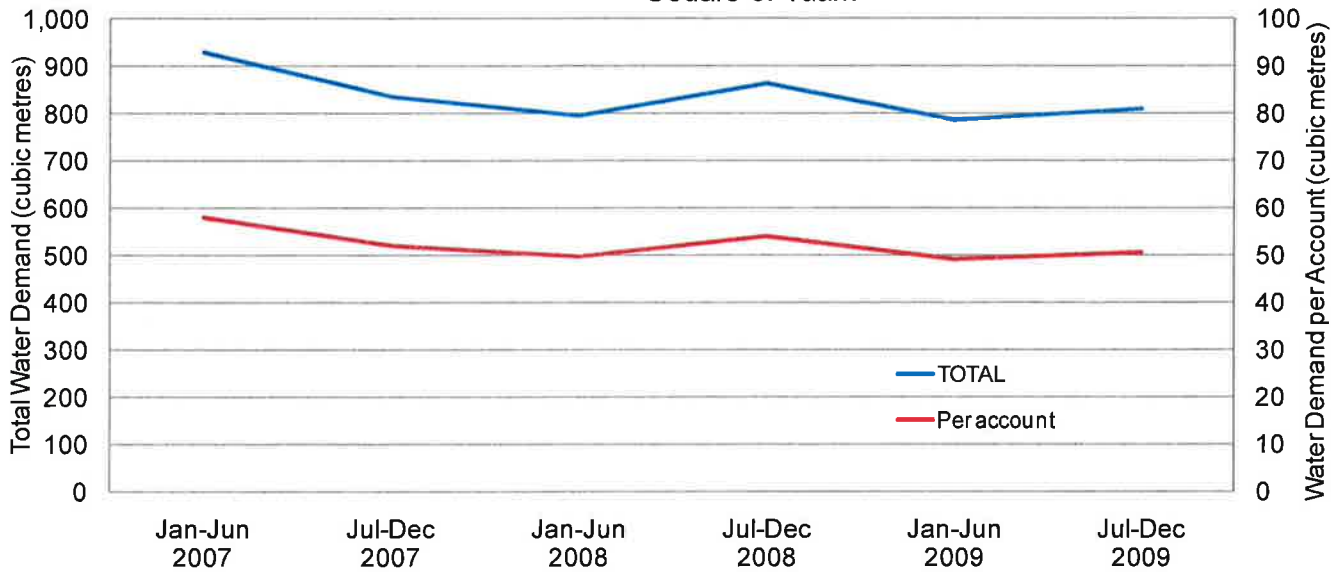


Figure 2. Water Consumption Trend

Water demand per average household decreased from 104 m³ in 2007 to 100 m³ in 2008. As shown in Figure 3, there is a wide range of annual usage in the service area, reflecting that several dwellings are unoccupied for a significant portion of the year, and that some dwellings have only a single full-time occupant. However, even the highest user in the Cedars of Tuam area uses less water per year than an average single-family dwelling in Greater Victoria, and only marginally more than an average customer of a water system with a surface water source on Salt Spring.

Water Consumption per Customer, 2007-2009
 Cedars of Tuam

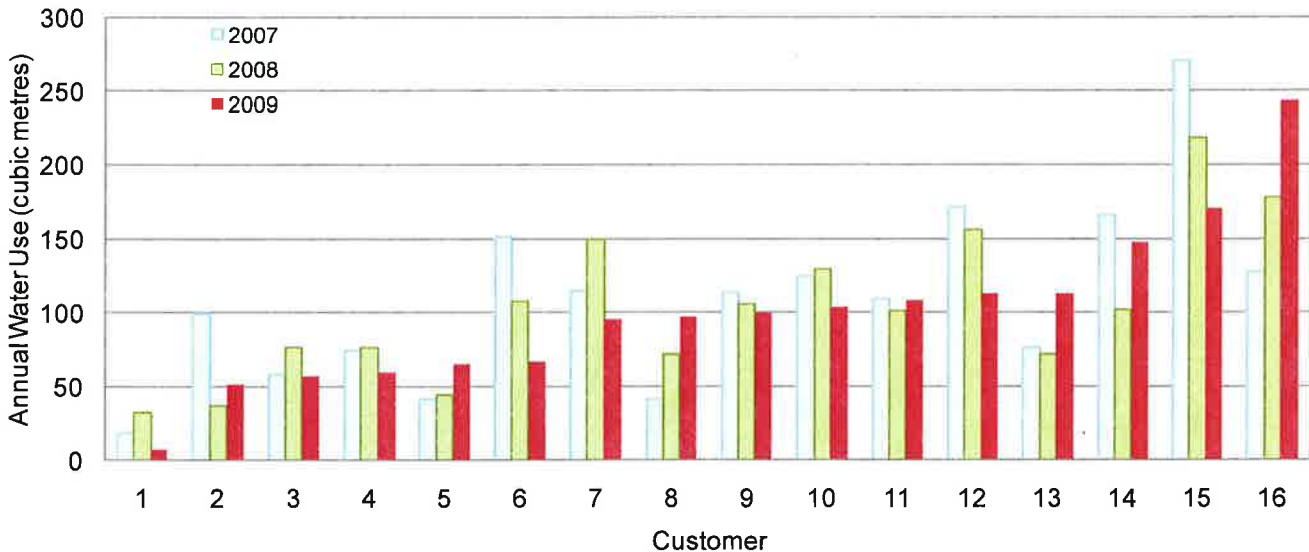


Figure 3. Water Consumption per Customer

Water Quality

Water delivered to the Cedars of Tuam service area is safe to drink, and typically meets the guidelines set out in the Health Canada *Guidelines for Canadian Drinking Water Quality (GCDWQ)* and the requirements of the British Columbia *Drinking Water Protection Act and Regulation* as administered by the Vancouver Island Health Authority (VIHA). Water is sampled and tested by a certified water quality laboratory as follows:

- Monthly at the source, reservoir and standpipes at both extremities of the distribution system for total and fecal coliforms, E. Coli and non-coliform bacteria
- Monthly at the reservoir for total plate count and turbidity
- Twice annually (May and September) at two random customer connections for total organic carbon and trihalomethanes (THMs, which are potentially carcinogenic disinfection by-products)
- Twice annually (May and September) at the source and one random customer connection for pH and metals.

In addition to these samples, the operator routinely conducts field tests for residual chlorine, temperature and pH of the water in the distribution system. Water quality complaints in the Cedars of Tuam area before 2009 were typically related to high chlorine levels. As a result of improvements to the well system completed late in 2008, residual chlorine in the distribution system has consistently remained within the optimum range of 0.25-0.5 mg/l since that time.

Bylaw Changes

The CRD bylaws that establish committees to administer water and sewer services in the Salt Spring Island Electoral Area, and the fees and charges for those services, were consolidated by the CRD Board earlier this year. These changes maintain existing administrative and cost recovery structures. One noticeable change is that the committees have been renamed as commissions, although their delegated authority has not changed. The other visible change is that billing for the Cedars of Tuam water service now occurs four times per year at the end of March, June, September and December. The changes will not impact the annual cost of water service.

The other changes are Turn-on and Turn-off fees will increase from \$25 during working hours and \$75 during non-working hours to \$50 and \$200, respectively. The late payment fee is revised from 10% per annum to 2.5% per billing cycle for amounts outstanding more than 30 days past the date of issue of the bill.

2009 Financial Report

Attached is a copy of the *Statement of Financial Activities* as prepared by CRD Finance and Corporate Services for the year 2009. The statement provides an overview of the revenues and expenditures for the year. Revenues are generated primarily through user fees (fixed and variable based on water use), and small amounts for interest on savings and miscellaneous revenue such as late payment charges.

Expenditures include all costs to administer the service. General government services are charges levied by CRD Corporate Services for the financial processing of the budget and collection of fees and charges. Other includes all expenses needed for the operation of the service including all CRD labour costs for day to day operations, CRD service personnel hours performing maintenance and repairs, chemicals, electricity, water testing costs, maintenance parts allowances for electrical and mechanical equipment, rental or equipment as necessary and allowances for technical and staff support to the committee, and for the payment of debt.

The difference between revenue and expense is added to any surplus or deficit carried forward from the prior year. If there is a significant surplus, funds may be transferred to a reserve or capital project account. The surplus or deficit balance after any transfers is carried to the following year. Regional District services are not permitted to plan to carry forward a deficit, so a deficit in a given year usually requires a tax or fee increase in the following year to recover costs and prevent a subsequent deficit.

The Cedars of Tuam 2009 revenue of \$19,353 consists almost entirely of user fees. The total expenditures for 2009 were \$20,049, of which \$2,439 is the annual cost of borrowing for capital work, and the remainder is the cost of

operation and administration of the service. A breakdown of operating expense is shown in Figure 4.

Cedars of Tuam 2009 Actual Operating Expense \$20,049

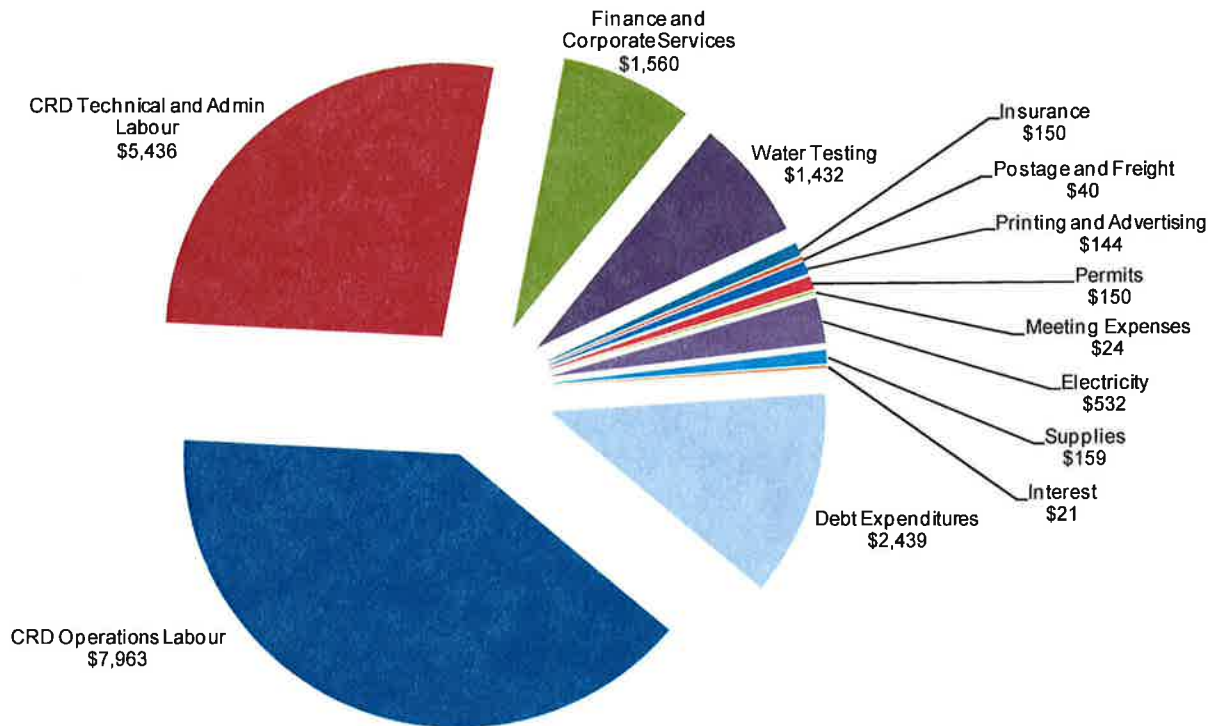


Figure 4. 2009 Operating Expense

The difference between revenue and expenditures in 2009 amounted to a net expense of \$696 at year end. This amount was offset by a \$935 surplus carried forward from 2008, leaving a surplus of \$239 carried forward to 2010. The current balance in the Cedars of Tuam Capital Reserve Fund is \$4,704, and the available balance in the capital project fund is \$24,250.

Water System Problems - Who to Call:

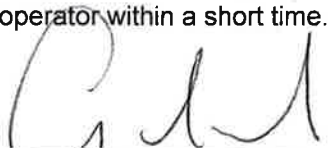
To report any event or to leave a message for the Cedars of Tuam water system operator:

First Call: 250-537-4314

If you do not reach someone at 250-537-4314, please report emergency events directly to:

1-250-388-6275 - ask for pager 2614

When connected to the pager message system, please leave your name, your phone number, a brief description of the problem and that the problem is with the **Cedars of Tuam** water system. Expect a phone call from a CRD duty operator within a short time.


 Colwyn Sunderland, ASCT
 Local Services Engineering Coordinator


 Ted Robbins, B.Sc., C.Tech
 Senior Manager, Water Management Division
 Concurrence

CS:ls

CAPITAL REGIONAL DISTRICT

WATER REVENUE FUND

Statement of Financial Activities (Unaudited)

For the year ended December 31, 2009

| | | Cedars of Tuam Water Supply |
|---|----|-----------------------------------|
| Revenue | | |
| Transfers from government | \$ | - |
| Sale of services | | 19,278 |
| Other revenue from own sources: | | |
| Interest earnings | | 2 |
| Other revenue | | 73 |
| Grants in lieu of taxes | | - |
| | | <u>19,353</u> |
| Expenses | | |
| General government services | | 1,560 |
| Grants in aid | | - |
| Other | | 18,459 |
| Salaries and wages | | - |
| Other fiscal services | | 30 |
| Recovery | | - |
| | | <u>20,049</u> |
| Net revenue(expenses) | | (696) |
| Transfers to own funds: | | |
| Water Capital Fund | | - |
| Reserve Funds | | - |
| Equipment Replacement Fund | | - |
| Transfers from own funds: | | |
| Reserve Funds | | - |
| Annual Surplus | | (696) |
| Accumulated surplus, beginning of year | | 935 |
| Accumulated surplus, end of year | \$ | <u>239</u> |