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**REPORT TO CEDARS OF TUAM WATER SERVICE COMMITTEE
MEETING OF MONDAY 15 MARCH 2010**

SUBJECT **CAPITAL PROJECT UPDATE**

PURPOSE

To provide for information an update on the status of capital works relating to the Cedars of Tuam water service area.

BACKGROUND

The Capital Regional District (CRD) has been working for several years to locate and develop a cost-effective alternative water source for the Cedars of Tuam water utility. The existing well and pumphouse were renovated in 2008, including the installation of a control loop for chlorine dosing. Although significant operating problems were resolved by this work, the capacity and reliability of the water source remain marginal to serve the current needs of the community, and will not sustain any future growth in demand such as may occur if occupancy of existing dwellings increases. The available funding is inadequate to develop and connect a new water supply source to the Cedars of Tuam water system, and the potential to improve the existing well is limited due to its location in a restricted right of way on private property outside the service area.

New Well at Isabella Point School Site

At the meeting of 16 November 2009, the Cedars of Tuam Water Service Committee directed staff to proceed with drilling and testing of a well on property owned by School District #64 at the site of the former Isabella Point School. Permission was granted by the School Board to proceed with drilling and testing, subject to negotiation of a suitable agreement with the CRD as a prerequisite for use of a portion of the site for community water supply purposes (may include well, pumphouse and reservoir).

The CRD retained Thurber Engineering Consultants Ltd. to oversee the development and testing of a well on the site, including regulatory approvals. Thurber obtained three quotations for drilling and testing, and on recommendation by the CRD selected low bidder Red Williams Well Drilling Ltd. Site preparation (clearing, grubbing and placement of a gravel working surface for the drill rig) was completed by Spencer Excavating Ltd., and a property boundary survey to locate the well site was completed by Wolfe-Milner Land Surveying Ltd. Drilling was completed January 2010 to a depth of 67m. A major fracture zone was encountered between 64m and 65.5m. A 72-hour drawdown test at 1.8 litres per second (28 USgpm) was completed successfully. Water quality analysis indicates that the well water will meet Vancouver Island Health Authority requirements for drinking water supply, and *Canadian Drinking Water Quality Guidelines* for all parameters except the aesthetic threshold for manganese.

The estimated final cost to complete well drilling and testing is as follows (exclusive of GST):

• Consulting services (Thurber)	\$20,000
• Surveying (Wolfe-Milner)	\$1,218
• Site preparation (Spencer)	\$4,701
• Well drilling and flow testing (Red Williams)	\$21,970
• Engineering and project management (staff)	\$7,000
TOTAL	\$54,889

SCADA and Filter Upgrades at Existing Well Site

At the meeting of 16 November 2009, the Cedars of Tuam Water Service Committee directed staff to proceed with installation of a SCADA (remote monitoring) system and a vortex filter at the existing well site. The monitoring system will enable staff to respond promptly to changes in operating conditions, reducing the risk of significant interruptions in water service quantity or quality. The vortex filter will protect instruments from silt that migrates from the well in summer and fall when water levels are low. Installation of these components will be completed by CRD staff during the week of 15 March 2010. The estimated cost to complete these improvements is as follows:

• Vortex filter purchase	\$750
• SCADA component purchase and assembly	\$17,000
• Installation on site (operations staff)	\$2,500
TOTAL	\$20,250

Project Financial Status

The original upgrade project budget established in 2003 upon conversion of the service to the CRD 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 provided from cash reserves transferred from the former Cedars of Tuam Water Improvement District. In November 2009, CRD Salt Spring Island Electoral Area Director Garth Hendren has contributed \$30,400 in Community Works (Gas Tax) funding to the Cedars of Tuam upgrade project, increasing the project budget to \$130,400. Of this, an estimated total of \$108,619 will be spent by 31 March 2010, as follows:

• Expense to November 2009	\$33,480
• Well development and testing at Isabella Point School site	\$54,889
• SCADA and vortex filter upgrades at existing well site	\$20,250
TOTAL	\$108,619

The remaining project budget after current works are completed is estimated to be \$21,781. The budget of \$100,000 grantable under the BCCWIP has been fully expended and a final payment claim will be submitted to the province to close the BCCWIP agreement for Cedars of Tuam.

Priorities for Further Capital Work

The SCADA system to be installed at the new well site is capable of monitoring the chlorine dosing rate and residual concentration, but the existing chlorine pump and analyzer are not capable of communicating this information to the SCADA system. Replacing the pump and analyzer with CRD standard equipment would enable the disinfection system to be monitored remotely, at a cost of approximately \$7,000 including installation labour.

Access to the existing well site is limited. The CRD has right of vehicle access over a statutory right of way also used for the water supply pipeline; however, this route is steep and would require extensive and costly upgrading to be accessible by a four-wheel drive vehicle. The property owner has permitted CRD staff and contractors to use his driveway to access the well site, but has recently expressed concern about wear and tear. There is a need to discuss with the owner an acceptable means of continued access to the site for operation, maintenance and delivery of bulk water as required. Capital improvements may be necessary as part of an agreed solution.

The Cedars of Tuam water distribution system is aging, and will need capital improvement in the near future in order to maintain its integrity and reliability. Works to be considered include replacement or renewal of watermains, service laterals, valves and customer meter assemblies. Some of this work, such as meter and valve replacement, could be completed using available funding. However, watermain

replacement would require significant new funding. Although this work is not required immediately, the risk of increasing water losses or emergency repair costs will increase over time until assets are renewed or replaced.

The Cedars of Tuam water service has established a viable drinking water well on the Isabella Point School property, which is owned by the Gulf Islands School District. The Gulf Islands School Board has approved in principle the establishment of a right of way on the property for a CRD well and pumphouse serving Cedars of Tuam. The available project budget is insufficient to connect the new well to the existing service area. However, available funds could be used to develop plans, options and cost estimates for connecting the new well to the service area. Specific tasks may include negotiation of a right of way agreement with the school district, negotiation of a suitable pipeline route, preliminary engineering design and cost estimates for pumphouse and reservoir at the school site. Completion of these tasks would enable the committee to consider a public approval process to borrow funds to put the new well into service. Given the available excess capacity of the well, expansion of the service area to include other properties in the vicinity may assist with raising the required capital to put the new well into operation.

ALTERNATIVES

1. That the Cedars of Tuam Water Service Committee receive this report for information.
2. That the Cedars of Tuam Water Service Committee request additional information.

IMPLICATIONS

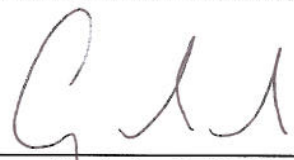
1. There are no financial implications of Alternative 1.
2. Providing additional information requested by the committee will require work by staff or consultants, which would reduce the remaining capital funds.

SUMMARY

A new well has been developed on School District #64 property near the Cedars of Tuam water service area, and has been tested and confirmed adequate to supply water to the Cedars of Tuam area. In addition, further improvements will be completed in March 2010 at the existing well site, enabling the well system to be monitored remotely and protecting instrumentation from silt in the well water. It is anticipated that capital funding of \$21,781 will remain available upon completion of these works. The committee will need to establish priorities for use of the remaining funds, as well as funding strategies for future capital improvements.

RECOMMENDATION

That the Cedars of Tuam Water Service Committee receive this report for information.



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Concurrence

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