



SUBJECT: 2012 Greater Vernon Water Master Water Plan
Technical Memorandum No. 8
Financial Issues and Principles to Support the Master Water Plan

Summary date: December 2015 / Updated: January 2016

TM8 PURPOSE:

Many water utilities in BC currently do not meet Provincial standards and to do so, must make substantial capital investments. Significant investment is required for GVW to meet standards as detailed in TM9. This work will lead to water rate increases, which is a sensitive issue to political representatives and users, and must be completed in such a way to provide stability to customers and the utility. As part of the MWP, TM8 reviews the progress made on key management and financial strategies recommended in the 2002 MWP and outlines water utility Best Management Practices for financial planning and administration to incorporate into GVW policies and financial strategies.

METHODS:

The following financial aspects of GVW were reviewed, compared to best practices where appropriate, and recommendations as to future direction were made:

- Review of the progress on the recommendations made within the GVW 2002 MWP,
- Review of Best Management Practices for water rate setting and assessing the policies and practices of GVW water rate setting based on Best Management Practices,
- Assessment of the allocation of costs between GVW domestic and agricultural customers,
- Review of financial mechanisms available to GVW to fund capital projects,
- Review of uses for reserve funds and how to efficiently employ these, and
- Recommendation of a framework for preparing financial forecasts.

RESULTS:

Progress since the GVW 2002 MWP

Most of the financial and management recommendations made within the 2002 MWP were implemented over the past 10 years and include the following:

- All water utility assets have been transferred to the RDNO,
- RDNO operates GVW as a standalone water utility and must fund all financial expenditures including operation, maintenance and construction of new capital from water rates (less grants received),
- GVW owns and is responsible for the operation, maintenance, repair, replacement, acquisition and construction of all water infrastructure and associated buildings, equipment, vehicles, etc. needed to run the water system including water licenses, and
- RDNO controls planning for supply and distribution needs, and the provision of bulk water for sale to other jurisdictions.

As a Regional Water System, the RDNO is authorized to borrow money from the Municipal Finance Authority under the *Local Government Act* to construct new capital, establish cash reserve funds and set water rates for GVW.

One recommendation not fulfilled from the 2002 MWP was to fully separate the agricultural and domestic water systems before embarking on treatment. This plan was updated when it was established that grant funding could only be obtained for treatment projects and not separation. To not miss out on the opportunity for Federal/Provincial grant funding, the plan was updated in the 2004 MWP update which called for installation of treatment before separation. As a result, GVW received significant grant funds to install treatment at Duteau and Mission Hill.

GVW Domestic Water Rates

GVW, as with other Okanagan Valley water utilities (but unusual to most of other utilities in North America), has the unique challenge of servicing two distinct customer classes that require vastly different services: agriculture and domestic. Agriculture requires water in sufficient quantities during the growing season while domestic customers require high quality treated water year round.

Since 2002, major infrastructure and treatment upgrades were completed that have cost over \$60 million (with \$18 million from grants). This has resulted in a dramatic improvement to the safety and water quality of the GVW domestic water supply. The significant investment from 2002 to 2012 resulted in rates increasing by 119% for domestic customers based on an annual consumption of 350 m³ and 29% for agricultural customers. The inflation rate during this time was 21%.

As the original agricultural system was paid for by the agricultural community through grants, rates and improvements required to meet Provincial standards are for domestic customers only, domestic rates will need to increase further to fund the capital projects needed. In setting future rates, it was recommended that GVW should follow Best Management Practice rules for water utilities set by the InfraGuide and AWWA. The following table provides a review of GVW rates verses Best Management Practice criteria.

Goal	Compliant?	Review of GVW Domestic Water Rates
Full Cost Recovery	Yes	The 2012 water rates were designed to recover all the 2012 budgeted costs, including contributions to reserves for future infrastructure renewal and to pay for 2012 capital costs. The rates should result in a balanced budget at year end.
Level of Service	Generally	Water quality levels are regulated, and rates are based on the cost to treat water to the regulated standard. Other levels of service are not published, but GVW meets levels of service considered normal for the industry.
Fairness and Equity	Yes	Customers are charged for the water they use based on quarterly meter reads and published pricing. Water customers that consume high volumes of water will pay more than other customers under the inclined block rate.
Transparency	Yes	Customers can forecast and impact their water bill by water conservation. Since the rates are set to recover annual budget costs, customers can request budget details. Bylaw changes are subject to review prior to ratification.
Promote Water Conservation	Yes	GVW uses inclined block rates to encourage water conservation during the high demand summer season. It is reasonable to expect that water conservation strategies will be successful over time and that individual households could see annual water consumption decrease by up to 10%.
Revenue Stability	Yes	The Greater Vernon Water Utility Rates Imposition Bylaw No. 2527, 2012 saw a return to a larger portion of revenue based on a capacity charge to reduce risk of revenue instability (50% of revenue). The water rates were designed to ensure that the utility could withstand wet summer seasons, when customers use less water or during drought years when restrictions occur. GVW also maintains an Operating Reserve which can be used to bridge the occasional years where revenues are below annual costs.

GVW Agricultural Water Rates

GVW provides agriculture an “allocation” which is tied to a property and is equivalent to 550 mm/yr per hectare. The 2012 fee was a flat fee of \$238/yr/ha and charged whether water is used or not. In 2012, an over-consumption charge was introduced to promote water conservation. Agricultural rates have basically increased according to inflation to promote competitive agricultural rates in the Okanagan Valley, remain stable and encourage efficient use of water.

A review for the agricultural water rates based on AWWA Best Practices is as follows:

Goal	Compliant?	Review of GVW Agricultural Water Rates (Allocation-based Rates)
Full Cost Recovery	Unsure	Allocation fees are not set according to the revenue requirements of any specifically developed water utility budget because domestic and agricultural systems are combined into one. The rate is determined annually based on the principle that the rate should be competitive with other agricultural rates within the Okanagan Valley, while remaining stable from year to year all the while encouraging the efficient use of water.
Level of Service	Yes	Since agricultural water quality does not need to be at the same level as drinking water, levels of service are limited to water outages and availability. GVW is responsive to issues that result in loss of service.
Fairness and Equity	Beginning	A flat rate is charged, up to allowable water allocation, regardless of the actual amount of water consumed, but as of 2012 surcharges are made for water consumption in excess of the allowable allocation. The surcharge increases in stepped blocks to promote water conservation.
Transparency	Yes	Customers understand the nature of the charge due to its simplicity.
Promote Water Conservation	Partially	Surcharges are made for water consumption in excess of allowed allocation. The allocation is based on minimum requirements for crop production, thus; there are no rate-based financial incentives for reducing water consumption. GVW also participates in the Okanagan Irrigation Management Program (OKIM), a program aimed at providing resources for customers to improve water demand side management.
Revenue Stability	Yes	The mostly flat rate system ensures that revenue stability is assured.

With the current rate structure, agricultural customers do not contribute to funding of capital projects. As system separation projects are completed and as the agricultural water system deteriorates, agricultural customers should start paying into agricultural water infrastructure.

Allocating Costs between Domestic and Agricultural Sectors

Since 2002, GVW has derived all of its revenue from water rates and some grant funding. In 2011, GVW generated \$18,829,000 in revenue. \$12,977,000 was revenue from domestic and agricultural rates and other fees/services. The remaining \$5,582,000 was from Federal/Provincial grants, reserve transfers, development cost charges and surplus from previous years. An estimate of the operation and maintenance costs for domestic and agriculture services was developed and is provided in the table below:

Allocation of GVW O&M and Administrative Costs			
	Agricultural	Domestic	Total
2011 Actual Cost	\$ 1,760,000	\$ 8,170,000	\$ 9,930,000
2012 Budget Cost	\$ 1,400,000	\$ 8,580,000	\$ 9,980,000

Infrastructure Renewal

In addition to new capital required to meet Provincial standards, GVW must also fund infrastructure renewal or the replacement of old infrastructure to ensure a sustainable utility and continuity of service. Based on pertinent information about GVW infrastructure (i.e. age, material and quantities) and on estimated infrastructure lifespans, on an annual basis GVW should fund \$2.9 million for the replacement of old infrastructure. For infrastructure renewal projects, it is recommended that a “pay-as-you-go” method be used as taking debt to finance projects only adds to the overall costs.

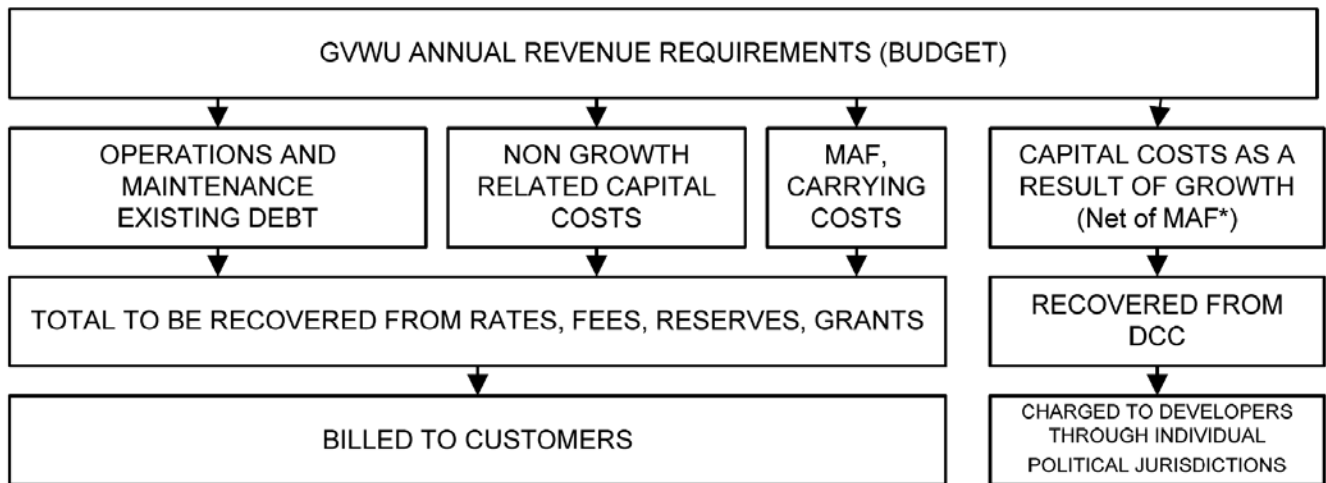
Any expenditures as a result of development should be funded by Development Cost Charges.

GVW Reserve Funds

Currently GVW has three types of reserve funds; 1) Operating 2) Statutory and 3) Development Cost Charge (DCC) Fund. Operating reserves are used to act as a “cushion” against unexpected but necessary expenses. Typically used to provide revenue stability through wet and dry years so that water rates do not fluctuate wildly. This fund can also be used as a general purpose or non-specified reserve fund and can be used to fund a wide variety of projects and operational expenditures. Statutory reserves act as a capital reserve and can be used to fund capital projects such that they can be executed on a “pay-as-you-go” basis. The DCC reserve is used to offset costs accrued due to system capacity increasing projects used to service new customers.

Framework for Preparing Financial Forecasts

Once the technical recommendations from the MWP have been executed, it is recommended that GVW develop their proposed revenue rates and sources using the following structure as a guide:



*MAF: Municipal Assist Factor