

Village of Cumberland

Water Conservation Plan

11/18/2011



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November, 2011

Introduction

A Water Master Plan was prepared by Anderson Engineering Consultants Ltd. in January 2007. The document identified the current water consumption in Cumberland and the neighbouring community of Royston which is supplied water from Cumberland. Consumption rates were noted as follows:

	Cumberland (litres/capita/day)	Royston(litres/capita/day)
Average Annual	830	425
Average Summer	1100	575
Maximum Day	1600	825
Peak Hour	2430	n/a

It was further noted that the Royston consumption was similar to Cumberland until water meters were installed in Royston and demand based billing was implemented in 1997. A significant reduction in Royston's consumption was attributed to the following actions:

1. Conservation resulting from demand based billing
2. Consumer awareness of the value of the resource and more prudent use of the water
3. Identification of leakage and wastage on private property by customers
4. Better delineation of unaccounted for water consumption between the supply and point of purchase

Further, it was evident from water level records in the Village's storage reservoirs in the watershed that the current consumption rates in Cumberland were unsustainable during a 150 day summer drought, and that due to climate change, summer drought is expected to become more acute in the future.

This water conservation plan includes the following elements:

1. Installation of water meters for all customers within the Village.(Funding was provided from a Towns for Tomorrow grant (project # 30083), and from DCC reserves established for creation of additional capacity based on a projected reduction in per capita water consumption).
2. Staff training on the use of acquiring, downloading, and integration of meter data into the Village billing system
3. Updating of bylaws for new developments to include water meters and meter chambers for each water service connection.

4. Preparation of a draft billing system based on an inclined block water rates
5. Preparation of an implementation plan including education, and adoption of new billing rates
6. Education through mail-outs with water bills, showing the benefits of water conservation, and the prudent use of water
7. Analysis of all current costs of operating the water system, including establishment of additional reserve for capital replacement projects , which will be included in the setting of billing rates.

Water Consumption Target (Objective)

Based on the consumption data obtained from the Master Water Plan, results observed from Royston's implementation of universal meters, and similar observations from other communities, a target of average summer consumption of 700 l/c/day (approximately 36% reduction in the current demand) is proposed. This objective has been established for the summer average since it is clear that irrigation is a significant component of the total water consumption in the Village during dry summer months. This target will be used to model inclined rates with total annual operating costs and capital replacement reserves.

Integrated Mechanisms

Integration of action and regulatory mechanisms include the following:

1. Installation of universal meters for all customers completed in 2011
2. Corporation of the Village of Cumberland Water Conservation Bylaw # 807 and as amended
3. Inclusion in the Subdivision and Development Bylaw ; water meters at each water connection for all new developments.
4. Inclusion of inclined billing rates in a Water Rates Bylaw.
5. Mock billing based on meter reading of new meters will be included in the next billing period.
6. Education mail-out will be included with the next water billing in January 2012, to supplement the education materials and workshops undertaken to date.
7. Public information process to include:
 - a. Meeting with citizens
 - b. E-mails with citizens
 - c. Posting on the Village of Cumberland website
 - d. Workshops for the public
8. The new volume based inclined billing rates bylaw will be established for the 2013 billing year.

End