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**Item No. 1**  
**Halifax Regional Council**  
**April 12, 2011**

**TO:** Mayor Kelly and Members of Halifax Regional Council

**SUBMITTED BY:** Original Signed by Director

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Paul Dunphy, Director, Community Development

Original Signed by Director

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Phil Townsend, Director, Infrastructure & Asset Management

**DATE:** March 1, 2011

**SUBJECT:** **Municipal Water Service - Gordon R. Snow Recreation Centre,  
Fall River**

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### **INFORMATION REPORT**

#### **ORIGIN**

Motion of Halifax Regional Council, March 24, 2009:

“MOVED by Councillor Dalrymple, seconded by Councillor Streach that staff provide a report addressing the following:

1. Estimated cost and feasibility of bringing municipal water to the Gordon R. Snow Recreation Centre from two potential locations: a) Ingram Drive in Fall River Village or b) from where Fall River Road ends at Windsor Junction.
2. Funding options available, including private/public partnerships with P3 school (Lockview High School) and the proposed seniors' centre and the Province of Nova Scotia (two provincial schools), and HRM (Gordon R. Snow Recreation Centre) and the federal government for matching infrastructure funding. MOTION PUT AND PASSED.”

## **BACKGROUND**

The new combined Gordon R. Snow Community Centre and Fire Station 45 is located at 1359 Fall River Road, Fall River, adjacent to Lake Thomas. The facility provides traditional fire and rescue services, serves as a local emergency reception centre and provides recreation spaces for programming. This facility is meant to improve fire services, enhance the community recreational opportunities, encourage health and wellness, and provide a much needed space for community social activities. The facility opened in February of 2009.

The building is intended to be one of HRM's first LEED Silver buildings.<sup>1</sup> The building incorporates design, construction and operational practices that combine healthy, high-quality and high-performance advantages with reduced environmental impacts. The building will achieve credits in six categories: Site Development, Water Efficiency, Energy Efficiency, Material Selection, Indoor Environmental Quality and Innovation in Design. As part of the Water Efficiency Category, water saving fixtures such as, low flow dual-flush toilets, flow control showers and water-less urinals have been incorporated, significantly reducing water consumption from a typical building.

### **Water Supply**

The original water supply system for the building consisted of potable and non-potable systems to service different functions within the building.

The potable system consisted of a drilled well and storage tanks designed to supply water to sinks, showers and drinking fountains.

The non-potable system consisted of a sixty thousand gallon cistern situated in the lower level foundation under the Apparatus Bay. The cistern system is designed to collect and store rainwater to supply water for the sprinkler system, toilets and exterior hose bibs, and emergency top up for fire trucks. Thirty thousand gallons of cistern water is available for water supply use, with the remaining thirty thousand gallons reserved for the building sprinkler system.

The initial pump test and lab analysis for the well revealed that the quality was good and the quantity, though not high, was sufficient to operate the building, provided storage tanks were incorporated to accommodate peak usage. However, after subsequent tests were taken, it was discovered that the yield had diminished, and elevated levels of iron and magnesium were evident.

After a review of water supply options, including the potential longer term extension of the central water supply system, it was decided to abandon the well system and design the cistern water system as the source of the both the potable and non-potable water supply for the facility. In the interim period, potable water for the sinks and showers is being trucked in, together with a number of water coolers for drinking.

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<sup>1</sup>The LEED (TM) (Leadership in Energy and Environmental Design) green building rating system provides a recognized standard for the construction industry to assess the environmental sustainability of building designs.

A water treatment system for the cistern, comprising advanced filtration, UV disinfection and chlorination, was designed and tendered in October 2009, and completed in July, 2010. An extensive water sampling program was conducted at that time to verify that the water treatment was operating satisfactorily, and to verify that water in all the potable water piping met the requirements of the Guidelines for Canadian Drinking Water Quality. The water quality analyses confirmed such.

Although the treatment system has been operational since August, 2010, a formal registration document is still pending from NSE which was to be used as the last item before bringing online all water use. A request for "Registration of the Water Supply" was forwarded to the Bedford office of Nova Scotia Environment (NSE) on August 17<sup>th</sup>, 2010. The Bedford NSE office, however, was not able to process the application because the use and treatment of rainwater cistern water does not "fit" into their typical review and approval mode, and because of potential operator certification requirements in addition to registration. The Bedford NSE Office therefore subsequently forwarded the application to the Head Office in Halifax.

Based on subsequent correspondence with NSE, Head Office has advised the Bedford office that certification is not required for the facility. This should significantly simplify the overall registration process whereby the system would be subject to a lesser regulatory standard that does not require a certified operator. Comments were forwarded to the Bedford Office on February 3, 2011, and an inquiry was made to determine if additional information was needed to complete this registration. To date, no response has been received.

The potable water system installation was completed in August 2010 and has had limited use since then. As a result, additional water quality testing will be completed prior to removing any usage restrictions and bringing the system into full operation. It is noted, however, that the registration document pending from NSE is not a formal "approval" to use the potable water supply and that no such approval is required or will be issued. Such a decision is at the discretion of HRM and can be made at anytime provided the operation and water quality is acceptable. To this point it has been the decision of HRM to wait for a NSE registration document before bringing online all potable water use.

Correspondence from NSE references the need to consider the potential for corrosion within the building plumbing. This was discussed at the time of design and was not opted for, given that the concrete cistern should provide some initial buffering against corrosion. That being said, a relatively simple pH adjustment system for the water supply can be implemented if water quality sampling results indicate that such is required.

The combined usage of potable and non-potable water will be monitored after the treatment system is running at full capacity. This is necessary to determine whether the cistern collection and storage system, which was originally designed for fire protection and non-potable use, can provide sufficient water storage to provide all water to the facility.

Staff anticipates that the cistern system, as presently designed, will provide the Gordon R. Snow Centre with a self sufficient water supply system. However, the facility has also been designed to accommodate a potential future central (piped) water supply hook-up. In the event that central

water service is installed along the Fall River Road at some future point in time, it would be staff's advice to connect the Centre to this supply, essentially for the purpose of ensuring reliability of supply, in perpetuity.

### **Land Use Planning Initiatives**

Fall River was designated as a Growth Centre under the Regional Plan, approved by Council in 2006. The community was one of three pilot projects for the initiation of a Community Visioning Exercise. The Fall River Community Vision and Action Plan was completed and approved-in-principle by Council in 2007. Implementation of the vision is now underway, and includes the preparation of a Secondary Planning Strategy (SPS) which is taking place in two phases.

In Phase I, the process focuses on the development of detailed design regulations for the Village Centre (Map 2). The draft policies and regulations for this portion of the Plan are nearing completion and will be presented to the public in the coming months and then to Council with a recommendation to proceed to a public hearing.

In Phase II, the process will focus on options for future residential growth throughout the remainder of the River-Lakes Secondary Plan Area on the basis of the findings of Shubenacadie Lakes Watershed Study and Fall River/Waverley/Wellington Transportation Study. The watershed study examines the environmental capability of lands within the watershed to accommodate development in terms of ground and surface waters and soils. It also examines a range of future growth scenarios, alternatives for water and wastewater servicing, and management strategies for alleviating the impacts of growth. The Transportation Study assesses the existing road/highway network and describes infrastructure improvements that would be required under alternative future growth scenarios. These two studies are now complete, and the detailed findings of these studies will be brought forward to Council in the near future for discussion and direction.

### **DISCUSSION**

As a preliminary response to Council's specific motion, Halifax Water estimates that the cost of extending a watermain along Fall River Road, from Windsor Junction Road to Lake Thomas Drive (Highway 2), is in the order of \$6 million<sup>2</sup> (estimate as of 2009). This includes an extension along Lockview Road to service the Ashley Jefferson and Lockview schools and an extension from Lockview Road to Fall River Road, along MacPherson Road (see Map 1).

An extension from Ingram Drive to service these areas would be shorter and would cost about 20% less at around \$4.8 million. This connection, however, must traverse private property and an extension from Windsor Junction Road provides more assurance that a connection can be secured in a timely manner.

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<sup>2</sup> This estimate is based on the cost estimates provided in the Fall River- Shubenacadie Lakes Watershed Study Report, prepared by Jacques Whitford in conjunction with ABL Environmental Consultants and Dalhousie University's Centre for Water Resource Studies, July 2009, with final revised report dated July 2010). Please note that a pre-design study is needed to determine a more precise cost estimate to facilitate funding.

Staff has also conducted preliminary discussions with Halifax Regional School Board staff and a representative of Scotia Learning. Both have acknowledged that the supply of central water to their respective schools would be beneficial, and are willing to participate in the process to determine feasibility and potential financial opportunities.

Staff points out that the above estimates are based on a rather limited service area and do not take into account the implications for the potential supply of central water to the whole of the larger Fall River area.

In this regard, staff advises it would be important for Council to receive a detailed briefing on the findings of the Shubenacadie Lakes Watershed/Servicing Study and the Fall River Transportation Study prior to advancing this matter further. The findings and conclusions of these studies will provide the 'big picture' (opportunities and constraints) for the greater Fall River area and will enable Council to provide direction to staff regarding the amount of growth, the desired community form and growth management options, and the extent of lands that might be considered for provision of central water service. Once this direction is determined, staff can proceed with a detailed feasibility study and Infrastructure Master Plan to define an ultimate water service boundary, required pipe sizes and associated infrastructure, and detailed cost estimates. Funding sources will also be determined, including potential contributions to service the three schools in the area, major commercial interests, as well as estimates for local improvement charges (LICs) and capital cost contributions (CCCs).

Staff suggests that the Watershed Study and Transportation Study will be presented at a Committee-of-the-Whole session of Council within the next couple of months.

### **BUDGET IMPLICATIONS**

There are no budget implications arising from this report.

### **FINANCIAL MANAGEMENT POLICIES/BUSINESS PLAN**

This report complies with the Municipality's Multi-Year Financial Strategy, the proposed Operating, Project and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Project and Operating reserves, as well as any relevant legislation.

### **COMMUNITY ENGAGEMENT**

N/A

### **ATTACHMENTS**

Map 1 - Fall River Road Water Extension Options  
Map 2 – (Draft) River-lakes Secondary Planning Area

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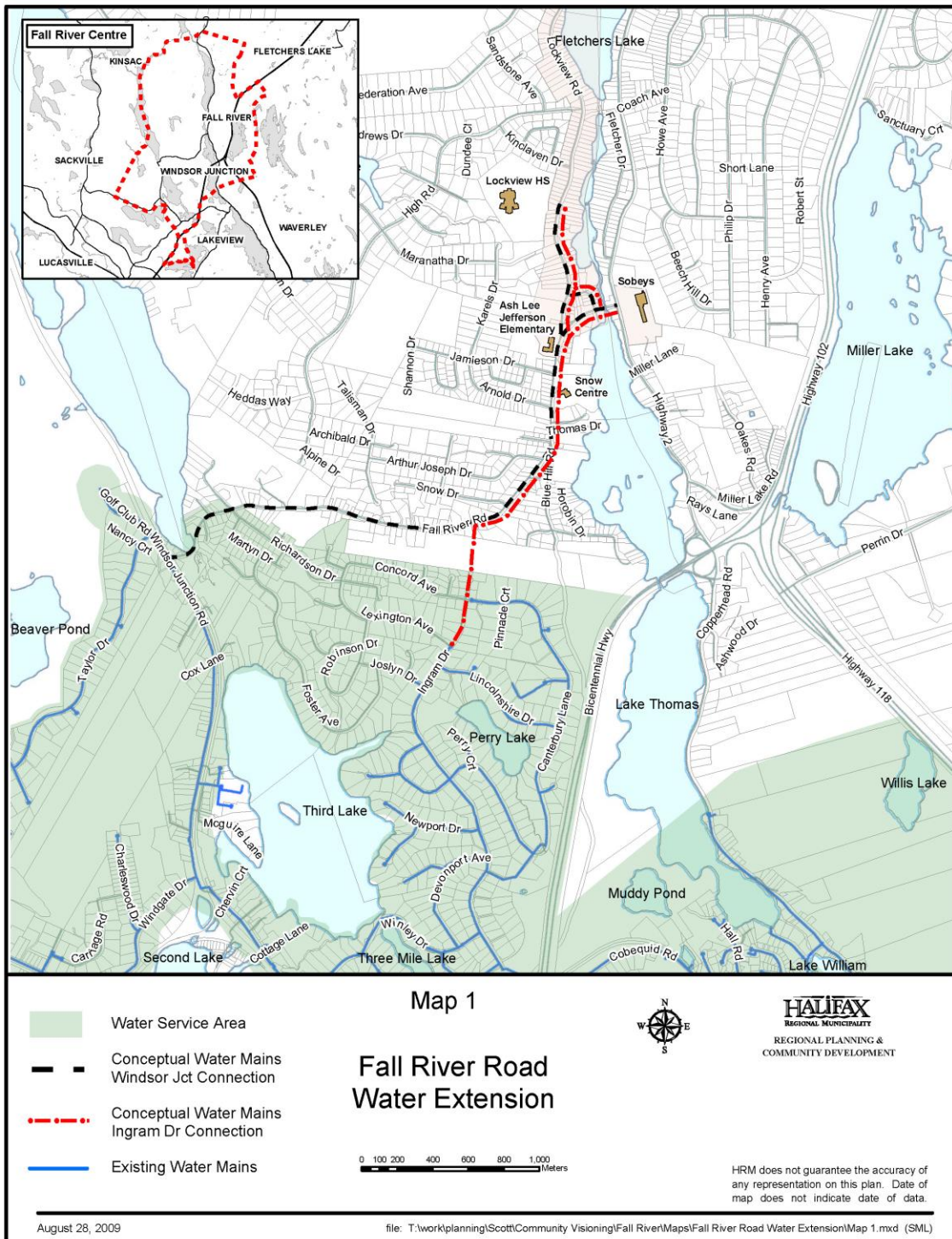
A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

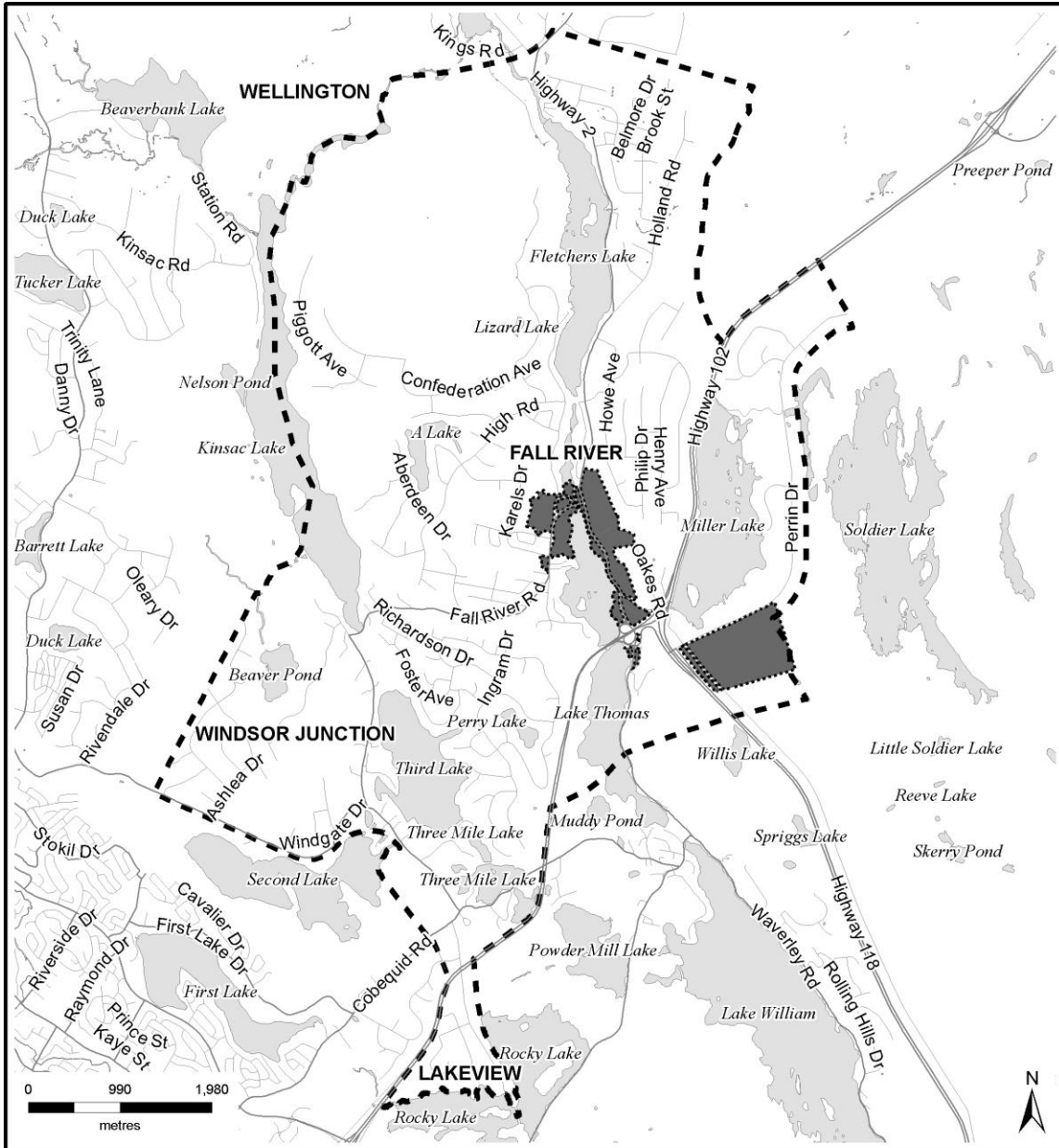
Report Prepared by:       Maureen Ryan, Senior Planner, Community Development, 490-4799  
                                  Roger Wells, Supervisor, Regional and Community Planning, Community Development, 490-4373

Original Signed

Report Approved by:       \_\_\_\_\_  
                                  Austin French, Manager of Planning Services, Community Development, 490-6717

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**Map 2 - River-lakes Secondary Planning Area**

- River-lakes Plan Area
- The Village Centre Boundary



HRM does not guarantee the accuracy of any representation on this plan.

January 25, 2011

T:\work\planning\Scott\Community Visioning\Fall River\Maps\MPS\Report\Map 2 - River-Lakes Secondary Planning Area.mxd

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