



**Subject:** *Nova Scotia Environment Grants for 3 Flood Study Projects*  
**To:** Executive Committee  
**Date Prepared:** August 19, 2014  
**Related Motions:** N/A  
**Prepared by:** Jesse Hulsman, Director of Infrastructure & Operations  
**Approved by:** Connie Nolan, Chief Administrative Officer

### Summary

The municipality has been granted \$30,000 by Nova Scotia Environment to cover half the estimated cost of 3 projects. The funding is part of the Provincial Flood Assessment Fund that is in place to support stakeholder groups in building understanding and knowledge of flood risk areas in order to enable proactive mitigation and management of flood risk areas.

The projects that the municipality have submitted are titled; The Alderney Project, the Sackville River Headwaters Project, and the Nine Mile River Project. The Alderney Project is a water loading study of municipal land located in the centre of the Alderney subdivision which has been documented in municipal reports as an issue since 1998. The other 2 projects are both Rainyard initiatives that would have the municipality partner with Clean NS to conduct voluntary stormwater assessments for residents, which includes the install of a rain barrel for each property that participates. The target is to have 100 properties participate in each of the listed zones.

The project spending must be completed within 12 months of being granted the Provincial funds, which results in a deadline of mid-August 2015. Therefore the municipality will need to commit to these projects ahead of a normal budget cycle to participate in the funding opportunity as staff will need to mobilize prior next fiscal to meet the funding deadline.

With the municipality having been successful on all 3 applications is noteworthy as there were only 5 successful applications province wide to participate in this funding program.

### Financial Impact Statement

Project Title	Provincial Contribution	East Hants Contribution	Total
Alderney Project	\$5,000	\$5,000	\$10,000
Sackville River Headwater Project (Rainyards)	\$12,500	\$12,500	\$25,000
Nine Mile River Project (Rainyards)	\$12,500	\$12,500	\$25,000
<b>Total</b>	<b>\$30,000</b>	<b>\$30,000</b>	<b>\$60,000</b>

The municipal funding of \$30,000 for these projects can be funded from the Storm Drainage Reserve. Every year since 2008/2009, Council has set aside \$40,000 of the general tax rate to this reserve in anticipation of storm water issues (flooding) in East Hants. The balance in the reserve as at March 31, 2014 is \$220,000.

## **Recommendation**

Approve the required municipal funding component for these 3 projects.

## **Recommended Motion**

*Move that the Operations Committee recommend that council approve the required municipal funding component, through the Storm Drainage Reserve, for these 3 projects over the term of the Provincial Agreement.*

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## Background

The Province first announced a flood mitigation funding program in a news release posted on April 5, 2013. It was to extend annually for 5 years. The first year there was not an application process available as all funds were directed towards the Truro area that had experienced a breaching of a major protective dyke system in September 2012.

With a change in Provincial government, the program was re-evaluated with updates to the range of topics the funding could cover and an application process was created. This year's application process was announced on April 28, 2014 with a deadline for applications of May 30, 2014.

Staff submitted 3 applications under this program, with all 3 being selected by the Province. This is noteworthy as there were only 5 projects that were awarded funding province wide.

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## Discussion

### The Alderney Project

In the Alderney Subdivision, in Enfield, there are 2 parcels of municipal property, totaling 3 acres that act as a drainage catchment for the surrounding neighborhood. These lands are bordered by Shauna Leigh Lane, Boyd Avenue, Alderney Drive, and Wilson Road. This is a mature neighborhood which has been experiencing flooding for decades and has been highlighted in a municipal report from 1998.

There is a need to understand the hydraulic capacities. This will enable staff to plan for maintenance and/or improvements to municipal infrastructure using an informed and sustainable approach.

### The RainYards Program

The RainYards program, run by Clean Nova Scotia, is the province's first personalized stormwater education and runoff reduction program. It delivers information and solutions directly to homeowners through on-site property assessments. The 2 RainYards projects are; The Sackville River Headwaters Project and The Nine Mile River Project.

Homeowners consult one-on-one with knowledgeable program officers and discuss issues specific to their property. A free rain barrel is installed at each participant's home and they are left with a full tool kit of options that can be used to better manage their stormwater runoff. Homeowners receive a detailed report including a site diagram of problem areas within the property, the program officer's observations, and recommendations for decreasing stormwater runoff based on the interests and abilities of the homeowner.

Designed to increase community involvement and empowerment, RainYards also hosts workshops and links up with local community groups. Workshops include rain barrel painting, information sessions, and "How To" demonstrations for stormwater reduction projects. Community groups are encouraged to help advertise the program, attend workshops, and advocate for local stormwater reduction well into the future.

The information gained from the program can be shared throughout the municipality to affect not only the program area, but all neighborhoods with the potential for flooding.

### *The Sackville River Headwaters Project*

The program would run in an area encompassing parts of Mt. Uniacke and East Uniacke in East Hants. The program boundaries were based on the examination of several watershed delineations, including *Map C: Sackville River Watershed Boundary*. The streets selected are Rockwell Dr, Morning Breeze Dr, Old Mines Rd, Pentz Lake Dr, Highway 1 (South of Lady Slipper Ln & North of Etter Rd), Etter Rd, and East Uniacke Rd. South of Beamish Rd (includes Powell Dr, McKenzie Ln, Charles Dr, Moore Rd, Kingswood Dr, International Dr, Sunrise Ln, Rileys Crt).

This area is directly upstream of a severe flooding area in East Hants. The bridge that is the only emergency access point to 235 homes in South Uniacke is at risk of flooding out during high water in the Sackville River. Any efforts to increase infiltration and reduce peak stormwater runoff volumes upstream from this bridge could potentially mitigate the severity and duration of these floods. Similarly, a reduction to stormwater peak flows in the program area could also ease the stress on the river further downstream in Upper Sackville and Bedford. These areas are already vulnerable to bank erosion because of their severe riparian area removal.

This program has received support from the Sackville Rivers Association, a community group based out of Lower Sackville, who is active in river health and restoration initiatives. Clean Nova Scotia, the partner organization for this project, prefers to work in areas with an active community group. They find that this is an important element in ensuring that the benefits and knowledge of the program are carried forward well into the future.

#### *The Nine Mile River Project*

The program would run in an area encompassing parts of Enfield, Nine Mile River, Hardwood Lands, and Belnan in East Hants. The streets selected are:

**Enfield:** Thomas St, Enfield Rd North of Thomas St

**Nine Mile River:** Enfield Rd (includes Robyn Dr, Sand Point Rd, and Maple Dr), Highway 14 (South of Blois Rd & West of Garden Rd) (includes Beaten Path Way, Birch Hill Dr, Matheson Crt, Dalrymple Dr, Bell Crt, Pine Crt), and Highway 214

**Hardwood Lands:** Dalrymple Rd, Highway 14 West of Dalrymple Rd

**Belnan:** Highway 214, Elmbel Rd, MacDonnell Dr, Hillcrest Ln, Garden Rd, Royal Oaks Way, Ridge Wood Crt, Pine Ridge Ln, Meadow View Way, Belnan Ave, Withrow Dr

The area around the Nine Mile River is prone to flooding, as evidenced by its wide floodplains. This has been verified by resident and municipal staff accounts. These floodplains widen even further where the Nine Mile River meets the Shubenacadie River in Elmsdale. Elmsdale is a growth centre in East Hants and also experiences flooding. Reduction of stormwater flows and best management practices for developments along the Nine Mile River have already been identified as key factors in flood prevention/mitigation for the developed area along the Shubenacadie River (CBCL, 2013). This will become increasingly important as Elmsdale expands.

An online forum cites the occasional appearance of Salmon in the Nine Mile River. The population is said to have been wiped out in the 1970s, but returning slowly in the last few years (novascotiafishing.com, 2011). This is supported by the Atlantic Salmon Federation, which reports increases to Nova Scotia populations from 2012. The population levels are still critically low, meeting only 12% of the minimum population needed for species conservation (ASF, 2014). The Atlantic Salmon Stock Status Report in Eastern Canada states that freshwater

habitat issues are one of the most important constraints to Atlantic salmon abundance (DFO, 2012). Bank erosion, increased water speeds, and decreased water quality from flooding and stormwater runoff all contribute to decreased freshwater habitat viability.

This area is home to several community groups, such as the Nine Mile River Trail Association and the Enfield Earthkeepers. Clean Nova Scotia, the partner organization for this project, prefers to work in areas with active community groups. They find that this is an important element in ensuring that the benefits and knowledge of the program are carried forward well into the future.

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## Alternatives

1. Request an extension of funding beyond August 2015
2. Choose not to support these projects with municipal funding

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## Conclusion

This is a unique opportunity for the Municipality of East Hants to leverage provincial funding to support Environmental Projects. It is also unique in that the 3 projects span across the municipality which shows a commitment to the Environmental stewardship support for all East Hants residents. Staff consider this to be a positive opportunity that should be capitalized on.

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## Recommendation

Approve the required municipal funding component for these 3 projects.