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Item No. 4.1.3
Northwest Community Council
January 14, 2015

TO: Chair and Members of Northwest Community Council

SUBMITTED BY: Original Signed

Bob Bjerke, Planning & Infrastructure

DATE: December 23, 2015

SUBJECT: Union Street Flooding

ORIGIN

Northwest Community Council, Item 14.1, December 15, 2014

LEGISLATIVE AUTHORITY

HRM Charter, Power to expend money 79 (1) (p) preventing or decreasing flooding

RECOMMENDATION

It is recommended that Northwest Community Council recommend to Regional Council to direct staff to request that the Province of Nova Scotia Flood Reduction Assistance Program initiate a discussion with municipalities to examine roles, responsibilities, and opportunities to respond to emerging community residential abandonment needs with respect to climate change.

BACKGROUND

Following a recent flooding event (during the week of December 10th to 11th), Northwest Community Council approved the following motion: *Motion passed that North West Community Council request a staff report with respect to the flooding issues on Union Street, Bedford that includes the following:*

- 1. An overview of the 2005 engineering study;*
- 2. An overview of the work and approach to addressing flooding issues from the Sackville River; Lower Sackville, Little Sackville River and the Leaside/Seawood area, Sackville.*
- 3. A history of past decisions of Regional Council on the issue; and,*
- 4. A recommended approach to utilizing the Provincial Flood Reduction Assistance program for Union Street.*

Union Street flooding problems have been regular agenda items at Regional Council, Community Council, and the former Bedford Watershed Advisory Board since 1996.

DISCUSSION

An overview of the 2005 engineering study

In 2005, Halifax engaged SGE Acres Limited to conduct a study regarding flood control in the Union Street area in Bedford. Several residences along Union street had experienced flooding on at least three occasion in the previous three years. The flooding was not a recent problem. In 1981, a hydrotechnical study of the Sackville River concluded that some homes were within the twenty year floodplain. Based on modelling in 2005, it was calculated that there is a 20% probability of a flood occurring. New development is prohibited in the 1:20 year floodplain. Ultimately, the assessment looked at the impact of a proposed 600mm by 600mm concrete block flood control structure and concludes that it is possible to delay the moment of flooding in events lesser than the 1 in 100 year storm, but not prevent it. Generally the structure would provide mitigation in events up to the 1 in 20 year storm. A current rough order estimate of the project is \$1.5 million. It should be noted that there are predictions that the current 1 in 100 year event could become the 1 in 10 year event by the 2050s. As such, it is reasonable to expect that the flooding problem on Union Street will continue and perhaps get worse.

An overview of the work and approach to addressing flooding issues from the Sackville River; Lower Sackville, Little Sackville River and the Leaside/Seawood area, Sackville

There are a variety of activities underway related to responding to community flooding issues:

1. Integrated Stormwater Policy
2. Interim Stormwater Infrastructure Funding Solution
3. Update of Sackville Rivers Floodplain Mapping

Integrated Stormwater Policy: On February 26, 2013 Regional Council approved a motion with respect to Stormwater Infrastructure Funding with two additional directives. One of which was: *Jointly prepare, within two years, an Integrated Stormwater Policy, which includes an accountability matrix with respect to stormwater management; and a five-year stormwater infrastructure capital program with permanent funding options, for the consideration of HRM, Halifax Water, and the Nova Scotia Utility and Review Board (NSURB), for a permanent program .*

Following the 2006 transfer of stormwater and wastewater operations and assets from HRM to Halifax Water, and operational implementation and legislative governance has unfolded, opportunities for clarification of roles and responsibilities have arisen, in particular to meet community public safety and environmental stewardship expectations. The policy objective is to create an integrated stormwater management policy to guide municipal and utility operations and governance in the public delivery of stormwater management that meets legislated requirements and community expectations. The purpose of the Stormwater Policy is to provide direction and clarification to HRM and to Halifax Water in such key areas of stormwater management as:

- Protection of public safety with respect to flooding, and risk mitigation
- land development practices/use of natural hydrologic approaches
- protection of our natural water resources, including groundwater and flood plains
- erosion and sedimentation control
- mitigation of private property flooding
- upgrading of substandard stormwater service and infrastructure
- funding of stormwater programs and services – in order to meet approved level of service
- public education and communication
- roles and responsibilities of HRM and Halifax Water in these various aspects of stormwater management, consistent with the 2007 Merger Transfer Agreement
- Identification of Green Approaches to SW Development within the municipal/utility

Interim Stormwater Infrastructure Funding Solution:

On December 3, 2013 Regional Council approved the following motion: *That Halifax Regional Council:*
1. Approve the Interim Stormwater Infrastructure Funding Solution with the option of zero funding contribution from local homeowners as per Option 2 (a) in the Discussion section of the November 20, 2013 supplementary staff report and work with Halifax Water to prepare a submission to the Utility and Review Board;

2. Limit the annual financial commitment from the Halifax Regional Municipality (HRM) to a maximum of \$3 million (Net HST included), sourced from the annual Halifax Water dividend payment to the Halifax Regional Municipality; and

3. Direct staff to:

a. Jointly, with Halifax Water, prepare by February 2015, an Integrated Stormwater Policy, including an accountability matrix with respect to stormwater management; and a five-year stormwater infrastructure capital program with permanent funding options, for the consideration of Council and, subject to Council approval, review by the Nova Scotia Utility and Review Board (NSURB); and

b. Provide semi-annual updates to the Environment and Sustainability Standing Committee and the Board of Directors of Halifax Water on completion and progress on identified outstanding responsibilities in the accountability matrix.

As a result of the direction, several new stormwater infrastructure projects have been completed in Eastern Passage, Sackville, and Halifax. Staff are working to develop the 5 year capital program to support a recommendation. As a result of the fact that the conceptual Union St project would help a low number of residents, has a high project cost, and has limited efficacy, this project is trending to rank poorly on the prioritization of capital projects. The flooding problems at Leaside / Seawood will be considered for future infrastructure solution feasibility.

The funding plan will strive to identify and prioritize projects, develop least cost solutions, and develop an equitable cost sharing model. A study is currently underway to identify projects, sort them according to root cause, frequency, severity of impact, and assign responsibility where possible. It is anticipated that there will be historical flooding problems that cannot reasonably be attributed solely to either Halifax Water or the Municipality within the current regulatory model, and that some solutions will be beyond the ability of the Municipality to fund. It is therefore prudent to explore whether it is feasible to develop a residential abandonment program.

Update of Sackville Rivers Floodplain Mapping: Regional Council has provided direction to staff on this matter:

- September 17, 2012 Regional Council Report from the North West Community Council recommending that Halifax Regional Council direct staff to initiate the process of amending the appropriate planning documents to use the most recent floodplain mapping for Little Sackville River.
- September 25, 2012, Regional Council, Item 11.3.2: Motion. *MOVED* by Councillor Harvey seconded by Councillor Dalrymple that Halifax Regional Council direct staff to initiate the process

of amending the appropriate planning documents to use the most recent floodplain mapping for the Little Sackville River.

The scope of this project is to develop new floodplain maps for the Sackville River and Little Sackville River, based on Lidar technology, and to develop and implement land use by-law amendments to reflect the new maps. The project is anticipated to be complete by end of 2015. Following the study, planning strategy and land use bylaw amendments can be contemplated. It is anticipated that will be a 2016 activity.

A history of past decisions of Regional Council on the issue

- April 23, 1996 item 8.1.1: MOVED by Councillor Kelly and Hetherington that Regional Council include the Union Street Storm Water Control Piping system Project in the 1996/97 capital budget.
- March 21, 2006, Item 10.2.1: MOVED by Councillor Goucher, seconded by Councillor Snow, that Regional Council request that staff include for consideration amongst other capital priorities as part of the 2006-2007 Capital Budget deliberations mitigative measures to provide flood protection to the homes on Union Street adjacent to the Sackville River.
- On February 19, 2008 Regional Council. Item 13.4 ratified an incamera item: MOVED BY Councillor Karsten, seconded by Councillor Younger, that Halifax Regional Council:
 1. Not purchase 27 Union Street, Bedford
 2. The February 14, 2008 Private and Confidential Staff report not be released.

A recommended approach to utilizing the Provincial Flood Reduction Assistance program for Union Street

A review of the public information on the properties indicates that the five homes on Union Street frequently impacted by Sackville River flooding have an assessed value of \$750,000. With current conceptual projects exceeding that value, and without a conceptual project to reasonably mitigate the risk, it is not responsible for the municipality to consider progressing a design project to mitigate the risk. Continuing with that will create a false expectation. Staff recommend that based on the cost of the considered mitigation project, the value of the homes it would protect, and the limited effect it would have in major storm events that it is not practical or feasible. Further, a notion of the municipality purchasing the homes at market value is not practical, and would set a precedent that could not be maintained. Subjectively, based on staff management of the file, it is anticipated that there could be 50 to 100 homes or more in the municipality that has comparable issues.

The responsible approach is for the municipality to examine solutions, and our role, in enabling and responding to abandonment of residential property over time to respond to changing climate conditions. While there is precedent of municipalities and other levels of government purchasing homes to turn into parkland, this type of a program would be complex and carry risk for a number of stakeholders. For a simplistic example, the City of Dartmouth had created the park around Sullivans Pond by purchasing the former homes there, renting them, and when the mortgages were paid demolishing to create the park at no cost to the municipality. In Calgary, the Province spent \$79 million on flood buyouts in Alberta, including \$46 million to buy 16 Calgary homes. Such a notion may provide the conceptual basis for a residential abandonment program. But a number of immediate risks and questions arise:

- If the magnitude of the problem is unknown, but is conceptually in the tens of millions of dollars, who would finance such a program? That appears to be beyond the means of a municipality.
- If the program is developed, does that impact the insurability of residents that may be at risk?
- If the program is developed where a homeowner is able to sell a home, and at some point in the future it becomes municipal parkland, who manages the properties (maintenance, rent, and demolition) in the interim. There is a variety of risk to that service.
- If there is a feasible program, is there an opportunity or responsibility for Federal funding or participation? Perhaps a role for the Federation of Canadian Municipalities Green Municipal Fund?

