

Vermilion River Stewardship



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Re: Junction Creek Subwatershed Study and Stormwater Master Plan - Final Report

Dear Sirs:

The Vermilion River Stewardship (VRS) is writing further to our submissions dated 16 April 2018 and 15 May 2019 regarding the Junction Creek Subwatershed Study and Stormwater Master Plan – Final Report (Report).

VRS has reviewed the Report and wish to express our support for its implementation, subject to the following recommendations:

Natural Heritage System:

VRS submits that the Natural Heritage System is a very important aspect of the Report, especially when it comes to *‘Wetlands’ and ‘Sensitive Water features’*. VRS supports further studies and mapping of these aspects in the identified areas and their incorporation into the Natural Heritage System. VRS supports the Reports highlighted protection, enhancement and restoration recommendations being implemented as soon as possible.

Climate Resilience:

It is important to mitigate and adapt to the extremes of climate change as Paul Beckwith, who works on climatology in the Department of Geography at the University of Ottawa said, *"We're getting a lot more extreme weather events around the planet, whether that be torrential rains leading to flooding, or really hot and dry temperatures leading to drought. These extreme weather events are much more severe, much more intense, they last longer, they're happening more frequently, and they're happening in areas where they didn't happen before."*¹

The Report indicates that *"the anticipated influence of climate change on precipitation is steeped in uncertainty with future projections ranging from a minimal increase to almost a 250% increase"*, and yet the stormwater planning only ranges from a 1:5 to a 1:100-year flood event. The Report admits that *"this range represents a significant challenge to the municipality to understand and integrate into its planning decision making process"*.

The City of Toronto had similar uncertainties and commissioned a Future Weather and Climate Driver Study in 2012 to help inform their present and future infrastructure and service decisions. By improving the level of certainty regarding the magnitude and frequency of expected climate change effects, and particularly extreme weather events, the City wanted to reduce the risk of unsustainable investment and loss associated with infrastructure construction, maintenance and operations. The Study revealed that on average in 2040-2049, warmer annual average temperatures of 4.4°C are expected. Less snow and more rain in the winters and fewer rainstorm events per year, but more extreme rainstorms and marked rainfall increases in July (80%+) and in August (50%+). Toronto had three 1:100-year storms in less than 12 years, from July 2000 to July 2012. In 2,000 it had the wettest summer in 53 years, with 13% more precipitation than normal, and in July of 2004, 4 billion litres of water came down in 5 hours – a 200 year event.² These are compelling reasons to seriously consider Climate Change and its cumulative effects in planning and decision-making regarding infrastructure.

Another good planning model to follow is the Downtown Flood Mitigation Project for the City of Calgary, which will mitigate up to a 1:200 year flood event, and has plans in the works to construct a reservoir upstream of Calgary on the Bow River that would increase flood protection for downtown Calgary to withstand a 1:1000 year flood event³.

Last April Sudbury and surrounding areas were on an extended elevated flood risk warning because of the extreme amount of snow that had accumulated over the winter. We were largely spared from flooding only because it was a slow thaw; however, it could have been very different if we had a warmer spring or an extreme rain event had joined the mix. Ottawa and Montreal weren't so fortunate when they had to declare a state of emergency caused by a 1:1000-year flood event that led them to ask for federal help to fight the rising flood waters⁴.

VRS submits that using the 1:100-year flood mitigation guideline for long-term planning is a foundational error because it is out-dated and insufficient to protect communities and infrastructure from the recurring risk of extreme rain and melt events that are predicted to intensify in frequency and magnitude over the coming years.

¹ *National Observer*, 8 May 2017, [Here are the climate science benchmarks of the Quebec floods.](#)

² *Toronto's Future Weather & Climate Driver Study: Outcomes Report.*

³ *Weathering the Storm: Developing a Canadian Standard for Flood-Resilient Existing Communities.*

⁴ <https://www.canadianunderwriter.ca/catastrophes/one-in-1000-year-flood-happening-in-quebec-1004162482/>

It is interesting to note that the Report didn't even mention building Climate Change resilience into any new or upgraded infrastructure. Instead, the flood mitigation impacts and recommendations were based on criteria, "*As specified in the MOE 2003 Stormwater Management Planning and Design Manual and the CGS's 2006 Official Plan Stormwater Background Study, the minimum acceptable level of quantity control required to mitigate any potential flooding impacts of new development*"⁵. However, considering the extreme rain events we are already experiencing, the City should be planning, at a minimum, for 1:200-year flood events and, considering what is predicted to occur in the coming years, should be preparing for 1:1000-year flood events. "*Even a 1000-year return period has a 5% risk of being equalled or exceeded in a 50-year period.*"⁶

VRS Recommendations:

1. The Report must address the need for climate resilient communities, infrastructure and waterways through effective climate impact assessment, planning, policies and action.
2. In the short-term the City should plan for a 1:200-year flood event; and long-term planning should allow for a 1:1000-year flood event.

Option E: Diversion and Facility East of Ponderosa:

This project proposes a larger stormwater management diversion and potential storage facility by providing a connection from the area of the proposed berm into the natural storage area of the Ponderosa, a Provincially Significant Wetland and Natural Heritage System. "*Given the high natural heritage value and ecological sensitivity of the Ponderosa wetland, habitat enhancements and protection for local species must be carefully considered before finalizing the design of any works.*" This project has the potential for major negative impacts to this sensitive natural heritage feature and should be abandoned.

VRS Recommendation:

3. VRS opposes any project that would impact on the Provincially Significant Ponderosa Wetland.
4. Procure homes in the immediate vicinity of high flood risk areas and/or employ whatever other mitigative measures that will reduce the potential for flooding in the Flour Mill area.

Option G: Restoration and Reprofiling of Junction Creek Downstream of Ponderosa:

The Report clearly indicates that creek restoration and reprofiling would "*have a high potential for environmental impact and the potential for damage to sensitive natural features*".

VRS Recommendation:

5. Junction Creek Stewardship Committee and other local experts and stakeholders be involved in the design and implementation process.
6. Protect and enhance in-stream and shoreline habitat, maintain connectivity of the Junction Creek Waterway Park trail during and after construction, design and maintenance so that silting does not reoccur.

⁵ Final Junction Creek Subwatershed Study and Stormwater Master Plan Report, 12.2.1.1 Flooding. P-276

⁶ Technical Guide-River and Stream Systems: Flooding Hazard Limit – 2002. P-16

Expected Outcomes:

Unfortunately, none of the recommended Stormwater Master Plan Projects include the overall expected outcomes and benefits of the projects – neither on an individual or collective scale.

Will these projects prevent and/or improve flooding and water quality, and if so, to what extent? It appears that question can't be answered when the Report indicates that *“...a review of projected rainfall scenarios would also require discussion of community risk tolerance levels and the fiscal realities of attaining a defined level of service in this context. This in-depth review and analysis is more than can be completed within the work scope for a subwatershed study.”*

Without a Sudbury climate study, all of the recommended projects could be implemented, and millions of tax dollars spent, only to find they were ineffective in achieving the objectives of the Stormwater Master Plan.

VRS Recommendation:

7. The City undertake a Sudbury's Future Weather & Climate Driver Study, similar to Toronto's.

Regreening:

VRS is very pleased to see that regreening is the top priority for stormwater flood mitigation. Regreening is one of the most inexpensive and effective ways to help mitigate flooding, lessen runoff entering into our local lakes and rivers, and to protect expensive infrastructure.

Road Salt:

Road salt is contaminating a great number of Ontario's waterways, many of which are sources of public drinking water, such as Ramsey Lake, with sodium and chloride levels far above the recommended limits for some individuals and/or aquatic health.

EcoTraction is a lava-based product with no additives, has superior traction, is effective at any temperature, and would be a great alternative to road salt. Sand or woodchips are also effective alternatives. However, fracking wastewater contains a multitude of unknown chemicals and VRS strongly objects to it being used under any circumstances on any local roadways.

VRS Recommendation:

8. A Road Salt alternative be used in and around the Ramsey Lake subwatershed to prevent sodium and chloride levels from continuing to rise.

Septic System Maintenance & Inspection:

VRS supports the City implementing a mandatory 5-year septic system re-inspection program, as well as providing educational material to homeowners, similar to other Ontario municipalities.

In 2010, a 2-page Septic Inspection Report was completed by the pump-out company whenever a septic system pump-out occurred at a private residence (attached). VRS is uncertain why it was discontinued; however, this type of program should be reinstated. The data collected could provide valuable insights and information to the City for follow-up.

Again, a warming climate will continue to increase the stresses to our freshwater resources, and regular mandatory septic system maintenance would help prevent wastewater effluent from entering into our waterways. This important measure would have a significant positive impact on our local lakes, creeks and rivers.

VRS Recommendation:

9. The City initiate a Septic Inspection Reporting Program to require all local pump-out businesses to inspect the septic system whenever a pump-out occurs. The reports would be submitted to the City for any follow-up and data assessment and reporting.

The VRS would also like to extend our strong support for the comprehensive submissions made by the following organizations:

- Coalition for a Liveable Sudbury
- Junction Creek Stewardship Committee Inc.
- Greater Sudbury Watershed Alliance

Thank you for this opportunity to comment!

Sincerely,



Linda Heron
Chair, Vermilion River Stewardship

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SEPTIC INSPECTION REPORT

Owner's Name	[Redacted]	Property Info	[Redacted]
Address:	[Redacted]		
Apt/Suite	[Redacted]		
City:	HR		

Information

Date of Inspection:	May 11, 2010	Weather Conditions:	Clear
Age Of House:	1973	Age Of System:	1973
Is the system the Original System:	YES	Is there a garbage disposal?	NO
Is there a garbage disposal allowed with is system/local requirements?	N/A		
How many bedrooms?	4	How many occupants?	3
Where is gray water discharging?	Septic Tank		
Is the gray water discharge allowed with this sytem/local requirement?	Yes		
Explain:			

House was Occupied or Vacant?	Occupied
Type of System:	<input checked="" type="checkbox"/> Septic Tank <input type="checkbox"/> Septic Tank W/Pump <input type="checkbox"/> Cesspool <input type="checkbox"/> Other
Type of Drainage Area:	<input checked="" type="checkbox"/> Leaching Field <input type="checkbox"/> Sand Mound <input type="checkbox"/> Seepage Pit (s) <input type="checkbox"/> Other
If Other Describe:	

Procedures: The system inspection must conform to local standards. Must enter the home to operate the toilets and faucets. Be sure to run enough water through this system to adequately inspect. Inspect the tank structure and components for defects such as cracks, leaks, or damage. Probe and inspect the leach field for indications of saturations or failure. Properly close the tank and restore the disturbed area as best as possible. Let us know immediately if they need a landscaper for seeding or sod. If digging or extra costs are involved, please inform our office. If you have any questions regarding anything in this worksheet, please call our office.

SYSTEM FUNCTION Needs to be pumped Acceptable (No Repairs Necessary) Complete System Replacement
 Further Exploratory Work Needed

Explain:

Septic Tank:	<input type="checkbox"/> Acceptable <input checked="" type="checkbox"/> Unacceptable	Explain:	tank is cracking & deteriorating
How many septic Tanks?	1		
How many drain fields or drainage area?	1		
Water Level:	<input type="checkbox"/> Acceptable <input type="checkbox"/> Below Outlet <input checked="" type="checkbox"/> High		
Did the water level rise?	Yes		
Sludge Level	<input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> High		
Sludge Level (inches)	6"		

Septic Information Continued

Inlet Tee	<input type="checkbox"/> Acceptable <input checked="" type="checkbox"/> Unacceptable	Explain: Broken
Outlet Tee	<input type="checkbox"/> Acceptable <input checked="" type="checkbox"/> Unacceptable	Explain: Broken
Baffle Wall	<input type="checkbox"/> Acceptable <input checked="" type="checkbox"/> Unacceptable	Explain: deteriorating
Lid	<input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	Explain:
Drain Field	<input type="checkbox"/> Acceptable <input checked="" type="checkbox"/> Unacceptable	Explain: working at 50%
Was the Field Probed?	Yes	If No, Explain:
Was it Saturated?	Yes	Explain:
Is the system/drain field adequate for the size of the home?	Yes	Explain:
Did you pump the tank at the time of inspection?	Yes	
How many gallons?	200 gallons	
When was the tank pumped?	11 May 2010	How Verified? receipt attached
Does the septic tank still required pumping right now?	No	
Did the water level rise during your stress test (inside the tank)?	Yes	Explain:

Did any water drain back into the tank from the drain field after pumping, indicating a possible problem? **Yes**
 Explain: -

Approximately how much water was flushed through the system to test the drainage area? **20 Gallons**
 (Be sure to drain enough water through this system to adequately inspect. (MUST ENTER THE HOME!))
 Explain: **ran all facets in the home for approx 20-30 min**

If repairs are necessary, should the owner call the Health Department? **N/A**
 Explain:

If repairs are necessary, should the owner call an installer? **Yes**
 Explain:

Did you inspect the interior of the home, including the septic line in the basement? **Yes**
 Explain:

Have you inspected all integral components of the septic system (interior and exterior), including sewage ejector pumps, etc.? **N/A**
 Explain:

Inspected By: **Northern Sanitation** Inspection Date: **11 May 2010**
 Inspection Company:
 Certification #: **MOE A92029** Is a certification a requirement? **No**

SYSTEM LOCATION

Is the distance between the well casing and leach field acceptable according to local standards? **Yes**
 Explain:

Is the drain field adequate for the size of the home, according to the number of bedrooms/bathrooms? **Yes**
 Explain:

Please describe in detail all components of the septic system, well location, and any other water sources or pertinent information in space provided:
Septic tank with field bed, gravity feed

Approximate Distance from Home? **Septic system is approx 30ft from Home** Approximate Distance from Septic to Well?