

July 14 2022

Dear Chair and Board Members of the Grey Sauble Conservation Authority,

We are writing to express our concern about the current quality of flood plain planning in the Beaver Valley, particularly around the village of Kimberley, the former Talisman ski hill site and the existing sewage lagoons.

We believe that before any development is approved in the broader Beaver River watershed, a comprehensive new flood plain study incorporating modern data and modelling, as well as considering the current and future impact of climate change and Eugenia dam releases, both planned and catastrophic, must be undertaken.

We have reviewed the Beaver River Floodline Mapping Study Final Report from 1995, which we understand is the most recent substantive study on local conditions, and have the following concerns:

- **Data inputs are at least 27 years old:** The rainfall and other water flood data used in the above study were generated from the years prior to the study's drafting. This means the raw data inputs are even older. Clearly we can not assume that these inputs remain an accurate reflection of local environmental conditions: Between 1948 and 2008, the average annual temperature in Ontario has increased by approximately 1.5 degrees Celsius.¹ This trend is expected to continue and climate change projections predict a higher frequency of record-breaking storms and floods. In addition, local development in the last quarter century may also have influenced water flow and hydrology in the area.
- **Outdated modelling methodology:** The study employed modelling that was current for the era but is now obsolete. Ontario's Special Advisor on flooding noted in his 2019 report that "there have been substantive changes in technology with regards to hydrologic modelling and associated influence on the hydraulic analyses required to develop floodplain mapping."² Hydrological modelling has progressively become more sophisticated and accurate. Relying on antiquated models to predict flooding conditions when the capacity to create more modern accurate models exists cannot be justified, especially if new development is being considered on the site.
- **Impact of climate change not considered:** The study does not model any changes predicted to occur because of climate change. Recent significant flooding events in Muskoka and BC have highlighted the importance of this, as well as the financial and human costs of inadequate planning and mitigation strategies. As mentioned above, rising temperatures will be accompanied by a higher frequency of record-breaking storms and floods. A 2019 Provincial review of the Muskoka floods concluded that standards and technical guides regarding flood plain planning should be updated to reflect current science and climate

change.³

- **Eugenia Dam - potential for catastrophic water releases:** The Eugenia Dam was constructed in 1915 and controls Lake Eugenia water flows into the Beaver River. Although it is maintained, any catastrophic event would have flooding impacts downstream, including in the Kimberley and Talisman area. We have seen a glimpse of what this might look like in 2016 when high water inflows into Lake Eugenia led Ontario Power Generation to release water via the dam resulting in increased flows and local flooding in the Kimberley and Talisman areas.^{4,5} The 1995 report does not incorporate either a planned release of water or the impact of a flood event or catastrophic release via the dam.
- **Local Infrastructure - two municipal sewage lagoons:** There is important infrastructure within close proximity of the Beaver River around the Talisman lands, specifically the sewage lagoons which provide waste water treatment as well as a number of roads and bridges, and a sand dome used for winter road maintenance. Given its age, we believe that the 1995 study no longer provides any reassurance around how these vital pieces of infrastructure would be impacted by a major weather event.
- **Protection of water quality of the Beaver River:** The Beaver River is a very important fish spawning river and changes in water temperature and flow can have very negative shorter and long term impacts. The science related to water quality has changed significantly and modern science should be incorporated into an updated flood plan study.
- **Liability and Insurance:** Given the inadequacy of the 1995 report due to outdated data and modelling, and its failure to incorporate effects of climate change and the potential for Eugenia dam failure, any development on the golf course based on the 1995 report could lead to liability for the Conservation Authority and municipality should flooding occur in the future on the golf course lands at Talisman. For the same reason, we believe insurers would treat the golf course as potential flood lands, which will lead to difficulty acquiring insurance for any future owners of structures on these lands.

In conclusion, we believe that a comprehensive new flood plain study, which incorporates modern data and modelling, as well as climate change and Eugenia dam releases, both planned and catastrophic, must be undertaken before any development is approved for the golf course lands at Talisman. Until this time, we must err on the side of caution and protect any future owners of structures as well as public infrastructure on and near the golf course lands by putting a moratorium on new development on these lands.

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Rob Leverty, President, Niagara Escarpment Foundation, <https://nefoundation.ca/>

References:

1. Ontario Climate Change and Health Modelling Study available at: https://www.health.gov.on.ca/en/common/ministry/publications/reports/climate_change_toolkit/climate_change_health_modelling_study.pdf
2. An Independent Review of the 2019 Floods Events in Ontario available at <https://files.ontario.ca/mnrf-english-ontario-special-advisor-on-flooding-report-2019-11-25.pdf>
3. An Independent Review of the 2019 Floods Events in Ontario available at <https://files.ontario.ca/mnrf-english-ontario-special-advisor-on-flooding-report-2019-11-25.pdf>
4. Flooding Prompts State of Emergency in Chatsworth in Owen Sound Sun Times available at: <https://www.owensoundsuntimes.com/2016/04/01/flooding-prompts-state-of-emergency-in-chatsworth>
5. Eugenia Falls Generating Stations Water Management Plan available at: <https://www.opg.com/document/eugenia-falls-gs-water-management-plan/>