

SENT AS EMAIL ATTACHMENT FROM kwesthue@uwaterloo.ca to abryce@niagarafalls.ca

5419 River Road
Niagara Falls, Ontario L2E 3H1

20 September 2017

Mr. Andrew Bryce
Department of Planning, Building, and Development
City of Niagara Falls, Ontario

Dear Mr. Bryce:

Amidst the many other serious concerns – height, density, traffic, and so on – raised about the proposal to build two condo towers on River Road (AM-2017-11), I have a specific recommendation about possible geophysical hazards. I recommend that the current proposal, or any proposal of similar magnitude, *not* be approved until engineers expert in rock engineering and slope stability assessment certify that the risk of environmental damage to the Niagara Gorge and to nearby homes, as well as the risk of future instability of the towers themselves, is no higher than for projects commonly approved in other jurisdictions.

The developer may already have obtained such an assessment, but I don't believe so, since none of Time Development Group's representatives at last Monday's meeting cited it in response to my questions in this regard. What I recommend is something more than routine borehole data on substrata. The expertise that needs to be called upon can be found in the Rock Mechanics section of the Department of Civil Engineering at the University of Toronto (<http://civil.engineering.utoronto.ca/research/mining-geomechanics/rock-mechanics/>), in consulting companies like Rocscience in Toronto (<https://www.rocscience.com/company/about-us/our-team>), and in similar professional organizations elsewhere.

The need for such an assessment is supported by six plain facts:

1. No building of such height and weight has yet been built so close to the edge of the Niagara Gorge, least of all one resting on four levels for underground parking that will have to be carved out of the escarpment, possibly even by blasting. To see how unprecedented the proposed project is, one need only study satellite photos of the area along the Niagara River from the falls to Niagara-on-the-Lake.
2. The gorge has a history of instability, especially due to freezing and thawing of water that seeps into fissures from the Niagara River above the falls. The collapse of the huge Schoellkopf Power Plant in 1956, directly across the gorge from the development site, was the worst disaster due to rock instability. The collapse of Prospect Point in 1954 is another example; this was next to the American falls, about one km south of the development site. There have been numerous other rockfalls, including those that forced abandonment of the railway at the base of the gorge.

3. When a new building on this very site was proposed in 2008 (AM-2008-01), a building only about one third the size of what is currently proposed, the project was strongly opposed by local resident Bill Barratt, owner of the company that had installed concrete lighting poles along River Road. In a letter to the city, available in the online file, Mr. Barratt warned about the geological risks of large-scale construction on this site, and he enclosed photos of the Schoellkopf collapse. Mr. Barratt died in 2011. He would undoubtedly have even greater reservations about the present proposal.
4. Buildings even taller than those proposed have been built successfully near the edge of the escarpment in the Fallsview Casino District, but these are at a much higher elevation than the development site on River Road. They are far above the level of the Niagara River. Stormwater drains away from rather than toward their foundations. Seepage through fissures is of less concern. Alan Tregebov, architect for the buildings proposed on River Road, acknowledged at Monday's open house his concern about fissures in the rocks. Anyone observing the walls of the gorge in winter can see the patches of ice on the rockface where these fissures empty into the gorge. The development site on River Road is a more fragile natural environment than where the tall hotels now stand.
5. Representatives of Time Development Group at Monday's open house acknowledged that this relatively small company has never built a high-rise building before – not anywhere, much less in Niagara Falls. Nor has it built townhouses or single-family homes in this city. Prudence therefore dictates pulling in such outside expertise as is necessary to ensure a safe and successful construction project.
6. One point of agreement between the developer and the host community is that both are eager for the construction of housing on this site. It has been an ugly, unused blight on the city for more than ten years, doing no good for anybody. Almost everybody is in a hurry for redevelopment. This is a good thing, so long as no corners are cut with respect to safety and environmental concerns.

I am no more expert in rock science and environmental hazards than are the planners, the Mayor, and the Councillors of our city. I do not pretend to know how high or how deep buildings on the River Road redevelopment site can safely be built. For the six reasons summarized above, therefore, I believe that before any project of the proposed magnitude is approved, expertise in rock mechanics and slope stability assessment should be formally sought out.

I appreciate the city's government's attention to this recommendation. With best wishes,

Sincerely,



Kenneth Westhues