

Sustainability and Cumulative Effects Assessment in the Statutory Framework for  
Environmental Protection

Submitted by the Manitoba Eco-Network and Our Line in the Sand  
to the Manitoba Clean Environment Commission Review of the  
proposed Vivian Silica Sand Extraction Project

March 15, 2023

## *Executive Summary*

1. *The Environment Act* creates an environmental protection and management system in Manitoba that enables its participants, including the Clean Environment Commission (CEC), to consider the direct effects of proposed developments on the environment as well as potential effects, considered cumulatively, of a development's interactions with impacts from other sources, past, present, and future.
2. The broader statutory framework for environmental protection in Manitoba also includes *The Water Protection Act*, *The Groundwater and Water Wells Act*, and *The Mines and Minerals Act*, which emphasize the goal of sustainability and create express protections for the aquifers at stake in the present application.

## *Introduction*

3. As directed by its Terms of Reference, the Clean Environment Commission (CEC) has conducted a technical review and initiated a public hearing respecting Sio Silica Corporation's Environment Act Proposal for a silica sand extraction project near Vivian, Manitoba.
4. The evidentiary portion of the CEC process raised issues related to the vulnerability of the Red River Carbonate and Winnipeg Sandstone aquifers due in part to the irreversible collapse of the Winnipeg Shale aquitard, as well as to the proponent's failure to conduct a cumulative effects assessment of the proposed Development.

5. The following pages will contextualize the proposed development and the role and responsibility of the CEC in the relevant statutory framework. Then, a brief overview of cumulative effects assessment will be provided to demonstrate consistency with the requirements of *The Environment Act*, followed by a brief application of these aspects of the statutory framework to the present application.

#### *Principles of Statutory Interpretation*

6. The Supreme Court of Canada (SCC) has confirmed that the “definitive” approach to statutory interpretation is to read “the words of an Act...in their entire context and in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament.”<sup>1</sup>
7. Courts have also confirmed that Hansard, as the official record of debates in Parliament and the legislatures, can offer helpful contextual insight in statutory interpretation.<sup>2</sup>

#### *Environmental Assessment and The Environment Act*

8. *The Environment Act* (the “Act”) was passed in 1987 following extensive public consultation on a “discussion bill” that had been introduced in the previous legislative session.<sup>3</sup>

---

<sup>1</sup> *Bell ExpressVu Limited Partnership v. Rex*, 2002 SCC 42 at para 26.

<sup>2</sup> *Sagkeeng v Government of Manitoba et al*, 2021 MBCA 88 at para 36, citing *1704604 Ontario Ltd v Pointes Protection Association*, 2020 SCC 22 at para 6.

<sup>3</sup> *Sagkeeng v Government of Manitoba et al*, 2021 MBCA 88 at para 38.

9. At the Bill's second reading, the responsible Minister framed the Act as a response to the inability of predecessor legislation to respond to the heightened importance of environmental protection:

*Madam Speaker, the scope of the present act is far too narrow. The environment it protects is limited to air, water and soil, and it can only deal with actions that actually emit contaminants. The environmental impact assessment is limited and there are no provisions for environmental planning. To continue with the present act often would put us in the position of having to clean up after the damage was already done. **We have to manage the environment as a treasured resource for future Manitobans, and we must prevent, therefore, damage from occurring in the first place.***

*With this new legislation, we can better protect the environment. Manitoba's new Environment Act is innovative and prevention oriented. Its five basic principles put it on the cutting edge of environmental legislation in Canada and, for that matter, North America as well.*

*First of all, Madam Speaker, Manitoba's Environment Act recognizes that environmental protection in this province must include the full range of values that Manitobans hold for their environment. The word "environment" now has the scope to protect all ecosystems, whether human influenced or entirely natural. The act recognizes that environmental damage is not caused by pollution only, but may result from other factors as well. These are dealt with together. It gives us the ability to scrutinize all actions which may impact on the environment. **Any project of environmental significance can be subjected to an impact assessment for complete protection of our environmental heritage.***

*[...]*

***Our legislation is designed to provide as comprehensive an assessment as possible while working with industry to prevent environmental damage.<sup>4</sup>***

---

<sup>4</sup> Manitoba, Legislative Assembly, Debates and Proceedings (Hansard), 33-2, vol 35, No 56 (27 May 1987) at 2469-70. [emphasis added] (Hon Gérard Lecuyer).

10. The consultation report that informed the development of the Bill also clarified that “there must be a single unified regulatory process. The environmental regulatory process as contained in the proposed legislation must be a single unified process for each project to which it is applied. . . . For every project there is a single application, a single point of contact and a single environmental licence issued.”<sup>5</sup>
11. The minister’s statements in the legislature confirmed that this was a response to the previous framework’s “artificial division between pollution control and environmental impact”.<sup>6</sup> This consolidation of previously separate processes confirms the legislature’s intent for environmental impact assessment under *The Environment Act* to be comprehensive, addressing all sources of risk for potential environmental effects.
12. As made express in its purpose statement, *The Environment Act* was passed by the Manitoba legislature to “develop and maintain an environmental protection and management system in Manitoba which will ensure that the environment is protected and maintained in such a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for this and future generations...”<sup>7</sup>
13. The *Act* further states that this is to be accomplished in a manner that is “complementary to, and support for, existing and future provincial planning and

---

<sup>5</sup> *Sagkeeng v Government of Manitoba et al*, 2021 MBCA 88 at paras 40-41.

<sup>6</sup> Manitoba, Legislative Assembly, *Debates and Proceedings (Hansard)*, 33-2, vol 35, No 56 (27 May 1987) at 2470 (Hon Gérard Lecuyer).

<sup>7</sup> CCSM c E125 at s 1(1). [emphasis added]

policy mechanisms...”<sup>8</sup> It is also intended to “provide for the environmental assessment of projects which are likely to have significant effects on the environment”, and states that these assessments are to utilize “existing effective review processes that adequately address environmental issues.”

14. The environmental protection and management system created by the *Act* is also intended to facilitate public participation in environmental decision-making, and to prohibit the unauthorized release of harmful pollutants.<sup>9</sup>

15. The means by which the *Act* is structured to accomplish these objectives is by requiring that proposed “developments” be licensed in one of three categories or classes,<sup>10</sup> and by making the granting of licenses contingent on each proposed development undergoing an environmental impact assessment process.

#### *Express Statutory Protections for Groundwater*

16. The Government of Manitoba has stated that “water is central to the well-being of our natural environment, our families and our communities.”<sup>11</sup> Consistent with this assertion, the Manitoba Legislature has enacted a series of statutes for the express purpose of ensuring the quality, integrity and sustainability of water sources, including groundwater.

---

<sup>8</sup> *Ibid* at s 1(1)(a)-(c).

<sup>9</sup> *Ibid* at s 1(1)(d)-(e).

<sup>10</sup> CCSM c E125 at s 10(1), 11(1), and 12(1). See also *Classes of Development Regulation*, Man Reg 164/88.

<sup>11</sup> Manitoba, *Water Management Strategy (2022)* at 2, online: [https://manitoba.ca/sd/pubs/water/water\\_mgmt\\_strategy2022.pdf](https://manitoba.ca/sd/pubs/water/water_mgmt_strategy2022.pdf)

17. *The Water Protection Act*<sup>12</sup> is intended to “provide for the protection and stewardship of Manitoba’s water resources...” It expressly acknowledges that “Manitoba’s social and economic well-being is dependent upon the sustained existence of a sufficient supply of high quality water” and “that water resources...require protection to ensure the high quality of drinking water sources.” This *Act* acknowledges “the importance of comprehensive planning for watersheds” and recognizes “the importance of applying scientific information in decision-making processes about water, including the establishment of standards, objectives and guidelines.”<sup>13</sup>

18. Under *The Water Protection Act*, portions of the regional project area have been designated as The Cooks-Devils Creek Watershed for the purpose of watershed management,<sup>14</sup> and a watershed management plan has been developed pursuant to the *Act*.<sup>15</sup> Under the *Act*, watershed management plans are to “identify issues relating to the protection, conservation, or restoration of water...and drinking water sources” and identify objectives, policies and recommendations respecting matters including pollution prevention, demand management, and links between water management and land use planning.<sup>16</sup>

---

<sup>12</sup> CCSM c W65

<sup>13</sup> *The Water Protection Act*, CCSM c W65 at s 2(a), (b), (c), and (d).

<sup>14</sup> *Watershed Management Regulation*, Man Reg 149/2019 at s 2, Schedule.

<sup>15</sup> The Northeast Red Watershed District, “Cooks-Devils Creek Integrated Watershed Management Plan”, online: [https://www.northeastred.ca/images/Cooks\\_Devil\\_Creek\\_IWMP\\_FINAL\\_LR\\_1.pdf](https://www.northeastred.ca/images/Cooks_Devil_Creek_IWMP_FINAL_LR_1.pdf).

<sup>16</sup> *The Water Protection Act*, CCSM c W65 at s16(1)(a)-(c).

19. Importantly, *The Water Protection Act* makes clear that watershed management plans and aquifer management plans under *The Groundwater and Water Wells Act* are interrelated and cannot be read independently of one another.<sup>17</sup>

20. *The Groundwater and Water Wells Act*<sup>18</sup> was passed to “provide for the protection and stewardship of Manitoba’s aquifers and groundwater”. Its stated purpose also includes ensuring that well-drilling activities meet standards that protect “the environmental quality of Manitoba’s aquifers and groundwater” and “human health and safety.”<sup>19</sup>

21. Among other things, this *Act* creates a framework for the development of aquifer management plans for the purpose of identifying issues relating to the protection, management, conservation and restoration of groundwater in a designated area, and to specify objectives and recommendations respecting the prevention of pollution, water demand management, and linkages between aquifer management and land use planning.

22. While the region to be affected by the proposed development has not been designated an aquifer management zone under this *Act*, the regulations under this statute provide express protection for the Winnipeg Sandstone aquifer implicated in the present proposed development, stating that

...a person must not construct or seal a well or test hole in a manner that allows the interconnection or mixing of groundwater between the Winnipeg Formation and any overlying aquifer.”<sup>20</sup>

---

<sup>17</sup> *The Water Protection Act*, CCSM c W65 at s 15(b.1) states that approved aquifer management plans that apply within the watershed must be considered in developing a watershed management plan.

<sup>18</sup> *The Groundwater and Water Wells Act*, CCSM c G110.

<sup>19</sup> *The Groundwater and Water Wells Act*, CCSM c G110 at s 4.

<sup>20</sup> *Well Standards Regulation*, Man Reg 215/2015 at s 3(1). Section 3(2) of the same *Regulation* defines the “Winnipeg Formation” as “the shale, sandstone and sands of the Ordovician Winnipeg Formation.”

23. While wells or test holes to which *The Mines and Minerals Act*<sup>21</sup> applies are excluded from the application of *The Groundwater and Water Wells Act*,<sup>22</sup> the *Drilling Regulation, 1992* under *The Mines and Minerals Act* contains a parallel protection, expressly prohibiting drilling and abandoning boreholes in a manner that permits “the vertical movement of fluids” between aquifers such as the Winnipeg Sandstone and the overlying Red River Carbonate.<sup>23</sup>

24. Similar to the emphasis on preservation of water sources found in the purpose statements of the statutes set out above, *The Mines and Minerals Act* makes reference to the principles of sustainable development in its purpose statement, including the principle “that conservation policies and practices be applied to enable the extraction and production of minerals in the province in a manner that is wise and efficient in both environmental and economic terms.”<sup>24</sup>

25. Together, *The Water Protection Act*, *The Groundwater and Wells Act*, and *The Mines and Minerals Act* complement *The Environment Act* to form a statutory framework that emphasizes coordinated planning for sustainability and contains express protections for Manitoba’s groundwater resources.

#### *Cumulative Effects and Environmental Assessment*

26. Manitoba’s Water Management Strategy defines cumulative impacts as “changes to the environment (positive or negative, direct and indirect, long-term and short-

---

<sup>21</sup> CCSM c M162.

<sup>22</sup> *The Groundwater and Water Wells Act*, CCSM c G110 at s 5(a).

<sup>23</sup> *Drilling Regulation, 1992*, Man Reg 63/92 at s 6.

<sup>24</sup> *The Mines and Minerals Act*, CCSM c M162 at s 2(1), 2(2)(e).

term) that are caused by an action in combination with other past, present and reasonably foreseeable future human actions.” The Strategy goes on to note that “each individual impact may not be significant if taken in isolation, but can be significant when considered as a whole.”<sup>25</sup>

27. This definition is consistent with comments of the Federal Court of Appeal made with reference to the former *Canadian Environmental Assessment Act*, explaining that while the effects of a particular project may be insignificant when viewed independently, a cumulative effects assessment could still identify significant effects when other activities are taken into account. As explained by Rothstein, J.A. (as he then was):

Under paragraph 16(1)(a), the responsible authority is not limited to considering environmental effects solely within the scope of a project as defined in subsection 15(1) ... Indeed, the nature of a cumulative effects assessment under paragraph 16(1)(a) would appear to expressly broaden the considerations beyond the project as scoped. It is implicit in a cumulative effects assessment that both the project as scoped and sources outside that scope are to be considered.

[...]

Implicit in a cumulative effects assessment under paragraph 16(1)(a) are effects from both the project as scoped and other projects or activities. Sunpine argued that if there were no adverse environmental effects from the project as scoped, there could be no cumulative effects as envisaged by that paragraph. While on its face this argument is compelling, I am not sure it is possible to rule out that a federal project, while creating no adverse effects itself, could exacerbate adverse effects of other projects. In any event, a finding of insignificant effects as was made here still implies some effects from the bridge projects themselves. It is not illogical to think that the accumulation of a series of insignificant effects might at some point result in significant effects. I do not say that is the case here. **I only observe that a finding of insignificant effects of the scoped**

---

<sup>25</sup> Manitoba, Water Management Strategy (2022) at 40, online: [https://manitoba.ca/sd/pubs/water/water\\_mgmt\\_strategy2022.pdf](https://manitoba.ca/sd/pubs/water/water_mgmt_strategy2022.pdf)

**projects is sufficient to open the possibility of cumulative significant environmental effects when other projects are taken into account.**<sup>26</sup>

28. Further, literature suggests that given the nature of groundwater systems, cumulative effects assessments are particularly important when trying to understand the effects of mining operations on aquifers. As explained by Vink, Howe and Moran,

Assessing cumulative impacts on groundwater systems is extremely important since this resource is hidden from view and often poorly parameterized. Impacts often take a long time to materialize due to relatively slow groundwater flow rates. Thus, it is extremely important that a cumulative impacts assessment adequately considers temporal aspects not only in the environment but also in mine operating conditions over the life-of-mine and beyond.”<sup>27</sup>

29. These comments are consistent with past statements of the CEC, including the assertion that “in order to be done well, [environmental impact assessments] must also include an assessment of cumulative effects.”<sup>28</sup>

#### *Cumulative Effects and The Environment Act*

30. As a central mechanism in the operation of the *Act*, the definition of Development is central to understanding the harms the *Act* was designed to protect against, as well as the scope of “adequate” environmental assessment processes within the meaning of section 1(1)(c).

---

<sup>26</sup> *Friends of the West Country Assn. v. Canada (Minister of Fisheries and Oceans) (C.A.)*, [2000] 2 FC 263 at paras 34, 39. [emphasis added]

<sup>27</sup> Sue Vink, Paul Howe, and Chris Moran, “Cumulative impact assessment for groundwater” in Jill A. E. Blakely & Daniel M. Franks, eds, *Handbook of Cumulative Impact Assessment* (Northampton: Edward Elgar (2021) 230 at 231.

<sup>28</sup> Manitoba Clean Environment Commission, “Regional Cumulative Effects Assessment Review” (2018) at 7.

31. “Development” is defined broadly by the *Act*, capturing any “project, industry, operation or activity” or any alteration or expansion thereof “which causes or is likely to cause” any of a series of potential impacts that are set out in a list.<sup>29</sup> The potential impacts that may characterize a project, industry, operation or activity as a “development” for the purposes of the *Act* is broad and non-exhaustive, considering the Minister’s authority to deem a project, industry, operation or activity a development for the purposes of the *Act*.<sup>30</sup>
32. Many of the potential impacts listed in the definition of “Development” make explicit the fact that what characterizes an activity as a “development” requires consideration of the effects of that activity interacting with other potential environmental effects, including into the future.
33. For example, the list characterizes as a development any project, industry, operation or activity that involves a “substantial utilization or alteration of any natural resource” in such a way as to “pre-empt or interfere with the use or potential use of that resource for any other purpose” or “have an adverse impact on another resource.”<sup>31</sup>
34. Also included are activities that cause or are likely to cause “a significant effect on the environment or will likely lead to a further development which is likely to have a significant effect on the environment.”<sup>32</sup> The list also contemplates effects on “social, economic, environmental health and cultural conditions that influence

---

<sup>29</sup> CCSM c M162 at s 1(2), “Development”.

<sup>30</sup> CCSM c M162 at s 16.

<sup>31</sup> CCSM c E125 at 1(2), “development”. See (d) and (e).

<sup>32</sup> CCSM c E125 at 1(2), “development”. See (g).

the lives of people or a community in so far as they are caused by environmental effects.”<sup>33</sup>

35. The inclusion of these potential impacts in the definition of “development” makes clear that a comprehensive understanding of a “development” necessarily involves an assessment not only of a proposal’s direct and immediate potential effects, but also its potential future effects potential compounding effects when considered in combination with other developments or environmental realities affecting its surrounding community in the past, present, and future.

36. This is consistent with the *Act’s* use of the words “may induce” in (f) of the definition of the development, which invites consideration of potential effects that may be indirectly caused.<sup>34</sup>

37. The *Act’s* characterization of “development” as projects, industries, operations or activities that may have complex, long-lasting effects that may interact with the effects of other activities is consistent with the CEC’s many findings and recommendations, to be discussed further below, that cumulative effects assessment is an essential element of environmental impact assessment including under *The Environment Act*.

38. This is also consistent with the *Act’s* express assignment of authority to the Lieutenant Governor in Council in section 41(1)(d) to restrict by regulation “the

---

<sup>33</sup> CCSM c E125 at 1(2), “development”. See (h).

<sup>34</sup> For example, Merriam-Webster defines “induce” as “to move by persuasion or influence” or “to call forth or bring about by influence or stimulation”. Online: <https://www.merriam-webster.com/dictionary/induce>

number and types of developments that may cause adverse cumulative effects...in the province, or any part thereof.”<sup>35</sup>

39. *The Environment Act* clearly contemplates an environmental protection and management system, of which the CEC is a part, that contemplates the potential interactions of a development with other past, present and future environmental effects through cumulative effects assessment.

*The role and responsibility of the Clean Environment Commission*

40. The Clean Environment Commission is established by section 6(1) of the *Act* for the express purposes of “providing advice and recommendations to the minister”, “developing and maintaining public participation in environmental matters” and carrying out specific functions under select other statutes.<sup>36</sup>

41. In addition to authorizing the CEC to undertake investigation into environmental matters on its own volition,<sup>37</sup> section 6(5) of the *Act* assigns to the CEC four key functions which it is to carry out upon the request of the minister. The functions which the CEC has been directed to exercise in the present matter are “(a) to provide advice and recommendations to the minister” and “(b) to conduct public meetings or hearings and provide advice and recommendations to the minister.”<sup>38</sup>

---

<sup>35</sup> CCSM c E125 at s 41(1)(d).

<sup>36</sup> CCSM c E125 at s 6(1).

<sup>37</sup> CCSM c E125 at s 6(3).

<sup>38</sup> CCSM c E125 at s 6(5).

42. Section 6(5.1) makes clear that the minister may specify the terms of reference which are to guide the Commission in exercising these functions.<sup>39</sup>

43. On completion of its work, section 7(3) of the *Act* directs the Commission to submit its recommendations to the minister.

44. In the present matter, the CEC's terms of reference require it to

...conduct a technical review of the Environment Act proposal and the hydrogeology and geochemistry assessment report and provide advice and recommendations to the Minister regarding potential environmental and health effects of the proposed sequential installation, operation and decommissioning of silica sand extraction wells for the silica sand extraction project.<sup>40</sup>

45. The statutory mandate of the CEC, including its interpretation of the Minister's terms of reference, is necessarily understood in the context of the whole statutory framework, which requires that "effective" review mechanisms "adequately" address environmental issues by considering the potential effects of proposed developments in combination with other potential environmental effects.

*The CEC has long exercised its role consistent with the requirements of the statutory framework*

46. The CEC has extensive experience reviewing the potential effects of proposed developments consistent with the requirements of the statutory framework.

47. For example, its 2007 report respecting the Pembina Valley Water Cooperative Supplemental Groundwater Supply System illustrates an application of the

---

<sup>39</sup> CCSM c E125 at s 6(5.1).

<sup>40</sup> CEC Terms of Reference, Vivian Silica Sand Extraction Project, (15 November 2021).

statutory framework as described above. The CEC developed recommendations which were complementary to existing provincial policy and planning mechanisms, and expressly considered the proposal's "possible influences ... on the surrounding water bodies and landscape..."<sup>41</sup>

48. In that process, the CEC recognized that Manitoba had developed a comprehensive series of statutes and policy documents that comprised a provincial water policy and provincial water strategy addressing risks related to both surface and groundwater.<sup>42</sup>

49. Ultimately, the Commission found that the lack of regional watershed and aquifer management plans through which the provincial policy and strategy could be implemented created an unacceptable level of uncertainty surrounding the proposed development.<sup>43</sup> The Commission determined that a "precautionary" approach was appropriate and recommended that the project not be licensed in the absence of an integrated watershed and aquifer management plan.<sup>44</sup>

50. In doing so, the Commission recognized that "the ecosystems in the area are currently affected by other developments and activities in the region and consideration of the additive effect of another impact needs to be addressed." To

---

<sup>41</sup> Manitoba Clean Environment Commission, "the Pembina Valley Water Cooperative Supplemental Groundwater Supply System" (2007) at 48.

<sup>42</sup> Manitoba Clean Environment Commission, "the Pembina Valley Water Cooperative Supplemental Groundwater Supply System" (2007) at 33, 36.

<sup>43</sup> *Ibid* at 42-43.

<sup>44</sup> Manitoba Clean Environment Commission, "the Pembina Valley Water Cooperative Supplemental Groundwater Supply System" (2007) at 50.

accomplish this, the Commission stated that “cumulative effects should be considered in future assessments of this and any other development.”<sup>45</sup>

51. To illustrate the reason for this in a 2013 report, the CEC relied on Duinker and Grieg’s explanation that two projects which may have “undetectable” impacts by themselves could still have “horrific impacts together”:

Some would make the persuasive argument that any project EIA should first try to determine whether the proposed project, with and without impact mitigation, might itself have any effects on [valued environmental components]. After all can assessors not conclude that a project cannot have any significant cumulative effects if it has no effects by itself? As attractive as this argument may be initially, it breaks down as soon as we consider the distinct possibility that two projects in the same vicinity, one ahead of the other in sequence, may each have undetectable impacts by themselves, but horrific impacts together.<sup>46</sup>

#### *Risks of adverse cumulative effects in the present application*

52. The risk of adverse cumulative effects raised by the present proposal have been brought to the Commission’s attention by multiple experienced practitioners in the area of geotechnical engineering and groundwater hydrogeology.<sup>47</sup>

---

<sup>45</sup> *Ibid* at 48. The CEC has made this same assertion on numerous other occasions. For example, its 2018 Regional Cumulative Effects Review (at page 7) states that “in order to be done well, [environmental impact assessments] must also include an assessment of cumulative effects.” In its 2013 report following the public hearing respecting the Bipole III transmission project, the CEC explained that “the cumulative effects analysis should be the most important section of an environmental assessment report. It is where the residual or lasting effects of the project are described.”

<sup>46</sup> Manitoba Clean Environment Commission, “Report on Public Hearing: Bipole III Transmission Project” (June 2013) at 112, citing Duinker, Peter N. and Lorne A. Greig. 2006. *The Impotence of Cumulative Effects Assessment in Canada: Ailments and Ideas for Redeployment*. Environmental Management, 37(2): 157.

<sup>47</sup> This issue was also raised in the Motion filed by MBEN and OLS on October 14, 2022.

53. Mr. Louis-Charles Boutin, the independent expert retained by the Manitoba Eco-Network and Our Line in the Sand, has identified potential irreversible effects that “could lead to potential preferential pathways for vertical migration of groundwater and contaminants.” He explains further that “the absence of a [cumulative impact assessment] is an important deficiency...[that] would consider impacts from existing and foreseeable future activities in the region.”

54. Arcadis Inc., in its role as CEC technical advisor, explained that:

Significant cumulative effects can occur when too much is happening within too small an area and in too brief a period of time. Depending on the circumstance, a threshold may be exceeded and the environment may not be able to recover. The potential for this to occur needs to be considered when making decisions regarding whether a Project should be allowed to proceed and under what conditions.<sup>48</sup>

55. Arcadis ultimately concluded that the proponent’s failure to conduct a cumulative effects assessment “represents a substantive deficiency in the Project Proposal.”<sup>49</sup>

56. This deficiency is exacerbated by what Arcadis criticizes as being “project splitting”,<sup>50</sup> which the proponent has facilitated both by licensing its processing plant separately from its extraction project, and by limiting the scope of its application temporally. The proponent accomplishes this by seeking a license for only on the first five of the project’s twenty-five year lifespan, despite advertising to community stakeholders the “multi-generational” value of its intentions.

---

<sup>48</sup> Arcadis report at 25.

<sup>49</sup> *Ibid.*

<sup>50</sup> *Ibid* at 10.

57. The importance of a cumulative effects assessment in the present process has also been highlighted by Mr. Louis-Charles Boutin of Matrix Solutions Inc., who explained that one immediate, direct and irreversible effect of the proposed project will be an increase in the vulnerability of the groundwater system to potential future sources of contamination due to the creation of preferential pathways for vertical movement of water.<sup>51</sup> Without a cumulative effects assessment, it is not known what risks the aquifers will be exposed to as a result.

58. Given the priorities expressed in the Southeast Regional Groundwater Management Plan, Mr. Boutin recommended the cumulative impacts assessment consider issues related to the long-term sustainability of the aquifer including foreseeable population, industry, and agricultural growth.<sup>52</sup>

### *Conclusion*

59. The CEC holds a specific and important position in the environmental protection and management system created by *The Environment Act*, which is to conduct a review process that adequately assesses potential environmental effects associated with the proposed development.

60. Read in context and harmoniously with the statutory scheme and the object and the intention of the legislature in creating statutory protections for the environment and groundwater, the CEC must necessarily look beyond the four

---

<sup>51</sup> Clean Environment Commission Hearing Transcript, March 8, 2023 at page 37.

<sup>52</sup> Louis-Charles Boutin (Matrix Solutions Inc.) Presentation to CEC (Exhibit H-038), March 8, 2023 at slide 39.

corners of the proponent's Environment Act Proposal to consider the direct effects of proposed developments on the environment as well as potential effects, considered cumulatively, of the proposed development's interactions with impacts from other sources past, present, and future.