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28 September 2018

The Honourable Rod Phillips  
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Re: City of Cambridge  
Class Environmental Assessment – Riverside Dam  
Notice of Study Completion  
Part II Order Request

Dear Minister Phillips:

The Ontario Rivers Alliance (ORA), OFAH – Zone J, Canadian Wildlife Federation, Thames River Anglers Association, Ontario Nature, Thames River Rally, Earthroots and Freshwater Future (Partners) are writing to express our concerns regarding the City of Cambridge Class Environmental Assessment for the Riverside Dam (ESR). Thank you for this opportunity to comment. We request that you issue a Part II Order to elevate the Riverside Dam ESR, Schedule B, to an Individual EA under Part II of the Environmental Assessment Act.

The full Capital and Life Cycle Costs of Rebuilding Riverside Dam were not realistically represented in the ESR and could well end up costing the taxpayers more than double what was presented to the public and City Council. A Rebuilt dam would be considered a new dam, not a repair or expansion of an existing weir, with an assessed High Hazard Potential, and is located within the City of Cambridge in a location that could place multiple residences and businesses at risk in the event of severe flooding or a dam breach. ORA and Partners submit that this Project goes far beyond the screening process provided by a Schedule B, Class EA. Consequently, we submit that this is a major project that should fall into a higher level of assessment.

Requiring a higher level of assessment under an Individual EA would allow for a more rigorous Environmental Assessment process that would place more emphasis on the true costs of a Rebuild on the natural, social, cultural, built and economic environments. It would also fulfill the purposes of the Environmental Assessment Act, to ensure

*the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment<sup>1</sup>.*

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<sup>1</sup> *Environmental Assessment Act, R.S.O. 1990, c. E.18, S. 2, Purpose of the Act.*



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ORA and Partners have communicated our concerns regarding the ESR with the City of Cambridge Council, staff and their consultants as follows:

- 18 April 2018: ORA sent a letter to City of Cambridge Council expressing our concerns regarding the rejection of the Project Team’s Recommendation to Naturalize the Speed River at Riverside Park.
- 16 May 2018: ORA and Partners submitted a letter to Scott MacDonald, P. Engineer, Project Engineer with the City of Cambridge, in response to the City’s call for feedback on recent updates to the Preliminary Preferred Alternative and to comment on the direction of Council to “identify a process that enables the City to rebuild or repair Riverside Dam”<sup>2</sup>.
- 26 June 2018: At the invitation of Scott MacDonald, Robert Huber, ORA Vice-Chair, attended a City of Cambridge Council Meeting making a presentation to express our concerns.
- 4 September 2018: ORA and partners met online with Scott MacDonald and consultants in an attempt to discuss and resolve our concerns.

After having carefully reviewed the information presented in the Riverside Dam ESR, and in consideration of our discussions with the City of Cambridge Council, staff and consultants, ORA and Partners continue to have several unresolved concerns as set out below (underline indicates emphasis):

### 1. Riverside Dam ESR was a Flawed Municipal Class EA Process:

The ESR Problem and Opportunity Statement indicates that, “*given the age of the structure, its location in a natural watercourse, adjacency to Riverside Park, and its popularity with the public, the future management of the Riverside Dam must consider several constraints and opportunities related to safety, riverine processes, flooding, cultural heritage, natural habitat, public uses and aesthetics*”. However, it also states that “*the Preferred Alternative must address*

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<sup>2</sup> Riverside Dam ESA, 6 March 2018 Report to General Committee, Report No: 18-016(CD), File No: T-04-060-RI, from James Etienne, P. Eng., City Engineer.



the Problem while balancing study area constraints and opportunities, in order to best meet the needs of the various stakeholder groups invested in the Riverside Dam.”<sup>3</sup>

While we agree with the statement above in theory, in actuality, the ESR process lacked integrity as it was missing any consideration of the effects of Climate Change in the Preferred Alternatives, lacked a fulsome accounting of costs, lacked meaningful engagement with Indigenous communities, and the decision-making process was unbalanced and heavily weighted in favour of a few people at the expense of many.

### **1.1 Project Team Recommendation to Naturalize – Rejected by Council:**

ORA and Partners have a fundamental concern with the way in which the ESR was manipulated in order to support the new desired outcome. We seriously question the integrity of an Environmental Assessment process where the best advice and recommendations of a Project Team that has worked on the environmental assessment for over 6 years is dismissed by rejecting their Recommendation to Naturalize, and then an order is given to rework of the ESR to support Council’s decision to Rebuild.

Scott MacDonald, Project Engineer, went to the General Committee (GC) meeting on 6 March 2018, with a recommendation to authorize staff to finalize the Riverside Dam Class EA Project File so the Notice of Study Completion could be posted for stakeholder comment. The Key Findings and Recommendation in the Executive Summary: *“Through the Class EA evaluation process Naturalize the Speed River has been selected as the Preferred Alternative”<sup>4</sup>.*

However, after several delegations from the public at that meeting, the GC made a unanimous decision: *“THAT Report 18-016 (CD), re: the Riverside Dam Class Environmental Assessment – Study Completion – be referred back to staff to report back to Council on how to proceed with rebuilding and/or repairing the dam”<sup>5</sup>.*

At the 26 June 2018 Council Meeting, the Key Findings had been revised to read: *“Following input from Council on March 6, 2018, the criteria used to evaluate the alternatives were reviewed and the ‘cost’ and ‘liability’ criteria had their weighting reassessed to more completely reflect the sentiments of Council and some members of the public. After the weightings for ‘cost’ and ‘liability’ were adjusted, Rebuild the Dam has been selected as the preferred alternative through the evaluation process”<sup>6</sup>.*

This revision was accomplished by changing the weighting of two criteria in the Scoring Matrix – **Life Cycle Costs** and **Liability**. This then brought **‘Rebuild’** into a tie with **‘Naturalization’**. However, the tie was easily broken: *“Since the City, and particularly Council, is the proponent for this project and given the revised weightings of the above criteria are more reflective of the community and Council, the Project Team is recommending a preferred alternative to rebuild Riverside Dam.”<sup>7</sup>*

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<sup>3</sup> Riverside Dam ESR – Part A, ES 5.0 Problem and Opportunity Statement. P-17/164.

<sup>4</sup> Report from Scott MacDonald, Project Engineer, to General Committee, 6 March 2018 - Report 18-016 (CD).

<sup>5</sup> City of Cambridge General Committee Meeting Minutes, P-8

<sup>6</sup> Report from Scott MacDonald, Project Engineer, to Council, 26 June 2018 – Report 18-103 (CD).

<sup>7</sup> Report from Scott MacDonald, Project Engineer, to Council, 26 June 2018 – Report 18-103 (CD). P-4/79.



**Detail of adjustments made:**

**Life Cycle Cost Adjustment:** *“Council accepts the Operating and Maintenance costs. The project team concluded that as such Life Cycle Cost should have a low weighting and therefore the weighting in the evaluation was changed from Medium to Low”.*

**Liability Adjustment:** *“Similar to Life Cycle Cost, the message from Council was that Liability was not a significant concern and that the City will accept the risks associated with a dam and its operations. The project team concluded that Liability should have a low weighting and it was changed from Medium to Low in the evaluation”<sup>8</sup>.*

How can anyone place any value or integrity in the ESR and its conclusions, key values and weightings, in a process that can so easily be manipulated to suit a desired outcome? This is especially troublesome when Council says Liability is *“not a significant concern”*. Liability also involves considerations of safety and risk to the community – they’re tied together, and in this case lives and property may be placed at risk in the event of flooding or a sudden dam failure – yet it’s weighted as “Neutral” in the Evaluation sheet for a Rebuild. How can liability and risks to public safety be so easily dismissed and devalued when those people and businesses downstream or within the flood plain area could lose their life or property?

The ESR backs this up when it states, *“From a public safety and Municipal liability perspective, replacing the dam would represent a long-term risk to persons and property due to the potential for the dam to fail, along with the need for perpetual operations and maintenance”<sup>9</sup>*. The ESR also states that the dam represents *“a minimum Hazard Potential of High”<sup>10</sup>*.

Therefore, it is not just a matter of the City accepting the costs, liability and risks, the priority should be ensuring the safety of the community.

Nowhere in the ESR does it even mention or consider the effects of Climate Change, and how that is predicted to increase the risks and liabilities associated with being a dam owner.

As described in detail in Sections 3.1 and 3.2 below, the Life Cycle Costs in the ESR were incomplete and were not representative of the true costs of the Rebuild project. Therefore, the consultation process and key decisions were based on incomplete and misleading information.

## 1.2 Scoring Matrix – Evaluation & Weighting:

*An environmental assessment must incorporate the key features of environmental planning under the Environmental Assessment Act, R.S.O. 1990, Chapter E.18, as amended, (herein referred to as the EA Act), is to provide for:*

*... the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment.* (Part I-Section 2).

*The meaning of ‘Environment’ is applied in a broad sense and includes the natural, social, cultural, built and economic environments.<sup>11</sup>*

<sup>8</sup> Report from Scott MacDonald, Project Engineer, to Council, 26 June 2018 – Report 18-103 (CD). P-4/79.

<sup>9</sup> Riverside Dam ESR – Part A, P-144/164

<sup>10</sup> Riverside Dam ESR – Part A, P-112/164

<sup>11</sup> Municipal Class Environmental Assessment, Part A Class EA Planning Process, A.1 Ontario Environmental Assessment Act – Purposes of the EA Act.



The Class EA is a planning process that allows proponents to assess the potential for environmental effects using best information available in order to make an informed decision about whether a project should proceed, based on the above key criteria.

We submit that the key decisions made throughout the preparation of the Alternative Evaluation Table, with its criteria, values and weightings, were based on a select few stakeholders, reflecting their personal opinions, values and agendas. In fact, the final decision by Council to Receive the ESR and post the Notice of Completion was facilitated by changing the values and weightings of Life Cycle Costs and Liability in the Scoring Matrix of the Alternative Evaluation Table.

The ESR Alternative Evaluation<sup>12</sup> Table was primarily based on the results of two stakeholder workshops. *The core objective of these Stakeholder workshops was to provide selected Stakeholders with a direct role in offering input to the Alternative Assessment process and allow them, and some members of Council, to actively participate in the review/assessment process.*<sup>13</sup> As part of Stakeholder Workshops, selected stakeholder representatives were asked to complete the Alternative Assessment “Smart Spreadsheet” which facilitated their input into criteria, values and weightings for the short-listed alternatives.

For instance, the ESR reports that *“The criteria selected for evaluation have been assigned a significance weighting based on consultation with the public, agencies and other stakeholders, and each alternative has been assigned a score for each evaluation criterion”*<sup>14</sup>.

The weighting for the different criteria and alternatives were based on the Alternative Assessment Smart Spreadsheet, which the ESR reports had inconsistent results within four categories, one of which was Liability. Additionally, neither of the regulatory agencies, MNRF or Grand River Conservation Authority (GRCA), submitted an ‘Alternate Assessment ‘Smart Spreadsheet’, which undoubtedly would have made for a more informed and credible value and Scoring Matrix.

Therefore, depending on how many people attended the workshops, for or against an Alternative, the value or weighting of an item such as public safety or liability could be weighted as Very High or Low, Neutral, Negative or Positive, or anywhere in between. It appeared to be an extremely complicated and arbitrary process, where science took a backseat to personal opinions and values. This Smart Spreadsheet was relied upon heavily in the decision-making process.

In the end only 9 Smart Spreadsheets were accepted by City staff; therefore, the Alternative Evaluation relied on a total of 9 attendees’ whose personal opinions and values were polled to determine which key criteria and values and corresponding weighting would be applied, rather than relying on science or evidence-based considerations and decision making. This method is fraught with problems with bias and error and should not be relied upon for decision making.

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<sup>12</sup> *Riverside Dam ESR – Part A, Table ES-7.1 Alternative Evaluation, P-25/164.*

<sup>13</sup> *Riverside Dam ESR – Part C, P526/649*

<sup>14</sup> *Riverside Dam ESR – Part A, Initial Evaluation of the Short List of Alternatives. P-144/164.*



Many of these values and weightings were not consistent. For instance, we question the assigned evaluation comments in the Alternative Evaluation (Table ES-7.1) on the Rebuild for Economic/Liability of “*Low risk of failure*” and a weighting of “*Neutral*”, when in the same table, under Social/Public Safety, the comment states “*its existence represents a hazard*”; and the preliminary qualitative assessment in the ESA states that the overall minimum Hazard Potential would be considered “*High*” - yet it is ranked as “*Neutral*”.<sup>15</sup> This is also the case for flooding and sediment stability/transport.

A Rebuilt dam will fall under current LRIA regulations which will require it to be built to a much higher standard than the weir built over 100 years ago, and that alone should not be reflected by a “*Neutral*” affect. With a minimum estimated designation of High Hazard Potential for a Rebuilt dam it must withstand a Regulatory Flood to Probable Maximum Flood. Therefore, it should not be ranked as Neutral when it would represent an increase from what is required for the current weir.

Deeming something to be a hazard is inconsistent with a Neutral classification. Something considered to be a ‘High’ hazard should be weighted with something representative of that hazard.

There is also a huge gap in the ESR in that none of the evaluations or weightings have seriously considered or reflected the safety or environmental effects as they relate to climate change or recognized the predicted increase in the number and intensity of extreme rain and drought events over the coming years. This is especially surprising when the Federal government has been encouraging municipalities through the availability of significant funding to build climate resilience into their infrastructure projects<sup>16</sup>.

Additionally, MNRF sent a letter dated 31 May 2017, indicating its support of an alternative that would include decommissioning of the Riverside Dam, GRCA sent a letter dated 18 October 2016, and the Region of Waterloo sent a letter on 25 May 2016, all stating their support for the Naturalization of the Speed River. However, this didn’t seem to carry any weight in the Scoring Matrix when the decision to Rebuild was made by Council.

### 1.3 Overall Ranking of Alternatives:

In the Overall Ranking of Alternatives in the ESR, Alternative C (Rebuild), was given an equal weight in ranking with each of the other alternatives; however, Alternatives E (Naturalize), F (Instream) and G (Offline) all involved removal of the dam, so that should have carried much more weight in favour of dam removal – they only varied in the method of naturalization, whether it was total stream naturalization, or a rock dressing, or off-line pond – they all involved decommissioning the dam. Therefore, having 3 options for Naturalization actually watered down that side of the vote for Preferred Alternatives.

Table 6.7: Overall Ranking of Alternatives, shows a comparison of the overall ranking of the 4 short-listed alternatives by Stakeholders. It “suggests that most Stakeholders consider Alternative ‘E’: Naturalize as either their first or second choice, which results in it becoming the consensus alternative selection on the basis of the ranking comparison”<sup>17</sup>.

<sup>15</sup> Riverside Dam ESR – Part A, Table ES-7.1. P-25/164.

<sup>16</sup> The Government of Canada is heling plan and build greener, more sustainable infrastructure for Canadians.

<sup>17</sup> ESR Riverside Dam – Part A, Table 6.7. P-155/164.



**Table 6.7: Overall Ranking of Alternatives**

Respondent	Alternative 'C': Rebuild		Alternative 'E': Naturalize		Alternative 'F': Instream		Alternative 'G': Offline	
	Value	Ranking	Value	Ranking	Value	Ranking	Value	Ranking
1	-6	4	108	2	158	1	12	3
2	4	4	33	2	13	3	35	1
3	45	4	124	1	78	3	86	2
4	71	1	-67	2	-111	4	-68	3
5	71	1	-67	2	-111	4	-68	3
6	17	1	2	3	-5	4	4	2
7	21	1	-1	2	-13	3	-13	3
8	-2	4	52	1	22	2	20	3
9	12	2	22	1	-5	4	2	3
Net Rating		2.4		1.8		3.1		2.6
Project Team	8	3	14	1	3	4	10	2

However, when you look at the first and second choices in each category of Alternatives E, F and G, and compare them against Alternative C, the Overall ranking comes out in favour of dam removal.

It is difficult to understand the value in a 9-participant consultation session and that it carried so much weight in the decision-making process, especially with the complex value and weighting system that resulted.

#### 1.4 Consultation of Indigenous Communities:

The recent Federal Court of Appeal decision regarding the Trans Mountain pipeline and tanker project has set the standard for engaging in a meaningful two-way dialogue, to consider the concerns raised by Indigenous communities, and making changes to address possible accommodation of their concerns. Consultation with First Nations is a constitutional and moral duty and must do more than the bare minimum, it must accommodate.

There was also no compelling safety, flood control or economic need for the dam when the decision was made to Rebuild. The reasons provided by the delegations to Council in support of the Rebuild, were all about heritage and aesthetic values. While these values are important, there were no arguments regarding the environmental benefits of a Rebuilt dam, or consideration for how a decision to Rebuild might accommodate the concerns put forward by Indigenous communities.

*“The City and its Consultant Team met face to face with the Six Nations of the Grand River [SNGR] and the Mississaugas of the New Credit First Nation [MNCFN] in September 2017 (the Haudenosaunee Development Institute [HDI] was also contacted, however no meeting was arranged). Verbal support for the Naturalize Speed River alternative was provided from those Indigenous Communities consulted.”<sup>18</sup> Further dialogue was held with the Band Councils of SNGR in May and MNCFN in June of this year, and “the purpose of the meeting was to provide an update on the Study and outline City Council’s direction for Staff to revisit the evaluation of the two favoured alternatives”<sup>19</sup>. This was a mistake at best, because*

<sup>18</sup> Riverside Dam ESR – Part A. 6.1. P-157/164

<sup>19</sup> Riverside Dam ESR – Part A. 6.1. P-159/164



actually, the General Committee had already indicated to staff that there was only one favoured alternative at this time, and that was to Rebuild.

There is very sparse information in the ESR regarding what concerns Indigenous communities had, and there is no evidence within the documentation to indicate what attempts were made to accommodate or address their preferences or concerns. We only know that their preference was for Naturalization of the Speed River which was no longer an option after 6 March 2018.

It appears by the Consultation Schedule<sup>20</sup>, that a meeting with SNGR and MNCFN didn't happen until September of 2017, while by that time there had already been 3 Public Information Centres (PIC) held: PIC 1 held in April 2012, PIC 2 in June 2013, and PIC 3 held in June 2016. There is also no information regarding the extent of the City's attempts to communicate with the HDI.

Why did it take 5 years for the City to begin consultation with Indigenous Communities? Workshops with stakeholders began as early as 2012. Yet, it is our understanding that the City did not start consulting with Indigenous communities until 2017, nor subsequently incorporate their input into the Smart Spreadsheet and the ESR.

We submit that it is unclear within the ESR consultation documents whether the nature and extent of consultation with Indigenous communities has appropriately considered their interests. It appears that consultation engagement efforts with affected Indigenous communities did not meet the standards of meaningful engagement and were inadequate.

It is our understanding that the SNGR have an active land claim for their Traditional Territory which spans 6 miles on either side of the Grand River – which this project falls within.

The Supreme Court of Canada spelled out very clearly how to ensure adequate consultation in the 2014 *Tsilhqot'in* decision, when it said (at para 97):

*Governments and individuals proposing to use or exploit land, whether before or after a declaration of Aboriginal title, can avoid a charge of infringement or failure to adequately consult by obtaining the consent of the interested Aboriginal group.*<sup>21</sup>

## 2. Environmental Concerns:

### 2.1 Climate Change:

As mentioned previously in this submission, there has been absolutely no consideration of climate change anywhere in the ESR, which is a significant flaw and error.

According to a recent NASA and National Science Foundation funded study of more than half of the world's freshwater supply, climate change is rapidly warming lakes and rivers around the world and threatening freshwater supplies and ecosystems.<sup>22</sup>

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<sup>20</sup> *Riverside Dam ESR – Part B, Table 1 Consultation Schedule. P-5/372*

<sup>21</sup> *Tsilhqot'in Nation v. British Columbia 2014 SCC 44 – Case Summary.*

<sup>22</sup> *Study: Climate Change Rapidly Warming World's Lakes, 16 December 2015.*



*"Climate will interact with overexploitation, dams and diversions, habitat destruction, non-native species and pollution to destroy native freshwater fisheries."<sup>23</sup> "Climate warming will adversely affect water quality and water quantity, as well as the magnitude and timing of river flows, lake levels and water renewal times."<sup>24</sup>*

Our rapidly changing climate is a compelling reason to increase the resilience of our freshwater systems for the protection and safety of our communities. 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."<sup>25</sup>

Toronto commissioned a Future Weather and Climate Driver Study in 2012 to help inform 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%+).<sup>26</sup> Compelling reasons to consider Climate Change and cumulative effects in planning and decision-making regarding infrastructure.

Drought conditions can place additional stress on riverine ecosystems, while more extreme rainfall will heighten the risk of dam failures, such as in October of 2015, when a South Carolina flood breached 18 dams with rapid release of high volumes of water, resulting in 16 deaths.<sup>27,28</sup> There have also been recent dam failures right here in Ontario – the Gorrie Dam failure last year in Gorrie was the most recent, putting more than 150 property owners at risk.

It is crucial that we recognize the hazards of infrastructure that would put citizens at risk, degrade water quality, threaten our fisheries, or that jeopardize the ecosystem services that healthy rivers provide.

Neglecting to consider and plan for Climate Change in the ESR is an error that has the potential to result in loss of life and property. This must be a mandatory consideration in this environmental assessment process.

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<sup>23</sup> Schindler, D.W., 2001. *The cumulative effects of climate warming and other human stresses on Canadian freshwaters in the new Millennium. Canadian Journal of Fisheries and Aquatic Sciences.* 58: 18-29.

<sup>24</sup> Schindler, D.W., 2001. *The cumulative effects of climate warming and other human stresses on Canadian freshwaters in the new millennium. Canadian Journal of Fisheries and Aquatic Sciences.* 58: 18-29.

<sup>25</sup> National Observer, 8 May 2017, [Here are the climate science benchmarks of the Quebec floods.](#)

<sup>26</sup> [Toronto's Future Weather & Climate Driver Study: Outcomes Report.](#)

<sup>27</sup> [18 Dams Breached And Death Toll Rises in S.C. Flooding](#)

<sup>28</sup> Colorado flood: Dams break in Larimer and Adams counties; overflowing in Boulder.

[http://www.denverpost.com/environment/cj\\_24080336/dams-break-at-rocky-mountain-arsenal-and-larimer](http://www.denverpost.com/environment/cj_24080336/dams-break-at-rocky-mountain-arsenal-and-larimer)



## 2.2 Waste Water Treatment Plants (WWTP):

The Speed River below the City of Guelph has impaired water quality due to elevated levels of phosphorus, nitrates and chloride (from the Guelph Wastewater Treatment Plant), and runoff from the upper Speed River is collected in Guelph Lake to reduce flooding downstream as well as augment Speed River flows in the summer. Nutrients accumulate in the shallow lake which acts as a nutrient source to the lower Speed River, as well as depleted dissolved oxygen levels and elevated water temperatures, which have been identified as water quality impairments in the lower Speed River.

Hespeler WWTP is also upstream of Riverside Dam. An Assimilative Capacity Study (Region of Waterloo) determined that the Hespeler WWTP effluent is generally fully mixed upstream of the Riverside Dam. Therefore, the presence of the dam would not be expected to meaningfully impact assimilative capacity and as such has not been used as an evaluation criterion herein.<sup>29</sup> However, studies reported that “*dissolved oxygen concentrations in the headpond are significantly reduced and impair aquatic habitat. Water temperature is increased by the headpond*”<sup>30</sup>.

Invariably when water is held back behind a dam, in combination with treated, undertreated and untreated wastewater effluent, it is likely that water quality and habitat will be impaired and result in extreme nutrient enrichment, creating a toxic brew within a reservoir, especially during the hot low flow summer season.

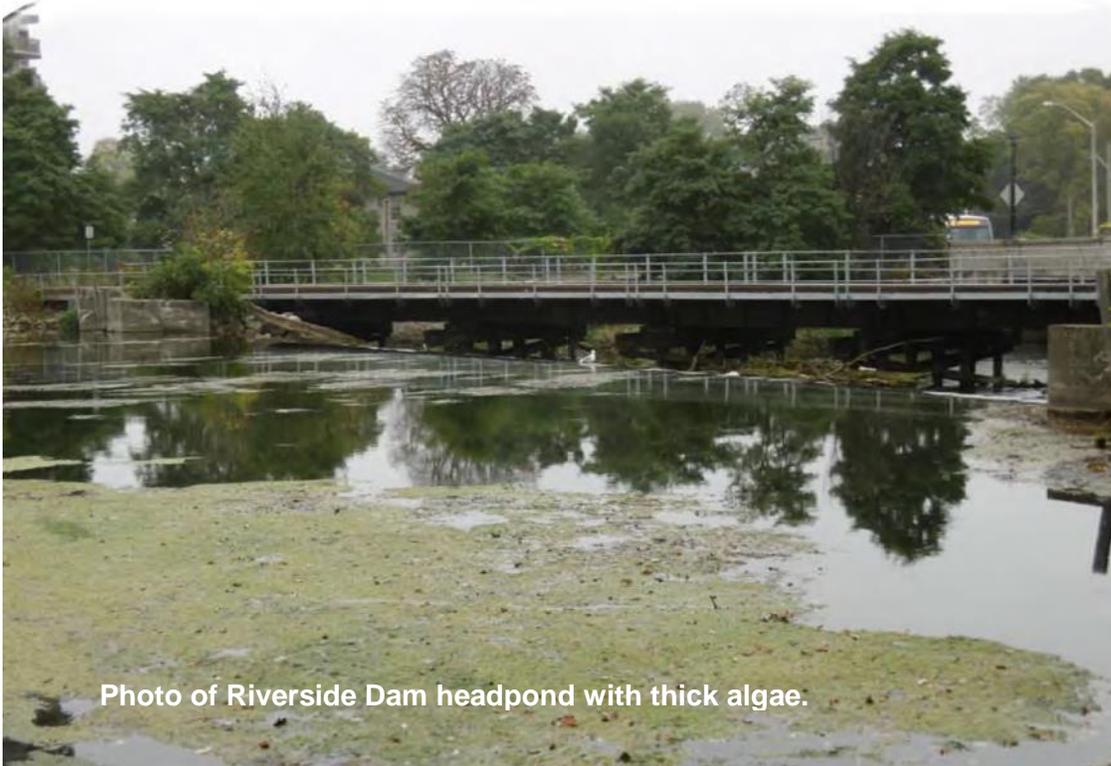


Photo of Riverside Dam headpond with thick algae.

<sup>29</sup> Riverside Dam Class EA, Part A, P-145/164

<sup>30</sup> Riverside Dam Class EA, Part C, Recap of Studies Completed To-Date. P-243/649



Again, climate change was not considered, nor were the cumulative effects of other factors such as upstream WWTPs compounding the effects of climate change. It is important to acknowledge that while some effects of dam construction on humans and natural systems can be felt immediately, others are dynamic and cumulative, becoming more apparent over the years.

### 2.3 Fish Passage & SAR Fish:

Fisheries and Oceans Canada (DFO) has identified the reaches below Riverside Dam as habitat for several species at risk (SAR) fish and mussel species, including the Wavyrayed Lampmussel. There are 5 SAR fish identified as potentially in the vicinity of the study area (River Redhorse, Black Redhorse, Silver Shiner, American Eel and Grass Pickerel, including the American Eel), and each and every one of them lists dams as a threat and limiting factor.

**The Wavyrayed Lampmussel** is listed both provincially and federally as a Species at Risk and is present both upstream and downstream of Riverside Dam.

Damming of a stream channel has been shown to detrimentally affect mussels in many ways. Reservoirs alter downstream flow patterns and disrupt the natural thermal profiles of the watercourse while impoundments act as physical barriers potentially separating mussels from their host fish (bass). These conditions also result in declining water quality and loss of habitat, which are primary threats to the Wavyrayed Lampmussel.<sup>31</sup> These conditions can be especially detrimental to the species when there are upstream WWTPs.

The ESR suggests that, *“Although Alternative ‘C’ has the largest impact on the technical and natural environments, various measures have been identified that can be incorporated into the implementation of Alternative ‘C’ which can reasonably mitigate those impacts<sup>32</sup>.”* However, there was no mention of what those mitigation measures might be and whether they would be implemented. For instance, how do you mitigate the effects of the upstream WWTP and the declining water quality and oxygen levels in the reservoir?

Fish passage ranked “High” on a Rebuild by both the Project Team and Stakeholder Majority; however, the ESR is not reassuring when it states, *“recommended to be considered / implemented with the Preferred Alternative”*. In our 4 September 2018 online meeting with City of Cambridge staff, we were informed that a fishway would be included in the design; however, they had not done any research into the type, effectiveness or the cost, so we are doubtful it will become a reality.

Effective fish passage is a crucial component of this dam design, and should have been factored into the costs presented to stakeholders and Council in order to make a fair comparison of all the Alternatives.

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<sup>31</sup> *Wavyrayed Lampmussel Recovery Strategy, Ontario.*

<sup>32</sup> *Riverside Dam ESR – Part A, 7.0 Preferred Solution. P-37/164*



### 3. Economics of the Project:

#### 3.1 Cost of Rebuild vs. Naturalization:

In our 4 September 2018 online meeting with City of Cambridge staff and consultants, Scott MacDonald informed us that he made City Council aware that fish passage would be a necessary component of the Rebuild; however, those estimated costs were not included in the cost estimate. The Crown is also acknowledged as the owner of the bed and bank of the river, and the Ministry of Natural Resources and Forestry (MNR) notified the City that there would be an additional cost for the land. There are several costs that have not been explored or included in the ESA for a Rebuild, any of which could add significant costs to the project, for example:

A rough calculation of additional costs that must be included for a fair and informed comparison of Rebuild vs. Naturalization (likely closer to \$18M or more):

• Current Estimated Rebuild Total:	\$ 8.5M
• Cost of future dam decommissioning is an essential component of Life Cycle Costs on a new dam, but was not included in ESR	\$ 5.3M
• Cost of the purchase from the MNR of the Crown portion of the riverbed and bank upon which the Riverside Dam rests	\$ ??
• Additional cost for operating gates that staff informed us about in our online meeting of 4 September 2018 (a significant additional cost – hopefully works better than the operating gates on Springbank Dam)	\$ ??
• Cost of installing an effective fishway	\$ ??
• Cost of Indigenous Accommodation	\$ ??
• Cost of sediment removal - approximately once every 25 years	\$ ??
<b>Total of Rebuild - known to date</b>	<b>\$ 14M++</b>

If these costs are unknown it should be noted in the ESR wherever estimated costs are mentioned.

The other dam removal options should have been revisited when the Naturalization option was rejected by Council. There may have been a compromise that would have been mutually acceptable to the majority of stakeholders, such as Alternative E or F.

Again, key decisions were based on incomplete and misleading information. Taxpayers and City Council should have had a full breakdown of estimated Capital costs, Life Cycle Costs and any other associated costs so they could make an informed choice of the preferred alternative. It should also have been made very clear what costs were not in the estimate.

#### 3.2 Life Cycle Costs & Capital Costs:

It was very confusing throughout the ESR when Life Cycle Costs and Capital Costs were used in an unclear and interchangeable way. For instance, the ESR states that “*The present value of the project Life Cycle Cost is estimated at \$8.6 million (+/-).<sup>33</sup>*” At other times it was reported as \$8.5M. However, in the 26 June report to Council to rationalize the manipulation, it read, “*Life Cycle Cost - the estimated capital costs to Rebuild Riverside Dam (+/- \$5.4M) is only \$100K more expensive than to Naturalize (+/- \$5.3).*” The estimated

<sup>33</sup> Riverside Dam ESR - Part A, P-115/



average Operating and Maintenance costs of \$30K per year.”<sup>34</sup> It would have been more transparent and clearer to stakeholders if the report specified \$30K per year for 100 years, which calculates to an additional \$3M to Rebuild – a total of \$8.4M. It also should have noted that Rebuild would entail significant additional costs for the operating gates, fishway, future dam decommissioning, etc....

The ESR describes Life Cycle Costs as the “*Perpetual operation and maintenance and repair costs for the dam structure, currently estimated at 2% annually for the life of the structure, or approximately \$30,000 per year*”<sup>35</sup>. However, the slide presentation for PIC No. 4 refers to it as “*Life Cycle Costs (Capital / Operations & Maintenance)*”<sup>36</sup>.

At times Life Cycle Costs were reported at \$8.5M and at other times \$8.6M and said to include construction, operating and maintenance costs in some instances, but only operating and maintenance in other instances. There was no consistency in how the term was used. We were confused, and we are sure that the public would also have been confused at the true estimated cost as well.

Additionally, Life Cycle Costs must also include the costs of the future decommissioning of the dam; however, nowhere in the documents was that factor included in the calculation.

#### 4. Wrong Project for a Schedule B, Municipal Class EA:

##### 4.1 Category is a Schedule B, Municipal Class EA:

Schedule B projects have the potential for some adverse environmental effects. The proponent is required to undertake a screening process which is suited to projects which have the potential for some environmental effects, which generally include improvements and minor expansions to existing facilities. Whereas Schedule C projects have the potential for significant environmental effects and must proceed under the full planning and documentation procedures specified in this Class EA document, and generally include the construction of new facilities or major expansions to existing facilities.<sup>37</sup>

Council ultimately decided on the Rebuild option, which means the old dam will have to be removed and a new dam built. This takes the project from a simple weir replacement to a new dam with operating gates, and apparently a fishway. According to MNRF, under LRIA this is considered a new dam project.

A detailed Hazard Potential Classification (HPC) analyses was not considered required as part of this planning level study but would be required for a Rebuild of Riverside Dam. However, in the absence of a dam break analysis a minimum HPC has been estimated (qualitatively) for Riverside Dam as “High”, which would require a minimum inflow design to withstand a Regulatory Flood to Probable Maximum Flood.

A rebuilt dam with a “High” hazard potential would pose a significant risk with the CP Railway following the southeast bank of the headpond and turning west to cross the Speed River between Riverside Dam and the King Street East Bridge, immediately downstream of the

<sup>34</sup> Riverside Dam ESR, 26 June 2018 Report to Council, Report No: 18-103(CD), File No: C11-011, from Scott MacDonald, P. Eng., Project Engineer.

<sup>35</sup> Riverside Dam ESR – Part A, 5.3 Alternative ‘B’, Economic Considerations. P-107/164

<sup>36</sup> Riverside Dam ESR – Part C, PIC No. 4, Presentation, 29 November 2017. P-69/649

<sup>37</sup> Municipal Class Environmental Assessment, Part A, Class EA Planning Process, A.1.2.2 Project Schedules.



dam.

Railway immediately downstream of dam.



Downstream of Railway at King Street Bridge.



Consequently, this project is essentially a new dam, not a repair or expansion of an existing weir, with a High Hazard Potential, operating gates and a fishway in the center of the City of Cambridge. We submit that it is a major project.

It's also important to again mention that Climate Change and the cumulative effects of the upstream wastewater treatment facilities have not been taken into account in the ESR, or in the decision-making process.

We therefore submit that this Rebuild should fall into either a Schedule C project category or an Individual Environmental Assessment.

## 5. Conclusion:

A Rebuilt dam would far outlive most of the citizens and groups that were polled in the exercise to develop the Alternative Evaluation Table, and at the 11<sup>th</sup> hour Council was convinced it should Rebuild the dam instead of the Recommended Alternative to Naturalize; however, the impacts on the community and the environment will be increasingly felt over the life of the dam. We must question what the impacts will be on the natural, social, cultural, built and economic environments over the next 5, 10 or 50 years with a rapidly changing and unpredictable climate.

We submit that the ESR and its considerations of the environmental impacts of a Rebuilt dam carried absolutely no weight in the final decision made by Cambridge City Council. The main driver in the decision to Rebuild the dam appeared to be pressure from the Save the Dam community and most likely the looming upcoming municipal election.

The Class EA is used for projects that the MOECC considers routine, with predictable and manageable effects on the environment. A new dam would be considered to have a 'High Hazard Potential' and is built within the City of Cambridge in a location where its flood plain could place multiple residences and businesses at risk in the event of severe flooding or a dam breach. Consequently, ORA and Partners submit that this Project does not fit into the Class EA category.



The full Capital and Life Cycle Costs of this project have not been realistically represented in the ESR and could well end up costing the taxpayers more than double what was presented to the public and City Council. This demonstrates a lack of transparency over Council's decision to Rebuild and does not serve the best interest of the taxpayers who will be footing the bill.

In order to fulfill our mission to protect, conserve and restore riverine ecosystems, ORA has been engaged in processes in several Ontario communities to determine whether aging dams should be removed, restored or rebuilt. Indeed, what to do with aging and defunct dams is a common issue facing many municipalities across the province. The integrity of this ESR sets the bar and creates a precedent that other municipalities are sure to follow.

## **Part II Order Request:**

As a result of the numerous unresolved issues and concerns noted above, the Ontario Rivers Alliance and Partners request that you issue a Part II Order to elevate the Riverside Dam Municipal Class Environmental Assessment, Schedule B, to an Individual EA under Part II of the Environmental Assessment Act.

Requiring a higher level of assessment under an Individual EA would allow for a more rigorous Environmental Assessment process that would place more emphasis on the true costs of a Rebuild on the natural, social, cultural, built and economic environments. It would also ensure *the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment.*

Finally, ORA requests direction from the Ministry of Environment, Conservation and Parks on the appropriateness of a decision by City Council to override the best advice of the Project Team after 6 years of consultation and studies, to order staff to change the Naturalize Recommendation, weightings and ratings in the Class EA to support their decision to Rebuild. We would ask that you provide feedback on whether this was an appropriate outcome of process, and a clear and transparent way to come to a decision.

In the course of preparing this Part II Order request, I spoke to Paul General, Wildlife Manager for the Six Nations of the Grand River to ensure SNGR was in alignment with our comments, and he indicated strong support for our submission and position.

ORA and Partners also support the comments and Part II Order request by Trout Unlimited Canada.

Please contact me if you have any questions or require further information. We look forward to your response.

Respectfully,

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