

APPENDIX F

Public/Agency Involvement & Feedback

F-1 - Agency Comments

F-2 - Public Comments

F-3 - Record of Meetings

APPENDIX F-1

Agency Comments



Canadian Environmental
Assessment Agency

Ontario Regional Office
55 St. Clair Avenue East,
Room 907
Toronto, ON M4T 1M2

Agence canadienne
d'évaluation environnementale

Bureau régional de l'Ontario
55, avenue St-Clair est,
bureau 907
Toronto (Ontario) M4T 1M2

May 4, 2016

Sent by E-mail

Paul Ziegler, C.E.T., Project Manager
Triton Engineering Services Limited
105 Queen Street West, Unit 14
Fergus, ON N1M 1S6
pziegler@tritoneng.on.ca

Dear Mr. Ziegler:

Re: Information on the *Canadian Environmental Assessment Act, 2012*

Thank you for your correspondence regarding the Town of Erin, Hillsburgh Dam and Bridge Station Street at Upper West Credit River.

The *Canadian Environmental Assessment Act, 2012* (CEAA 2012) focuses federal environmental reviews on projects that have the potential to cause significant adverse environmental effects in areas of federal jurisdiction and applies to physical activities described in the *Regulations Designating Physical Activities* (the Regulations). Based on the information provided, your project does not appear to be described in the Regulations. **Kindly review the Regulations to confirm applicability to the proposed project.**

If you believe the project is not subject to a federal environmental assessment, and do not submit a project description, we kindly request that you remove the Canadian Environmental Assessment Agency from your distribution list.

If you have questions, please get in touch with our office through the switchboard at 416-952-1576. The attachment that follows provides web links to useful legislation, regulation, and guidance documents.

Sincerely,

Anjala Puvananathan
Director, Ontario Region
Canadian Environmental Assessment Agency

Attachment – Useful Legislation, Regulation, and Guidance Documents



Attachment – Useful Legislation, Regulation, and Guidance Documents

For more information on the *Canadian Environmental Assessment Act, 2012* (CEAA 2012), please access the following links on the Canadian Environmental Assessment Agency's (the Agency) website:

Overview of CEAA 2012

<http://www.ceaa.gc.ca/default.asp?lang=En&n=16254939-1>

Regulations Designating Physical Activities, and

Prescribed Information for a Description of a Designated Project Regulations

<http://www.ceaa.gc.ca/default.asp?lang=En&n=9EC7CAD2-1>

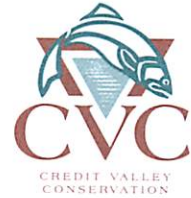
If your project is in a federally designated wildlife area or migratory bird sanctuary please check section 1 of the Regulations, which details the designated projects specific to those locations.

If it appears that CEAA 2012 may apply to your proposed project, you must provide the Agency with a description of the proposed project. Please see the link below to the Agency's guide to preparing a project description.

Guide to Preparing a Description of a Designated Project

[http://www.ceaa.gc.ca/63D3D025-2236-49C9-A169-](http://www.ceaa.gc.ca/63D3D025-2236-49C9-A169-DD89A36DA0E6/Guide%20to%20Preparing%20a%20Description%20of%20a%20Designated%20Project%20under%20CEAA%202012.pdf)

[DD89A36DA0E6/Guide to Preparing a Description of a Designated Project under CEAA 2012.pdf](http://www.ceaa.gc.ca/63D3D025-2236-49C9-A169-DD89A36DA0E6/Guide to Preparing a Description of a Designated Project under CEAA 2012.pdf)



December 19, 2014

Dear Mr. Ziegler:

**Re: Class Environmental Assessment Study – Schedule B
Proposal for the improved safety of the Hillsburgh Dam and Bridge
Town of Erin**

Further to receipt of the Notice of Commencement, November 27, 2014, CVC staff offer the following preliminary comments:

It is the understanding of CVC staff that the Town of Erin is undertaking a Class Environmental Assessment (EA) for the purpose of improving safety of the Hillsburgh Dam and bridge.

Site Characteristics:

The study area is traversed by the West Credit River and a tributary of the West Credit River, associated hazards (flooding and erosion). In addition, the area contains wetlands and associated adjacent lands. As a result portions of the study area are subject to the Authority's Development, Interference with Wetlands, and Alterations to Shorelines & Watercourses Regulation (Ontario Regulation 160/06). This regulation prohibits altering a watercourse or wetland and prohibits development within the regulated area without the prior written approval of CVC (i.e. a permit).

Permit Approval Requirements:

In accordance with Ontario Regulation 160/06 (our Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation), a permit would be required from the CVC prior to commencement of the works involving development, interference with a wetland and/or alterations to a watercourse or shoreline.

Fish Habitat and Department of Fisheries and Oceans (DFO):

Please note that CVC is no longer administering the *Fisheries Act* on behalf of Fisheries and Oceans Canada (DFO). As a result, it is up to the proponent to ensure that his/her project meets the DFO requirements under the self-assessment process. See the link below for a description of the self assessment process and a list of projects/activities where DFO review is not required: <http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>. Measures to avoid causing harm are noted here: <http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html>

EA Study Objectives:

The EA Study must clearly identify and quantify the environmental constraints and enhancement opportunities within the study area, including the following:

Aquatic Habitat and Valleylands:

The project needs to evaluate alternatives that minimize impacts to the form and function of the West Credit River and Hillsburgh Pond and if possible include opportunities for enhancement. The EA should list and describe the natural features (fish habitat, etc.) and site characteristics (e.g. Rolling topography, high water table, buffering vegetation, etc.) in the study area that may pose constraints to the project.

Page 1 of 3

December 19, 2014

Re: **Proposal for the improved safety of the Hillsburgh Dam and Bridge**
Town of Erin

Stormwater Management:

The project should include quality and quantity control measures to treat stormwater runoff in accordance with Ministry of Environment and CVC guidelines. Typically we request that the proponent provide treatment for all new proposed impervious areas and where possible existing road surfaces.

Hydraulics and Meander Belt

Any alterations to any watercourse crossings may require a hydraulic analysis to ensure that there are no negative up or down stream impacts. In addition, the road improvements or reconstruction at a minimum should maintain existing depth flooding on the road or improve the road such that it is flood free under Regional Storm conditions. In addition, CVC requests that new bridges and where possible replacement bridges span the calculated meander belt of the watercourse.

Subwatershed Study:

The EA should ensure that the subwatershed study environmental targets and objectives are identified and identify proposed measures that implemented these targets and objectives.

Erosion and Sediment Controls

During the detailed design period of this project, all proposed methods to control sedimentation during construction and potential erosion following the completion of the project must be detailed. Furthermore, as means of minimizing impacts to aquatic habitat all works must be completed in the dry.

Restoration

All disturbed areas will need to be stabilized and restored with native/non-invasive seed mixes and woody species.

Given CVC's interest staff would like to be kept informed of future meetings and proceedings through the Environmental Assessment process. Please forward any information or reports when available to ensure that this Authority's policy and program interest are reflected in the planning and design components for this project.

Should you have any further questions please contact the undersigned at (905) 670-1615 extension 406

Regards,



Tyler Slaght
Regulations Officer

cc: **Town of Erin**
Attention: Larry Van Wyck (via email)

Ministry of Natural Resources and Forestry Guelph District
Attention: Rose Whalen (via email)

Ministry of Natural Resources and Forestry Peterborough District
Attention: Doug Ryan (via email)



July 29, 2016

Chris Clark
Triton Engineering Services Limited
105 Queen Street West, Unit 14
Fergus, ON
N1M 1S6

Dear Mr. Clark:

**Re: Station Street and Hillsburgh Dam and Bridge Class Environmental Assessment
Town of Erin**

Credit Valley Conservation (CVC) staff have reviewed the draft Natural Environment Report dated March 15, 2016 and the Preliminary Comparison and Ranking of Alternatives provided at the May 19 public meeting and provide the following comments.

Natural Hazards Discussion

Flooding

To date, CVC staff have not received any technical report or analysis with respect to the implications of any alternative to the Regulatory floodplain. For any option selected, it must be demonstrated that flooding will not be negatively impacted by the preferred alternative.

Options 1 and 2 for both Alternative C and Alternative D indicate that the bridge will meet the requirements to pass the 25 year storm. CVC's requirement is that flooding not be negatively impacted. Furthermore, Alternative B indicates the crossing would be able to convey the Regulatory Flood. It is unclear why the requirements for each option differ. The design target should be to convey the Regulatory Flood but as stated above, must at a minimum be no worse. Being able to convey the Regulatory Flood will improve safety on the road which may also impact scoring for public safety.

Erosion

Any option selected has the potential to change the rate of erosion for the Hillsburgh Pond and West Credit River on adjacent (up and downstream properties) thereby increasing the risk due to erosion or creating a hazard which currently does not exist. It must be demonstrated that the preferred alternative will not negatively impact erosion rates or create erosion hazards on any private property.

The Natural Environment Report prepared by Aboud & Associates Inc. indicates in Section 1.5 that the main criteria for evaluating the EA will be flood hazard reduction and sediment/erosion impact reduction. Sediment and erosion control is a concern but it will be limited to detailed design and construction phases of the project.

Any new channel must be designed in keeping with natural channel design principals. Please refer to CVC's Fluvial Geomorphology factsheets for more information.

Natural Environment Report

1.3 Existing Regulations

- A discussion on the West Credit Subwatershed Study should be added as a section.

1.4 Credit River Fisheries Management Plan

- While Brown Trout are present in this reach, Brook Trout are the target species for management in this area.

3.7 Aquatic Habitat Assessment

- It should be clarified that the watercourses in this area are coldwater and are managed as such, including the ponds. The ponds are artificially created warmwater environments.
- This section should also include a discussion on where Round Goby were found and the potential impacts they may have on the cold and warmwater species present in the ponds and up and downstream.
- This section should also include a discussion on Banded Killifish and how the alternatives may affect this species. This is one of only two known areas supporting Banded Killifish in the Credit River watershed.
- There is some discussion on the presence of full and partial barrier to fish movement but there is no mention of the impacts of barriers to fish movement. Please add a discussion.
- This section should also include a discussion on the thermal impacts of the ponds. CVC analyzed the data that was provided and it shows that in 2013, water discharging from the Hillsburgh pond was up to 17°C warmer than the tributary in aquatic habitat segments 1 and 2 and up to 8°C warmer than the tributary in aquatic habitat segment 4.
- The sandbags and plastic lining in the Ainsworth pond were placed there in 2013 to help contain Round Goby, not to reinforce the outfall and reduce erosion.
- CVC has no data to indicate carp are present in the Hillsburgh pond and as such, it is unlikely that the grate on the south tributary was put in place to control carp. It is more probable that this was installed as a trash rack.
- The West Credit is managed as connected as cold-water system (CRFMP). Anything that does not attempt to achieve this objective should be a negative from an aquatic habitat perspective. All other aquatic concerns are minor in relationship relative to this criterion.

3.8.2 Surficial Geology and Groundwater

- There is no information provided on groundwater levels, wells or discharge locations yet this one of the criteria used in the evaluation. Please provide data to support the evaluation or remove the criteria.

4.0 Summary of Natural Heritage Constraints

- Many of the species recorded were found in the study area but possibly not in the Hillsburgh pond itself (e.g. Bald Eagle flying over the Ainsworth pond, the fen downstream of the Hillsburgh pond or 39 species of wildlife considered significant in Wellington County). It would be helpful to identify those species specifically found in the Hillsburgh pond and adjacent areas upstream of the dam that may be affected by changes to the dam and/or road and the implications of those changes.

4.1.6 Aquatic Habitat Assessment

- Following the inclusion of a more complete discussion on aquatic habitat earlier in the report, this section should be expanded to better include a summary of aquatic habitat constraints.

4.2 Summary of Significant Features

- Please identify which significant features are in the Hillsburgh pond and adjacent areas upstream of the dam that may be affected by changes to the dam and/or road and the implications of those changes.
- Brown Trout are not being managed for in this section.

5.3 Summary of Impacts to the Environment

- The overwintering turtles criteria is included in the text but not in the evaluation table.
- For better clarity, the headings of the criteria in the text should be the same as the evaluation table.
- In the evaluation, there should be some clarification between short term construction related impacts (e.g. pond drawdown affecting overwintering turtles) that can be mitigated versus long term impacts (loss of the pond) that will be created or continue once the preferred alternative is implemented.
- Foraging Habitat for Little Brown Myotis – CVC is unclear on the habitat preference for this species. Please clarify the impact on this species when changing the habitat from an open water environment to a natural stream corridor.
- Amphibian Breeding Significant Wildlife Habitat – the report states that draining the pond will reduce the success rate for breeding amphibians in the short and long term. Given the amphibian species present in the pond (Gray Treefrog, Spring Peeper and Green Frog), it may be that removal of the pond will benefit amphibians since (a) small wetland pockets may be created rather than one large waterbody and (b) the elimination of habitat for predatory largemouth bass that feed on frogs.
- Fish Habitat – please provide additional discussion on how the alternatives will affect Round Goby and Banded Killifish.
- Provincially Significant Wetland – please clarify if changes to the hydrology will affect the whole PSW or just a few of the wetland features in the study area.
 - In 5.3.3, the report states that detailed hydrological changes are unknown at this time, however, an assessment of the impacts are detailed in the evaluation table. Please clarify.
- Landscape Features – please clarify how changes to the dam or road may affect the treed fen community downstream of the pond.
- Although CVC agrees that open water communities are rare and overall we want to maintain rare communities, due to the negative impacts of on-line open water communities and the need for continuous maintenance of the dam, we do not rank this community as high as a natural open water community.
- The study area was quite broad however only features or functions that would be impacted by any of the options need to be assessed. Therefore, need to separate out features or that would not be impacted by the project. For example, Bald Eagle, Bobolink and Eastern Meadowlark would not appear to be impacted by the project. Table 8 (or another table) would be more informative if only features that potentially would be impacted by the project are included.

Ranking of Alternatives

CVC has overall concerns with evaluation matrix and also wanted to highlight two areas of particular concern.

The evaluation of the costs associated with each option. It is the understanding of CVC staff that the costs associated with alternatives C and D, which include restoration of the wetland with plantings consistent with CVC's storm water management planting guidelines. CVC staff note that using this as a guide to determine costs of rehabilitation is not appropriate and may make the costs of these options higher than the reality.

It is unclear with respect to alternative B, whether the calculation of costs should consider the lifetime maintenance requirements for the structure as well as the potential costs of maintaining the online pond. Over time, the existing pond will get shallower or disappear due to sediment accumulation. CVC staff anticipate that maintaining the pond in the future would be costly, if supported.

CVC has concerns with ranking and weighting matrix used in the analysis of the ranking of alternatives. Of most concern is the additive scoring mechanism used in correlation with the weighting of each category. For example, a criterion receiving a positive ranking with medium weighting is scored an 8 but a negative impact in the categories with high weighting will receive a 9. Given the additive nature of the scoring system, there is more benefit to have a negative impact rather than a positive impact. CVC recommends reviewing the scoring system to include both positive and negative values so that the scoring reflects the impacts appropriately. CVC also recommends adding a positive-neutral category so that there are an equal number of positive and negative categories.

Conclusion

CVC staff request an opportunity to discuss CVC concerns regarding the environmental report as well as the ranking system used to determine the preferred alternative. There are specific concerns regarding the ranking and scoring of particular criteria however in our opinion these concerns would be best resolved through a meeting with the Town of Erin and MNRF. In light of these concerns CVC does not have an opinion on a preferred alternative at this time.

I trust that these comments will be of assistance. Please do not hesitate to contact the undersigned at (905) 670-1615 ext. 406 should you have any questions.

Yours truly,



Tyler Slaght
Regulations Officer

cc: Tara McKenna, MNRF (via email)
Greg Delfosse, Town of Erin (via email)

RESPONSE TO CVC COMMENTS: Dated July 29, 2016
Hillsburgh Dam and Bridge Environmental Assessment

Comments regarding the Hillsburgh Dam and Bridge Environmental Assessment and Draft Natural Heritage Report were received from the CVC on July 29, 2016. Below are CVC comments in bold and responses to comments relating to the Draft Natural Heritage Report (Dated March 15, 2016) and the Evaluation of Alternatives Matrix from PIC #1.

Natural Hazards Discussion

Flooding

- To date, CVC staff have not received any technical report or analysis with respect to the implications of any alternative to the Regulatory floodplain. For any option selected, it must be demonstrated that flooding will not be negatively impacted by the preferred alternative.

Option 1 and 2 for both Alternative C and Alternative D indicate that the bridge will meet the requirements to pass the 25 year storm. CVC's requirement is that flooding not be negatively impacted. Furthermore, Alternative B indicates the crossing would be able to convey the Regulatory Flood. It is unclear why the requirements for each option differ. The design target should be to convey the Regulatory Flood but as stated above, must at a minimum be no worse. Being able to convey the Regulatory Flood will improve safety on the road which may also impact scoring for public safety.

- ***TRTION Response:*** Technical information related to hydrology will be included as part of the Project File Report. The conveyance of the Regulatory event will be examined when analyzing the Alternatives which include the reconstruction of the bridge.

Erosion

- Any option selected has the potential to change the rate of erosion for the Hillsburgh Pond and West Credit River on adjacent (up and downstream properties) thereby increasing the risk due to erosion or creating a hazard which currently does not exist. It must be demonstrated that the preferred alternative will not negatively impact erosion rates or create erosion hazards on any private property.

- **TRTION Response:** *When evaluating the effects of erosion the project team feels this is beyond the scope of the Class EA. Erosion measures will be incorporated within mitigation strategies (long and short term) of the preferred alternative as well as at the design and construction stage.*
- **The Natural Environment Report prepared by Aboud & Associates Inc. indicates in Section 1.5 that the main criteria for evaluating the EA will be flood hazard reduction and sediment/erosion impact reduction. Sediment and erosion control is a concern but it will be limited to detailed design and construction phase of the project.**
 - **AA Response:** *Acknowledged, discussion related to the criteria for evaluating the Class EA has been removed from the NE report and discussed within the Project File Report. For the purpose of the Class EA, the long term effects of sediment transport have been analyzed.*

Natural Environment Report

- **1.3 Existing Regulations**
 - **A discussion of the West Credit River Subwatershed Study should be added as a section.**
 - **AA Response:** *A section discussing the West Credit River Subwatershed Study has been added to the report*
- **1.4 Credit River Fisheries Management Plan**
 - **While Brown Trout are present in this reach, Brook Trout are the target species for the management of this area.**
 - **AA Response:** *The report has been revised to indicate Brook Trout as being the target species for management*

- **3.7 Aquatic Habitat Assessment**

- **It should be clarified that the watercourses in this area are coldwater and are managed as such, including the ponds. The ponds are artificially created warmwater environments.**
 - **AA Response:** *AA has clarified in the report that the whole area is a coldwater system, with an anthropogenic, warm water condition occurring in the pond.*
- **This section should also include a discussion on where the Round Goby is found and the potential impacts they may have on the cold and warmwater species present in the ponds and up and downstream.**
 - **AA Response:** *AA has added a section discussing Round Goby habitat and impacts to the cold and warm water fish communities. Additional information, if available, regarding where the species is found within the system will be requested from CVC and included in the report.*
- **This section should also include a discussion on Banded Killifish and how the alternatives may affect this species. This is one of the only two known areas supporting Banded Killifish in the Credit River Watershed.**
 - **AA Response:** *AA has added a section discussing Banded Killifish habitat. Additional information, if available, regarding where the species is found within the system will be requested from CVC and included in the report.*
- **There is some discussion on the presence of full and partial barriers to fish movement but there is no mention of the impacts of barriers to fish movement. Please add a discussion.**
 - **AA Response:** *AA has added a section discussing potential impacts of fish barriers to the target management species. Impacts include: the inability for fish to migrate into upstream habitat for breeding and thermal refuge; population isolation, which can reduce genetic variability and outbreeding as well as, creation of isolated small populations that are more susceptible to extirpation from stochastic effects.*

- This section should also include a discussion on the thermal impacts of the ponds. CVC analyzed the data that was provided and it shows that in 2013, water discharged from the Hillsburgh pond with up to 17°C warmer than the tributary in aquatic habitat segment 1 and 2 and up to 8°C warmer than the tributary in aquatic habitat segment 4.
 - **AA Response:** AA has used the provided CVC data to discuss the thermal impacts of the pond to the watercourse and how increased temperatures can impact fish communities targeted for management.
- The sandbags and plastic lining in the Ainsworth pond were placed there in 2013 to help contain Round Goby, not to reinforce the outfall and reduce erosion.
 - **AA Response:** AA has made this correction in the report.
- CVC has no data to indicate carp are present in the Hillsburgh Pond and as such, it is unlikely that the grate on the south tributary was put in place to control carp. It is more probable that this was installed as a trash rack.
 - **AA Response:** AA has made this correction in the report.
- The West Credit is managed as a connected cold-water system (CRFMP). Anything that does not attempt to achieve this objective should be a negative from an aquatic habitat perspective. All other aquatic concerns are minor in relationship relative to this criterion.
 - **AA Response:** AA has made the recommended changes in evaluation table.
- **3.8.2 Surficial Geology and Groundwater**
 - There is no information provided on groundwater levels, wells or discharge locations yet this is one of the criteria used in the evaluation. Please provide data to support the evaluation.
 - **Triton Response:** Hydrogeology data has since been completed by Ray Blackport and will be a part of the Project File Report.

- **4.0 Summary of Natural Heritage Constraints**

- Many of the species recorded were found in the study area but possibly not in the Hillsburgh pond itself (e.g. Bald Eagle flying over the Ainsworth pond, the fen downstream of the Hillsburgh pond or 39 species of wildlife considered significant in Wellington County). It would be helpful to identify those species specifically found in Hillsburgh pond and adjacent areas upstream of the dam that may be affected by changes to the dam and/or road and the implications of those changes.

- **AA Response:** *Acknowledged – The study area was developed in consultation with the project team, which included CVC and MNRF, at the outset of the project. The study area was chosen to capture the full area that may be impacted by the removal of the dam. All species and natural heritage features observed in the study area have the possibility of being impacted directly or indirectly by changes to the dam. As well, data was provided from various sources of which we do not have the spatial information in all cases to do a post hoc determination of what was within the immediate vicinity of the pond and dam. Locations of specific Significant Wildlife observations and Significant Wildlife Habitat are provided in Figure 7 of the Natural Heritage report.*

- **4.1.6 Aquatic Habitat Assessment**

- Following the inclusion of a more complete discussion on aquatic habitat earlier in the report, this section should be expanded to better include a summary of aquatic habitat constraints.

- **AA Response:** *AA has updated the Aquatic Habitat Assessment summary to incorporate the additional information included in the Aquatic Habitat Assessment section.*

- **4.2 Summary of Significant Features**

- Please identify which significant features are in the Hillsburgh pond and adjacent area upstream of the dam that may be affected by changes to the dam and/or road and the implications of those changes.

- **AA Response:** *Acknowledged – The study area was developed in consultation with the project team, which included CVC and MNRF, at the outset of the project. The study area was chosen to capture the potential area that may be impacted by the removal of the dam. All species and natural heritage features observed in the study area have the possibility of being impacted directly or indirectly by changes to the dam. As well, data was provided from various sources, and spatial information may not be available in all cases to do a post hoc determination of what was within the immediate vicinity of the pond and dam. Locations of specific Significant Wildlife observations and Significant Wildlife Habitat is provided in Figure 7.*
- *AA has indicated in the Summary of Significant Feature (Table 8.) which species or features are most likely to be directly impacted by changes in the dam and pond and were therefore given greater consideration in the evaluation. Significant features that may be impacted by changes to the dam are described and identified in section 5.3 and table 9, significant features not anticipated to be impacted, were not carried forward from section 4.2.*
- **Brown Trout are not being managed for in this section.**
 - **AA Response:** *AA has made this correction in the Natural Heritage report.*
- **5.3 Summary of Impacts to the Environment**
 - **The overwintering turtle criteria are included in the text but not in the evaluation table.**
 - **AA Response:** *Overwintering Turtle Habitat is described under Significant Wildlife Habitat in the Evaluation Table.*
 - **For better clarity, the headings of the criteria in the text should be the same as the evaluation table.**
 - **AA Response:** *AA has attempted to address this recommendation and provide greater clarity. However, due to lumping of categories, section headings in the text are not always the same as in the evaluation table.*

- **In the evaluation, there should be some clarification between short-term construction related impacts (e.g. pond drawdown affecting overwintering turtles) that can be mitigated versus long-term impacts (loss of the pond) that will be created or continue once the preferred alternative is implemented.**
 - **AA Response:** *The evaluation table has been changed to have a greater focus on the long-term impacts rather than short-term construction impacts.*
- **Foraging Habitat for Little Brown Myotis – CVC is unclear on the habitat preference for this species. Please clarify the impacts of this species when changing the habitat from an open water environment to a natural stream corridor.**
 - **AA Response:** *AA has revised the report to include more information on habitat requirements for Little Brown Myotis and how the removal of the dam could impact this species.*
- **Amphibian Breeding Significant Wildlife Habitat – the report states that draining the pond will reduce success rate for breeding amphibians in the short and long term. Given the amphibian species present in the pond (Gray Treefrog, Spring Peeper and Green Frog), it may be that removal of the pond will benefit amphibians since (a) small wetland pockets may be created rather than one large waterbody and (b) the elimination of habitat for predatory largemouth bass that feed on frogs.**
 - **AA Response:** *Acknowledged – Changes to habitat from draining the pond are unknown, and therefore we cannot assume the new habitat will benefit amphibian breeding unless it is specifically designed for that purpose. The current pond provides some habitat which will be lost, hence the negative rating.*
- **Fish Habitat – please provide additional discussion on how the alternatives will affect Round Goby and Banded Killifish.**
 - **AA Response:** *AA has revised the report to include more information on Round Goby and Banded Killifish habitat requirements and a discussion on how the alternatives could affect fish communities.*

- **Provincially Significant Wetland – please clarify if changes to the hydrology will affect the whole PSW or just a few of the wetland features in the study area.**
In section 5.3.3, the report states that detailed hydrological changes are unknown at this time, however, an assessment of the impacts are detailed in the evaluation table. Please clarify.
 - **AA Response:** *The project team feels that the quantification of changes to the PSW based on hydrology is beyond the scope of the EA. There would be some impact but it is unknown at this time. Hydrogeology data has since been completed by Ray Blackport and will be a part of the Project File Report.*
- **Landscape Features – please clarify how changes to the dam or road may affect the treed fen community downstream of the pond.**
 - **AA Response:** *AA has revised the report to include more information on how the selection of alternatives could impact the downstream fen community.*
- **Although CVC agrees that open water communities are rare and overall we want to maintain rare communities, due to the negative impacts of on-line open water communities and the need for continuous maintenance of the dam, we do not rank the community as high as a natural open water community.**
 - **AA Response:** *Acknowledged – Ranking system accounts for and weighs the negative effects of the open water community. The open water community is still considered rare (ESSMO 2011) and should be evaluated as such. The weighting system reflects the higher value of the cold water system over the rare open water community. As well, the maintenance of the dam aspect is evaluated under a separate scoring criteria.*
- **The study area was quite broad however only features or functions that would be impacted by any of the options need to be assessed. Therefore, need to separate out features or that would not be impacted by the project. For example, Bald Eagle, Bobolink, and Eastern Meadowlark would not appear to be impacted by the project. Table 8 (or another table) would be more informative if only features that potentially would be impacted by the project are included.**
 - **AA Response:** *Acknowledged – The study area was developed in consultation with the project team, which included CVC and MNRF, at the outset of the project. The study area was chosen to capture the full area that may be*

impacted by the removal of the dam. All species and natural heritage features observed in the study area have the possibility of being impacted directly or indirectly by changes to the dam. As well, data was provided from various sources, and spatial information may not be available in all cases to do a post hoc determination of what was within the immediate vicinity of the pond and dam. Locations of specific Significant Wildlife observations and Significant Wildlife Habitat is provided in Figure 7.

- **AA** has indicated in the Summary of Significant Feature (Table 8.) which species or features are most likely to be directly impacted by changes in the dam and pond and were therefore given greater consideration in the evaluation.

Ranking of Alternatives

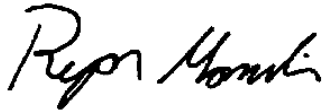
The evaluation of the costs associated with each option. It is the understanding of CVC that the costs associated with alternatives C and D, which include restoration of the wetland with plantings consistent with CVC's stormwater management planting guidelines. CVC staff note that using this as a guide to determine costs of rehabilitation is not appropriate and may make the costs of these options higher than the reality.

- **AA Response:** Acknowledge – AA acknowledges that it may be possible to implement a satisfactory high-quality restoration plan for less than the costs estimate provided. However, in the absence of formal guidelines or guidance from the CVC, it was felt that a conservative estimate following generally permitted approaches was prudent. The restoration cost has not been revised based on the provided comment. If CVC can provide a guideline for naturalized restoration the cost will be revised where appropriate.
- It is unclear with respect to alternative B, whether the calculation of costs should consider the lifetime maintenance requirements for the structure as well as the potential costs of maintaining the online pond. Over time, the existing pond will get shallower or disappear due to sediment accumulation. CVC staff anticipates maintaining the pond in the future would be costly, if supported.
 - **TRTION Response:** Acknowledged, the Regular Operations and Maintenance criteria scores have been revised to include these factors. A cost breakdown will be included as part of the Project File Report.

If you and further questions or comments, please feel free to contact the undersigned.

Yours truly,

ABOUD & ASSOCIATES INC.



Ryan Hamelin, M.Sc., Terrestrial and Wetland Ecologist

TRITON ENGINEERING SERVICES LIMITED



Chris Clark, M.A.Sc., P. Eng.

August 26, 2016

Chris Clark
Triton Engineering Services Limited
3027 Harvester Road, Suite 400
Burlington, ON
L7N 3G7

Dear Mr. Clark:

**Re: Station Street and Hillsburgh Dam and Bridge Class Environmental Study
Town of Erin**

Following up the meeting which took place Credit Valley Conservation (CVC) staff provide the following comments regarding the ranking matrix.

General

- The scoring evaluation should be reviewed and revamped. Given that the overall score is additive, it seems incorrect to have negative scores scoring higher than positive scores.
- The inclusion or exclusion of both positive and negative future changes should be consistently applied in the assessment. For example, dam failure, cultural heritage and others include future changes while in others (e.g. regular operations and maintenance, Landscape Features, PSW and others (e.g. the pond filling in) they do not.
- Consider adding a positive-neutral category so that there are an equal number of positive and negative categories.
- Consider combining Species at Risk and Rare Species criteria
- Consider combining Landscape features and Significant Wildlife Habitat criteria
- Consider combining Economic Feasibility criterion with Capital Construction while leaving Liability separate.
- Consider adjusting the weighting for combined criteria.

Hydrology & Hydraulics

- Alternatives C1, C2, D1 and D2 should consider rebuilding the road to pass the Regulatory Flood event.
- Considering the location of the fire hall on Station Street and the importance of Station Street to provide emergency access, the target span should be to pass the Regulatory Flood event. Detailed justification as to why this could not be achieved is to be provided.
- At a minimum flood elevations must not increase on Station Street on any adjacent private properties.

Sediment Transport

- The sediment transport scoring for B1 and B2 should be the same as the do nothing since these options do not improve sediment transport.
- The sediment transport scoring for C and D should be positive since sediment transport will be restored under these options.

Hydrogeology

- Is there any data to support lowered dug wells and private ponds when the pond has been drawn down in the past? Is there any supporting technical information available?

- If there are impacts to dug wells as a result of drawdown from the pond, CVC staff believe that there would also be impacts to the PSW however these impacts have not been identified.
- The hydrogeology scores for do nothing, B1 and B2 should be neutral.

Transportation

- Clarify why the transportation scores for B2, C1 and C2 are different.

Fish Habitat

- Fish habitat criteria should be renamed to aquatic habitat connectivity since it only mentions barriers. B1 and B2 should also be negative due to long term thermal and barrier impacts. Points about thermal impacts from an offline pond should be deleted.
- Water quality, water temperature and invasive species should also be included in how this is scored. Some consideration for climate change might also be included.
- The West Credit is managed as a connected cold-water system (CRFMP). Anything that does not attempt to achieve this objective should be a negative from an aquatic habitat perspective. All other aquatic concerns are minor in relationship relative to this criterion.

SWH/Rare Habitat Species

- Little Brown Myotis is unconfirmed at the pond so will this be an actual impact? This appears to influence the scoring for D1.
- Species at Risk scores for B1 and B2 should be neutral.
- Alternative C option 1 and Alternative D option 1 – it is not clear if the dam is removed what the impact to the wetland and associated SWH. CVC staff expect the open water feature to be lost/significantly reduced however we would expect that the rest of the wetland would remain therefore, potential impacts to turtle overwintering and amphibian breeding may not be significant.

Rare or Important Landscape Features

- Alternative C option 1 and Alternative D option 1 – due to the negative impacts of on-line ponds and the long term maintenance CVC suggests moving the scoring to Negative (short-term, minor or potential).
- The Landscape Features scores for B1 and B2 should be neutral, like they are for SAR, SWH and rare species.

PSW

- It is unclear what the potential impacts are for alternative C1 and alternative D1. Will the wetland be filled in and an upland area created? If so, in order to separate options 1 from options 2 it should be clearly stated that with option 1 there will be loss of wetland (i.e. the area will be filled in and made into upland), while option 2 will recreate an open water wetland and associated functions. Therefore, option 1 will be negative (long-term, extensive, and definitive) while option 2 would be neutral or negative (short-term minor, potential)
- It is unclear if the extent of PSW may change under any of the options but the type of wetland may (marsh to conifer swamp). Is this an impact?
- The Provincially Significant Wetlands score for A should either be neutral since all the other natural heritage feature scores are neutral or they should all be negative if future dam failure is included (not sure it should be).
- The PSW scores for C1 and D1 are likely different (maybe more negative) than C2 and D2.

Economic Environment

- Please clarify how the cost estimates were determined. For example, some of the alternatives mention that the cost of the eventual replacement of the bridge is included. Other future costs such as pond dredging and dam maintenance should also be included. As well, some of the costs of the environmental

improvements may be able to be funded by external funding so the costs of the higher priced options may not be fully borne by the Town.

- The scoring for the alternatives should be rethought. For example, is A the only positive since it has a cost of \$0 or should the options be ranked by range or some other way? It seems incorrect that C1 and D2 are within \$40,000 yet D2 is negative while C1 is negative-neutral. These should be the same scores.
- For regular operations and maintenance, Options A, B1 and B2 should mention the future cost of of any maintenance of the on-line pond. The scores for all options should also be rethought (i.e. C1 and D1 should be positive, not negative).
- Liability scores for B1 and B2 should be the same as A.
- Liability scores for C2 and D2 should be positive or positive-neutral.

Agency Regulations

- CVC recommends that Agency Regulations is not an appropriate criterion because the scores would be the same for all alternatives except for A. If it is kept, Fisheries and Oceans Canada (DFO) should also be on the list of approval agencies.

I trust that these comments will be of assistance. Please do not hesitate to contact the undersigned at (905) 670-1615 ext. 406 should you have any questions.

Yours truly,

A handwritten signature in black ink, appearing to read "Tyler Slaght". The signature is fluid and cursive, with the first name "Tyler" and last name "Slaght" clearly distinguishable.

Tyler Slaght
Regulations Officer

RESPONSE TO CVC COMMENTS: Dated August 26, 2016
Hillsburgh Dam and Bridge Environmental Assessment

Comments regarding the Hillsburgh Dam and Bridge Environmental Assessment and Draft Natural Heritage Report were received from the CVC on August 26, 2016. Below are CVC comments in bold and responses to comments relating to the Draft Natural Heritage Report (Dated March 15, 2016) and the Evaluation of Alternatives Matrix from PIC #1.

General

- **The scoring evaluation should be reviewed and revamped. Given that the overall score is additive, it seems incorrect to have negative scores scoring higher than positive scores.**
 - ***TRTION Response:** The scoring has been adjusted and updated to reflect positive and negative values.*
- **The inclusion or exclusion of both positive and negative future changes should be consistently applied in the assessment. For example, dam failure, cultural heritage and others include future changes while in others (e.g. regular operations and maintenance, Landscape Features, PSW and others (e.g. the pond filling in) they do not.**
 - ***TRTION Response:** The evaluation of alternatives has been updated to be more consistent with the long term effects of each alternative.*
- **Consider adding a positive-neutral category so that there are an equal number of positive and negative categories.**
 - ***TRTION Response:** Acknowledged, a positive-neutral category has been added.*
- **Consider combining Species at Risk and Rare Species criteria.**
 - ***TRTION Response:** Acknowledged, SAR and Rare Species criteria have been combined.*

- **Consider combining Landscape features and Significant Wildlife Habitat Criteria.**
 - **TRTION Response:** *Landscape features and PSW criteria have been combined as per MNRF suggestion.*
- **Consider combining Economic Feasibility criterion with Capital Construction while leaving Liability separate.**
 - **TRTION Response:** *Acknowledged, economic feasibility has been removed as this is directly related and encompassed within the Capital Construction criteria.*
- **Consider adjusting the weighting for the combined criteria.**
 - **TRTION Response:** *Acknowledged, in all cases, weighting has been adjusted, accordingly.*

Hydrology and Hydraulics

- **Alternatives C1, C2, D1 and D2 should consider rebuilding the road to pass the Regulatory Flood event.**
 - **TRTION Response:** *Acknowledged, these options will consider rebuilding the road to pass the Regulatory Flood.*
- **Considering the location of the fire hall on Station Street and the importance of Station Street to provide emergency access, the target span should be to pass the Regulatory Flood event. Detailed justification as to why this could not be achieved is to be provided.**
 - **TRTION Response:** *The details of sizing and capacity for this particular criterion will be evaluated at the design stage.*
- **At a minimum flood elevations must not increase on Station Street on any adjacent private properties.**
 - **TRTION Response:** *Acknowledged.*

Sediment Transport

- The sediment transport scoring for B1 and B2 should be the same as the do nothing since these options do not improve sediment transport.
 - **TRTION Response:** Options B1 and B2 will involve some type of maintenance which deals with improving the accumulation and transport of sediment. Therefore, B1 and B2 are considered negative-neutral.
- The sediment transport scoring for C and D should be positive since sediment transport will be restored under these options.
 - **TRTION Response:** Acknowledged, these have been revised to a positive scoring.

Hydrogeology

- Is there any data to support lowered dug wells and private ponds when the pond has been drawn down in the past? Is there any supporting technical information available?
 - **TRTION Response:** Surrounding residence claim their shallow wells go down with the lowering of the pond, however; there are no documented cases. Hydrogeology data has since been completed by Ray Blackport and will be a part of the Project File Report.
- If there are impacts to dug wells as a result of drawdown from the pond, CVC staff believe that there would also be impacts to the PSW however these impacts have not been identified.
 - **TRTION Response:** The Hydrogeology report concludes that effects to dug wells would be minimal with exceptions to B1 and B2.
- The hydrogeology scores for do nothing, B1 and B2 should be neutral.
 - **TRTION Response:** Alternative B1 and B2 are scored negative-neutral as there could be potential for water quality impacts once the pond is dredged. In order to prove these assumptions, further monitoring will be required.

Transportation

- Clarify why the transportation scores for B2, C1 and C2 are different.

- **TRTION Response:** *Transportation scores differ as the evaluation encompasses the bridge and the dam. The bridge has a large impact on safe and adequate transport across the entire structure (ie; single to double lane).*

Fish Habitat

- **Fish habitat criteria should be renamed to aquatic habitat connectivity since in only mentions barriers. B1 and B2 should also be negative due to long term thermal and barrier impacts. Points about thermal impacts from an offline pond should be deleted.**
 - **AA Response:** *The criteria in the evaluation were renamed to Aquatic/Fish Habitat. B1 and B2 were changed to a negative rank.*
- **Water quality, water temperature, and invasive species should also be included in how this is scored. Some consideration for climate change might also be included.**
 - **AA Response:** *Water quality, water temperature, and invasive species have been considered under the Aquatic/Fish Habitat criteria.*
 - **AA** *has not included a section on the impacts of climate change, as this is outside the scope of the project and approved Terms of Reference.*
- **The West Credit is managed as a cold-water system (CRFMP). Anything that does not attempt to achieve this objective should be a negative from an aquatic habitat perspective. All other aquatic concerns are minor in relationship relative to this criterion.**
 - **AA Response:** *AA has made recommended change in evaluation table.*

SWH/Rare Habitat Species

- **Little Brown Myotis is unconfirmed at the pond so will this be an actual impact? This appears to influence the scoring for D1.**
 - **AA Response:** *Acknowledged – The presence of Little Brown Myotis is confirmed by MNRF and they are known to use the pond area as foraging habitat. Removal of the pond is considered negative-neutral as the removal of the pond would result in loss of foraging habitat, although it is expected that the restored habitat would also provide suitable foraging habitat as well. A more detailed explanation has been added to the Natural Environment Report.*

- **Species at Risk scoring for B1 and B2 should be neutral**
 - **AA Response:** *It is felt that the rehabilitation of the dam and maintenance of the current pond is positive for Species at Risk and Rare Species within the direct area of the pond where species were observed (e.g. Snapping Turtle, Little Brown Myotis, Great Egret, Trumpeter Swan directly benefit from the current condition). Alternatives B1 and B2 have been scored as positive-neutral for Species at Risk and Rare Species.*
- **Alternative C option 1 and Alternative D option 1 – it is not clear if the dam is removed what the impact to the wetland and associated SWH. CVC staff expects the open water feature to be lost/significantly reduced however we would expect the rest of the wetland would remain, therefore, potential impacts to turtle overwintering and amphibian breeding may not be significant.**
 - **AA Response:** *Acknowledged – AA agrees with CVC that we would expect the rest of the wetland would remain and therefore the total extent of the wetland may not be significantly reduced. However, overwintering turtles require specific habitat conditions that may not persist if the dam and pond are removed. Therefore, it is anticipated, if the pond were removed Turtle overwintering habitat would be lost. The loss of a known habitat for an assumed or unknown habitat makes this a negative score.*

Rare or Important Landscape Features

- **Alternative C option 1 and Alternative D option 1 – due to the negative impacts of the on-line ponds and the long term maintenance CVC suggests moving the scoring to Negative (short-term, minor or potential).**
 - **AA Response:** *Rare and Important Landscape Features has been combined with the Provincially Significant Wetland criteria. Alternative C1 and D1 have been scored as negative-neutral.*
- **The Landscape Features scores for B1 and B2 should be neutral, like they are for SAR, SWH, and Rare Species.**
 - **AA Response:** *Rare and Important Landscape Features have been combined with the Provincially Significant Wetland criteria. Alternative B1 and B2 have been scored as neutral as any alterations will result only in a change to the type*

of PSW. Therefore, a PSW of some type is anticipated to remain in some form. This is different from SAR, SWH and Rare Species as an alteration to the existing conditions would directly impact these species of concern and their associated habitat.

PSW

- **It is unclear what the potential impacts are for alternative C1 and alternative D1. Will the wetland be filled in and an upland area created? If so, in order to separate options 1 from options 2 it should be clearly stated that option 1 there will be a loss of wetland (i.e. the area will be filled in and made into upland), while option 2 will recreate an open water wetland and associated functions. Therefore, option 1 will be negative (long-term extensive and definitive) while option 2 would be neutral or negative (short-term minor, potential).**
 - ***AA Response:*** *Acknowledged – For alternatives C1 and D1 it is expected that the area of wetland would not be filled in or converted to upland, instead the area would be restored as a non-open water wetland. Alternatives C1, C2, D1, and D2 are all scored as negative-neutral, as they are expected to have some impacts to the extent and quality of the wetland relative to what currently exists, but it is expected that the wetland would persist in some form.*
- **It is unclear if the extent of PSW may change under any of the options but the type of wetland may (marsh to conifer swamp) Is this an impact?**
 - ***AA Response:*** *Acknowledged – The specific changes to the wetland (i.e. marsh to conifer swamp) are not known. Alternatives C1, C2, D1, and D2 are all scored as negative-neutral, as they would be expected to have some impacts to the extent and quality of wetland relative to what currently exists, but is expected that the wetland would persist in some form.*
- **The PSW score for A should either be neutral since all the other natural heritage features scores are neutral or they should all be negative.**
 - ***AA Response:*** *All Natural Environment criteria scores are scored as negative, reflecting the potential catastrophic impacts of uncontrolled dam failure.*
- **The PSW scores for C1 and D1 are likely different (maybe more negative) than C2 and D2.**

- **AA Response:** *Acknowledged – The scoring for Alternatives C1, C2, D1, and D2 are all scored as negative-neutral, as it would be expected to have some impacts to the extent and quality of wetland relative to what currently exists, but is expected that the wetland would persist in some form. The specific changes to the wetland (i.e. marsh to conifer swamp) are not known. The proposed open water or shallow water wetlands of the offline pond are not scored as high in the ranking.*

Economic Environment

- Please clarify how the cost estimates were determined. For example, some of the alternatives mention that the cost of the eventual replacement of the bridge is included. Other future costs such as pond dredging and dam maintenance should also be included. As well, some of the costs of the environmental improvements may be able to be funded by external funding so the costs of the higher priced options may not be fully borne by the Town.
 - **TRTION Response:** *Costs have been re-evaluated and updated to include additional future maintenance costs. Regardless of what party will be responsible for costs the Class EA must evaluate total costs equally. A cost breakdown will be included as part of the Project File Report.*
- The scoring for the alternatives should be rethought, For example, is A the only positive since it has a cost of \$0 or should the options be ranked by range or some other way? It seems incorrect that C1 and D2 are within \$40,000 yet D2 is negative while C1 is negative-neutral. These should be the same scores.
 - **TRTION Response:** *Costs have been re-evaluated and updated to include additional future maintenance costs.*
- For regular operations and maintenance, Option A, B1 and B2 should mention the future cost of any maintenance of the on-line pond. The scores for all options should also be rethought (i.e. C1 and D1 should be positive, not negative).
 - **TRTION Response:** *Costs have been re-evaluated and updated*
- Liability scores for B1 and B2 should be the same as A.

- **TRTION Response:** *Alternative B1 and B2 will be improving upon the existing infrastructure to meet present dam safety standards, thereby, reducing the risk and liability whereas Alternative A encompasses greater risk and liability as nothing will be completed in the way of improvements. Therefore, the evaluation has been scored according to this position.*
- **Liability scores for C2 and D2 should be positive or positive-neutral.**
 - **TRTION Response:** *Acknowledged, these have been adjusted to a positive-neutral score.*

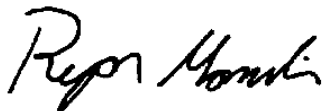
Agency Regulations

- **CVC recommends that Agency Regulations is not an appropriate criterion because the scores would be the same for all alternatives except for A. If it is kept, Fisheries and Oceans Canada (DFO) should also be on the list of approval agencies.**
 - **TRTION Response:** *This criterion has been removed from the evaluation as permitting will occur after a design is submitted to the appropriate agencies. The selected Alternative must be permissible at the conceptual level as the purpose of the Class EA is to move forward with the selected Alternative by methods of its process. We ask that agencies make comment at this stage as to whether an Alternative will be permissible at this stage in order to rule any one Alternative out of the process.*

If you and further questions or comments, please feel free to contact the undersigned.

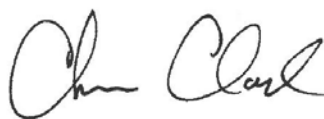
Yours truly,

ABOUD & ASSOCIATES INC.



Ryan Hamelin, M.Sc., Terrestrial and Wetland Ecologist

TRITON ENGINEERING SERVICES LIMITED



Chris Clark, M.A.Sc., P. Eng.



November 14, 2016

Chris Clark
Triton Engineering Services Limited
105 Queen Street West – Unit 14
Fergus, ON
N1M 1S6

Dear Mr. Clark:

**Re: Station Street and Hillsburgh Dam and Bridge Class Environmental Study
Updated Ranking of Alternatives
Town of Erin**

Credit Valley Conservation (CVC) staff have reviewed the revised scoring of the Environmental Assessment (EA) alternatives along with the response letters to previous CVC comments received on October 12, 2016. CVC staff note that the review was completed in the absence of the required hydrology and hydraulic analysis or an update to the Natural Environment Report received May 6, 2016. These studies provide justification for how the scores for each of the criteria were determined. Without them we are not able to fully comment on the options and be in a position to support the preferred alternative. CVC **strongly recommends** that draft of the Project File is circulated for review prior to the conclusion of the EA. CVC makes this recommendation when reviewing any EA to ensure that when the Project File is filed the EA has satisfactorily covered all areas of concern, is supported by acceptable technical information and the preferred alternative will meet CVC's regulatory requirements to allow for the issuance of a permit pursuant to Ontario Regulation 160/06 when the time comes. Our specific comments follow.

Ranking and Scoring

Hydrology and Hydraulics

- Each option in Alternatives C and D result in reduced flooding or significantly reduced flooding (Alternative D) and is scored negative whereas Alternative B has negligible impacts to flooding but is score positive. Please explain.
- Explain why the scores for Alternatives C and D are the same when Alternative D proposes to meet the regulatory requirements for both the dam and the bridge but Alternative C only proposes to meet the requirements for the dam.
- CVC staff believe that Alternative D (both options) should be scored as positive as it meets the regulatory requirements and would result in significantly decreased flooding.
- CVC staff are of the opinion that Alternative C (both options) should be scored neutral or positive-neutral.

Sediment Transport

- Alternative B Options 1 and 2 should be negative rather than negative-neutral since the dam is still present and sediment transport is no better than the do nothing option.
- Dredging could also be done for the do nothing option but it doesn't improve sediment transport.

Species at Risk/Rare Species

- Alternative B Options 1 and 2 should be neutral rather than positive-neutral since no changes are anticipated.

- Alternative C Option 2 and Alternative D Option 2 should be minor-negative rather than neutral since there will be changes to the wetland.

Significant Wildlife Habitat

- Alternative B Options 1 and 2 should be neutral rather than positive-neutral since no changes are anticipated.
- Alternative C Option 2 and Alternative D Option 2 should be negative-neutral rather than neutral since there will be changes to the wetland.

Regular Operations and Maintenance

- It is not understood why there will be no bridge maintenance required for Alternatives B1, Alternatives D1 and D2 as there is a bridge proposed and the other options show this as required.

Response to CVC Comments

Many of the responses provided in the response letter state that the studies have been updated or sections added to address these concerns. Since these studies were not provided for review, CVC staff cannot confirm whether these were addressed. Comments regarding items described as being beyond the scope of the EA are provided below.

Erosion

At a minimum the final report must discuss potential erosion impacts. For the options to keep the pond, an erosion analysis may not be required. For the options which propose to remove the pond there needs to be discussion on the potential implications of creating a new channel while respecting the existing erosion hazard limits and natural processes (meandering). An option which results in an increase in the erosion hazard limit or the creation of an erosion hazard where one did not previously exist would not be supported or be able to be approved by CVC. Additional studies may be required at detailed design.

Impacts to the Provincially Significant Wetland (PSW)

If not quantifiable, impacts to the PSW for each option are to be discussed in the final report and not just represented within the scoring table.

Conclusion

CVC staff are of the opinion that Alternative B option 1, which has been selected as the preferred alternative is not sufficiently different than the score for Alternative D option 1 to be clearly preferred. At this time, CVC staff do not consider any alternative as being acceptable due to the outstanding questions with the assessment and the absence of the supporting technical information. CVC staff look forward to continue working with Triton Engineering and the Town of Erin to address outstanding questions on the EA.

I trust that these comments will be of assistance. Please do not hesitate to contact the undersigned at (905) 670-1615 ext. 406 should you have any questions.

Yours truly,



Tyler Slaght
Regulations Officer

cc: Town of Erin Attn: Greg Delfosse

MNRF Attn: Tara Mckenna

Chris Clark

From: Chris Clark
Sent: November-21-16 3:20 PM
To: 'Slaght, Tyler'
Cc: Greg Delfosse (Greg.Delfosse@erin.ca); Paul Ziegler
Subject: RE: CVC Comments - Revised Ranking for the Hillsburgh Dam EA

Hi Tyler,

Thanks for sending the CVC comments. These comments will be considered and included within the Project File Report.

Regards,

Chris Clark, M.A.Sc., P.Eng.



Triton Engineering Services Limited
105 Queen Street West, Unit 14 Fergus, ON N1M 1S6
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Cell – (519) 993-7918

From: Slaght, Tyler [<mailto:tslaght@creditvalleyca.ca>]
Sent: November-15-16 9:06 AM
To: Chris Clark
Cc: Greg Delfosse (Greg.Delfosse@erin.ca); McKenna, Tara (MNRF)
Subject: CVC Comments - Revised Ranking for the Hillsburgh Dam EA

Hi Chris,

Please find attached CVC comments regarding the revised ranking.

Please do not hesitate to contact me if you have any questions.

Regards,

Tyler Slaght, RPP
Regulations Officer
Credit Valley Conservation
905.670.1615 ext 406 | 1.800.668.5557
tslaght@creditvalleyca.ca | creditvalleyca.ca

June 30, 2016

Chris Clark
Triton Engineering Services Limited
105 Queen Street West, Unit 14
Fergus, ON
N1M 1S6

**Re: Hillsburgh Dam and Bridge Environmental Assessment – Draft Natural Environment Report,
March 2016 & Preliminary Comparison and Ranking of Alternatives – Town of Erin, County of
Wellington – MNRF Comments**

Dear Mr. Clark,

The Ministry of Natural Resources and Forestry (MNRF) Guelph District Office can confirm receipt of the Draft Hillsburgh Dam Natural Environment (NE) Report (dated March 15, 2016). The NE Report has been completed in accordance with a Municipal Class Environmental Assessment (EA) Schedule B Project under the *Environmental Assessment Act*. It is understood based on the Town of Erin's website, that the project team has identified option B-1 (rehabilitate Hillsburgh Dam and Reconstruct Station Street Bridge) as the preliminary preferred alternative, at this time. The MNRF has reviewed the NE Report, as well as the Preliminary Comparison and Ranking of Alternatives matrix available on the Town's website, and can offer the EA project team the following comments. In addition, we have also included general information on the legislated permit process for the *Lakes and Rivers Improvement Act* (LRIA).

MNRF understands that the pond's outlet pipe within the Hillsburgh Dam failed in 2011, requiring emergency repairs as an immediate fix to the problem. MNRF approved the emergency works under the LRIA in 2012. A condition of this approval, however, was for the Town of Erin to apply for an authorization under the LRIA for a permanent solution to the dam. As such, the Town of Erin is undertaking a Municipal Class EA Schedule B to identify an appropriate solution for both the dam and Station Street Bridge before seeking approval under the LRIA.

MNRF Comments:

Natural Environment Report

- **Provincially Significant Wetland**

MNRF staff note that the project team reviewed the accuracy of the West Credit River Wetland Complex Provincially Significant Wetland (PSW) boundaries. It is understood that a few minor boundary revisions to the PSW were identified based on field survey work and ortho-photograph interpretation by the project team. MNRF would appreciate the opportunity to review the proposed wetland mapping to determine if updates to the provincial wetland mapping are required.

- **Little Brown Myotis**

As addressed in the NE Report, MNRF staff have noted the presence of maternal roost habitat for Little Brown Myotis adjacent to the study area, and the species has been observed flying towards the Hillsburgh Pond. Little Brown Myotis is listed as Endangered under the *Endangered Species Act* (ESA), and the species receives both individual and general habitat protection under the Act.

MNRF staff note that an authorization under the ESA may be required if the chosen alternative is anticipated to damage the habitat of Little Brown Myotis. It is recommended that the project team consult with MNRF once an option has been confirmed to determine whether targeted surveys will be required in the project area. This will help to inform whether an ESA authorization will be required.

- **Fish Habitat**

MNRF staff note that the NE Report does not mention the two small tributaries that drain into the west side of the Hillsburgh Pond. MNRF staff recommend including these tributaries in the report to ensure all watercourses are considered from a natural heritage perspective.

MNRF can provide additional observations for Section 3.7 and Figure 5 of the NE Report: Brown Trout was observed spawning in aquatic habitat segment 5 in the fall of 2013, and Brook Trout have been confirmed spawning in aquatic habitat segment 4 by the Credit Valley Conservation (CVC). It is recommended that the report be updated to include this fisheries information.

- **Snapping Turtle**

A juvenile Snapping Turtle was observed by MNRF staff on the Station Street berm at Hillsburgh Pond 17 (UTM 569016 4848536) on September 11, 2013. In addition, MNRF staff observed young-of-the-year Snapping Turtles in the adjacent pond on October 2, 2013. It is recommended that Section 3.4.5 of the NE Report be updated to include this information.

- **Other MNRF Observations**

MNRF staff note that Trumpeter Swans have also been seen on the Rudd Pond.

- **Landscape Level Plans**

There are a number of plans that include recommendations to remove the dams in the West Credit River watershed. These include:

- The Credit River Fisheries Management Plan (MNRF and CVC, 2002) provides a wide range of recommendations to protect, enhance and rehabilitate the aquatic ecosystem of the Credit River watershed. The removal of the Hillsburgh Dam would deliver on the priority to remove or mitigate the impacts of dams on the West Credit River. MNRF staff recommends that the NE Report include a discussion regarding how the dam removal options would reduce negative impacts to watercourse and improve aquatic habitat, supporting this management plan.

- The West Credit River Subwatershed Study Background Study and Impact Assessment (1998, 2001), by the CVC is the management plan for the West Credit River. This plan identifies the current conditions of watershed health and identifies current and future impacts. The removal of the Hillsburgh Dam is supported by this plan, in order to reduce the impacts of dams on the fish community. MNRF recommends that the project team include a reference to this background study in the NE Report, including a discussion on how removing the Hillsburgh Dam would improve the fish community.

Preliminary Comparison and Ranking of Alternatives

MNRF staff have had the opportunity to review the Preliminary Comparison and Ranking Alternatives matrix available on the Town of Erin's website. It is recommended that the ranking matrix provide a more fulsome review and examination of criteria, in order to more effectively evaluate the alternative options being presented for the Hillsburgh Dam and Station Street Bridge. The following comments reflect our recommendations that could be incorporated into an updated ranking matrix for the Environmental Study Report (ESR).

- It is recommended that the titles under Alternatives "C" and "D" - Option 2, include a note that these options include decommissioning the dam.
- For the Sediment Transport criteria, it is recommended that the weighting should be "medium" as sediment transport is very important for the long term health of the system. As well, only the negative effects of sediment transport seem to be considered here. The existing dam disrupts the normal transport of sediment through the system. It is recommended that Alternatives "C" and "D" should score a positive value of "8" as the dam removal alternatives will restore sediment transport for the long-term. There may be some short-term management of sediment during construction, but there will be a long-term, positive benefit to sediment transport as a result of removing the dam.
- We have reviewed the information included in the Hydrogeology criteria and it is our opinion that this is a relatively minor issue that does not appear to warrant being a separate set of criteria. If these criteria are included in the ESR, it is recommended that the ESR includes the data that supports this point. Staff are not aware of instances when the lowering of the pond has resulted in lower water levels of dug wells and private ponds.
- Removing the dam would restore the natural hydrogeology of the area. Thus the Hydrogeology criteria should be redefined and the Options under Alternative C and D (dam decommissioned) should be given a "Positive" score (4).
- Under the Natural Environment section, it is recommended that the project team consider adding criteria that reflects the "Ecological Restoration" of the natural system.
- Many of the criteria in the Natural Environment section overlap synergistically resulting in double scoring. For example, many of the species at risk or rare species use the wetlands or significant

wildlife habitat. As a result, staff recommends that the Species at Risk and Rare Species criteria be combined.

Similarly, the Landscape Features criteria should be removed or combined with other criteria, where it is already considered, such as Provincially Significant Wetlands and / or Significant Wildlife Habitat.

- MNRF and CVC worked with partners to establish the fisheries management objectives for the Credit River (Credit River Fisheries Management Plan, 2002. Queen's Printer for Ontario. ISBN 0-7794-3183-9). Through that process, the West Credit River was identified as supporting a coldwater fish community. The Fisheries Management Plan notes that the dams in Hillsburgh have known negative impacts and they have been identified for mitigation or removal. It is through that plan that the impacts to the fishery should be considered. As such, it is recommended that the Alternatives and Options that retain a dam under the Fish Criteria be considered a negative impact on fisheries resources and therefore, these options should score "negative" (5).
- Under the Provincially Significant Wetlands criteria, the potential changes to hydrology should be the same if the bridge is reconstructed or rehabilitated (Alternative B), therefore it is recommended that options 1 and 2 be scored the same at "6".
- Under the Public Safety criteria, MNRF recommends changing the ranking for Alternative "C", Option 1 from "10" to "11" or "12," as the danger of having a pond is gone, and the road will be rehabilitated. It is anticipated that removing the pond and dam will reduce the public safety issues. In addition, it is recommended that Alternative "B", Option 1 should score lower than Alternative "C", Option 1 since there is greater risk to public safety as a result of keeping the dam and online pond (e.g. dam failure).
- It is recommended that the economic analysis shown in Capital Construction for Alternative "B" include the cost of the eventual decommissioning of the dam, as it should reflect the full life-cycle costs of rehabilitating the dam. As a result, we anticipate that Alternatives "C" and "D" are more economical and sustainable over the long-term. There appears to be potential for the cost estimates of removing the dam, building the berm for an offline pond, and site restoration may be higher than expected. MNRF staff recommend including a cost breakdown in the ESR that shows how the totals in the ranking table were derived.
- Under the Regular Operations and Maintenance criteria, we recommend that the project team consider raising the ranking of Alternative "C", Option 1 from "10" to "11". The short-term operation and maintenance costs will only be attributed to the rehabilitated bridge (not the dam and bridge – similar split seen under Alternative "B"). As well, the costs associated with keeping the dam and the online pond functional with periodic maintenance, such as dredging, do not appear to have been considered.

- Under the Economic Feasibility/Liability criteria, only the scenario of “dam failure” appears to be considered. In Alternatives “C” and “D”, where the dam is to be removed, it is recommended that these Options should score “12”.

Lakes and Rivers Improvement Act

Ministry approval is required to make alterations, improvements or repairs to a dam that may affect the structural integrity or safety of the dam, or that may affect the waters or natural resources. Some works (described in the LRIA S. 16 technical bulletin attached) have been predetermined to have minimal or no effect on the dam’s structural integrity or safety, hydraulic capacity, public safety, the waters or natural resources. These works would not require Ministry approval as long as the works adhere to Ministry standards.

If proponents are uncertain if LRIA approval is required, proponents should contact the Ministry to seek clarification as required. The proponent’s design engineer must provide complete information to the Ministry for the proposed works to be reviewed in detail. Submission requirements are described in the attached LRIA S. 16 technical bulletin.

Proponents are responsible for ensuring that all work undertaken meets applicable Ministry standards and other professional guidelines and codes.

Closing

The Ministry appreciates the opportunity to review and provide comments on the Hillsburgh Dam and Bridge NE Report, as well as the Preliminary Comparison and Ranking of Alternatives matrix available on the Town’s website.

It is understood that the NE Report concludes that the most beneficial alternatives from a natural environment perspective include the options that would decommission the dam and create an offline pond. The MNRF supports this conclusion. However, we recommend that a stronger analysis be included in the report and the ranking matrix to demonstrate the long-term environmental benefits of decommissioning the dam and creating an offline pond. Such benefits include improvements to aquatic ecology and the coldwater fish community, which are supported by the management plan and subwatershed study noted in the above comments. A re-evaluation of the ranking matrix could also result in Option “2” of alternatives “C” and “D” scoring higher in the overall rankings.

If the dam is to be removed, with the option of creating an offline pond, MNRF staff would work with the Town of Erin and other agencies and partners to assist with the process. This partnership would include in-kind contributions to assist with fund raising, permit applications, project design, tendering and construction. This same approach has been successful at other locations.

The MNRF would appreciate a response from the EA project team on the comments above. Please note that staff may have additional comments on the NE Report if updated reports are submitted. Staff

would also appreciate the opportunity to comment on the draft ESR. This will enable us to identify any potential issues early in the EA process.

If further comment or clarification is required please contact the undersigned.

Regards,



Tara McKenna, District Planner
Ministry of Natural Resources and Forestry, Guelph District
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Guelph, ON, N1G 4Y2
Phone: (519) 826-4912
Email: tara.mckenna@ontario.ca

cc: Ian Thornton, MNRF
Al Murray, MNRF
Ken Cornelisse, MNRF
Art Timmerman, MNRF
Melinda Thompson, MNRF
Elizabeth Reimer, MNRF
Doug Ryan, MNRF
Tyler Slaght, CVC

RESPONSE TO MNRF COMMENTS: Dated June 30, 2016
Hillsburgh Dam and Bridge Environmental Assessment

Comments regarding the Hillsburgh Dam and Bridge Environmental Assessment and Draft Natural Heritage Report were received from the MNRF on June 30, 2016. Below are the responses to comments relating to the Draft Natural Heritage Report (Dated March 15, 2016).

Natural Environment Report

- **Provincially Significant Wetlands**
 - **MNRF would appreciate the opportunity to review the proposed wetland mapping to determine if the updates to the provided wetland mapping are required.**
 - **AA Response:** *The entire wetland boundary was not re-delineated as part of the Natural Environment Report, but boundary was reviewed on the ground against existing wetland mapping. Only minor discrepancies were identified between wetland mapping provided by Land Information Ontario and observed wetland boundary. The minor differences between the mapped and actual wetland boundaries would not alter the analysis or scoring of EA options, it was therefore felt that a full review and update of the entire wetland boundary was not necessary. AA would be willing to review areas of minor discrepancies with the MNRF or to complete detailed wetland boundary delineation, if required.*
- **Little Brown Myotis**
 - **MNRF Staff note that an authorization under the ESA may be required if the chosen alternative is anticipated to damage the habitat of the Little Brown Myotis.**
 - **AA Response:** *AA will update the report to reflect the fact that authorization under the ESA may be required if a selected option has the potential to negatively impact Little Brown Myotis habitat.*

- **Fish Habitat**

- **MNRF Staff note that the NE Report does not mention two small tributaries that drain into the west side of the Hillsburgh pond. MNRF recommend including these tributaries in the report to ensure all watercourses are considered from a natural heritage perspective.**

- ***AA Response:** These watercourses will be ortho-interpreted and added to the figure. Any available background resources available on these tributaries will be incorporated into the report.*

- **MNRF can provide additional observations for Section 3.7 and Figure 5 of the NE report: Brown Trout was observed spawning in aquatic habitat segment 5 in the fall of 2013, and Brook Trout have been confirmed spawning in aquatic habitat segment 4 by CVC. It is recommended that the report be updated to include this fisheries information.**

- ***AA Response:** Observations have been incorporated into Appendix 20 and Figure 5.*

- **Snapping Turtle**

- **A juvenile Snapping Turtle was observed by MNRF staff on the Station Street berm at Hillsburgh Pond 17 (UTM 569016 4848536) on September 11, 2013. In addition, MNRF staff observed young of-the-year Snapping Turtles in the adjacent pond on October 2, 2013. It is recommended that Section 3.4.5 of the NE Report be updated to include this information.**

- ***AA Response:** Observation will be added to report under background data and SAR.*

- **Other MNRF Observations**

- **MNRF Staff note Trumpeter Swans have been observed on the Rudd pond.**

- ***AA Response:** Observation will be added to report under background data.*

- **Landscape Level Plan**

- There are a number of plans that include the recommendations to remove the dams on the west credit river: These include
 - 1) The Credit River Fisheries Management Plan
 - 2) The West Credit River Subwatershed Study Background Study and Impact Study (1998 to 2001)

MNRF recommend that these reports be referenced and that a section be included in the NE report that discusses how removing the Hillsburgh Dam would improve the fish community.

- **AA Response:** Section 1.4 of the Draft Natural Heritage Report discusses the Credit River Fisheries Management plan and discusses recommendations for dam removal or mitigation to improve fish communities.
- **AA Response:** AA has not reviewed the West Credit River Subwatershed Study Background Study and Impact Study (1998 to 2001). If a copy is provided, a reference to the report and summary of finding and recommendations can be included in the NE report along with a section discussing the impacts of the dam.

Preliminary Comparison of Ranking of Alternatives

- It is recommended that the titles under Alternatives C and D – Option 2, include a note that these options include decommissioning the dam.
 - **Triton Response:** Acknowledged, titles have been adjusted to include dam decommissioning
- For the Sediment Transport criteria, it is recommended that the weighting should be “medium” as sediment transport is very important for the long term health of the system. As well, only the negative effects of sediment transport seem to be considered here. The existing dam disrupts the normal transport of sediment through the system. It is recommended that Alternatives “C” and “D” should score a positive value of “8” as the dam removal alternatives will restore sediment transport for the long-term. There may be some short-term management of sediment during construction, but there will be a long-term, positive benefit to sediment transport as a result of removing the dam.
 - **Triton Response:** Acknowledged, weighting has been adjusted to “medium” and Alternative C and D have been adjusted to positive (+4).

- **We have reviewed the information included in the Hydrogeology criteria and it is our opinion that this is a relatively minor issue that does not appear to warrant being a separate set of criteria. If these criteria are included in the ESR, it is recommended that the ESR includes the data that supports this point. Staff is not aware of instances when the lowering of the pond has resulted in lower water levels of dug wells and private ponds.**
 - ***Triton Response:*** Acknowledged, data relating to the project areas hydrogeology has since been included and will be added as part of the Project File Report.
- **Removing the dam would restore the natural hydrogeology of the area. Thus the Hydrogeology criteria should be redefined and the Options under Alternative C and D (dam decommissioned) should be given a “Positive” score (4).**
 - ***Triton Response:*** Data relating to the project areas hydrogeology has since been included and will be added as part of the Project File Report. The conclusion of the report states that there are relatively no impacts to shallow dug wells provided sediment is not removed in all scenarios. Therefore, the natural hydrogeology will remain neutral as there should be no change. Alternative B1 and B2 are scored negative-neutral as there could be potential for water quality impacts once the pond is dredged. In order to prove these assumptions, further monitoring will be required.
- **Under the Natural Environment Section, it is recommended that the project team consider adding criteria that reflects the “Ecological Restoration” of the natural system**
 - ***AA Response:*** Ecological Restoration of the natural system has been incorporated within each criterion listed under the NE section of the evaluation matrix.
- **Many of the criteria of the NE section overlap synergistically resulting in double scoring.**
 - ***AA Response:*** Scoring criteria has been adjusted to eliminate double scoring.

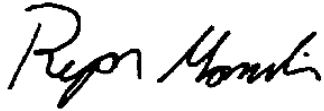
- **MNRF and CVC worked with partners to establish the fisheries management objectives for the Credit River (Credit River Fisheries Management Plan, 2002. Queen's Printer for Ontario. ISBN 0-7794-3183-9). Through that process, the West Credit River was identified as supporting a coldwater fish community. The Fisheries Management Plan notes that the dams in Hillsburgh have known negative impacts and they have been identified for mitigation or removal. It is through that plan that the impacts to the fishery should be considered. As such, it is recommended that the Alternatives and Options that retain a dam under the Fish Criteria be considered a negative impact on fisheries resources and therefore, these options should score "negative" (5).**
 - ***AA Response:*** *Scoring has been updated to reflect the "negative" impacts of the dam on fisheries resources.*
- **Under the Provincially Significant Wetlands criteria, the potential changes to hydrology should be the same if the bridge is reconstructed or rehabilitated (Alternative B), therefore it is recommended that options 1 and 2 be scored the same at "6".**
 - ***AA Response:*** *Scoring has been updated so that the PSW criteria for Alternative B Option 1 and 2 is scored the same. This criterion is scored as neutral as no long term impacts are expected to the wetland from rehabilitating the Dam.*
- **Under the Public Safety criteria, MNRF recommends changing the ranking for Alternative "C", Option 1 from "10" to "11" or "12" as the danger of having a pond is gone, and the road will be rehabilitated. It is anticipated that removing the pond and dam will reduce the public safety issues. In addition, it is recommended that Alternative "B", Option 1 should score lower than Alternative "C", Option 1 since there is greater risk to public safety as a result of keeping the dam and online pond (e.g. dam failure).**
 - ***Triton Response:*** *Scoring has been updated to reflect Alternative D1 as being positive as all aspects of public safety (bridge and dam) are being mitigated while B1, C1, C2 and D2 are positive-neutral as only one aspect of public safety is being improved. A and B2 will result in little to no improvements to public safety and are scored accordingly.*

- It is recommended that the economic analysis shown in Capital Construction for Alternative “B” include the cost of the eventual decommissioning of the dam, as it should reflect the full life-cycle cost of rehabilitating the dam. As a result, we anticipate that Alternatives “C” and “D” are more economical and sustainable over the long-term. There appears to be potential for the cost estimates of removing the dam, building the berm for an offline pond, and site restoration may be higher than expected. MNRF staff recommends including a cost breakdown in the ESR that shows how the totals in the ranking table were derived.
 - **Triton Response:** *Acknowledged, the cost for eventual dam removal has been added to Alt. B1 and B2 and Capital Construction criteria scoring has been adjusted accordingly. A cost breakdown will be included as part of the Project File Report.*
- Under the Regular Operations and Maintenance criteria, we recommend that the project team consider raising the ranking of Alternative “C”, Option 1 from “10” to “11”. The short-term operation and maintenance costs will only be attributed to the rehabilitated bridge (not the dam and bridge – similar split seen under Alternative “B”). As well, the costs associated with keeping the dam and the online pond functional with periodic maintenance, such as dredging; do not appear to have been considered.
 - **Triton Response:** *Acknowledged, the Regular Operations and Maintenance criteria scores have been revised to include these factors. A cost breakdown will be included as part of the Project File Report.*
- Under the Economic Feasibility/Liability criteria, only the scenario of “dam failure” appears to be considered. In Alternative “C” and “D”, where the dam is to be removed, it is recommended that these Options should score “12”.
 - **Triton Response:** *For the purposes of scoring the ultimate scenario which affects the Economic Liability criteria is “dam failure”. Scoring has been adjusted to show D1 as being the most positive. C1, C2 and D2 still contain some liability with either a rehabilitated bridge structure or the offline pond structure.*

If you and further questions or comments, please feel free to contact the undersigned.

Yours truly,

ABOUD & ASSOCIATES INC.



Ryan Hamelin, M.Sc., Terrestrial and Wetland Ecologist

TRITON ENGINEERING SERVICES LIMITED



Chris Clark, M.A.Sc., P. Eng.

November 9, 2016

Chris Clark
Triton Engineering Services Limited
105 Queen Street West, Unit 14
Fergus, ON
N1M 1S6

Re: Hillsburgh Dam and Bridge Environmental Assessment – Revised Comparison and Ranking of Alternatives – Town of Erin, County of Wellington – MNRF Comments

Dear Mr. Clark,

The Ministry of Natural Resources and Forestry (MNRF) Guelph District Office has had the opportunity to review the revised Comparison and Ranking of Alternatives matrix in support of the Municipal Class Environmental Assessment (EA) for the Hillsburgh Dam and Station Street Bridge in the Town of Erin. MNRF staff can offer the EA project team the following comments.

MNRF Recent Involvement to Date

MNRF provided comments to the project team in a letter dated June 30, 2016, which focused on a review of the Draft Hillsburgh Dam Natural Environment Report (dated March 15, 2016) as well as the Preliminary Comparison and Ranking of Alternatives matrix. MNRF provided detailed comments on the ranking matrix, as well as recommendations related to natural heritage features, species at risk, and the *Lakes and Rivers Improvement Act*. MNRF also met with the EA project team on July 21 and August 22, 2016 to discuss agency recommendations on the reporting and comparison matrix.

MNRF Comments:

It is appreciated that the project team has revised the Comparison and Ranking of Alternatives matrix to provide a more fulsome review and examination of criteria, in order to more effectively evaluate the alternative options being presented for the Hillsburgh Dam and Station Street Bridge. The following comments reflect our recommendations that could be incorporated into an updated ranking matrix to more appropriately represent the alternatives.

- **Hydrology and Hydraulics:**

Alternative B – Option 1 received a score of 6, while Alternative C - Options 1 & 2 and Alternative D – Options 1 & 2 scored “-3”. If Alternative B – Option 1 includes the reconstruction of the bridge, we anticipate that Alternative C or D, Options 1 & 2 would have similar hydraulics and hydrology, if the dam is removed. MNRF staff anticipate that removing the dam would re-establish historical hydraulic and hydrology conditions. We understand the removal of the dam (Alternatives C and D) will reduce the risk of uncontrolled dam failure, and represents a long-term solution. In addition,

the reconstruction of the bridge provides the best alternative for managing hydraulics and hydrology. Based on this understanding of the scoring matrix, MNRF staff recommend that the scores for this criterion could be -6, 0, -6, 0, 0, 6, 6 (respectively, based on the order of alternatives in the matrix).

- **Species at Risk (SAR) Rare Species:**

Alternative B – Options 1 & 2 have a score of “3”. Since there are no anticipated long-term impacts, we would recommend that the score could be “0” (neutral).

- **Significant Wildlife Habitat:**

Alternative B – Options 1 & 2 currently score “2”. As Alternative B – Options 1 & 2 would not alter the habitat, MNRF staff recommend that the scoring could be “0” (neutral).

- **Provincially Significant Wetlands:**

- Alternative C – Option 1 (no pond) should have a lower score than Alternative C – Option 2 (offline pond), such as “-2” and “0”, respectively.
- Alternative D – Option 1 (no pond) should have a lower score than Alternative D – Option 2 (offline pond), such as “-2” and “0”, respectively.

- **Cultural Heritage:**

- MNRF staff recommends considering that Alternative C – Options 1 & 2 could score differently (-3, 0, respectively) since the offline pond offers some benefit to retaining the cultural heritage feature.
- MNRF staff recommends considering that Alternative D – Options 1 & 2 could score differently (-3, 0, respectively) since the offline pond offers some benefit to retaining the cultural heritage feature.

- **Economic Liability:**

The text in “Summary of Weighted / Measured Criteria” should include the words “and bridge” (not just the “dam”).

Closing

The Ministry appreciates the opportunity to review and provide comments on the revised Comparison and Ranking of Alternatives for the Hillsburgh Dam and Bridge EA. MNRF would also appreciate an opportunity to provide comments on the upcoming Project File Report, once it becomes available.

As noted in our previous correspondence, if the dam is to be removed, with the option of creating an offline pond, MNRF staff would work with the Town of Erin and other agencies and partners to assist with the process. This partnership would include in-kind contributions to assist with fund raising, permit applications, project design, tendering and construction. This same approach has been successful at other locations.

If further comment or clarification is required please contact the undersigned.

Regards,



Tara McKenna, District Planner
Ministry of Natural Resources and Forestry, Guelph District
1 Stone Road West
Guelph, ON, N1G 4Y2
Phone: (519) 826-4912
Email: tara.mckenna@ontario.ca

cc: Ian Thornton, MNRF
Al Murray, MNRF
Ken Cornelisse, MNRF
Art Timmerman, MNRF
Doug Ryan, MNRF
Tyler Slaght, CVC

Chris Clark

From: Chris Clark
Sent: November-21-16 3:21 PM
To: 'McKenna, Tara (MNRF)'
Cc: Thornton, Ian (MNRF); Murray, Al (MNRF); Cornelisse, Ken (MNRF); Timmerman, Art (MNRF); Ryan, Doug (MNRF); Paul Ziegler
Subject: RE: Hillsburgh Dam EA - MNRF comments on revised Comparison and Ranking of Alternatives

Hi Tara,

Thank-you for sending MNRF comments. These comments will be considered and included as part of the Project File Report.

Regards,

Chris Clark, M.A.Sc., P.Eng.



Triton Engineering Services Limited
105 Queen Street West, Unit 14 Fergus, ON N1M 1S6
Tel - (519) 843-3920 • Fax - (519) 843-1943 • www.tritoneng.on.ca
Cell – (519) 993-7918

From: McKenna, Tara (MNRF) [<mailto:Tara.McKenna@ontario.ca>]
Sent: November-09-16 3:09 PM
To: Chris Clark
Cc: Thornton, Ian (MNRF); Murray, Al (MNRF); Cornelisse, Ken (MNRF); Timmerman, Art (MNRF); Ryan, Doug (MNRF); Slaght, Tyler
Subject: Hillsburgh Dam EA - MNRF comments on revised Comparison and Ranking of Alternatives

Hi Chris,

Thank you for the opportunity to review the revised Comparison and Ranking of Alternatives for the Hillsburgh Dam and Bridge Environmental Assessment. The Ministry's comments are attached.

Should you have any questions, do not hesitate to contact me.

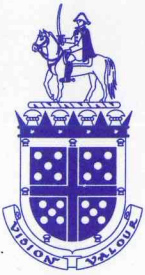
Regards,

Tara

Tara McKenna, M.Pl.
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APPENDIX F-2

Public Comments



COUNTY OF WELLINGTON

PLANNING AND DEVELOPMENT DEPARTMENT
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T 1.800.663.0750
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ADMINISTRATION CENTRE
74 WOOLWICH STREET
GUELPH ON N1H 3T9

July 26, 2016

To: Paul Ziegler, P.Eng
Triton Engineering

From: Gary Cousins, MCIP, RPP

Subject: Hillsburgh Dam and Bridge
Municipal Class EA

Thank you for the recent meeting with MNR, CVC and the Town of Erin. It provided County representatives with a better understanding of the options and the concerns of the agencies particularly around the fishery resource.

From an environmental perspective, we understand there are both advantages and disadvantages that need to be weighed when examining options to allow the river to resume a natural course or to create an on line pond. From a social/cultural perspective, retaining the pond in its current form is clearly preferred given that has been the norm for over 100 years.

The County of Wellington strongly prefers rehabilitating the dam and reconstructing the bridge in a manner that retains the pond in its current form. The County, as owner of the pond, does not support the creation of an on line pond or having the river revert to a natural course.

The County is willing to discuss reasonable means of improving the fishery while maintaining the pond.

Regards,

A handwritten signature in cursive script that reads 'Gary Cousins'.

Gary Cousins, MCIP, RPP
Director of Planning and Development

cc: Warden George Bridge
CAO Scott Wilson



**ONTARIO
RIVERS
ALLIANCE**

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20 June 2016

Dina Lundy, Clerk
Town of Erin
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N0B1Z0
By Email: Dina.Lundy@erin.ca

Paul Ziegler, C.E.T.
Project Manager
Triton Engineering Services Limited
105 Queen Street West, Unit 114,
Fergus, ON
N1M1S6
By Email: PZiegler@tritoneng.on.ca

Re: Hillsburgh Dam and Bridge, Upper West Credit River, Hillsburgh

Dear Sirs:

Ontario Rivers Alliance (ORA) is a Not-for-Profit grassroots organization acting as a voice for several stewardships, organizations, and private and First Nation citizens who have come together to protect, conserve and restore healthy river ecosystems in Ontario.

ORA is pleased to comment on the options being considered by the Town of Erin (Town) for the Hillsburgh Dam and Bridge located along Station Street, approximately 150m west of Trafalgar Road, crossing the Upper West Credit River, in Hillsburgh. The Town has initiated a Municipal Class B Environmental Assessment to review the options and identify the preferred alternatives to both the deterioration of the bridge and a permanent solution for the dam.

ORA recommends either of Alternatives C or D, Option 2, offered in the Preliminary Comparison and Ranking of Alternatives chart for the following reasons:

Coldwater Brook Trout Fishery

The West Credit River is a headwaters tributary of the Credit River, and is highly valued as a coldwater brook trout fishery. Ontario fisheries contribute significantly to the economic and social fabric of the province, and bring in approximately \$2.2 billion annually to the Ontario



economy. Coldwater species are still widespread across Ontario ranges but some local populations of Brook Trout are now extirpated, and others have suffered declines.¹

ORA has partnered with Trout Unlimited Canada, Credit Valley Conservation, the Ontario Ministry of Natural Resources and Forestry, and the Izaak Walton Fly Fishing Club, on a project to decommission the Rudd Dam, just downstream of the Hillsburgh Dam. This 2-year project will remove a large portion of the earthen dam and rehabilitate 5,065 feet (1,544m) of unimpeded access to a high quality coldwater brook trout habitat. The West Credit River is important habitat for Brook Trout in the Credit River due to its ample groundwater discharge. This Project is part of the implementation of the Credit River Fisheries Management Plan (OMNR and CVC, 2002), a larger multi-species ecosystem-based recovery initiative.

The impact of a dam on a free flowing stream imposes changes to the basic hydrological characteristics of the watercourse. The velocity of the stream is reduced and subsequent changes occur in temperature, turbidity, sediment transport, stream ecology, and water quality. These modifications affect fish and other aquatic fauna directly and indirectly to varying degrees, depending upon the species.²

The brook trout fishery on the West Credit River has been significantly impacted through thermal warming by upstream dams that have blocked access to important habitat and spawning areas, making it less suitable for a cold-water fishery.

Decommissioning of the Hillsburgh Dam would improve water quality and temperature, and significantly expand the West Credit River coldwater fishery habitat.

Climate Change

Climate change will impose some of its greatest effects on both the long-term availability and the short-term variability of water resources in many regions of the province. These effects have already been felt in many areas through increased frequency and magnitude of droughts, extreme rain and flooding, destruction of infrastructure, amount of accumulated snowpack, and changes in soil moisture and runoff.

According to a new 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.³

*"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."*⁴ Drought conditions could place additional stress on riverine ecosystems, while more extreme rainfall will heighten the risk of dam failures (14 dams were breached in South Carolina flood in October of 2015) and rapid release of high volumes of water.^{5,6} *"Climate will interact with overexploitation, dams and diversions, habitat destruction, non-native species and pollution to destroy native freshwater fisheries."*⁷ We must recognize the hazards of infrastructure that would degrade water quality and water quantity, threaten our fisheries, or that jeopardize the ecosystem services that healthy rivers provide during times of drought and flooding.



The liability and associated costs presented by the Hillsburgh Dam in this changing and unpredictable climate must also be evaluated and considered when comparing and ranking the various alternatives.

ORA also submits that provisions for a 25-year flood do not adequately address the risk of flooding when Conservation Authorities are now moving to a 200 to 250-year flood event standard.

Town's Preliminary Preferred Alternative B

It was reported in a 3 June 2016 article in The Wellington Advertiser that *"of the seven options, the preliminary preferred option is to rehabilitate the dam and reconstruct the bridge"*, and that it *"ranked lowest for cost"*⁸. ORA would like to point out that the costs for this alternative should also take into account the full life cycle costs of operating and maintaining a dam, increased liability risks and costs, as well as the eventual costs associated with decommissioning.

As noted on your website, there has already been a dam failure necessitating emergency repairs, and with the extremes of climate change this and other even more serious issues could arise in the future. Dam owners have a fiduciary responsibility for public safety, and the costs of dam repair are ever increasing.

Decommissioning would remove a significant public safety risk, along with any associated liability issues, and dam operation and maintenance costs would be eliminated. These are all elements that must be included in any cost assessment of the various alternatives being considered.

ORA submits that Alternative B is a short-term solution that would place public safety and a valued cold-water fishery at long-term risk.

Conclusion

As the draft Natural Environment Report's analyses concluded, the two preferred alternatives are Alternative C, Option 2 and Alternative D, Option 2.⁹ ORA is in full agreement, and is therefore recommending that the Town of Erin choose Alternative C or D, to rehabilitate or reconstruct the Station Street Bridge, and to decommission Hillsburgh Dam. Either of these alternatives/options would decrease thermal warming, improve water quality, restore sediment transport and stream ecology, remove a barrier to fish passage, and provide for the long-term sustainability of a coldwater brook trout fishery. Additionally, ORA recommends Option 2, which would provide an offline pond/wetland to provide important habitat for significant and endangered species. An offline pond would also retain the natural heritage and cultural values for the community.

The EA process is designed to balance social, economic and environmental concerns. Option 2 of Alternatives C and D provide a win-win solution with a pond feature, wetland habitat, restoration of coldwater fish habitat, reduced liability, and the lowest cost.



"Climate change is the critical issue of our time."¹⁰ Healthy rivers are the key to successful adaptation to the extremes of climate change. There is an urgent need to integrate climate change into water protection strategies and policies.

There are a number of grants available for dam removal projects, and ORA would be very pleased to help the Town raise the necessary funds for the decommissioning of Hillsburgh Dam.

Thank you for this opportunity to comment!

Respectfully,

Linda Heron
Chair, Ontario Rivers Alliance
(705) 866-1677

cc: Ian Hagman, District Manager, OMNRF – Ian.Hagman@ontario.ca
Debra martin-Downs, Credit Valley Conservation – DMartin-Downs@creditvalleyca.ca

¹ Ontario's Provincial Fish Strategy: Fish for the Future. OMNRF, Fisheries Policy Section. ISBN #978-1-4606-5622-8 (PDF)

² Metcalfe, R.A., Mackereth, R.W., Grantham, B., Jones, N., Pyrcie, R.S., Haxton, T., Luce, J.J., Stainton, R., 2013. Aquatic Ecosystem Assessments for Rivers. Science and Research Branch, Ministry of Natural Resources, Peterborough, Ontario. 210 pp. 1.5.

³ Study: Climate Change Rapidly Warming World's Lakes, 16 December 2015.

⁴ 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.

⁵ Dams fail, death toll rises as flood flows east in Carolinas. <http://wbtw.com/2015/10/08/dams-fail-death-toll-rises-as-flood-flows-east-in-carolinas/>

⁶ Colorado flood: Dams break in Larimer and Adams counties; overflowing in Boulder. http://www.denverpost.com/environment/ci_24080336/dams-break-at-rocky-mountain-arsenal-and-larimer

⁷ 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.

⁸ Station Street bridge, dam options range from \$2 million to \$4.2 million, The Wellington Advertiser, by Olivia Rutt, Vol 49, Issue 23, June 3, 2016.

⁹ Draft – Hillsburgh Dam, Town of Erin, Environmental Assessment: Natural Environment Report.

¹⁰ Ontario's Climate Change Discussion Paper 2015, Minister's Message, Glen Murray, Minister of Environment and Climate Change. P-3.

Chris Clark

From: Chris Clark
Sent: October-24-16 10:31 AM
To: linda.heron@rogers.com
Cc: dina.lundy@erin.ca; Paul Ziegler; Teresa Hutchison
Subject: Hillsburgh Dam and Bridge, Upper West Credit River
Attachments: 2016-06-20-ORA-HillsburghDam.pdf; CVCA Comments Hillsburgh Dam - Response 1.pdf; CVCA Comments Hillsburgh Dam - Response 2.pdf; MNRF Comments Hillsburgh Dam - Response.pdf

Good Morning Linda,

On behalf of the Town of Erin, in response to your comments regarding the Hillsburgh Dam and Bridge Class EA, please accept our response to MNRF and CVC comments which are similar in nature to the concerns of the Ontario Rivers Alliance.

If you have any other questions or concerns, please do not hesitate to contact the undersigned.

Best Regards,

Chris Clark, M.A.Sc., P.Eng.



Triton Engineering Services Limited
105 Queen Street West, Unit 14 Fergus, ON N1M 1S6
Tel - (519) 843-3920 • Fax - (519) 843-1943 • www.tritoneng.on.ca
Cell – (519) 993-7918

ALTERNATIVE B
Option 1



TOWN OF ERIN
HILLSBURGH DAM AND BRIDGE
STATION STREET AT UPPER WEST CREDIT RIVER
PUBLIC INFORMATION CENTRE
THURSDAY, MAY 19, 2016
COMMENT SHEET

NAME: [REDACTED]

ADDRESS: [REDACTED] STATION ST

PHONE#: [REDACTED]

Please provide us with your comments regarding the proposed project.

I prefer Alternative B, option one. The bridge, though historical would be difficult to rehabilitate to current safety standards.

I am very opposed to any plan that would result in draining the ponds. We very much enjoy watching the migratory birds and other birds that use the pond year round. There are many other species that reside in and around the pond. They deserve to exist in their natural habitat.

With the location of the new lake/waterway to Station Road the pond will be a big asset that will become a focal point for the village of Hillsburgh.

[Signature]



TOWN OF ERIN
HILLSBURGH DAM AND BRIDGE
STATION STREET AT UPPER WEST CREDIT RIVER

PUBLIC INFORMATION CENTRE

THURSDAY, MAY 19, 2016

COMMENT SHEET

NAME:

ADDRESS:

PHONE#:

Please provide us with your comments regarding the proposed project.

I am very much opposed to the draining of the pond. It is too valuable to the wildlife and the heritage of the area.

I feel very strongly that the only alternative is Alternative B option #1

RAD



TOWN OF ERIN
HILLSBURGH DAM AND BRIDGE
STATION STREET AT UPPER WEST CREDIT RIVER

PUBLIC INFORMATION CENTRE

THURSDAY, MAY 19, 2016

COMMENT SHEET

NAME:

ADDRESS:

PHONE#:

[REDACTED]

[REDACTED] Erin Heights Drive

[REDACTED]

Please provide us with your comments regarding the proposed project.

The Pond owner should own the Dam and pay the cost associated with its repair/replacement.
It is not in the interest of the Town to own a dam and the liability involved.

What legal document enables the Town to own the "Dam"?

Why not have the Pond owner take ownership of the "dam" and relocate onto his property.

The ideal situation would be to have the landowner build an adjacent "dam" upstream of the existing road/dam to provide for the existence of the pond and its control. And, make use of the existing dam or otherwise bring the road up to specification.



TOWN OF ERIN
HILLSBURGH DAM AND BRIDGE
STATION STREET AT UPPER WEST CREDIT RIVER

PUBLIC INFORMATION CENTRE

THURSDAY, MAY 19, 2016

COMMENT SHEET

RECEIVED

MAY 31 2016

TOWN OF ERIN

NAME:

[REDACTED]

ADDRESS:

[REDACTED] GEORGE ST., HILLSBURGH

PHONE#:

[REDACTED]

Please provide us with your comments regarding the proposed project.

First let me congratulate you on an excellent presentation of the various alternatives and options. Well done.

My strong preference is for Alternative B, option 1. I get considerable joy in watching the wildlife that inhabit the pond as well as seeing the various moods reflected from the water as the seasons change. It would make me very sad if the pond were to become smaller or disappear, not to mention the effect on my property value.

Thank you for the opportunity to make comments on the alternatives.

[REDACTED]



TOWN OF ERIN
HILLSBURGH DAM AND BRIDGE
STATION STREET AT UPPER WEST CREDIT RIVER

PUBLIC INFORMATION CENTRE

THURSDAY, MAY 19, 2016

COMMENT SHEET

RECEIVED

MAY 31 2016

TOWN OF ERIN

NAME:

[REDACTED]

ADDRESS:

[REDACTED] GEORGE ST., HILLSBURGH

PHONE#:

[REDACTED]

Please provide us with your comments regarding the proposed project.

I am in favour of Alternative B, Option 1.

I would also like to see a therapeutic garden established on the property for the enjoyment of seniors and the education of young people. Food from the garden could be donated to the food bank.

I would like the pond to be retained as it is so that the wildlife that is currently there is not disturbed & is there for the enjoyment of future generations!

The pond could be a centre for nature photography; with ~~centres~~ benches a place for quiet reflection; and a place to educate youth about nature.

[REDACTED]

Chris Clark

From: Kathryn Ironmonger <Kathryn.Ironmonger@erin.ca>
Sent: June-14-16 9:13 AM
To: Chris Clark; Paul Ziegler
Subject: FW: Hills burgh Dam Study

FYI

Dina Lundy Dipl.M.A, CMO

Clerk, Town of Erin
5684 Trafalgar Rd
Hillsburgh, ON
519-855-4407 x233

[Clerk's and Administration Department Webpage](#)

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From: [REDACTED]
Sent: Tuesday, June 14, 2016 9:05 AM
To: Allan Alls; Council
Subject: Hills burgh Dam Study

June 14,2016

Mayor Alls and Members of the Town Council

Re: Environment Assessment- Hillsburgh Dam and Bridge

Hello: The aim of this email is to highlight an aspect of the Study that is currently taken place and to offer some perspective.

Hillsburgh is badly in need of an enlargement to it's municipal water system. Too many homes rely on shallow dug wells. Key elements of Hillsburgh rely on private wells (school, stores and firehall, future library and the arena). The study indicates that the Hillsburgh pond not only serves as a pleasant landscape but is probably a key feature to enabling town residents to utilize shallow wells. The majority of these wells (in my opinion) are subject to contamination and the water quality would probably not meet Ontario Drinking Water Standards for such parameters as bacteria,lead and sodium. At times I wonder if these homes serviced by shallow wells are any better off than the Reservation water sources that we read about in the mainstream newspapers. It seems to me that the Town doesn't have a strategic plan to eventually solve this environmental problem.

It appears to me that one day Hilsburgh will have a multimillion dollar library and bridge/ dam complex. It concerns me that when the ribbons are cut for these projects, some home owners in this community will still be utilizing these high risk water sources. It concerns me that drinkable water appears to be less of a concern here and there isn't funding available at a higher level to address what appears to me as a impending health issue.

[REDACTED]

Chris Clark

From: [REDACTED]
Sent: May-20-16 12:08 AM
To: Paul Ziegler
Cc: Chris Clark
Subject: Comments regarding the Preliminary findings of the Hillsburgh Dam and Bridge EA

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Paul,

As we discussed at the meeting on May 19th , I would like to hear the opinion of the study group on how they address water rights to the pond above Station Road. . My property sits directly below Station Road and i have a particular interest in these rights.

Also , I would like to offer the suggestion that should the alternative chosen require it, the the old water raceway south of Station Road could be made available to redirect water while repair or restoration work proceeds on the bridge.

sincerely,

Chris Clark

From: [REDACTED]
Sent: June-24-16 12:15 PM
To: Chris Clark
Cc: Council; Dina Lundy; Paul Ziegler
Subject: Re: Hillsburgh Dam and Bridge Assessment

Dear Chris ,
I will follow up with my lawyer on your request .

Ian

On Friday, 24 June 2016, Chris Clark <cclark@tritoneng.on.ca> wrote:

Hello [REDACTED]

In response to your comments below, could you please provide the documentation which supports this opinion so as to give us an opportunity to respond to your concerns accordingly.

Regards,

Chris Clark, [M.A.Sc.](#), P.Eng.



Triton Engineering Services Limited

105 Queen Street West, Unit 14 Fergus, ON N1M 1S6

Tel - (519) 843-3920 • Fax - (519) 843-1943 • www.tritoneng.on.ca

Cell – (519) 993-7918

From: Dina Lundy [mailto:Dina.Lundy@erin.ca]
Sent: June-24-16 7:45 AM
To: Chris Clark; Paul Ziegler

Cc: Council

Subject: FW: Hillsburgh Dam and Bridge Assessment

Please see comments below. Paul/Chris, can you respond?

Dina Lundy Dipl.M.A, CMO

Clerk, Town of Erin

5684 Trafalgar Rd

Hillsburgh, ON

519-855-4407 x233

[Clerk's and Administration Department Webpage](#)

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From: [REDACTED]

Sent: Thursday, June 23, 2016 10:35 PM

To: Dina Lundy

Subject: Hillsburgh Dam and Bridge Assessment

Dear Ms. Lundy,

Please inform those involved in the decision process on the various alternatives for the Dam and Bridge that I strongly disagree with the conclusion that none of the alternatives has an impact on water rights. The deed to my property , the Ainsworth Pond and adjacent Mill notes that they have commercial water rights to the upper pond. I would like to have my rights noted and addressed.

Sincerely,

[REDACTED]

Chris Clark

From: [REDACTED]
Sent: October-20-16 1:00 PM
To: Paul Ziegler; Chris Clark
Subject: Fw: add to the Town of Erin Council agenda for Oct 18
Attachments: Questions Oct.18 agenda.docx

Importance: High

Hi Paul and Chris:

Submitted this letter on time to be on the Council meeting agenda - the Mayor apparently pulled it. I understand you have been asked to re-evaluate some components of the E.A. and so I am submitting this letter of questions & concern directly to you as the Engineering consults so engaged. Please consider it a late submission from a member of the public.

I DO NOT WANT TRITON TO ANSWER ANY OF THE QUESTIONS in a reply email to me as that would need Town of Erin approval – costs money ... instead ...just please consider these question as information from a former Mayor and county councillor who deems the information important and that I believe should be very much considered in an E.A. process, as it appears that some of it has not been considered.

Most concerning is my recollection and mapping provided by the CVC, which if the pond/dam is maintained, keeps a number of residential properties plus the Hillsburgh community center and arena (emergency evacuation center) and possibly the municipal well in the flood plain...so subject to flooding. Given Global warming and the intensity of storms – wondering if this has been considered in the E.A.? I would think it is a very significant factor and future long term liability and costs if a serious floods were to occur and damage to life and property ensued because of a decision to keep the pond/dam. Furthermore since the county is co-owner of the dam why are they not paying their portion of the costs in the E.A.?

As a professional engineering firm, the concern has now been brought to your attention if it was not previously done so. In such a situation erring on the side of caution to do what is possible to prevent a flooding occurrence would be in the best interests of the Town and its residents. I am sure the Official plan would support such a position.

Please read the letter which provides some history and poses some questions and please consider some of these questions in your E.A. if you have not done so to date. You know that because of the pond dam – historically Hillsburgh has been flooded in the past. In that last major storm that hit the Toronto area, homes in Mississauga were flooded and the owners of the dam sued. Closer to home the old dam just south of Orangeville in Melville blew out only a few years ago. Odds are one day it will be Erin/Hillsburgh turn with a severe storm – hope we are prepared. You may also want to remind the Town that in Erin Village the Town solely owns a dam, that has been on the work list for years and ignored.

Thanks and regards

[REDACTED]

Dear Mayor Alls and Erin Town Councillors

October 11 2016

I would appreciate if all elected councillors could respond to these questions, as many are Yes/No answers.

Although I understand the Mayor is spokesperson for Council, that is following a council decision/resolution, not prior to. It appears council is unknowledgeable regarding some facts and history of the Hillsburgh Mill Pond/Dam matter. So on behalf of the taxpayers I present the following recollection and pose questions for Council's enlightenment.

Let us try to straighten out a few ownership facts here. This is what town staff and the MNR told previous council regarding the Hillsburgh Mill Pond/Dam as accurately as I can remember. If this understanding has changed Council should explain how and why.

Q.1) Has this Council had a background presentation from the MNR this term? MNR are the provincial ministry responsible for the Dam. If not, why not as most of you are new to this matter?

As I recall ... The Town owns 1) the bridge (which needs replacing as many other town bridges do, there's a report with a long list), 2) a section of Station Road, which holds back the natural stream flow, and 3) the Town owns a portion of the Dam – But ONLY A PORTION of the Dam! – Not the entire Dam, just that portion of Station Road.

The County NOW owns 1) the Pond; 2) the water flow control structure (which will need to be replaced and updated into a new dam structure to withstand the 100 - 200 year storm, if a new dam is decided upon and constructed; and most importantly 3) the COUNTY OWNS THE REMAINDER OF THE DAM. According to the MNR the Dam consists of all of the earthen border that holds water back from its natural stream flow, including the control structure.

Therefore, the Town and County are Co-owners of the Dam ...same as we were told last term, then the Town and the previous owner were co-owners of the dam. We were also advised by MNR that the Town did not have to remain a co-owner of the dam if it chose not to do so.

But it is well understood that with ownership comes responsibility and costs. Unless some backroom closed meeting deal has changed this understanding?

Q.2) So has such a closed meeting deal been entered into? i) at the Town meeting? or ii) at a County Council meeting? to have a different understanding of known responsibilities regarding the dam? If there is a different understanding – when will it be made public in open council session? Such a new understanding would need to be ratified by Erin Council in Open session.

Assuming no special deal was entered into, the situation would remain the same to the Town's relationship with the previous pond owner. Therefore the County as Co-owner of the Dam is responsible for costs.

Q.3) So how much is the County paying towards this project in total, the Environmental Assessment (E.A.) and Dam reconstruction? WITHOUT THE DAM THERE IS NO POND. Isn't that the focus of the E.A.? I believe the County was named in the original tendered E.A. proposal – so they need to pay up.

Q.4) When will County contribute \$\$\$ to the E.A. and NEW DAM Construction costs?

Q.5) How will these costs be proportioned? What formula will be used? The County owns 95% plus of the Dam (as measured by land holding back water) and also owns the control structure. Will the County be paying 95% of the costs on top of the 3.8 million for the Hillsburgh library or is there another formula already considered and approved? Please advise and inform the public.

Q.6) If the dam is removed and a bridge installed ongoing maintenance costs will be minimal compared to building a new dam. Have ongoing dam maintenance, staff training and operating costs been determined? Will the County or Town budgets be responsible for these costs?

Q.7) Have ongoing liability costs and insurance costs been determined? How will these costs be proportioned between the County and the Town? For example - who will pay for the required fencing of the pond and maintain the fence? Even closed landfill sites, which pose much less liability than a pond, have been fenced by the County. Again with ownership comes responsibility – who will be paying for what?

Mr. Mayor & Council, you do understand that all these questions and others should be considered & answered prior to making a final decision on the E.A. and funding the project. The problem I am having with this process, is that many of these questions have not been posed or considered nor discussed publically in open session to date, this has the appearance of the taxpaying public being purposely being kept in the dark.

Q.8) Have some of these matters been discussed in closed session? If so please provide the municipal act justification for doing so. Also advise the public generally what issues have been discussed in closed session and when those questions & discussions will be held in open session. The Mayor and Council do understand that decisions cannot be made in closed session; that decisions must be made in open session accompanied with appropriate discussion and vote by council.

Very concerning about this all, is that many residential properties, including municipal infrastructure; namely the Hillsburgh arena and also perhaps the mill street municipal well will remain in the Flood plain if the Dam is kept.

Q.9) Has this been considered by Erin Council? Staff should have CVC mapping on file. Can Council continue to maintain properties in a flood plain if it has the ability to remove them from the flood plain?

Q.10) Are local residents on Mill street and all those others impacted by being in the flood plain been made aware that being in the flood plain seriously limits and curtails what they can do with their properties? Has Council made them aware of this and what the limitations are thereof?

Q.11) Could Council or the municipality be held responsible or liable if a flood was to occur and these residential properties were flooded, because of a council decision to keep the dam?

Q.12) Could Councillors be personally responsible if the well water is contaminated and residents get sick...(Walkerton) remember what you signed councillors. I believe Mr. Smedley (former water super) told Council that the mill street well had a additional tile installed so just to lift it out of the flood plain. Wondering how long ago this was done? Is this sufficient, given global warming and the intensity and severity of storms and suddenness of flooding events?

Q.13) Per emergency management – can the Hillsburgh Arena be considered an evacuation center when it's in the floodplain and possibly flooded during an emergency?

Q.14) What does the CVC report say; regarding what's best for the Credit River, the cold water fishery? Keeping the pond or restoring the stream? When can the public see this report? This would be part of the E.A. surely.

Q.15) Isn't the expensive, Environmental Assessment report now just a farce with respect to the question of whether or not to keep and rebuild the Mill pond dam? Since the County bought the pond and decided they want to keep the pond, what choice do local Erin councillors have? Do local Erin Councillors have a choice in this matter at all or has it been effectively taken away from them and they are just expected to go along to get along, regardless of the cost to Erin taxpayers? Given what's transpired –re the County purchase of this pond and the order of events thereof, has not the entire E.A. process been severely tainted and so can be deemed worthless? Does the E.A. need to be redone?

Q.16) Will County donate the pond back to the municipality when the library is opened? Precedent; County bridges on local roads. The county fixed or replaced these bridges and then they were given to the municipality. Since the County has no justification to be in the pond, dam or recreation business, what assurances do Erin taxpayers have that this will not be the case? Since at present, even though the County is a co-owner of the dam, it does not appear that they are facing any costs related to keeping the pond/dam? Can Erin council request written assurances that they will not in the future be deeded the pond and all costs involved? A written assurance that the County will retain ownership of the pond/dam and all related costs and expenses going forward? Hopeful that this is not another backroom handshake deal like Center 2000 where Erin taxpayers are just expected to keep paying and paying and paying.

Mayor Alls, as a Wellington Councillor & County Councillor Mr. Brianceau;

Q.1) Please explain to the Public why the County purchased the Hillsburgh Mill pond?
The County is NOT responsible for recreation. So under what jurisdiction/responsibility was this purchase authorized? Please provide the taxpayers with the planning justification report that County council considered prior to making the purchase of the pond? When can the public expect to see this report?

Q.2) Please explain what does a pond have to do with a library? Please share your reasoning with the public.

Question top both Erin Town Council and our 2 Wellington County Councillors

\$800,000 added to the Hillsburgh Library for a community room and kitchen; From the 2011 Census,

Q.1) Hillsburgh with less than 400 households and a declining population of just over 1,000 and little future growth given the 2 million dollar SSMP DEBACLE,

Background: There's the Hillsburgh Community Centre with kitchen facilities already very much underutilized and losing money annually. Additionally, the Town decided to build a fire hall with kitchen facilities and added a community room for future use, still unfinished I presume?

That makes 2 and now in comes the County and adds \$800,000 last month to the Hillsburgh library budget to add another community room with kitchen facilities. So the village of Hillsburgh requires how many community centers/rooms to satisfy its residents needs? 3 Community rooms within walking distance of each other, while many roads and bridges very much in need of fixing are delayed & ignored. .

Mayor Alls and Councillors – How many people really want this pond? 50? 100? How many people want lower taxes, better roads and safe bridges? Many more do. Mr. Alls you campaigned on removing the Mill pond dam. What happened to that election promise? Were those voters fooled when they voted for you as their NEW Mayor?

Erin Taxpayers cannot afford all this grandeur and a lifetime of additional costs.

Fellow residents if this pond/dam was not going to be such an ongoing money pit, I would not invest the time to write this letter. But so far there remain so many unanswered questions and so many decisions made thus far which fly squarely in the face of common sense & logic, that one must conclude what's going on here is not right, minimally the process so far has not been right.

Councillors needed to be made aware of facts that have apparently not being presented before making final decisions.

Councillors you were elected to ask the questions ... you have now been informed of some concerns, please do your due diligence, check out the facts and make the best decision possible as you promised the taxpayers you would.

Mr. Mayor it's time to provide the taxpayers some real answers....not the rhetoric you wrote to the advocate last week.

Respectfully submitted

 Fisheries Biologist; Former Mayor & County Councillor

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October 11 2016

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Q.10) Are local residents on Mill street and all those others impacted by being in the flood plain been made aware that being in the flood plain seriously limits and curtails what they can do with their properties? Has Council made them aware of this and what the limitations are thereof?

Q.11) Could Council or the municipality be held responsible or liable if a flood was to occur and these residential properties were flooded, because of a council decision to keep the dam?

Q.12) Could Councillors be personally responsible if the well water is contaminated and residents get sick...(Walkerton) remember what you signed councillors. I believe Mr. Smedley (former water super) told Council that the mill street well had a additional tile installed so just to lift it out of the flood plain. Wondering how long ago this was done? Is this sufficient, given global warming and the intensity and severity of storms and suddenness of flooding events?

Q.13) Per emergency management – can the Hillsburgh Arena be considered an evacuation center when it's in the floodplain and possibly flooded during an emergency?

Q.14) What does the CVC report say; regarding what's best for the Credit River, the cold water fishery? Keeping the pond or restoring the stream? When can the public see this report? This would be part of the E.A. surely.

Q.15) Isn't the expensive, Environmental Assessment report now just a farce with respect to the question of whether or not to keep and rebuild the Mill pond dam? Since the County bought the pond and decided they want to keep the pond, what choice do local Erin councillors have? Do local Erin Councillors have a choice in this matter at all or has it been effectively taken away from them and they are just expected to go along to get along, regardless of the cost to Erin taxpayers? Given what's transpired –re the County purchase of this pond and the order of events thereof, has not the entire E.A. process been severely tainted and so can be deemed worthless? Does the E.A. need to be redone?

Q.16) Will County donate the pond back to the municipality when the library is opened? Precedent; County bridges on local roads. The county fixed or replaced these bridges and then they were given to the municipality. Since the County has no justification to be in the pond, dam or recreation business, what assurances do Erin taxpayers have that this will not be the case? Since at present, even though the County is a co-owner of the dam, it does not appear that they are facing any costs related to keeping the pond/dam? Can Erin council request written assurances that they will not in the future be deeded the pond and all costs involved? A written assurance that the County will retain ownership of the pond/dam and all related costs and expenses going forward? Hopeful that this is not another backroom handshake deal like Center 2000 where Erin taxpayers are just expected to keep paying and paying and paying.

Mayor Alls, as a Wellington Councillor & County Councillor Mr. Brianceau;

Q.1) Please explain to the Public why the County purchased the Hillsburgh Mill pond?
The County is NOT responsible for recreation. So under what jurisdiction/responsibility was this purchase authorized? Please provide the taxpayers with the planning justification report that County council considered prior to making the purchase of the pond? When can the public expect to see this report?

Q.2) Please explain what does a pond have to do with a library? Please share your reasoning with the public.

Question top both Erin Town Council and our 2 Wellington County Councillors

\$800,000 added to the Hillsburgh Library for a community room and kitchen; From the 2011 Census,

Q.1) Hillsburgh with less than 400 households and a declining population of just over 1,000 and little future growth given the 2 million dollar SSMP DEBACLE,

Background: There's the Hillsburgh Community Centre with kitchen facilities already very much underutilized and losing money annually. Additionally, the Town decided to build a fire hall with kitchen facilities and added a community room for future use, still unfinished I presume?

That makes 2 and now in comes the County and adds \$800,000 last month to the Hillsburgh library budget to add another community room with kitchen facilities. So the village of Hillsburgh requires how many community centers/rooms to satisfy its residents needs? 3 Community rooms within walking distance of each other, while many roads and bridges very much in need of fixing are delayed & ignored. .

Mayor Alls and Councillors – How many people really want this pond? 50? 100? How many people want lower taxes, better roads and safe bridges? Many more do. Mr. Alls you campaigned on removing the Mill pond dam. What happened to that election promise? Were those voters fooled when they voted for you as their NEW Mayor?

Erin Taxpayers cannot afford all this grandeur and a lifetime of additional costs.

Fellow residents if this pond/dam was not going to be such an ongoing money pit, I would not invest the time to write this letter. But so far there remain so many unanswered questions and so many decisions made thus far which fly squarely in the face of common sense & logic, that one must conclude what's going on here is not right, minimally the process so far has not been right.

Councillors needed to be made aware of facts that have apparently not being presented before making final decisions.

Councillors you were elected to ask the questions ... you have now been informed of some concerns, please do your due diligence, check out the facts and make the best decision possible as you promised the taxpayers you would.

Mr. Mayor it's time to provide the taxpayers some real answers....not the rhetoric you wrote to the advocate last week.

Respectfully submitted

 Fisheries Biologist; Former Mayor & County Councillor

Chris Clark

From: Paul Ziegler
Sent: November-22-16 3:30 PM
To: Chris Clark
Subject: FW: information request 2

fyi

Paul Ziegler, C.E.T.



Triton Engineering Services Limited
105 Queen Street West, Unit 14 Fergus, ON N1M 1S6
Tel - (519) 843-3920 • Fax - (519) 843-1943 • www.tritoneng.on.ca

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From: Paul Ziegler
Sent: November-14-16 3:42 PM
To: [REDACTED]
Cc: 'Derek McCaughan'
Subject: RE: information request 2

The Municipal Class EA process was selected to jointly address the bridge and dam. The dam portion is currently under order by the MNRF to find a permanent solution to address the Lakes, Rivers and Improvement Act Emergency Repair Permit which allowed the Town to repair the dam and reopen Station Road. This emergency permit was issued June, 2012 on the condition that a permanent solution was to be determined by June 1, 2014. As a process to determine a permanent solution was not initiated by Council in time, the June 1, 2014 deadline was not achievable. Eventually, a request to the MNRF was made and granted to extend this deadline to December 1, 2016 on the premise that the Class EA process was initiated.

List of works as part of the Station Road Dam Repair and Municipal Class EA:

- *CMT Engineering Structural Investigation - June 2012*
- *Dam Emergency Repairs Completed - December 2012*
- *Collection of Class EA Background Information - June 2014*
- *Terms of Reference and Work Plan to CVC and MNRF for Review – June to Nov 2014*
- *Meeting #1 – CVC, MNRF, Aboud, Triton and Town – Sept 2014*
- *Determine Study Area and List of Stakeholders – Oct 2014*

- *Complete Bridge Cultural Heritage and Archaeological Reports – Nov 2014*
- *Issue Notice of Study Commencement – Dec 2014*
- *Release Letter of Consent for Property Access to Perform Field Investigations – Feb 2015*
- *Commence Natural Heritage Field Studies – March 2015 to Feb 2016*
- *Complete Dam Cultural Heritage Report – Apr 2015*
- *Review of Legal Opinion – May 2015*
- *Commence Compilation of Class EA Project File Report – Jan 2016*
- *Draft Natural Heritage Report to MNRF and CVC – March 2016*
- *Public Information Meeting – May 2016*
- *Review of Public and Agency Comments – July 2016 to Present*
- *Meeting #2 – Town, County, Triton, Aboud, MNRF, CVC – July 2016*
- *Technical Meeting #3 – Town, Triton, CVC and MNRF – Aug 2016*
- *Hydrogeology Technical Memo and Natural Heritage Report Finalized – Oct 2016*
- *Finalize Evaluation of Alternatives and Address Agency Comments – Sept 2016 to Present*
- *Preparation of Project File Report (Executive Summary)*

At this time, we would encourage you to provide a formal response in writing stating your opinion and rationale with respect to the selection of a specific alternative and/or comments to be included as part of the Class EA document.

Alternatively, all project contents including the meeting minutes will be a part of the Class EA's Project File Report (PFR) which will be released and available on the Town's website, shortly (Early December). The PFR will provide the reader with the Class EA's consultation process to-date along with justification and reasoning for the selection of a preferred alternative. Once this has been issued, you will have ample time to review the PFR in its entirety (30 day minimum). Upon completion of your review, should you have additional questions, we would encourage you to come forth with your questions or if warranted, make a formal request for additional information.

We thank you for your interest in this project. We have also attached a copy of the Environmental Assessment Process for reference.

Paul Ziegler

Paul Ziegler, C.E.T.



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From: Derek McCaughan [<mailto:Derek.McCaughan@erin.ca>]
Sent: November-09-16 9:49 AM
To: Paul Ziegler
Cc: [REDACTED]
Subject: FW: information request 2

Good morning Paul,

As you are aware, many involved in this EA are receiving similar emails asking for individual responses. To maintain consistency and to ensure comprehensiveness of responses, all such questions/requests will now be channelled through your firm for one response issued on behalf of the Town. Please ensure appropriate parties are provided a copy of responses issued. Thanks.

Derek

Derek McCaughan

Interim CAO
Corporation of the Town of Erin
5684 Trafalgar Rd.
Hillsburgh ON N0B 1Z0
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E-mail: derek.mccaughan@erin.ca

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From: [REDACTED]
Sent: November-09-16 8:56 AM
To: Derek McCaughan
Cc: CAO Email
Subject: information request 2

Good morning Derek:

Please email me the agenda and minutes of any and all meetings held to discuss the Hillsburgh Mill pond with any or all of these participants Town, County, CVC, MNR &/or Triton engineering since the E.A. began. Particularly interested in meetings with the CVC and MNR.

Hope this is broad enough to encapsulate enough of the participants, so that I can receive the information requested. You asked in my last request on this matter ...if I am aware of any meeting dates & to provide them to you ?

Sorry, I do not have access to your calendar to determine the possible dates. Since you probably attend these meetings – I would respectfully suggest that you are probably aware of the meeting dates.

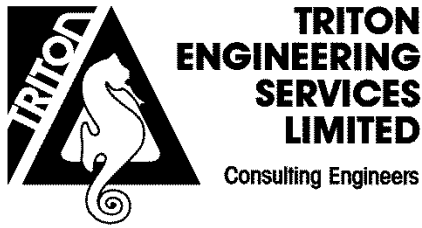
Please forward all the applicable agenda and minutes, prior to the next council meeting on the 15th.

Thank you and regards



APPENDIX F-3

Record of Meetings



MEETING MINUTES

DATE:	Wednesday, September 24, 2014
TIME:	10:00 a.m.
LOCATION:	Credit Valley Conservation Authority Headquarters – 1255 Old Derry Road, Mississauga
OUR FILE:	A4685E
RE:	HILLSBURGH DAM, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT, TOWN OF ERIN

Attendees:

T. Slaght, J. Wong, J. Clayton; Credit Valley Conservation Authority (CVC)
R. Whalen, D. Ryan; Ministry of Natural Resources and Forestry (MNRF)
L. Van Wyck; Town of Erin (Town)
S. Aboud, R. Hamelin; Aboud & Associates Inc. (Aboud)
C. Clark; Triton Engineering Services Limited (TESL)

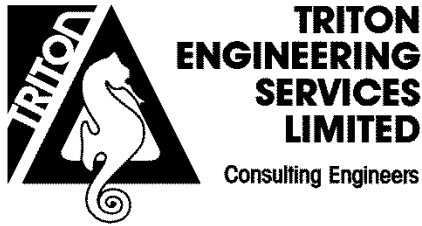
1. C. Clark reviewed the projects history, from temporary works completed to repair the Dam/Road in 2011/2012 to the present permanent solution involving the completion of a Municipal Class Environmental Assessment (Class EA) to fulfill the requirements of the MNRF's Non-Application Emergency Works under the Lakes and Rivers Improvement Act.
2. D. Ryan asked if project Problem Statement has been formed. C. Clark to detail Problem Statement and circulate to project team. To be included as part of the Class EA Notice of Project Commencement, to be released shortly.
3. Aboud presented the proposed project Study Area with respect to the Natural Heritage investigations. MNRF and CVC recommended extension to Wellington Road 22 east to Trafalgar Rd. Logic behind Study Area was connectivity and impact to Provincially Significant Wetlands (PSW).
4. Aboud overviewed the required Natural Heritage information that is still outstanding for "desktop investigations".
 - a. All data requests to go through T. Slaght (CVC) and R. Whalen (MNRF)
 - b. All Natural Heritage data requests are to come from Aboud
 - c. Aboud to submit revised Study Area to MNRF/CVC as part of formal data requests
 - d. R. Whalen to provide mapping of wetland evaluations, if available

5. Aboud will be utilizing the services of Aquafor Beech for fish habitat investigations. Data required for this portion of investigations are as follows; fish community data (presence/absence, biomass), thermal regimes and temp data, spawning survey, benthic macroinverts, geomorphology, invasive species info (Round Goby) and fish habitat assessment.
6. J. Clayton overviewed available fish related data. This includes periodic fish inventories from 1954 to present, fish biomass collection, thermal records, presence of invasive Round Goby, spawning data (2010 - 2014).
 - a. Temperature loggers currently on-site and logging and could be left longer into the fall/winter season if required.
 - b. Groundwater seeps throughout system, but no specific locations identified in study area.
 - c. Area is historically Brook Trout habitat, with population currently upstream and downstream of the pond.
 - d. CVC considers the Banded Killifish and the Slimy Sculpin as important species due to the rarity in the watershed.
7. J. Clayton added that Round Goby control methods may be implemented this fall or next spring within the Hillsburgh Pond and other affected ponds along the watercourse. This would involve lowering the water levels and removing desirable fish species.
 - a. May be an opportunity to inventory fish species at this time
 - b. During previous public contact related to Goby eradication, public was opposed temporary water drawdowns
8. According to MNRF, there is no known presence of Species at Risk (SAR) within the Study Area. This will be confirmed through Aboud's desktop/field investigations.
9. C. Clark reviewed existing hydraulic data completed as part of the temporary works, as well as, the Dam's "High" Hazard Potential Classification (HPC). CVC agreed to share any relevant data/information completed or acquired post temporary dam repair works in order to perform any additional analysis.
 - a. T. Slaght - CVC main criteria when evaluating EA options will be; 1) Flood hazard reduction 2) Sediment/Erosion impact reduction. There must be no negative impacts to flooding or erosion. The options reviewed should seek to improve these conditions, as well as; improve natural heritage features present. Flooding and erosion must be demonstrated as part of the Project File Report while sediment control can be established during the detailed design stage.
10. It was agreed that Geomorphology and Hydrogeology investigations be completed as part of the Class EA to cover all areas for the potential alternative outcomes.
 - a. CVC has 2005 fluvial geomorphology data completed by PEIL for West Credit Watershed, which can be provided.
 - b. Provincial Groundwater Monitoring Network and Source Water Protection data may help to provide background. Local water bottling company may also be a source of groundwater data.

11. C. Clark and L. Van Wyck reminded the group of the potential restrictions affecting the Class EA due to Town's property limitations. The Town owns the Station Street road right-of-way but not the north and south adjacent properties. A number of field investigations will need to be performed at these locations. The north landowner also owns the Hillsburgh Pond's stop-log control structure.
 - a. D. Ryan reminded everyone of the adjacent landowners "riparian interests" to the Dam. This involves holding their concerns/interests at stake. Further, the Town can perform the Class EA to uphold their responsibilities to the Dam. Adjacent landowner has legislative responsibilities if dam were to fail.
 - b. As the north adjacent landowner and the Town are affiliated "dam owners" and the requirements for land access to south pond (Ainsworth Pond), it was suggested and agreed that a personal letter be distributed to these parties to request their involvement in the Class EA process. This could eliminate any property access restrictions.
12. General discussion of how potential options could affect the existing PSW wetland complex. Due to the overall size of the Provincially Significant West Credit Wetland Complex it would be expected that a local reduction in extent around the Station Street Dam site would not affect the PSW status of the complex as a whole. However, specific areas that transition from wetland to upland due to changes in hydrology would no longer be included in the wetland complex and would therefore not have PSW status. However, this is to be determined as part of the Class EA process.
13. Those parties and members present at this meeting will be the main Project Team moving forward.
 - a. Technical reporting and any project status updates to be provided approximately every three months.
 - b. All documents will be reviewed by the Committee before release to the Public.
 - c. Meetings will be scheduled as needed.

Project Next Steps/Actions Items:

1. Natural Heritage Study Area and project Terms of Reference to be completed and circulated to Committee for data requisitions.
2. Draft a letter to send to adjacent landowners requesting their personal involvement in the Class EA process.
3. Problem/Opportunity Statement to be developed and included in the Notice of Project Commencement to be released to public.
4. Next Status Up-date Mid-December 2014



MEETING MINUTES

DATE:	Thursday, July 21, 2016
TIME:	10:00 a.m.
LOCATION:	Town of Erin Head Office – 5684 Trafalgar Road, Hillsburgh
OUR FILE:	A4685E
RE:	HILLSBURGH DAM & BRIDGE, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT, TOWN OF ERIN

Attendees:

Tyler Slaght, Jon Clayton, Tim Mereu; Credit Valley Conservation Authority (CVC)
Tara McKenna, Doug Ryan, Melinda Thompson, Ken Cornelisse; Ministry of Natural Resources and Forestry (MNR)
Allan Alls, Derek McCaughn, Greg Delfosse; Town of Erin (Town)
Scott Wilson, Gray Cousins, George Bridge; County of Wellington (County)
Ryan Hamelin; Aboud & Associates Inc. (Aboud)
Chris Clark, Paul Ziegler; Triton Engineering Services Limited (Triton)

Introductions:

Overview of Project To Date:

1. Triton reviewed history of project to date including discussing problem statement and objectives of the Class EA.
2. C. Clark reviewed various background studies/work which have been completed as part of the Class EA to date including; Natural Heritage, Cultural Heritage, Archaeological, Structural/Geotechnical, Hydrogeology, Hydrology and Legal Survey.
3. P. Ziegler reviewed the outcome of the Public Information Centre (PIC) and provided a breakdown of the various viable Alternatives.
4. C. Clark reviewed the comments received to date. In general, members of the community are in favour of Alternative B Option 1. Feedback received from public interest groups (Ontario Rivers Alliance and Trout Unlimited Canada), states they would prefer Alternative C or D.

Mayor A. Alls provided a brief overview of the Town's position with regard to the project's cost to-date and stressed concerns with the amount of incurred "soft" costs by the Town.

Remaining Viable Alternatives:

5. Based on comments received P. Ziegler provided reasoning for the remaining feasible alternatives which are recognized as the following:
 - a. Alternative B, Option 1 (reconstruct bridge, rehabilitate dam)
 - b. Alternative D, Option 1 (reconstruct bridge, decommission dam)
 - c. Alternative D, Option 2 (reconstruct bridge, decommission dam and construct offline pond)
6. Triton provided reasoning as to why Alternative B, Option 1 (reconstruct the bridge and rehabilitate the dam) is the most feasible for the Town due to property restrictions. The Town can only complete construction for a permanent solution within their 20 metre right-of-way. This includes the earthen berm dam to property line and the bridge. This does not include the stop-log control structures for the dam which dictate the operating level of the pond.

G. Bridge expressed the County's directive in being good environmental stewards and will work with the Town and regulatory agencies to provide mitigation measures, where financially feasible, to improve the ecosystem of the pond.

S. Wilson added the County purchased the pond property and the adjacent house for consideration of the future new library location. The pond was to be a part of the overall plan for the Library. If the pond is removed the Library may not move forward which may result in the County selling the property and relocating. The timeline of the Class EA is crucial for the County as they need to know how and when they can proceed as the outcome of the Class EA could impact decisions for this site.

D. Ryan suggested the County provide some written comments and reasoning as to the Alternative in which they are in favour. This will ensure the County's interests are acknowledged and a part of the Class EA report document.

K. Cornelisse proposed there are a number of public funding sources to provide restoration works pertaining to dams and dam decommissioning.

CVCA Topics for Discussion

T. Slaght reviewed the CVCA's directives and concerns with respect to the project to-date.

7. Impacts/targets for the wetland
 - a. How the Alternatives will affect the surrounding wetland community
 - b. Impacts of dug wells (more information is required)

8. Impacts/targets for the wetland

J. Clayton reviewed thermal regime of range of 17°C to 6°C at each inlet to the pond. The outlet of the pond to the Ainsworth Pond is approximately 21 °C. Brook trout thrive in no more than 20°C water temperature.

K. Cornelisse discussed impacts to brook trout. Rudd dam, 2 ponds downstream of the Hillsburgh Pond) is to be removed to improve the overall systems thermal regime.

9. Impacts to flooding

Alternative is to have no negative impacts to upstream and downstream flooding levels. Additional engineering work with respect to flooding levels is required for CVCA review.

10. Impacts to erosion

T. Slaght reminded the group that the selected Alternative should have no negative impacts to the overall river system with respect to an increase to sediment and erosion. The current ranking matrix only describes the effects of sediment and erosion during construction phases. The impacts the Alternative has on the river system for the long-term needs to be addressed.

11. Concerns regarding criteria ranking and scoring:

- a. Significant weighting to cold water fisheries should be considered, as this is part of the Upper West Credit River's Fisheries Management Plan.
- b. K. Cornelisse reminded that the Draft Natural Heritage Report concluded that Alternative C and D were preferred.

Additional Discussion

12. T. Mereu questioned how the impact of removing the dam to favour the fisheries will effect to the extent and possible elimination of Provincially Significant Wetlands (PSW's).

G. Cousins questioned that at the County Planning level; a proposed development is to have no impact to a PSW. Why is it acceptable if a PSW is removed for this purpose (by removing pond)?

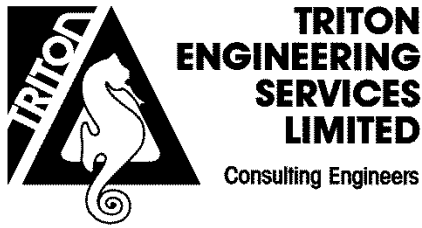
T. McKenna and M. Thompson provided an explanation for to the above questions. The Class EA process allows for the alternation to a PSW. The appropriate balance to the health of the fisheries and the removal of the PSWs has to be achieved as part of the outcome of the Class EA.

Project Next Steps:

13. Overall expectations and requirements of CVCA and MNFR going forward in the Class EA process:

- a. D. Ryan discussed the Hazard Potential Classification (HPC) under the Lakes and Rivers Improvement Act and agreed that it may make sense to move forward with the only attainable Alternative, however; some Alternatives may require more engineering work than others. Removing the earthen berm structure will have the greatest affect in reducing the risk and lowering the HPC.
- b. R. Hamelin inquired if mitigation strategies would be accepted if Alternative B was selected (ie. Fish ladders or bottom drain structures)
- c. J. Clayton suggested that mitigation strategies are possible however; it would be a process of balancing costs.

14. To keep moving forward with the project, P. Ziegler suggested a technical meeting involving the CVCA and MNRF staff be arranged to provide mitigation measures for narrowing alternatives. An update to Town Council will be provided by September, 2016.



MEETING MINUTES

DATE:	Monday, August 22, 2016
TIME:	2:00 p.m.
LOCATION:	Town of Erin Head Office – 5684 Trafalgar Road, Hillsburgh
OUR FILE:	A4685E
RE:	HILLSBURGH DAM & BRIDGE, MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT, TOWN OF ERIN TECHNICAL MEETING

Attendees:

Tyler Slaght, Jon Clayton, Jeff Wong, Liam Marray; Credit Valley Conservation Authority (CVC)
Tara McKenna, Ken Cornelisse; Ministry of Natural Resources and Forestry (MNR)

Greg Delfosse; Town of Erin (Town)

Chris Clark; Triton Engineering Services Limited (Triton)

NOTES:

1. Triton reviewed the physical constraints due to ownership issues.
2. Stop-Log controls are part of pond property, not owned by Town. This makes it difficult for the Town to implement a dam decommissioning.
3. Currently not possible to complete sediment survey as no access to pond property.
4. All present agreed, the goal is to complete a good Class EA document which examines all possible options and is defensible.
5. Discussions related to the amount of design required for bridge and dam. At Class EA level, conceptual designs will be evaluated.
6. CVC and MNR staff - restoration costs seem high. The restoration of the pond can occur naturally which will lower costs significantly.
7. Triton response – as there are no set standards for this type of restoration Aboud and Associates utilized CVC standards for SWM pond restoration/design. This accounts for the

plantings of non-invasive species etc. This can be quantified and is defensible and is only used as an order of magnitude for evaluation purposes to rank Alternatives.

8. CVC proposed potentially evaluating options which involved:
 - Town purchasing inlet structure
 - Selling the road to County
 - Compromising with the pond owner
9. Triton response – these would be difficult to pursue and would involve political and staff input
10. Discussions regarding dam life cycle costs – MNRF explained, typically annual operation and maintenance costs are equal to 1-2% of capital replacement costs
11. Triton requested further information regarding dam costs be forwarded to Project Team by both agencies (see attached email correspondence)
12. Discussions related to hydraulics – CVC explained, due to proximity of fire hall a new bridge must convey the Regional storm under the emergency access standards.
13. CVC suggested adding a positive and negative neutral category to the scoring matrix as well as using a multiplier for low, medium and high weighting. A negative outcome receives a negative score while a positive outcome receives a positive score.

Chris Clark

From: Ryan, Doug (MNRF) <doug.ryan@ontario.ca>
Sent: September-29-16 11:46 AM
To: Chris Clark
Cc: Paul Ziegler
Subject: RE: Hillsburgh Dam and Bridge Class EA - Aug 22, 2016 Technical Meeting Preparation
Attachments: Dam_Costs.docx; RE: Hillsburgh Dam and Bridge Class EA - Technical Meeting follow-up

Chris

I had a real quick look at the attached, and can offer the following;

1. All of the 'Required Studies' (ie. DSR's, OMSS's, EPP's, and ERP's) are all Best Management Practices at this point in time, and not Regulatory Requirements. While we would certainly support competing such studies, they are not required in Regulation/legislation.
2. The range of estimated costs for these 'Required Studies' generally seems reasonable.....we often do DSR's in groups of dams within a watershed.....last time we did this the cost was around \$500k for 24 dams.....which equals around \$20k each. But the last full DSR we did for a single dam coast around \$120k. Same sort of thing for OMSS's and EPP's....we tend to do them in packages of 10 or more per project....costs per dam shake out at less than the lower limits (ie. \$25k, \$15k) shown in your table.

The MNRF completes the above types of studies using funding under our water capital program. This program is historically roughly based on 2% per annum of our total asset value.....see more info in the 2nd attached e-mail I sent you recently. In fact we haven't been getting quite 2%....probably closer to 1%.....simple math/thinking is; 100% of replacement cost/service life of 50 years = 2%/per year.....or 100% of replacement cost/service life of 100 years = 1% per annum.

More info on this topic can be found at;

<http://www.lop.parl.gc.ca/content/lop/researchpublications/prb0606-e.htm>

APPENDIX A

COMMON CAPITAL COST ALLOWANCE CLASSES

Class number	Description	CCA rate
1	Most buildings made of brick, stone, or cement acquired after 1987, including their component parts such as electric wiring, lighting fixtures, plumbing, heating and cooling equipment, elevators, and escalators	4%
3	Most buildings made of brick, stone, or cement acquired before 1988, including their component parts as listed in class 1 above	5%
6	Buildings made of frame, log, stucco on frame, galvanized iron, or corrugated metal that are used in the business of farming or fishing, or that have no footings below-ground; fences and most greenhouses	10%

Hope this helps

Doug

From: Chris Clark [<mailto:cclark@tritoneng.on.ca>]
Sent: September-28-16 12:12 PM
To: Ryan, Doug (MNRF)
Cc: Paul Ziegler
Subject: RE: Hillsburgh Dam and Bridge Class EA - Aug 22, 2016 Technical Meeting Preparation

Hi Doug,

I am just finalizing some details on the life cycle costs of each Alternative and was wondering if you could provide some feedback on the attached document for Dam Costs which the CVC (Tyler Slaght) sent me. I want to ensure that most of the steps are accounted for as I want to make sure the Town and Public are aware of the hard and soft costs associated with rehabilitating the Dam.

Thanks,

Chris

Chris Clark, M.A.Sc., P.Eng.



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Cell – (519) 993-7918

From: Ryan, Doug (MNRF) [<mailto:doug.ryan@ontario.ca>]
Sent: August-24-16 11:55 AM
To: Chris Clark
Cc: Paul Ziegler; McKenna, Tara (MNRF); Cornelisse, Ken (MNRF)
Subject: RE: Hillsburgh Dam and Bridge Class EA - Aug 22, 2016 Technical Meeting Preparation

Chris,

Thanks for the telephone chat and update this morning.

We chatted about the County's role in the EA and permitting. As I mentioned to you, while the County may be only one of many commenting agencies during the EA, when it comes to implementing and permitting they are a property owner and part dam owner (ie. water level control structures are on County land), and the following part of the LRIA Admin Guide will come into play;

Applicants must make every effort to protect the interests of land owners who will be impacted by the proposed works. For instance, where temporary or permanent flooding of land will occur, or riparian rights will be negatively impacted, a formal land tenure document, consent or release from the affected owners must be obtained. Applicants are advised to seek legal advice in this regard.

Formal land tenure documents that are acceptable for registration by a Land Registry Office, may include a flooding easement or sale of land and generally apply where the impacts are expected to be significant. These documents are transferable to new land owners.

In situations where the impact of a proposed work is expected to be minimal, applications may be approved under the LRIA if the applicant obtains the consent of the affected property owner(s). For LRIA purposes, this consent could take the form of a letter signed by the applicant and the landowner(s) that stipulates the following:

1. the landowner has been informed of the nature of the proposal and its impacts;
2. the landowner understands how the current conditions affect their property (specify);

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Lakes and Rivers Improvement Act Administrative Guide

3. the landowner understands that the proposed works will result in a change to current conditions (specify); and
4. the landowner has no objection(s) to the proposed work and hereby provides their consent to the application.

In addition, many Ducks Unlimited Canada (DUC) projects have landowner agreements in place authorizing DUC to flood the land of private land owners in order to create or maintain a wetland.

For options which include work on the County property and dam infrastructure, formal land tenure or consent/release from the County will most likely be required prior to LRIA approval.

I trust this is of assistance.

Doug

From: Ryan, Doug (MNRF)
Sent: August-18-16 5:45 PM
To: 'Chris Clark'
Cc: Paul Ziegler; McKenna, Tara (MNRF)
Subject: RE: Hillsburgh Dam and Bridge Class EA - Aug 22, 2016 Technical Meeting Preparation

Chris

The full suite of LRIA Technical Bulletins are available on; <http://www.owa.ca/lakes-and-rivers-improvement-act/>

You will probably need the majority of these.

Trust this helps

Doug

PS. Still not 100% sure of whether or not I will be attending the meeting on Monday. I was unable to reach our Guelph District staff today to consult with them.

From: Chris Clark [<mailto:cclark@tritoneng.on.ca>]

Sent: August-18-16 3:46 PM

To: Ryan, Doug (MNRF)

Cc: Paul Ziegler

Subject: Hillsburgh Dam and Bridge Class EA - Aug 22, 2016 Technical Meeting Preparation

Hi Doug,

As per our conversation this morning, our intention for the meeting on Monday is to approach the technical aspects of the Class EA with Alternatives that are only feasible to the Town. As for questions, I don't have anything specific at this point, however; can you provide a brief summary or a technical document related to the Engineering/Design requirements to acquire an MNRF permit(s) for rehabilitating the Dam (Alt B).

Thanks,

Chris Clark, M.A.Sc., P.Eng.



Triton Engineering Services Limited
105 Queen Street West, Unit 14 Fergus, ON N1M 1S6
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Chris Clark

From: Slaght, Tyler <tslaght@creditvalleyca.ca>
Sent: August-30-16 2:03 PM
To: Chris Clark; 'McKenna, Tara (MNRF)'; Cornelisse, Ken (MNRF)
Cc: Greg Delfosse (Greg.Delfosse@erin.ca); Paul Ziegler
Subject: RE: Hillsburgh Dam and Bridge Class EA - Technical Meeting follow-up
Attachments: Ainsworth Summary Sheet draft.pdf; Dam_Costs.docx

Hi Chris,

CVC staff looked through past projects to provide examples of what you are looking for. Some examples are TRCA that Jon Clayton had worked on before coming to CVC. This information is being provided for internal use only and we do not expect that this would be included as part of the final ESR report. If there is any interest in including this in the report, we would need to think about it further to see if it's appropriate to provide to the public in that fashion. The Dam Costs document is based on what is required of CVC. For any LRIA requirements, please contact MNRF.

Fishway Construction Costs (does not include design costs which were in the \$30,000 – \$50,000 range)

Denil fishway at Raymore Park on Humber River (approx. 2000) - \$120,000
Denil fishway at Board of Trade Golf Club on Humber River (approx. 2001) - \$150,000
Step-pool fishway at Palgrave Pond on Humber River (approx. 2001) - \$60,000 (appears to only be materials and not equipment costs; includes 15K for viewing windows that now leak and are now closed)
Natural channel/step-pool fishway at Terra Cotta Conservation Area on Roger's Creek (2009) - \$150,000
Ainsworth Pond (see attachment) - \$25,000

Dredging

Palgrave Pond on Humber River (approx. 2001) – quote to remove 22,000m³ for (a) mechanical (clamshell) was \$590,950.00 and (b) hydraulic (vacuum) was \$417,900.00. The disposal site was only a couple of kilometres away so trucking costs were very, very low.

Ratray Marsh Cleanout

Phase 1

Total Project cost: \$697,408
Sediment Removed: 3065 cubic meters
Cost per cubic meter dredged and disposed: \$160 (quotes came in as high as \$275 per meter)

Phase 2

Total Project cost: \$1,447,580
Sediment Removed: 5260 cubic meters
Cost per cubic meter dredged and disposed: \$153 (quotes came in as high as \$205 per meter)

Let me know if you would like to discuss any of these projects further.

Tyler Slaght, RPP

Regulations Officer
Credit Valley Conservation
905.670.1615 ext 406 | 1.800.668.5557
tslaght@creditvalleyca.ca | creditvalleyca.ca

From: Chris Clark [<mailto:cclark@tritoneng.on.ca>]

Sent: August 23, 2016 11:20 AM

To: 'McKenna, Tara (MNRF)'; Slaght, Tyler; Thompson, Melinda (MNRF); Cornelisse, Ken (MNRF); Ryan, Doug (MNRF); Clayton, Jon; Wong, Jeff; Marray, Liam

Cc: Greg Delfosse (Greg.Delfosse@erin.ca); Paul Ziegler

Subject: Hillsburgh Dam and Bridge Class EA - Technical Meeting follow-up

Good morning all.

Thank-you again for your attendance and/or contribution to yesterday's technical meeting for the above noted project.

As discussed, can you please provide any examples or case studies you may have related to dam/pond mitigation and maintenance costs? Some of the need for costs mentioned at the meeting were related but not limited to the following;

- Dam decommissioning costs (including wetland restoration and rehabilitation)
- Pond dredging/maintenance costs
- Dam maintenance costs
- Dam rehabilitation costs (specific to earthen berms)
- Fish-way construction (ie; fish ladders, bottom draw structures)

Our goal is to obtain enough data to help adequately defend the evaluation and ranking of the Class EA Alternatives.

Thanks,

Chris Clark, M.A.Sc., P.Eng.



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Chris Clark

From: Ryan, Doug (MNRF) <doug.ryan@ontario.ca>
Sent: August-24-16 9:48 AM
To: Chris Clark
Cc: Cornelisse, Ken (MNRF)
Subject: RE: Hillsburgh Dam and Bridge Class EA - Technical Meeting follow-up
Attachments: Fishways in Ontario.pdf

Hi Chris,

I can offer the following on the items you had inquired about;

- Dam decommissioning costs (including wetland restoration and rehabilitation)

I can't provide any guidance on this, but I would suggest that you do a little internet searching for other projects that have considered dam decommissioning in their EA's. The EA reports should document the costs for dam decommissioning and for replacement etc. A few recent examples come to mind;

- CVC's Belfountain Dam (<http://www.creditvalleyca.ca/enjoy-the-outdoors/conservation-areas/belfountain-conservation-area/belfountain-conservation-area-management-plan/class-environmental-assessment-for-belfountain-dam-and-headpond-area/>)
- Hamilton CA's Crooks Hollow Dam (<https://conservationhamilton.ca/crooks-hollow/>)
- Cambridge's Riverside Dam on the Speed River
(http://www.cambridge.ca/transportation_public_works/engineering_services_division/riverside_dampublic_information_centre)

- Pond dredging/maintenance costs

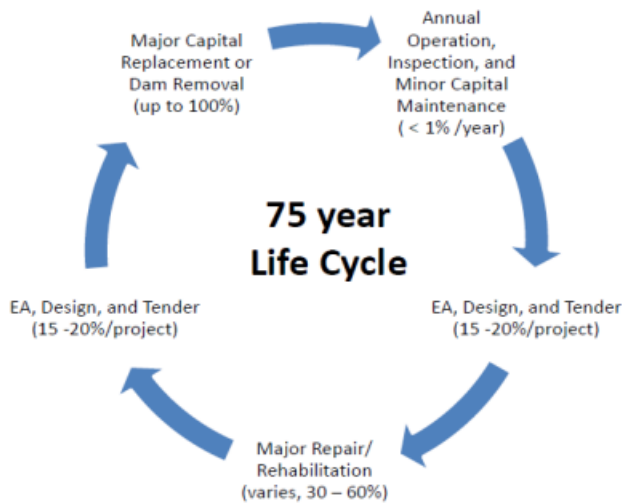
Again, I can't offer any specific guidance on this....we haven't done much of this ourselves, and we often don't see the financials for others projects. You may want to consider recommended maintenance costs for SWM facilities....see the following as an example;
http://www.stormwatercenter.net/Manual_Builder/Maintenance_Manual/6%20-%20Cost%20Data%20in%20Tabular%20Format-NA/cost_frequency.pdf

UNIT COSTS FOR STORMWATER TREATMENT PRACTICE MAINTENANCE - DRAFT¹

Maintenance Item	Unit Price (\$)	Unit	Mobilization Cost (\$) ²	Typical Applicability	Maintenance Interval (yrs) ³
Dam/ Embankment					
unclog internal drains for embankments	10	lf	1500	dry pond or infiltration basin	R (10)
low spots in dam or berm	170	cy	1500	ponds, wetlands, infiltration basins and some filters	R (5)
Sediment/ Debris Removal					
debris removal (preventative)	350	event	0	all surface practices	0.25-1
clear outfall channel of sediment	130	cy	0	all practices that outfall to a channel	5-15
clogged low flow	750	event	800	all practices except bioretention, and infiltration practices	0.25-1
dredge wet ponds (jobs larger than 1000 cy) haul offsite	60	cy	>2500	wet ponds and wetlands	5-15
dry pond sediment removal	7,600	event	0	dry pond or infiltration basin	15-25
dewater pond	900	event	0	wet ponds and wetlands	15-25
muck out undergrounds	390	cy	0	underground proprietary filter systems	0.5-1
dewater and remove sludge from underground facilities	1	gal	0	all underground facilities	0.25-1
typical sediment dump fee (not including trucking)	66	ton	0	all practices	NA
truck day for landfill to transport underground dredge materials (minimum, assume 2 to 4 trips in one day)	800	trip-day	0	all underground facilities	NA
¹) These costs were largely derived from data from the Maryland region, based on bid proposal and actual project data. ²) Cost at four levels: \$0 for no mobilization; \$800 for minimal mobilization; \$1,500 for small project mobilization; >\$2,500 for large project mobilization. Note that these are approximations. For items with no mobilization cost, it is assumed that the mobilization cost is incorporated into the overall unit cost, or that the maintenance can be completed during inspection. ³) Bottom number in range represents ideal maintenance interval. Top number represents maximum interval between maintenance activities. R indicates repair items, whose frequency is somewhat unpredictable. The frequencies sometimes reported in parentheses represent an estimate of typical repair frequency.					

- Dam maintenance costs

As Ken mentioned in his e-mail below.....2% of the dam replacement costs can be used as an approximate annual budget for operation and maintenance costs. This allows for less than 2% in some years, and more than 2% in other years where more expensive maintenance is required. For MNRF dam management we also use the following;



5.4.2 Expenditure Plan for Major Repairs

The typical cost of major repairs is currently estimated at 35% of the replacement cost of the dam. Assuming that major repairs would be required only once per dam to extend its service life to 100 years, and applying the same methodology as for major capital, the expected

- Dam rehabilitation costs (specific to earthen berms)

MNRF has many types of dams, including earth embankment dams. So far we have not found it necessary to distinguish maintenance costs for earth dams differently than other types of dams.

- Fish-way construction (ie; fish ladders, bottom draw structures)

We would have some limited data for fishways constructed by MNRF.....from memory for more recent fishways; 1. Fishway at Norval on the Credit River.....I think it was in the area of \$200k to \$250k, 2. Fishway at the Thornbury Dam on the Beaver River.....approximately \$1M.....where approximately \$5M was spent on rehabilitating the dam. As with the Dam Decommissioning projects, you could probably do a little google searching for recent EA projects....one that comes to mind is the Shickluna Waterpower project;

<https://www.stcatharines.ca/en/governin/ShicklunaHydroGeneratingStation.asp>

I hope this information helps

Doug

From: Cornelisse, Ken (MNRF)

Sent: August-23-16 1:23 PM

To: Ryan, Doug (MNRF)

Subject: FW: Hillsburgh Dam and Bridge Class EA - Technical Meeting follow-up

Hi Doug,

Would you be able to help with the requested information – see below?

Chris did reiterate the guidance that you provided at the last meeting – that dam maintenance is usually about 2% per year.

Regards,

Ken

Ken Cornelisse
A/ Resource Management Supervisor
Ministry of Natural Resources and Forestry - Guelph District
1 Stone Road West
Guelph, ON
N1G 4Y2
phone: (519) 826-6849
Cell: (519) 830-0822
fax: (519) 826-4929
Email: ken.cornelisse@ontario.ca

From: Chris Clark [<mailto:cclark@tritoneng.on.ca>]

Sent: Tuesday, August 23, 2016 11:20 AM

To: McKenna, Tara (MNRF); Slaght, Tyler; Thompson, Melinda (MNRF); Cornelisse, Ken (MNRF); Ryan, Doug (MNRF); Clayton, Jon (JClayton@creditvalleyca.ca); 'Wong, Jeff (JWong@creditvalleyca.ca)'; lmurray@creditvalleyca.ca

Cc: Greg Delfosse (Greg.Delfosse@erin.ca); Paul Ziegler

Subject: Hillsburgh Dam and Bridge Class EA - Technical Meeting follow-up

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Our goal is to obtain enough data to help adequately defend the evaluation and ranking of the Class EA Alternatives.

Thanks,

Chris Clark, M.A.Sc., P.Eng.



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