

Case No.: PL071044
PL071047
P10710 63
P10710 65

ONTARIO MUNICIPAL BOARD IN THE MATTER OF
Section 17(45) and Section 51(53) of the Planning Act, R.S.O.
1990, c .P.13, as amended

Property Location: Draft Plan of Subdivision Approvals - Notice of Response
to Motion to Dismiss

Municipality: Region of Waterloo
OMB Case No.: PL071044
OMB File Nos.: PL071 044, PL071 047, PL0710 63, PL0710 65

AFFIDAVIT OF DEAN G. FITZGERALD

I, Dean Fitzgerald, of the City of Cambridge, of the Region of Waterloo, MAKE
OATH AND SAY AS FOLLOWS:

1. I am a trained biologist and work as an *Ecotoxicologist* for EcoMetrix Incorporated, (EcoMetrix) Mississauga, Ontario. I have held this position since September 2005. Prior to this position, I worked as an *Ecologist* at Cornell University Biological Field Station from 2001 until 2005. I am a member of the American Fisheries Society and International Association of Great Lakes Researchers. I am considered an expert by my peers in the fields of fish biology, stream and lake management, and environmental assessment. Further, I hold *Adjunct Professor* status in the Department of Biology, University of Waterloo. Attached hereto and marked **Exhibit A** is a true copy of my *Curriculum vitae*.
2. At EcoMetrix, one of my primary responsibilities involves providing evaluations of environmental monitoring data for various land developments in North America and elsewhere. Such evaluations involved data such as: 1) stream habitat attributes, 2) lake habitat attributes, 3) fish population characteristics, 4) fish community endpoints, and 5) water quality information. Such evaluations have been completed over the last few years for a range of clients that includes: 1) government agencies such as Environment Canada, 2) mining companies such as INCO, 3) pulp and paper mills such as Neenah Paper, and 4) international groups such as International Finance Corporation (i.e., World Bank). This experience is directly relevant to this planning matter.
3. To date, I have reviewed many documents that pertain to Planning report DS-06-16 for Draft Plans of Subdivision 30T-97024, 30T-05402, and 30t-05403. I was requested to consider this information to determine if the environmental monitoring data obtained by the private consultants adequately and fully represents Clair Creek and associated aquatic habitats. It is useful to note that Clair Creek lies within Laurel Creek watershed.
4. Beyond my wide-scale experience with stream habitats within and beyond North America, the focus of the research completed for my Master of Science (MSc) degree at the University of Waterloo involved a detailed assessment of the fish populations, fish communities, and aquatic habitats of Laurel Creek. It is useful to note that I directly

sampled fish of Clair Creek as part of this study of the Laurel Creek watershed. This analysis of the Laurel Creek watershed involved consideration of environmental information collected over a 25+ year period from 1967 to 1995. Presentation of this information was partially included in two peer-reviewed scientific articles that I wrote as formal presentations of this past research on Laurel Creek and attached herto and marked **Exhibit B**. Additional information on Laurel Creek is included in my MSc thesis deposited in the library system of the University of Waterloo.

5. Prior to my MSc research at the University of Waterloo, I conducted fish and creek habitat assessments of Clair Creek during the autumn of 1992 while attending Wilfrid Laurier University. At that time, we visited this creek as part of a field project required for a Fish Biology course taught by Dr. Edward Kott. It is salient to note that Dr. Kott also sampled the fishes and invertebrates of Clair Creek and can be regarded as very informed about this subject matter. It would be feasible to obtain information about Clair Creek from Dr. Kott in the future, as he was not available to present information for this matter due to health problems over the past several weeks.

6. After I finished my MSc, I organized a workshop at the University of Waterloo in 1996 titled: WATGreen Laurel Creek Information Exchange. The goal of this workshop was to identify the current status of the Laurel Creek watershed. I led this effort because I was regarded by my peers as an expert with respect to Laurel Creek. A written proceeding of the workshop was deposited in the University of Waterloo library system with the assistance of the WATGreen Committee.

7. To date, I have reviewed a selection of the fish and creek habitat inventory sections that pertain to Planning report DS-06-16 for Draft Plans of Subdivision 30T-97024, 30T-05402, and 30T-05403. In addition, Ms. Louise Lanteigne provided me with information from Ms. Susan Rogers from December 2007. I was told by Ms. Lanteigne the information from Ms. Rogers included a range of fish and creek habitat inventory that may exist for Clair Creek. A copy of this information that includes fish and creek habitat information from Ms. Rogers is attached herto and marked **Exhibit C**.

8. It is observed the City of Waterloo Planner, Mr. Joel Cotter, provided an Affidavit as a response to the Appeal filed by Ms. Lanteigne. In this Affidavit, Mr. Cotter stated in the following, as in paragraph 19 b: *"The north branch of Clair Creek will be protected through environmental buffering and conveyance to the City of Waterloo."* This statement is an explicit interpretation of section 4.1.1.1 of the Region of Waterloo Regional Official Policies Plan (ROPP; current as of September, 2006). The ROPP identifies that existing fish habitat must be appropriately managed in new and other land developments. This section of the ROPP interprets appropriate management as the need to "...achieve no net loss of the productive capacity of the fish habitats by required that: the applicant assesses the impact of new development on designated fish habitat; the quality and quantity of water which sustains fish communities and fish habitats is not adversely affected." Thus, the terms of reference (ToR) for the proposed developments include provisions to manage and maintain existing fish habitat. Another aspect regarding the maintenance of fish and wildlife habitat is the need for pre-development monitoring of the habitats associated with these lands. Such pre-development monitoring is required to maintain and/or improve the fish and creek habitat during and after the construction phase. It is for these reasons that the proposed developments included environmental monitoring data involving fish and creek habitats in the applications.

9. It is observed the City of Waterloo Planner, Mr. Joel Cotter, provided an Affidavit as a response to the Appeal filed by Ms. Lanteigne. In this Affidavit, Mr. Cotter stated the following, as paragraph 19 f: "*Contrary to the Appeal, consideration has been given to implications on animals that use water features on these lands. ... The north branch of Clair Creek is identified as Block 90 on 30T-97024 (Vista Hills) and Block 76 on 30T-05403 (Clair Creek Meadows). These blocks will be conveyed to the City of Waterloo as open space. Municipal ownership will allow for stream and bank rehabilitation to enhance the creek system.*". One interpretation of these sentences is that the majority (all?) of the north branch of Clair Creek will be conveyed to the City of Waterloo and managed to protect the fish. If the map for the proposed Vista Hills development is considered, it is readily apparent that the channel of Clair Creek is associated with land block 90 and a number of other land blocks (e.g., 10, 12, and others). Thus, the main channel of the creek along these latter land blocks will only be protected by a relatively narrow buffer. Similarly, for the proposed Clair Creek Meadows, the north Branch of Clair Creek is indeed associated with land block 76 and a number of other land blocks (e.g., 38, 78, and others). These maps clearly identify the creek traverses a number of land blocks proposed for development, and the City of Waterloo will not fully manage all land associated with the creek. By extension, monitoring of the entire fish and creek habitats is a requirement for all land blocks in question, not just in Blocks 76 and 90, as defined by the ROPP and ToR for this proposed development. Based on the ROPP and TOR, this monitoring of fish populations, fish communities, and creek habitats is required to identify the current status of the fish populations and fish communities that may be present in these varied land blocks prior to and after the construction phase.

10. The Director of Community Planning for the Regional Municipality of Waterloo, Mr. Kevin Eby, in his Affidavit stated, as in paragraph 6, that: "*appropriate consideration was given to... any potential impacts on fish habitat...*" and this represents a direct reference to the north branch of Clair Creek. This statement reflects Section 4.1.1.1 of the ROPP in a similar manner as noted in paragraph 8 of this Affidavit. This statement also implies the fish and creek habitat inventory was reviewed and deemed satisfactory in terms of the assessment of pre-development conditions and suitability for post-development monitoring.

11. A review of the record of public comments for this matter identified concerns about the fish and creek habitat inventory completed for the proposed developments. For example, it is observed that the public made statements to Councilors for the City of Waterloo, as recorded in the meeting minutes, as recently as 23 July 2007. These statements noted that the fish and creek habitat surveys for Clair Creek in the development documents were regarded as incomplete.

12. It is observed that Ms. Lanteigne requested select information concerning the fish and creek habitat information that pertain to the north branch of Clair Creek from Ms. Rogers during early December 2007. I infer that this request was made as a consequence of these previous statements made by members of the public who expressed concerns about the fish and habitat surveys for Clair Creek. The information requested by Ms. Lanteigne was provided from Ms. Rogers on December 18, 2007 (previously regarded as **Exhibit C**).

13. I reviewed the sections that pertain to fish and creek habitat in **Exhibit C**. Here is a sample of the statements that were included:

- a) *"The upper reaches were not included in this survey as it does not have sufficient depth to electrofish or sufficient form to support fish."*
- b) *"There was no inventory of aquatic biological data related to macro invertebrates, insect species, amphibians etc. and very little data regarding water quality conditions or temperatures."*
- c) *"The middle reach is located immediately upstream in a minor depression in the landscape (Constraint level 2) and the form will be incorporated into a proposed SWM facility while the conveyance function of the watercourse will be maintained. Both the middle and upper reaches are not suitable candidates for fish habitats."*

Based on my personal experience with Clair Creek, and information provided from other historical documents, these current assessments within Clair Creek are not accurate, in terms of the spatial distribution of fish and the suitability of this habitat to support fish populations in the upper, middle, and lower sections. Statements such as the inference linking the observation of shallow water and no resident fish do not represent a professional approach to fish population assessments. In addition, such statements conflict with other inventories that used appropriate methods and identified fishes that prefer shallow water such as brook stickleback and others like Iowa darter as resident in shallow portions of the headwaters of Laurel and Clair Creeks. For example, this stickleback and darter were reported in my earlier scientific article for this creek (refer to **Exhibit B**). It is necessary to conduct additional surveys to fully survey the fish populations, fish communities, and creek habitats of Clair Creek.

In addition, the statement that no inventory of aquatic biological data related to invertebrates and other aspects was collected in portions of Clair Creek represents further evidence that this pre-development monitoring of the creek habitat is incomplete.

14. It is observed that Ms. Lanteigne identified a suite of statements, as direct quotations, from the various consultants regarding the fish population and creek habitat surveys included in a document she provided to Ms. Rogers on January 4, 2008. These quoted statements, like those noted in paragraph 13, were apparently used by Ms. Lanteigne to frame the following statement from her 4 January letter. That is, Ms. Lanteigne stated: *"The information provided from Ms. Rogers regarding the fish and aquatic habitat surveys indicate that a full inventory was not completed during 2003 or 2004."* A copy of the January 4, 2008 letter to Ms. Rogers is attached hereto and marked **Exhibit D**.

15. It is observed that Mr. Douglas Stewart, Planner with PEIL, stated in his Affidavit the following, as in paragraph 45: *"The remainder of the January 4, 2008 correspondence includes a chart summary of the responses provided to the Appellant by the City, the Region and the Applicants. The Appellant then continues to reiterate the same concerns which were raised in her notice of appeal and in her correspondence of December 10th (received December 11, 2007)."* This statement reveals that Mr. Stewart reviewed the document sent on January 4, 2008.

16. It is observed that Mr. Stewart stated in his Affidavit the following as in paragraph 61: *"There is no explanation why the Appellant views these studies and surveys as incomplete. Nor is there any clear explanation in any of the charts provided by the Appellant in her past correspondence."* This statement identifies that Mr. Stewart

regards information from the January 4, 2008 document, such as those quotations from technical reports noted in paragraph 13 above, as an insufficient explanation for the inference the fish population or creek habitat surveys as being incomplete. It is not clear why Mr. Stewart would equate an absence of fish or creek habitat surveys in upper and middle Clair Creek as equivalent to a complete survey.

17. The observations included in paragraph 13 above and the other information noted in **Exhibit D** identifies a range of statements that identify deficiencies, including the absence in some instances, of fish population and creek habitat inventories, for Clair Creek. Thus, it is not clear why Mr. Cotter, as in paragraph 8 and 9 (above), and Mr. Eby, as in paragraph 10 (above), would identify an absence of fish or creek habitat surveys in upper and middle Clair Creek as equivalent to a complete survey of these biological resources.

18. It is observed that it is not possible to conduct a monitoring program for Clair Creek when the pre-development baseline data does not exist. For example, historical surveys of the fish populations and creek habitats do exist. Because these historical surveys are more than five years old, it is necessary to conduct new surveys to provide a suitable baseline. If the surveys from 2003 and 2004 had fully documented the biological inventory of Clair Creek (fish populations, fish communities, creek habitat variables), they would have been sufficient for the purpose of monitoring. Since the 2003 and 2004 surveys do not fully inventory Clair Creek, it is not possible to use historical survey data. The simple reason is many fish species from the upper sections of Laurel Creek (e.g., brook stickleback, bluntnose minnow, fathead minnow, blacknose dace, Iowa darter, **Exhibit B**) do not normally live for more than five years. Thus, it is not feasible to identify the baseline biological inventory with any studies completed prior to 2002. Hence, a new full biological inventory of the creek is required.

19. It is observed in the 18 December 2007 correspondence sent from Ms. Rogers to Ms. Lanteigne the following statement provided by the consultant: *"Only a small portion of the subject lands currently drain to Subwatershed 307. Considering the foregoing, the *municipalities and the GRCA did not request a fisheries impact assessment for Monastery Creek as part of the environmental review for these subdivisions."* My past experiences with streams revealed that any large-scale disturbance of small watersheds like Clair Creek can result in massive movements of water and silt, particularly during rain storm events, to adjacent watersheds. Thus, it is an oversight to have excluded Monastery Creek, a cold water stream with resident trout and other fish species, from the original site assessment. In order to achieve a complete assessment for the proposed developments, a fish population and creek habitat survey is required for Monastery Creek. Such is consistent with Section 4.1.1.1 of the ROPP.

20. It is observed that the protection of the habitat used by threatened and endangered species is included under 4.1.2 of the ROPP for the Region of Waterloo. This includes the statement: *"areas identified as significant portions of the habitat of Endangered or Threatened Species will be designated Environmental Preservation Areas..."*.

21. It is known that Monastery Creek and the upper sections of the Laurel Creek headwaters support cold water fish species, such as trout, primarily due to shading due to vegetation and inputs of cold groundwater. By extension, it is possible that these cold water creek sections may also be used by the endangered Rainbow mussel (*Villosa iris*). Recently, the Region of Waterloo identified the need to assess cold water streams

for this mussel species. Because no mussel surveys were included in any of the recent assessments for these cold water stream sections, it is necessary to conduct mussel surveys in order to exclude the possibility of the presence of this endangered species. Such an assessment would be consistent with Section 4.1.2 of the ROPP. The status report of the rainbow mussel in Canada is attached hereto and marked **Exhibit E**.

22. A review of the record of public comments for this matter identified concerns about the amphibian surveys completed for the proposed developments on different dates in the past. For example, it is observed that the public made statements to Councilors for the City of Waterloo, as recorded in the meeting minutes, as recently as 23 July 2007. These statements noted that the amphibian surveys seemed to be generally incomplete, including those concerning the Jefferson salamander (*Ambystoma jeffersonianum*), a protected species in Ontario and Canada. The status report of the Jefferson salamander in Canada is attached hereto and marked **Exhibit F**.

23. It is observed that the Jefferson salamander was explicitly noted in Ms. Lanteigne's letter from January 4, 2008, and likely occurs on these lands, based on the information provided in the affidavit of Mr. Cotter, as in paragraph 19 g and in the contents of the Laurel Creek Watershed study.

24. While I worked at Cornell University Biological Station in New York, I helped teach field courses. Some of those field courses involved the assessment of amphibians like the Jefferson salamander. Because I worked with experts at the station familiar with the Jefferson salamander, and co-taught classes that addressed the subject of how effectively sample amphibian species such as the Jefferson salamander, it seems appropriate for me to offer a view on the methods used to survey amphibians for these lands. In addition, it is for these reasons that I was invited by the Kitchener Environmental Advisory Committee (KEAC) to give a presentation on the breeding migration and conservation methods used for amphibians such as the Jefferson salamander. The KEAC regard me as an expert familiar with the appropriate techniques required for salamander sample collection. The presentation was completed on 15 November 2007 and is attached hereto and marked **Exhibit G**. I will explain two key points from this presentation.

First, in order to fully sample amphibians such as the Jefferson salamander, the surveys need to occur in the early spring. If the surveys are not done at this time, the resulting inferences on the presence or absence of amphibian species represent speculation. This fact is documented in the scientific literature for amphibian species in general and salamanders in particular. Select scientific document that identify when to appropriately conduct amphibian surveys is attached hereto and marked **Exhibit H**. I observe that the studies noted in Ms. Lanteigne's letter from January 4, 2008 indeed reveal that the assessment of amphibians for these lands were conducted at an inappropriate time of year when compared with the guidance offered from the scientific literature.

Second, it is observed that the home range of the Jefferson salamander is determined by the spring breeding migration. Scientific studies identified that the Jefferson salamander migration distances range widely, over an average distance of 252 m, with a range of 20 to 625 m; longer distances have also been observed in rare instances. The scientific article that addressed this subject of salamander habitat use is attached hereto and marked **Exhibit I**. In order to protect the Jefferson salamander on these lands, the habitat adjacent to any observed salamanders should be included in an environmental

preserve. The current scientific view of the land required to protect species such as the Jefferson salamander is attached herto and marked **Exhibit J**.

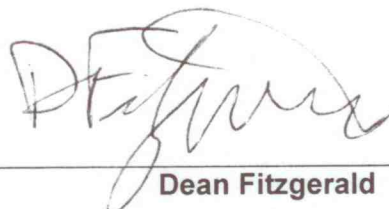
25. It is observed that the Planner, Mr. Cotter, based his interpretation of the status of the Jefferson salamander on these lands from the opinion offered from Dr. James Bogart, as noted in paragraph 19 g of his Affidavit. It is also observed that Mr. Cotter describes Dr. Bogart in his Affidavit, in paragraph 19 g, as: "...a recognized leader in Jefferson salamander research and a member of the Federal Jefferson Salamander Recovery Team." What Mr. Cotter does not say is that Dr. Bogart is a biologist most familiar with the analysis of genetic material from salamanders in the laboratory and not an expert in terms of the habitat used by this salamander during breeding migrations. For example, during 2006, Dr. Bogart wrote to the Region of Waterloo and stated that it was unlikely that the Jefferson salamander would exist in the Hidden Valley portion of Kitchener. This matter concerned the proposal to build a road through Hidden Valley. Despite this statement from Dr. Bogart, field studies were conducted in Hidden Valley and the detailed analysis of salamander samples collected during the early spring of 2007 identified the presence of Jefferson salamander. This matter was previously reported in *The Record* newspaper, on June 26, 2007, in an article titled 'New Road Hits Salamander Snag'. Based on this and other news report, it appears this whole road proposal for Hidden Valley is under review due to the recently confirmed presence of the Jefferson salamander. This example demonstrates that Dr. Bogart cannot accurately predict where or where not the Jefferson salamander will be observed in the Region of Waterloo based on simple methods such as visual observations of sites.

26. It is observed that each planner noted earlier in this affidavit (i.e., Mr. Cotter, Mr. Eby, and Mr. Stewart) all identified that the environmental assessments, including amphibian surveys, were completed appropriately. That is, refer to paragraph 19 g in the Affidavit for Mr. Cotter, refer to paragraph 6 in the Affidavit for Mr. Eby, and refer to paragraph 62 in the Affidavit for Mr. Stewart. Based on these statements in the respective Affidavits, it is assumed these Planners all considered the information, minimally, on the dates and methods used for amphibian surveys as noted in the December 18, 2007 report provided from Ms. Rogers (noted earlier as **Exhibit C**). Given that the dates and methods for these past amphibian surveys can be regarded as inappropriate when compared with the current scientific literature, as noted in paragraph 24 (above), it is a natural extension to state the these Planners were not able to identify the actual deficiencies with the amphibian surveys. Thus, the current amphibian surveys can be regarded as incomplete.

27. It is observed, after a review of the available information, that the current amphibian surveys can be regarded as incomplete. Thus, it is necessary to conduct additional surveys in order to meet the requirements under 4.1.2 of the ROPP for the Region of Waterloo.

SWORN BEFORE ME at the City of
Toronto, Province of Ontario this 25th of
February, 2008

Commissioner for Taking Affidavits (or as may be)
Andrew Wray


Dean Fitzgerald