
TO: GENERAL COMMITTEE

SUBJECT: WASTEWATER TREATMENT FACILITY – ENVIRONMENTAL COMPLIANCE APPROVAL APPEAL

PREPARED BY AND KEY CONTACT: R. S. KAHLE, M. Eng., P. Eng. *RK*
DIRECTOR OF ENGINEERING

SUBMITTED BY: R. S. KAHLE, M. Eng., P. Eng. *R. S. Kahle*
DIRECTOR OF ENGINEERING

GENERAL MANAGER APPROVAL: R. W. MCARTHUR, P. Eng. *Rum*
GENERAL MANAGER OF INFRASTRUCTURE, DEVELOPMENT & CULTURE

CHIEF ADMINISTRATIVE OFFICER APPROVAL: C. LADD *CL*
CHIEF ADMINISTRATIVE OFFICER

RECOMMENDED MOTION

1. That staff continue the process of appealing the current Environmental Compliance Approval Certificate (ECA) on the following grounds:
 - a) The existing Wastewater Treatment Facility (WwTF) was not designed to meet a Phosphorous Effluent Compliance Limit of 0.10 mg/l.
 - b) That the timelines associated with achieving the Phosphorous Effluent Compliance Limit of 0.10 mg/l. are not achievable by June 2015 , and
 - c) That clarification is required on the ECA language pertaining to:
 - i) The Substantial Completion of the 76 MLD Wastewater Treatment Facility plant expansion,
 - ii) The existing sewage works description for the Raw Sewage Pumping Station, and
 - iii) The existing sewage works description.

PURPOSE & BACKGROUND

2. The purpose of this Staff Report is to seek the endorsement of Council for staff to continue with the process of appealing the Environmental Compliance Approval Certificate for the Wastewater Treatment Facility (WwTF).
3. The contract for the expansion of the WwTF (formerly known as the Barrie Water Pollution Control Centre, or WPCC) to 76 MLD was substantially completed on November 24, 2011.
4. The design of the WwTF expansion was undertaken to achieve a Phosphorous Effluent Objective of 0.12 mg/l. This is documented in Appendix "A" "MOE Pre-Consultation Meeting Summary", dated July 19, 2007.

5. The Ministry of the Environment (MOE) issued a Certificate of Approval (C of A) on August 3, 2007 which authorized the plant expansion with a Phosphorous Effluent Objective of 0.12 mg/l and a Phosphorous Effluent Compliance limit of 0.18 mg/l upon substantial completion of the Works.
6. The Lake Simcoe Phosphorous Reduction Strategy, dated June 2010, identified for Barrie a Phosphorous Compliance Limit of 0.10 mg/l. and 2,774 kg/year. It indicates that no capital upgrades are required, and that process optimization should achieve the phosphorous concentration limit of 0.10 mg/l.
7. On May 6, 2011, City staff met with the MOE to discuss proposed amendments to the draft C of A. The City documented their concerns in correspondence dated May 25, 2011 (see Appendix "B") to the MOE regarding phosphorous loading and concentration, initial effluent characterization, timelines for C of A amendment upon approval of the Source Protection Plan, and to request that the amended C of A be consistent with the design capacity of the expanded plant.
8. On December 5, 2011, the MOE responded to the City's concerns, however these concerns were not adequately addressed. (see Appendix "C").
9. On December 23, 2011, The City of Barrie responded to the MOE's December 5, 2011 letter (see Appendix "D"). The City reiterated its operational concerns with the 0.10 mg/l. effluent concentration limit for phosphorous starting in 2015 and the need for additional time to implement the necessary infrastructure to achieve the new compliance limit.
10. On June 28, 2012, the MOE provided to the City of Barrie an Amended Environmental Compliance Approval (formerly known as Certificate of Approval) regarding the Barrie Wastewater Treatment Facility. The Environmental Compliance Approval (ECA) refers to the existing sewage works for the collection, transmission, treatment, and disposal of sanitary sewage at a rated capacity of 76 MLD and a Peak Flow Rate of 156 MLD. This amended ECA contained onerous phosphorous removal requirements that were not in keeping with the design intent of the plant expansion, timelines that were impractical and other issues of concern.
11. The amended ECA, on page 27, stated that in accordance with the Environmental Protection Act, the City could appeal the amended ECA by serving written Notice upon the Environmental Review Tribunal, within 15 days. The amended ECA was received on June 28, 2012 and therefore the appeal notice deadline was July 13, 2012.
12. A Notice of Appeal was prepared by City staff and delivered to the Environmental Review Tribunal and other relevant MOE parties on July 12, 2012, within the allowable time period in order to preserve the right to appeal. Council were advised of the submission of the Notice of Appeal in an e-mail dated July 13, 2012 from R. Kahle, Manager of Design and Construction.
13. The Environment and Lands Tribunal Ontario sent correspondence to the City, dated July 23, 2012, acknowledging receipt of the Notice of Appeal, and requesting information necessary for the hearing process.
14. Information in response to the Environment and Lands Tribunal Ontario July 23, 2012 correspondence was provided by the City in its August 7, 2012 letter.

15. The Environment and Lands Tribunal Ontario sent correspondence to the City, dated August 15, 2012, advising that a Preliminary Hearing was scheduled for October 29, 2012, to receive submissions from groups or individuals who are seeking Party, Participant, or Presenter status, to identify the preliminary issues to be considered at the main Hearing, and to deal with associated matters. As part of their process, the Environment and Lands Tribunal Ontario issued notification letters to the property owners in the area of the WwTF. The letter advised that the City has objected to the Environmental Compliance Approval and proceedings were to be initiated.
16. A meeting has been arranged between City staff and the MOE for September 17, 2012 to discuss possible resolution ahead of the Preliminary Hearing.

ANALYSIS

17. As described in the grounds of appeal in the City's July 12, 2012 correspondence, the amended ECA requires Phosphorous Effluent Compliance limits that are more stringent than the plant expansion was designed for, and that the MOE were fully aware of the objectives of the expanded plant.
18. Staff believe that the timelines associated with achieving the Phosphorous removal limits are not achievable, as described in the grounds of appeal in the City's July 12, 2012 correspondence. According to the amended ECA, the 0.1 mg / l phosphorous limit requirement would come into effect on June 2, 2015. The process to implement such a program to achieve this requirement would encompass up to 8 years for MOE pre-consultation, pre-design, detail design, tendering, construction, testing, etc. The costs, potentially approaching \$100M would also require funding approval and proper capital planning.
19. Clarification of ECA language pertaining to the Substantial Completion of the 76 MLD expansion, existing sewage works description for the Raw Sewage Pumping Station, and existing sewage works description are also required, but are relatively minor as compared with the previously described issues.
20. The Order of Magnitude for the estimated project capital costs for the phosphorous removal to achieve the 0.10 mg/l requirement and associated works is \$100M, including Pre-design, Detail Design, Vendor selection of Phosphorus Removal Technology, Contract Administration, Field Services, Building Permit Fees, Approvals, Construction, Construction Contingencies, Project Contingencies, Staff Time, Specialty consultants, etc. These costs have not yet been included in the Capital Plan. The funding sources are intended to be from development charges and the wastewater rate, at percentages to be determined at a later date as part of the budget process.
21. The Order of Magnitude for operating expenditures (annual) related to the phosphorous removal systems are estimated at \$900,000 including costs relating to maintenance, energy, chemicals, staffing (assuming two new staff will be required). It is noted however that the operating costs are not expected to be required until a year before (estimated 2019) the Facility comes on line and will be developed further as detail design progresses.
22. The pre-design of advanced nutrient removal has been included in the proposed 2013 Capital Plan at an estimated cost of \$1,000,000.
23. If not successfully appealed, non-compliance is expected to occur occasionally, but the likelihood will increase over time. The potential for non-compliance will persist until the required infrastructure is in place, in approximately eight years. The penalty for non-compliance under the Ontario Water Resources Act is up to \$100,000 per day.
24. Staff are continuing their participation in the development of the Water Quality Trading Program for the Lake Simcoe Watershed.

25. Phosphorus loads reported by MOE at station K39 in Kempenfelt Bay have shown a declining trend over the same time period. The City of Barrie's commitment to environmental stewardship through policies, practices, and investment in technology has contributed to this decline in phosphorus loads to Lake Simcoe. Major initiatives/projects include:
- State-of-the-art Wastewater Treatment Facility (WwTF) expansion to 76,000 m³ per day to meet more stringent effluent criteria
 - \$19 million stormwater retrofit program approved by Council
 - Stormwater Management Retrofits completed
 - D'Ambrosio pond completed (partnership with LSRCA)
 - Pond LV14 north of Caplan Drive and west of Bryne Drive completed (in partnership with the LSRCA and MOE)
 - Sanitary Inflow/Infiltration Reduction Program
 - Kidds Creek and Hotchkiss Creek naturalization at Kempenfelt Bay
 - Implementing the Topsoil Stripping By-law
 - Implementing the Site Alteration By-law
 - Implementing the Tree Preservation Plan
 - Implementing the Erosion and Sediment Control Plans
 - Implementing the Site Alteration Tool

ENVIRONMENTAL MATTERS

26. The following environmental matters have been considered in the development of the recommendation:
- a) The health of Lake Simcoe is very important to the City of Barrie's economic and social well being. It is also a partial source of the City's drinking water. By working together with government, industry, and the public, in a financially responsible way, a state of balance can be achieved.

ALTERNATIVES

27. The following Alternative is available for consideration by General Committee:

Alternative #1

General Committee could choose to withdraw the Notice of Appeal, and accept and abide by the wording of the amended ECA.

This Alternative is not recommended as the requirements of the amended ECA would place the City at risk of regular non-compliance, and the associated fines (see paragraph 23), as well as damage to the City's image and reputation. It would also impose on the City a fast tracked schedule for Phosphorous removal measures that would impact the City's financial standing (see paragraphs 20 & 21).

FINANCIAL

28. There are no financial implications associated with the recommendations under this Staff Report.

LINKAGE TO 2010 – 2014 COUNCIL STRATEGIC PLAN

29. The recommendation(s) included in this Staff Report support the following goals identified in the 2010-2014 City Council Strategic Plan:
- Manage Growth and Protect the Environment
30. Modified timelines for the implementation of phosphorous reduction infrastructure would ensure that the new Phosphorous Effluent limits can be achieved in a manner that allows for proper consultation, review, and reasoned design.

APPENDIX "A"

CITY OF BARRIE

NUMBER 8145-8D3PZ7

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June 28, 2012

**APPENDIX A:
MOE Pre-Consultation Meeting Summary dated July 19, 2007
Specifically Agenda Item 5**

MOE MEETING SUMMARY

CH2MHILL

**Barrie WPCC - Expansion to 76 MLD - Management
of Compliance Limits during Construction**

ATTENDEE: City of Barrie - Graeme King, Wendell McArthur, Dan Burton, Jun
Liu, David Quenneville
CH2M Hill - Tim Constantine, Sinclair Garner, Daniel Olsen
MOE - Louis Belcourt, Zafar Bhatti, Chris Hyde, Scott Abemethy

LOCATION: City Hall - Sir Robert Barrie Room
FROM: CH2M HILL
DATE: July 19th, 2007

If there are any errors or omissions in the meeting summary please report them to Daniel Olsen within 14 days.

The purpose of the meeting was three-fold:

- Review previous MOE meeting minutes from October 5, 2006 as noted below
- Review progress of the Barrie Water Pollution Control Centre (WPCC) Expansion to 76 MLD project
- Discuss management of compliance limits during key construction tie-ins
- Review the total phosphorous design objective for the Barrie expansion project

The following summarizes discussions that occurred.

Summary of Action Items

- a) Send final contract documents to the MOE - CH2M HILL
- b) Provide technical review of CoTA sewage application - CH2M HILL
- c) Organize semi-annual meetings during the construction period and provide 30 days notice prior to key construction tie-ins - CH2M HILL
- d) If the City of Barrie wants the MOE to consider an interim design objective for total phosphorus, write a proposal outlining an action plan for implementing urban offsets such as improved stormwater ponds. - City of Barrie

AGENDA ITEMS

1. Introductions

Introductions were made at the beginning of the meeting to understand each individual's role within the 76 MLD expansion project and the role of MOE representatives attending the meeting.

CITY OF BARRIE

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June 28, 2012

BARRIE WPCC - EXPANSION TO 76MLD - MANAGEMENT OF COMPLIANCE LIMITS DURING CONSTRUCTION

2. Review of Previous Meeting Summary

The list of action items from the previous meeting summary was reviewed and the following comments were made:

- a) The MOE will review and recommend a reasonable design objective for total phosphorus. The 76 MLD expansion compliance limit is 0.18 mg/L and the design objective is currently 0.15 mg/L. *Comment: This item was deferred to agenda item #6*
- b) Minor revisions to the 76 MLD expansion design may require an addendum to the EA which will be carried out early in 2007. *Comment: CH2M HILL EA Specialist has reviewed and advises that the project is in conformance with the EA and therefore an amendment to the EA should not be required.*
- c) The MOE agrees that the revised flow monitoring method for both the interim plant and 76 MLD expansion is acceptable as long as the level of accuracy remains within ±5%. *Comment: The flow meters are being installed within the next month.*
- d) A conditional CoA application can be sent to the MOE early in detailed design which includes notice of completion of EA, design brief, effluent water quality and quantity requirements, and preliminary drawings. However, construction cannot start until final drawings and specifications are submitted. *Comment: The conditional CoA application was sent to the MOE and the final contract documents will be sent the week of July 30th.*
- e) It is proposed that quarterly meetings take place with the MOE to ensure the design meets the requirements of the MOE and to ensure corrective actions be identified early in design as opposed to later. *Comment: The MOE recommends semi-annual meetings during construction and for key construction tie-ins.*

3. Detailed Design Phase

Status of Contract Documents: A tender ready (not for construction) set of contract documents for the Barrie WPCC was sent to the MOE on July 23rd. A final tender ready set will be sent to the MOE the week of July 30th. The tender ready documents for the Biosolids Storage Facility are expected to be complete by the end of August. The outfall diffuser system upgrade is being performed ahead of the 76 MLD Expansion (additional of 5 ports).

Status of CoA Sewage Application: Once the final contract documents are submitted, the MOE will require two to three weeks of technical review.

Tendering Schedule: The tendering of the WPCC Expansion will be advertised on July 27th and will close on September 5th. The tentative notice of award is scheduled for week of October 10th, 2007.

4. Construction Phase

The construction schedule of October 2007 to February 2010 was detailed and a table of key construction tie-ins was reviewed. The following comments were made:

MOE Comment 1 – Why do so many tanks have to be taken out of service when there are no modifications to existing tanks?

Response – There are minor modifications to existing processes. For example, the inlet weirs to the existing secondary clarifiers are being modified.

MOE Comment 2 – Will the plant have to operate with 2 LINOX tanks and 3 secondary clarifiers?

Response – No, it has been specified that these shutdowns must not occur at the same time.

MOE Comment 3 – What is the parameter of most concern?

Response – Ammonia is of most concern since it takes time for nitrification to recover after being lost.

The management of compliance limits during the key construction tie-ins was discussed and the following comments were made:

- If there is a compliance limit exceedance during construction, it will be noted in the MOE report as occurring during construction.
- Since construction does not constitute an emergency, an exceedance must be handled through the proper abatement channels.

CITY OF BARRIE

NUMBER 8145-8D3PZ7

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June 28, 2012

BARRIE WPC - EXPANSION TO 76MLD - MANAGEMENT OF COMPLIANCE LIMITS DURING CONSTRUCTION

- Effective communication with the MOE during the construction phase will be beneficial. The City should contact the MOE 30 days before a key tie-ins to keep the MOE informed.

5. Post Construction Phase

A discussion was held on implementing an interim flow based design objective for total phosphorus between the existing rated capacity of 57.1 MLD and the expansion rated capacity of 76 MLD. The following comments were provided from the MOE:

- The total phosphorus design objective will be 0.12 mg/L in accordance with the amended CoFA application. The 0.12 mg/L total phosphorus design objective will become effective upon commissioning of the 76MLD Project Upgrade.
- The MOE may consider an interim design objective for total phosphorus if the City of Barrie writes a proposal to implement urban offsets such as constructing new storm ponds or retrofitting existing ones.
- The proposal can be submitted anytime prior to commissioning the 76 MLD expansion. The MOE will review and consider an interim total phosphorus design objectives in the CoFA.

Meeting Adjourned at 3:00 pm

APPENDIX "B"

CITY HALL
70 COLLIER STREET
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P.O. BOX 400
BARRIE, ONTARIO
L4M 4T5

THE CORPORATION OF THE CITY OF BARRIE
Engineering Department
"Committed to Service Excellence"

May 25, 2011

File: E12-LA
A19-2007-05

Ministry of the Environment
Lake Simcoe Project
135 St. Clair Avenue West, 12th Floor
Toronto, Ontario
M4V 1P5

Attention: **Ms. Ellen Schmarje**
Senior Program Advisor

Dear Ms. Schmarje,

**RE: Draft Amended Certificate of Approval (Your Reference 6788-88WPM)
City of Barrie Water Pollution Control Centre**

Thank you for meeting with the City of Barrie on May 6, 2011 to discuss the proposed amendments to the above noted draft Certificate of Approval (C of A). As we indicated at that meeting, we have specific concerns with the elements in the draft version of the C of A circulated on March 25, 2011.

Phosphorus Load and Concentration

The current C of A, issued August 3, 2007, authorized the City of Barrie to construct an expansion to the Barrie Water Pollution Control Centre (WPCC) to increase the Rated Capacity from 57,100 m³/day to 76,000 m³/day and discharge an effluent with a phosphorus objective concentration of 0.12 mg/L and a compliance concentration of 0.18 mg/L. The Total Annual Loading of Phosphorus permitted was 4,993 kg/year. The construction of the permitted increase in Rated Capacity is in progress and the final commissioning is anticipated the summer of 2011.

The draft amended C of A has proposed that a Phosphorus Baseline Concentration of 0.1 mg/L and a Phosphorus Baseline Load of 2,774 kg/year be included as interim Effluent Objectives becoming compliance limits effective June 2, 2015. Based on the technology associated with the current expansion, the City has concerns in meeting the ultimate compliance limits under all operating conditions. The City noted these concerns when commenting on the EBR posting 010-8986 associated with the Phosphorus Reduction Strategy. Specifically we noted that further clarification was required on how the provincial growth plan was accounted for in the proposed regulations and that advanced nutrient removal could be required sooner than anticipated as a result of the proposed changes.

Historic results have shown that the WPCC is operated to ensure effluent levels are as low as possible and not just meeting the minimum requirements. This is reflected in the Ontario Municipal Benchmarking Initiative (OMBI) results indicating that Barrie has amongst the highest costs for wastewater treatment and disposal per megalitre for similarly sized municipalities, in part, to meet the requirements of the Lake Simcoe Protection Plan. The City has also been proactive in a number of areas to ensure the system is operated as efficiently as possible. These initiatives include active water efficiency and conservation programs and the implementation of operational improvements (repairs and remediation) to the sanitary collection system to reduce the flows associated with sanitary inflow and infiltration.

Engineering Department

File: E12-LA

Letter to Ministry of the Environment

May 25, 2011

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The City, in response to the Province's Growth Plan for the Greater Golden Horseshoe, 2006, has initiated an Official Plan Amendment (OPA) process and the associated Infrastructure Master Plans to service the population and employment growth designated for Barrie. The MOE has been identified as a key stakeholder and will be involved in the consultation process associated with the projects. A long range financial model is also being completed under these growth studies to understand the financial impacts of growth and plan for how infrastructure will be paid for. The EA process for the Wastewater Treatment Master Plan is being coordinated with the land use planning for the OPA and is scheduled for completion early 2013, pending adoption of the OPA by Council. It should be noted that the approval process to implement the capital improvements to ensure compliance with a 0.10 mg/L limit could be a five year process at a minimum from project initiation to construction completion and would not account for the annexation studies already initiated as noted above.

The City is therefore requesting that consideration be given to the commitment to begin the design and construction of upgrades to meet an annual average total phosphorus compliance limit of 0.1 mg/L when the 3-year average daily flow reaches 85% of the current rated design capacity of 76,000 m³/day. This would be more realistic to achieve as the proposed compliance limit is lower than what the plant technology was originally designed to achieve. We would suggest that the historic results from the plant should be considered exemplary for the technology and not considered consistently achievable year in and year out. As the flows continue to become greater due to growth, it will become more difficult to ensure the compliance limit of 0.1 mg/L is met during extreme weather events, however the total phosphorus load is expected to be below the 2,774 kg/year target. This process would also permit the City to recover the associated costs for additional treatment through the Development Charges process.

Special Condition – Initial Effluent Characterization

The proposed amendment to the C of A included a *Special Condition – Initial Effluent Characterization* requiring the Owner to conduct an initial characterization of the effluent. The comprehensive effluent characterization study would appear to be more related to a research project than an operational optimization tool. In addition there are a limited number of laboratories in Canada qualified to conduct the required analysis of the designated conventional and non-conventional parameters.

The City is therefore requesting that the *Special Condition – Initial Effluent Characterization* not be included in the amendment to the C of A pending further consultation with the Owner.

Source Water Protection

The Ministry has included in the proposed amendment the requirement that the Owner shall within sixty (60) calendar days of the Minister of the Environment posting approval of the *Source Protection Plan* on the environmental registry established under the Environmental Bill of Rights, 1993 for the area in which this *Certificate* is applicable, apply to the Director for an amendment to this *Certificate* that includes the necessary measures to conform with all applicable policies in the approved *Source Protection Plan*.

As confirmed by our discussion on May 6, 2011 within sixty (60) calendar days of the posting of the approval of the *Source Protection Plan*, the Owner would not be in a position to apply to the Director for an amendment to the *Certificate* that includes the necessary measures to conform with all applicable policies in the approved *Source Protection Plan*. The reality is it could take longer than sixty days to initiate and carry out the necessary scientific studies to evaluate the impact of the applicable policies. The Owner would therefore only be applying to the Director for an extension to the sixty (60) calendar day application period. The details and requirements under the Source Protection Plans will become clearer over the next year as the Plans are developed.

The City is therefore requesting that that *Source Water Protection* clause not be included in the amendment to the C of A or modified, pending further consultation with the Owner during the development of the *Source Protection Plan*.

Engineering Department
Letter to Ministry of the Environment

File: E12-LA
May 25, 2011

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Draft Amended Certificate of Approval

We will be forwarding a revised draft of Clauses 1 to 22 for the proposed amendment to the C of A under a separate cover. This revised draft will update the description of the Works to be consistent with the approved 76,000 m³/d Rated Capacity design. We will request that the revised wording be incorporated into the amended C of A.

We appreciate the opportunity to meet with you and your group to discuss our concerns and constraints in meeting the requirements under the Lake Simcoe Protection Act and ensure we are both working toward our shared goal of improving the health of the lake. Please contact us at your convenience if any further information is required.

Sincerely,



R. W. McArthur, P. Eng.
Director of Engineering

cc: R. Forward, General Manager of Infrastructure, Development & Culture
D. Quenneville, Manager of Wastewater Operations
J. Thompson, Director of Environmental Operations
G. King, Senior Project Engineer – Environmental
R. Kahle, Manager of Design & Construction
S. Patterson, Manager of Infrastructure Planning

APPENDIX "C"

Ministry of the Environment

Lake Simcoe Project

135 St. Clair Avenue West, 12th floor
Toronto ON M4V 1P5

Ministère de l'Environnement

Projet du Plan Protection du Lac Simcoe

135, avenue St. Clair ouest, 12^{ème} étage
Toronto ON M4V 1P5



December 5, 2011

Mr. Wendell McArthur
Director of Engineering
City of Barrie
70 Collier Street
Barrie, ON L4M 4T5

**RE: Draft Amended Environmental Compliance Approval (ECA) for the:
Barrie Water Pollution Control Plant**

Dear Mr. McArthur:

This is in follow up to the meeting with MOE staff on May 6, 2011, your comments dated May 25, 2011, your July 12, 2011 email, and the follow-up meeting with Chris Hyde of the Barrie District Office on October 12, 2011 regarding the draft amendment of the Certificate of Approval (CofA) for the Barrie Water Pollution Control Plant (WPCP). Please note that these are no longer "Certificates of Approval", but are "Environmental Compliance Approvals" in accordance with new legislation that came into effect on October 31, 2011.

We have reviewed your comments and concerns regarding the proposed amendments - in particular your concern regarding the initial effluent characterization and the proposed sampling for Contaminants of Emerging Concern. As you may be aware, other municipalities in the Lake Simcoe watershed have also expressed similar concerns.

Following internal discussions, we have agreed to remove the requirement to sample for Emerging Contaminants of Concern (Table 8 in the first draft of the CofA) as part of the initial effluent characterization. We propose that this sampling be done as part of a separate study to be led by the Ministry of the Environment, and will require the City of Barrie and other sewage treatment plants owners/operators within the Lake Simcoe watershed to participate.

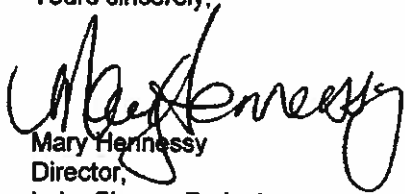
The requirement to conduct an initial effluent characterization consistent with the CCME requirements will remain in the ECA. This sampling remains consistent with the CCME Municipal Wastewater Effluent Strategy, and is not part of the Environmental Effects Monitoring which is currently under further review. The proposed Environmental Effects Monitoring deals with monitoring of the natural environment to determine potential effects from wastewater discharges.

We have also reviewed your concern regarding the requirement to meet a Total Phosphorus effluent limit of 0.1 mg/l starting in 2015. I understand that, as a result of the additional wording changes and further discussions with the Barrie District Office's Chris Hyde, that the City's concerns have now largely been addressed.

You also noted concerns about the condition in the draft CofA identified as "Source Water Protection" (Condition 10). This requirement has been introduced in certificates as a standard condition in anticipation of the Source Protection Plans under development by the local Source Protection Committees. Under section 35 of O.Reg. 287/07 (http://www.e-laws.gov.on.ca/html/regis/english/elaws_regs_070287_e.htm#BK5), the local committee is required to notify municipalities and the MOE on policies affecting prescribed instruments before drafts are published for public comment. The purpose of this condition is to maintain awareness and to identify the necessary measures to conform to all applicable Plan policies if needed before the Plans are approved. This condition does not mean that the measures should be implemented in sixty (60) days, but that the measures are identified and recognized in the certificate within sixty (60) days after the Plans have been approved by the Minister.

I am pleased to attach a revised draft ECA for the Barrie WPCP for your review. Please contact Ellen Schmarje at (416) 327-9420 or at ellen.schmarje@ontario.ca if you have any additional comments or concerns. I would appreciate a response with any errors or comments and concerns within 3 weeks of the date of this letter.

Yours sincerely,



Mary Hennessy
Director,
Lake Simcoe Project

c: Ellen Schmarje, MOE, LSP
Kathryn Baker/Maria Lucchese, MOE, Central Region, Water Resources Unit
Chris Hyde, MOE Barrie District
Edgardo Tovilla, MOE, EAAB
Stew Patterson, City of Barrie

Enclosure

- DRAFT Amended ECA

APPENDIX "D"

CITY HALL
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P.O. BOX 400
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THE CORPORATION OF THE CITY OF BARRIE
Engineering Department
"Committed to Service Excellence"

December 23, 2011

File: E12-LA
A19-2007-05

Ministry of the Environment
Lake Simcoe Project
135 St. Clair Avenue West, 12th Floor
Toronto, Ontario
M4V 1P5

Attention: **Ms. Mary Hennessy**
Director, Lake Simcoe Project

Dear Ms. Hennessy:

RE: **Draft Amended Environmental Compliance Approval (ECA) for the
City of Barrie Water Pollution Control Centre**

Thank you for your letter dated December 5, 2011, in response to our correspondence on the draft amendment to the Certificate of Approval (C of A) for the Barrie Water Pollution Control Centre (WPCC). **The City is committed to improving the health of the lake and has been working to steadily decrease the phosphorus loading.**

We do have some specific comments and concerns we would like to note and some components of the draft ECA that we would like to bring to your attention, as follows:

Phosphorus Load and Concentration

We would like to clarify that the issue of meeting the Annual Average Phosphorus effluent concentration limit of 0.1 mg/L starting in 2015 was not discussed and addressed with the Barrie District Office's Chris Hyde as the letter states. It still remains a significant concern to the City of Barrie and an issue which could have significant impact on the WPCC operations in the future.

In 2005, the C of A for the Barrie WPCC permitted a loading of 4993 kg/yr to be released to Lake Simcoe. The actual load to the lake in 2005 was 4117 kg/yr. Subsequently, there have been reductions imposed by the Province as a result of the development of the Lake Simcoe Protection Plan (LSPP) including an interim loading limit of 3113 kg/yr and, most recently, a limit of 2774 kg/yr under the approved Lake Simcoe Phosphorus Reduction Strategy (LSPRS) to be effective June 2015. From 2008 to 2010, the actual loading from the WPCC was 2447 kg/yr, 1537 kg/yr and 1422 kg/yr respectively. This declining trend has been achieved through investment of significant resources and operational efforts while, at the same time, Barrie's population has continued to increase substantially.

The City has operational concerns with the 0.1 mg/L effluent concentration limit starting in 2015 and the subsequent tendering and construction implications if it is incorporated in the ECA. As we have indicated previously, the 76MLD plant expansion, which is in the final stages of commissioning, was designed to achieve a phosphorus objective concentration of 0.12 mg/L and a compliance concentration of 0.18 mg/L. The LSPRS concluded that no capital improvements would be required at the WPCC to meet the proposed 0.1 mg/L limit although this leaves no operational buffer in the operation of the facility and could arguably be beyond the limit of technology for the plant. The City is confident that the WPCC can continue to achieve overall loading of less than the total loading limit of 2774 kg/yr with the interim predicted flows to the WPCC. We would request that consideration be given to allowing the City the additional time to properly plan a potential five-year implementation process for improvements required to meet the reduced concentration limits.

Engineering Department

File: E12-LA

Ministry of the Environment – M. Hennessy

December 23, 2011

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additional time to properly plan a potential five-year implementation process for improvements required to meet the reduced concentration limits.

We therefore request that the Province consider a commitment from the City to having the necessary effluent improvements in place to meet the effluent concentration criteria when the flow reaches 83.3% of the total rated capacity of 76,000 m³/day which equates to a flow of 63,333 m³/day and subsequent phosphorus loading of 2774 kg/yr at 0.12 mg/L and 2311 kg/yr at 0.1mg/L.

Special Condition – Initial Effluent Characterization

The revised draft ECA still includes a *Special Condition – Initial Effluent Characterization* requiring the owner to conduct an Initial Characterization Program for the effluent parameters identified in the ECA. The previous requirement for sampling and testing for Contaminants of Emerging Concern will now be the responsibility of the Province. The City is in agreement with this revision.

Source Water Protection

The letter indicates that the measures identified in the applicable Source Protection Plan do not have to be implemented within 60 days of the plans being approved by the Minister but it does indicate that the measures are to be identified and recognized in the certificate within sixty (60) days after the plan has been approved. This wording is not consistent with the draft ECA and it would suggest that the ECA must be approved by the Director within sixty (60) days. We would suggest that either this timeline be extended to be greater than sixty (60) days to allow for the necessary processes to update the ECA to take place or to keep the wording in the draft ECA.

Draft Amended Environmental Compliance Approval

There are components in the draft ECA that we wish to comment on:

ECA Reference	ECA Wording	City Concern
Page 12 Table 1	Footnote on Table 1 indicates 'Note: Concentration objectives above apply to any single sample unless otherwise indicated.'	This note would seem to indicate that the WPCC would not meet its objective limits if any single sample for phosphorus is above the 0.12 mg/L, as opposed to the monthly average concentration exceeding this amount.
Page 14 Section (3) (d) i)	'The Effluent Limits set out in Table 4, shall be in force the earlier of: i) The date the <i>Director</i> approves an amendment to the <i>Approval</i> that would allow for an expansion of the <i>Works</i> ...'	This wording seems to indicate that as soon as the amendment is approved, the Effluent Limits shall be in force and not allow for the construction and commissioning process. We would suggest that the wording be revised to indicate that the effluent limits shall be in force after 'substantial completion' of the expansion of the works.
General Comment	The ECA wording refers to specific ratings for components, within the plant, such as pumps and blowers.	The City would suggest that the ECA be revised to indicate that the wording for these types of components be a minimum specification. (i.e. one pump having a rated capacity of at least 12.5 L/s). This will ensure that amendments are not required to the ECA in instances where a specific component is no longer commercially available at that specific capacity. We will coordinate this wording and address the outstanding

Engineering Department

File: E12-LA

Ministry of the Environment – M. Hennessy

December 23, 2011

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We appreciate the opportunity to express our concerns associated with the requirements under the Lake Simcoe Protection Plan. We are both working toward the shared goal of improving the health of the lake. Please contact us at your convenience, if clarification is required.

Yours truly,



per. R. W. McArthur, P. Eng.
Director of Engineering

cc: R. Forward, General Manager of Infrastructure, Development and Culture
J. Sales, General Manager of Community Operations
D. Quenneville, Manager of Wastewater Operations
J. Thompson, Director of Environmental Services
G. King, Senior Project Engineer – Environmental
R. Kahle, Manager of Design and Construction
S. Patterson, Manager of Infrastructure Planning