

Citizens' Environmental Stewardship Association, East of  
Ottawa  
P.O. Box 225, Russell, ON K4R 1C9

# **RESPONSE**

To the

## **Proposed Terms of Reference**

(Dated September 14, 2012)

**For an Environmental Assessment of the Proposed  
Capital Region Resource Recovery Centre**

**MOE Reference No. 10261**

**Proponent:**

**Taggart Miller Environmental Services**

**Part A - Prepared by:  
Steven Rowe MCIP, RPP**

**Part B - Prepared by:  
Wilf Ruland (P.Geo)**

**For submission to:**

**Mr. Jeffrey Dea, Special Project Officer  
Environmental Assessment and Approvals Branch  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, ON M4V 1L5**

**Tel: 416-314-7213 Fax: 416-314-7774**

**Submitted:**

**October 15, 2012 via email to [jeffrey.dea@ontario.ca](mailto:jeffrey.dea@ontario.ca)  
and via courier**



**Citizens' Environmental Stewardship Association  
- East of Ottawa  
PART "A"**

**ENVIRONMENTAL ASSESSMENT PEER REVIEW**

**TERMS OF REFERENCE FOR THE CAPITAL REGION  
RESOURCE RECOVERY CENTRE**

**Prepared by:**

**Steven Rowe Environmental Planner**

**For:**

**Citizens Environmental Stewardship Association –  
East of Ottawa (CESA-EO) a/o “Dump the Dump Now Campaign”**

**October 2012**

# TABLE OF CONTENTS

	Page
<b>INTRODUCTION</b>	1
PURPOSE	2
APPROACH	3
<b>THE PEER REVIEW</b>	4
ACRONYMS, UNITS AND GLOSSARY OF TERMS	4
1. INTRODUCTION	4
2.0 THE ENVIRONMENTAL ASSESSMENT PROCESS	4
2.1 Ontario Environmental Assessment Act	4
Application of the EA Act to Components of the Proposed Facility	4
Policy Considerations	5
2.4 Terms of Reference Submission Statement (How the Environmental Assessment Will be Prepared)	6
2.5 Flexibility of Terms of Reference	7
3.0 PURPOSE OF THE UNDERTAKING	8
4.0 RATIONALE FOR AND DESCRIPTION OF THE UNDERTAKING	8
5.0 ASSESSMENT OF ALTERNATIVES TO THE UNDERTAKING	10
Requirements for a Potentially Suitable Property and Identification of the North Russell Road Site	10
Public Reaction to the North Russell Road Site and the identification of the Boundary Road Site	11
Alternative Ways to Address the Diversion and Disposal Opportunity	13

5.1 Conceptual Description of the Undertaking	13
6.0 CONCEPTUAL DESCRIPTION OF PROPOSED CRRRC FACILITIES	14
7.0 EXISTING ENVIRONMENTAL CONDITIONS	15
North Russell Road Site	15
Boundary Road Site	15
8.0 ENVIRONMENTAL ASSESSMENT METHODOLOGY	16
8.1 Comparative Evaluation of Alternative Sites and Identification of Preferred Site	16
8.2 EA and EPA Assessment of the Preferred Site for the CRCC	25
9.0 CONSULTATION	28
9.1 Summary of Consultation Activities during Development of the TOR	28
9.2 Summary of Key Stakeholder Feedback during Development of the TOR	28
9.3 Proposed Consultation Plan for EA	28
10. ENVIRONMENTAL ASSESSMENT SCHEDULE	29
11. OTHER APPROVALS	29
12.0 COMMITMENTS AND MONITORING STRATEGY	29
12.1 Commitments	29
12.2 Compliance and Effects Monitoring	30
<b>CONCLUSION</b>	<b>30</b>

## **TABLES**

Table 1: Review of Criteria and Work Plans for Evaluation of  
Alternative Sites

18

## EXECUTIVE SUMMARY

Steven Rowe Environmental Planner was retained by Citizens Environmental Stewardship Association – East of Ottawa (CESA-EO) a/o “Dump the Dump Now Campaign” on September 14, 2012. Mr. Rowe’s instructions were to conduct an independent peer review of proposed Terms of Reference (TOR) prepared under the Environmental Assessment (EA) Act for a proposed waste treatment and disposal facility to be known as the Capital Region Resource Recovery Centre (CRRRC). The TOR, if approved by the Minister of the Environment, would form the framework for an EA for the proposed facility.

The proponent, Taggart Miller, has selected an “alternative to” the undertaking comprising waste diversion and recycling, organics processing and a landfill on a Taggart – Miller site. Two candidate sites have been selected – one in Russell Township (the North Russell Road site) and one located 8km away in the City of Ottawa (the Boundary Road site). The alternative “to” and the two alternative sites are established for the purpose of the proposed EA. The remaining EA activities would comprise a comparison between the two sites, selection of a preferred site, further assessment of the existing environment, selection of a preferred site development concept, and a more detailed evaluation including developing the details of the proposed organics processing and leachate management, and selection and evaluation of a preferred haul route if required.

Salient points arising from the Peer Review are as follows:

- The TOR should clarify how the entire facility, including recycling and diversion facilities and treatment of organics as well as the landfill site, is formally subject to the EA Act. The applicable Regulation places landfill sites and incinerators under the Act, but not recycling and diversion facilities;
- The TOR should clarify how the Provincial Policy Statement is to be integrated into the EA process;
- The proposed purpose of the undertaking, as described, places waste diversion and recycling as the primary purpose, and disposal in a landfill site as secondary. There is insufficient information on the details of the diversion and recycling components and expected levels of diversion. The TOR should, at least, explain how commitments to specified recycling rates – or a range of rates - for each waste component will be developed as part of the EA;
- The proponent specified the “basic requirements” of a site for the CRRRC, but the North Russell Road alternative site does not meet – or barely meets – these requirements in terms of size and configuration, land use constraints, and site access, The selection of a 400 acre minimum size

appears arbitrary and the main part of the Russell Road site is smaller than this. This may limit options for site design and opportunities for buffering against sensitive uses;

- The Boundary Road Site is underlain by soft clay, which may comprise a geotechnical constraint. It also has a high water table. The proposed criteria for the site comparison do not provide for comparison based on geotechnical issues or potential constraints to site operation.
- The proponent is proposing to undertake work to meet EA and Environmental Protection Act (EPA) requirements concurrently, but there appears to be excessive reliance on meeting EPA standards as part of the EA process. The EA process is broader and should not be constrained by EPA standards;
- Public input on the ranking of criteria for the site comparison is confusing and difficult to trace. The work plans provided do not provide assurance that the site comparison will be traceable and based on comparable level of detail for both sites;
- The Work Plans for the evaluation of the ultimately approved site are lacking in detail and do not provide assurance of best or even good practices. They do not recognize the quarry lake as potential aquatic habitat that should be surveyed and evaluated. There is no commitment to a systematic or traceable process for the selection of haul routes, organic treatment facilities or leachate treatment systems;
- The proponent states that the facility will be “scalable” (i.e. capable of being expanded as demand or business opportunities expand), but there is no discussion as to how approvals for future expansions will be phased under the EA and EPA/OWRA. If the entire facility is to fall under an EA approval, there will be no requirement for the public to intervene or even be notified of future expansions or new facilities to be approved under the EPA;
- The proponent should commit to greater communication with the public and municipalities in terms of access to monitoring information, information and ability to comment on future development of the site, and a complaints response process, if a facility is approved. Provision should be made for participant funding so that the affected communities can participate in the process in an informed and effective way.
- The lack of commitment to levels of diversion, the constrained nature of the North Russell Road site and the potential constraints to the Boundary Road site, the lack of detail in the work plans, reliance on EPA standards, and other concerns described above result in a TOR that would provide

very little, if any, “value added” from undertaking an individual EA for this project. I would recommend against approving a TOR that does not address these issues in a much more effective way.

## INTRODUCTION

On September 14, 2012 Taggart Miller – a joint venture formed by the Taggart Group of Companies and Miller Waste Systems Limited - submitted proposed Terms of Reference (TOR) for an Environmental Assessment (EA) study to the Ministry of the Environment (MOE) in relation to a proposed waste treatment and disposal facility to be known as the Capital Region Resource Recovery Centre (CRRRC). The document is not attributed to any consulting firm or team, however based on the materials it appears the proponents are working with Golder Associates, a full-service engineering and environmental firm, with consulting and communications support from Williamson Consulting Inc.

Regulation 101/07 under EA Act requires that a “landfilling site or dump” of the scale proposed by Taggart-Miller as part of the CRRRC be subject to an “individual” EA (i.e., it is too large to be subject to the more streamlined “screening process” provided for by the Regulation and is subject to the full requirements of the EA Act). The EA Act requires that an individual EA study be preceded by completion of a proposed TOR, in consultation with interested parties, to be approved by the Minister of the Environment before an EA study can commence. The TOR provides a framework for the completion of the EA.

The CRRRC is proposed to be constructed at one of two identified sites. A site located in Russell Township in the United Counties of Prescott & Russell (the North Russell Road site), was identified in the November 2010 Notice of Commencement for the TOR preparation process as the proposed location for the facility. During the course of preparing the TOR, a second site, located approximately 5-6 kilometres to the northwest of the North Russell Road site in the City of Ottawa (the Boundary Road Site), was introduced as an alternative site. The TOR describes how the two sites would be compared as part of the EA study, to decide which of them would become the preferred site for the facility. More detailed environmental assessment studies would be conducted for the preferred site.

On the same date that the proposed TOR was submitted, Steven Rowe Environmental Planner was retained by the Citizens Environmental Stewardship Association – East of Ottawa (CESA-EO) a/o “Dump the Dump Now Campaign”, to undertake a peer review of the EA planning aspects of the proposed TOR. The CESA-EO group formed around the proposal to use the North Russell Road site for the CRRRC, before the Boundary Road site was introduced. A second community group – “Dump This Dump 2”- has formed to oppose the Boundary Road site, but Steven Rowe’s retainer is with CESA-EO a/o “Dump the Dump Now Campaign”.

## PURPOSE

The primary purpose of this Peer Review is to provide independent environmental planning input and to contribute to a fully informed review of the TOR by the Ministry of the Environment, and, ultimately, the Decision of the Minister.

The Review is also intended to help the client group understand the overall context and implications of the TOR and other required approvals, from an environmental planning perspective.

## APPROACH

The EA planning peer review will examine the proposed TOR to evaluate whether they meet the requirements set out in the Act and in Ministry guidance, and that they provide the framework for an EA that will meet the Purpose of the EA Act, i.e.:

“...the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment.”

The author of the review, Steven Rowe MCIP, RPP has 30 years' experience in EA planning. This experience includes working as project planner on a peer review of an EA planning process in relation to a Waste Management Master Plan conducted by the former Regional Municipality of Ottawa-Carleton during the 1980s. My Curriculum Vitae may be found as Appendix 1 to this report.

While the EA planning peer review will address the environmental planning aspects of the EA, details requiring specialist technical expertise are included only where input from technical experts was provided.. CESA-EO has retained consultants to assist with hydrogeological and natural heritage issues, and their input is referenced where it is included in this Review.

For ease of reference this Review is structured around the proposed TOR, drawing from other TOR supporting documents, appendices, Regulations, Codes of Practice, Guidelines and other documentation as required. A bibliography of documents consulted in preparing this review may be found in Appendix 2. A brief description of the TOR and the proposed alternative sites may be found in the Executive Summary to the TOR.

## **THE PEER REVIEW**

### **ACRONYMS, UNITS AND GLOSSARY OF TERMS**

The Glossary would benefit from definitions of the terms “construction & demolition waste” “hazardous waste” “industrial, commercial & institutional waste”, “municipal solid waste”, “residential waste”, and “waste management site”.

Presumably buffer areas would be applied to other waste management components of the proposed facility, as well as the landfill, and the definition should be amended accordingly

It should be noted that the “Natural Environment” definition is derived from the EPA. The definitions should also include the EPA definition of an “adverse effect”.

### **1. INTRODUCTION**

No comments at this time.

### **2.0 THE ENVIRONMENTAL ASSESSMENT PROCESS (P. 4)**

#### **2.1 Ontario Environmental Assessment Act**

##### **Application of the EA Act to Components of the Proposed Facility**

Section 2.0, “Ontario Environmental Assessment Act”, refers to Regulation 101/07 as the instrument that brings the proposed landfill under the EA Act and subject to an individual EA process. It is stated that while the diversion components are subject only to the EPA and the Ontario Water Resources Act (OWRA), “Taggart-Miller have however elected to make the entire CRRRC (i.e. both the diversion and disposal components) subject to the EAA”.

The TOR should contain a clearer description of the mechanism by which the diversion components become subject to the EA Act. Prior to Regulation 101/07 proposals for individual private waste management facilities were brought under the Act by regulation. As noted by Taggart Miller, Regulation 101/07 applies only to landfills and incineration facilities, and not to diversion facilities. MOE’s EA website shows that in recent years, mining projects proposed by the private sector that otherwise would not have been subject to the EA Act have been brought under EA Act by formal agreement between the proponent and the MOE, as provided for by Section 3.0.1 of the Act. There does not appear to be any other provision for bringing private sector projects (or parts of projects) that are not already designated by Regulation under the EA Act.

For the sake of comparison, on September 14, 2012 (the same day as the submission of the Taggart Miller TOR) Waste Management (WM) submitted an EA for the West Carleton Environmental Centre (WCEC), proposed to be located in the City of Ottawa, formerly West Carleton Township. While the overall WCEC proposal includes both waste diversion and landfilling facilities, the EA covers the landfill component only. WM conducted a cumulative effects assessment of the preferred waste disposal facility subject to the EA plus the effects of the other waste management components, and other projects in the vicinity of the site. Although WM acknowledges that only the landfill component is subject to the EA Act, the Cumulative Effects evaluation is included as a section in the EA document.

There can be benefits to incorporating and considering the environmental effects of all of the facility components – landfill, organics processing and recovery /recycling - into the EA process. These benefits can include a comprehensive yet relatively simple approach that considers all potential effects of a single facility and the alternatives, and a degree of certainty of outcome (for example, it might be possible for the preferred sites for a landfill only and a more comprehensive facility to be different).

At the same time, there are other possible implications to incorporating EPA material in an EA and merging the EA and EPA processes.

Firstly, to the extent that there is ambiguity as to whether the non-landfill components of the facility are subject to the EA Act as noted above, questions can arise in the future as to whether commitments or conditions of EA approval relating to the non-landfill components are enforceable.

Second, if the non-landfill components of the facility are a step towards implementing an approved EA they would be exempt from any requirement to post these facilities on the Environmental Bill of Rights (EBR) Registry for public review, and associated rights to comment or seek leave to appeal (EBR Section 32). Also, a waste management site that is part of an undertaking subject to the EA Act is exempt from being subject to a discretionary hearing under Section 20.15 of the EPA (Regulation 206/97).

Thirdly, the EA Act and the EPA are different pieces of legislation and, from a planning perspective, they handle the issue of environmental effects differently. The EA process is a planning – related process. Subject to any scoping of the EA through TOR, all environmental effects and related mitigation related to a broad definition of the environment are to be described and addressed in arriving at and evaluating a preferred undertaking. The EPA, on the other hand, revolves around the prevention of “adverse effects”, as defined, using a narrower definition of the “natural environment”. Adverse effects are generally expressed through standards. It is possible for an environmental effect under the EA Act to be

present, even if it does not exceed an EPA standard. Also there are areas where environmental effects should be identified under the EA for which there are no EPA standards, such as for construction. While EPA standards can assist in deciding how environmental effects are to be assessed under the EA Act, they are not definitive from an EA perspective. The CRRRC TOR and related documents contain instances where the EA and EPA requirements appear to be being blended to the extent that the full range of environmental effects may not be assessed to the extent indicated under the EA Act, and these instances are identified as part of this Review.

Overall, it may have been preferable if Taggart-Miller had utilized an approach that allowed the environmental effects of the landfill and the other components to be considered together in considering overall effects and alternatives, but that placed the landfill on an EA approval track, followed by EPA/OWRA approval track for the entire facility. While this approach would retain EBR and EPA appeal provisions it has the disadvantage of being relatively more complex than a more integrated process. Also it would likely result in a lower level of detail of information in the EA documentation, and less public access to the more detailed EPA/OWRA information.

If Taggart-Miller are to proceed along their current course it may be preferable for some formal designation or agreement to be undertaken to make it clear that the entire project, if approved, would comprise an undertaking under the EA Act.

### **Policy Considerations**

The TOR should include a fuller explanation of the relationship between provincial and local planning policy, as found in the Provincial Policy Statement (PPS 2005) and in municipal official plans and zoning by-laws, and the EA process. While policy documents are sometimes referenced as source documents in the Work Plans, the TOR contains little explanation of the way they might define or constrain alternatives, for example.

The relationship between the EA Act and the PPS can be ambiguous, but agencies and decision makers must be “consistent with” the PPS when providing advice or making decisions under the Planning Act. The TOR indicate that Planning Act applications would be required for either of the alternative sites but would not be submitted until after approval of an EA. Because provincial policy would be applicable to these Planning Act applications, the provincial policy framework should be given full consideration when undertaking the EA. Relevant sections of the PPS would include the definitions of a “waste management system” and “infrastructure” versus “development” or “land alteration”, the policies relating to infrastructure and waste management systems in Section 1.6, the policy relating to major facilities in Section 1.7.1 (e), the policies relating to natural heritage and water in Sections 2.1 and 2.2, the mineral aggregate resources policies in Section 2.5 (for the North Russell Road site), and the implementation policies in Section 4.0.

The provincial government recently released a new draft PPS as part of its process to review the 2005 PPS, and it is possible that new requirements will be in place by the time Taggart-Miller would be in a position to submit applications under the Planning Act.

#### **2.4 Terms of Reference Submission Statement (How the Environmental Assessment Will be Prepared)**

The TOR proposes that the EA will be prepared in accordance with Sections 6(2)(c) and 6.1(3) of the EA Act, i.e. the proposed TOR would “set out in detail the requirements for the preparation of the EA”. These Sections provide for a “scoped” or “focused” EA, i.e. in this case one that would not encompass all of the elements envisaged for an EA prepared under Section 6(2)(a) and Section 6.1(2). Section 6.1(2) of the Act sets out the “generic elements” that have to be addressed in an unscoped EA, comprising the following:

- (a) a description of the purpose of the undertaking;*
- (b) a description of and a statement of the rationale for,*
  - (i) the undertaking,*
  - (ii) the alternative methods of carrying out the undertaking, and*
  - (iii) the alternatives to the undertaking;*
- (c) a description of,*
  - (i) the environment that will be affected or that might reasonably be expected to be affected, directly or indirectly,*
  - (ii) the effects that will be caused or that might reasonably be expected to be caused to the environment, and*
  - (iii) the actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment,*  
*by the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking;*
- (d) an evaluation of the advantages and disadvantages to the environment of the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking; and*
- (e) a description of any consultation about the undertaking by the proponent and the results of the consultation.*

At the same time, the MOE “Code of Practice: Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario states in Section 4.2.5 that:

“The elements of the environmental assessment that is prepared under Section 6.1(3) should not differ drastically from the generic elements outlined in Section 6.1(2), and the proponent must be clear in the terms of reference about what will be different”.

It is indicated in the TOR that the analysis of the opportunity and the assessment of Alternatives to the Undertaking is provided in Supporting Document #1. This evaluation arrived at the conclusion that “Alternative 3 - establish diversion facilities on a Taggart Miller Site and manage residuals disposal by means of a new landfill on the same site” was identified as the preferred alternative. Throughout the TOR the diversion and recycling aspects of the proposal are treated as primary, and the disposal component as secondary,

By establishing this preferred alternative to the undertaking in the TOR, and if the TOR is approved as written, the determination of the preferred alternative “to” (i.e. the proposed system and the two alternative sites) is no longer open for consideration and cannot be revisited in the EA. This is not to say that the details of the preferred alternative “to” have been fully provided. The scale and diversion rates to be achieved by each of the diversion components and the capacity of the disposal facility have not been established. Indeed, there is no stated commitment to maximize diversion in any of the waste sectors, nor is there any commitment to develop and implement targets for diversion in each sector. The proposed undertaking is limited by what Taggart- Miller feels it is qualified to do, and there is no mention of seeking further opportunities for diversion (e.g. electricity generation from thermal treatment of woodwaste) in association with other partners. The proposed organics treatment facility and possible gas-fired electricity generation is essentially conceptual at this time, and leachate treatment options are still open for consideration.

In my view the proponent has not provided sufficient information to justify its proposed waste management facilities in terms of need, the extent to which need would be met by the proposal, or the details of what is proposed, sufficient for them to be “cast in stone” through the TOR in an EA prepared under 6(2)(c) and 6.1(3) of the EA Act.

## **2.5 Flexibility of Terms of Reference**

This Section states that although the TOR is intended to set out in detail the requirements for preparing the EA it cannot present every detail in every aspect of the proposed EA. Variations such as minor changes in methodology or alteration in the level of detail in the studies may be greater or less than previously anticipated due to the content and quality of data available from data sources. Also, modifications can be made to the proposed public consultation program. Minor modifications require consultation with MOE.

This section should include a commitment to identify minor modifications as part of the consultation process so that they will be included in consultation materials for comment.

The proposed EA process is presented in this TOR in a form that often provides wide latitude for interpretation. For example, while mention is made of adjusting the extent of study areas beyond 500m in the Work Plans, the considerations for making such adjustments are not described and the decision is discretionary on the part of the proponent. Where commitments are not made specific, the best or even good practice cannot necessarily be enforced. Where more specific descriptions of requirements appear warranted, these opportunities will be raised or referenced through this Review, but these are limited by the scope of expertise available for this review and other opportunities could be identified based on more detailed technical examination of the proposed TOR.

### 3.0 PURPOSE OF THE UNDERTAKING (P. 7)

The purpose of the undertaking is stated to be:

To provide facilities and capacity for recovery of resources and diversion of materials from disposal for wastes that are generated by the Industrial, Commercial and Institutional (IC&I) and Construction and Demolition (C&D) sectors in Ottawa and eastern Ontario. It would also provide landfill disposal capacity on the same site for post-diversion residuals and materials that are not diverted.

As noted with reference to Section 2.4, the proponent has identified recovery and diversion as the primary element in the Purpose of the Undertaking, and disposal as secondary.

### 4.0 RATIONALE FOR AND DESCRIPTION OF THE UNDERTAKING (p. 9)

This Section summarizes an evaluation presented in Supporting Document #1 that traces Taggart-Miller's decision-making process in arriving at its preferred alternative to the undertaking. It identifies provincial and municipal policy in favour of recycling, the capacity of existing and proposed facilities, a lack of capacity for diversion in the proposed service area, anticipated growth in the volume of materials to be managed, and the potential role of Taggart-Miller in meeting these needs.

The description of the proposed undertaking emphasizes providing facilities and capacity for recovery of resources and diversion of materials from disposal, and, again, providing landfill disposal capacity is treated as a secondary aspect.

Taggart Miller point out that there is no regulation requiring diversion of IC&I, C&D wastes and surplus soils, but that they are prepared to put diversion and recycling capacity in place in anticipation of such regulation.

Growth projections are based on a simple population projection in the growth area. A number of the factors affecting future capacity such as the current practice of soil disposal as part of “normal farm practices” in rural areas and reductions in off-site disposal of contaminated soils through the use of risk management under the Brownfields provisions of the EPA are not identified.

The supporting information includes charts showing a constant rate of diversion and recycling, and changing levels of projected disposal capacity over time, with and without approval of the proposed West Carleton Environmental Centre, discussed above. Figures 4.2.-1 and 4.2-2 show that if the WCEC is approved, the unmet residual disposal capacity requirement will be significantly lower than if the WCEC site is not approved. The charts do not show any increase in diversion and recycling that would presumably occur with the implementation of the non-disposal components of the WCEC proposal. Staff at the City of Ottawa have raised similar and other concerns regarding Taggart-Miller’s waste projections in their comments on the TOR.

Section 1.6.8.1 of the 2005 Provincial Policy Statement requires that:

“Waste management systems need to be provided that are of an appropriate size and type to accommodate present and future requirements, and facilitate, encourage and promote reduction, reuse and recycling initiatives”

While the overall expressed intent for the proposed CRRRC facility seems to be to address this policy requirement, it appears that the proposed disposal component would generate surplus disposal capacity over the short term if the WCEC proposal is implemented, and as noted above Taggart-Miller has made no commitment to maximize diversion or to make commitments as to the capacity and diversion rates that would be achieved in each waste sector. It is stated that “it should be possible to achieve 30 to 40% diversion of the incoming IC&I and C&D waste stream” (p. 21), but there is no firm commitment to this. The environmental effects and advantages and disadvantages of reclamation and recycling are not described as would have been required if the EA was to be prepared under Section 6(2)(a) of the EA Act (i.e. an “unscoped” EA). Therefore, while recovery and diversion are cited as the primary purpose of the undertaking there are no guarantees as to the extent to which this will be achieved, its timing, or the benefits that would accrue from these components. The TOR should include much firmer commitments – or requirements to make commitments in the EA - in this area if the proposed “alternative to” is to form a firm basis for the TOR. This point is also made by staff of the City of Ottawa in their October 2012 response to the TOR.

The rationale does not provide a clear explanation of why a private company such as Taggart – Miller would be unable to provide a fuller rationale for the proposed landfill capacity in terms of actual commitments to diversion and recycling. Without such an explanation – or a full rationale that includes commitments or a process to develop commitments – Sections 6(2)(c) and 6(1)3 of the Act should not be used to scope the EA in the manner proposed.

## 5.0 ASSESSMENT OF ALTERNATIVES TO THE UNDERTAKING

This section of the TOR describes the identification of a “suitable property” for the proposed undertaking, the subsequent addition of the Boundary Road site, and the process of identifying alternative ways to address the diversion and disposal opportunity identified in Section 4. Whereas most EAs that deal with siting (and the MOE Codes of Practice for TORs and EAs) deal with sites as “alternative methods” in terms of the EA Act, this TOR deals with alternative sites as “alternatives to”.

### **Requirements for a Potentially Suitable Property and Identification of the North Russell Road Site (p.15)**

The requirements described for a potentially suitable property were developed by Taggart-Miller prior to any public consultation. There is no indication of the steps taken by Taggart-Miller to identify potential sites in the Ottawa area.

The first requirement is that the property should be of “sufficient size (at least 400 acres) and be relatively square/rectangular in shape”. No rationale is given for this preferred size. It would have been greatly preferable if Taggart-Miller had provided a more detailed rationale for this choice in the TOR. This could have included a conceptual plan showing the land requirements and a notional layout of the components proposed, as well as intended on-site buffering.

The former Hanson Brick quarry and adjacent lands that form the North Russell Road site were initially selected as meeting these criteria. According to the TOR the site comprises 476 acres (192.6 ha), but Figure 1-1 shows that approximately 20% or 95 acres (34 ha) of this area forms a narrow strip extending to the north east, separated from the main body of the site by Eadie Road. This leaves the main, “square/rectangular” part of the site with less than the specified 400 acres (roughly 380 acres). Also, a good portion of the main body of the site is occupied by the Hanson Brick pit excavation. Based on this information, the site does not meet Taggart Miller’s criteria and hardly seems an ideal candidate in terms of its size and configuration. Assuming 400 acres is warranted as a “minimum” size, the limited size of the North Russell Road site could constrain the development of site development concepts and provision of appropriate buffering against off- site sensitive uses.

Secondly, the site is to have “no material land use constraints”.

According to the existing environment description in Section 7 of the TOR, the North Russell Road site is surrounded by approximately 30 residences located within 500 metres. These are considered sensitive uses that would potentially require buffering from the types of land uses proposed for the site. While not enough detail is provided to demonstrate whether a facility can be built and operated within regulatory requirements in proximity to these sensitive uses, the sensitive uses can at least be regarded as a design constraint that could potentially affect the layout of waste management components.

The site is identified in Section 7 of the TOR as having Class 2 and possibly Class 1 agricultural land, and there are policy requirements to be met if this land is to be displaced. Also, according to the TOR, part of the site includes an aggregate resource and is subject to a licence under the Aggregate Resources Act. Therefore, a number of policy hurdles must be cleared before a waste disposal use could be approved on these lands.

Based on this preliminary information the site does appear to be constrained from a land use perspective.

The third Taggart-Miller criterion is that “the property should be fairly close to a 400-series highway to provide an access route, and should also be sited so that a minimal amount of site-related traffic from having to travel through urban or village centres”.

The site is several kilometres from Highway 400 and any ultimately selected haul route would likely affect a number of rural residences.

Finally, the property “should be in reasonable proximity to the centre of waste generation in the Capital Region”. The proposed TOR does not identify where that centre is, or what would constitute a “reasonable” distance.

Overall, the North Russell Road site appears to be significantly constrained in terms of meeting Taggart-Miller’s own siting criteria. Despite this, the brickworks site and additional lands were ultimately acquired and the Taggart Group and Miller Waste Systems formed their joint venture to evaluate and pursue the identified business opportunity.

### **Public Reaction to the North Russell Road Site and the identification of the Boundary Road Site (page 15)**

The TOR indicate that through consultation after the announcement of the project in November 2010, members of the public in Russell Township including the “Dump the Dump Now” group expressed the view that Taggart Miller should be

considering a site closer to major transportation routes, with fewer immediate neighbours, and within the City of Ottawa.

Taggart Miller was able to identify the Boundary Road site as an alternative. This site appears less constrained than the North Russell Road site in terms of Taggart Miller's criteria, i.e. size and shape, land use, proximity to Highway 417, and haul routes. The TOR describes the decision to seek an alternative site as a response to public input, which would be a good EA planning response. It is also true, however, that MOE had identified significant concerns with the hydrogeological characteristics of the Queenston Shale underlying the North Russell Road site such that in a letter dated March 2, 2012 the Ministry stated:

“This type of hydrogeological setting is classified as environmentally sensitive and it is my experience that such a setting would be challenging to site a new “green field” landfill from a hydrogeological perspective. The reasons for this is that it is typically difficult to characterize and adequately monitor all potential contaminant pathways in the subsurface in fractured bedrock environments due to the complex fracture networks that can exist. Practicable contingency measures are also typically challenging to implement in a fractured bedrock environment.”

Indeed, as later described in the TOR, Taggart Miller intends to proceed with hydrogeological investigations ahead of other work if the North Russell Road site is selected as preferred, to confirm that MOE requirements can be met.

The Ministry of Agriculture, Food and Rural Affairs also indicated in a comment dated February 10, 2012 that alternative sites to the North Russell Road site should be examined to meet PPS requirements regarding the Agricultural Resource Policy Area.

For the Boundary Road site, The TOR identifies a potential constraint in the form of soft underlying clays. It is unclear whether these geotechnical conditions represent an actual constraint (financial or risk-wise) to the development of the site, either by themselves or in combination with seismic conditions in the general area. The conditions are not included among the criteria for the comparison of the two sites, and Taggart-Miller is not intending to hold back the rest of its process to investigate this issue further if the site is identified as preferred, as it would do for hydrogeology on the North Russell Road site.

The site also has a high water table, which could possibly impede site operations (by itself and in conjunction with the soft clays), however this possible constraint is also not included in the proposed criteria for the site comparison.

## **Alternative Ways to Address the Diversion and Disposal Opportunity (p. 16)**

Taggart-Miller compared five alternatives to address the diversion and disposal opportunity, ranging from “do nothing”, through various combinations of diversion and disposal facilities on this and other sites, to management of residuals by thermal conversion. As noted earlier, the management of woodwaste by thermal conversion and potential generation of electricity by Taggart-Miller or some other entity was not addressed. The alternatives were evaluated against criteria comprising whether the alternative realistically addresses the identified opportunity, whether the alternative is financially realistic and viable for Taggart-Miller, and whether the alternative is within the ability of Taggart – Miller to implement. Through this process, Taggart – Miller selected alternative 3, which involves establishing diversion facilities on a Taggart-Miller Site and management of residuals disposal by means of a landfill on the same site.

The advantages and disadvantages of the alternatives are considered against the above criteria. While the term “advantages and disadvantages” usually relates to environmental effects in EA, these are advantages and disadvantages in terms of Taggart Miller’s operational needs. While some references are made to environmental footprints and haul routes these are not explicit considerations in the evaluation criteria, and do not represent a comprehensive consideration of advantages and disadvantages to the environment, as would be required if this was an unscoped EA under Section 6(2)(a) of the EA Act.

Assuming that the description in the TOR follows a chronological thread, it is interesting that Taggart-Miller considered these alternatives only after it had decided on a minimum 400-acre size for its site, since the actual land requirement would depend to some degree on the alternative selected.

### **5.1 Conceptual Description of the Undertaking (p. 21)**

This section of the TOR states again that the primary focus of the proposed CRRRC is diversion of industrial commercial and institutional and construction and demolition wastes from disposal through recycling and other processes. It discusses potential diversion rates, indicating that 30 to 40% of this stream could be diverted over time as an assumption in developing the landfill airspace requirement of 8 to 12 million cubic metres, “for which EA approval is ultimately sought”. Again there are no actual commitments to recycling rates, capacities and timing, and there is no statement that such commitments would arise out of the EA. If no recycling or diversion occurred at the site, based on Taggart-Miller’s calculations the proposed landfill would still have sufficient capacity to last roughly 18-21 years.

The proposal would have more credibility if more information had been provided (or was promised in the EA), for example the timing and capacity of the various

components under various scenarios, including the rate of diversion that would take place in each sector in the absence of further government regulation. Even a commitment to dedicate a proportion of collection/tipping fees to recycling investment and operations would go some way towards confirming goodwill.

## 6.0 CONCEPTUAL DESCRIPTION OF PROPOSED CRRRC DIVERSION FACILITIES (p. 22)

This section of the TOR includes further discussion of the factors affecting waste diversion and a description of each of the proposed components of the facility.

The TOR states that the facilities will be scalable and that their capacity will be increased over time. Considerations such as the limited current level of source separation in Ottawa, the need to develop local markets and the quality of recovered material are considered important factors in considering what diversion can be achieved. Again, there is no commitment to providing further clarity in these areas as part of the EA, or to developing mechanisms to ensure that commitments are feasible and enforceable within reasonable limits.

The diversion facilities/operations proposed for the CRRRC at this time comprise:

- Material Recovery Facility (MRF);
- C&D Recycling;
- Organics Processing (with possible electricity generation from methane gas);
- Hydrocarbon contaminated soil treatment;
- Surplus soil management;
- Drop off for separated materials or for separation of materials; and
- Leaf and yard materials composting (if there is enough material available)

It is unclear whether the methane gas generated by the organics processing facility could be combined with gas generated by the landfill for generation of electricity. At present, generation of electricity from landfill or organics treatment gas for connection to the grid requires a Renewable Energy Approval under the Environmental Protection Act. Anaerobic digestion facilities including electricity generation in Ontario appear so far to be limited to agricultural situations, and not IC&I waste as part of a waste management site.

Organic treatment facilities can be prone to odour concerns, and there is no indication of whether a facility at this scale, without complete containment of potential odours, would constitute proven technology. The City of Ottawa recently passed a bylaw establishing setbacks between organic treatment facilities and sensitive uses. An effort should be made to ensure that the comparison of the two alternative sites is undertaken on an equal basis despite this requirement that could apply to just one of the sites.

The “straightforward biotreatment approach” for hydrocarbon contaminated soils, together with any potential environmental effects, should be more fully explained.

If the North Russell Road site were to be selected as preferred, the project would include filling of the quarry excavation with excess soil resulting from blasting and excavations elsewhere on the site.

For all of these facilities, some indication should have been given of potential setback and buffering requirements to sensitive uses.

## **7.0 EXISTING ENVIRONMENTAL CONDITIONS (P. 26)**

This section of the TOR provides an overview of existing environmental conditions for the North Russell Road site and the Boundary Road site.

### **7.1 North Russell Road Site (p. 26)**

The geology and hydrogeology environment description for the North Russell Road Site indicates that it comprises Queenston shale, overlain by glacial till soil. It identifies a north-south oriented buried esker to the east of the site. The esker is comprised of permeable material and it comprises an aquifer that serves municipal wells. The water table level is not identified. Individual rural residences including the approximately 30 homes reportedly located within 500 metres of the site would be dependent on private wells.

The biology environment description identifies the need to identify species at risk as part of the EA. A “bioblitz” survey conducted in August and September 2011 by naturalists and other scientists at the site for “Dump the Dump Now” identified Bobolink (a bird), and Butternut (a tree), both considered endangered species under the Endangered Species Act. If these findings are confirmed, measures may be required to protect or enhance these species and/or their habitat.

The description recognizes the shale resource on the site but not the policies that need to be addressed in relation to the resource and the quarry licence.

### **7.2 Boundary Road Site (p. 30)**

The geology and hydrogeology description notes the presence of soft clay overlain by discontinuous sand on this site but does not identify the soft clay as a constraint to development of a landfill site or the other proposed uses. The site has a lack of effective drainage and the water table is at, near or above the ground surface throughout much of the year. While a high water table (together with soft clay) could comprise a constraint in terms of site operations, this is not mentioned in the description. Groundwater quality in the vicinity of the site is stated to be poor, with methane gas reported.

The level of detail of available information on the geological and hydrogeology of the site is unclear. It is noted in the “Frequently Asked Questions” (Volume 2, Appendix D) that eight boreholes have been drilled at the North Russell Road Site but equivalent information is not provided for the Boundary Road Site. When the sites are compared this should be done at an equivalent (and appropriate) level of detail.

## 8.0 ENVIRONMENTAL ASSESSMENT METHODOLOGY (P. 34)

This section is stated to provide an overview of the proposed approach to the EA. It includes a flow chart and makes reference to work plans provided in Appendix C for each discipline.

Comments solicited from the government review team and the public on the draft work plans for the North Russell Road site before the Boundary Road site was identified were considered applicable in revising the proposed EA methodology and preparing the proposed work plans. While it is appropriate to make use of this information, further information should have been provided to indicate features of the Boundary Road Site that may not have been adequately covered in the previous consultation, and whether consultation following the notification of the second site is reflected in the methodology and work plans.

The introduction to this Section also notes that contemplated activities to complete the EPA and OWRA documentation are also outlined, but that these applications will only be submitted after an EA approval is received.

### **8.1 Comparative Evaluation of Alternative Sites and Identification of Preferred Site**

It is stated that the identification of the preferred site will be done based on a comparison of information about each of the two alternative sites available from published information and from preliminary investigations/assessment on or in the vicinity of each of the sites.

One assessment criterion would be used to evaluate each environmental component. Additional details are provided in the components, criteria, indicators and data sources presented in Appendix A and the Work Plans in Appendix C, for each discipline. Appendices A and C form part of the TOR (i.e. they are part of the documentation to be approved, and are not supplementary or supporting documentation to the TOR).

It should be noted that this comparison would take place without benefit of a conceptual development plan for each site that would indicate such features as the location of site entrances and site components, and mitigation measures such as separation distances and berms. By its nature, therefore, the comparison

would be very generic and any assumptions applied in the comparison may change once a final development concept has been prepared.

Also the Work Plans do not explain the mechanism by which preferences for each criterion will be determined, and how these will be combined to arrive at an overall preference. For example, for the “atmosphere” criterion, assumptions regarding components, mitigation and buffering could be explained. The team could evaluate the degree of preference for noise, odour and dust, with some form of scoring or descriptive statement (e.g. high, medium, low) for each component and overall. The scoring/ descriptive statements would be comparable across the criteria evaluations so that a traceable final comparison can be conducted, taking public input into consideration.

Table 1 below comprises the components and criteria provided on page 36 of the TOR, followed by specific comments on Appendices A and C related to each criterion.

**Table 1: Review of Criteria and Work Plans for Evaluation of Alternative Sites**

Component	Assessment Criteria	Peer Review Comments: Appendix A Criteria	Peer Review Comments: Appendix C Work Plans
Atmosphere	Which site is preferred regarding potential effects due to air quality and noise?	Future land uses should also be considered. The actual scale, characteristics, final design, and locations of the emission-producing site components in relation to other land uses would not be known for this comparison.	Noise along haul routes should be taken into consideration
Geology, Hydrogeology & Geotechnical  (With input from Wilf Ruland, hydrogeologist. Additional comments on hydrogeology and water resources are provided in the review conducted by Wilf Ruland on behalf of CESA-EO)	Which site is preferred for protection of groundwater?	The criterion should specify both groundwater quality and quantity.  The criterion and Appendix A indicators relate only to groundwater, whereas geotechnical conditions could also potentially form a constraint.	It is unclear whether the sites would be compared based on an equivalent/ comparable level of detail, (e.g. number of boreholes, depth of analysis) Suggest a separate criterion or indicator for geotechnical/seismic considerations A 500m study area may not be sufficient to capture regional hydrogeologic considerations
Surface Water	Which site is preferred for protection of surface water quality?	Surface water quantity should also be a consideration. It is not clear how the Appendix A indicators reflect actual potential impact on surface water quality following mitigation.	
Biology (with input from K. Konze, Senior	Which site is preferred for protection of	A 500m study area may not be sufficient to capture the effects of complete displacement of on-site biological systems and landscape level	If only a portion of the description of the environment is to be utilized for the site comparison, the question arises as to how much

Component	Assessment Criteria	Peer Review Comments: Appendix A Criteria	Peer Review Comments: Appendix C Work Plans
Wildlife Ecologist, Dougan & Associates, and Wilf Ruland, hydrogeologist)	terrestrial and aquatic biological systems?	<p>effects. The indicators should also include impacts on nearby areas of natural heritage significance. It is unclear whether the indicators identified - in particular species at risk - can be identified using only preliminary field surveys. The indicators should include Significant Woodlands, Significant Wildlife Habitat, and Significant Valley lands (if applicable).</p> <p>The reader should be referred to Appendix "C" for further details.</p>	<p>and what would be included, and whether the level of detail would be similar for both sites. Comments below apply to the entire site evaluation. The quarry lake should be included in all and any aquatic surveys and evaluations including consideration of reptiles and amphibians, fish and fish habitat, water-dependent mammals and birds, and other aquatic biota.</p> <p>Evaluation should be guided by policy considerations (e.g. PPS, Natural Heritage Reference Manual) Page 2: Should follow up with MNR staff to ensure no local data is available that has not been integrated into the NHIC database. Page 2: The Ontario Odonate Atlas should be added to the list of databases queried Page 4: "rare" should be clarified as S1 to S3 species. Individual rare plants should be included. Page 4: Birds should be listed to include Eastern Whip-poor will, Chimney Swift, Barn Swallow, Bobolink, Henslow's Sparrow and Eastern Meadowlark Page 4: Significant wildlife habitat should also be surveyed and assessed, and the approach to this should be described. Page 4: in addition to the ELC of the site, adjacent lands should also be described (at a coarser scale) Page 4: Local and regional conservation lists should be referenced, as well as provincial and national Page 4: Two breeding raptor surveys should be undertaken, to increase confidence in the results. Page 5: At least two breeding owl surveys should</p>

Component	Assessment Criteria	Peer Review Comments: Appendix A Criteria	Peer Review Comments: Appendix C Work Plans
			<p>be undertaken, to increase confidence in the results</p> <p>Page 5: It is not possible to survey either of the entire sites in a single morning. Survey stations should be situated approximately 250 metres way from each other, therefore four breeding bird surveys will be necessary for the North Russell Road sites, two for the first round and two in the second. Surveys should be conducted during the first 3 weeks of June, and survey work should not extend past 9.00 am.</p> <p>Page 5: Although Chimney Swifts fly at dusk, they are not nocturnal.</p> <p>MNR has more specific guidelines regarding Eastern Whip-poor-wills. 2 surveys should be conducted – if only one it should be during the first survey window.</p> <p>P. 5, Mammal surveys and deer yard usage: Why would the survey take place between April and October? How would tracks we detected during this period? How many infrared cameras will be deployed? How will this be determined? How will it be decided where they will go? More detailed commentary should be provided that rationalizes the methodology.</p> <p>p.5 Amphibian Surveys: According to the Marsh Monitoring Program protocol, three surveys are conducted. A good reason should be provided if only two surveys are recommended. Either way, it should be confirmed now how many surveys will be completed.</p> <p>Given the small size of the site, the time spent at each survey location could reasonably be doubled to 6 minutes. This would better ensure that no</p>

Component	Assessment Criteria	Peer Review Comments: Appendix A Criteria	Peer Review Comments: Appendix C Work Plans
			<p>species present were missed.</p> <p>p.5 Reptile Surveys: More than one survey should be conducted. A more explicit commitment must be made to ensure that the survey is conducted at the most appropriate time of year and weather conditions as emerging snakes can disperse away from hibernacula sites quickly. The surveyor has to be flexible to conduct the survey following the first couple of days of noticeably sunny and warm weather in spring. Timing is critical. This is another reason why additional surveys would help.</p> <p>Suggest setting cover boards out on site to check for snakes. This technique does help increase the chance of documenting any snakes present and increase the level of confidence in the survey results. It also helps document small mammals that might otherwise go undetected. MNR can provide guidance with respect to where they should be placed. Of course, repeated visits will be necessary over the course of the summer months to adequately document potential presence.</p> <p>In the Guelph District MNR staff are requesting proponents receive permits to even place cover boards out. This should be investigated to ensure adequate time is given to get the permits prior to deployment. Spotting scopes rather than binoculars should be used for reptile surveys.</p> <p>Page 6: Butterfly and Dragonfly Surveys: It is assumed that dragonfly surveys include dragonflies and damselflies. Confirmation requested.</p> <p>Will the butterfly and odonate surveys take place concurrently? If insufficient time is available this is</p>

Component	Assessment Criteria	Peer Review Comments: Appendix A Criteria	Peer Review Comments: Appendix C Work Plans
			<p>OK. However, it is my experience that catching odonates takes considerable time. Surveys should not start any earlier than 9:00, especially if conditions are cool. Dragonflies can take a little while to become active.</p> <p>It is very important that the dates selected are entirely sunny and warm. Both groups are notorious for not flying when conditions are cloudy. The dates should also be selected in such a way that they maximize the number of species documented over the course of the summer. Although assumed, it is important that the surveyor is appropriately trained to identify all species encountered. The credentials of the surveyor should be made available to demonstrate competence.</p> <p>A permit will be necessary to catch any odonates. Page 6, Terrestrial Results Data Summary: It should also include local and or regional conservation status. For birds, it should make reference to the list prepared by Ontario Partners in Flight for Bird Conservation Region (BCR) 13, the Lower Great Lakes-St. Lawrence</p> <p>For the results of the survey work conducted at the North Russell Road site to be comparable with the Boundary Road site, the same methodology MUST be employed.</p> <p>Potential effects along haul routes (e.g. wildlife kills, potential widenings etc) as well as on sites should be taken into consideration.</p> <p>Local knowledge should be taken into</p>

Component	Assessment Criteria	Peer Review Comments: Appendix A Criteria	Peer Review Comments: Appendix C Work Plans
Land Use & Socioeconomic	Which site is more compatible with current and proposed planned future land uses in the Site-vicinity?	This criterion overlaps with other criteria, especially atmosphere and traffic. This overlap should be recognized in the comparison to prevent double – counting. The PPS, municipal official plans and zoning by-laws should form the basis of a comparative policy and regulation review in addition to identifying certain and probable land uses. Relative proximity of sensitive land uses should be a consideration. Potential effects on mineral aggregate resources should be included as a comparative criterion to ensure consideration of the shale resource on the North Russell Road site and its policy implications.	consideration. The MOE D-1 and D-6 guidelines (land use compatibility and compatibility between industrial facilities and sensitive land uses) should be considered as well as D-4 (Landfills and Dumps) to capture non-landfill components Rationale for any consideration of previous use of the North Russell Road site as a quarry should be fully explained.  Extent of study area adjacent to haul routes should be explained.
Culture & Heritage Resources	Which site is preferred for the protection of archaeological and heritage resources, and cultural heritage landscapes?		The evaluation should be undertaken at a comparable/equivalent level of detail for each site
Agriculture	Which site is preferred regarding potential for effects on agriculture?		The evaluation should be undertaken at a comparable/equivalent level of detail for each site, and should address relevant policy.
Design and Operations	Which site is preferred regarding the anticipated amount of engineering required to assure	This criterion appears to fall within the Geology, Hydrogeology & Geotechnical criterion. The TOR should provide a fuller explanation of Regulation 232/98, the Landfill Standards and the concept of site specific and generic design options as they might apply to these sites.	Suggest considering as part of the hydrogeology/geology criterion  The soft clays and high water table at the Boundary Road site would likely be a legitimate consideration in the site comparison.

Component	Assessment Criteria	Peer Review Comments: Appendix A Criteria	Peer Review Comments: Appendix C Work Plans
	MOE groundwater quality criteria are met at the property boundary?	The actual location and volume of the landfill footprint would not be known at the time of the comparison.	
Traffic	Which site is preferred regarding potential effects from Site-related truck traffic?	The selection of the preferred site precedes the selection of a preferred haul route for the North Russell Road site, traffic impacts considered here will be generic (or a range of potential impacts could be identified).	Noise from trucks should be considered under this or the land use or atmospheric criterion. The extent of the study area around the haul routes should be defined. Rationale for any consideration of previous use of the North Russell Road site as a quarry should be fully explained.

The Work Plans should be clearer in identifying local public knowledge as inputs to each evaluation.

Overall the proponent has chosen to utilize a low level of detail in terms of both information and the sources of environmental effects (site design) to undertake the comparison. This may be justified if there are obvious, wide differences between the sites that cannot be bridged under other criteria, but if this is the case a rationale should be provided.

## **8.2 EA and EPA Assessment of the Preferred Site for the CRCC**

Taggart-Miller propose to undertake the remaining steps of the assessment in three phases:

Phase 1 – EA:

- Task 1 – Complete Assessment of Existing Environment;
- Task 2 – Identify Preferred Site Development Concept
- Task 3 – Assess Environmental Effects of Preferred Site Development Concept;
- Task 4 – Assessment of Alternative Haul Routes and Identify Preferred Route;
- Task 5 – Evaluate Leachate Management Options and Identify Preferred Option; and
- Task 6 – Cumulative Impact Assessment.

Phase 2 – EPA/OWRA:

- Task 7 – Complete EPA/OWRA Level Activities for Proposed CRRRC.

Phase 3 – Documentation and Submission:

- Task 8 – Finalize and Submit EAA/EPA/OWRA Documentation and Applications.

The following comments are provided in relation to the scope of the evaluation as it affects EA planning considerations:

### **Task 1 – Complete Assessment of Existing Environment;**

- The geology, hydrogeology and geotechnical evaluation of either site includes site stability, faulting and seismic considerations, but these do not appear as evaluation criteria. If the feasibility or suitability of a site can depend on these factors they should form part of the evaluation criteria. The review conducted by Wilf Ruland, hydrogeologist and forming part of the CESA-EO submission provides further comments on hydrogeology and water resources.
- The comments provided in Table 1 of this Review apply to this evaluation where relevant.

- There is potential for the presence of species at risk or their habitat to result in exclusion of land from development.

### **Task 2 – Identify Preferred Site Development Concept**

- This should be a traceable comparison with scoring or descriptions of impacts under each of the criteria, and descriptions of the way the site design was optimized in relation to the potential effects of individual elements of the facility on off- site sensitive uses.
- Taggart-Miller indicates that only additional mitigation measures required to meet provincial standards will be applied. In an EA, the proponent should be open to going beyond EPA standards in mitigating potential effects, in response to public concerns.

### **Task 3 – Assess Environmental Effects of Preferred Site Development Concept**

- The evaluation should include temporal considerations, i.e. establishment, construction, operation and retirement of the facility. Section 4.2.5 of the “MOE Code of Practice for Preparing and Reviewing Environmental Assessments in Ontario” confirms that these aspects form part of the undertaking.
- All environmental effects should be identified and considered in evaluating significance under the EA, whether or not they are subject to EPA standards. In addition to landfill operations these would include, for example, truck noise on haul routes, construction noise (e.g. construction of berms), and noise from safety equipment (e.g. backup beepers).
- The method for establishing the significance of environmental effects should be clearly identified, e.g. magnitude, geographic extent, duration, frequency, irreversibility, ecological context.
- There is a possibility that an evaluation of the potential to displace the shale resource on the North Russell Road Site may not meet policy requirements, and that this and the existing licence under the Aggregate Resources Act will impede development.
- EPA applications may relate only to the first phase of certain components of the proposed CRRRC facility. The EA assessment (if it is undertaken for the entire facility) should identify and assess the impacts of full build-out.
- The review conducted by Wilf Ruland and forming part of the CESA-EO submission provides further comments on hydrogeology and water resources.

### **Task 4 – Assessment of Alternative Haul Routes and Identify Preferred Route**

- The criteria in Appendix B-1 are very limited in scope. The assessment should include a noise study to identify the acoustical impacts of truck movements at the site entrance and along the alternative haul routes, and effects on individual sensitive receptors, to meet the EA Act requirement that all environmental effects be considered. Despite a lack of EPA standards, the provincial “Landfill Standards: A Guideline on the Regulatory and Approval Requirements for New or Expanding Landfill Sites” (January 2012) require:

“an assessment of potential noise impacts due to operations at the site and to local trucking related to operations at the site, including an evaluation of any proposed noise control measures” (p. 16)

Also:

“For a landfilling site employing off-site source vehicles (i.e. vehicles hauling waste or cover material to the site) that constitute a predominant component of the background noise, an access route should be selected which will result in a minimum noise impact. The selection process should be based on a detailed quantitative assessment of noise impact on individual receptors and the number of affected receptors along the alternative routes.” (p.61)

- Any potential wildlife mortality or biological displacement effects should also be taken into consideration.
- The comparison of alternative routes should use some form of consistent scoring or description of impacts (e.g. high, moderate, low) and explicit consideration of any weighting and consideration of public input, to ensure that the comparison is traceable.

#### **Task 5 – Evaluate Leachate Management Options and Identify Preferred Option**

- The evaluation criteria for leachate management options in Appendix B-2 do not cover the full range of potential environmental effects. “Approvability” under the EPA is not sufficient at this stage. As advised in the MOE response letter dated August 28, 2012 a full range of environmental criteria should be applied to this comparison.
- The comparison of leachate management options should use some form of consistent scoring or description of impacts and explicit consideration of any weighting or consideration of public input, to ensure that the comparison is traceable.
- The alternative leachate management options can have different environmental effects, and the outcome of the evaluation may affect the results from Task 3, and potentially the preferred site development concept. Taggart-Miller has recognized a need for some form of amendment process for the TOR, depending on the results of this study.

#### **Task 6 – Cumulative Impact Assessment.**

- Since the facility components are stated to be “scalable” the potential for expansion of components over time should be taken into consideration, or the assessment should relate to a “worst case” situation

#### **Task 7 - Complete EPA Level Activities for the Proposed CRRRC**

- The facility is stated to be “scalable”, but there is no reference to phasing of technical approvals. Note that once the EA approval is in place there is no mechanism for consultation or comment on subsequent EPA approvals

(Environmental Bill of Rights and EPA discretionary hearing provisions are both waived).

## **Task 8: Finalize and Submit EAA/EPA/OWRA Documentation & Applications**

No comment

### **9.0 CONSULTATION (p. 47)**

This Section describes consultation undertaken during development of the TOR (supported by the information provided in Volume 2, Consultation Record), as well as the proposed consultation program for the EA.

#### **9.1 Summary of Consultation Activities during Development of the TOR**

The proponent appears to have gone to some lengths in providing information on its proposal and TOR through two Open Houses (one before and one after the Boundary Road site was identified), a site tour, a groundwater workshop, and release of documents for review prior to finalizing the TOR. At the same time, based on the TOR and supporting materials there are some aspects of the pre-submission consultation that could have been improved.

The questions asked of the public in the comment sheet during the first Public Open House (page 47 of the TOR) are self serving. Four of them are designed to solicit support for Taggart-Miller proposal, and only one requests “key concerns”, rather than balanced input for the preparation of the TOR. It is reported that the “Dump the Dump Now” group advised participants not to fill in these comment sheets.

The supporting materials do not include records of meetings between the Taggart-Miller team and the Government Review Team. The MOE Code of Practice for TORs treats municipalities as members of the Government Review Team, and not as “interested municipal departments”.

#### **9.2 Summary of Key Stakeholder Feedback during Development of the TOR**

At the first Open House Taggart-Miller requested that participants provide ranking of environmental components and sub-components, and list “additional environmental components” and “key concerns”. At the second Open House sessions participants were requested to rank a truncated list of environmental components. Comments were also received outside consultation events. Some of the additional components listed in relation to both Public Houses are the same as the criteria that were to be ranked. The responses at the first Public Open House related only to the North Russell Road site and the responses at the second Public Open House events related to both sites. While the proponent is to be commended for seeking and identifying a second alternative site, the output on the ranking of criteria is confusing and the arrival at the identification of high, moderate and low importance criteria is difficult to trace.

#### **9.3 Proposed Consultation Plan for EA**

Taggart Miller intends to continue to interact with the Township of Russell’s Environmental Advisory Committee and local community associations such as the Carlsbad Springs Community Association and Vars Community Association (the two “Dump the Dump” organizations are not mentioned). They will also hold three more

Open Houses. The proponent will also host meetings with smaller groups, and special workshops or technical sessions may be held. Taggart-Miller will continue to maintain a project website.

It would have been helpful if the Open Houses had been shown on a flowchart to show how they would be timed in relation with other project activities. Also, the timing should be such that input from the public, aboriginal groups and government reviewers can be incorporated into the process as it proceeds. Display panels for Public Open Houses could be provided to the GRT and preferably the public ahead of the actual events.

Local communities are constrained from participating effectively in the process without some form of participant funding to enable independent review of technical documents, including the Draft EA that the proponent has promised to provide. Taggart-Miller should commit to providing funding for the affected municipalities and/or community groups to enable these reviews to take place during the process and when the Draft EA is released. The funding should be provided on condition that all interested parties have timely access to independent review materials.

A City of Ottawa staff report intended for consideration by its Environment Committee on October 16, 2012 proposes that community groups in Ottawa be allocated up to \$50,000 in funding for peer review during the EA process. While the principle of peer review is supported, provision of this funding may have the effect of a higher level of scrutiny of the EA study for the Boundary Road site than for the North Russell Road site, raising the possibility of bias in the outcome.

## 10. ENVIRONMENTAL ASSESSMENT SCHEDULE

No comment at this time

## 11. OTHER APPROVALS (p. 60)

Renewable Energy Approvals and the Endangered Species Act should be added to the possible approvals required. It is possible that, by the time any EA approval is attained, landfill gas electricity generation and generation from biogas derived from anaerobic digestion will be prescribed under the Environmental Activity and Sector Registry rather than being subject to Renewable Energy Approval.

## 12.0 COMMITMENTS AND MONITORING STRATEGY (p. 61)

### 12.1 Commitments

The commitment to develop a property value protection plan is worthwhile.

As noted above, while Taggart-Miller commit to provide facilities and capacity for recovery of resources and diversion of materials, there is still no commitment to actual diversion levels in each sector and the parameters within which they would be achieved, nor is there any commitment to make such commitments through the EA process.

It is appropriate that Taggart-Miller provide a draft of the EA for public review and comment before the final EA is submitted, however the comment period provided is quite short.

## **12.2 Compliance and Effects Monitoring**

In addition to compliance and effects monitoring, the EA should include a plan for release of monitoring information, information on proposed expansions to the facility, and responses to public concerns and complaints. Such a plan should set out the respective roles of those parties involved including Taggart-Miller and MOE, the public, and potentially the local and upper tier (where appropriate) municipality. A public liaison committee may constitute part of such a plan.

## **CONCLUSION**

The lack of commitment to levels of diversion, the constrained nature of the North Russell Road site and the potential constraints to the Boundary Road site, the lack of detail in the work plans, reliance on EPA standards, and other concerns described in this review result in a TOR that would provide very little, if any, “value added” from undertaking an individual EA for this project, over and above the requirements for other approvals.

I would recommend against approving a TOR that does not address these issues in a much more effective way. The required changes could be undertaken by Taggart-Miller through amendments to the TOR, the TOR could be changed through approval by the Minister with amendments, or the TOR may be rejected by the Minister.

The above is submitted in the hope that it will contribute to a rigorous review of the proposed TOR, and that the comments and suggestions will be given full consideration in re-orienting the document so that it provides an appropriate framework for the proposed EA.

## **Appendix 1**

### **Curriculum Vitae of Steven Rowe**

# Curriculum Vitae: Steven Rowe MCIP RPP

A senior environmental and land use planner with expertise in developing policy and identifying solutions for public sector, private sector and public interest clients. Able to assess and expedite environmental assessment (EA), land use and other environmental approval requirements, to coordinate and integrate the work of diverse stakeholders and experts, to communicate planning concepts and proposals to decision makers and the public, and to represent clients in negotiation and as an expert witness.

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## CAREER SUMMARY

<b>STEVEN ROWE ENVIRONMENTAL PLANNER, TORONTO</b>	<b>1997-2012</b>
Principal	
<b>WALKER, NOTT, DRAGICEVIC ASSOCIATES, TORONTO</b>	<b>1981-1997</b>
Senior Associate	
Senior Planner	
Planner	
<b>WAKEFIELD DISTRICT COUNCIL, U.K.</b>	<b>1976-1981</b>
Policy Planner	
<b>SHIRE VALLEY AGRICULTURAL DEVELOPMENT PROJECT, MALAWI</b>	<b>1973-1976</b>
Rural Development Planner	

## PROFESSIONAL EXPERIENCE

### Environmental Assessment

#### *Waste Management*

- Advised the Municipality of Clarington regarding an individual EA process conducted by the Regions of York and Durham for a proposed energy-from-waste plant in Clarington (2007-2009). Provided advice to Clarington Council regarding a host community agreement for the EFW plant. (2011)
- Advised the Town of Ajax in responding to requested EA Act and Environmental Protection Act (EPA) exemptions for an energy-from-waste plant in downtown Ajax, and in responding to a proposed regulation regarding EAs for waste management projects. (2007)
- Assisted the Town of Ajax in peer reviewing EA Terms of Reference for a Durham / York Region Residual Waste Study. (2006)
- Coordinated consultants, prepared evidence and provided support in securing EA approval for the Halton Landfill, the first landfill to be subjected to a hearing under the Ontario EA Act. (1982-89)

- Assisted the Town of Halton Hills in peer reviewing an EA for a proposal to use the Acton Quarry as a waste disposal site. (1989-92)
- Provided consulting services in EA planning to landfill proponents including the City of Guelph and County of Wellington, Region of Ottawa-Carleton, WMI, Dofasco and Canadian Waste Services Inc. (1987-97)
- Coordinated teams of up to fifteen consultants in responding to the Interim Waste Authority EAs for landfills in the Greater Toronto Area, on behalf of the City of Vaughan, Town of Pickering and Town of Halton Hills- these proposals were withdrawn by the proponent. (1991-94)
- Peer reviewed the EA for a hazardous waste treatment and disposal facility proposed by the Ontario Waste Management Corporation (OWMC) in Niagara Region on behalf of municipal and public interest clients. Coordinated consultants and provided expert evidence to a major Joint Board hearing; the case presented was fundamental to the Board's Decision. (1992-93)
- Peer reviewed other landfill EAs including North Simcoe and West Northumberland (both involving expert evidence and decisions favouring the client), South Simcoe, and Green Lane, Elgin County. (1989-96)

## **Energy**

- Assisted the Town of Oakville in the review of an environmental screening process under the EA Act in support of a gas-fired electricity generating station proposed by TransCanada. (2010)
- Reviewed the environmental screening process under the EA Act leading to a proposed gas-fired peaking electricity generating station in King Township, for the Environmental Commissioner of Ontario. (2009)
- Provided EA advice to the Township of Amaranth in relation an elevation request under the environmental screening process for electricity projects a proposed wind farm. (2006/7)
- Provided advice to the City of Oshawa on federal EA and other approval requirements for a proposed ethanol plant. (2008)
- Chair of the “cleaner energy” table of the Minister of the Environment’s Advisory Panel on Improvements to Ontario’s Environmental Assessment Process (2005).
- Provided environmental assessment planning expertise to Vision Quest Windelectric (a division of TransAlta) for a wind farm proposal in Prince Edward County. (2003-4)
- Team member in a comprehensive “best practices” review of siting for electricity transmission and generation facilities through provincial and federal EA processes, for a major electricity utility. (2000)
- Provided consulting services to the Ontario Ministry of the Environment in developing an environmental screening process and guideline under the EA Act for the approval of electricity projects. The guideline and associated regulation are still in effect (in part) and provide for consultation, environmental protection and a level playing field among public and private proponents. (2000-2001)
- Acted on behalf of a private client in reviewing an Ontario Hydro Class EA project for an electricity transmission line in the Town of Oakville and City of Burlington, and contributed to a consultation process, resulting in a less expensive solution with lower environmental impacts (1997). Prepared a submission for the same client on proposed revisions to Hydro’s Class EA for Minor Transmission Facilities.
- Peer reviewed the Ontario Hydro Demand/Supply Plan EA on behalf of aboriginal clients across Ontario and prepared evidence for an Environmental Assessment Board hearing on rationale and siting for a variety of electricity generation and transmission facilities. The hearing was discontinued. (1993-4)

## ***Sewer and Water***

- Provided consulting advice to the Region of Durham on EA Act/Planning Act integration issues under the Municipal Class EA related to water supply and transportation for a proposed expansion to the Greenwood Community in the City of Pickering. (2006)
- Provided consulting advice to a citizens' group on EA Act/Planning Act integration issues under the Municipal Class EA related to water supply and other matters regarding a proposed golf course and condominium in the Town of Aurora. (2008. Retained by the Town of Aurora and provided provide expert witness evidence to the Ontario Municipal Board in relation to the same project. (2010)
- Peer reviewed the Municipal Class EA planning process undertaken in support of an expansion to the Duffin Creek Water Pollution Control Plant in Pickering, Ontario on behalf of the Town of Ajax. The Town's request for a Part II Order ("bump-up") resulted in more stringent requirements than those proposed by the proponents. (2006/7).

## ***Transportation, Transit***

- Advised a private client on integrated Planning Act/EA Act requirements under the Municipal Class EA for non-local roads in proposed residential development. (2009)
- Advised the City of Hamilton and other agencies regarding a transportation study conducted by a proponent to identify a haul route for a proposed quarry, as a precursor to a Municipal Class EA process. (2010)
- Worked with local citizens in reviewing a Municipal Class EA process to install "eco-passages" (culverts) under the Long Point Causeway. (2011)
- Worked with local citizens in reviewing and responding to a Municipal Class EA process for a proposed road by-pass around the Norval community, including a crossing of the Credit River, in the Town of Halton Hills and City of Brampton. The proposal was put on hold following submissions. (2000-2001)
- Provided environmental assessment planning advice to the City of Windsor in its involvement in an EA for a proposed 5km extension to Highway 401 through the City and a new border crossing with the USA. (2008-9)
- Provided services to the Town of Ajax, peer reviewing EA documentation for an extension to Highway 407 and a link between Highways 407 and 401 proposed within the urban separator between Ajax and Whitby (2003-8)
- Advised a private client regarding a Class EA for Provincial Transportation Facilities project examining alternatives that would widen Highway 60 in the Township of Lake of Bays. (2010)
- Assisted a private client in responding to the individual EA for a Markham Bypass affecting their property and reviewing future development options (2005-6)
- Critiqued the Canadian Environmental Assessment Act planning process conducted in support of a proposed rail spur on behalf of the City of Oshawa. (2006)
- Provided consulting services to the Regional Municipality of Hamilton-Wentworth in preparing an exemption request for changes to the EA Act approval for part of the Red Hill Creek Expressway-the submission was successful. Subsequently provided a review of terms of reference for a federal panel review of the valley section of the Expressway under the Canadian Environmental Assessment Act. (1997, 1999)
- Critiqued an EA for a rail storage yard for GO Transit and managed recommended changes, resulting in a less expensive proposal with lower environmental impacts. (1995)

## ***Protected Areas and Crown Land***

- Led a consulting team assisting Ontario Parks, Ministry of Natural Resources in consulting stakeholders and preparing a new Class EA for Provincial Parks and Conservation Reserves. Also provided input to the concurrent preparation of the MNR Class EA for Resource Stewardship and Facility Development Projects (formerly the Class EA for Small Scale MNR Projects). Both Class EAs are now approved and in use by Ministry staff. (2000-2001)

## **Land Use and Resource Planning, and Other Environmental Approvals**

### ***Aggregates***

- Aggregate Planning Advisor since 2007 to the Halton Joint Aggregate Review Team (Niagara Escarpment Commission, Halton, Halton Hills, Conservation Halton, Credit Valley Conservation, MNR, MOE, MMAH), advising and coordinating agency and consultant peer review of a proposed extension to the Acton Quarry. A final JART report was produced in February 2012.
- Aggregate Planning Advisor to the City of Hamilton since 2004, coordinating peer reviewers (hydrogeology, natural heritage, traffic, noise) and working with other agencies on the Combined Aggregate Review Team and providing land use and environmental assessment (EA) input for the review of a proposed limestone quarry and haul route in Flamborough (currently on hold pending resolution of a Minister's Zoning Order and legal appeals).
- Provided expert witness evidence before the Ontario Municipal Board on behalf of a residents' group in relation to a gravel pit proposal in the Municipality of Grey Highlands. The Decision clarified the relationship between Planning Act and Aggregate Resources Act requirements for aggregate proposals. (2008)
- Currently working with a citizens' group in relation to a proposed quarry near Bobcaygeon, County of Peterborough.
- Coordinated consultant input and advised the City of Vaughan regarding the environmental effects and planning issues raised by an aggregate extraction proposal on the Oak Ridges Moraine. (2000-2002)

### ***Energy***

- Currently assisting Halton Region in developing a coordinated approach to Renewable Energy Approvals applications. (2012)
- Provided energy – related planning input to a planning policy review for the Town of Oakville regarding electricity generation facilities. (2010)
- Provided energy – related planning input to a policy review for King Township regarding electricity generation facilities. Also advised regarding an OMB hearing regarding Greenbelt Plan conformity for a proposed electricity generation plant. (2010)
- Provided advice to the Town of Ajax in reviewing a proposal to convert a woodwaste-fired district energy plant to cogeneration adjacent to the downtown and provided input to related changes to Official Plan policy. A Certificate of Approval for the facility was recently approved, incorporating a reference to required best practices negotiated by the Town. (2008 – 2010)
- Assisted the Region of Halton in contributing to a background paper on energy for its “Sustainable Halton” policy review. (2009)
- Prepared a review of land use policy options in relation to wind energy for the Township of Amaranth, and provided support leading to settlement of a wind farm proposal before the OMB. (2007)

## ***Transportation, Transit***

- Provided expert evidence on Planning Act matters to the Divisional Court on behalf of a residents' group regarding a proposed exclusive right – of way for streetcars on St. Clair Avenue West. A Decision in the Client's favour was overturned and new transportation policies were in place when the case was re-heard and a Decision was made in favour of the City of Toronto and the Toronto Transit Commission (2005-6).
- Identified and represented GO Transit and VIA Rail interests regarding noise, vibration, ventilation and buffering for development projects on the City of Toronto Railway Lands, resulting in changes to City planning policy. (1996)

## ***Waste Management***

- Prepared an environmental study and developed a secondary plan and zoning bylaw for the area around the Keele Valley Landfill site for the City of Vaughan, to enable a transition from waste management and aggregate extraction to uses more compatible with the expanding Maple community. Successfully defended these documents in expert testimony before the Ontario Municipal Board. (1989-93)
- Provided consulting services to the City of Vaughan, including coordination of team responses to a proposed Keele Valley Landfill expansion and responses to odour problems from a composting facility. (1989-1997)

## ***Land Use***

- Led a team that prepared five official plan amendments and a zoning by-law amendment to bring King Township's planning documents into conformity with the Oak Ridges Moraine Conservation Plan. The amendments were adopted within the Province's prescribed deadlines.
- Assisted the Town of East Gwillimbury in developing a Site Plan Control By-law and Guide for implementation of the Town's Oak Ridges Moraine policies. (2006)
- Provided expert evidence on behalf of a community group regarding the planning and public safety aspects of a retail proposal in Port Elgin, Ontario. (2007)
- Undertook a comprehensive review of historic and current planning policy and development issues in relation to soil contamination in Port Colborne for a private client. (2004-2006)
- Member of a team advising the County of Oxford on policies to address industrial development in wellhead protection areas. (2004)
- Coordinated and provided land use input to expert peer review during development of the Oak Ridges Moraine Conservation Plan for the City of Toronto and Save the Rouge Valley Systems (2002).
- Worked with a hydrologist in developing a case for additional flood protection in the development of a former Ontario Hydro corridor for a citizens' group in the Scarborough community, City of Toronto. The City elected to purchase the affected lands. (1998)
- Project planner for numerous Official Plan amendments, secondary plans, zoning by-laws, subdivisions, expediting development approvals and preparation for Ontario Municipal Board hearings for residential, industrial and commercial land uses.

## ***Teaching, training***

- Sessional instructor for a graduate Environmental Assessment Workshop course, Department of Geography, Programme in Planning, University of Toronto. (1999, 2000)

- Student Resource Person for an undergraduate Environmental Law and Policy course at the University of Waterloo (2002-2011)
- Coordinated program development for the Canadian Urban Institute / Canadian Brownfields Network Brownfields Conferences, 2002-2006.

## **SPEAKING ENGAGEMENTS, PUBLISHED ARTICLES, SUBMISSIONS**

- Written and spoken extensively on Federal and Ontario EA planning, facility siting, legislative and policy change, brownfields and water source protection.
- Acted as advisor to the Environmental Commissioner of Ontario in reviewing EA issues for the ECO's 2007-2008 Annual Report.
- Articles published in Plan Canada, the Ontario Planning Journal, Canadian Public Administration, Municipal World and IPPSO Facto (Association of Power Producers of Ontario).
- Coordinated and prepared several submissions to Government on behalf of the Ontario Professional Planners Institute including, most recently, on the Ontario Government review of the Aggregate Resources Act
- Spoken at events sponsored by the Environmental Assessment Board, Canadian Institute of Planners, Ontario Professional Planners' Institute, Ontario Association for Impact Assessment, Ontario Society for Environmental Management, Canadian Institute, Canadian Bar Association, and Insight Information.

## **MEMBERSHIPS AND AFFILIATIONS**

Member, Canadian Institute of Planners

Member, Ontario Professional Planners Institute (Environmental Contributing Editor, Ontario Planning Journal and Leader of Environmental Policy Working Group)

Registered Professional Planner in Ontario

Ontario Society for Environmental Management (President 2002- 2005)

President, Ontario Association for Impact Assessment

Member of MOE's Lake Simcoe Coordinating Committee

Member of the Canadian Urban Institute Brownie Awards Selection Committee

## **QUALIFICATIONS**

Diploma in Town Planning, Leeds Polytechnic (now Leeds Metropolitan University), U.K., 1973-recognized for admission to the Royal Town Planning Institute.

Courses in Digital Geography and Geographic Information Systems at Ryerson Polytechnic University (1998, 1999).

Professional development conferences and training in EA and land use planning, alternative dispute resolution, brownfields.

**Appendix 2**  
**Bibliography**

## BIBLIOGRAPHY

The following documents were consulted in preparing this Peer Review:

“Proposed Terms of Reference for the Environmental Assessment of the Proposed Capital Region Resource Recovery Centre, Volume 1” , Taggart Group of Companies and the Miller Group, September 2012

The TOR Executive Summary, Notice of Submission, Appendices A-C to Volume 1, the Final Supporting Document, Volume 2 Consultation Record and Appendices A-L of Volume 2 found at <http://crrrc.ca/whatsnew.htm>

Executive Summary, Environmental Assessment, West Carleton Environmental Centre, Waste Management, September 2012 found at <http://wcec.wm.com/resources.asp>

“Guide to Environmental Assessment Requirements for Waste Management Projects”, Government of Ontario, March 15, 2007

“Code of Practice: Preparing and reviewing Environmental Assessments in Ontario, Government of Ontario”, November 2008

“Code of Practice: Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario, Government of Ontario”, June 2007

“Landfill Standards: A Guideline on the Regulatory and Approval Requirements for New or Expanding Landfill Sites”, Government of Ontario, last revision date January 2012

Provincial Policy Statement 2005, Government of Ontario, March 1, 2005

“Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005, Second Edition”, Ontario Ministry of Natural Resources, March 2010

“Guideline D-1, Land Use Compatibility” and related procedures, Government of Ontario, October 1994

“Guideline D-6, Compatibility between Industrial Facilities and Sensitive Land Uses”, Government of Ontario, October 1994

Explanatory Note to Ottawa By-law No. 2012-204 (Waste Processing and Transfer Facility By-law), found at:  
[http://ottawa.ca/en/city\\_hall/planningprojectsreports/public\\_consult/wastebylaw/index.htm](http://ottawa.ca/en/city_hall/planningprojectsreports/public_consult/wastebylaw/index.htm)

City of Ottawa Staff Comments to Environment Committee , October 16, 2012 on Terms of Reference for an Environmental Assessment of the Proposed Capital Region Resource Recovery Centre

**Citizens Environmental Stewardship Association.  
East of Ottawa, Part "B"**

**Peer Review of the Terms of Reference  
for the Environmental Assessment  
of the Proposed Capital Region Resource Recovery Centre**

**Prepared for:**

**Citizens' Environmental Stewardship Association - East of Ottawa**

**P.O. Box 225,  
Russell, Ontario  
K4R 1C9**

**Prepared by Wilf Ruland (P. Geo.)**

**766 Sulphur Springs Road  
Dundas, Ontario  
L9H 5E3  
(905) 648-1296  
deerspring1@gmail.com**

**Issued: October 15, 2012**

## **1) Introduction**

I am a hydrogeologist, and I have worked as an environmental consultant for 25 years (2 years for a larger firm in Germany, and 23 years independently in Canada). I am a specialist in water resource and contamination issues, and have dealt with many such issues over the course of my consulting career. I have given testimony as an expert witness on hydrogeological issues before various boards, including the Environmental Review Tribunal, the Environmental Assessment Board, the Joint Board, the Ontario Municipal Board, the Niagara Escarpment Commission, and the Canadian Nuclear Safety Commission. A copy of my Curriculum Vitae is available upon request.

I have been retained by the Citizens' Environmental Stewardship Association - East of Ottawa (CESA - EO) to conduct an independent Peer Review of the documents pertaining to the Taggart Miller Terms of Reference for their proposed Capital Region Resource Recovery Centre (CRRRC).

In order to prepare my review, I have reviewed the Terms of Reference (hereafter referred to as "the ToR") which were submitted to the Ontario Minister of the Environment on September 14, 2012.

## **2) Potentially Misleading or Inaccurate Statements in the ToR Documentation**

The ToR documentation contains a number of what I believe to be misleading and/or inaccurate statements. A summary of such statements is provided in **Appendix A** of this review.

One statement in particular stands out and should be addressed up front, namely the statement in the second sentence of the second paragraph on page 21 of the proposed ToR:

*"The primary focus of the proposed CRRRC is diversion of IC&I and C&D waste materials from disposal through recycling and other processes."*

The above statement is inconsistent with the description of the Undertaking for the Environmental Assessment (further down on page 21 of the ToR) which is based on a "possible diversion rate of 30 to 40% of the incoming material from disposal".

By implication, this means that 60 to 70% of the incoming wastes would be disposed of in the proposed landfill. Given that the proposed landfill would be receiving roughly 2/3 of the incoming wastes, it is clear that the proposed landfill is really the focus of the ToR and the EA.

## **3) North Russell Road Site Does not Meet Definition of "Suitable" Property**

It is not clear how the proponents managed to select the North Russell Road site as a potential site for the undertaking, given that the site did not meet several of the "basic requirements" which were said to be the basis for identifying a "suitable" property. Page 15 of the ToR lists four "basic requirements" which were apparently used by the proponents in selecting sites, and I will deal with the first two of them in turn.

- i) *"The property should be of sufficient size (at least 400 acres), and be relatively square/rectangular in shape."*

Figure 1-1 of ToR shows the outlines of the North Russell Road property - and in my experience there is no way that the North Russell Road property can be described as "relatively square/rectangular". There is a relatively square section of the property, which is across Eadie Road from a sizeable, long and narrow piece of the property which juts away from it.

The ToR indicates that there are no waste management activities planned for the long, narrow section on the east side of Eadie Road, which means that the remaining North Russell Road property also does not meet the minimum size of 400 acres. This raises questions about whether the proposed landfill will even fit onto the property, given the various diversion activities which are also planned.

ii) “No obvious material land use constraints”.

There is a very obvious and material land use constraint in the middle of the North Russell Road property, namely the former shale quarry which is now a lake.

The very shallow bedrock surface on the property also poses a material constraint for the proposed landfill, which will only be able to be constructed if there are major excavations of shale bedrock (facilitated by blasting).

Given the above inconsistencies, I would suggest that the North Russell Road Site does not meet the proponents’ own definition of a “suitable property” for the undertaking.

#### **4) Implications for the ToR and the EA of the Lake in the Former Quarry**

The ToR does a poor job of dealing with the central feature on the North Russell Road property - namely the 15 hectare lake which is in the former shale quarry in the middle of the property.

The lake is the dominant feature on the property, and gaining an understanding of the lake and its role in the local environment must be a goal of the ToR and EA if these are to be considered complete.

The quarry and the lake it contains has significant implications for at least 3 aspects of the Tor (and the EA):

- a. hydrogeology
- b. surface water
- c. biology

I will deal with each of these aspects of the ToR in turn.

##### **a) Hydrogeological Considerations Regarding Quarry Lake**

- The quarry penetrates the shale formation which forms the bedrock surface to a depth of between 8 and 11 meters. As such, the quarry lake is hydraulically connected to bedrock fractures, some of which will be transmitting groundwater. It is clear that some portion of the water in the lake is groundwater.
- The Geology, Hydrogeology, and Geotechnical Work Plan contained in Appendix C of the ToR does not include any plans for ongoing monitoring of the water levels in the quarry lake - in my professional opinion such monitoring (at least monthly, on the same date that groundwater level monitoring is being carried out) is essential.
- The Work Plan should also specify that the proponents will conduct a well interference survey of all residents within 1 km of the proposed North Russell Road site, to develop a comprehensive understanding of the extent of the well interference (in terms of impacts on water quality and/or quantity) pertaining to the historic blasting and pumping of the quarry. This is particularly important given that the proponents are proposing to excavate the shale bedrock on the property to allow construction of the landfill - such excavation will by necessity involve blasting.

- It is my understanding that muddy water was reported by local residents after occurrences of historic blasting at the quarry. Examples of such reports can be found in Volume 2 (Consultation Record) of the ToR on pages C-102 and E-137. Water losses in response to historic blasting/pumping have also apparently been reported by local residents.
- The Geology, Hydrogeology, and Geotechnical Work Plan includes plans to conduct a drawdown test involving the lake - the lake levels are proposed to be lowered through pumping, and water levels are to be monitored in some nearby wells. Any pumping down of the lake would normally require a Permit to Take Water (PTTW) and quite likely also a Discharge Certificate of Approval (under Section 53 of the Ontario Water Resources Act).
- It is open to question whether the current PTTW (which was granted by the Ministry of the Environment or MOE in support of a quarry operation) is still valid, and whether it allows for such pumping. The proponents are also not in possession of an MOE Discharge Certificate of Approval for this site. As a result it is not clear if the proponents can actually legally carry out any pumping down of the lake at the present time.
- Certainly any proposal for pumping down of the lake should be reviewed beforehand with the MOE, MNR and local conservation authority - as well as with neighbours of the site and local environmental and naturalist groups.
- Such groups may wish to consider filing an Application for Review of the PTTW under Ontario's Environmental Bill of Rights, given that the PTTW was issued to support quarry operations which are no longer taking place and given that aquatic life is established in the quarry lake.
- If an application for a PTTW and/or Discharge Certificate of Approval which would enable a drawdown test on the lake is received by the MOE, then I would strongly recommend that any MOE approval should include a condition that would require a prior biological assessment as well as monitoring of the test by a qualified aquatic biologist to ensure that the aquatic life in the lake would not be endangered by the drawdown test.
- If a drawdown test does take place, then I recommend that the proponents should make the best possible use of this opportunity - by monitoring all on-site wells, and also by monitoring the wells of any neighbours of the site who have reported well interference effects in response to historic blasting or pumping of the lake.

The Geology, Hydrogeology, and Geotechnical Work Plan contained in Appendix C of the ToR should be revised to account for the above comments and recommendations.

#### b) Surface Water Considerations Regarding the Quarry Lake

The quarry lake is 15 hectares in size, and reportedly receives drainage from a further 29 hectares of the property. This makes it a significant surface water feature on the property.

Moreover, if pumping of the lake occurs then flows on the order of 6600 L/minute of surface water may be diverted to local ditches. These flows can significantly affect local groundwater levels in the vicinity of the ditches.

There is no proposal in the ToR's North Russell Road Surface Water Work Plan for ongoing monitoring of the quarry lake or its pumping - this is an oversight. Given the lake's significant potential influence on the local water balance and on groundwater levels, it certainly warrants monitoring. Monthly monitoring of lake levels as well as records of any pumping should be kept, and reported on through the EA documentation.

### c) Biology Considerations Regarding the Quarry Lake

The last sentence of the first paragraph on page 28 of the ToR states:

*"The water contained in the existing quarry.. does not constitute aquatic habitat."*

This is a very curious statement, in light of the fact that local residents have reported the longstanding presence of fish and turtles in the lake. Examples of such reports can be found in Volume 2 (Consultation Record) of the ToR on pages I-143 and I-207.

A letter from the proponents' representative on page I-147 of Volume 2 (Consultation Record) of the ToR asserts that *".. the quarry can be lawfully pumped dry.."*. Other communications from the proponents' representative suggest the lake can be *".. removed at any time"* (page J-90) or *".. pumped dry at any time"* (page J-104).

This would only be the case if the proponents were in possession of an unencumbered PTTW and an active Section 53 Certificate of Approval under the Ontario Water Resources Act. This is not the case, and the proponents are urged to be less aggressive about this matter in future communications.

In the meantime, the ToR's Biology Work Plan needs to be more clearly worded to confirm that it takes into account the most significant environmental feature on the North Russell Road property, namely the quarry lake. It should be noted that the lake is not only providing habitat for aquatic species, but that other species are depending on it as well. The 2011 "Bioblitz Report" on the North Russell Road site describes and enumerates 30 species of waterfowl and 20 species of shorebirds (including photos of snow geese, great egrets, and greater yellowlegs) which have been identified - as well as crustaceans (crayfish) along the shoreline.

Comprehensive field investigations of the waters of the lake as well as its shores and immediate surroundings for aquatic, terrestrial and avian species should be carried out - and the Biology Work Plan of the ToR needs to explicitly confirm that this work will be done.

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The implicit assumption in the ToR is that the quarry lake has no value and can and should be eliminated as part of the CRRRC proposal. This closed-minded approach is not appropriate for a Terms of Reference or for an Environmental Assessment process.

The quarry lake is the central feature on the North Russell Road property. It has been in existence for many decades, and provides habitat for aquatic, terrestrial and avian species. The ToR and the EA should have as their starting point the investigation of this lake from the perspective of the hydrogeology, surface water and biology disciplines - with the goal of providing a detailed description in the EA documentation of the lake and its role in the water balance of the property and its role as habitat for numerous species.

Any decision on whether the lake might be removed should properly await the outcome of these studies, and consultation with appropriate government agencies including the MOE, MNR and local conservation authority. Proper public consultation on this issue is also strongly recommended.

## **5) Comments on Criteria for Comparative Site Evaluations - North Russell Road Site**

The criteria for comparative site evaluations are found in Appendix A of the ToR. There are a number of problems with these criteria as outlined below:

### **a) Assessment Criterion for Geology, Hydrogeology, and Geotechnical Comparative Evaluation**

- i) The only assessment Criterion for this part of the comparative evaluation reads as follows:  
*“Which site is preferred for protection of groundwater?”*

This Criterion is too vague - it should include explicit mention of groundwater quality and quantity. As it stands right now, the potential effects of the proposed landfill on the quantity of available groundwater (eg. in neighbours' wells) would not be considered when comparing the proposed sites. This is confirmed in the Rationale for the Criterion, which only speaks to groundwater quality.

- ii) A second Criterion needs to be added, namely:  
*“Which site is preferred for protection of provincially significant shale resources?”*

It is my understanding that the North Russell Road property has been used for mining of a provincially significant shale resource for over 100 years. It is zoned for mineral aggregate extraction. Much of the shale on the property has not yet been mined, and thus constitutes a significant resource - which would be sterilized if the proposed CRRRC project goes ahead.

The Ontario Provincial Policy Statement gives specific direction in Section 2.5.2 (Protection of Long-Term Resource Supply) regarding the protection of mineral reserves as follows:

*“2.5.2.4 Mineral aggregate operations shall be protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety or environmental impact. Existing mineral aggregate operations shall be permitted to continue without the need for official plan amendment, rezoning or development permit under the Planning Act. When a license for extraction or operation ceases to exist, policy 2.5.2.5 continues to apply.*

*2.5.2.5 In areas adjacent to or in known deposits of mineral aggregate resources, development and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if:*

- a. resource use would not be feasible; or*
- b. the proposed land use or development serves a greater long-term public interest; and*
- c. issues of public health, public safety and environmental impact are addressed.”*

It should be noted that the Ministry of Natural Resources (MNR) has also raised this concern in a detailed letter to the proponents dated January 14, 2010. Sterilization of the shale resource is likewise contrary to the intent of the Official Plan of the United Counties of Prescott and Russell.

The ToR needs to be amended to add a new Criterion as described above to ensure that the protection of this significant aggregate resource is properly considered. A Rationale, Indicators, and Data Sources will also need to be added to the ToR to support this Criterion.

## b) Indicators for Geology, Hydrogeology, and Ceotechnical Comparative Evaluation

The following Indicator should be added to the list of Indicators for the “Protection of Groundwater” criterion:

*“Number of wells within 1000 meters of the site.”*

One of the factors that needs to be considered for protection of groundwater is the extent to which an existing and potentially imperilled groundwater resource is being utilized - and the number of nearby wells is an obvious way to address this consideration. No additional Data Sources would be needed to support the above recommended Indicator.

## c) Data Sources for Geology, Hydrogeology, and Ceotechnical Comparative Evaluation

The third Data Source listed under this heading reads as follows:

*“Findings of on-site testing completed for this project or otherwise available to confirm/compare information.”*

The proponents need to make sure that comparable levels of on-site information are being used when comparing the two proposed sites. As it stands, information is already available from numerous boreholes, monitoring wells and test pits which were previously installed on the North Russell Road property. There is no indication that any comparable level of information is available for the second site (the Boundary Road property) - such information should be obtained for the Boundary Road site before any comparison of the two potential sites is carried out.

## d) Assessment Criterion for Surface Water Comparative Evaluation

The only assessment Criterion for the surface water comparative evaluation reads as follows:

*“Which site is preferred for protection of surface water quality?”*

As it stands this Criterion is too focussed - it should include consideration of surface water quality and quantity.

As the Criterion is currently written, the potential effects of the proposed CRRRC on the quantity of available surface water (eg. in the quarry lake) would not be considered when comparing the proposed sites. This is confirmed in the Rationale for the Criterion, which only speaks to off-site surface water quality.

The Criterion needs to be revised to include protection of surface water quantity, and then in turn the Rationale needs to be expanded to indicate that the CRRRC proposal has the potential to impact on-site surface water quality and quantity (in the quarry lake). New Indicators and Data Sources will be needed as well.

## e) Data Sources for Surface Water Comparative Evaluation

The last point listed under this heading reads as follows:

*“Surface water flow and water quality monitoring stations.”*

This point should be re-written to clarify whether the surface water flow and water quality data is to come from stations established for the EA, or from stations being monitored by others. It is important for the proponents to be doing their own surface water field studies.

## f) Indicators for Biology Comparative Evaluation

The following Indicator should be added to the list of Indicators for the “Which site is preferred for protection of terrestrial and aquatic biological systems” Criterion:

*“- species which have habitat in, on, or around the lake in the on-site quarry”*

As it stands the Indicator list is vague on whether or not impacts on species which have habitat in, on or around the quarry lake will be considered in the comparative evaluation. Review of the Biology Work Plan in Appendix C-1 of the ToR raises the concern that the Biology Discipline Team may be inappropriately intending to ignore the lake and the species that depend on it for habitat.

## **6) Comments and Recommendations Regarding the EA Work Plans**

A series of proposed Work Plans for the EA are provided in Appendix C of the ToR. My comments and recommendations regarding these Work Plans follow:

### a) Geology, Hydrogeology, and Geotechnical Work Plans

i) The Work Plans for the North Russell Road and Boundary Road sites are provided in ToR Appendices C-1 and C-2 respectively. Section 3 of the Work Plans pertains to the approach and work plan which will be undertaken for the comparative evaluation of the two alternative sites.

Every effort should be made to ensure that comparable levels of on-site information are being used when comparing the two proposed sites, and the Work Plans should be amended to confirm that this will be the case.

ii) Task 1 in Section 4.1 of the Work Plan (to complete the assessment of the Existing Environment for the North Russell Road site) should be expanded/amended to include the following:

- Water levels are proposed to be measured in all on-site wells at least monthly - the quarry lake levels should also be monitored on the dates that groundwater levels are being measured. A staff gauge should be installed and surveyed in to facilitate the monitoring of lake levels.
- The extent of any hydraulic connection or flow path between the Russell Road North property and the regionally significant esker to the east of the site should be investigated and reported on in detail in the EA. This investigation should include consideration of groundwater flow directions, differentials in hydraulic head between the two features, possible transmissive zones in bedrock formations, and the hydraulic connections which have been opened up through the excavation and blasting for the existing quarry.
- The property is currently identified as a recharge area - this should be confirmed through the on-site investigations.
- The proposed dewatering of the quarry lake is potentially problematic and the comments and recommendations in Section 4a) of this Peer Review should be carefully considered by the Study Team before proceeding with any such work. It is not clear whether water can even be lawfully pumped from the lake at this time.

- The Study Team needs to address in detail the issue of the potential sterilization of the regionally significant shale resource which is present on the property. The scale of the existing resource which is present on the property needs to be quantified, as well as the degree to which the proposed CRRRC would interfere with the future use of the resource. This issue has been raised in Section 5)a)ii) of this Peer Review, as well as in a letter to the proponents from the Ministry of Natural Resources (MNR) dated January 14, 2010. A barely legible copy of the MNR letter is provided on pages B-66 through B-68 of Volume 2 (Consultation Record) of the ToR.
- It is clear from maps of the site and from public consultation documents that significant investigations of the Russell Road North site were undertaken prior to the submission of the ToR. There needs to be full disclosure of all data from these investigations in the EA process, and the Work Plan should direct that this be done.
- Limestone or sandstone/siltstone layers of the Carlsbad Formation which underlies the Queenston Formation beneath the site could have significance as a local groundwater resource. Current plans for installation of new wells on-site (outlined in Table C-1.2-1) suggest that only 3 boreholes will be drilled into the Carlsbad Formation, and there is no indication of whether monitoring wells which are screened in the formation will be installed in any of these boreholes. I recommend that as part of the on-site investigation at least 5 boreholes should be drilled through the Carlsbad Formation, with monitoring wells completed in the most permeable layers of the Formation.

iii) The Task 3 description in Section 4.3 of the Work Plan (to complete the assessment of the impacts of the proposed CRRRC for the North Russell Road site) should be expanded/amended as follows:

- Task 3 should include a detailed assessment of the amount of blasting which will be needed to excavate the proposed 4 to 5 meter deep base for the proposed landfill.
- A stand-alone blasting impact assessment to assess effects of such blasting on neighbours of the site and on the nearby quarry lake and the wildlife it supports should also be included in the ToR as a requirement for the EA.
- The Task 3 description should also be amended to explicitly require an assessment of the impacts on the quantity of groundwater which is available to recharge the local groundwater flow system including neighbours' wells. If (as is currently proposed) the quarry lake is filled in, then one consequence will certainly be a significant decrease in groundwater recharge from the property. Landfill leachate collection and contingency pumping systems can also significantly deplete local groundwater supplies.
- The Task 3 description implies that flow modelling is optional - but this is not the case. Flow and contaminant transport modelling is necessary for a landfill of the size and scope being proposed in the ToR. Please note that this comment also applies to the Task 3 description for the Boundary Road Site.
- The Task 3 description should explicitly spell out the benchmarks (ie. government regulations, policies, etc.) which will be used to determine whether any of the potential impacts of the proposal on the quantity and quality of local groundwater supplies are considered unacceptable. Such benchmarks would represent the minimum measure for acceptability of the proposed undertaking.

The lack of EA benchmarks is a problem which pervades the ToR, and the Task 3 sections of the other Work Plans should also be amended to include where possible an explicit description of the benchmarks that will be used to determine whether the impacts of the CRRRC proposal are considered unacceptable.

iv) The Task 7 description in Section 4.6 of both Work Plans (to develop a detailed monitoring program, trigger mechanism, and contingency plans for the proposed CRRRC facility) should be expanded/amended as follows:

- The goal of the monitoring program should be specified up front in this section of the ToR, and a basic description of what types of monitoring will be included in the program is needed.
- The goal of the contingency plans should be specified up front in this section of the ToR, and a basic listing and conceptual description of possible contingency plans is needed.

#### b) Surface Water Work Plans

i) The Workplans for the North Russell Road and Boundary Road sites are provided in ToR Appendices C-1 and C-2 respectively. Section 5 of the Workplans pertains to the development and evaluation of leachate management options.

The Work Plans should each be amended to confirm the following:

- surface waters in the vicinity of both sites are considered Policy 2 receivers;
- no degradation of surface water as a result of the CRRRC proposal is permissible at either site;
- all practical measures shall be taken to upgrade surface water quality in the area of each site;
- discharges from either site must meet the Provincial Water Quality Objectives.

ii) The Task 7 description in Section 4.6 of both Work Plans (to develop a detailed monitoring program, trigger mechanism, and contingency plans for the proposed CRRRC facility) should be expanded/amended as follows:

- The goal of the monitoring program should be specified up front in this section of the ToR, and a basic description of what types of monitoring will be included in the program is needed.
- The goal of the contingency plans should be specified up front in this section of the ToR, and a basic listing and conceptual description of possible contingency plans is needed.

#### c) Biology Work Plans

i) In my view the fourth paragraph in Section 3.2 of the Biology Work Plan for the North Russell Road site is problematic - it reads as follows:

*“..no surface water features were interpreted to be present within the footprint of the current quarry. Over the past 100 years, while the quarry was in operation, the quarry was dewatered regularly such that the presence of standing water was intermittent.”*

I believe it is in the public interest to know who wrote this section of the Biology Work Program in the ToR and the even more problematic phrase on page 28 of the ToR (“*the water contained in the quarry ... does not constitute aquatic habitat.*”). The authorship of these parts of the ToR should be clarified by the proponents.

Taken together they appear to articulate a blinkered determination to ignore the fact that there is a 15 hectare lake which is up to 11 meters deep, and which provides habitat and plays a central role in the environment on and around the North Russell Road site.

The Biology Work Plan is worded very carefully, and I have expended considerable effort to try to determine (without success) whether or not the Biology Discipline Team is planning to conduct any field investigations of the lake’s waters, shoreline, and immediate surroundings or not. Certainly the above wording (in italics) which has been quoted directly from the ToR raises concerns about just what kind of field investigation the Biology Discipline Team is proposing to conduct.

The Biology Work Program needs to be amended to make explicit exactly what kinds and levels of field investigations the proponents will be conducting in and around the lake. It would certainly be a major and most likely fatal omission if the North Russell Road Biology Work Program of the ToR (and the EA) were to ignore the most significant environmental feature to be found on either of the candidate sites - namely the quarry lake.

It should be noted to their credit that neither the Hydrogeology nor the Surface Water Discipline Teams have tried to pretend that the lake wasn’t there or somehow didn’t count as a matter to be considered in the ToR and EA.

I am hoping that the proponents will clarify their position on this matter, and that they will go on the record as supporting a full biological field investigation and assessment of all lifeforms in and around the quarry lake as part of their Environmental Assessment.

#### d) Design and Operations Work Plans

The Design and Operations Work Plans for the North Russell Road and Boundary Road sites are provided in ToR Appendices C-1.8 and C-2.8 respectively. I have the following comments and recommendations pertaining to these Work Plans:

i) Section 3.1 of the Work Plans for both sites states that the basis for the comparison of the sites will be the following criterion:

*“Which site is preferred regarding the anticipated amount of engineering required to assure MOE groundwater criteria are met at the site boundary.”*

While I can imagine what the proponents are intending with the wording of this Criterion, it is so imprecise that many interpretations are possible. Either the wording of the Criterion should be tightened up, or the Approach and Work Plan in the next Section of the ToR (Section 3.2) should be expanded to better describe what is intended and how the comparison will be objectively carried out.

ii) Page 26 of the Tor describes the till overburden at the North Russell Road Site as being relatively thin, likely varying in thickness from 0 to 4 meters. The work which will be done to address the implications of the shallow bedrock during the comparative evaluations of the sites and also in the development of a preferred site development concept (in the event that the North Russell Road site is selected) needs to be spelled out in much more detail in the D&O Work Plan for the site in Appendix C-1.8 of the ToR.

iii) Task 2 of the Work Plan for the North Russell Road site (on page 3 of Appendix C-1.8 of the ToR) outlines the work that will be done to identify the preferred site development concept. I recommend that the following point be added to this section:

- *“Determine depth of excavation required for landfill, and the amount of blasting which will be required to facilitate the excavation.”*

iv) Page 30 of the ToR describes the upper 10 meters of the silty clay overburden at the Boundary Road Site as having *“soft consistency”* with the groundwater table on this property being *“at, near, or above the ground surface”*.

The work which will be done to assess and address the implications of these conditions during the comparative evaluations of the sites and also in the development of a preferred site development concept (in the event that the Boundary Road site is selected) needs to be spelled out in much more detail in the D&O Work Plan for the Boundary Road site in Appendix C-2.8 of the ToR.

## **7) Conclusions and Recommendations**

Having completed my review of the Terms of Reference for the proposed CRRRC facility, I have the following conclusions and recommendations regarding the ToR (and the EA):

1. An Environmental Assessment is no place for a proponent’s wishful thinking about the properties being considered for a project. It is necessary to deal with the environment as one finds it - to investigate and describe that environment carefully and forthrightly, and to then exhaustively assess and enumerate all of the potential impacts of the proposed project.
2. The ToR appears to contain a major and possibly fatal flaw, in its handling of the lake in the closed quarry on the North Russell Road property. The fact that there is a lake on the property and that the lake provides habitat for numerous aquatic, terrestrial and avian species needs to be accepted by the proponents. In my professional opinion, the ToR needs to be revised to explicitly recognize that the lake is an important environmental feature, and to ensure that the lake, its water balance, and the numerous species which it supports are properly investigated and described in the Environmental Assessment.
3. The issue of the need for extensive blasting if the North Russell Road site is developed has not gotten the attention it deserves in the ToR. Such blasting would have considerable off-site impacts, and should be considered as a Component in the site comparisons as well as in the actual EA impact assessment.
4. The ToR should explicitly spell out the benchmarks (ie. government regulations, policies, etc.) which will be used to determine whether any of the potential impacts of the CRRRC proposal are considered unacceptable. It should be noted that such benchmarks would represent the minimum measure for acceptability of the proposed undertaking.
5. It is possible that at the end of the initial investigation for the comparative evaluation of the two candidate properties that neither will be judged to be suitable. The ToR document needs to outline what will happen if this conclusion is reached.

6. It is important to avoid overstating one's case when conducting public consultation. There are several examples of what I believe to be misleading and/or inaccurate statements contained in the ToR documentation. These are discussed in **Appendix A** of this Peer Review.
7. Numerous recommendations have been provided in the previous pages of this Peer Review regarding various ways the ToR and the EA could be improved. These recommendations have been provided in good faith and with firm professional conviction, on the basis of careful consideration of the particular issues being addressed.
8. I sincerely urge the proponents to adopt this Peer Review's recommendations (together with other reasonable recommendations provided by other reviewers of the ToR) by issuing a clarification or addendum to the ToR documentation and submitting it to the Minister of the Environment. Alternatively the Minister could decide to direct that the ToR be amended or rejected.

## **8) References**

The following list includes most of the key documentation which has been reviewed or referenced in the course of preparing this Peer Review.

Chapman, L.J. and Putnam, D.F. 1984. The Physiography of Southern Ontario, 3rd Edition.

Domenico, P.A. and Schwartz, F.W. 1998. Physical and Chemical Hydrogeology.

Dump the Dump Campaign, 2011. 2011 North Russell Bioblitz. Prepared with support of members of the Ottawa Field Naturalists Club.

Freeze, R.A. and Cherry, J.A. 1979. Groundwater.

Golder Associates, May 23, 2008. Letter re PTTW Application from J.P.A. Oxtobee and K.A.Marentette to the Permit to Take Water Director (MOE).

Ontario Geologic Survey, 1992. Geology of Ontario.

Ontario Ministry of the Environment (MOE), June 3, 2009. Permit to Take Water, for Russell Quarry Sump.

Ontario Ministry of the Environment (MOE); June 27, 2001. Letter regarding hydrogeological issues pertaining to an Application under the Aggregate Resources Act to expand the Russell Quarry, from Ms. Gail McFall (MOE) to Mr. D.R.Lalond (Canada Brick Limited).

Ontario Ministry of Natural Resources (MNR); January 14, 2010. Letter regarding shale resource on North Russell Road property from Ms. Laura Melvin to Mr. Hubert Bourque, CRRRC.

Province of Ontario, 2005. Provincial Policy Statement.

Taggart Miller. September 2012. Proposed Terms of Reference for the Environmental Assessment of the Proposed Capital Region Resource Recovery Centre - Volumes 1, 2, and 3.

United Counties of Prescott and Russell. May 2006. Official Plan of the United Counties of Prescott and Russell.

## **9) Signature and Professional Stamp**

This Peer Review has been prepared in its entirety by Wilf Ruland (P. Geo.). It is based on my honest conviction and my knowledge of the matters discussed herein following careful review of the ToR documentation, and review or reference to other documents listed in the Reference List above.

This Peer Review has been prepared for the use of my clients, the Citizens' Environmental Stewardship Association - East of Ottawa (CESA - EO).



Wilf Ruland (P.Geo.) - original is stamped

766 Sulphur Springs Road  
Dundas, Ont.  
L9H 5E3  
Tel: (905) 648-1296  
deerspring1@gmail.com

# Appendix A

The ToR documentation contains a number of what I believe to be misleading and/or inaccurate statements. An overview of many of these statements is provided below.

1) The second sentence of the second paragraph on page 21 of the ToR states:

*“The primary focus of the proposed CRRRC is diversion of IC&I and C&D waste materials from disposal through recycling and other processes.”*

The above statement is inconsistent with the description of the Undertaking for the Environmental Assessment (further down on page 21 of the ToR) which is based on a *“possible diversion rate of 30 to 40% of the incoming material from disposal”*.

By implication, this means that 60 to 70% of the incoming wastes would be disposed of in the proposed landfill. Given that the proposed landfill would be receiving roughly 2/3 of the incoming wastes, it is clear that the proposed landfill is really the focus of the ToR and the EA.

2) The fourth paragraph in Section 3.2 of the Biology Work Plan for the North Russell Road site reads as follows:

*“..no surface water features were interpreted to be present within the footprint of the current quarry. Over the past 100 years, while the quarry was in operation, the quarry was dewatered regularly such that the presence of standing water was intermittent.”*

The fact that the quarry lake was occasionally pumped down does not negate the fact that the lake is a surface water feature.

The drainage of most of the site is via ditches and drains which only carry water at some times of the year, and which are mostly dry during the summer months. They are nonetheless considered surface water features in the ToR, and the ToR indicates that they will be carefully investigated in the course of the EA.

3) The first sentence of the second last paragraph of a letter from the proponent’s representative to a member of the public (on page I-147 of ToR Volume 2, Consultation Record) states that:

*“Regarding the concern about the existing quarry being fish habitat, the quarry can be lawfully pumped dry..”*

It is open to question whether the current PTTW (which was granted by the MOE in support of a quarry operation) is still valid, and whether it allows for such extreme pumping.

The proponents are also not in possession of an MOE Discharge Certificate of Approval for this site. As a result it is not clear if the proponents can actually legally carry out pumping activity on the lake at the present time.

4) Open House display materials used by the proponents (eg. on page C-14 of ToR Volume 2, Consultation Record) state that:

*“The property is a former industrial site that has been in operation for a century and has already been disturbed by previous industrial activity”*.

It would be more accurate to state instead that the property is the site of a former shale quarry that has been in operation for a century, and that it has already been disturbed by shale mining activities.

5) The last sentence of the first paragraph on page 28 of the ToR states the following:

*“the water contained in the quarry ... does not constitute aquatic habitat.”*

Similarly the first sentence of the first full paragraph of a letter from the proponents’ representative to a member of the public (on page J-104 of ToR Volume 2, Consultation Record) states the following:

*“.. the water filled quarry can be pumped dry at any time and is not considered fish habitat”*

The fish and other aquatic lifeforms which live in the lake would probably not agree with these statements.

6) The third sentence of the fourth paragraph of a letter from the proponents’ representative to a member of the public (on page I-148 of ToR Volume 2, Consultation Record) states the following:

*“Question 8 of the FAQ describes how TMES would guarantee that the facility will not contaminate off-site wells including dairy farmers’ or anyone’s well.”*

Based on my 25 years’ experience as an expert working mainly in the field of contaminant hydrogeology, I can say with firm conviction that there is no guarantee provided in the proponents’ five-paragraph answer to Question 8 (which can be found on page D-24 and D-25 in Appendix D3.1a of ToR Volume 2, Consultation Record).

7) In a December 10, 2010 news article in the Ottawa Citizen the proponents’ representative is quoted as saying that:

*“.. the landfill is planned for a part of the property untouched by blasting, and not the current quarry.”*

What the proponents’ representative failed to explain is that to excavate a base for the landfill (to the 4 to 5 meter depth being cited in the public consultation documents), blasting will be required to facilitate the excavation.

8) The third last sentence of Point 3. in an e-mail from the proponents’ representative to a member of the public (on page J-41 of ToR Volume 2, Consultation Record) states:

*“.. there is sufficient literature from extensive work by the Geologic Survey of Canada which proves the esker receives its recharge from areas where it is exposed at ground surface and not through overburden or bedrock groundwater.”*

I am quite confident that the proponents’ representative is overstating things. I would invite the proponents to provide the “proof” alluded to in this statement.

My review of this issue suggests that it is quite possible that groundwater recharge from the Russell Road North property is replenishing the esker. Indicators that this may be occurring include the following:

- the Russell Road North property is a groundwater recharge area, and is higher in elevation than the esker;
- the quarry lake is hydraulically connected to any transmissive fractures which intersect it;
- groundwater flow directions are from the Russell Road North property toward the esker;
- flow paths from the quarry to the esker would not be inconsistent with the kinds of regional flow patterns shown in hydrogeology reference texts.

9) The second last paragraph of the first page of an e-mail from the proponents’ representative to a member of the public (on page J-67 of ToR Volume 2, Consultation Record) states the following:

*“Question 6 of the FAQ discusses all the work completed to date which shows that historical blasting at the site has not caused fracturing or increased permeability of the shale.”*

I can state with utter certainty that blasting will cause fracturing of shale bedrock and will increase its permeability - the only question is how far out from the area of blasting these effects will extend.