

October 11, 2012

To whom it may concern:

In response to the public invitation to review and comment on the recently released Terms of Reference documents for the CRRRC, I Jon Funston respectfully submit questions and comments to this process. As a resident of Russell an undertaking such as a Landfill and Hazardous waste storage facility in the vicinity of the Village of Russell is of importance to my family and I.

I am unaware of any particular format for raising questions or making comments about this situation so I will try to keep my thoughts and points clear and concise in the order that they came to me while reviewing the ToR. Most questions and comments raised in this communication are as a result of lack of information or clarity throughout the reference document, referred to as the Terms of Reference.

1)What is the expected contaminating lifespan of the landfill and the lifespan of the geomembrane if (G2 in the Terms) one or more are used? Presumably a geomembrane (or several ) will be required as this site has a reportedly fractured and unstable foundation?

2)How will the vertical fractures in the quarry pit and surrounding area be measured and verified?

3)What are the plans for the expected subsurface migration of landfill gas, from the waste in the cells as opposed to the open rows of composting? How will it be managed until such time as there is a significant amount that makes it fiscally viable for capture and reuse?

4)What is the proposal and methodology to identify future impacts on the ground water and surface water and what kind of monitoring will be in place? Will the community be made aware in a timely fashion of the results of the monitoring?

5)Will either site process off site leachate from other dumps?

5a) Will either site process their own leachate. If so, how? If not, what storage method will be used or where will it be transported to?

6)Will ground water testing using  $C_m = C_b + X(C_r - C_b)$  formula be made public regularly? (if not this formula, which one and will those results be made public?)

7)Because of the likely hood that the present pit (Russell site) has intersected an esker, what will be the required monitoring conditions for ground and surface waters, ie. regularity (more frequent than, say, 4 times a year or bi annually?)

8)What will the ground water protection system above the attenuation layer consist of and can a description of the process be defined and copies sent to the interested public? How will monitoring here proceed? Will there be any public notification of test results?

9)What is the design of the primary leachate collection system that meets the conditions set out in Schedule 1 for a 100-year service life? And how will it be disposed of.

10)The use of ground water monitoring wells to determine the quality of ground water for testing are to me, not the best system for testing ground water as the aquifer must become contaminated before monitoring will pick up the leak in the liner. What other methods of testing will be considered before a system of testing wells is decided on?

11)What is the planned schedule for monitoring surface and ground water.?

12)Will you be monitoring the vadous zone beneath the containment unit. Why or why not? If yes, what technologies will be utilized for this operation?

13)Will the containment of the landfill site require retrofitting? Is it planned for? If so, will details of that plan be made readily accessible to the public?

14)Will any of the monitoring strategies include the entire subsurface beneath the bottom liner?

15)Will the monitoring be designed to specifically cover the most vulnerable areas, such as where it is difficult to obtain competent geomembrane seal ie: high flow leachate collection channels and sumps.

16) What guarantees will there be that the system will continue to function effectively if a leak or defect is detected in a liner is detected?

17) Is the South Nation Source Protection Area the proper place to risk an environmental contamination of ground water, considering the United States EPA believes that all liners will fail either through natural degradation or a result of reactions with contaminates?

18)Will it be necessary to identify\inventory the chemicals that are being contained, collected or buried at the site?

19) Will it be necessary to identify the chemicals released in the event of a leak or simply just be aware that a release is occurring?

20)Will any of the monitoring systems be to be able to identify the point of the release?

21)What will be the service life of the monitoring devices and how easy is it to repair or replace the ones in the system chosen, should they fail.?

22)Because of the suspect fragility of the faults in the area bedrock and sub soil structure will all monitoring systems need to work continuously? If so, will there be an independent monitoring entity with no partisan connections to Taggart Miller conducting the monitoring? Will we as a community receive frequent updates as to the results of monitoring? How will this work?

23)There is presently a proposal for this type of recycling\landfill facility to collect the same types of waste (IC&I) before the City of Ottawa presently, why do we need to duplicate with a new facility? The Terms state that there is presently no other facilities in the area of this nature.

24)What kind of liners will you be using and, if any composite is used what material will it be made of and how thick will it be? If a geomembrane is utilized, which if any of the following materials will it be

constructed of; high density polyethylene, polyvinyl, polypropylene or ethyl propylene or other? How many layers of liner will be used? What will the soil conductivity be under the cells and how will it be monitored for changes?

<http://www.epa.gov/tio/download/char/epa542r04013.pdf>

25) Groundwater recharge, which is an important process that refills aquifers, generally occurs through the vadose zone, from precipitation. What protection will this area receive and what monitoring strategies will be employed here?

26) Are there plans now or will there be in the future for a secondary leachate collection method? Please supply details?

27) Will the site be mandated to collect and store the leachate gas until such time as processing it at the site is feasible? Please describe how this will be done.

28) How will the leachate be treated if collected at the site?

29) Will there be any diffusion hose technology employed under the liner?

30) Perimeter dry wells used for testing haven't proven reliable because they may not be able to detect leaks in a timely fashion. Will you be using lateral piping in conjunction with dry wells?

31) Are there any plans for electrode grids to be set up for testing the liners? How long after the closure will the liners be tested for and what methods will be employed? Please include a schedule for monitoring.

32) How will repair work to the liners be identified and completed and for how long after the site is abandoned?

33) Will there be a fund set up to look after the townships cleanup needs in the future, as the United States EPA has stated that all liners will leak? Biodegradation of organic waste and the hydration of ash in waste material can generate heat which reaches its maximum value in the main body of waste and decreases toward the landfill base 30-40 Celsius where leachate collection systems operate. Where they don't, or leachate control system fail, temperatures can climb to 40-60 Celsius. Temperatures within an aquifer remain constant about 10 Celsius (as in Toronto area testing) this scenario leads to high temperature gradients cause accelerated aging of liners, where increased moisture movements increase the risk of dissection cracking of the mineral components of the liner and increase both leakage and diffusion of contaminants.

34) Will any of these technologies be incorporated into the testing of this site: plate\pan lysimeters under pumps during construction, gypsum blocks for seams or joints, neutron probe access tubes or tensiometers? If not, what is the methodology for choosing other kinds of testing, which kinds and what monitoring of them will be incorporated into the site? The frequency of monitoring is very important

and I would like an information source for the data used to determine any monitoring methods. Will public have access to all monitoring results?

35) Several disturbing references to existing landfill can be easily found. I visited the MOE website and read some of the fines levied against individuals of small outfits in the province for violations of some of the existing legislation with regard to the environment. What I did not see was the names of the larger landfill organizations such as, Walker Bros. Waste Management of Canada Corporation, Tomlinson, Taggart Miller etc. Is it that the large landfill operators in Ontario are conscientious corporate citizens or is it more likely that the MOE, with its reported 400 inspectors, is not targeting the larger outfits until there is a problem? Will the community have access to all the performance reports that Taggart Miller submits to the MOE with regard to the operation of either landfill?

(A study of the discharge histories of 361 companies and councils by the EPA, found that 183 of them breached at least one condition. The 183 non-compliers recorded 383 breaches of their license conditions.

Overall, the licensees' Annual Performance Statements show that **about one in every six conditions imposed by the EPA is breached** but there appears to be little enforcement action. There are no details of sanctions on the EPA website, even though the agency's compliance policy requires the information be publicly available.)

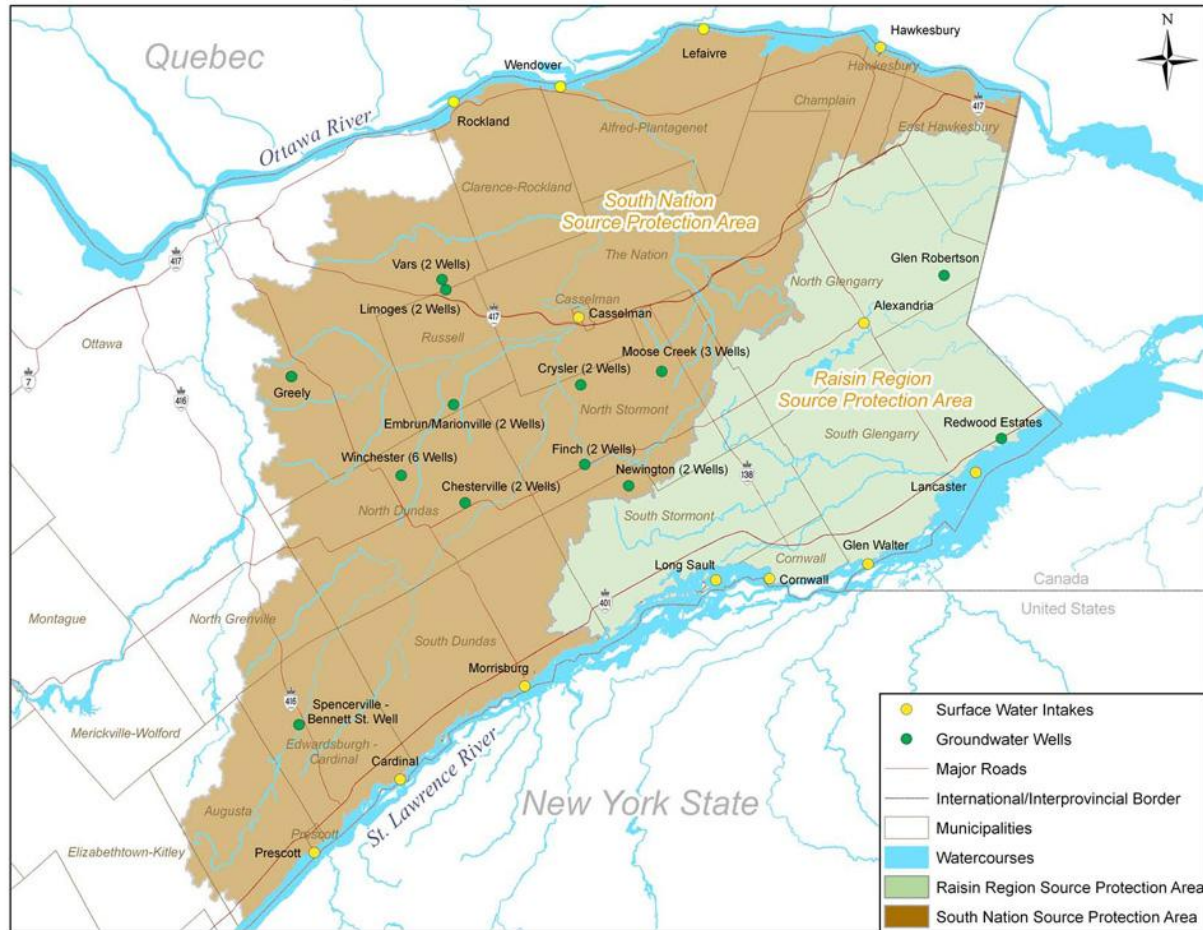
36) Why risk putting the dump inside the groundwater, well areas of either Embrun, Russell or Vars? See maps from South Nation and Raisin River Source Protection areas, attached?

**The South Nation Source Protection Area** comprises the jurisdiction of the South Nation Conservation (SNC). As Source Protection Areas are watershed based, the boundary is slightly expanded beyond the Conservation Authority's jurisdiction to encompass the Town of Prescott and an additional watershed-based area to the north-east.

The total area of the Raisin Region Source Protection Authority is approximately 2,000 sq. km. The total population is approximately 82,000. The total area of the South Nation Source Protection Authority is approximately 4,900 km<sup>2</sup>. The total population is approximately 177,000.

The Region's Map attached below shows the two Source Protection Areas and the communities located within in each area.

<http://www.yourdrinkingwater.ca/view.php?id=52>



‘Since 1998 the United States EPA determined that even the best liner and leachate collection systems will ultimately fail due to natural deterioration but recent technologies may delay the leachate transport out of a site by a decade.’

The following statement was copied from the Ontario MOE web site:

### **Lack of Ministry Oversight and Authority**

The ministry has noted that while the Minister may accept or reject a proposed waste diversion program, the Minister cannot modify it once received. Moreover, the Minister lacks the ability to enforce timelines related to program development and implementation and the Act provides no authority to penalize any party in these circumstances.

In addition to identifying problems with Ontario’s waste diversion framework, MOE’s policy proposals discussed a laundry list of forward-thinking possible solutions (see box on waste diversion solutions).

Understanding the above I am shocked and must wonder why this ministry has the responsibility to allow or disallow new landfill applications at all, if they have no authority over them such as described. The MOE's Policy Proposals listed below would show far more responsible governance if they were to move off of discussion papers and be put into law. The end result would be a reduction in the need for landfills, in or near communities, that put the lives and the quality of living in those communities at risk. These solutions point out a need for more or stronger enforcement as well!

**Waste Diversion  
Solutions Discussed in  
the Ministry of the  
Environment's Policy  
Proposals**

- Impose a surcharge on waste sent for disposal
- Ban designated materials from disposal
- Develop a long-term waste diversion schedule to: designate residential and industrial, commercial and institutional (IC&I) materials for diversion (including construction and demolition materials, vehicles, small household items); set timelines and milestones for each material; and set five-year material-specific

collection and diversion targets

- Shift the basis of Ontario's waste diversion programs from extended producer responsibility (EPR) to individual producer responsibility (IPR), i.e., make individual producers fully responsible for meeting waste diversion requirements for both residential and IC&I waste
- Establish penalties for producers who fail to meet outcome-based requirements
- Require that all waste diversion programs clearly include separate reduction, reuse and recycling components
- Redefine stewardship costs (i.e., steward fees) to better recognize variation in the environmental costs amongst producers' products and packaging
- Reduce steward

fees proportional to the expansion of the reuse of their products

- Prohibit producers and retailers from making their environmental management costs (i.e., steward fees) visible as separate charges at point of sale. MOE notes that requiring producers to internalize these costs as another factor of production (which can be mitigated through product design, manufacturing and packaging decisions) acts as an incentive to reduce both the costs and the waste associated with their products
- Require retailers to take back products at end-of-life
- Incorporate deposit return systems for certain products and/or packaging
- Require product labelling that indicates the product's environmental



impacts

- Set mandatory waste diversion targets for municipalities
- Require all waste generators in the municipal and IC&I sectors to report waste diversion statistics, including quantities of waste disposed and diverted
- Amend the 3Rs regulations to: increase the scope of their coverage; include more definitive data reporting requirements; and strengthen enforcement measures to encourage the IC&I sectors to divert as much waste as possible
- Increase residential organic waste collection and centralized composting in Ontario's largest

municipalities

- Provide training to small businesses to help increase their waste

- diversion rates
- Change Ontario's Building Code to require new multi-unit residential buildings to provide convenient source separation services for residents
  - Streamline the governance and administration of waste diversion programs by:  
clarifying the roles and responsibilities;  
introducing a clearer set of checks and balances;  
introducing more effective compliance tools and penalties; and  
expanding the composition of industry funding organization Boards of Directors to include non-industry representatives

[http://www.ecoissues.ca/index.php/What a Waste: Failing to Engage Waste Reduction Solutions#Lack of Ministry Oversight and Authority](http://www.ecoissues.ca/index.php/What_a_Waste:_Failing_to_Engage_Waste_Reduction_Solutions#Lack_of_Ministry_Oversight_and_Authority)

**Comment:**

How much longer will this Government or any other 'dither' over a decision to stem the problem of excess IC&I waste. Storage or disposal of it by burying is not a legacy for the next generations. Decades of

monitoring will be required and if funding is not set aside by the operators to mitigate an environmental catastrophe or the need for a clean up a decade or two after closure, then the tax payers of the day will be burdened by it. Ignoring the problem and hoping a solution will be developed in the future is not a responsible approach to management of waste. Giving waste producers such as Taggart Miller (Tamarack Homes), City of Ottawa and counties both East and West (as described in the ToR) the ability to dump and bury recyclable waste until such time as governing bodies such as the MOE make vital decisions about reducing waste at the source, or a need, for a new technology is developed to deal with a particular recycled product, this landfill (as well as any other landfill) actually reduce incentive to initiate recycling programs and alternatives. According to the MOE web site there are presently 2283 landfill sites operating in Ontario. Surely to goodness there is capacity amongst all of them or at least existing ones close by that the need to open another one is not necessary, and surely we do not have to transport other communities' wastes to our area for storage and clean up when other facilities already exist in their area. The decision by Taggart Miller to import waste is strictly monetary and self serving serves as there is no environmental advantage to transporting hazardous waste and concentrating it. These sites chosen in the ToR contain water. The Russell site is potentially unstable and sits on fractured bedrock. The true comprehension of the intricacies of interfering with this type of erratic hydrogeology is not known at the present time and the risk to the environment should out way the need for another hazardous waste deposit site. The map on the MOE website clearly indicates the catchment area that the Terms of Reference are proposing already have facilities capable of accepting the waste from the nearby communities.

Already several landfills in the Ottawa area to look after Ottawa's garbage. It is a little outdated on the remaining capacities but room for sure.

**Lefleche** - Solid non-Hazardous municipal, industrial, commercial and institutional wastes, including sewage sludge, construction and demolition waste, auto-fluff, contaminated soils and asbestos.

Estimated Remaining Capacity (ERC): 4161325 Cubic Metres

Not quite sure how contaminated soils and asbestos are non Hazardous but??

#### **Springhill Rd**

Estimated Remaining Capacity (ERC): 733988 Cubic Metres

**Trail Road**, has liners:

Total Approved Capacity : 16998442 Cubic Metres

Estimated Remaining Capacity (ERC): 7223507 Cubic Metres

#### **West Carlton - Ottawa Carp Rd**

Estimated Remaining Capacity (ERC): 119199 Cubic Metres  
Leachate off site

**WSI - Ottawa - Navan Rd**

Estimated Remaining Capacity (ERC): 4048700 Cubic Metres

I ask to be sent a copy of the Certificate of Approval if either site in the ToR is approved.

If the technological advances such as discussed in the ToR are close at hand, ( it seems this ministry is waiting for them too), the trends point out that recycling problems should be abating well within the timelines of life expectancy for the nearby existing landfills to handle the waste steam until then. I see no commitment from Taggart Miller to reclaim waste products that are stored, (buried) at their site, after the new technology they discuss arrives. Until such time as the technology changes and Taggart Miller is able to increase the recycling potential of the waste that it is housing, is that waste going to be buried, (as a first choice) inventoried and publically recorded?

What technologies will be incorporated for the storage of contaminants from the soils the plant will be processing. Will the public be notified of what chemicals and the quantities when they appear on site? MOE has roughly 400 inspection officers in 16 offices across the province, what manpower is available to be dedicated to this site? For such things as storm water pond testing one contaminated soils are stored on site?

The ToR claims the site is to be used for the IC&I waste from Ottawa and for contaminated soil processing from other parts of the province. The tonnage that the ToR quotes are estimates only. How much of this IC&I waste will be coming from Taggart Miller and its' affiliates? Is this just away around an expensive system that benefits this operator? (Tamarack Homes).

With respect to the EAA how many cubic meters of dump size are we talking here? The ToR only mentions possible tonnage, unless I missed it somewhere.

- Regulation 101/07
- Typically, sites smaller than 40,000 cubic metres are not subject to the requirements of the EAA. Sites that are larger than 40,000 cubic metres but are less than 100,000 cubic metres are subject to the EA Screening Process
  - Sites larger than 100,000 cubic metres are subject to an Individual EnvironmentalAssessment

In June of this year the organization IARC (International Agency for Research on Cancer) declared Diesel Exhaust a human carcinogen. With the concentration of the trucks at either location will this new information be taken into consideration in the air monitoring and testing\sampling to take place in the Environmental Assessment? There are concerns over first and third party haulers not maintaining their vehicles or engines properly, as can be seen on any garbage collection day in the village now, it is a situation that needs to be addressed and planned for in advance. What protocols will the vehicles be following for

idling while either waiting to be weighed, emptied or even just entering the facility to address the concern of carcinogens released in concentrated quantities in the areas of the facilities? Will the MOL be solicited for advice on this new carcinogen in this work place? Protection of the workforce is an obligation that must be addressed as well.

To my knowledge there is limited HAZMAT training for the Volunteer Fire Departments of the Villages of Embrun and Russell. The City of Ottawa reportedly has a crew capable to deal with a Hazardous Spill or containment in a fire situation. The VARS station is not one of the ones that has the training according to the source at the Ottawa City Hall that I recently spoke with. Either site, should one be selected, is approx. 20 minutes from a Hazmat trained group. Will there be Hazmat training given to the Village Fire Departments as first responders and if so, it should come at the expense of the Township? The tab for training and any additional equipment should be picked up by Taggart Miller. Does Taggart Miller plan to have their own fire brigade in the event of a fire? It may not be necessary at start up but if the Terms are correct there could be hundreds of thousands of tons of combustible hazardous waste at this site and the villages would be defenceless. The Hagersville Tire Fire in 1990 comes to mind. Is there an evacuation plan for each of the exits from the area depending on which way the wind is blowing? Funding of some kind should be set up by Taggart Miller for immediate relief for individuals in the event of loss from a disaster or as a result of displacement in an evacuation!

The endangered/rare species assessment and the geological and hydrological assessments should be conducted by reputable, independent and non partisan agency with the proper experience and credentials in these disciplines. Perhaps two studies for each conducted independently of each other would be necessary for verification? Because the Russell area is a very large staging area for Migratory birds I suspect a Environmental Assessment by the Federal Government will be forthcoming?

The list of other approvals necessary seems extensive, Planning Act, Official Plan of the Township, Zoning by-Laws amendments, Aggregate Resources Rehabilitation, Conservation Authority Approvals Reg170\06, Drainage Act and it would appear a Federal Environmental Assessment as well, as the quarry has become one of the largest staging areas for migrating birds in Eastern Ontario. It does not make sense that the purpose of the provincial Environmental Assessment as stated on the Ministry Website is; 'An EA is designed to promote good planning by assessing potential effects of certain activities on the natural and human environment.' The site describes the purpose of the ACT as, "to benefit the people of Ontario by providing protection, conservation and wise management of our environment." Risking the contamination of an aquifer and surrounding area, creating concentrations of both air and noise pollution that did not exist in this area before not to mention the inevitable traffic problems, that the ToR makes plans for, does not seem to me to be fulfilling your web sites' claim of benefiting Ontarians especially if so many different laws and Acts have to be amended or applied for to make changes to existing legislation that was put in place to protect the citizens of Russell and area. Disregarding the majority of township residents wishes not to have a landfill in their community is a failure of the several levels of Government involved in the decision making process.

Thank you for your time on this matter. I respectfully await your acknowledgment of receipt of this document and anticipate your responses to my question and comments in a reasonable time. Jon

Jon Funston