

# Notes from Bio Toilet Public Meeting

Monday, November 8<sup>th</sup>, 2010

**Notes taken by Ozren Stambuk.** The meeting lasted for approximately one and a half hours. Five community members not connected to the project were present. The Parks manager, Sandy Straw, Recreation supervisor Dave Hains, and Parks supervisor Peter White also attended the meeting. The following notes are not a direct transcription of what was said at the meeting. They are arranged by order of speakers and are thus chronological.

## Presentations and Introductions:

### **Peter Didiano (Capital Projects):**

*Introduced the meeting*

- The meeting was to discuss a 'feasibility study which the city commissioned using funds left over from the playground program
- This stage of the proceedings is just meant to be a study, meaning that no money has been approved for the program
- Rohan Walters will deliver a report after the last meeting

### **Rohan Walters B.Arch., B.E.S., BCIN – Small Buildings (designer):**

*Introduced the team of the study*

- The purpose of this meeting is to address the need for toilets; the team members include Georgie Donais, working as a community builder and Andrew Hellebust, a water/chemical engineer

### **Georgie Donais (park builder):**

Introduced herself as project leader on cob wall and gave a brief history of the bio toilet project with slides and explanations, showing where the project was suspended and the unfinished structure near the wading pool. Later in the meeting she also added that if the project were to proceed, it would have wooden walls and no longer be cob.

### **Andrew Hellebust M.S.E., P.Eng. (engineer):**

*Explained the engineering aspect of the bio toilet*

- CELOS has developed designs for the toilet
- Small units are easily overwhelmed, at the park we have the best possible one, the Phoenix
- Shallow soil is the most active biological area, so we want to take advantage of it
- We want to provide proper conditions for aerobic composting, meaning that warm temperature and oxygen are key
- This is the opposite of a septic tank or outhouse, where the former is sealed and the latter gathers a compressed pile of excrement
- In both cases, the process is anaerobic, meaning that it is without sufficient oxygen supply
- The Phoenix is aerobic, promoting circulation and decompression through woodchips, resulting in no odour

- In addition, there is ventilation which all together produces good bacteria
  - o These bacteria need a moist, warm and oxygenated environment to function properly
- There is also a mechanism, in the form of a 'crank arm', which can be turned to allow breaking down of the piles and promoting oxygen supply

**Rohan Walters:**

*Provided a summary of the key advantaged for installing a bio toilet in Dufferin Grove Park*

- What prompted this project was distance of toilets from the playground
- Based on maps of Dufferin Grove and some approximate triangulation, families have to walk 700-800 feet from the wading pool to the washroom in either the field or the rink house
- The bio toilet is tiny, it is 140-150 square feet
- How do we affordably and sensibly make it into the building it was supposed to be, conforming to the Ontario building code?
- There are two possible ideas and models: if we keep the current unfinished foundation/structure, we will have to build an accessibility ramp which is an extra cost
- If we decide to go with the other model, we will not need a ramp since the foundation will be lower
- In either case, helical piles will need to be installed, which will act like a bracing system along with a small steel wall to brace the earth around the foundation
- The bio toilet will have a green roof, which can capture rainwater and prevent excessive discharge on the area around the toilet
- Installing a regular toilet in this location would cost one thousand dollars per meter of pipe, which in Dufferin Grove would equal between 73 to 147 thousand dollars depending on the street the pipes connected to
- These pipes would also disturb tree roots
- Toronto Urban Forestry and the Toronto Regional Conservation Authority are insistent on preserving the tree root systems.
- The bio toilet does not disturb the tree roots, saves money by saving on water and labour through a intelligent design
- There are existing precedents in the Bronx Zoo where the laying of pipes was unfeasible due to animal enclosures and the solution was bio toilets
- There is an existing precedent in Ontario Government offices; the head office of the Toronto Region Conservation Authority Building located in Vaughan.

**Jutta Mason (CELOS):**

*Related the bio toilet study to the facility situation in other parks across Toronto*

- Many parks have no washrooms at all
- The problem is that people in these parks have no recourse if they live more than five minutes away or if the parks are not near coffee shops, as is the case in many suburban neighbourhoods
- City started using chemical toilets, few and far between in very large areas
- People have to walk very far from the playground to get to the field house or rink house toilets

- In contrast, when the work was being done on the wading pool at Dufferin Grove, the law required a chemical toilet to be put close to the workers
- Likewise, in shopping malls the farthest distance of a toilet from any give point in the complex is 45 meters [3.7.6.3.(3)(a)(b) of the OBC Location of Plumbing Fixtures]

## Questions and Comments:

When there is more than one name in bold letters, the speaker will be denoted by the first letter of their first name in the proceeding bullet point list {For example: Andrew = (A)}

### **Maria**

*Lives on Dufferin Street and has been following issue for several years*

- Appreciates environmental aspect to it but has several questions:
- What is the cost of the project? Who will maintain the facility? What kind of specialized knowledge is required to maintain it? If we have a bathroom in the park that works, why do tax dollars need to go into another Dufferin washroom when other parks have none?

### **Rohan Walters and Georgie Donais:**

*Responded to the questions*

- (R) The cost will be given in the next meeting
- (G) The maintenance is straightforward since it involves going into the room once a week, turning the crank, checking the fan
- The structure is actually designed to be relatively maintenance free,
- If something goes seriously wrong with it, it is possible to talk to the manufacturer. With whom we have a five year relationship
- The door has a counter which tells the park staff if the washroom is being overused and needs to be closed so it can “rest”

### **Michelle:**

*Park user*

- A number of park users wonder why there is no washroom at the south end of the park
- Regular washrooms set back children in toilet training due to their poor condition
- Parents with more than one child have to bring everyone to the washroom each time somebody wants to use it
- The toilet was donated by park users who understand these demands
- Dufferin Grove is a high volume park and is therefore good for testing the toilet for future locations

### **Dave:**

*Park user*

- Question regarding science of the toilet: how does the venting actually make it less smelly if is allowing odour to circulate?
- Question regarding compost: residents are already able to get compost from the city, but would they also be able to harvest it from this bio toilet?

### **Andrew and Georgie:**

*Responded to the questions*

- (A) Regarding the smell: the idea is not specifically air circulation but oxygenation which will promote composting process, also the waste container is very big and has more woodchips at any point than it does human waste
- (G) Regarding composting: it would take up to 5 years to have enough compost for distribution but it would also need to be tested in a lab first and then circulated in the park

**Shaun:**

*Volunteer gardener and park user*

- Questions regarding function of toilet: If water is not being used, how is leachate being produced? What happens when there is no water? Where is electricity coming from? Are there any environmental problems? Does the fan emit any smell? What is the comparison between chemical and bio toilet in terms of cost?

**Rohan and Andrew:**

*Responded to the questions*

- (A) The water comes from the urine
- The only case when there is no water is if somebody does not urinate when they sit on the toilet
- (R) Only 5 watts are required to power the fan and this can be provided through an electrical line or a solar panel
- (A) Through oxygenation and woodchips the toilet does not emit a strong smell, and in any case it is not a septic smell since the oxygen changes the chemical composition of the waste and produces a very different smell (pleasant)
- (R) For example: the composting toilet is being used in enclosed government offices, and there is no smell because it would be unsustainable in such places
- The maintenance and cost of the chemical toilet are not even on the table, and the December meeting will show different cost comparison between other models

**John:**

- Raised questions about safety: What are the implications of having water and children in the same area as the toilet? What are the chances of contamination, spill or overflow? What checks and balances are in place to prevent any major problems? What about vandalism? What about the sanitary conditions inside the toilet? Can somebody or something be stuffed down the toilet, what is the opening width?

**Rohan, Georgie, Andrew and Jutta:**

*Responded to the questions*

- (G) Overuse has a check in the form of a door counter which marks each time the door is opened
- (G) Regarding a massive flood: it will affect all facilities in the same way as the bio toilet
- (A) In the case that the door counter fails and 300 people somehow use the toilet in one day then, in the case that they urinate, the trench has extra space and in the case of excrement, the composting chamber has a lot of volume outside of it for overflow before it would ever contact a park user

- (R) Regarding vandalism: there are electric monitoring systems available as well as park staff, however we do not want to put any kind of overbearing security system that would then be required at all other park facilities
- (G) Regarding sanitations: there will be hand sanitation stations in the facility but we do not want to add components to the toilet that add to its maintenance
- (J) Regarding vandalism: the field house toilet was vandalized in the past, such as when one person regularly stuffed cardboard down the toilets and chemical toilets are sometimes pushed over, such as at MacGregor
- (A) Regarding the opening: the opening is about 12" but there is a bar across it to prevent bigger object from falling in
- (G) Regarding the opening: in other bio toilet cases, there are regular incidents of bathing suits, watches, towels etc falling into the toilet but there is a special tool to allow the removal of these objects into a bin after which they are disposed

**Steve:**

*Resident*

- Question regarding vandalism: How about monitoring our current toilet and preventing the kinds from the school across the park (St. Mary's) from vandalizing it instead of building a whole new one?

**Jutta:**

*Responded to the question*

- We tried to keep the doors of the field house locked during school hours but that did not last
- There is less chance for vandalism with the bio toilet because the kids are exposed to the significance and importance of environmental projects at school

**Irene:**

*Resident*

- Stated her opinion on the project and asked questions regarding the implementation of the toilet
- Cannot accept the distance argument because people should just take their kids across the field if they need to use the toilet since it is not a long distance
- Cannot accept the spending of resources for a facility that will only function for three months of the year due to peak season
- The Phoenix manual states that the ambient temperature of the toilet should be 18 degrees which will only allow it to function during three months of the year
- Why is the location of the toilet the same as before, even though the manufacturer suggests it be built on a hill? If we are looking for the most affordable and sensible solution, why not look for the best location?

**Rohan and Andrew:**

*Responded to the questions*

- (R) Regarding distance: parents have different opinions regarding the distance and are subject to mobility concerns and the number of children they have

- (A) Biological rate of decomposition double for every 10 degrees so the manufacturer statement is unhelpful because it is run at a number of different places at lower temperatures, in any case it is underground and away from the sun as the manufacturer suggests

**Irene:**

*Repeats her concern regarding project*

- There is no point spending a lot of money to build a container to contain human waste when washroom is approximately 700 ft away, it is a container because it will only function for three months of the year

**Sandy Straw:**

*Parks manager*

- From a parks and recreation perspective, we need to encourage more park users and washrooms will allow this to happen
- Right now we are simply trying to create a feasibility study and it is not being built at this moment
- Regarding the peak seasons: New expensive washrooms were built at Woodbine and they are only used for about three months of the year, the peak summer season, and then they are locked down for the rest of the year

**Belinda Cole:**

*Resident and mother of four*

- Closer washrooms would be very important when spending time at the wading pool

**Irene:**

*Reiterates her concern for the bio toilet and its implications for the park in general*

- Dufferin Park is not a good place to do this project, the washroom will be a beacon for division, division of a community which does not agree on its importance, there are better places to put it, Georgie should not be a part of the team because she is partial, along with Rohan they are not the right people to present this project impartially to the community, there should be a review of the way things work at Dufferin Park in general

**Peter:**

*Concludes meeting*

- Nothing has been done wrong in hiring Rohan, I am the project manager who defers to our consultant's professionalism, and we hired a qualified designer for this reason who has his BCIN [Building Code Insurance Number], the proper WSIB paperwork (Workers' Safety and Insurance Board) qualifications required by The City and he has a degree in architecture. He can choose who he wishes for his team. Again there is no money right now and no project has started yet, this is just a feasibility study

**END OF MEETING**