Property Management
Closing the Loop: On-site Composting Consultation - Minutes
2016-12-02
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CLOSING THE LOOP: ON-SITE COMPOSTING CONSULTATION
Concordia University

Friday, December 2nd, 2016, 1:00 p.m.-3:00p.m.
EHS Meeting Room, GM-1060.01

Minutes

Attendees:

Faisal Shennib, *Environmental Coordinator, EHS*
Priyanka Pandey, *Program Coordinator Concordia Institute for Water, Energy and Sustainable Systems*
Rebecca Tittler, *Coordinator, Loyola College for Diversity and Sustainability*
Brad Poapst, *Supervisor, Facilities Management*
Marc Champagne, *Manager, Custodial Services, Facilities Management*
Stephen McLeod, *Compost Montreal*
Marie-Josée Allard, *Director, Hospitality Concordia*
Aryana Soliz, *Dept Sociology / Anthropology + Concordia Ethnography Lab*
Orlane Panet, *co-founder of Microhabitat and student at JMSB*
Sebastian di Poi, *Internal Coordinator, Concordia Food Coalition*
Mark Underwood, *General Coordinator, Sustainable Concordia*
Satoshi Ikeda, *Sociology professor*
Nadra Wagdy, *Sustainability Action Fund / Waste Not Want Not Compost Campaign*
Andrew Alford, *Four Seasons Growing Coordinator*
Pat Pietromonaco *Director, Property Management, Facilities Management*
Cameron Stiff, *Compost Montreal, student in sociology, CHNGR*
Lana Galbraith, *Sustainability Coordinator, CSU*
Isabelle Mailhot-Leduc, *Sustainable Food System Coordinator, EHS*.

	Topic	Conversation
1	**Introductions**	Faisal: The purpose of this meeting is to review the history of composting at Concordia, for stakeholders to meet each other, and to begin conversations on what an ideal, revitalized on-site composting program would look like. This will be the first of a series of meetings on this topic, and anyone interested in continuing to be part of the conversations is welcome to join subsequent meetings. We'll start with a go-around and I'll ask you all to introduce yourselves and answer these questions: • What was your first experience with composting? • What is your interest in composting? Priyanka – Research opportunities in compost, graduate projects for CIWESS. Personally interested in compost education. Isabelle - Food systems sustainability work overlaps with compost – food waste is an important part. Rebecca – interested in opportunities for student involvement from the LOY college (internships, research). Some research fellows were very interested

but could not attend this meeting.

Brad – managed Brome composter at LOY. It is essential that any composter be sited appropriately (parking lot near residences was not a good idea).

Marc – also was in charge of Brome composter.

Stephen – looking to partner with institutions to build closed loop systems and improving awareness of compost.

Marie-Josee – looking at options for managing food waste from conferences and kitchens.

Aryana - students in Ethnography Lab might be interested in studying the challenges in food waste systems.

Orlane – interested in partnering through her company MicroHabitat, which manages Urban Agr. Projects in MTL.

Sebastian – interested in establishing a large scale vermicompost system at Concordia.

Mark – SC is often first connection for students interested in sustainability, so interested in guiding them to sustainability projects like composting.

Satoshi – interested in compost as food for growing. Working with PhD student developing insect growing project.

Nadra – personal interest in compost; did Masters in closed loop food systems and involved in Waste Not Want Not. SAF interested in funding composting initiatives when lead by students, especially education.

Andrew – interested as users of compost (GH).

Pat – looking to optimize food waste management system.

Cameron –has been involved in SC, Compost MTL, urban agriculture at Concordia, and now ChangR.

Lana – CSU looking to support groups working on any aspect of compost initiatives.

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2 **Presentation**

Faisal goes over power-point presentation:

History of onsite composting at Concordia University
2006-2007: program began with vermicomposting Masters project, which turned into the R4 Compost Project with vermicomposting at the Greenhouse and a hand-mixed compost pile at Loyola

2008-2011: Expansion of the program with an industrial composter. We used a model from Brome that was originally designed for pig carcasses. The composting process is an art as much as a science and we were

learning about optimizing the process and sharing our knowledge with many other institutions looking to set up similar systems. The composter reached around 70 tonnes processed per year. The quality of the output was more of a mulch, since the wood pellets didn't break down completely. Also, there were problems with contamination of bioplastic bags and plastic cutlery (compostable and non). The operators did a good job of trying to pull out contamination but a sifting system would have been required to more thoroughly filter. Also, odors were a problem. We were in the process of looking up a shredder to add to the composter to solve capacity, odors and the issue of the wood pellets not breaking down.

2012-2014: The composter broke due to corrosion from the winter (it was uncovered) and possibly from being overly filled. External services like Compost MTL and then Matrec are used. Ability to compost bioplastics and meat with Matrec, as well as provision of 240L bin supply made it an effective choice. GHG emissions were calculated as insignificant, despite site being in Moosecreek ON.

2016: Waste Not Want Not Campaign created by students to raise awareness of compost with community with eventual goal of re-establishing on-site composting and closing loop of food waste at ConU. Compost bin numbers expanded from around 10 to over 30 locations on campus in September '16.

Faisal reviews composter options researched this year. These are not exclusive options, but could be combined.

Composter options:

Option A: Outdoor, manual, small composters.

Two companies – Green Mountain Technologies and Jora, make well-reviewed models.

Cameron: Compost MTL experienced some challenges in the winter with Jora composters in Montreal neighbourhoods – they freeze.

Option B: Outdoor, manual, medium-scale

Faisal: This unit (Green Mountain Earth Tub) is the most popular composter for universities in the US. There are no models in Quebec that I'm aware of. It is manually turned but an auger in the center is powered by a motor. It is often set up with multiple units for different stages (composting vs maturation).

Option C: Indoor, automated, medium-scale at Grey Nuns

Faisal and Cameron, as well as reps from Aramark and Hospitality, visited a Vertal CityPOD composter in Brossard.

Cameron: Odour control was a challenge with the unit. The enzyme spray seemed to add to the unpleasant odor. Using a pine aerosol deodorant could work better.

Faisal: The Jora of this type is only available in one size. The Rocket is used by Aramark on other campuses – they have a partnership. They are available in various sizes.

Option D: Outdoor, automated, medium-scale.

Faisal: The Green Mountain Earth Flow uses a track to pass an auger through the compost. It now comes in a shipping container that is easy to ship.

Cameron: The CityPOD *can* compost meat.

Factors of selection:

- Capacity
- Quality of compost produced
- Time for compost to be produced
- Types of organics accepted
- Odour control
- Ease of operation
- Space limitations
- Winterization (for outdoor composting)

Brad: For winterization, a cover over the composter can help.

Operational Challenges:

- Sustaining operations
- Quality control
- Odour control
- Managing maturation stage
- Finding and retaining knowledgeable operators

Stephen: He cannot recommend any of the in-vessel, automated medium scale composters. The Big Hannah or the Brome both broke down permanently after relatively little time. Bad experience with Vertal City POD in Brossard, which also broke down. After doing the cost analyst, believe that in-vessel on-site composting is not worthwhile for institutions.

Maps of food sources, pickup points, and potential composter sites:

Brad: the more control you have on the bins, the more successful composting is. Public areas are difficult to control. Not feasible to have more compost bins.

Faisal: Most frequent comment on composting is that there are not enough bins. But reality is that we have too many waste stations.

Brad: As part of degree requirement, an introduction class to sustainability could make a big difference.

Marie-Josée: It's not that people are not interested. The problem is lack of knowledge. There's a need for more education around composting.

Brad: the signage is not perfect, but people are not taking the time to sort.
Orlane: I'm a JMSB student, and there are not many composting stations there. But people at JMSB also ignore, or don't pay attention, to waste sorting. They don't do it at home either.

Sebastian: I agree with Brad about the introductory class on sustainability. Are we composting paper at Concordia?

Brad and Faisal: Yes, we accept paper for compost.

Faisal: Another group, with Devon from SC and Anne-Marie Gregory, is looking at improving waste stations, educational signage. Will invite everyone to that meeting since there is a lot of interest.

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3 **Discussion**

Faisal introduces survey and passes copies out. Discussion ensues on some questions of the survey:

What does your dream compost / food waste cycle look like at Concordia?

Cameron: There is nothing about sustainability in the Stategic Directions. Education has to come from the top. The city of Montreal is not being a leader on food waste education. High impact and visible initiatives are needed. I visited a landfill in Terrebonne and at least 20 semi-trucks dumped garbage there while very little activity was going on in their composting plant.

Faisal: A big advertising campaign could receive support through our Integrated Residual Materials Management Plan, since awareness is one of the priorities of the program.

Ariana: The Ehtnography Lab developed workshops on reusing that we could do again. They approached things from a perspective of learning together instead of making people feel bad about doing the wrong thing.

Faisal: The Concordia Creative Reuse Center might be interesting to connect with on this project. I can help put you in touch.

Pat: "Orientation" is a good time to do education around composting and put some guidelines in place.

Mark: There are lessons to be learnt from the Waste Not Want Not. These educational campaigns should not be held only during orientation. They should be constant. There are many stakeholders to involve in a composting program, such as biology researchers who can help create a model that other universities will want to follow.

Lana: There are still overflowing bins (like the one in the photo posted by SC's facebook page). Showing that we are putting effort into improving facilities will motivate students to also make an effort to sort their waste.

Satoshi: The design of the waste stations can also help to raise awareness.

Data collection on waste generation for every building would provide arguments to convince the community to compost more.

Stephen: Sticking the items on the signs to help users sort their waste works well.

Marie-Josee: We are doing this already for our events and it works well.
Faisal: These bins will be set up for the renovated H7th floor and there is interest in implementing in future renovation projects.

Faisal show VIDEO on digital bins.

Faisal The bins have scales at the bottom, measure the change in weight, and provide feedback to the user on the digital screens above the bins.

Nadra: Does the digital bins generate positive and negative feedback?

Faisal: It's only a scale – no material sensor.

Lana: To bring it back to on-site composting: Everybody I talk to about off-site composting tells me it is unsustainable to ship the organic waste to Ontario.

Faisal: Our calculations using the EPA's WARM landfill emission modeling software showed that the emissions from transportation are not significant. That's the justification we went with on the decision to use the Matrec service. Still, there is interest in keeping the composting process local, even for off-site composting.

Pat: We have a fairly good idea of how much waste we generate. Now we have to assess what mix of composting strategies makes sense for us.

Nadra: On-site is good, because it provides fertilizer for urban agriculture projects. Ideally, this would be complemented with off-site composting done locally, in Montreal.

Stephen: I agree. For cost effectiveness, we would be looking at a large composting site, on or off campus, and a program that involves curriculum. Cornell is a great example for that. I don't see why a school like Concordia wouldn't take this direction.

Mark: Could we get an open and aerated composting site, if we collaborated with McGill? Do you think it would be possible?

Stephen: Yes. If you are bringing other players in, yes absolutely.

Rebecca: Would we get high quality compost?

Stephen: Yes. If it's well processed.

Rebecca: Can we add paper to it?

Stephen: Yes. It will add some carbon. It's just a question of controlling the quantity of paper that is thrown in, so that it doesn't negatively impact the

quality of the compost.

Andrew: About the education part, we are getting more and more into the academics at City Farms School. Maybe some undergrads and Master students could get their hands dirty with on-site composting.

Stephen: Indeed. There's often a problem with continuity with students. But to counter that we can engage students on a curricular level. Compost Montreal would be happy to be chaperoning the students and ensure knowledge sharing and continuity.

Rebecca: Would you like to be involved in this first level sustainability class?

Stephen: We would like to be part of everything that Concordia wants us to be involved in.

Nadra: For the small-scale composter, students could start with it right now. And we could work on a longer-term composting site project in the meantime.

Satoshi: Using fungi, we could explore the possibility of a maturation project on rooftop.

5	**Closing Remarks**	There seems to be a consensus around the ideas of starting a small scale on-site composting project that will be complemented with off-site composting done locally, and possibly collaborating with other institutions to set up this composting site. Faisal: I'll send the minutes as well as an invitation to the meeting on waste bins and the educational aspect, since there is a lot of interest in that.