

DRAFT IN -PROGRESS

Last Updated on 5/1/2011 by Kevin Wolz

Large-Scale Food Composting Project

Initiated & Funded by the Student Sustainability Committee, in collaboration with Dining Services & Facilities and Services

Overview

At the University Dining Halls, students generate approximately 0.6 pounds of food waste per week per student. This translates to over 1.3 million pounds of food waste that is put in the dumpster each academic year. University Housing is currently the only major organic waste producer on campus that pays to have its organic waste land-filled.

Not only is this waste a cost to Dining Services, but it also has the potential to be a valuable campus resource. Currently, a pilot program collects and composts approximately 400 pounds per week at a facility on the south farms. While this pilot has proven the feasibility of composting food scraps, the current facility cannot handle more than a 2-fold increase in material -- not enough for the over 40,000 pounds per week that the dining halls produce.

Programs at other universities have proven that all food waste can be collected and composted at no larger cost than what the dining halls pay to have the waste land-filled. Furthermore, sale of finished compost to other University units or the public has the potential to offset many other costs.

Seed funding of \$____,000 from the Student Sustainability Committee (SSC) will be used to train staff, prepare the composting site, and launch the campus-wide program. Soon thereafter, the program should achieve financial sustainability with disposal payments from Dining Services and compost sales.

Waste Separation & Collection

Dining Services (DS) already has some experience with food waste diversion and collection via the current composting pilot project as well as several food waste audits. These experiences have given DS a good idea of what is necessary to separate and collect both pre- and post-consumer food waste in the dining halls. DS has agreed to train all necessary staff on compost separation and complete in-house preparations for food waste diversion. All diverted food waste will be dumped into designated containers at the loading docks of each dining hall.

Waste Pickup & Transport

Six new (volume) waste collection containers will be purchased and placed at each of the six

University dining halls. Campus Waste Management (CWM) has chosen these containers based on the volume and nature of the food waste. CWM will use the appropriate, currently-owned truck to pick up the food waste from each dining hall on a daily basis (weekends?). CWM will transport the collected waste to the composting facility and drop it off there.

Waste Quantities

Based on a post-consumer food waste audit conducted at each of the dining halls in December 2010, as well as figures from the current composting pilot project, approximate waste volume totals and schedules have been calculated. During the academic school year, it is estimated that an average of 5 cubic yards of food waste will be collected each day from the dining halls. This scales to approximately 30 cu. yds. per week and 1,000 cu. yds. per year.

Since food waste contains excess moisture and nitrogen, bulking materials will have to be added in order to produce acceptable, finished compost. The Grounds Department (GD) of Facilities & Services collects and stockpiles many tons of wood chips and leaves each year, a campus resource and excellent bulking material that currently is not fully utilized. This supply will be adequate for the needs of this project. Based on a 1:1 recipe ratio, This bulking material will approximately double the initial volume of incoming organic waste, bringing waste stream volumes up to approximately 10 cu. yds. per day, 60 cu. yds. per week, and 2,000 cu. yds. per year. In order to handle this volume of waste, the composting facility would need to be approximately 1.5 acres in size.

All variables and calculations have been verified by _____ Engineering Firm through formal University processes in the summer of 2011.

Facility Location & Operation

Rather than initiating an entirely new composting operation at a new location, DS and GD will cooperate on a new plan for GD's current mulch operation adjacent to the Grounds Storage Barn just east of Lincoln Avenue and north of Windsor Road. GD currently stockpiles wood chips on this site and has several windrows of composting in progress. However, this current process is slow and produces a relatively inferior product due to inadequate nitrogen content in the composting mixture. Combination of this current process with the organic waste from DS will provide substantial benefits to both parties as well as overall campus sustainability.

The Planning Division of F&S has verified this site as acceptable, based on an environmental impact analysis performed by ____ Engineering Firm in the summer of 2011.

GD's current composting area is approximately 2 acres. This area will be sufficient for the proposed composting plan. Should extra space be needed, expansion will be possible towards Lincoln Avenue into the F&S nursery, which is being phased out.

SITE IMPROVEMENTS/PREPARATION AS NECESSARY (pad?, drain tile?, swale?)

As the site, equipment, and bulking material are already under GD's control, GD has agreed to manage and operate the composting operation. They will provide an employee to manage the facility part-time, and they will take advantage of their already-owned windrow turner. A large tub grinder and compost screen will also be purchased with the grant in order to mix the waste streams and then screen the final compost product.

Illinois EPA permits will be required for the sale of finish compost to the public sector. This application will be submitted early on the project timeline so the permit is secured in time for the first off-campus sales (probably in the spring of 2012). The Environmental Compliance Department of F&S has experience with this process and has agreed to help. The proposed site satisfies all stipulations of this permit.

Finances

DS currently pays \$101,532 to OVM for waste transportation and land filling. OVM will continue to receive (\$ /) from DS for transportation (difference reflects decrease in mileage/labor and the fact that no third party is being used for transportation) of the organic waste to the compost facility. DS will instead pay GD the landfill portion of the fee (\$ /) and difference in transportation fee (\$ /) for compost facility operations.

GD will then own the organic waste and will manage its conversion to compost. GD will operate the facility for the first two years using the DS fees, its own resources, and seed funding of \$_____ per year from the SSC grant. The seed funding will provide a buffer period for compost recipes and operations to be perfected. After two years, GD will operate the facility using the DS fees, its own resources, and revenue from compost sales to the public and other campus units. All revenue from compost sales will go to GD.

Budget & Funding

The SSC grant will cover all costs listed below. The respective entities are required to cover any other resulting costs.

Signatures

DS rep - Dawn

F&S CWM & Grounds rep - Carl

F&S - Jack

SSC reps - Suhail & Kevin