

**Vashon Organics
Community Meeting
June 7, 2022**

PRESENTATION

Note: text includes references to several slides by number so readers can match the summary with detailed technical information.

Morgan John, project manager of the Vashon Organics project, welcomed all to the meeting and introduced **Christie True**, Director of the King County Department of Natural Resources and Parks.

Christie thanked Zero Waste Vashon (ZWV) for its partnership with King County, its day-to-day volunteer work, and efforts to respond to climate change. King County and ZWV are looking at the costs and benefits of processing food and yard waste on the island. The Solid Waste Division (SWD) recently completed its Organic Processing Feasibility Study, which will be discussed in detail at this meeting. With partial funding from the state, SWD has installed a solar array at the Vashon Transfer Station (TS) to make it a Net Zero Energy facility. The division is also looking at ways to reduce actual energy consumption. These actions further the goals of the County's Strategic Climate Action Plan.

Morgan presented a video on the installation of the solar array.

Nancy O'Connor of ZWV explained the organization's goal to create a waste-to-resource community. If Vashon can use waste as a resource, it can reduce use of natural resources, carbon emissions, and the toxins generated by landfilling materials. Yard and food waste make up 30 percent of the waste that is shipped off the island; if these are converted to compost and used on the island, a true circular economy is created.

ZWV has been working with SWD since 2019 to establish a community composting facility on the island. Activities have included:

- Scoping meetings
- Consultant selection
- Developing feedstock numbers
- Outreach to potential island partners
- Investigation of facility siting needs
- Survey consultant selection
- Drafting of survey content
- Informing community of developments
- Promoting survey

ZWV would like to see the project go forward. It would further climate and zero-waste goals and benefit the island community.

Kerwin Pyle from SWD presented data and background on yard- and food-waste collection at the Vashon TS. **See slides 11 through 14.** There have been year-over-year increases in collection since 2016, growing from 570 tons to 1,170 tons. There is strong support from the community, and it is now possible to conceive of a time when yard and food waste will not be taken off the island. The current capacity is suitable for self-haul customers. The program is supported by a yard-waste fee that is lower than the garbage fee.

There is consistent feedstock throughout the year. If curbside collection were to be added, the facility would have to be expanded. The Solid Waste Division wants to continue to serve customers and create a sustainable program on Vashon.

Consultants Tim Raibley and Matt Cotton introduced the Vashon Island Organics Processing Feasibility Study, available [here](#). Solid waste is currently taken off the island by ferry and trucked to the Cedar Hills landfill at a cost of \$150 per ton, while yard waste is ferried/trucked to Cedar Grove Compost at \$215 per ton.

For the study, the consultants worked with ZWV to identify generators of feedstock, including yard waste as well as food waste from industrial, commercial, and institutional generators. Estimates of food waste available and projected growth ranged from a low of 370 tons per year to 1,860 tons per year. **See Slide 21.** Total feedstock—yard waste and food waste—available for a composting program could have a low range of 4,070 tons per year and a high of 6,559 tons per year. For the higher range, additional woody waste would be needed for an effective composting mixture. **See Slide 22.**

Various composting technologies were considered, including turned windrows versus static piles with either negative aeration (air pulled out) or positive aeration (air pushed in). **See Slide 23.** Organic versus fabric covers were also considered. The preferred technologies identified through analysis were two versions of covered aerated static pile, or CASP:

Lower range: aerated static pile with organic cover and positive pressure

Higher range: aerated static pile with organic cover and reversing pressure—i.e., use of positive or negative aeration according to need/effectiveness.

Slides 25 and 26 provide illustrations of systems using pipe on grade or in-floor aeration in bunkers. Examples of facilities in the region that use CASP technology and various aeration methods are listed in **Slide 27** and include private and municipal facilities.

Site size for either the low range or high range was calculated to be around two acres. **Slides 29 and 30** show potential site layouts for the low and high ranges.

The study also looked at GHG emissions using the Environmental Protection Agency's Waste Reduction Model (WARM). The analysis found that emissions from transportation are minimal, and because the WARM model gives credit for carbon sequestration in landfilling, the status quo of off-island landfilling

and composting was scored favorably over an on-island system. The Vashon composting facility would be judged superior if landfilling carbon sequestration were not considered. **See Slide 33.** There is significant debate in the GHG modelling community regarding how to handle the value of carbon sequestration in a landfill. The study's authors decided it was important to use the WARM results because the model is the industry standard, but also point to the impact landfill carbon sequestration has on the results.

The economic analysis compared total annual cost for low-range pipe-on-grade, high-range pipe-on-grade, and aerated static pile and determined that they would be essentially the same, although it was noted that rising costs are currently a significant issue. The analysis did not include costs associated with collection or land acquisition, but only waste coming to the Vashon TS. **See Slide 35.**

In summary, the study concluded that a Vashon food- and yard-waste composting facility would:

- have a lower cost than the current export off-island
- require about two acres of land
- be environmentally superior to the status quo if carbon sequestration associated with landfilling were not factored in

It was noted that no site has been selected.

Morgan John outlined the results of the community survey, which included 1,106 residents and businesses. The survey found 96 percent support for an on-island composting facility and 58 percent support the option of curbside collection of food and yard waste, depending on cost.

Next steps for the project team:

- Monitor and respond to a new state organics law, HB 1799, that requires jurisdictions to offer organics collection by 2027
- Consider options for curbside collection
- Continue research on facility siting, including possibility of using transfer station site or a site closer to town

QUESTION AND ANSWER

Will the meeting be recorded for future viewing?

The webinar is not being recorded, these notes and a link to the slideshow will be available on the [project website](#).

Please address the issue of herbicides and pesticides in yard waste, as I am an organic gardener.

These products are used mostly for lawn care, usually not on woody materials, and in small quantities. They are generally photo-degradable in compost.

There are some problematic herbicides that are in limited use on the West Coast. There are three great fact sheets and some FAQs on Persistent Herbicides on the US Composting Council (USCC) website, here: <https://www.compostingcouncil.org/page/persistent-herbicides-faq?&hhsearchterms=%22persistent%>.

In general, these compounds are “auxins” and can be found in a number of formulations, often to try to manage broadleaf weeds. Some of the chemical types are clopyralid, aminopyralid, aminocyclopyrachlor, and others. It can be challenging to track the specific herbicide brands to the chemicals they contain. The USCC site should have some information on that.

We have received mixed messages regarding food waste—can we take it to the facility?

Yes, they can be brought to the facility—there were initial concerns about vectors and wind-blown paper products, but these have turned out not to be an issue.

Why are small, one-ton dump trucks prohibited from the organics facility and directed to the transfer facility?

The facility will have to be expanded to accommodate larger vehicles.

If Waste Connections collects organics, will they take them off island to their facility or can it be arranged so that they stay on island at an organics processing facility?

All self-haul and collected organics would stay on the island.

What is the use of the pond shown on the facility layout?

The pond would capture liquid from the compost and keep it from running off site.

Would equine [horse] droppings be allowed? If so, what about worm medicines that pass through the horse?

This was not looked at in this study, but it would be best to process separately.

What about compostables? Do these need to be separated?

Aeration and reverse pressure do break many of these materials down. However, the industry does not like these materials, because they are often mixed with non-compostable material, and can be very difficult to distinguish from non-compostable materials.

What temperatures are achieved with these composting processes—will they destroy seeds of invasive plants?

Temperature is typically 140 to 160 degrees, which will deactivate the vast majority of seeds. A well-run facility should ensure that invasive seeds are not spread. Scotch Broom would be destroyed at these temperatures. It has been found that any dangers from apple maggots are likely destroyed in composting.

Has there been any consideration of producing biochar as a complement to compost production?

This study did not look at biochar. We are not aware of any public biochar producers; like composting, biochar gets complicated at scale, and its use would have to avoid using open flames.

What price does compost typically sell for at this type of facility?

Typically, \$40 to \$60 per ton; \$40 was used in the analysis.

Can you address issues of noise and odor that could affect nearby homes?

This size facility would have small fans that generate low noise levels; truck traffic would be more of a concern regarding noise. Odor is always a concern, and a good operator can keep odors in check. If the system is run aerobically, odors produced are benign, while if anaerobic conditions occur, bad odors are generated. The operator must be careful about moisture, density, the correct balance of materials, and other factors affecting the potential for odor. Forced aeration is far ahead of where the industry is in general.

How would vectors be managed?

It is assumed this would be a small-scale potential, and good housekeeping, such as processing materials as quickly as possible, would mitigate it. The site should be “managed as a manufacturing facility, not a junkyard.” Stormwater should be managed, and capping piles with finished compost also helps.

Why not look at a containerized system?

An enclosed system stores material for a very short period of time. Issues include scale, cost, and complexity. Equipment and parts may also be a problem, whereas with pile systems, off-the-shelf equipment is used, and shortages are unlikely.

Who would run the facility?

That is not known yet—it could be County employees, or a business on the island.

Why don't we have curbside organics collection as the rest of the County does?

In a process overseen by the state, Vashon was exempted, with a limited hauler in a limited area.

Are the ratios of food wastes and yard wastes favorable? As participation grows, would you expect the balance to change?

Food waste makes up less than one percent of green waste collected at Vashon now, but we would expect the ratio to change as participation grows.