

# Battery Park City, NYC

## Type

On-site composting of food and horticultural waste

## Best Practice Strategies

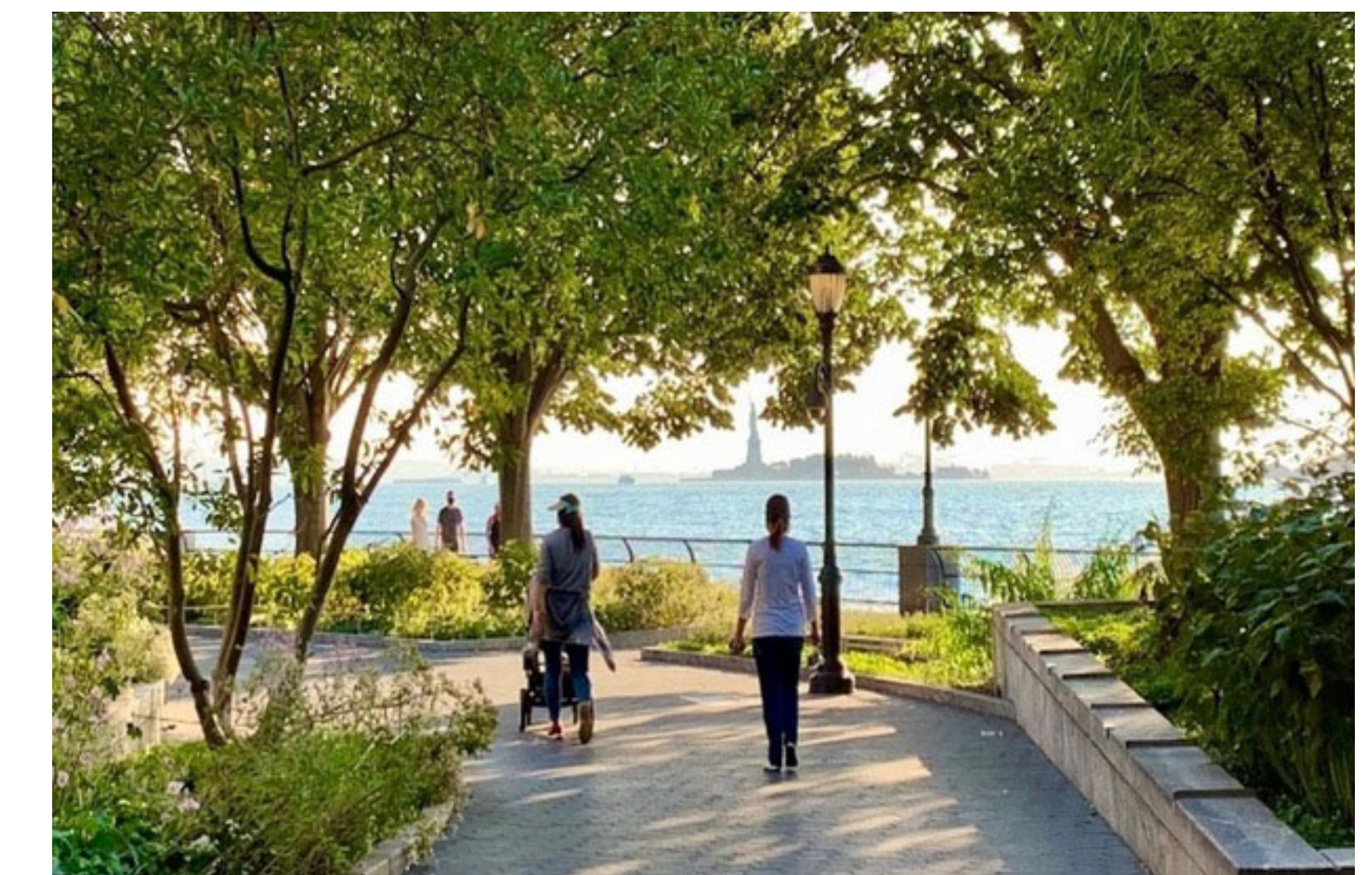
- 3.07 Staffed organics drop-off and processing on-site
- 3.09 Incorporate community into collection operations

## Summary

Battery Park City is a 92-acre mixed-use neighborhood along the southwestern tip of Manhattan, developed and managed by Battery Park City Authority (BPCA). The planned neighborhood is mainly residential, but also includes commercial, cultural, and community spaces, and 36 acres of public parkland. BPCA was developed with visionary environmental standards and continues to be a leader in sustainability, zero waste, and resilience for the city. In 1987 BPCA formalized and expanded its organic landscape practices. In 2019 BPCA launched its Zero Waste Initiative, and has achieved TRUE zero waste gold certification for the 75 Battery Place office. In 2020 BPCA released their Sustainability Plan which features a roadmap to achieve carbon neutrality by 2050. BPCA envisions a Battery Park City that will serve as an innovative model for urban climate action, where all of us who live, work, and spend time here mobilize to create a sustainable future. The plan aims to increase BPC's waste diversion from 15% to 50% by 2030.



Battery Park City

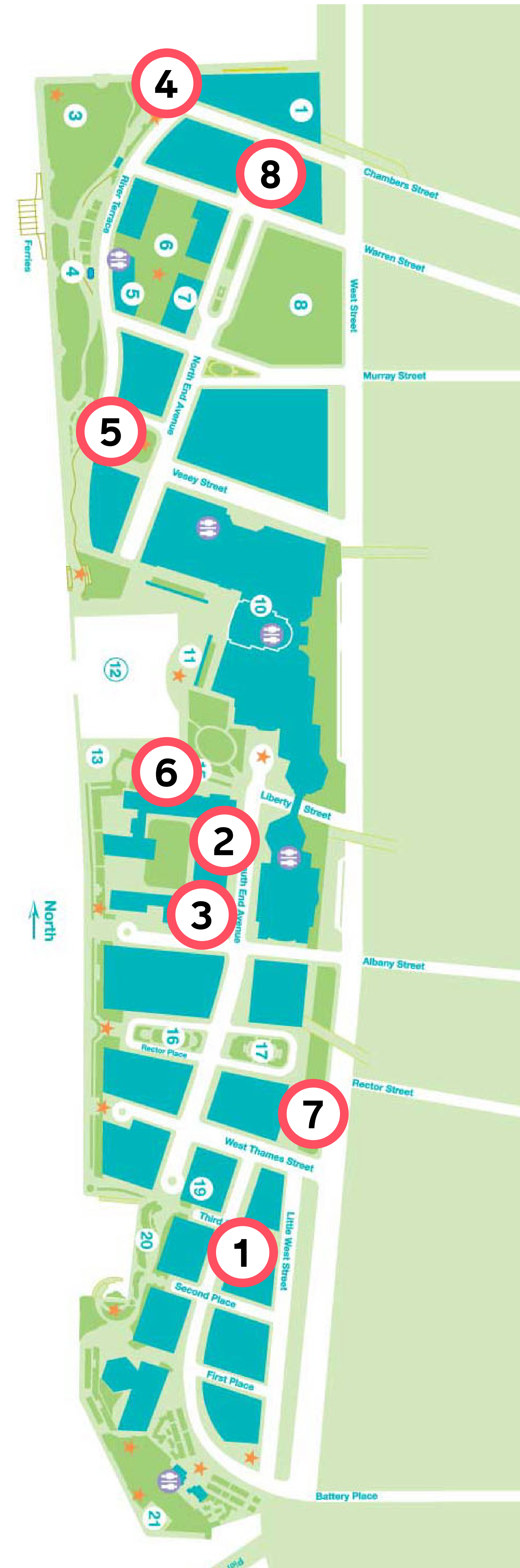


Green spaces in Battery Park City



BPCA began their compost program in 1988. From its onset, the program consists of two separate ways compost is made. One process collects solely food waste and the other collects solely horticultural debris. To expand the food composting program, an indoor composter was installed in 2008. The process from start to finish is managed by the Horticultural staff however, the entire Parks Operations staff plays a role in ensuring the success of the program. Food is collected at minimum once per day from each of the 5 drop-off sites across the neighborhood, staff pantries, and local coffee shops. Food waste is collected in 32 gallon vermin resistant bins and is open 24/7, 365 days a year. Over a 1,000 lbs. of food scraps are collected per week, totaling over 25 tons a year.

The second separate composting process includes all horticultural debris generated from maintaining the park; this includes leaves, most weeds, and tree branches. This plant debris is composted in a separate outdoor area. Large and/or woody debris is chipped into smaller pieces, and is then either mixed into the existing outdoor compost pile or brought inside to be used as “browns”, the carbon source for our indoor food composter. A bulk of the browns come from chipped Christmas trees donated by the community. Each year, over 1,000 Christmas trees are collected from the neighborhood and chipped. This chipped material is then used as a browns source for the food waste compost, or as mulch for the park gardens.



1. Compost drop-off site at 75 Battery Place
2. Compost drop-off site at Gateway Plaza
3. Compost drop-off site at Gateway Plaza
4. Compost drop-off site at Chamber Street and River Terrace
5. Compost drop-off site at Rockefeller playground
6. Dog waste composting at Kowksy Plaza (Sirius) Dog Run
7. Dog waste composting at West Thames Street Dog Run
8. Dog waste composting at North End Avenue Dog Run

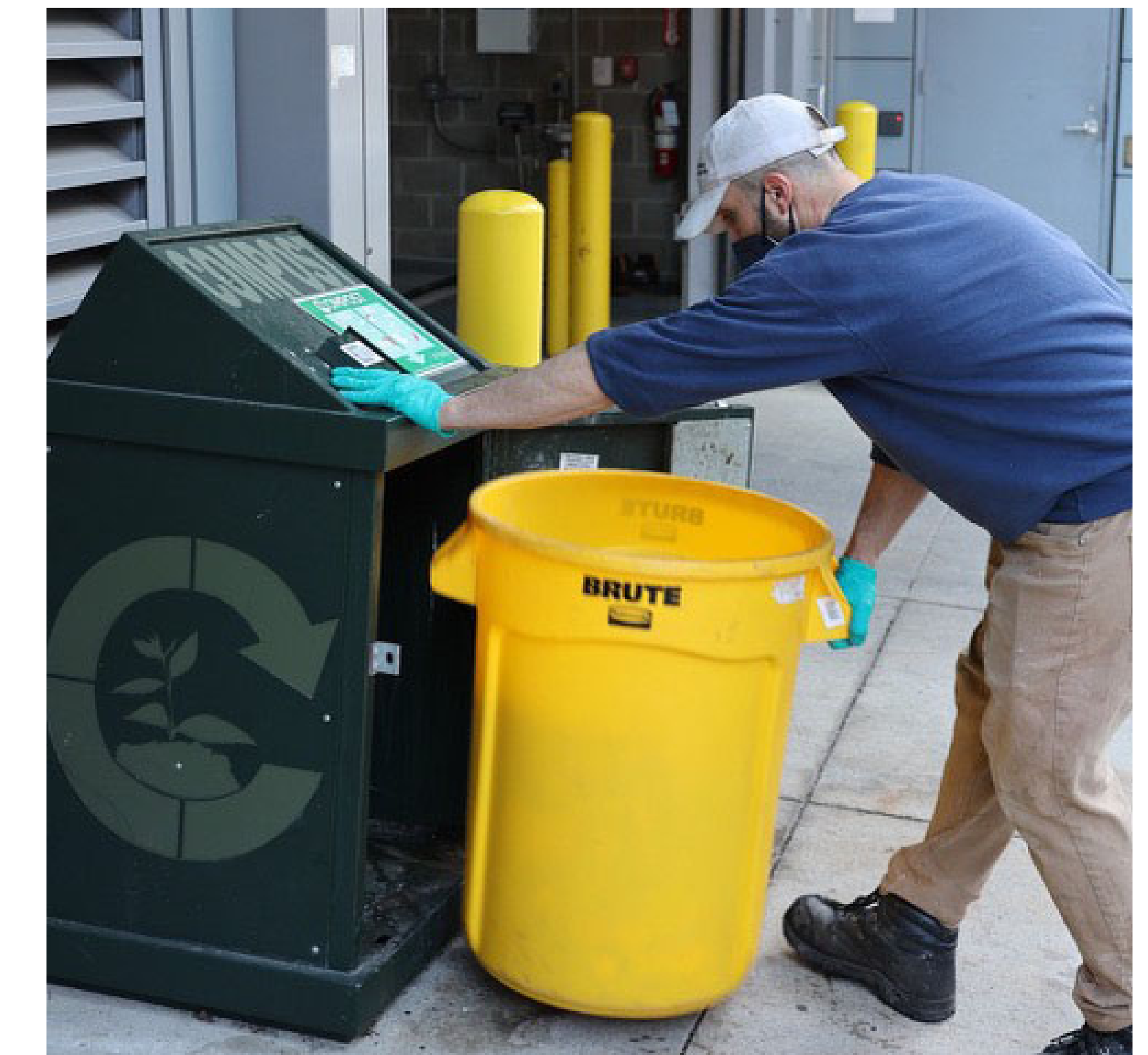
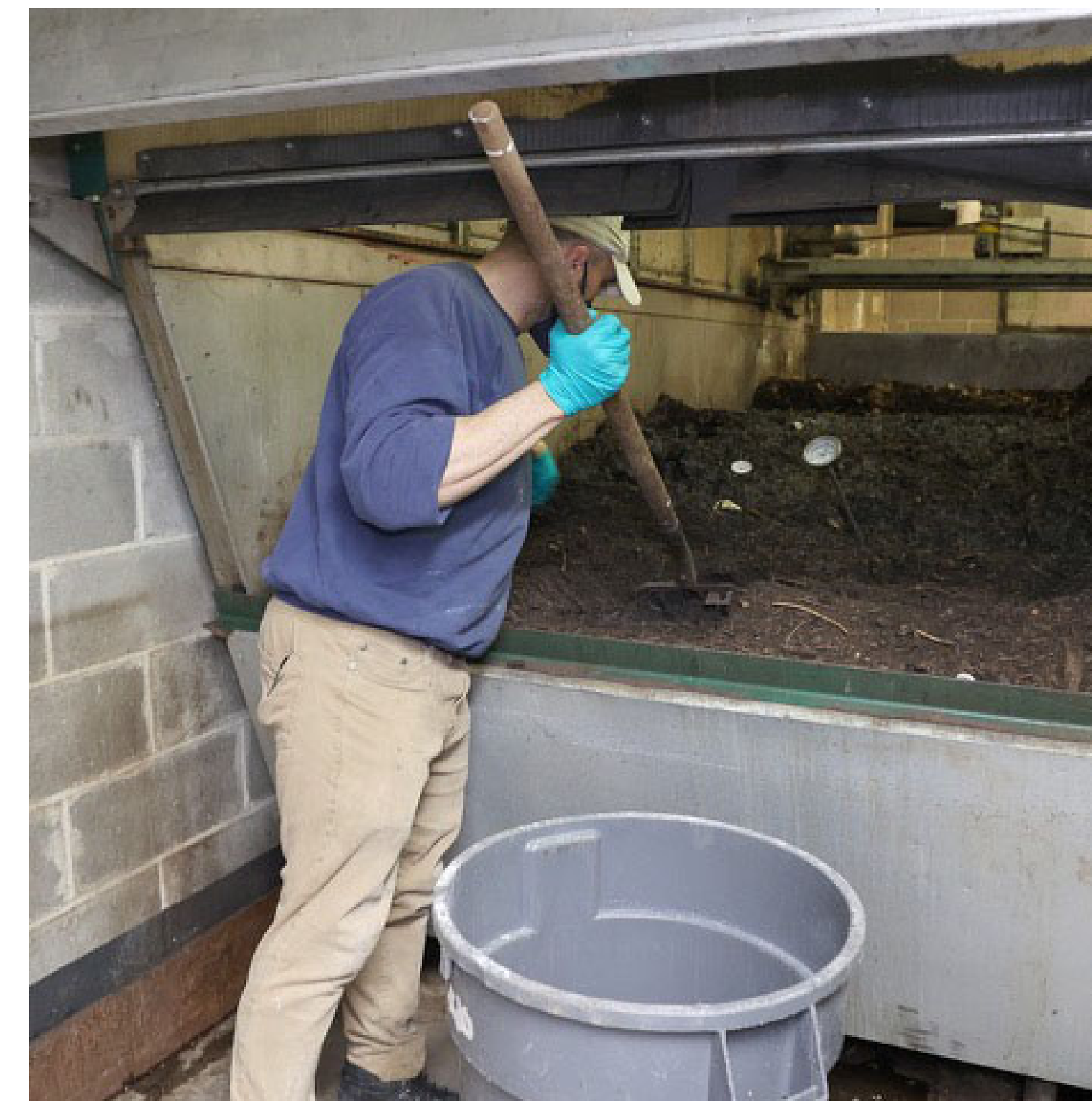


The food waste and browns are added once a day to our composter, in a ratio of 30% browns to the total weight of the “greens” or the nitrogen source coming from the food waste. A full composting cycle takes roughly 2.5 to 3 weeks to move through the composting machine. On average approximately 4 hours a day is needed to manage the compost process correctly. This includes collecting food waste from the different drop-off locations; sorting out contamination from each collection; and adding the food waste and browns into the composter. Additional time is needed when removing the finished compost from the composting machine.

BPCA’s indoor composting machine is a custom built Earth Flow composter that can hold roughly 6 cubic yards; they’ve had this machine for about 13 years now. While it has worked well, they do have some challenges with maintenance, especially since the company is based on the West Coast. One issue is that the shear pin in the machine’s auger (used to turn the compost), is prone to breaking if under too much stress. Another challenge is the food BPCA is able to compost. BPCA accepts all food except meat, dairy, and bones. A limitation with processing these types of foods is that the current composting machine does not allow for proper heating and ventilation to safely breakdown bones, meat, and dairy. “Compostable” bags and service ware are also not currently accepted as they are both difficult to process in the existing machine, and to distinguish from plastic products.



Earth Flow in-vessel composter



Composting Process Photos by Battery Park City Authority



Accurate records are vital in ensuring the success of BPCA's compost program. The weights of material collected are used in a variety of ways, including in BPCA's onsite soil lab, where compost, compost tea, and soil samples are tested to ensure a diversity of nutrients and microorganisms within the parks. All compost produced is tested for biological activity and used to enrich the soils of the park. Any contaminated debris collected from the open spaces may not be used in the composting process. Feedback of any contamination from the public drop off sites is communicated through newsletters, meetings, and building management.

BPCA also brews its own compost tea from a recipe created by BPCA staff to encourage optimal biological activity and fungal growth. This is done by steeping a combination of finished food waste and vermiculture (worm) compost in water with ingredients to promote fungal growth within the brew. About 200 gallons are produced per compost tea batch, and applied twice a year (spring and fall) to over 200 street trees and other plant material as determined necessary from the in-house soil testing. The vermiculture bins are also used for educational opportunities at park events. The worms are fed a variety of foods including coffee grounds from the staff kitchen and food waste from the community compost bins.

In 2019 BPCA launched a dog waste composting program in each of the park's 3 dog runs. In this program, dog owners are supplied newspaper (collected from local residential buildings and businesses) and scoopers for picking up dog waste and depositing it in a separate collection bin, pictured below. A separate enclosed composting system is used solely for composting the dog waste. Over 1000 lbs. of dog waste is composted per year in this program.

#### Food waste and horticultural debris compost are largely used as follows:

- Lawns: Aerated using about 1/2" thick layer of compost per year. The current compost does not supply a high enough level of nitrogen for the lawns and need an application of organic fertilizer in heavily trafficked areas.
- Park and Street Tree Beds: A thin 1/2" layer of compost, sometimes accompanied by a 2" layer of mulch. Compost tea is used twice per year in street tree beds.
- Planting Beds: Compost application varies depending on plant and maintenance needs. Renovations of garden spaces may require up to 3" of compost, but general maintenance calls for approximately 1/2". Compost produced outdoors holds less nitrogen which is preferable to the native and prairie plants planted throughout BPC, which may receive compost applications every few months.

BPCA would like to scale up their compost facility fivefold, to be able to accept 1000 lbs. of food scraps a day. Then they anticipate requiring a full time person to manage the compost collection and processing.



Dog waste composting at the Sirius Dog Run