

# Compost Outpost at ECO City Farms



# Background

- Recipient of EPA Region 3 *Enhanced Composting Infrastructure for a Healthier Environment Grant* in 2021
- Collaboration between Prince George's County Soil Conservation District (PGSCD), Institute for Local Self-Reliance (ILSR), Compost Crew and ECO City Farms
- Site has been operational since September 2022



PRINCE GEORGE'S  
SOIL CONSERVATION DISTRICT



United States  
Environmental Protection  
Agency



COMPOST  
CREW  
good to grow

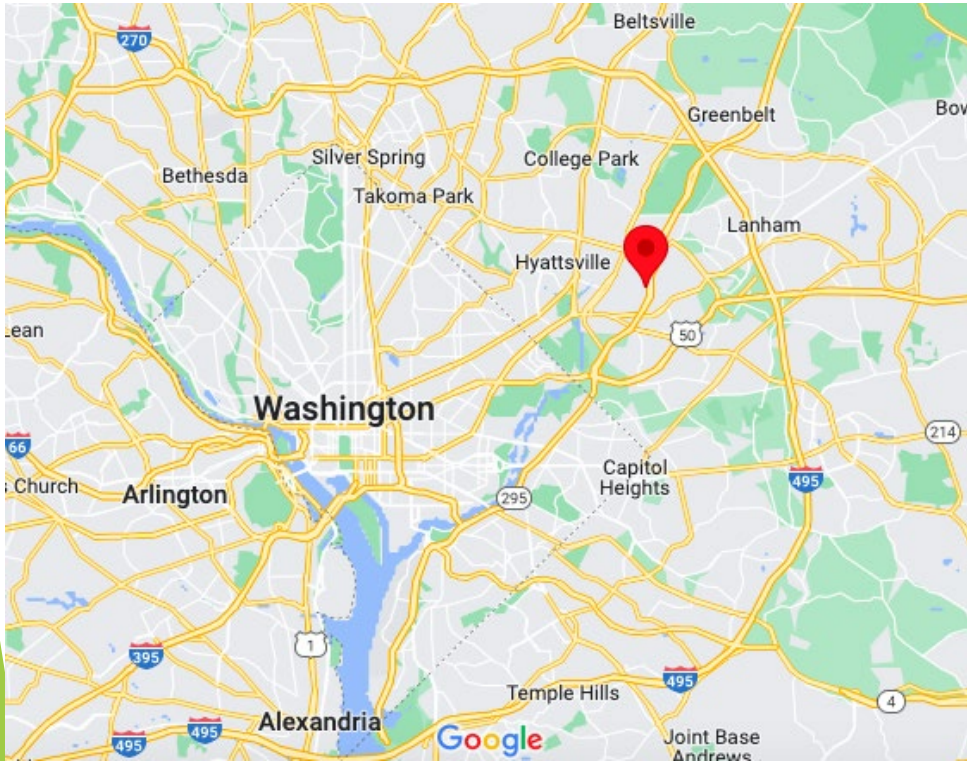


# On-farm Composting

- Under Maryland state regulation, a composting operation that takes up less than 10,000 square feet of space is exempt from obtaining a composting facility permit
- In order to meet food waste reduction goals, different types of composting infrastructure will be required
- On-farm composting combines meeting food scrap diversion goals with enhancing soil health







**Farm is 3 miles from DC border. Inside Capital Beltway**



**Located on 2.5 acres of urban environment surrounded by residential housing**







# COMPOST OUTPOST PROCESS

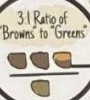
## PHASE 1 ONE MO.

### ① PREP MIXING PAD: 20 MINUTES



Use skid loader bucket as measuring cup to make the compost mix

COMPOST MIX



RECIPE  
2.5 Buckets of Leaves  
0.5 Bucket of Wood Chips  
1 Bucket Food Scraps

### ④ LOAD BAY 1

ADD WATER



Use 80% Moisture Content

### ③ MIX + WATER 1 HOUR

MIX SUPER WELL

AND LET THE COMPOST PARTY BEGIN!



Pile compost mix CENTERED + ROUND

This is where HOT COMPOSTING starts...



ROOM TEMP

DAY 0

DAY 1

DAY 2

SUPER HAPPY MICROBES



Beneficial microbes THRIVE in a hot and diverse environment. Think of the pile as a big party; the moisture from the compost as 'the juice', and the microbes as super happy guests!

### PARTY RULES:

① Keep pile OXYGENATED



② Keep pile at 135-145°F for 3 DAYS min.



### ⑤ COVER



COVERED CONTAINER  
Keeps out animals, rain, and other elements.

WOOD CHIPS

Add a layer of protection by

## ② PRE-CONTAMINATION SORT +/- 1 HOUR



Post-Consumer food scraps MUST be inspected for contamination!



RULE #1:  
NO "COMPOSTABLE" PLASTICS

To make quality compost for food production, "compostable" plastics are not accepted as they do not completely break down.

IF WE DO FIND THEM:



THEY GO BACK ON THE TRUCK, AND ONTO ANOTHER FACILITY

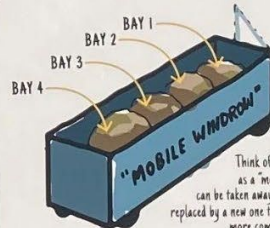
AFTER THOROUGH SORTING



## PHASE 2 2-6 MO.

WEEK 5 =

MOVE BAY 1 PILE TO NEW LOCATION, where hot composting continues, is contained and oxygenated.



Think of this giant roll-off as a "mobile window" that can be taken away when full and replaced by a new one to allow for more composting.

✓ READY TO BE FIELD APPLIED

COMPOST IS READY WHEN IT'S GOTTEN HOT AND COOL

COMPOST IS AT "AMBIENT TEMPERATURE"



WEEK 2 = LOAD BAY 2  
WEEK 3 = LOAD BAY 3

SCAN THIS CODE TO LEARN MORE ABOUT







**Every week, food scraps from 250 residential households in the area are brought to Compost Outpost**



**Garbage, compostable plastics, paper products and other items deemed non-desirable for on-farm composting are removed from pile during decontamination process**









## Loading the containers.

Homogenous mix of food scraps, leaves and wood chips that have been thoroughly decontaminated and hydrated are loaded into the bay inside the shipping containers

The compost pile sits inside the bays for 4 weeks where temperatures reach 150 degrees at their peak





**In lieu of labor intensive turning of compost, piles are aerated at regular intervals by solar powered blowers**

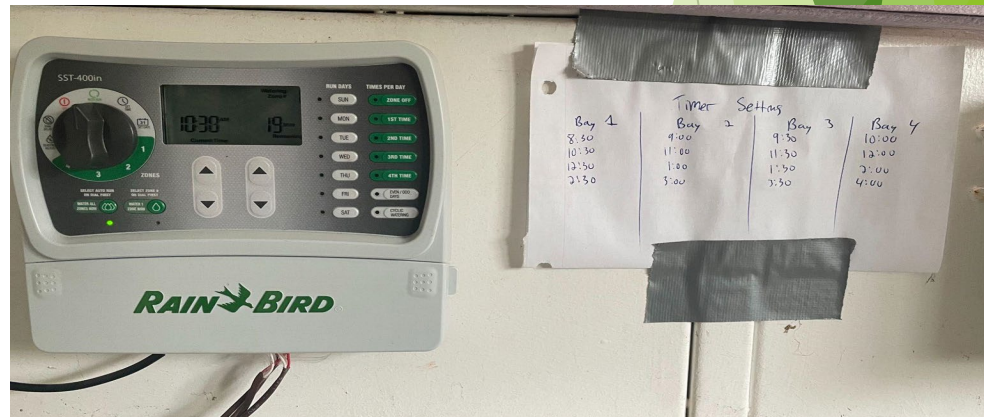




## No grid electricity at the site!

### Solar set up includes:

- (6) 300 watt panels
- Off grid inverter/charge control
- (4) 12 volt batteries (in parallel)
- Irrigation timer
- Enough capacity to turn 1 blower on for 20 min
- Plus capacity for charging power tool batteries power tools and other low wattage appliances (when sufficient sun)





After four weeks in the shipping containers, compost is moved to a roll-off container for further decomposition





Smaller portion (5-10%) is fed to worms to make vermicast which we use in our nursery seed starting mix



# Data Collection



Data gathering



CO2 and Temperatures



Bulk Density





Finished compost applied to our fields this spring



## Lessons learned

- Construction
- Unforeseen equipment costs
- Economics of ongoing operations

## Next Steps

- Recipient of USDA *Composting and Food Waste Reduction* grant in partnership with Compost Crew and the Town of Edmonston
- For a new Compost Outpost at Eco Incubator Farm in Upper Marlboro, MD





# Thank you!

## Contact information:

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