



Challenges and Lessons Learned in  
Building a Food Scraps Composting  
Facility

USCC Conference  
January 2013

## Introduction



### Eric Walter

- Chief Composting Officer, Driver
- Recovering tech industry entrepreneur

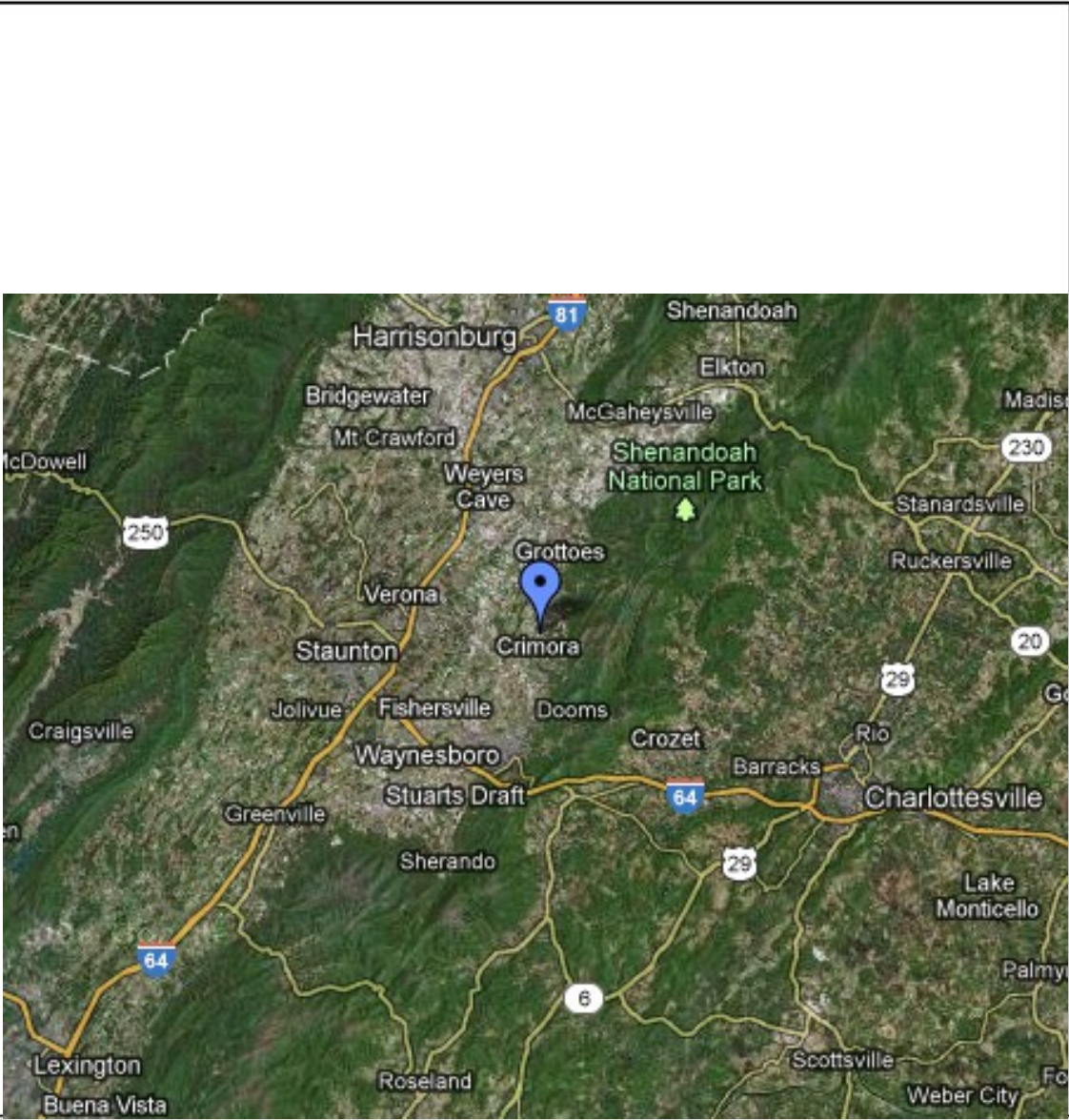
### Black Bear Composting

- Opened in the Fall of 2011
- Located on 47 acre farm in Crimora, VA
- VA DEQ-permitted facility able to accept pre- and post-consumer, source-separated food scraps
- Serving Charlottesville area and central Shenandoah Valley





# Where is Black Bear Composting?





- 12.1 million tons of MSW managed in VA
  - 8.6 million tons originated in-state
  - 3.8 million tons originated out-of-state
- 86.8% either landfilled or incinerated
  - 74.5% landfilled
  - 12.3% incinerated
- 1.2% composted on-site (mostly greenwaste)
- 1.7% mulched
- No ban on landfilling or incinerating yard trimmings
- Solid waste regulations amended in 2011 to allow most composting facilities to be permit-by-rule



Starting a compost facility requires knowledge of:

- Siting – Site selection is paramount
- Engineering – Process and stormwater management
- Permitting – While easier than ever, still a daunting hurdle
- Operations – Composting is science, art and logistics

BBC contracted Coker Composting and Consulting to provide guidance and experience in all of these disciplines.

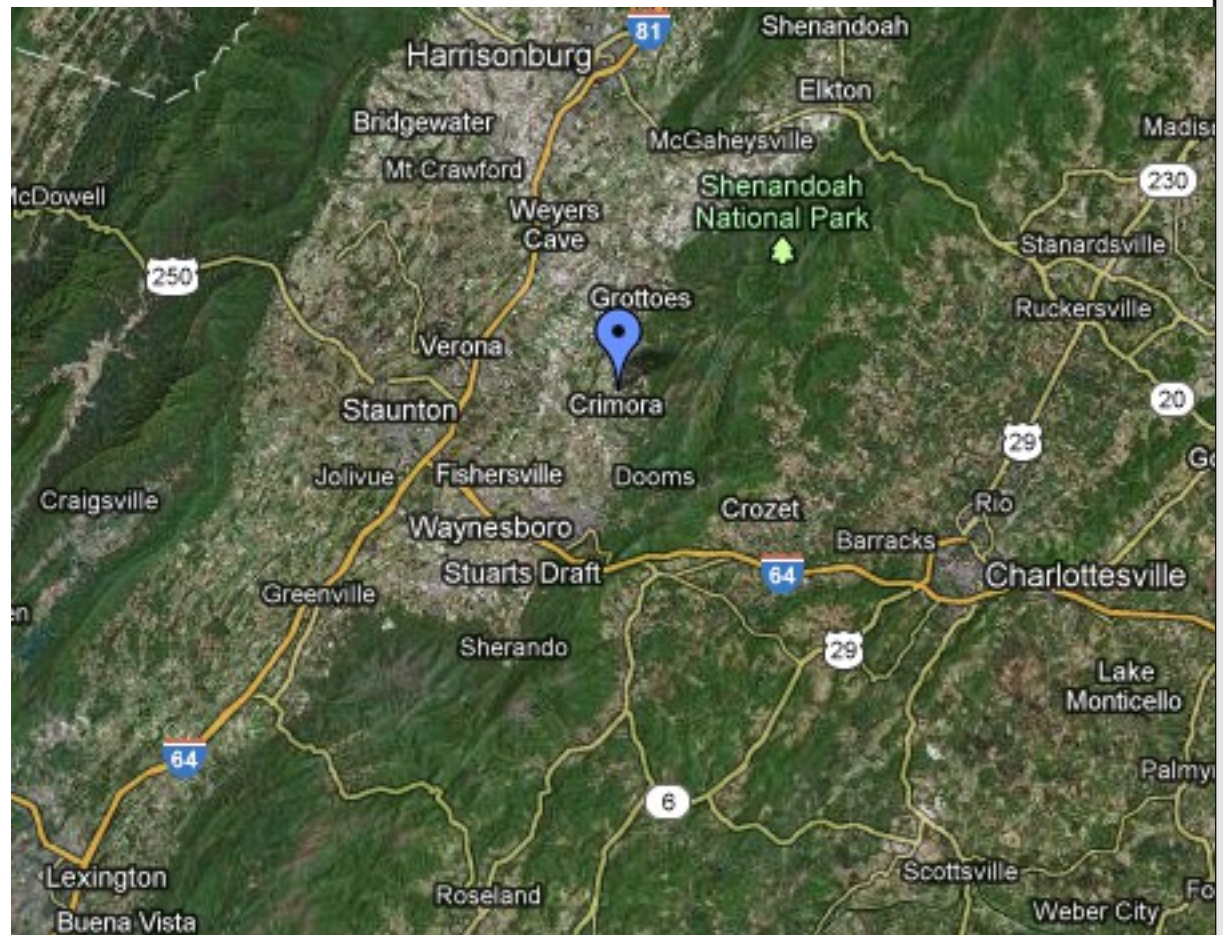


## Finding a Location is Tough

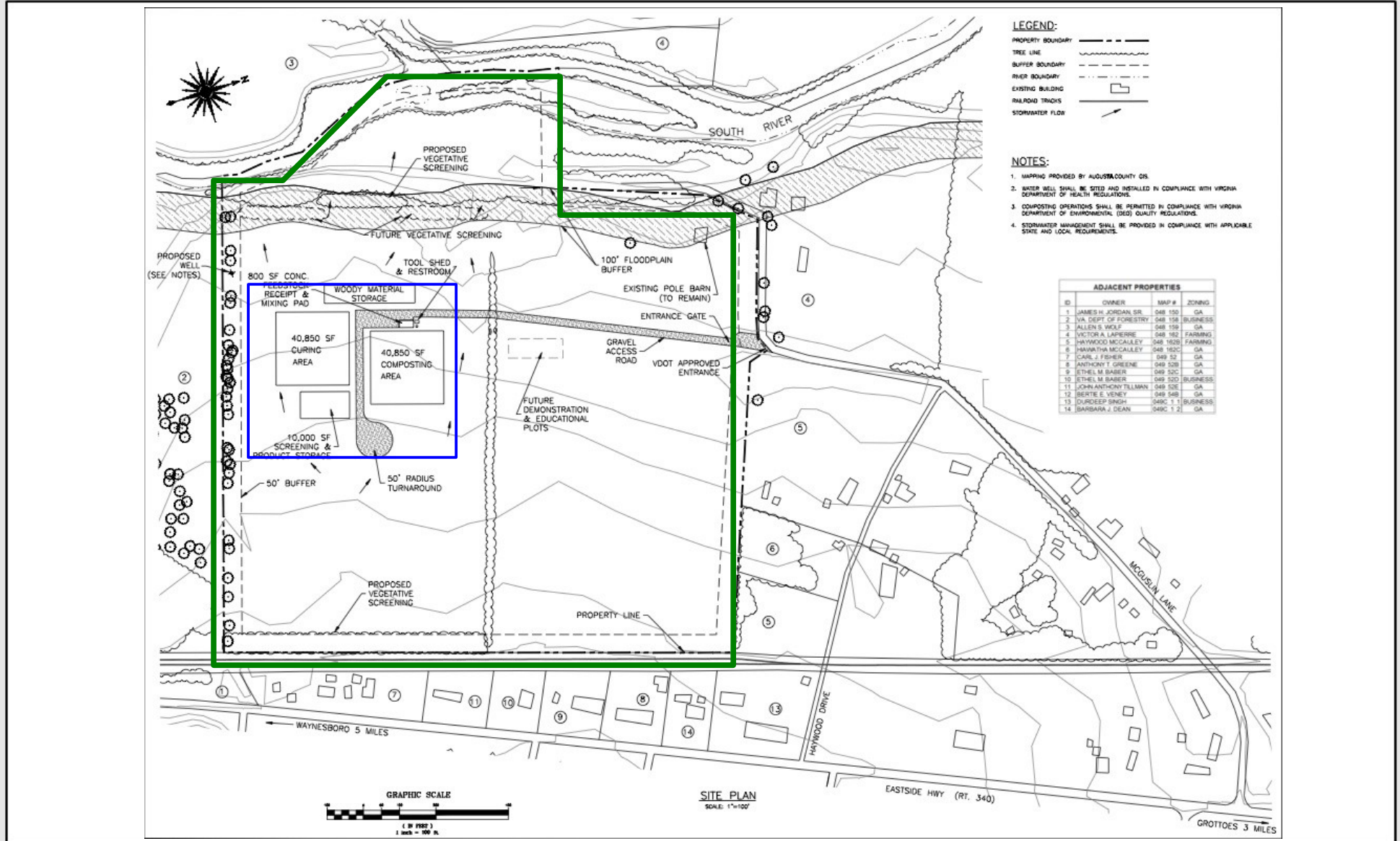


Location is key. My situation called for:

- 40 acres or more
- Natural buffers
- Relatively flat land
- Few neighbors
- Good roads
- Enough materials within 50 mile radius



# Facility Plan



## Getting Local Approval is Tougher



Siting a compost facility is a very public process:

- Local approval meeting/hearing that is open to the public and heard by a board of elected officials
- Door-to-door canvassing
- Well-run facilities don't make the news
- NIMBY – Not In My Backyard
- BBC benefited from having DEQ attend the local approval meeting to answer questions

### Public Notices 315

#### PUBLIC PARTICIPATION FOR PERMIT-BY-RULE COMPOSTING FACILITY

In accordance with Virginia Solid Waste Management regulations 9 VAC 20-81-410.A.3. and 9 VAC 20-81-450.B.4., citizens may comment on a permit-by-rule application for a composting facility to be located near the end of McGuslin Lane in Crimora (Tax Map 48-162A & 48-162F).

COMMENT PERIOD:  
7/17-8/17/2011

NAME AND ADDRESS OF APPLICANT: Black Bear Composting, McGuslin Lane, Crimora, VA. The facility is owned and operated by Eric Walter of Black Bear Composting.

PURPOSE OF NOTICE: The purpose of this notice is to allow the public to comment on a proposed composting facility, which will operate under a permit-by-rule to be issued by the Virginia Department of Environmental Quality after public comments are received.



## The State Was Very Helpful

In 2011, permitting got a lot easier with Virginia moving to a Permit-By-Rule system

- Met early on in the process with regional office staff
- Looked at potential site for concerns
- Walked BBC through the permit process
- Overall, supportive and a constructive relationship to facilitate success



## Starting Simply

Wanted to start with a bare bones facility:

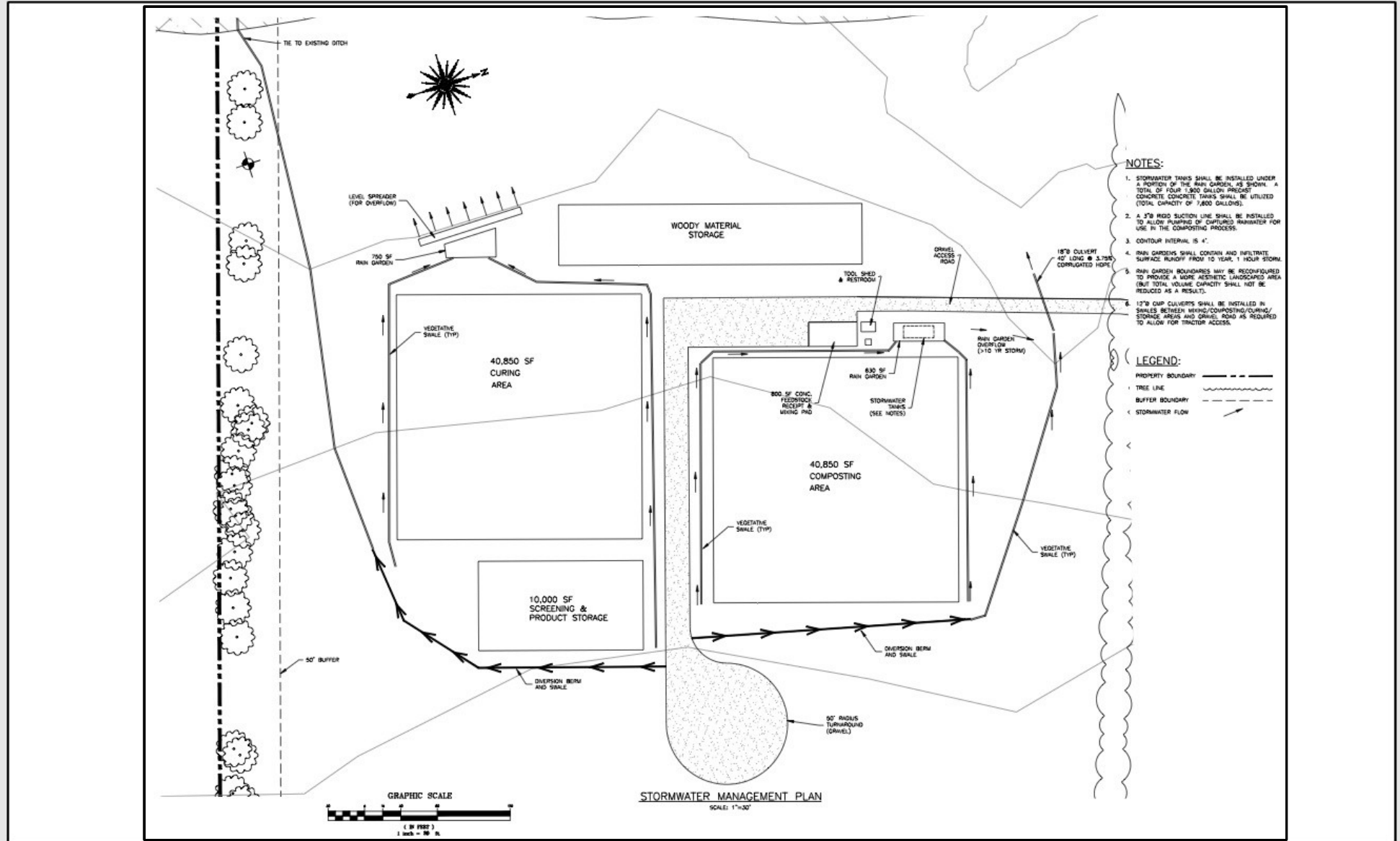
- Composting in a mowed field
- Only a 20' x 40' concrete pad
- No buildings, paving or even electricity.

What it takes to go bare bones:

- A Professional Engineer
- 34,000 sq ft of gravel driveway
- Stormwater controls to manage 1 hour of the 10-year storm
- Six vegetated swales
- Two rain gardens
- Four 1,900 gallon underground water cisterns to collect potential run-off from compost pad
- 700 ft of erosion control measures



# Facility Plan – Close Up



- NOTES:**
1. STORMWATER TANKS SHALL BE INSTALLED UNDER A PORTION OF THE RAIN GARDEN AS SHOWN. A TOTAL OF FOUR (4) 200 GALLON PRECAST CONCRETE CONCRETE TANKS SHALL BE UTILIZED (TOTAL CAPACITY OF 7,600 GALLONS).
  2. A 3" RIGID SUCTION LINE SHALL BE INSTALLED TO ALLOW PUMPING OF CAPTURED RAINWATER FOR USE IN THE COMPOSTING PROCESS.
  3. CONTOUR INTERVAL IS 4".
  4. RAIN GARDENS SHALL CONTAIN AND INFILTRATE SURFACE RUNOFF FROM 10 YEAR, 1 HOUR STORM.
  5. RAIN GARDEN BOUNDARIES MAY BE RECONFIGURED TO PROVIDE A MORE AESTHETIC LANDSCAPED AREA (BUT TOTAL VOLUME CAPACITY SHALL NOT BE REDUCED AS A RESULT).
  6. 12" GAP CULVERTS SHALL BE INSTALLED IN SWALES BETWEEN MIXING/COMPOSTING/CURING/STORAGE AREAS AND DRIVEWAY ROAD AS REQUIRED TO ALLOW FOR TRACTOR ACCESS.

- LEGEND:**
- PROPERTY BOUNDARY: - - - - -
  - TREE LINE: [Symbol]
  - BUFFER BOUNDARY: - - - - -
  - STORMWATER FLOW: [Symbol]

## Carbon Sourcing is Creative

### Sources:

- Arborists (chipped wood)
- Landscapers (old mulch and brush)
- Lawn services (leaves)
- Landfill (ground wood waste)
- Pallet company (ground pallets)
- Municipalities (leaves, Christmas trees)
- Fellow composters (leaves, grindings)

BBC uses 3 yards of wood chips for each yard of food scraps.



# Front of the Facility



# Mixing Pad



# Fruit is Round



# Covers for Odor Control





## After One Year

### Customer Base:

- Approximately 50 customers
- 25% schools – K-12; University
- 30% restaurants
- 30% groceries
- 15% cafeterias

### Pricing Strategy:

- Tipping fees
  - \$45/ton (measured with bulk density)
  - Less for yard trimmings - \$5/CY
- Collection fees
  - blend of tipping & hauling
  - \$8.00 - \$17.00 per 65-gal roll cart per collection event, based on location



# Successes: Easier to Implement Programs Than Anticipated



## Common concerns:

- Not enough room
- Employees aren't going to get it
- Will slow things down
- Will stink, flies, attract wildlife

## Reality:

- All you need is a 5 gallon bucket
- Employees enjoy participating in the program
- It's easy
- It's the same material they had before, it just goes in a different bin
- Most importantly: people love seeing their trash shrink



**Black Bear**  
composting

 **Food + Compostables**  
*Alimentos con capacidad de Compost*

**Food**  
Alimentos



**Food Soiled Paper**  
Papel para alimentos usado



**Approved Compostable Packaging**  
Embalaje aprobado para Compost



**NO Plastic. NO Metal. NO Glass. NO Styrofoam.**  
**Ni Plastico. Ni Metal. Ni Vidrio. Ni espuma de poliestireno.**

**Black Bear**  
composting

888-666-4172  
[www.blackbearcomposting.com](http://www.blackbearcomposting.com)

*If it grows, it goes!  
If in doubt, keep it out!  
Si crece, se va! En caso de  
duda, evite el contacto!*

## Successes: Rewards of the Job



**Working with schools** is fantastic – kids love recycling

The **amazement of customers** when they realize how little trash they actually have after they pull out organics and other recyclables

**Completing the food cycle** with customers



## Successes: Surprising Demand for Compost



Neighbors, gardeners,  
collection customers,  
and small farms.

BBC sourced compost  
for resale from fellow  
composter Royal Oak  
Farms to stimulate  
market demand



# Challenges

## Challenges:

- Balancing time commitments between operations and sales
- Competing with low tip fees for landfilling in western VA
- Contaminants, contaminants, contaminants!

## If doing over again, BBC would:

- Budget for more operational help to free up time for sales
- Develop a second revenue stream to complement collections in Year 1 until compost is ready for market



# The Farm



# The Fleet



# Thank You

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