

Recognizing the Best in County Government Programs!



2011 Achievement Awards

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Virginia Association of Counties
1207 East Main Street, Suite 300
Richmond, Va. 23219-3627

Call for Entries



2011 VACo Achievement Awards

Deadline: June 1, 2011

Application Form

All applications must include the following information. Separate applications must be submitted for each eligible program. Deadline: June 1, 2011.

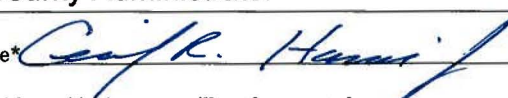
Program Information

Locality Hanover County
Program Title Organic Waste Diversion
Program Category Environmental
Population Category 50,001 - 100,000

Contact Information

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Signature of county administrator or chief administrative officer

Name Cecil R. Harris, Jr.
Title County Administrator
Signature* 

*Entries without this signature will not be accepted.



Hanover County
Organic
Waste Diversion
Program





HANOVER COUNTY

ORGANIC WASTE DIVERSION PROGRAM

OVERVIEW

Nationally, the yard waste portion of organic waste stream comprises thirteen to fifteen percent of the total. Hanover County developed a policy of aggressively recycling this significant portion of its tonnages. Five distinct areas of emphasis were identified for inclusion in the organic waste diversion program. Leaves, grass and wood waste were the waste materials determined to have the greatest value upon recycling.

Product generation and marketing of the product are critical to the success of any similar program. The five components that comprise the Hanover County initiative will be presented in detail within our submission which follows. In addition, citizen acceptance and participation are an essential part of this comprehensive undertaking.

Finally, having the governmental flexibility to deal with rapid market changes must be part of any program. Hanover County's Organic Waste Diversion Program turned a large segment of the waste stream into a valuable end product. Our goal is to economically extract as much recoverable organic materials as possible and to turn a deficit into revenue.



HANOVER COUNTY

ORGANIC WASTE DIVERSION PROGRAM

Organic materials comprise a significant portion of Hanover County's waste stream. These materials are often landfilled rather than recycled. The County Board of Supervisors made a strong commitment to recycling and challenged staff to develop a comprehensive system to address the issue.



Hanover County's organic waste program has five components: leaves and grass composting, brush grinding for mulch and fuel chips, yard waste residue

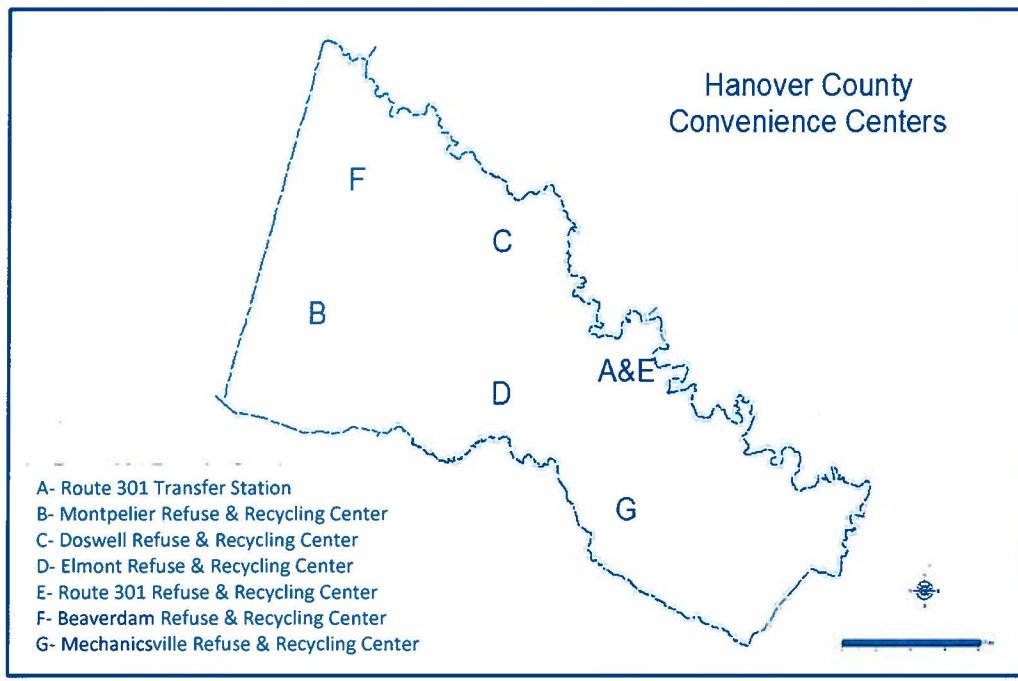
screening, vermi-composting and education. Leaves and grass are composted at a permitted centralized location adjacent to the Rt. 301 Transfer Station. Brush is ground at two sites and marketed as mulch or fuel chip. The yard waste acceptance areas are periodically excavated and screened with the end product marketed as soil amendment. A small vermi-composting operation is located next to the Rt. 301 Transfer Station and is a popular educational stop. Education outreach includes backyard and home vermi-composting seminars and demonstrations.

Hanover County's yard waste composting operation is the only governmental composting in central Virginia and has been recognized in the Virginia Environmental Excellence Program

(VEEP). The County continues to look for opportunities to expand the recycling of yard waste. In addition, education is provided to encourage citizens to utilize mulching lawn mowers as a means to reduce organic waste generation.

Hanover County Organic Waste Diversion Program

Hanover County’s waste stream contains a large percentage of potentially recoverable organic resources. These materials are often landfilled rather than recycled. The County Board of Supervisors made a strong commitment to recycling and challenged staff to develop a comprehensive system to address the issue. Staff was determined to limit the amount of organic



waste that was being transferred out of the County for disposal. Since the material was being transferred, there was a

cost per ton directly associated with that action. The majority of the County’s waste, including organic waste is collected at the County’s six solid waste convenience centers. The County’s system offers a unique opportunity to separate those materials since the County controls the majority of the waste stream.

DON'T BAG IT...

LET YOUR GRASS
GO BACK TO ITS
ROOTS!



THE ROOT OF THE PROBLEM...



Americans throw away 31.6 million tons of yard waste each year. By leaving grass clippings on the lawn after mowing, you can help to reduce this statistic and simplify your lawn care routine. By "recycling" grass clippings, or leaving them uncollected on the lawn, clippings contribute to soil organic matter and supply part of the fertilizer needs of the lawn.



CENTRAL VIRGINIA
WASTE MANAGEMENT AUTHORITY

Leaves and grass were identified as materials with potential high tonnage diversion and a high-value end product. A separate drop-off location was created at the Mechanicsville Solid Waste Convenience Center, where over 50 percent of the County's waste is received. An educational campaign was undertaken to inform the public to debag their leaves and grass to make the composting process more efficient. Once the leaves and grass are deposited, they are loaded and transported to the Waste-to-Compost (WTC) facility next to the Rt. 301 Transfer Station.



Transportation is performed by Hanover County Department of Public Works (DPW) hook lift truck or trailers. Similar drop-off locations utilizing 40 cubic yard open-top roll-off containers were added later at the Elmont and Courthouse Solid Waste Convenience Centers in the more suburbanized areas of the County. These open top containers average 10 tons from the Mechanicsville Solid Waste Convenience Center and 4 tons for the other 2 sites. The difference in tonnages is associated with the loader at the Mechanicsville center which compacts the leaves and grass. Over 2,250 tons of leaves and grass per year are composted through a windrow method (a large elongated pile of composting material, which has a large exposed surface area to encourage passive aeration and drying). The final material is processed through a .75-inch screen. Compost is given to County agencies including Parks and Schools. In addition, \$22,000 or 2,750 cubic yards of product is sold annually to nurseries and organic farmers. The WTC facility is permitted as a Permit-by-Rule operation and has been recognized by the Virginia Environmental Excellence Program (VEEP).

Brush grinding takes place at the Mechanicsville Solid Waste Convenience Center and the Rt. 301 Transfer Station. Grinding services are carried out by a combination of County DPW and a local grinding contractor with a cost per ton of approximately \$8. Staff discovered that using 2 by 2 inch screens produced a high-valued mulch and fuel chip. DPW



pushes the brush to the tub mill style grinder and removes the final product. A magnetic head pulley on the out product conveyor ensures that no metal is in the

material. Fuel chips are directly loaded into DPW walking floor trailers and transported to a local paper mill by DPW staff. Over 1,200 tons of fuel chips are transported annually. The balance of the grind is sold or given away as mulch. Mulch is back-hauled to all of the other solid waste convenience centers and is provided free to citizens, which is an extremely popular service. A similar brush drop-off site is located at the Rt. 301 Transfer Station and is processed in the same manner. Clean wood is also ground at the 301 Transfer Station and thus, can only be used as mulch. The Rt. 301 Transfer Station has also been recognized under the Virginia Department of Environmental Quality's VEEP program. Together, the two County sites process over 10,000 tons of brush per year.

The Mechanicsville Solid Waste Convenience Center receives 50 percent of the County's household waste and 90 percent of the brush. The Center also has a stockpile area for leaves and grass. Over a period of time, residue from stockpiles and grinding activities build up in the area. In 2009, a local contractor offered to lower the built-up area at no charge to the County. The contractor screened the material and sold the material that is smaller than .75 inches as a top soil amendment. This operation proved to be very successful but in 2011 the contractor was no longer available. Through its annual heavy equipment contract, the County had the equipment



(trommel screen, track hoe and track loader) for the project. The County found a number of firms that desired to purchase (at \$8 per cubic yard) the end product prior to the start of the project.

In addition, County agencies were made aware that the product would be available for loading into their trucks. The unique project lasted two weeks and achieved all desired goals. Berms

were removed and screened and the operational area lowered by two feet. A total of 2,500 cubic yards were either sold or provided to County agencies. The value of the screened product covered the cost of contracted service as well as having all berms rebuilt and the site entirely regraded.

DPW provided the wheeled loader and operator for loading the screened product. The project allowed 625 tons of screened materials to be recycled rather than landfilled. Following the screening, all oversized material was ground into mulch by another contractor and sold.

Immediately adjacent to the Rt. 301 Transfer Station is the vermi-composting building. The



vermi-composting operation is designed to be a public education facility. The horizontal bed design composter is capable of handling 250 pounds of feed stock per day. Red wigglers (worms) compost the food and shredded paper and the resulting product is removed

by conveyor at the bottom of the bed. Many tours (a favorite of children) of the vermi-compost operation have been given and red wigglers are given away for home uses.

Public education is critical to any recycling effort.

Outreach is performed by speaking to community groups and schools. The County’s web site

includes
compost.
are



an area that explains how to back yard
“Leave It on the Lawn” (grass) brochures
distributed throughout the County. A

compost bin sale has been held that offers discount back yard compost bins to the public. In addition, discounted compost bins are available for on-line purchase through the regional solid waste authority.

Conclusion

Hanover County has developed a comprehensive approach to organic waste. The approach evaluates and implements cost effective methods to divert this valuable material from the waste stream. Its unique methods, including organic residue screening and educational vermi-composting can be applied successfully to other jurisdictions. The annual cost of approximately \$100,000 also represents a substantial savings from the \$345,000 we estimate it would cost if the material were treated as waste.

