



Brenda Platt

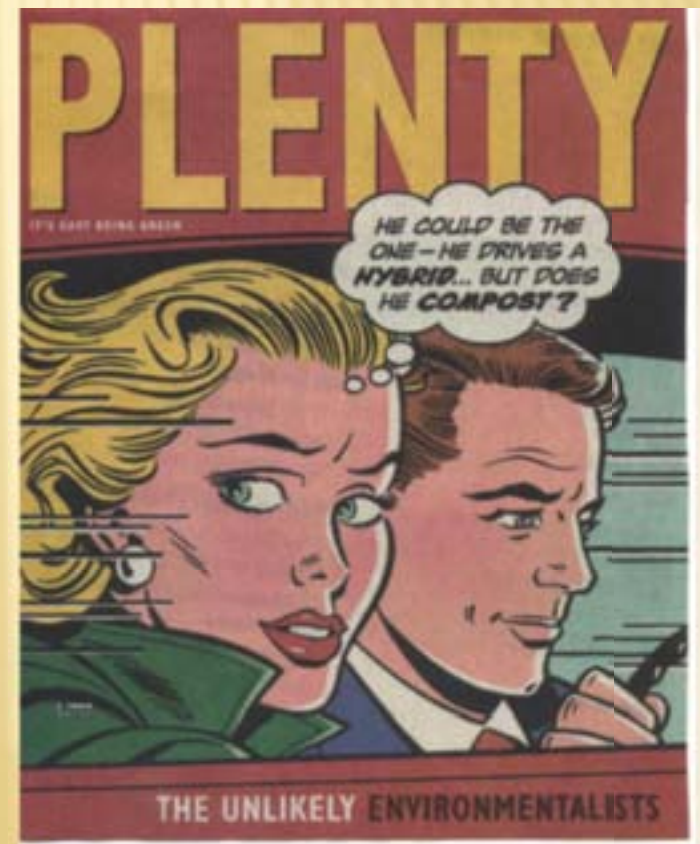
Director, Composting Makes \$en\$e Project  
Institute for Local Self-Reliance

## **MD DRIVERS FOR COMPOST USE & FOCUS ON CONTROLLING ROADWAY EROSION WITH COMPOST**

Compost BMPs: EPA/WIP/TMDL Challenge Workshop  
Annapolis, MD, March 5<sup>th</sup>, 2013

# OVERVIEW

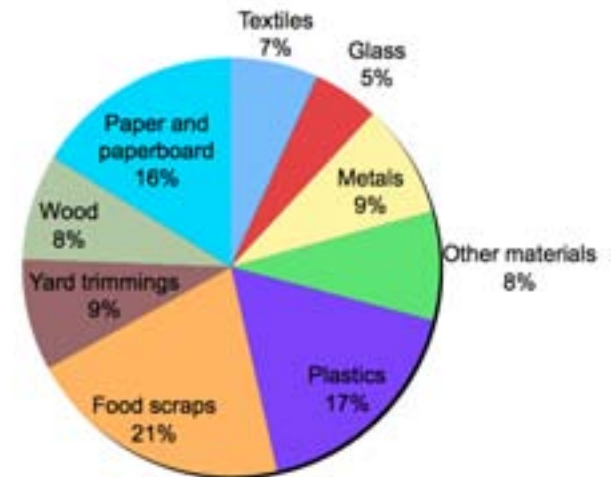
- ✘ Why Compost?
- ✘ Green jobs
- ✘ Maryland drivers
- ✘ Soil-amended soil as best management practices
- ✘ Importance of landscape and roads for treatment zone for stormwater
- ✘ Models
  - + Soils for Salmon
  - + TxDOT
  - + Montgomery Co. RainScapes
- ✘ Challenges to Expanding Composting



# BENEFITS OF COMPOSTING & COMPOST

- + Reduces waste
- + Improves soil
  - × Creates a rich nutrient-filled material, humus
  - × Increases the nutrient content in soils
  - × Improves soil tilth, aeration, and water-holding capacity
  - × Reduces or eliminates the need for chemical fertilizers
  - × Suppresses soil-borne plant diseases and pests
  - × Promotes higher yields of agricultural crops
  - × Helps regenerate poor soils
  - × Has the ability to cleanup (remediate) contaminated soil
- + Reduces reliance on fossil-fuel based fertilizers
- + Reduces stormwater run-off & soil erosion
- + Cuts emissions from landfilling & burning
- + Creates jobs & supports local economies

U.S. Municipal Waste Disposed (after recycling)



164.7 million tons in 2010

Source: US EPA, 2010 data  
(<http://www.epa.gov/epaoswer/non-hw/muncpl/msw99.htm>)



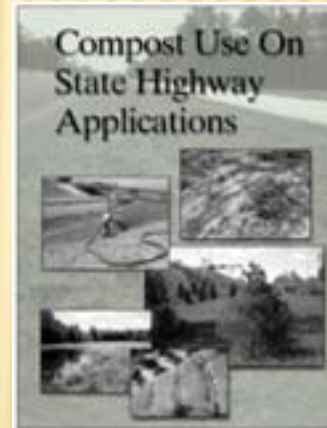
# COMPOSTABLE MATERIALS

- ✘ Leaves
- ✘ Yard trimmings
- ✘ Brush and branches
- ✘ Food scraps
- ✘ Compostable packaging & paper
- ✘ Compostable plastics

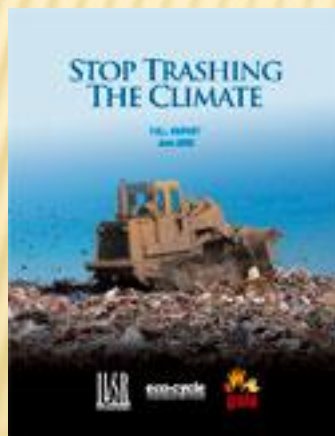


# COMPOST APPLICATIONS

- ✘ landscape and nursery
- ✘ agricultural and horticultural
- ✘ vegetable and flower gardens
- ✘ tree and shrub planting
- ✘ sod production and roadside projects
- ✘ wetlands creation
- ✘ soil remediation and land reclamation
- ✘ sports fields and golf courses
- ✘ sediment and erosion control



# COMPOSTING: CLIMATE PROTECTION



- ✘ Prevents landfill methane emissions
- ✘ Stores carbon
- ✘ Improves soil's ability to store carbon
- ✘ Substitutes for energy-intensive fertilizers, pesticides, fungicides
- ✘ Improves plant growth, and thus carbon sequestration
- ✘ Reduces energy use for irrigation

# COMPOST: FOUNDATION OF HEALTHY SOIL AND GREEN INFRASTRUCTURE

- ✘ Stormwater management (low-impact development)
- ✘ Water conservation (the cheapest “new supply” of water)
- ✘ Sustainable landscapes
- ✘ Sustainable local/regional agriculture

***Added benefit of cost-effective waste diversion***

Source: David McDonald, Seattle Public Utilities & Washington Organic Recycling Council, Soils for Salmon Project.



Sediment Trap



Slope Protection and Erosion Control Blanket



Vegetated Walls



Above photos courtesy:  
Filtrex

# CHANGING CLIMATE – A DRIVER FOR AMENDING SOIL WITH COMPOST

- ✘ Intense storm events – stormwater loading, flooding, wind damage
- ✘ Precipitation variability – alternate drought and flooding
- ✘ Agricultural productivity – soil loss, weather

*Source: David McDonald, Seattle Public Utilities & Washington Organic Recycling Council, Soils for Salmon Project.*





# COMPOSTING = LOCAL JOBS



On a per-ton basis, composting sustains 2 x more jobs than landfills and 4 x more than MD's three trash incinerators

- ✘ Organics do not ship well
- ✘ Composting is small-scale
- ✘ Jobs are local
- ✘ Compost products are used locally
- ✘ Dollars circulate within local economies
- ✘ Local = good for local economies
- ✘ Composting linked to urban food production
- ✘ Composting diversifies farm products and saves money

# LOCAL COMPOST USE = MORE DIRECT JOBS

Company	FTE Involved with Compost Use		CY Compost Used/YR	
			Range	Avg.
Landscape Contracting and Irrigation Inc.	TX	2	2,000 – 3,000	2,500
USA Erosion Inc.	TX	4		10,000
Soil Express LTD	TX	8	2,760 – 6,455	4,139
Wims Environmental Construction LTD	TX	7		7,500
MCS Inc.	NJ	4	5,000 – 7,000	6,000
Gold Leaf Group	MD	6		2,146
Oreg	MD	1	300 – 400	350
		<b>32</b>		<b>32,635</b>



Photo courtesy of Filtrexx International, LLC

Source: ILSR, 2013. Personal communication with company reps.

These seven companies sustain ~2 job positions for every 1,000 cubic yards of compost they use per year.

# JOB CREATION: COMPOSTING VS. DISPOSAL

Type of Operation	Jobs/ 10,000 TPY	Jobs/\$10 million capital investment
Composting Facilities	4.4	29.5
Compost Use	7.4	n/a
<b>Total Composting</b>	<b>12</b>	
Disposal Facilities:		
Landfilling	2.3	8.4
Burning (with energy recovery)	1.6	1.6

\$ converted to constant 2010\$

TPY = tons per year (for composting, tons represent original material, not the amount of compost produced)

Source: Institute for Local Self-Reliance. Preliminary research findings based on MD-specific composting and disposal facilities.



Photo courtesy of MCS, Inc

# MARYLAND DRIVERS

## HOUSE BILL 817

HB  
2010

By Delegate Winters  
Introduced and read first time: February 11, 2010  
Assigned to Environmental Matters

### AN BILL ENTITLED

1 AN ACT concerning

2 Environment - Composting

3 FOR the purpose of requiring the Department of the Environment to maintain certain  
4 information on its Web site related to composting for certain purposes, requiring  
5 the Department, in consultation with the Department of Agriculture and the  
6 Maryland Environmental Service, to study certain matters related to  
7 composting and to make certain recommendations related to the promotion of  
8 composting, including  
9 before a certain date,  
10 study in the General  
11 relating to composting

Maria O'Malley Governor

Ch. 001

### Chapter 001

(House Bill 817)

AN ACT concerning

Green Maryland Act of 2010

12 BY adding to  
13 Article - Environment  
14 Section 9-2122  
15 Annotated Code of Maryland  
16 (2009 Supplement, Title 9)

17 WHEREAS, Compost  
18 material from the landfills  
19 and other sources of organic waste

20 WHEREAS, Compost  
21 reduces the frequency of land

22 WHEREAS, Compost  
23 pollutants from reaching soil

24 WHEREAS, Compost  
25 enhances soil fertility to use  
26 as mulch, fertilizer, plays

FOR the purpose of giving the necessary impetus for the purchase of recycled  
paper by the Department of General Services, ~~requiring the Department to~~  
~~maintain certain information on its Web site related to composting for certain purposes, requiring~~  
~~the Department, in consultation with the Department of Agriculture and the~~  
~~Maryland Environmental Service, to study certain matters related to~~  
~~composting and to make certain recommendations related to the promotion of~~  
~~composting, including~~  
~~before a certain date,~~  
~~study in the General~~  
~~relating to composting~~

BY repealing and rewording with amendments  
Article - State Finance and Procurement  
Section 19-402 and 19-403  
Annotated Code of Maryland  
(2009 Supplement, Volume 1)

BY adding to  
Article - State Finance and Procurement  
Section 19-408 and 19-409  
Annotated Code of Maryland  
(2009 Supplement, Volume 1)

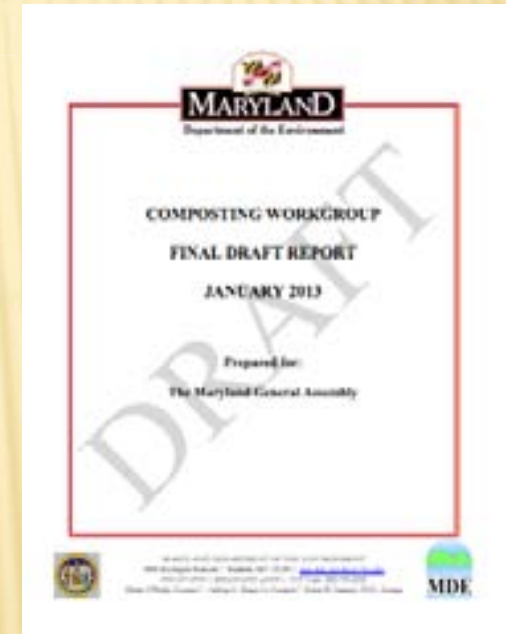
BY repealing  
Article - Environment  
Section 9-2122

4-1

- ✘ Green Maryland Act of 2010 (SB 693): “each state unit shall review annually the procurement specifications currently used by the unit [commodities using recycled materials]” & “A state or local unit responsible for the maintenance of public lands in the state, to the maximum extent practicable, shall give consideration and preference to the use of compost in any land maintenance activity that is to be paid for with public funds.”
- ✘ Compost Bill (HB 817): “make recommendations about how to promote composting in the State, including any necessary programmatic, legislative, or regulatory changes”
- ✘ Bay watershed implementation plans

# MD STATEWIDE COMPOST STUDY GROUP: DRAFT RECOMMENDATIONS (SELECT)

- ✘ Update and streamline regulations/permitting
- ✘ Adopt performance-based permitting regs
- ✘ Promote on-farm composting
- ✘ Build and maintain comprehensive web site
- ✘ Share best practices
- ✘ Characterize how much organics generated
- ✘ Build markets for compost
- ✘ **Promote compost and compost-related products as best management practices for controlling stormwater run-off and erosion**
- ✘ Target large generators by providing resources and technical assistance
- ✘ Share sample zoning ordinance language



# WA DRIVER: ENDANGERED SALMON HABITAT



- ✘ Decline in Puget Sound Chinook salmon attributed to urbanization and the resulting surface water runoff
- ✘ Washington Organic Recycling Council launched the Soils for Salmon campaign
- ✘ Heart of campaign was need to retain native soils and repair damaged soils, using compost and mulch, so surface water from storm events could infiltrate soil
- ✘ Dramatic reduction in surface water runoff – 55-75% on a disturbed soil to 15% on an amended soil surface that mimics native soil

Source: David McDonald, Seattle Public Utilities & Washington Organic Recycling Council, Soils for Salmon Project.

# WA DEPT. OF ECOLOGY STORMWATER BMP: “POST CONSTRUCTION SOIL QUALITY & DEPTH”

- ✘ Retain native soil and vegetation wherever possible
- ✘ All areas cleared and graded require 8-inch amended soil depth:
  - + Soil organic matter content 10% for landscape beds,
  - + Soil organic matter content 5% for turf areas



**Soils for Salmon: Integrating Stormwater, Water Supply, and Solid Waste Issues in New Development and Existing Landscapes**

by David K. McDonald, Seattle Public Utilities  
[david.mcdonald@seattle.gov](mailto:david.mcdonald@seattle.gov) [www.seattle.gov/util/resources](http://www.seattle.gov/util/resources)  
for the  
Washington Organic Recycling Council  
[www.soilsforSalmon.org](http://www.soilsforSalmon.org) [info@compost.washington.org](mailto:info@compost.washington.org)

## Soil Best Practices:

### New Construction

- Retain and protect native topsoil & vegetation where practical
- Restore disturbed soils by tilling 2-3" of compost into upper 8" of soil
- Loosen compacted subsoil, if needed, by ripping to 12" depth
- Mulch landscape beds after planting

### Existing Landscapes

- Till in compost when re-landscaping
- Mulch beds with organic mulches
- Topdress turf with compost

# BENEFITS OF SOIL BEST PRACTICES

- ✘ Better erosion control
- ✘ Easier planting, healthier plants
- ✘ Easier maintenance (healthier plants, fewer weeds, less need for water, fertilizer, pesticides)
- ✘ Reduced stormwater runoff, with better water quality
- ✘ Regulatory compliance (current and upcoming regs)

**UW Stormwater Trials  
- till soil, no compost**



*Glacial till soil typical in developing areas.  
High runoff, and poor turf quality.*

**With Compost  
- less runoff, better turf**



*Same soil with 30% compost added. Up to  
50% less runoff, and turf is still healthier 4  
years later.*

Source: David McDonald, Seattle Public Utilities & Washington Organic Recycling Council, Soils for Salmon Project; and Soils for Salmon website: <http://www.soilsforsalmon.org/why.htm#compost>



**Successful Projects**



At Redmond Ridge, Quadrant Homes fences and protects existing forest as an amenity and stormwater filter. Then they grade to 12 inches below finish grade, stockpiling the topsoil. Next step is to place rock pads for roads and driveways.



Once foundations are in and houses are framed and sided, 14 inches of compost-amended reused soil is placed (to allow for settling to 12-inch finish grade). The compost blend prevents erosion, so work can proceed year-round.



On many sites (here in a Snohomish home remodel) it is more cost effective to till compost into the existing soil. Tilling 2-3 inches of compost into any soil - sand, clay or till - makes planting easier and grows a healthier landscape.





Port Blakely also uses compost-amended soils in park and home landscapes, for a high-end, quality product that sells, and attracts future customers too!



At Shamrock Heights, Cam West Development combines a traditional feel with innovative stormwater methods. Reuse of high-quality site soil, plus mulching, support a vibrant landscape.



At Issaquah Highlands, Port Blakely Communities uses compost blankets for erosion control and cost-effective vegetation establishment on slopes.

**Guidelines and Resources  
For Implementing Soil Quality and Depth BMP T5.13  
in WDOE Stormwater Management Manual for Western Washington**

**2010 Edition**

**Summary**  
Soil quality is directly related to stormwater detention capacity, and so to the health of streams and aquatic resources in the Pacific Northwest. Soil quality also determines landscape success: plant survival, growth, disease resistance, and maintenance needs.

This publication provides guidance for landscape designers, builders, planners, and inspectors to implement soil quality "Best Management Practices" (or BMPs), in order to protect and restore soil functions. The guide describes techniques for construction site soil handling, reducing soil compaction, and amending site soils with compost to meet BMP T5.13 "Post Construction Soil Quality and Depth" in the WA Dept. of Ecology's Stormwater Management Manual for Western Washington. This guide also includes field inspection techniques, WA suppliers of compost and soil testing laboratories, and specification language in APWA and CSI formats.

# PORTLAND GREEN STREETS: GREEN INFRASTRUCTURE INTEGRAL TO STORMWATER PLAN



City of Portland

## Portland Green Streets

Green Streets has become a community affair in Portland, Ore., where citizens can "adopt" a Green Street stormwater management facility in their neighborhood. The city sponsors Green Street maintenance training, which includes picking up trash, removing leaves and debris, and occasional weeding and watering.

[www.sustainablecitynetwork.com](http://www.sustainablecitynetwork.com)

**Sustainable City NETWORK**  
Balanced Information & Intelligent Solutions for Municipal Professionals

Green Streets Go Mainstream in Portland

Green Infrastructure Integral to Stormwater Plan

Portland (Wednesday, July 25, 2011 4:07 pm) (updated 4:08 am, 19 Jul 22, 2011)

By Nancy Rodgers  
Executive Editor | 19 comments

PORTLAND, Ore. — Green infrastructure has come out of the laboratory and into the mainstream as a legitimate and necessary strategy for controlling urban water runoff, according to David Elin, a landscape architect for GreenWorks, PC in Portland. Elin, a former staffer with the city of Portland's Bureau of Environmental Services, gave a presentation about the city's Green Streets program at the American Public Works Association's recent Sustainability in Public Works Conference in Portland.

"We have about 22 square miles of rooftops, 45 square miles of pavement and we get three feet of rainfall every year," Elin said. "So, for every acre of impervious surface that we have in Portland, we get... one million gallons of runoff."

Portland is taking a two-pronged approach to controlling its combined sewer overflow, as mandated by the state of Oregon. One approach is traditional: the construction of a massive \$1.4 billion "big pipe" that will be operational by the end of 2011. That pipe will be the spark to help Portland manage its current stormwater volume, but it won't be enough to handle projected increases in population density and storage demands, Elin said.

To avoid costly stormwater detention projects in the decades to come, Portland is taking another approach: Green infrastructure, including the city's Green Streets program. Along with a diverse network of rain gardens, non-roof and strategically planted trees, the city is taking Green Streets seriously.

"Our Green Streets system is considered an integral part of our stormwater infrastructure, and I think that's important," Elin said. "It used to be a pilot. The concept was something that was untested, something that was 'hot news'... something that we really couldn't rely on. But now we are installing these systems, we are implementing them, we are testing them, we are monitoring them, and we consider them as something that has to continue to function in order to maintain our stormwater infrastructure."

Elin said Portland has proven that street planters, with their rain gardens, can be a cost-effective way to manage runoff.

**Average Green Street Costs**

David Elin is a landscape architect with GreenWorks PC of Portland, Oregon. Elin was previously a member of the Sustainable Stormwater Group in the city of Portland's Department of Environmental Services.

**Online Poll**  
Do you favor private investment in public water systems?  
 Yes, the free market with government oversight works best.  
 No, as long as local government controls the...

# PORTLAND GREEN STREETS



Street Planters, curb extensions, simple green strips

- ✘ Cost-effective peak flow reduction of 80+%
- ✘ Filtration of pollutants
- ✘ Groundwater recharge
- ✘ Soil rehabilitation
- ✘ Improved pedestrian safety
- ✘ Neighborhood beautification
- ✘ Volume detention to handle most rain events
- ✘ Provide more space to plant trees
- ✘ Increase home values
- ✘ Alleviate urban “heat island” effect

# PORTLAND BIOSWALE



Credit: City of Portland, Oregon Bureau of Environmental Services

Bioswales are vegetated drainage ways that receive and absorb stormwater runoff from impervious surfaces. The vegetation slows and filters the water as it infiltrates the soil.

# MONTGOMERY COUNTY, MD RAINSCAPES REWARDS REBATE PROGRAM

- ✘ BMP for rain gardens: amending soil with compost
- ✘ Conservation landscapes: required to have 3-inch layer of compost (incorporated to create a 6-12 inch improved soil layer)
- ✘ Property owners offered rebate for low-impact development installations
  - + \$2,500 max for residential
  - + \$10,000 max for commercial, multi-family, or institutional
- ✘ Replicated in Gaithersburg & Rockville  
Over 100 Certified RainScapes Professionals



# RAINSCAPES (CONT.)



Conservation landscape in partial shade catching runoff from adjacent property

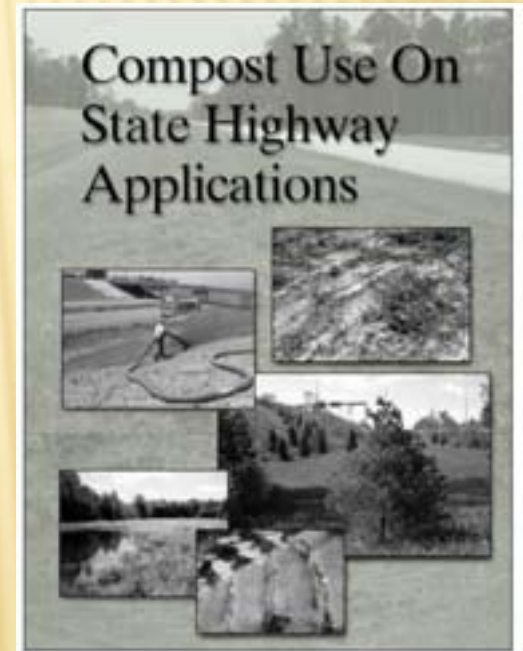


Native plants, grasses and shrubs catch runoff from large ballfield at Rockville High School

Source: *Conservation Landscaping Techniques*, RainScapes, Environmentally-Friendly Landscapes for Healthy Watersheds, Montgomery DEP, <http://www6.montgomerycountymd.gov>

# BENEFITS OF COMPOST ON ROADSIDE APPLICATIONS

- ✘ Improves the soil structure, porosity, and bulk density, thus creating a better plant root
- ✘ Increases infiltration and permeability of heavy soils, reducing erosion and runoff
- ✘ Improves water holding capacity in sandy soils, reducing water loss and leaching
- ✘ Supplies a variety of macro and micronutrients
- ✘ Controls or suppresses certain soil-borne plant pathogens and nematodes
- ✘ Supplies significant quantities of organic matter
- ✘ Improves cation exchange capacity (CEC) of soils, improving their ability to hold nutrients for plant use
- ✘ Supplies beneficial microorganisms to soils
- ✘ Improves and stabilizes soil pH
- ✘ Can bind and degrade specific pollutants



Source: Ron Alexander, *Compost Use on State Highway Applications*, The Composting Research and Education Foundation and US Composting Council, available online at: <http://www.epa.gov/osw/conserve/rrr/composting/highway/index.htm>

# POTENTIAL “ROADSIDE” APPLICATIONS FOR COMPOST

- Soil Incorporant
  - Turf establishment
  - Garden Bed Preparation
  - Reclamation / Remediation
  - Roadside Vegetation
  - Wetlands Establishment
- Growing Media Component
  - Landscape (e.g., rooftop, raised planters)
  - Backfill Mixes (tree and shrub planting)
  - Golf Course (e.g., tee, green, divot mixes)
  - Manufactured Topsoil
  - Wetland Establishment
- Surface Applied
  - Garden Bed Mulch
  - Erosion Control Blanket
  - Silt/Sediment Control Berm
  - Turf Topdressing



Photo Credit: Denbow,  
[www.denbow.com](http://www.denbow.com)

Source: Ron Alexander, *Compost Use on State Highway Applications*, The Composting Research and Education Foundation and US Composting Council, available online at: <http://www.epa.gov/osw/conservation/rrr/composting/highway/index.htm>



# TEXAS DOT: AWARD-WINNING MODEL

## Environmental Problem

- ✘ Over application of dairy farm manure
- ✘ Impaired North Bosque and Leon River Watersheds

## Innovative Multi-Agency, Multi-Program Approach

- ✘ Key Partnership: Texas Department of Transportation (TxDOT) & Texas Commission on Environmental Quality (TCEQ)

## Incentive Program

- ✘ EPA & TCEQ provided TxDOT rebate to purchase compost for roadway erosion control

## Economic Benefit

- ✘ Became nation's largest market for compost
- ✘ Over 3 million cubic yards used to date
- ✘ \$\$ remain in-state due to transportation costs/considerations; composting inherently local
- ✘ Whole new industry of subcontractors (truck-mounted pneumatic pump blowers)

Source: Personal Communication, Barrie Cogburn, Texas DOT (retired), January 2013

## BMP Materials for Storm Water Pollution Prevention Plans:

- Compost manufactured topsoil
- Erosion control compost
- General use compost
- Erosion control logs



Photo courtesy of Barrie Cogburn



Applying a compost blanket on a bare and eroding slope



Same slope after revegetation

Photo Credit: Barrie Cogburn, Texas DOT (retired)



TxDOT

**(Before) Erosion along State Highway 47 in College Station, TX, threatens this riprap slope. Left alone, the erosion would be expensive to repair.**



TxDOT

**(After) TxDOT smoothed the slope and applied erosion control compost. This photo shows the same slope 2 weeks after compost was applied.**

- HQ Division of Design Home
- HQ Landscape Architecture Program Home
- HQ Landscape Architecture Staff
- District Landscape Architecture
- Landscape Architecture Jobs

TOPICS

- Awards and Recognition
- Annual Reports
- Barrier Aesthetics
- Blue Star Memorial Highways
- Classified Landscaped Freeways
- Community Identification
- Construction Contract Standards
- Context Sensitive Solutions
- Erosion Control Toolbox
- Estimating
- Gateway Monuments
- Highway Planting
- Policy, Manuals and Procedures
- Publications
- Research
- Roadside Toolbox
- Safety Roadside Rest Area System
- Scenic Highways
- Transportation Art
- Visual Impact Assessment Outlines
- Visual Impact Assessment Training
- Water Conservation
- Webinars

Caltrans > Landscape Architecture Program > EG Toolbox > Compost Blanket

## Compost Blanket



### What is This Treatment?

Mulch-like blanket of medium-coarse stable and mature compost, typically 2" thick. Note that compost blanket is a coarse woody product, not the fine, screened compost product typically used as a soil amendment.

### Where to Use This Treatment:

- Typically applied on slopes 1.5:1 (H:V) and flatter. The following application rates are suggested:
  - Slopes 1.5:1 (H:V) - 1" maximum thickness.
  - Slopes 2:1 (H:V) - 2" maximum thickness.
  - Slopes 3:1 (H:V) - 3" maximum thickness.
  - Slopes 4:1 (H:V) - 4" maximum thickness.

### Benefits:

- Improved protection from raindrop splash erosion.
- Reduced competition from weed species.

### Erosion Control Toolbox

[Toolbox Overview](#)

#### Tools

#### TO COMBINE SPECIFICATIONS

- [Sequencing](#)

#### PLANNING & DESIGN

- [Preserve Existing Vegetation](#)

#### IMPROVE SOIL HEALTH

- [Soils Testing](#)
- [Local Topsoil](#)
- [Imported Topsoil](#)
- [Roughen Soil Surface](#)
- [Stepped Slopes](#)
- [Contour Grading and Slope Rounding](#)
- [Decompact Soil](#)
- [Soil Nutrients](#)
- [Compost \(Incorporate\)](#)

#### IMPROVE SOIL HEALTH & PROVIDE COVER

- [Duff](#)
- [Mulch](#)
- [Compost Blanket](#)

#### SHORT TERM COVER

- [Hydroseed Overview](#)
  - [Seed](#)
  - [Fiber](#)
  - [Straw](#)
  - [Tackifier](#)

## Model Guided Specification for Using Compost and Mulch to Promote Establishment of Vegetation and Improvement in Stormwater Quality



### FINAL REPORT

April 30, 2010

Contract # 65A0236  
Expense Authorization 43 910204

CTSW-RT-10-236.01.1  
CA10-0918

Vic Claassen and Thomas Young  
University of California, Davis

California Department of Transportation





# Wastes - Resource Conservation - Reduce, Reuse, Recycle - Composting

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## Compost Use on State Highway Applications

Funded by EPA, the Composting Council Research and Education Foundation (CCREF), in conjunction with the United States Composting Council (USCC) developed this document to promote compost use on state and local 'roadside' applications. Its goal is to provide individuals and organizations — roads and highways staff, policy makers, product specifiers, project designers and engineers, environmental officers, landscapers, and other interested parties — involved in the maintenance and management of roadsides and highways, with the tools necessary to use composted products to meet their specific project requirements.

You will need Adobe Reader to view some of the files on this page. See [EPA's PDF page](#) to learn more.

- [Introduction, Table of Contents \(PDF\)](#) (4 pp, 1.6MB)
- [Benefits to Compost Use on Roadside Applications \(PDF\)](#) (3 pp, 216K)
- [Current State Departments of Transportation \(DOT\) Success Stories \(Case Studies\) \(PDF\)](#) (16 pp, 1.5MB)
- [Catalogue of State DOT Compost Usage Experience \(50 State Summaries\) \(PDF\)](#) (29 pp, 325K)
- [Compost Specification for Soil Incorporation \(PDF\)](#) (16 pp, 969K)
- [DOT 'In the Soil' Compost Specifications Chart \[Table 1\] \(PDF\)](#) (1 pg, 1.4MB)
- [DOT 'On the Soil' Compost Specifications Chart \[Table 2\] \(PDF\)](#) (1 pg, 821K)
- ['All' DOT Compost Specifications Chart \[Table 3, page 1\] \(PDF\)](#) (1 pg, 1.5MB)
- ['All' DOT Compost Specifications Chart \[Table 3, page 2\] \(PDF\)](#) (1 pg, 829K)
- [Bibliography \(PDF\)](#) (1 pg, 15K)
- Appendices
  - [Compost Analytical Testing Methodologies \(PDF\)](#) (1 pg, 984K)
  - State DOT Contacts Tables
    - [DOT Landscape Contacts \(PDF\)](#) (2 pp, 1.9MB)
    - [DOT Environmental Officers \(PDF\)](#) (2 pp, 1.6MB)
    - [DOT Maintenance Contacts \(PDF\)](#) (2 pp, 1.5MB)
    - [DOT Directors \(PDF\)](#) (2 pp, 1.6MB)

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# GRASS AND LEAF COMPOSTING FAIRLY WELL DEVELOPED



# LACK OF FOOD COMPOSTING FACILITIES

- ✘ Recycled Green (closed to food December 2011)
- ✘ Peninsula Compost – Wilmington, DE
- ✘ Prince William County Balls Ford Road (no meat, low volume)
- ✘ Chesapeake Compost Works – Baltimore (just opened, low volume)
- ✘ Prince George’s County Western Branch – (pilot 7/1/14, full scale 12/31/15)
- ✘ Howard County at Alpha Ridge Landfill (under construction)
- ✘ Freestate Farms (private) in Fauquier County (under development)



*Peninsula Compost*



*Chesapeake Compost*

# CHALLENGES TO EXPANDING COMPOSTING

- ✘ Lack of collection infrastructure
- ✘ Lack of composting capacity
- ✘ Siting difficulties
- ✘ Lack of regs/permitting to facilitate compost operations
- ✘ Zoning regulations
- ✘ Competition with cheap disposal
- ✘ Cheap landfill disposal fees
- ✘ Landfill and incinerator industry vested interests
- ✘ Lack of leadership

PROMOTING THE PRACTICE

## SUPPORTIVE RULES FOR SMALL-SCALE COMPOSTING



Eleven states are surveyed for their noteworthy efforts and differing approaches to encourage more farms and other small-scale operators to compost, especially food scraps.

*Brenda Platt, Rachel Ross, and Melody Poole*

**C**OMPOSTING is increasingly being used to improve food production, farmers and other businesses, farmers and other businesses have a vital role to play in producing and utilizing compost to improve degraded soils. They also have been, a necessary factor in developing the capacity to compost. Many permitting rules are facilities on-farm and other small-scale operators, thus helping to expand and diversify the composting infrastructure.

Eleven states -- Iowa, Idaho, Massachusetts, New York, Utah, Oregon, Pennsylvania, Rhode Island, Washington, West Virginia and Wisconsin -- are surveyed here for their noteworthy efforts and differing approaches to get

other operators the same crop rotation and manure when it comes to on-site farm composting. However, as the quantity of manure has, so do the standards that facilities have to meet. Currently, Wisconsin allows up to 20,000 cu ft of on-site yard material and digestate at any one time before the requirements become more stringent.

A wide range of laws exist in comparison of off-site commercially generated food discarded at permitted composting facilities in terms of what capacity can be taken in and how much time allows to store (up to 12 months) of food materials. For regulated facilities, Rhode Island allows 1 ton/day of permitted food material but 10 ton/day of permitted vegetative material. In Ohio, operators of regulated facilities are responsible for determining their own capacities and abiding by them. Table 2 includes more state changes involving food-waste standards.

**TABLE 2: REGULATORY INFORMATION**

**STATUS IN PRACTICE?**

Threats are a critical component to state policies that involve regulations for small-scale composters. High

and low



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For model policies, please visit:

<http://www.ilsr.org/initiatives/composting/> and click on "Rules"

