

# 2015 Partners Conference



Plenary Session:  
Moving Ohio Towards Sustainable  
Materials Management

Julie Rhodes  
National Recycling Coalition

# Defining Sustainable Materials Management



**National Recycling Coalition**

***Sustainable Materials  
Management***

*Presented by: Julie L. Rhodes*

# Materials Management: 2 Working Definitions (US EPA)

*“Materials management is an approach to using and reusing resources most efficiently and sustainably throughout their lifecycles. It seeks to minimize materials used and all associated environmental impacts.”*





# Materials Management: 2 Working Definitions (US EPA)

*“Materials management refers to the life cycle of materials as they trace their course through the economy, from raw material extraction to product manufacture, transport, use, source reduction, reuse, recycling, and disposal.”*



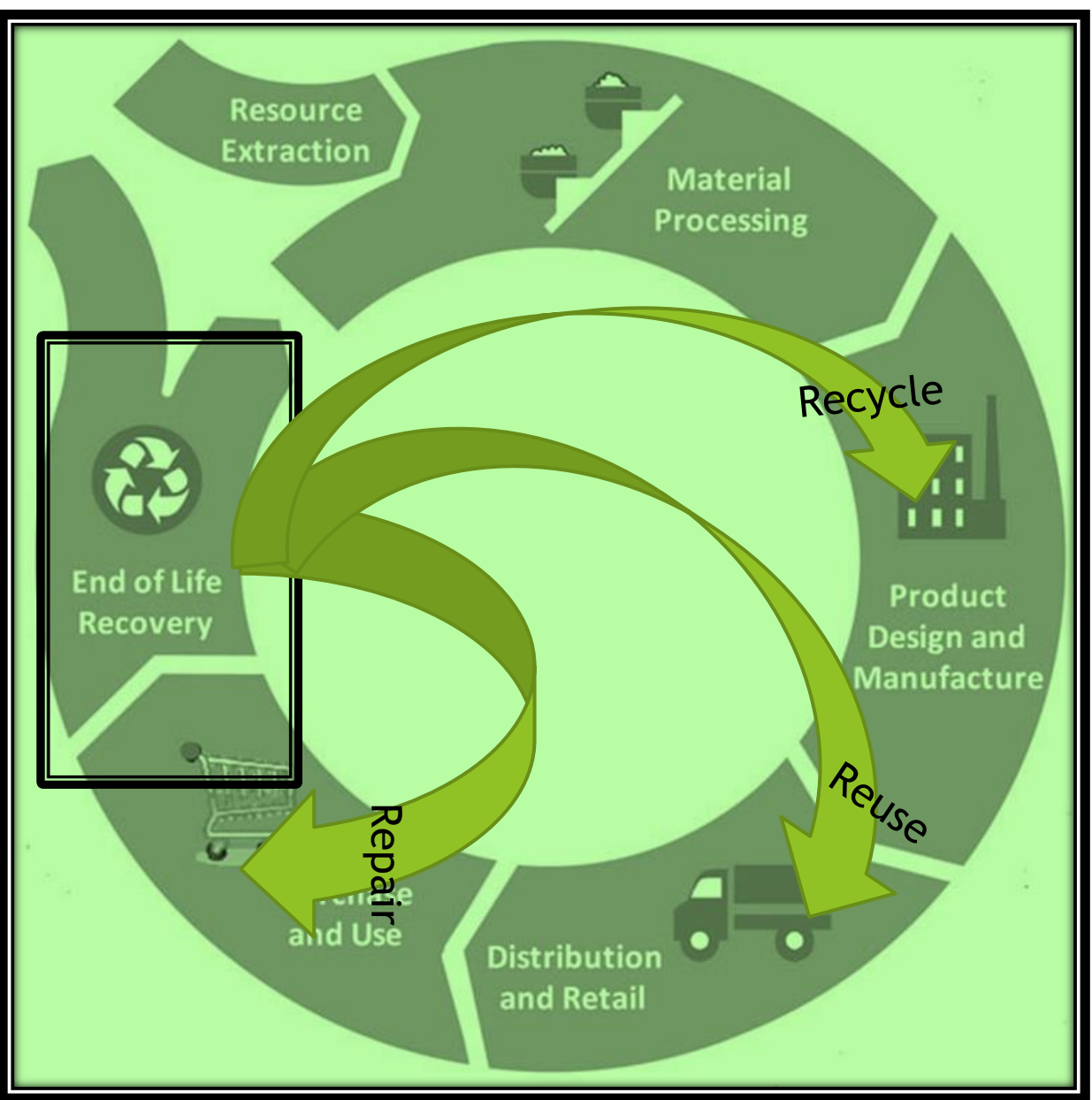
# Sustainable Materials Management

**SMM requires looking beyond “downstream” end of life management to also address all stages including upstream production and use phases.**



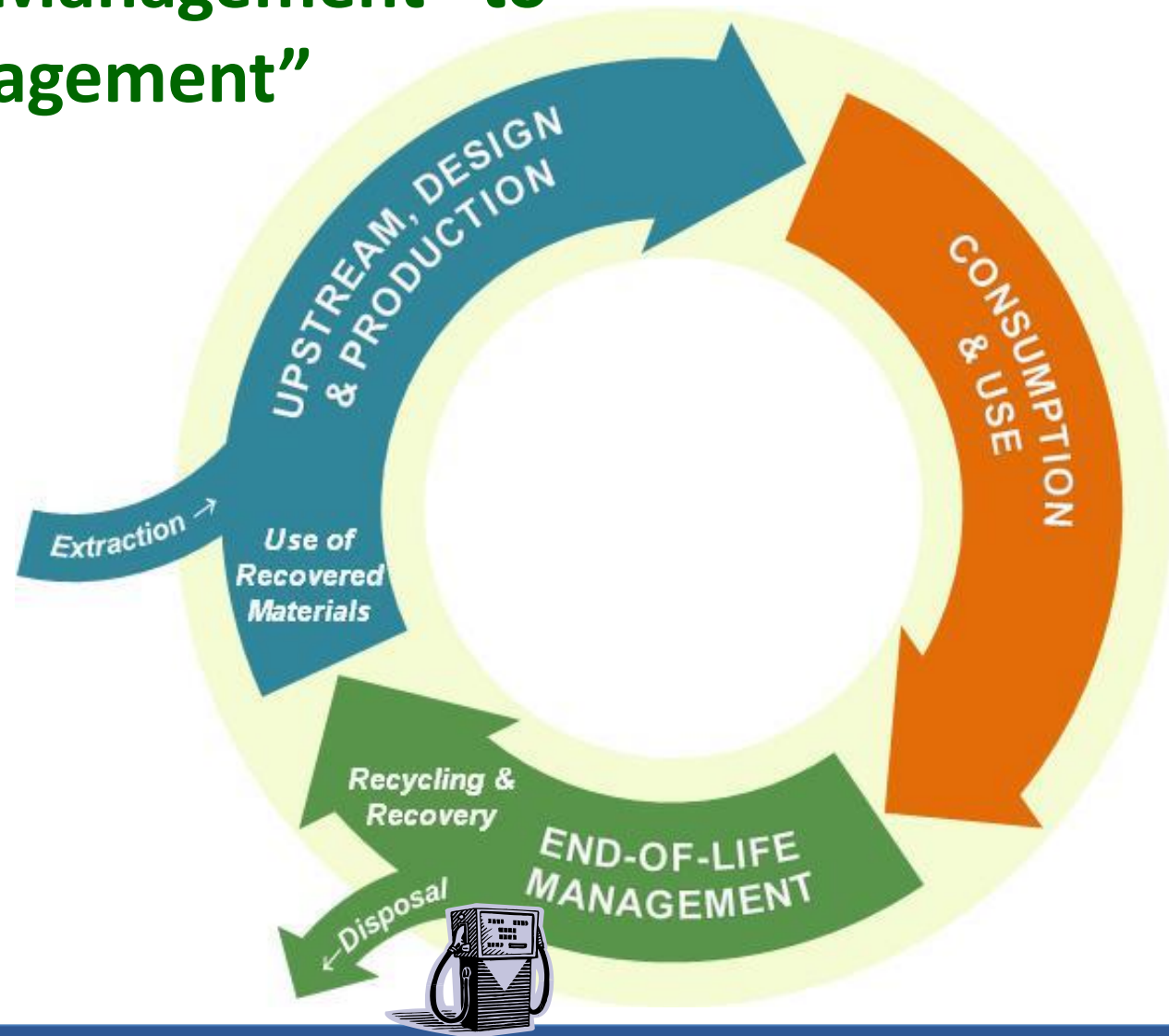
# RECYCLING & MATERIALS MGT.

Based on graphic from John Davis, Mojave Desert &  
Mountain Recycling Authority



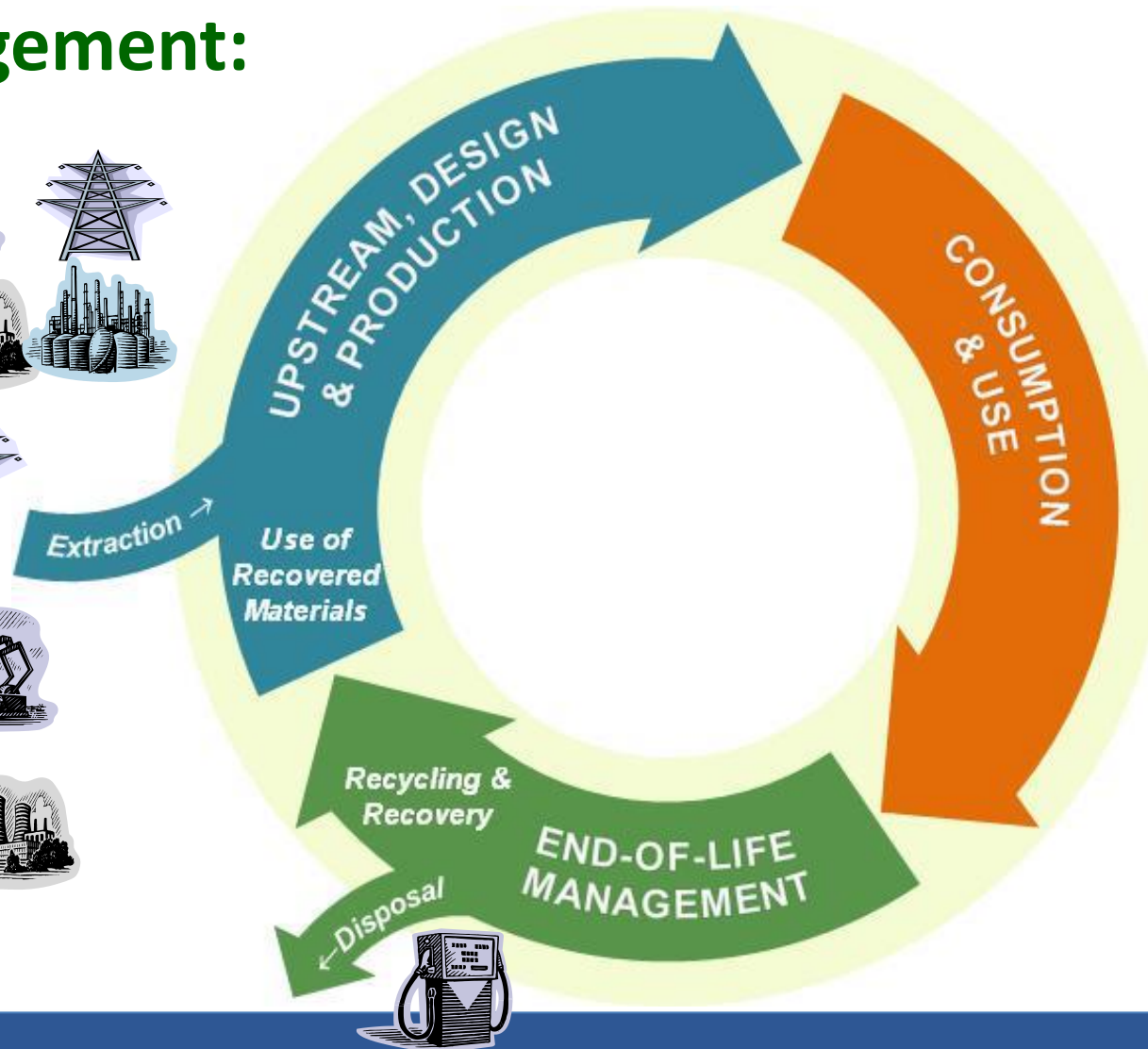
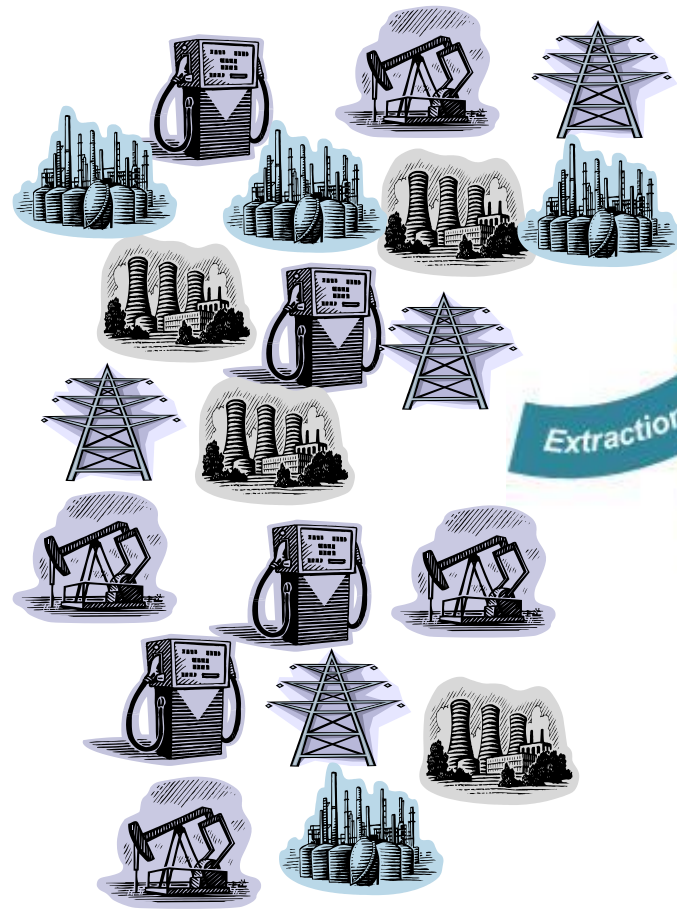
Recycling

# From “Discards Management” to “Materials Management”



Source:  
David Allaway,  
Oregon Dept. of  
Environmental  
Quality

# From “Discards Management” to “Materials Management:



# Driving SMM Pre-Summit

- SMM Guide & Summary
  - Background on SMM
  - How SMM Can Help NRC Network
  - How NRC Network Can Help SMM
  - Summary of White Paper Ideas (by Summit Panel Categories)
- Recyclers Guide to SMM Webinars
- SMM Resources on NRC & EPA websites



# Driving SMM - Summit

## National Sustainable Materials Management Summit

- May 12 & 13
- University of Maryland
- Over 130 Attendees
- Broad representation by cross-section of those working in SMM





# Five SMM Focus Areas

- Business Roles / Solutions
- Jobs and Market Development
- Training & Certification
- Local Policies and Programs
- National Roles / Solutions



- *Dozens of recommendations around each of these issues*





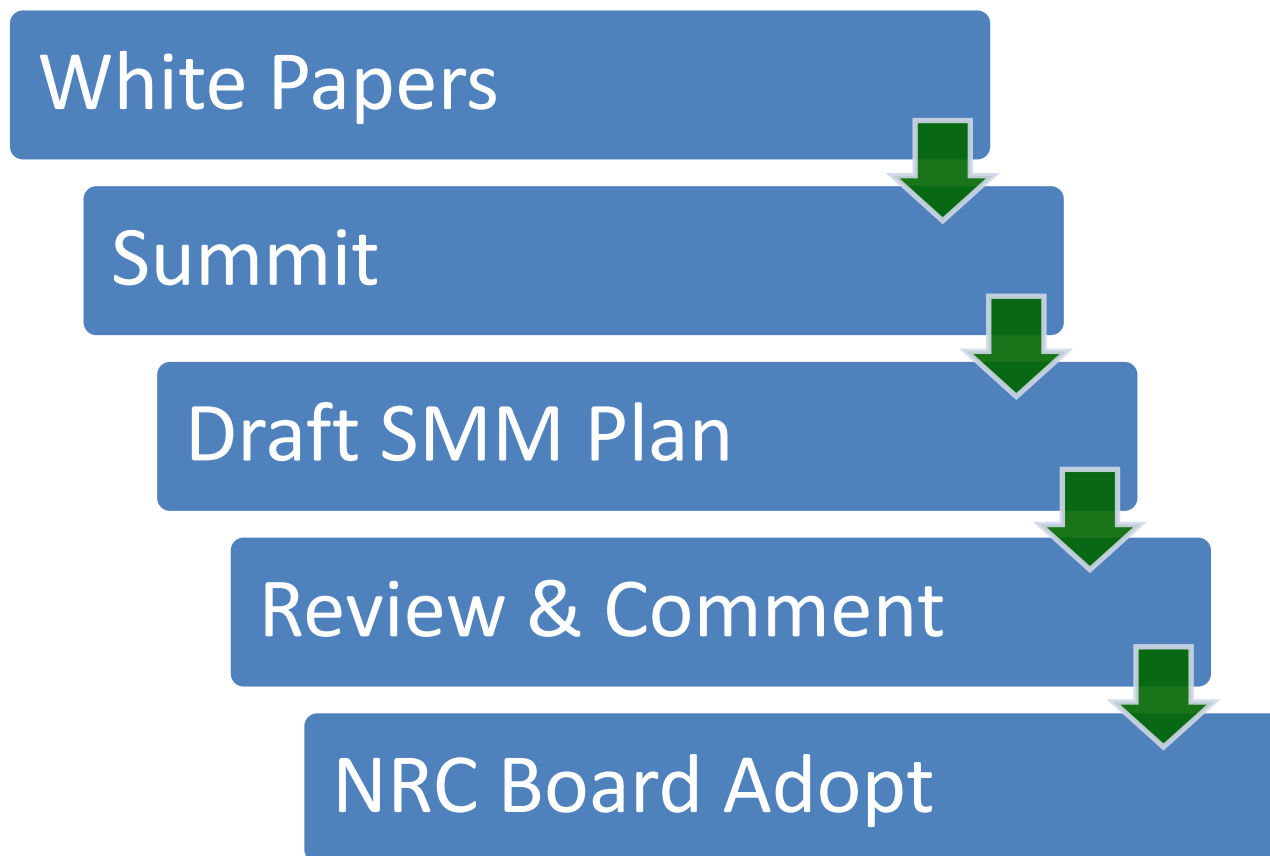
# Driving SMM Post Summit

Working towards a consensus based **National Sustainable Materials Management Action Plan**

- Determine priorities
- Determine who leads particular recommendations
- Focus on where we agree



# Summit & Action Plan Process



# EPA Driving SMM

Sustainable  
Materials Management



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW

- EPA's focus for a few years on SMM through their *Rethink* efforts
- June 16 announcements from **Assistant Administrator Stanislaus** from G7 Summit:



*“It is imperative that we incorporate life cycle based decision-making into our daily operations and initiatives.”*



# Life Cycle Analysis

- Analyze materials management impacts
- Measure resource and energy inputs
- Calculate environmental outputs (GHGs, air and water pollution, acidification, eutrophication, fossil fuel depletion, eco-toxicity and human toxicity)
- Boundaries for SMM LCA analysis measure material flows from acquisition, manufacturing, distribution, and use to end of life management
- Inform decisions involving product design, processes (production and end of life management), and policy



# Reduce and Reuse Key

- Reducing consumption has biggest benefits in reducing demand for virgin materials
- Reused materials also reduce demand for virgin materials
- There's an order to reduce, reuse, recycle for a reason - reduction and reuse have larger environmental benefits than recycling



# How SMM Can Help Recyclers+

- ***Recyclers+*** could benefit from being more a part of overall sustainability, triple bottom line and climate change initiatives
- Help solve other critical problems for communities and businesses at same time
- Brings more allies to help on gaining approval for new policies, programs, facilities and funding



# How SMM Can Help Recyclers+

- Economic benefits have helped drive state recycling policy
- More attention to SMM could result in other help for Recyclers+ such as:
  - More focus on redesign
  - Better solutions for problems
  - More collaboration
  - New rules and incentives
- Once full LCA identifies SMM path, could still improve further
- Connecting Recyclers+ with designers



# Consensus Takeaways

- **Recyclers+ = Reusers, Recyclers, Composters+**
- Business and Jobs Case are Key
- Need a Roadmap and Model Policies
- Matching programs with performance
- Begin dialog with business and designers around products being managed
- Incorporate climate action plans
- Certifying people – not one solution; multiple options





# More Consensus Takeaways

- Certifying products helps businesses get clear direction so don't greenwash (e.g., strong support for how2recycle label)
- Need best practices and resources – model ordinances/model contracts
- Educate on downstream quality issues
- Launch initiatives with good info that have an impact



# Thank you!



- Julie L. Rhodes
- 317.371.2788
- [julielrhodesconsulting@gmail.com](mailto:julielrhodesconsulting@gmail.com)

Michelle Balz

Hamilton County Solid Waste District

# Social Marketing





# Get a Bin!

*It's Easy to Recycle in Hamilton County!*

**Recycling Hotline: 513-946-7741**

**[www.hcdoes.org](http://www.hcdoes.org)**

**HAMILTON COUNTY  
ENVIRONMENTAL  
SERVICES**



Funded by the Ohio Department of Natural Resources, Division of Recycling & Litter Prevention



**Get a Bin...  
and Use It!**

**Call 946-7766**

**[www.hamiltoncountyrecycles.org](http://www.hamiltoncountyrecycles.org)**









# WOODLAWN RECYCLES!

Join your neighbors in making Woodlawn  
a little bit greener.



When you recycle, you

- reduce pollution
- conserve energy
- save natural resources
- boost our local economy
- help Woodlawn earn grant funds

Recycling is easy in Woodlawn.  
Call 771-6130 to request your bin today.

**OUR FAMILY  
RECYCLES!**

Plastic bottles and jugs (remove lids)  
Glass bottles and jars  
Aluminum cans  
Steel cans  
Empty aerosol cans (remove tips)  
Newspapers and magazines  
Phone books  
Brown paper grocery bags  
Junk mail and office paper  
Paperboard (i.e., cereal boxes)  
Clean pizza boxes (remove food)  
Cardboard (flatten)  
Envelopes

Questions about recycling?  
Call the Hamilton County  
Recycling Hotline at 946-7766.



Place this magnet on your refrigerator to remind your family what to recycle.



**When you recycle  
you do more  
than put bottles and  
cans in your bin...**













*fia*  
FROM  
NORTH AVONDALE  
**RECYCLES.**



**FREE RECYCLING GUIDE: [HAMILTONCOUNTYRECYCLES.ORG](http://HAMILTONCOUNTYRECYCLES.ORG)**



## Stay Updated

[Join Our Mailing List](#)

[View Our Event Calendar](#)

## Hotline

Recycling Hotline  
513-946-7766

Collect all acceptable recyclables from your home, don't forget the bathroom and home office. There is no need to sort recyclables or collect them in a plastic bag (plastic bags aren't accepted in curbside or drop-off recycling programs!). Simply put your **recyclables** into your bin/cart and take it out to your **collection spot**.

## Why Recycle?

Recycling **benefits** both the environment and the economy. There are many good reasons to recycle—using recycled materials in the manufacturing process conserves energy, saves natural resources, reduces pollution, and creates jobs.

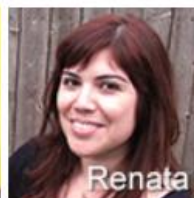
But don't just take our word for it, hear it from your neighbors!



Ali



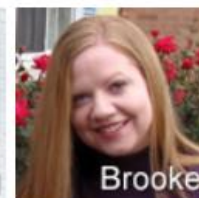
Darrick



Renata



Greg



Brooke



Amy



Hannah



Wil



Kiana



Fia



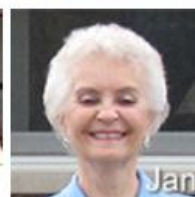
Jo



Bryan



Gwen



Jan



David



Andy



Judith



Robin



Judy & Steve

## What Happens to Your Recyclables?

Placing your bottles, cans, and newspaper on the curb or in a drop-off box is just the beginning of the recycling process. What happens to your recyclables from there?

### Step One: Collection



YOUR GUIDE TO

# RECYCLING

IN HAMILTON COUNTY

HAMILTONCOUNTYRECYCLES.ORG  
946-7766



## WE CAN RECYCLE:



### PLASTIC

Bottles and jugs such as:



WATER/SODA  
lids are OK if left on empty bottle or jug



SHAMPOO



MILK/JUICE



DETERGENT



LOTION  
remove pump

### PAPER



PAPER BAGS



MAIL/ENVELOPES



CARTONS  
remove caps or straws



BOXES  
flatten



OFFICE PAPER



MAGAZINES/PHONE BOOKS



NEWSPAPER



CLEAN PIZZA BOXES

### GLASS



JARS  
include metal lids separately



BOTTLES  
lids separately

### METAL

Cans such as:



AEROSOL  
remove tips and lids



ALUMINUM



STEEL

HAMILTONCOUNTYRECYCLES.ORG

946-7766

Hamilton County

## RECYCLING IN THREE EASY STEPS:

# GET

### GET YOUR BIN/CART

Call the recycling hotline at 946-7766 or visit [HamiltonCountyRecycles.org](http://HamiltonCountyRecycles.org).

# LEARN

### LEARN WHAT TO RECYCLE

Keep the magnet in this guide to remind you what can be recycled. You can always go to [HamiltonCountyRecycles.org](http://HamiltonCountyRecycles.org) to see the list and order a new guide.

# FILL

### FILL UP YOUR BIN/CART

Collect all the acceptable recyclables from around your home and take your bin/cart out to your collection spot.

### Where does it all go?

Recyclables are delivered to a materials recovery facility where they are sorted and marketed to end users. The materials that you recycle are turned into more paper products, new aluminum cans, packaging, insulation, and even carpeting. For the full story, go to [HamiltonCountyRecycles.org](http://HamiltonCountyRecycles.org).





norton

*Amy*

FROM DEER PARK

RECYCLES.



FREE RECYCLING GUIDE: [HAMILTONCOUNTYRECYCLES.ORG](http://HAMILTONCOUNTYRECYCLES.ORG)



# VIEWPOINTS

Editor: Dick Maloney, [rmaloney@communitypress.com](mailto:rmaloney@communitypress.com), 248-

EDITORIALS | LETTERS | COLUMNS | CH@TROOM

## Council wise to focus

I applaud Madeira City Council for concentrating first and foremost on the well being of all Madeira citizens by focusing on critical issues such as budget deficits and city services.

I was surprised and disappointed that Scott Gehring chose to call council's decision a "gag order" in his recent article. Far too often, government bodies get distracted and chase the wrong ideas at the wrong time.

Within a few minutes from our homes, people can enjoy two community pools, free tennis courts and playgrounds, two YMCAs, the best senior center in the Tristate, and more. For Madeira to try to duplicate these services and force a hefty tax on all Madeira residents is not where city council nor its



**John Dobbs**  
COMMUNITY PRESS  
GUEST COLUMNIST

appointed boards and committees should focus.

It is odd that Mr. Gehring, who led the charge against expanding Madeira's housing stock - which when completed could have generated over a half a million dollars per year for the schools - falsely accused the city of raising taxes to help make the \$22 million boost to the community a reality.

Now he wants to chase an idea, using a city appointed board and city resources, that will raise taxes and have little to no economic benefit for the community.

Our Recreation and Parks Board does an outstanding job facilitating many worthwhile and loved events throughout the year. Having served on both the Recreation and Parks Board and city council, I know that these events can get even better and council will be supportive.

As citizens, we are all encouraged to bring ideas forward. If Mr. Gehring is passionate about pursuing a new recreation center, he can do that on his own time. However, now is the time for the city to focus its financial and human resources, solve budget constraints and explore economic development.

*John Dobbs is a longtime resident of Madeira who has served on Madeira City Council and the Recreation and Parks Board.*

## Recycling 'odd' items

Recycling is a great way to improve the quality of our environment. However, not all materials can be recycled by Hamilton County residents in curbside recycling programs. Even some items with the recycle symbol cannot be recycled in your curbside bin or cart.

Items such as plastic tubs, polystyrene, aluminum foil, pie pans, takeout food trays, plastic bags and yogurt cups currently cannot be recycled in curbside recycling programs. While some materials are not acceptable through the curbside program, there are other recycling outlets available.

Many of these items can still be recycled at a variety of outlets.

■ Plastic bags can be recycled at area stores such as Kroger, Meijer, Lowe's, Wal-Mart, Remke Biggs or other locations.

■ No. 5 plastic tubs (including yogurt containers) can be recycled at Whole Foods Market.

■ Light bulbs - you are using compact fluorescent light bulbs, right? Compact fluorescent light bulbs can be recycled at Lowe's, Home Depot, Park + Vine, Environmental Enterprises and USA



**Holly Christmann**  
COMMUNITY PRESS  
GUEST COLUMNIST

Lamp and Ballast of Ohio.

Please refer to the Outlets for Odd Items page on our website or call the Hamilton County Recycling Hotline at 946-7766 for a complete list.

Below is a list of items that are recyclable in curbside bins/carts or at a community recycling drop-off:

**Plastic - Bottles and jugs only. Lids are OK if left on bottles.**

- Pop/water bottles
- Shampoo bottles
- Condiment bottles
- Milk jugs/juice bottles
- Contact solution bottles
- Laundry detergent jugs
- Glass - Remove lids**
- Food jars
- Beer/wine bottles
- Paper**
- Newspapers and inserts
- Magazines-dull or glossy
- Phone books
- Catalogs
- Cardboard boxes (flatten)
- Brown paper grocery bags

- Paperboard boxes
- Junk mail
- All envelopes
- Office paper
- Cores of paper towel/toilet paper rolls
- Beverage carriers
- Metal**
- Soup cans
- Pop cans
- Beer cans
- Fruit and vegetable cans
- Meat cans
- Juice cans
- Coffee cans
- Empty aerosol cans (lids and tips removed)

The Hamilton County Recycling and Solid Waste District is a division of the Hamilton County Department of Environmental Services which also encompasses the Southwest Ohio Air Quality Agency. For more information, visit the Hamilton County Recycling and Solid Waste District online at [www.hamilton-countyrecycles.org](http://www.hamilton-countyrecycles.org) or interact with us on Facebook and Twitter.

*Holly Christmann is the manager of the Hamilton County Department of Environmental Services' Solid Waste Program.*

### LETTERS

#### Rec center wishful thinking

In the bat of an eye, commendation by Ma City Council to the city's and recreation board least for now," hold off their discussions of a po recreation center has b a "gag order" according Madeira resident.

Sure, we would all have a shiny new recreation center in our fine city worthy project. Unless t a large money tree in th brook Nature Preserve t gins to sprout \$1,000 bi

## City of Deer Park, Ohio

"The Right Town for a Bright Future"



Home
Headline News
City Government
City Services
Comprehensive Plan
Community Calendar
Community Organizations
Links
Employment
Contact Us

### Recycling is one thing you can do to help your community



The Hamilton County Recycling and Solid Waste District (District) is encouraging Deer Park residents to recycle this summer.

Recycling is a very important habit to form. Not only does it keep material out of landfills, but recycling also conserves energy, saves natural resources and creates jobs. The materials that you recycle are turned into more paper products, new aluminum cans, packaging, insulation and even carpeting. Your waste output can be reduced significantly if you recycle □ it also benefits our entire community!

The City of Deer Park offers weekly curbside recycling once per week through a contract with Rumpke Recycling. The following items are accepted:

plastic bottles and jugs (lids are OK if left on empty bottle)

glass bottles and jars

aluminum and steel cans

empty aerosol cans (remove tips)

newspapers, magazines, phone books



Page

Messages

Notifications <sup>1</sup>

Insights

Publishing Tools

Settings

Help ▾



*Ali*  
**RECYCLES**

**Hamilton County Recycling and Solid Waste District**  
Business Services · Government Organization · Add A Category

**Timeline** About Photos Reviews More ▾

Create Call to Action Share ...

Promote ▾

THIS WEEK

1

Page Like

1,449

Post Reach

Recent

2015

2014

2013

2012

2011

2010

2008

2007

2006

2005

2004

2003

2001

2000

1998

1996

1995

1994

1993

1989

Created

1,134 likes +1 this week

16 were here 0 this week

1,449 post reach this week

**Find New Customers**

Connect with more of the people who matter to you

[Promote Page](#)

## ABOUT &gt;

🔍 Ethical environmental leadership towards a society that generates zero waste.

🌐 <http://www.hamiltoncountyrecycles.org/>

[✎ Status](#) [📷 Photo / Video](#) [📅 Offer, Event +](#)

What have you been up to?

**Hamilton County Recycling and Solid Waste District**

Published by Joy Landry (?) · 17 hrs · 🌐

#3 is a no-brainer but did you know about these other 9 uses for a banana peel?

10 THINGS TO DO  
WITH BANANA PEELS











ig live  
SERVICE  
US & FIRE EQUIPMENT  
FOR SEAGRAM FIRE APPARATUS

CAMP SAFETY  
EQUIPMENT INC.

8266

FROM CAMP SAFETY  
EQUIPMENT IN DEER PARK  
RECYCLES.

CAMP SAFETY EQUIPMENT RECYCLES BECAUSE IT'S THE  
RIGHT THING TO DO FOR THE ENVIRONMENT.

It's easy to recycle your office paper and cardboard to  
the recycling bin off, and we like knowing they  
will be turned into new products rather than going  
to the landfill. To get a free guide to recycling in  
Hamilton County, visit our website or call 946-7766.



HAMILTONCOUNTYRECYCLING 946-7766

COME TO  
CAMP SAFETY  
EQUIPMENT INC.  
AND FIRE VEHICLE EQUIPMENT  
13.984.4658  
WWW.CAMPSAFETY.COM





A man with a beard and short hair, wearing a green t-shirt, is smiling and placing a clear plastic bottle into a green recycling bin. He is standing in front of a brick wall. To his left is a large yellow recycling bin. The background is a brick wall. The text 'Darrick RECYCLES' is overlaid on the left side of the image. The text 'Learn how: HamiltonCountyRecycles.org' is overlaid at the bottom in a white box.

# Darrick RECYCLES

Learn how: [HamiltonCountyRecycles.org](https://HamiltonCountyRecycles.org)

Will  
FROM CINCINNATI  
REUSES.



Find out how: [HamiltonCountyRecycles.org](http://HamiltonCountyRecycles.org) • 946-7766





Michelle Balz

[Michelle.Balz@hamilton-co.org](mailto:Michelle.Balz@hamilton-co.org)

(513) 946-7789

Adam Winfield  
Simple Recycling

# Textile Recovery





**simple**  
**recycling**



**simplerecycling**

# STAND UP!

**Have you  
reached your  
Waste Reduction  
Goals?**

**Do you have  
enough budget to  
reach your goals?**

**HIGHEST IMPACT  
Environmental Initiative  
a city can implement for  
ZERO Cost &  
ZERO Operational  
requirements!**



# FREE CURBSIDE CLOTHING & HOME GOODS RECYCLING PROGRAM

FREE

TURN  
KEY

SIMPLE  
& EASY

SAVE \$  
MAKE \$



# THE FACTS ABOUT TEXTILE WASTE

THE PROBLEM IS BIGGER THAN IT MIGHT SEEM



Clothing, appliances, durables and furniture account for approximately 15% of the residential waste stream



85% of textiles are NOT recycled or donated



EPA estimates 70 lbs/person of clothing are thrown away each year.

The U.S generates an average of  
**25 BILLION POUNDS**  
of textiles\* per year.<sup>1</sup>

\* Textiles includes clothing, footwear, accessories,  
towels, bedding, drapery, etc.

That's about  
**82 POUNDS**  
per U.S. resident.

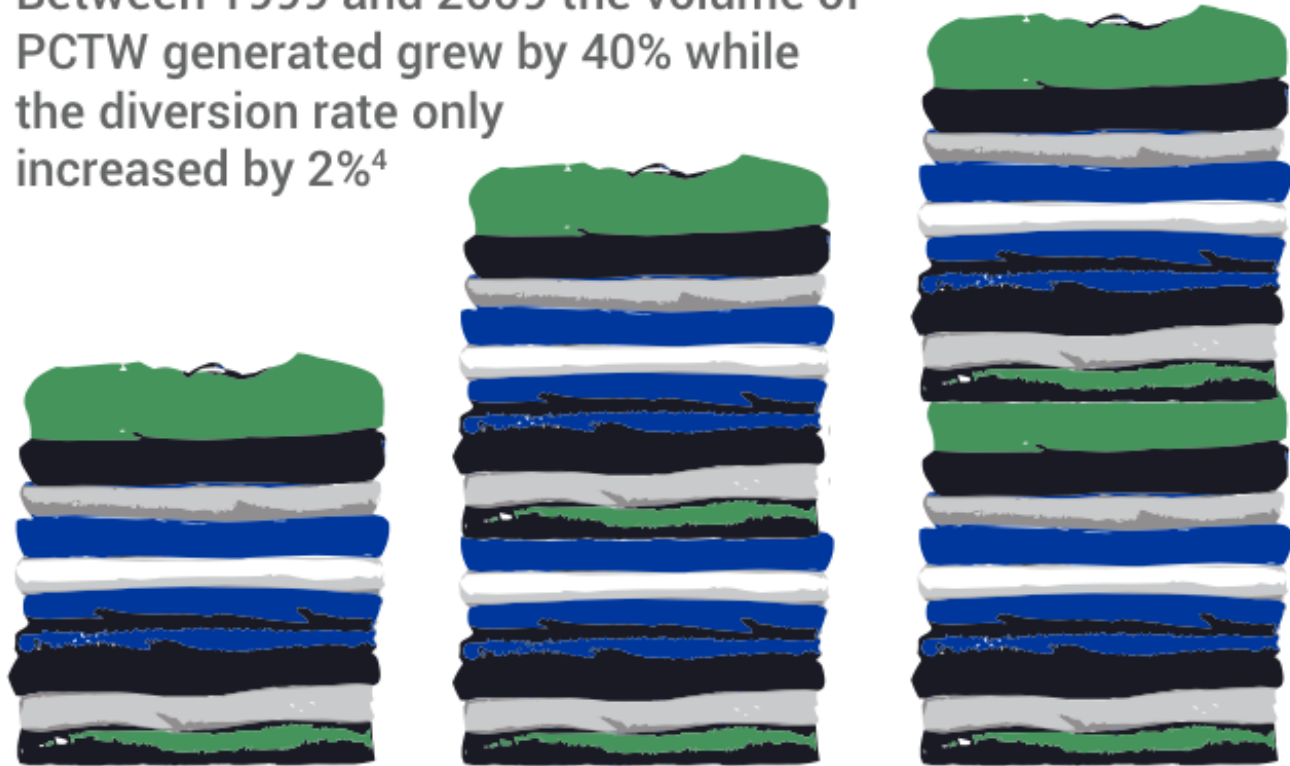
Of That 82 pounds...

**15%**  
gets donated  
or recycled  
3.8 billion lbs recovered  
through donation/recycling;  
(12 lbs. per person.)

**85%**  
goes to our landfills.<sup>2</sup>  
(70 lbs. per person)

## AND THIS AMOUNT IS GROWING

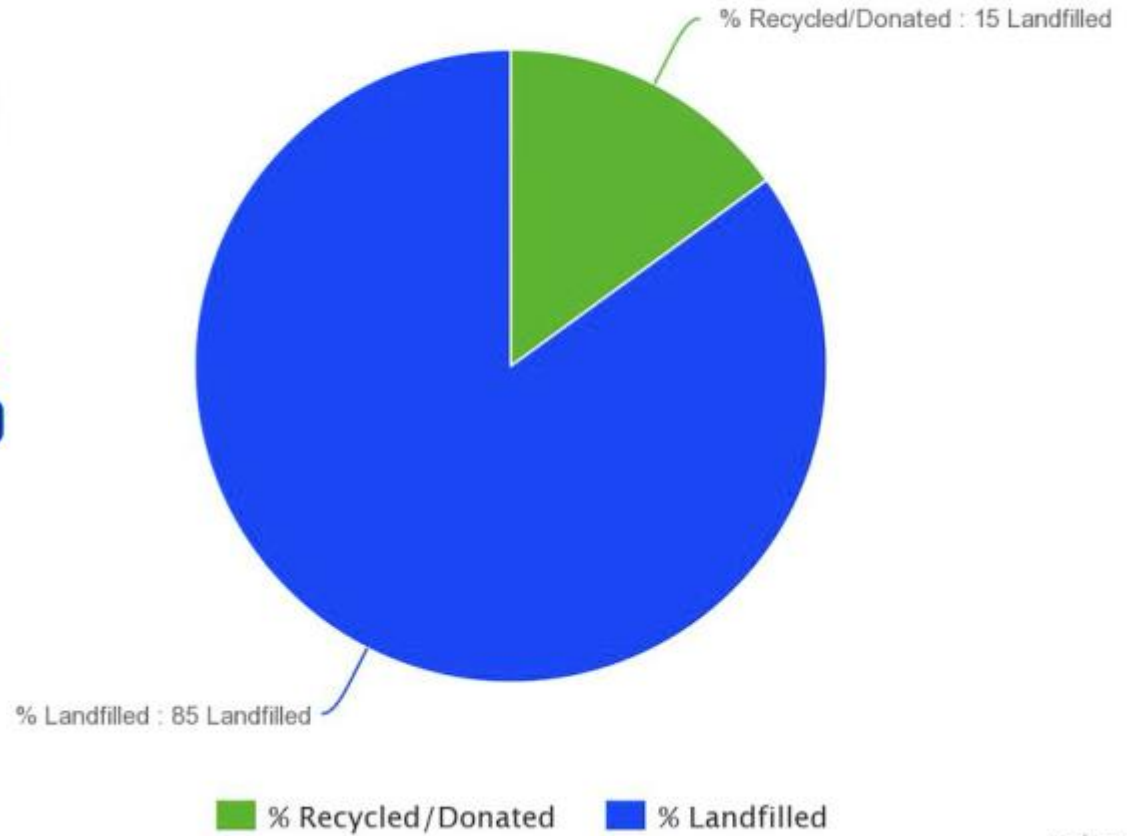
Between 1999 and 2009 the volume of PCTW generated grew by 40% while the diversion rate only increased by 2%<sup>4</sup>





**85% OF TEXTILES  
ARE NOT RECYCLED  
OR DONATED**

% of Clothing Donated w/ out Curbside Program  
<http://www.epa.gov/osw/conserve/materials/textiles.htm>



meta-c



## **Mission:** Apply Proven Curbside Collection Model to dramatically reduce residential waste

### Requirements:

- Offer the maximum convenience to residents
- Keep it Simple to understand and utilize
- Free of cost for city and residents
- Raise money for the city



**COST TO YOUR RESIDENTS = \$0**  
**COST TO YOUR CITY = \$0**





# NOW AVAILABLE!



**simplerecycling**

## Clothing, Shoe & Home Goods.

Brought to you by:

CITY OF

**FAIRVIEW PARK**

*A Great Place to Grow*

Eileen Patton, Mayor

Now, you can recycle  
unwanted clothing, shoe and  
small household items on the  
same day as your weekly,  
recycling pick-up service.

This program is in addition to  
your current recycling program.  
Your recycling cart/bin collection  
will remain the same.

**simplerecycling**



**simplerecycling**



## WHAT HAPPENS TO YOUR RECYCLED USED CLOTHING?

Once a resident determines that their clothing, shoes, handbags, or household textiles have reached the end of their useful life, materials are collected by Simple Recycling and collected clothing is sorted and graded for condition.



**10-20%**

Top quality materials are sold to local thrift stores where they create access to low cost clothing and jobs for local residents.



**80%**

The vast majority of clothing collected is not resaleable in the U.S. so it is further sorted for international export or broken down for raw materials.



**45%**

Reused and Repurposed  
Majority exported as secondhand clothing.



**30%**

Recycled and Converted  
Reclaimed wiping rags are used in various ways as industrial and residential absorbents.



**20%**

Recycled into Fiber  
Post-consumer fiber is used to make home insulation, carpet padding, and raw material for the automotive industry.



Only **5%** ends up as waste.

Thrift industry employs nearly 100,000 workers in the U.S. with over \$1 billion wages paid. In addition, private sector recyclers create an additional 15,000 to 20,000 jobs nationally.<sup>1</sup>



# Cities That Have Implemented Simple Recycling

- Bay Village, Oh
- Fairview Park, Oh
- Cuyahoga Falls, Oh
  - Tallmadge, Oh
- Bath Township, Oh
- Richfield Village & Township, Oh
  - Lansing, Mi
  - East Lansing, Mi
  - + Many More

# Cities Currently Evaluating Simple Recycling

- Cincinnati, Oh
- Columbus, Oh
- Akron, OH
- Plano, Tx
- Richardson, Tx
- Austin, Tx
- The Woodlands, Tx
- Katy, Tx
- Clinton Twsp, Mi
- + Many More

**COST TO YOUR RESIDENTS = \$0**  
**COST TO YOUR CITY = \$0**





# **OHIO**

## **Collection & Revenue Estimates**

**Annual Diversion Volume : 15,500,000 lbs /  
year**

**Annual Value Generated: \$620,000.00**

(\$20 / ton revenue + \$60.00 (est) / ton tipping fee savings)

**Cost to City : \$0.00**

**Cost to Residents : \$0.00**

# FREE CURBSIDE CLOTHING & HOME GOODS RECYCLING PROGRAM

FREE

TURN  
KEY

SIMPLE  
& EASY

SAVE \$  
MAKE \$



Kathleen Rocco

Cuyahoga County Solid Waste District

**MASTER  
RECYCLER**





**Reduce**  
environment  
reduction  
Use less  
renew  
Recovery  
Reuse  
earth  
Sustainability  
repurpose  
Material  
Recycle  
green  
Waste











# Cuyahoga County Master Recycler Application

Date: \_\_\_\_\_ Name: \_\_\_\_\_

Primary Number: \_\_\_\_\_ Alternate Number: \_\_\_\_\_

Preferred Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Email Address: \_\_\_\_\_

What is the best way/time and time of day to get in touch with you? \_\_\_\_\_

**Please answer the questions below (feel free to attach additional pages if necessary):**

1. Briefly describe your background and explain why you want to be trained as a master recycler?
2. What do you hope to learn and experience during the Master Recycler Program?
3. What talents and expertise can you contribute to the course and when volunteering?
4. Will you be able to attend all the lecture and tour sessions or be willing to make up those hours?



**Questions Continued**





## Master Recycler Planner August 26 to October 21, 2014



<b>August 26, 2014</b>	<b>Lecture 1</b>	<b>Introductions</b>	<b>6:00 p.m. – 8:30 p.m.</b>
<ul style="list-style-type: none"> <li>• Introductions</li> <li>• Icebreakers and Games</li> <li>• Background information on Solid Waste District and Solid Waste Management – Diane Bickett</li> <li>• Introduction to Master Recycler program and expectations – Lenore Collins and Sharon Bair</li> <li>• Fingerprints</li> </ul>			
<b>September 2, 2014</b>	<b>Lecture 2</b>	<b>Sorting Through Recycling</b>	<b>6:30 p.m. – 8:30 p.m.</b>
<ul style="list-style-type: none"> <li>• Recycling Panel – Richard Simon, Rick Gladly, Erin Kollar</li> <li>• Group Discussion</li> <li>• Take Home Action Announcement</li> </ul>			
<b>September 9, 2014</b>	<b>Tour 1</b>		<b>3:45 p.m. – 5:30 p.m.</b>
<ul style="list-style-type: none"> <li>• Kimble Material Recovery Facility (MFR), Twinsburg 3:45 p.m.</li> <li>• Attempting at add electronic recycler tour (it will be optional and may occur earlier in the day)</li> </ul>			
<b>September 16, 2014</b>	<b>Lecture 3</b>	<b>Reuse Your Rubbish</b>	<b>6:30 p.m. – 8:30 p.m.</b>
<ul style="list-style-type: none"> <li>• Reuse Panel – Goodwill, Upcycle PS, MedWish, Rustbelt Reclamation, Furniture and Food Bank, Zerolandfill, Kids in Need</li> <li>• Take Home Action Sharing</li> <li>• Take Home Action Announcement</li> </ul>			
<b>September 23, 2014</b>	<b>Tour 2</b>		<b>3:00 p.m. – 4:30 p.m.</b>
<ul style="list-style-type: none"> <li>• Gateway Recycling</li> </ul>			
<b>September 30, 2014</b>	<b>Lecture 4</b>	<b>Specialty Waste Recycling</b>	<b>6:30 p.m. – 8:30 p.m.</b>
<ul style="list-style-type: none"> <li>• Special Waste Panel – Cristie Snyder, Mack Bell, Pat Holland</li> <li>• Small Group Activity</li> <li>• Take Home Action Sharing</li> <li>• Take Home Action Announcement</li> </ul>			
<b>October 7, 2014</b>	<b>Tour 3</b>		<b>4:00 p.m. – 6:30 p.m.</b>
<ul style="list-style-type: none"> <li>• Kurtz Brothers for Construction and Demolition Debris Recycling and Composting</li> </ul>			
<b>October 14, 2014</b>	<b>Lecture 5</b>	<b>Waste Watcher</b>	<b>6:30 p.m. – 8:30 p.m.</b>
<ul style="list-style-type: none"> <li>• Waste Reduction Panel – Doreen Schreiber, Kristen Hall, KB Kleckner</li> <li>• Take Home Action Sharing</li> <li>• Volunteering Opportunities</li> <li>• Take Home Action Announcement</li> </ul>			
<b>October 21, 2014</b>	<b>Tour 4</b>		<b>4:00 p.m. – 7:45 p.m.</b>
<ul style="list-style-type: none"> <li>• Habitat for Humanity Restore</li> <li>• Buckeye Industries</li> <li>• Lakewood Service Department drop off center</li> </ul>			























AT&T LTE 4:14 PM





**zJayne**  
@zJayne FOLLOWS YOU

Giving New Meaning to Going Green  
Northern Ohio [www.zJayne.etsy.com](http://www.zJayne.etsy.com)

1,824 FOLLOWING  
1,404 FOLLOWERS

Tweets

Photos

Favorites



**zJayne** @zJayne 3m

Did you know 59 communities in Cuyahoga County offer Household Hazardous Waste Collection? Here they are:  
[cuyahogaswd.org/en-US/hazardou...](http://cuyahogaswd.org/en-US/hazardou...)

 Timelines

 Notifications

 Messages

 Me









planet mother earth granola recycle sustainability talking queen person hugger green paper trash tree girl love captain lady



























Carol Guilitto  
REWORKS

# Business Recycling



plastic bottles

metal cans

glass jars/bottles

# B the 1.

Recycling that works.

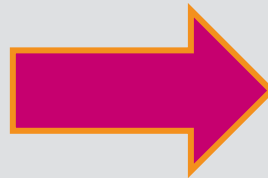
**SASWMA**  
Solid Waste Management Authority

saswma.org  
330.374.0383

Be rewarded for your efforts.  
Get caught recycling to win a  
"Caught Green Handed" prize!

GET  
CAUGHT  
GREEN  
HANDED

© 2010 Solid Waste Management Authority. All rights reserved.



**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# Service

ReWorks funds weekly recycling pickup service



**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# Assistance

Trash and recycling management; recycling program setup

## COMMERCIAL SINGLE STREAM RECYCLING PROGRAM GUIDELINES

> PAPER <> PLASTIC <> BOTTLES <> CANS <> CARTONS <

ReWorks recycling programs assist Summit County businesses in their efforts to move toward Zero Waste. Our commercial single stream recycling program is designed to increase your organization's recycling efforts, lower your trash output while conserving your natural resources.

Single stream recycling is the ability to recycle rigid plastics, cartons, glass, metal cans and mixed paper all in one container.



**reWORKS**  
summitreworks.com

**REDUCE, REUSE, RECYCLE.**

**reWORKS**



# Promotion

Materials to promote the program to employees/visitors

## All plastics are not created equal



The items you recycle at work are taken to a Material Recovery Facility (MRF) where they are sorted. The MRF operators prefer rigid plastics like bottles, jugs, tubs and other food containers. Please refrain from recycling plastic lids, plasticware, styrofoam or plastic bags as they clog sorting machines at the MRF and contaminate valuable recyclables.



**reWORKS**

[summitreworks.com](http://summitreworks.com)

**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# Education

## On-site training and how to measure recycling progress

### RECYCLABLES ACCEPTED

Single stream recyclables are to be mixed together into one recycling container.

- > Remove caps and empty all liquids.
- > Labels do not have to be removed.
- > Recyclables can be bagged or loose. Recycling facilities prefer loose recyclables. However, lining indoor collection containers helps keep them clean. If materials are bagged, a clear or transparent liner must be used.

NO general trash or refuse. NO food scraps compostable/biodegradable products.

 <b>ACCEPTED</b>	 <b>NOT ACCEPTED</b>
 <p><b>RIGID PLASTICS :</b></p> <ul style="list-style-type: none"> <li>&gt; Beverage Containers</li> <li>&gt; Cups</li> <li>&gt; Yogurt Containers</li> <li>&gt; Milk Jugs</li> <li>&gt; Laundry Detergent Containers</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Plastic Bags, Plastic Wrappers, or Stretch Wrap or Film</li> <li>&gt; Plastic Utensils</li> <li>&gt; All Styrofoam Products (cups, plates, trays, food packaging)</li> <li>&gt; Plastic Toys</li> </ul>
 <p><b>ALUMINUM CANS:</b></p> <ul style="list-style-type: none"> <li>&gt; Beverage Containers</li> </ul> <p><b>STEEL OR BI-METAL CANS:</b></p> <ul style="list-style-type: none"> <li>&gt; Soup Cans (any size)</li> <li>&gt; Tuna Cans</li> <li>&gt; Pet Food Containers</li> <li>&gt; Aerosol Cans</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Aluminum Foil</li> </ul>
 <p><b>GLASS JARS AND BOTTLES:</b></p> <ul style="list-style-type: none"> <li>&gt; Any Color</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Mirrors</li> <li>&gt; Cookware</li> <li>&gt; Light Bulbs</li> </ul>
 <p><b>PAPER PRODUCTS:</b></p> <ul style="list-style-type: none"> <li>&gt; Newspaper</li> <li>&gt; Junk Mail</li> <li>&gt; Telephone Books</li> <li>&gt; Magazines</li> <li>&gt; Cardboard*</li> <li>&gt; Chipboard</li> <li>&gt; Tissue Boxes</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Shredded Paper</li> <li>&gt; Books</li> </ul> <p>*Cardboard from front office only</p>
 <p><b>CARTONS:</b></p> <ul style="list-style-type: none"> <li>&gt; Beverage cartons (milk, juice, broth)</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Waxed Cardboard</li> <li>&gt; Beverage Pouches</li> </ul>

**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# Participation Requirements:

- Located in Summit County
- Enough recyclables to fill a minimum of one 95-gallon tote
- Ample space to store totes or dumpsters



**REDUCE, REUSE, RECYCLE.**

**reWORKS**



# Accepted Items:

- Rigid plastics
- Aluminum cans
- Steel or bi-metal cans
- Glass jars and bottles
- Paper products
- Cartons



**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# In the Beginning:

- Recycling program for all county businesses
- FREE service
- No competition



**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# Moving Forward

- Offered as temporary program
- Promoting transitions to self-sustainable programs
- Fees paid by businesses



**REDUCE, REUSE, RECYCLE.**

**reWORKS**



# **A Measurement of Our Success:**

Over 180 Participants



**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# A Measurement of Our Success:

3 High-volume businesses  
went directly to operating their  
own programs



**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# **A Measurement of Our Success:**

1 current participant has  
transitioned to their own  
program



**REDUCE, REUSE, RECYCLE.**

**reWORKS**



# **A Measurement of Our Success:**

2 current participants  
transitioning to their own  
programs

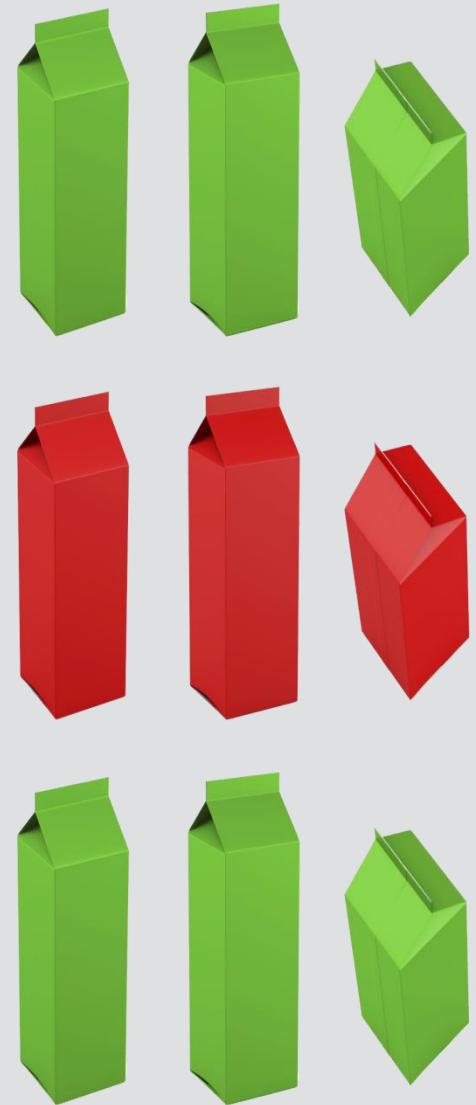


**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# A Measurement of Our Success:

Added 9 new participants  
this year



**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# Program Improvements:

Weekly reports from our recycling hauler



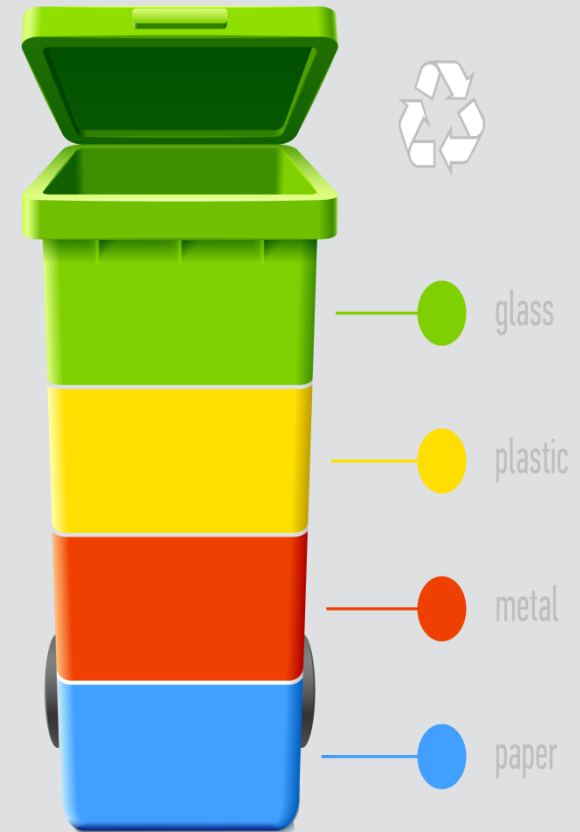
**REDUCE, REUSE, RECYCLE.**

**reWORKS**



# Program Improvements:

Reports allow us measure participation of individual businesses



**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# Program Improvements:

Recycling education provided to under-performing businesses



[summitreworks.com](http://summitreworks.com)  
**reWORKS**

**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# Program Improvements:

Site visits used to improve program impact

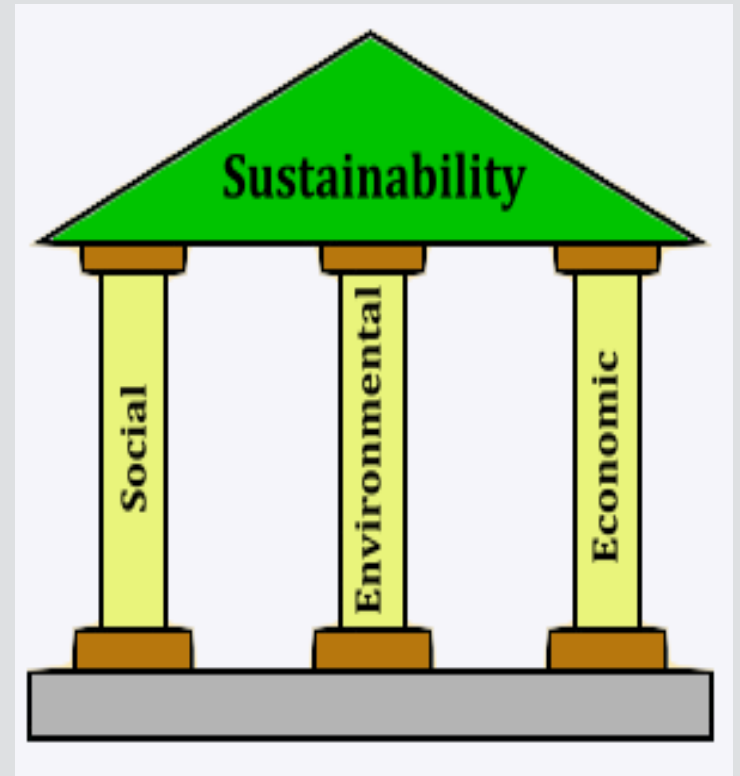


**REDUCE, REUSE, RECYCLE.**

**reworks**



# Planning Ahead



**REDUCE, REUSE, RECYCLE.**

**reWORKS**

# ReWorKS

**REDUCE, REUSE, RECYCLE.**

**ReWorKS**

David Crane  
Axion International

# Recycling Plastics





## Recycled Structural Composites

---

Ohio Partners Conference – 6.30.15

# ***Greening Tomorrow's Infrastructure***

*Turning Plastic Waste into Useful Products*

- ❖ **Located in Zanesville, Ohio**
- ❖ **Recycler of post-consumer & post-industrial plastic waste**
- ❖ **Manufacturer of structural profiles and construction systems**
- ❖ **Experiencing rapid growth → need more recycled plastic**



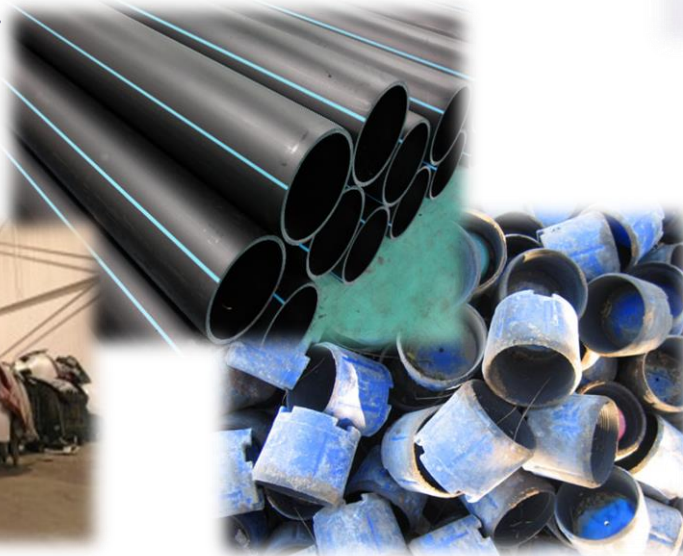
# Axion Reprocessing Capability



**Post-Consumer**  
**HDPE-2**



**Post-Industrial**  
**HDPE-2, PP-5**

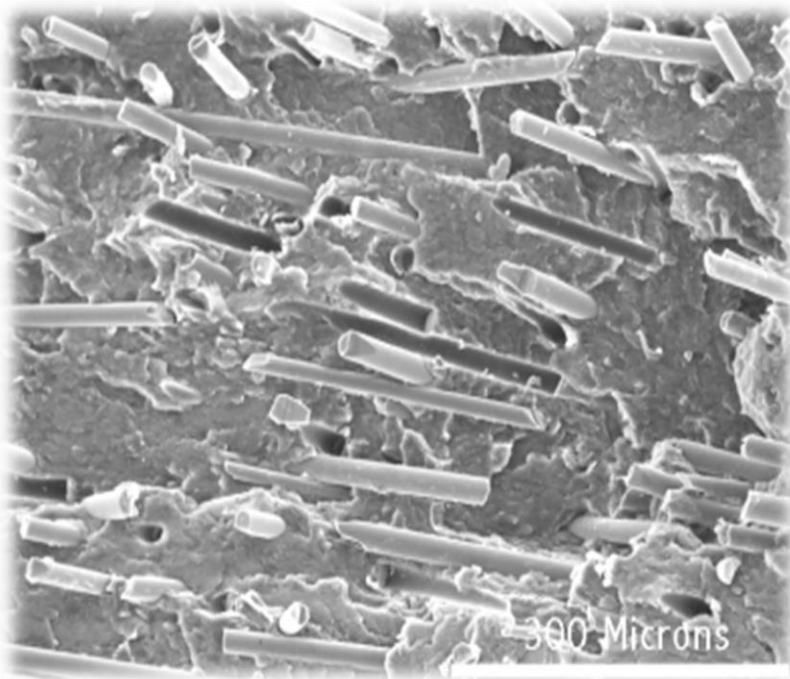


**Processed Recycled  
Plastic Flakes**



## Large Profiles - HDPE / GFPP

- ▲ Structural Shapes – Boards, Pilings, I-Beams
- ▲ 100% recycled content and 100% recyclable



## Small Profiles - PP Based

- ▲ High strength and lighter weights
- ▲ Decorative and industrial board applications



*Excellent Structural Performance*

*Lower Total Life-Cycle Costs*

*Tangible Sustainability Factors*



*Plastic Laundry  
Detergent Bottles*

+



*Plastic Car  
Parts*



*Rail Tie*



*I - Beam*



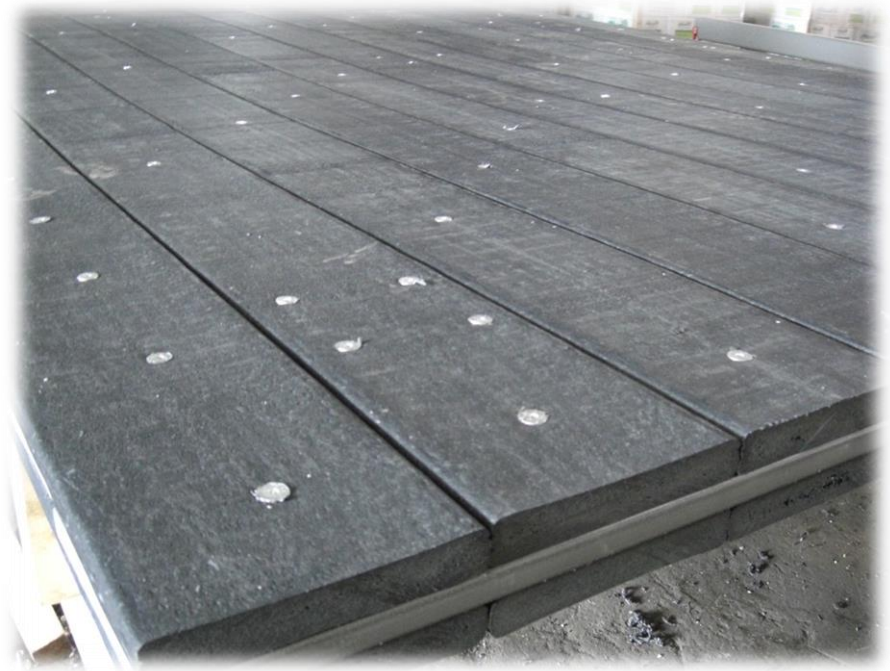
*Board*

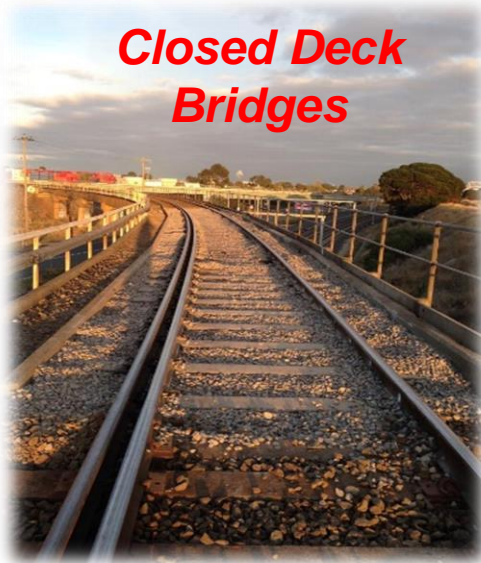


*Piling*



Cutting • Drilling • Hardware • Adhesive • Assembly





**Closed Deck  
Bridges**



**Tunnels**



**Switch Ties &  
Turnouts**

## Tested, Proven Superior.....

- ▲ ECOTRAX is a recognized national and international brand and industry leader in composite rail ties
- ▲ **Premium Railway Applications:**
  - Street crossings
  - Switch ties
  - Turnouts
  - Wet track areas
  - Closed deck bridges
  - Tunnel ties
  - Mass transit lines
  - Bridge ties
  - Rail sidings & maintenance yards





## Heavy Load Bridges

- HL93 AASHTO rated vehicular bridges built in multiple states
- Work with state and local level DOT offices to design, plan and execute projects



## Commercial Boardwalks

- Wetlands Walkways with park & recreation organizations
- Oceanfront boardwalks with vehicular access
- Marinas, piers and docks



## US Military Projects

- (2) M1 Abrams tank bridges built at Ft. Bragg, NC
- (2) E60 Cooper rail bridges built at Ft. Eustis, VA



# STANDARD DESIGN OF THERMOPLASTIC BRIDGES

## 21 FT TO 25 FT SPAN



## Complete Bridge Systems

- Abutments
- Superstructure
- Railing
- 15 to 25 feet clear span vehicular bridges



## Components for Bridge Refurbishments

- Bridge superstructure replacements in northern climates.
- Axion material is resistant to salt and most chemicals





*Onion Ditch Bridge – West Liberty, OH (2012)*





- ▲ Commercial boardwalks require stronger products
- ▲ Ideal for environmentally sensitive areas
- ▲ **Recent Installations**
  - DuPage County, Illinois
  - Ottawa's Greenbelt
  - Polly Gully Golf Bridge, Southport, NC
  - Rosendale Trestle, Wallkill, NY



*Wetlands Walkway Centerville-Washington Park District (2014)*





*M1 Abrams Tank Bridge – Fort Bragg, NC (2009)*







▲ North American growth

▲ Upstream exploration & production

▲ Midstream oil, natural gas and electric transmission



# STRUXURE ♦ Construction Mats



▲ Family of solutions

▲ Longer life than wood

▲ Sell & Rent mats



▲ Do not absorb or release chemicals

▲ Recycled Again!





- ❖ Pipe Storage
- ❖ Containment Liner Berming
- ❖ Storage Supports
- ❖ Outrigger Pads
- ❖ Walkways
- ❖ Bridges
- ❖ Retaining Walls
- ❖ HVAC Curbing



- ❖ Ohio company turning waste into useful products that improve infrastructure
- ❖ Vertically integrated recycler and manufacturer of structural composite engineered solutions
- ❖ Need more sources of recycled plastic to support growth!

### Axion International

4005 All American Way

Zanesville, OH 43701

(740) 452-2500

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

Dave Crane

EVP Building Products

[dcrane@axih.com](mailto:dcrane@axih.com)

(267) 401-0392

Thank You!