

Class 6

Recycling Done Right

Objectives

1. The Basics of Big Blue & Bin
2. What's on the YES list? What's not?
3. The Harm of Wishful Recycling
4. SF vs. MF recycling
5. RecycleRight App (RecyclingA-Z.com)

Solid Waste Management in Clark County: Then and Now

The first known landfill in Clark County, the Fort Vancouver site, operated from about 1845 to 1930 and is now covered by the I-5 and Hwy 14 junction. In addition, several private and publicly owned landfills were sprinkled around Clark County. Many were nothing more than old gravel quarries, ravines or pits. Over the years, Clark County Public Health or the Washington Department of Ecology closed many of these hazardous sites.

From the late 1930's until December 31, 1991, most waste generated in Clark County was dumped into English Pit (closed in 1972) or into Leichner Sanitary Landfill in the Orchards area. By 1985, Leichner was reaching capacity. In 1988, the County decided to export the waste. Garbage and recyclables are hauled to one of three transfer stations: West Van Materials Recovery Facility (West Van), Central Transfer and Recycling Center (CTR), and Washougal Transfer Station (WTS), operated by Waste Connections of Washington (WASTE CONNECTIONS).

When garbage trucks enter the transfer station, they are weighed and charged a "*tipping fee*". Once inside the facility, the truck dumps (tips) its load and workers perform a quick pick removing obvious recyclables and building wastes. Waste Connections is required by its contract with the County to recover and recycle at least 10% of the incoming garbage. The remaining trash is packed into sealed containers, loaded onto barges and carried 160 miles up-river to Finley Buttes Regional Landfill, near Boardman in Morrow County, OR.

Currently, Clark County fills three barges with approximately 210 thirty-ton containers of trash each week. Each barge can hold 70 forty-foot long containers. Clark County residents sent 338,462 tons of trash to the landfill in 2018.

Terms Defined in this Chapter:

Landfill
Transfer Station
Tipping Fee
Waste Connections of Washington
West Van Materials Recovery Center
Central Transfer & Recycling Center
Washougal Transfer Station
Solid Waste Advisory Commission
Recyclable
Sort line
Wet-strength
Plastic film

Citizens can get involved in solid waste management issues by attending the Solid Waste Advisory Commission (SWAC) meetings. Contact the County at (564) 397-4352 for more information.

Why Recycle?

Recyclables are sorted and processed at West Van and sold to market by Waste Connections. Yard debris and food scraps are collected by Waste Connections and hauled to a licensed processor. Some self-haul construction and demolition debris is collected and sorted at West Van and recycled or land-filled appropriately.

Recycling plays a significant role when it comes to conserving natural resources, saving energy and reducing greenhouse gas emissions.

Here is a link to the Department of Ecology’s 2015-16 Washington Statewide Waste Characterization Study <https://fortress.wa.gov/ecy/publications/documents/1607032.pdf>.

Figure 6-1 below shows that much of the waste stream is packaging, organics and construction / demolition materials. Table 6-1 illustrates that many tons of easily recyclable paper, metal cans, plastic bottles and tubs and glass containers are still being discarded. 1,000 tons of aluminum cans may not seem like a lot but that equals 2 million pounds or 60 million aluminum cans buried in the landfill annually by Clark County citizens (based on 30 cans per pound).

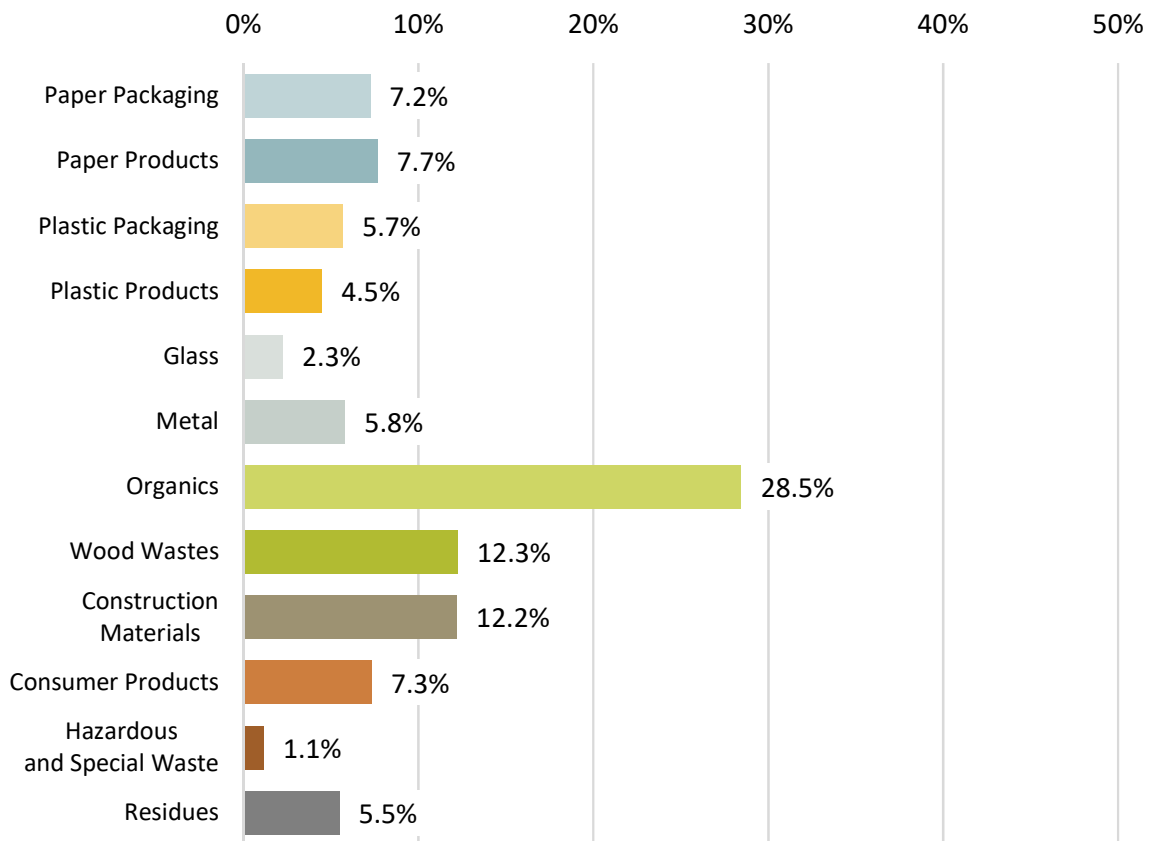


Table 6-1

Material	Est. Percent	Est. Tons
#1PETE / #2HDPE plastic bottles & tubs	1.1%	3,723
Aluminum beverage cans	0.3%	1,015
Glass Containers	1.5%	5,077
Newspaper / Cardboard / Mixed Paper	6.2%	20,985
Food Cans	0.4%	1,354
Total	10%	32,154

<https://fortress.wa.gov/ecy/publications/documents/1607032.pdf>
 Based on 338,462 outbound Clark County, WA tons in 2018

Guide to Curbside Recycling

Basic curbside recycling pick-up started in 1991. Plastic pick-up was added in 1996. In March 1999, curbside recycling became available to ALL residents of Clark County. In some cities and urban growth areas, curbside recycling is mandatory.

Table 6-2. Garbage, Recycling and Yard Debris Pick-Up Service by Residential Area.

Clark County Residential Area	Garbage	Recycling	Yard Debris Pick-Up
City of Battle Ground	Optional	Mandatory* if more than 1 can/month garbage service	Optional
City of Camas	Mandatory*	Mandatory*	Optional
City of La Center	Optional	Mandatory* if more than 1 can/month garbage service	Optional
City of Ridgefield	Mandatory*	Mandatory*	Optional
City of Vancouver,	Mandatory*	Mandatory*	Optional
City of Washougal	Mandatory*	Mandatory*	Optional
Town of Yacolt	Optional	Mandatory* if more than 1 can/month garbage service	Optional
UGA-Urban Growth Areas (designated outside of Vancouver, Battle Ground, Camas, Washougal)	Optional	Mandatory* if more than 1 can/month garbage service	Optional
Non-Urban Clark County (outside city, town and UGA boundaries)	Optional	Optional	Available in Permanent Burn Ban areas

*Mandatory means customers pay for service whether or not they choose to participate.

Figure 6-2. Recycling Preparation Instructions.



Curbside recycling service is available to all residents of Clark County. Recycling is picked up on the same day as garbage (self-haul garbage customers are given a recycling schedule). Clark County residents have blue recycling carts for most recyclable materials and a separate bin for glass.

Recycle in the cart



Clean metal cans and metal lids*,
Clean foil, pie plates & trays
(rolled in a ball, larger than 2")
Empty aerosol cans,
Other metal items

* Lids must be secured inside a can. Drop in lid and crimp can shut. Otherwise, they end up at the paper mill with other flat paper items.



NO Food or liquid, hazardous chemical containers

Recycle in the cart



Newspapers,
phonebooks,
Magazines, catalogs,
Milk & juice cartons,
Cereal & shoe boxes,
Corrugated cardboard,
paper bags,
Mail & Envelopes,
Office paper (staples and paper
clips - OK)



NO Food soiled
paper, napkins, paper
towels,
Paper cups, paper
plates
Freezer/refrigerator
boxes
Shred Paper



Plastic bottles,
Plastic tubs,
Nursery pots,
Plastic buckets (5 gal or less)



NO loose plastic
lids*,
Plastic bags
Block foam

*Plastic screw top lids
can be secured tightly
to the top of their
bottle and recycled.



**Recycle
near the cart**



**In the
GLASS
ONLY bin**

Glass
bottles and
Jars



NO Broken glass, lids, light bulbs, drinking glasses, window glass, mirrors, or ceramics



On the side

Motor oil and antifreeze - must be in a clear one-gallon container with a screw-on top.



Household batteries should be placed in a clear plastic bag and **on top of the cart.**

NOTE: NO Motor oil or antifreeze due to the trucks not having the ability to transport.

Where do the curbside recyclables go?

All recyclables collected at the curbside go to West Van. When recycling trucks enter at the scale house, they are weighed. The price paid per load changes monthly and is based on the market value of an average truck's load (annually, Waste Connections conducts a "break-down" study to determine the content of an average Clark County load).

Trucks enter the facility and dump each section of their load into the appropriate holding bin. Each recyclable is kept separate. Motor oil and antifreeze are manually unloaded and poured into large holding tanks. Household batteries that are collected curbside are sent to the Household Hazardous Waste area of the transfer station.

Throughout the day, mixed recyclables are loaded onto a conveyor belted ***SORT LINE***. Specialized magnets separate metal containers. **Plastics are sorted by shape (NOT according to the small 1-7 that appears inside the chasing arrows on most containers)** and mixed paper may be sorted by grade. Workers manually sort some recyclables, but much of the recyclables are mechanically separated through screens, vibration, air jets, and other methods. There is an attempt to remove contaminants through hand-pulling, but often contaminated materials end up sorted with the recyclables. Each material is then bailed and readied for sale and shipment to its respective reprocessing facility. Prices paid for raw scrap and markets for recyclable materials change frequently.

In order for recycling to be successful, and for us to have the option of easily recycling a wide variety of items, it needs to be economically viable. There are a number of factors that determine the value of recycled materials. Some are not in our control, like abundant access to virgin resources (which is currently the case for many domestic plastic feedstocks – oil, natural gas – and drives down the value of recycled plastic), but others are.

We can positively impact the value of our recyclables by focusing on quality and making use of recycled materials. All manufactures want clean, high quality materials to make their products, and recycled items can easily be part of this equation. This starts by making sure we put the correct things in our recycling bin. For example, glass is recyclable, but could end up damaging paper processing equipment if we were to add it to our curbside bin and it got mixed in with paper (so we place it out by the curb in a separate container). We can also take this a step further by ensuring that what we do put in our bin is clean and free of contamination (like food, oils, chemicals, etc).

Items made from recycled materials only serve a purpose if we actually use them. Everything we recycle needs to be turned into something, and all those somethings need to be used, for something. When we buy or use things made from recycled content (like notebooks, dishes, or art) we are closing the materials loop by letting nothing go to waste. But more importantly, we are sustaining the future of recycling by giving economic support to the recycling industry, and showing producers and manufactures that we want, and are willing to use, items made from recycled content.

The fascinating fates of common curbside recyclables

- **Mixed Paper:** Sent to domestic markets where it is reprocessed into new paper products.
- **Corrugated Cardboard:** Sent to domestic markets and reprocessed into new cardboard.
- **Aluminum Cans:** Cans collected at the curb are sent to beverage can producers where they are remade into new cans.
- **Tin Cans/ Empty Aerosol Cans:** The term “tin can” actually refers to steel cans with a small amount of tin content. Markets are currently good, but the market for tin cans is volatile. Prices can be so low that the cost of shipping to the reprocessing plant is more than

the value of the cans. When prices are low, Waste Connections stockpiles as many bales of cans as possible at the transfer stations and waits until the market recovers to sell them. Cans are sold domestically.

- **Glass Bottles and Jars:** Glass is sent to eCullet in North Portland where an optical sorter separates glass by color which allows the glass to be melted down and remade in to new glass bottles. Glass can also be re-purposed by being ground down to a sand-like substance to be used as roadbed aggregate and pipe bedding. Glass bottles and jars have one of the highest recycling rates in the country.
- **Plastic Bottles (neck smaller than body):** Plastics collected at the curbside are sorted at the transfer stations and separated into three groups: milk jugs, soda bottles and opaque, colored jugs. Each group is baled and sold separately. Soda bottles and milk jugs have a higher market value than opaque jugs. The plastic market is international, complex and highly volatile. Depending on market conditions, plastics may be sold locally to companies in Vancouver, B.C. and California, or shipped overseas. Opaque bottles may be used to make plastic lumber or motor oil bottles. Soda bottles can be used to make many products, including polar fleece and carpeting.
- **Milk Cartons and Drink Boxes:** These materials are baled separately and sold to make new paper products.
- **Scrap Metal:** Scrap metals are sold in bulk to local recycling companies who handle reprocessing.
- **Motor Oil:** Motor oil collected at the curb is poured into large storage barrels. When the barrels are full, the oil is sold to a local company that reprocesses the oil for reuse as fuel for large commercial boilers.
- **Antifreeze:** Antifreeze is re-refined by a processing company.
- **Household Batteries:** Household batteries that are collected curbside are sent to the Household Hazardous Waste area of the transfer station. There, they are separated according to type and collected by a processor who captures the various metals for reuse.


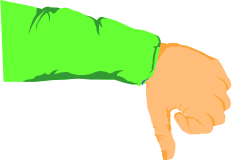
Yard Debris Recycling

Yard debris is a valuable resource. Although most yard debris can be added to a home compost system, sometimes homeowners generate more organic waste than they can handle.

WASTE CONNECTIONS serves residents of Vancouver, Ridgefield, La Center, Camas, Washougal, Battle Ground, Yacolt, unincorporated urban boundary areas of the county and select rural areas. Costs and pick-up days vary. Subscribers are given use of a 64-gallon cart. WASTE CONNECTIONS can be reached at (360) 892-5370 or via email customerhelp@wasteconnections.com

Yard waste is composted in a huge windrow composting system and sold commercially to wholesalers and contractors.

Table 3-2. Yard Debris Pick-Up Do's and Don'ts.

 Yard Debris DOs	 Yard Debris DON'Ts
Sticker prominently displayed on cart or can and facing the street.	Poorly visible or no sticker.
Can closed to keep out rainwater.	Can open or spilling over.
Acceptable yard debris includes: Leaves, weeds, prunings, grass clippings, brush and woody materials up to 4" in diameter and 5' in length.	Not acceptable yard debris includes: Soil, sod, rocks, stumps, food or vegetable wastes, household hazardous waste, plastics, construction debris or branches larger than 4" in diameter and 5' in length.
<p style="text-align: center;">Acceptable weight limits are: No more than 120 lbs. in a 64 gallon cart. No more than 60 lbs. in a 32 gallon can <i>No more than 96 gallons each pick-up totaling 180lbs</i></p>	

To sign up for service, or for more information, contact Waste Connections at (360) 892-5370.

Note: City of Vancouver yard debris subscribers can also include food waste.

- **Self-haul Option:** Do-it-yourselfers may haul their yard debris to several facilities listed on www.RecyclingA-Z.com. All charge a fee based on volume or weight. Most of these companies compost yard waste and resell it to businesses and the public. They produce high quality finished compost, generally free of weeds, seeds and pathogens. Many of these companies also accept landscape timbers and wood wastes from remodeling and construction.

Self-haul Resources include (see Appendix II: Resources for street addresses and phone numbers):

Central Transfer and Recycling Center

H & H Wood Recyclers

McFarlane's Bark, Inc.

Triangle Resources

West Van Materials Recovery Center

Some Other Important Recycling Resources:

Recycling A-Z is Clark County's one stop shopping for all your recycling questions. This resource is available online at www.RecyclingA-Z.com. For those who use a smart phone, find the mobile app, **RecycleRight**, in Google Play and Apple AppStore.

1-800-RECYCLE The Washington Department of Ecology maintains a statewide database of recycling information. You can access this information via telephone by dialing 1-800-RECYCLE (1-800-732-9253)

Clark County Public Health, 1601 Fourth Plain Blvd. Vancouver, WA 98660. Visit the office to ask a question or pick up brochures and pamphlets covering all aspects of solid waste reduction or call (564) 397-4352 with your question and you will be directed to the appropriate Environmental Specialist.

Another wonderful resource is the **Portland Metro Recycling Information hotline**: (503) 234-3000. They provide "ideas and information to help you reduce the amount of garbage you put out at the curb, and to recycle everything you possibly can" in the entire Portland/Vancouver metropolitan area.

Frequently Asked Recycling Questions

How do I know who my recycling service provider is?

In all areas of Clark County except the greater Woodland area, contact WASTE CONNECTIONS (360) 892-5370 or email customerhelp@wasteconnections.com.

If you live within the Woodland area, you may contact Waste Control at (360) 225-7808.

Can I self-haul my own recycling?

Yes. Transfer stations will accept your self-hauled recyclables.

What recyclables am I allowed to self-haul to the transfer stations?

Items accepted are:

<ul style="list-style-type: none">• Newspapers and magazines*	<ul style="list-style-type: none">• Scrap metal
<ul style="list-style-type: none">• Mixed waste paper / shred paper *	<ul style="list-style-type: none">• Glass
<ul style="list-style-type: none">• Empty aerosol cans/tin cans*	<ul style="list-style-type: none">• Antifreeze
<ul style="list-style-type: none">• Aluminum cans*	<ul style="list-style-type: none">• Motor oil
<ul style="list-style-type: none">• Milk jugs*	<ul style="list-style-type: none">• Vegetable oil, used cooking oil
<ul style="list-style-type: none">• Plastic bottles*	<ul style="list-style-type: none">• Auto Batteries
<ul style="list-style-type: none">• Corrugated cardboard*	<ul style="list-style-type: none">• Household batteries
<p>*These items can be self-hauled commingled, they do not have to be separated.</p>	

Items accepted for a fee:

- Yard debris
- Clean wood
- Sheet rock
- Appliances

Why do I pay for recycling?

Most of the costs are for the labor and equipment associated with curbside recycling collection programs. Revenue from the sale of recyclable materials covers some of these costs and the operating expenses of the recycling company. Scrap markets are so volatile that many recycling companies have a difficult time staying profitable.

Why do I have to separate my glass?

Broken glass and paper don't mix. Shards and other pieces of broken glass can cause major problems at facilities where materials are sorted and at mills where paper is recycled. During our local pilot program, residents expressed a clear preference for curbside glass recycling. To make that possible, Vancouver's recycling system requires that you use a separate to collect glass jars and bottles. You will only need to set it out when it is full.

Why do I have to rinse cans and bottles?

Cans and bottles are melted down to make new products. Bottles and cans with significant food contamination are considered "contaminated" and end up in a landfill.

Mixed recycling is separated on a sort-line at West Van. While the sort line mechanically separates recyclable materials, it also relies on many people working on the line to hand-sort materials. A negative sort is done first pulling contaminants, then a positive sort is performed on the top line. Rinsed bottles and cans are a great courtesy to the sort-line staff handling the recyclables.

Why can't I mix antifreeze with my used motor oil?

Uncontaminated, used motor oil can be re-refined to make new motor oil or used as an industrial fuel. If oil is mixed with antifreeze, water or any other chemical, it cannot be re-used. Workers at the transfer stations are trained to check oil-filled milk jugs for contamination before pouring them into the holding tank.

Why only certain plastic items? What about those recycling numbers on plastics?

Technically, all plastics *could* be recycled: in some fashion, at some cost, at some time, somewhere in the world. But only plastic containers listed in Figure 1 are economically feasible for us to collect for recycling at this time. Clark County DOES NOT use the recycling numbers printed on plastics as a guide to recycling. The sort line separates items by shape and size, not by numbers.

Why can't I put these items in my curbside bins:

- **Frozen / refrigerated food boxes?** The cardboard tube itself is manufactured with an agent called "*wet-strength*" that keeps moisture out of the cardboard. Wet-strength is chemically

bonded to the cardboard fibers in such a way that the cardboard can never be remade into pulp. Therefore, paper-recycling facilities will not accept it.

Many wet foods and moisture sensitive products are packaged in wet-strength treated papers. Wet-strength does not change the look or feel of treated paper, so the consumer cannot distinguish the difference (**this goes for cold storage items that may look like regular cardboard, beer or soda boxes are very common, those also contain wet-strength**). Even small amounts of treated paper will reduce the quality of an entire bale.

- **Poly-lined pet food bags?** Like frozen juice concentrate cans, pet food bags may be lined with plastic and treated with wet-strength. No part of these bags is recyclable.
- **Light bulbs/Fluorescent bulbs?** The chemical composition of the glass used for making light bulbs is different from that used for making bottles and jars. It causes the glasses to melt at different temperatures, meaning they can't be combined together for recycling. Most glass recyclers accept only bottles and jars. **Fluorescent light bulbs contain mercury and can pose a threat to human health and the environment if disposed of improperly. These bulbs can be safely recycled at numerous local outlets.** A complete listing of drop-off locations can be found at: lightrecycle.org.
- **Window glass/Mirrors?** Like light bulb glass, window and mirror glass has a different chemical composition than bottles and jars.
- **Ceramics? Drinking glasses? No.** The composition of ceramics, glass ovenware, Pyrex and drinking glasses makes them difficult to recycle, and also very damaging to the process for recycling glass bottles.
- **Plastic grocery bags and other plastic film?** Plastic bags and other plastic film ARE NOT collected in the curbside bin. Many grocery stores accept CLEAN, DRY plastic film as a service to their customers and they are accepted at any transfer station. Other types of plastic film include bread bags, bubble wrap, zip-lock bags, and the wrap from paper towels or toilet paper. For a complete listing of where to recycle plastic film in Clark County, as well as the different types of film accepted, visit: plasticfilmrecycling.org.
- **Block foam packaging?** Central Transfer and Recycling Center (CTR) accepts block foam for recycling. Foam can be recycled in the recycling center at CTR during open hours to the public. Monday - Friday 6:00 a.m. to 6:00 p.m.; Saturday - Sunday 8:00 a.m. to 4:00 p.m. Only rigid, white, clean block foam will be accepted -- "It breaks with a snap, does not bend!" Foam food trays, such as take-out cups and egg cartons are accepted if clean; no food residue can be present. Stickers, tape, plastic coating or wrap, cardboard, or any other material must be removed from the foam or it will be refused. The block foam collected at the transfer station will go to Far West Recycling where it is then shredding, condensed, and bulked for sale to recyclers.

*Foam packing peanuts are accepted and **reused** by local Mail Boxes, Etc. and Letter Box stores.*

- **Computers, VCRs, TVs?** Through the **E-Cycles Washington Product Stewardship program**, households, small businesses, schools and school districts, small governments, special purpose districts, and charities can recycle the following items for free: televisions; Computers; Computer monitors; Portable or laptop computers including "tablet computers"; E-readers (also called e-book readers); Portable DVD players. More information at: <http://www.ecyclewashington.org/>
- **Auto parts?** Auto parts are not collected at curbside or accepted at the transfer stations. Auto parts are often heavy, oil contaminated, and bulky. Area metal recyclers will accept them. Visit www.RecyclingA-Z.com for a full list of options.
- **Loose nails, screws, etc?** Nails, screws and other small scrap metals can be recycled curbside if contained securely in a metal container. Otherwise, they must be self-hauled to a drop-off location. Eddy currents and magnets sort metals on the sort line at West Van. Loose nails and screws are hazardous as they blow around and fly toward the magnet and wedge into the belt and screens.
- **Tissues, paper towels, paper plates?** None are accepted. Food contamination makes them attractive to vermin and unacceptable to paper mills. These can be placed in a worm bin (see Chapter 7). Also, the paper fibers in tissue are too fine to be of recyclable quality.
- **Wax Paper?** No. In addition to food contamination, the wax coating makes wax paper impossible to re-pulp.
- **Pizza Boxes?** Potential food contamination disqualifies pizza boxes from being recycled. Parts of the box that are food free can be torn off and put in the curbside bin.

Why can't I include construction wood scraps in my curbside yard debris bin?

Yard debris, when composted, is a valuable soil amendment. Construction wood is not added to commercial compost piles because wood scraps are often contaminated with paint, nails and finishes. Both of Waste Connections' transfer stations will accept self-hauled, clean, untreated wood waste for a fee. Several private companies also accept construction wood (see www.RecyclingA-Z.com for details). It is chipped and hauled to industries that use it as "hog fuel" to fire large industrial boilers or used to make particleboard.