

# MECKLENBURG COUNTY

## PURCHASING GUIDE for ENVIRONMENTALLY PREFERABLE PRODUCTS



**Provided by Business Support Services: Procurement  
Services Division and the Mecklenburg County Green  
Purchasing Team**

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## Introduction

The Business Support Services, Procurement Services Division (PSD) is responsible for ensuring that all City of Charlotte and Mecklenburg County purchases are made in compliance with current federal, state, and local laws and City/County policies. PSD is charged with the oversight, administration, and monitoring of the Procurement Policy and Procedures Manual which is posted at: <http://cnet/psd/default.aspx>.

The Mecklenburg County Green Purchasing Team is a volunteer group of County employees representing County Departments and their varying purchasing interests. This team has provided input and oversight for development of this guide.

Disclaimer: Users of this guide are responsible for complying with all applicable law (including without limitation North Carolina General Statutes 143-129 and 143-131), the Procurement Services Policy and Procedure Manual, the Recycled Product and Waste Reduction Policy adopted by the Board of County Commissioners on August 13, 1996 and other Board or County Manager directives. Any specifications presented in this guide are not intended to constitute or render engineering, architectural, legal or other professional services or advice. Nor should they be a substitute for such services or advice from an experienced professional directed to a specific design situation. While information in any specifications is believed to be accurate, the Procurement Services Division, and its consultants on this project shall not be liable for damages arising from errors or omissions in specifications.

## Purpose

This guide introduces and defines “environmentally preferable purchasing” and is intended to support the principle of “including environmental considerations in purchasing decision for goods and services” stated within the Mecklenburg County Environmental Leadership Policy. This guide provides departments with valuable information and resources to incorporate environmental considerations when making purchasing decisions.

Included in this guide are the basics of environmentally preferable purchasing, suggested purchasing resources and purchasing recommendations for many product groups to help you make environmentally preferable buying decisions.

## How will this purchasing reference guide help me?

It is not always easy finding or deciding which product is better for our employees and environment. Every item we buy has an impact on our health and environment, no matter whether we are buying cleaning products, furniture, lights, motor oil, office supplies, paint, cars, and the list goes on.

We hope you find this reference guide a helpful resource when looking for products with environmental attributes or deciding between products. Most of all, it should encourage buyers to ask the right questions.

## What is environmentally preferable purchasing?

Environmentally preferable goods and services are those that have a lesser or reduced effect on human health and the environment when specifically compared with other goods and services that serve the same purpose.

Questions to ask before purchasing a product include:

- Is the product less hazardous?
- Is it reusable or more durable?
- Is it made from recycled materials?
- What happens to the product at the end of its life? Can it be recycled? Will the manufacturer take the product back? Will it need special disposal?

## Section 1 – Environmental Preferable Purchasing Guide

- Does it conserve energy or water?
- Is it made from plant-based raw materials?

The United States Environmental Protection Agencies offers the following advice on their website <http://www.epa.gov/epp/index.htm>, “The overall best value takes into account performance, price, availability, regulatory requirements, and environmental impact. Purchasers should examine as many relevant product attributes as possible, recognizing that tradeoffs are inevitable. For example, one product may be made with renewable resources (a desirable characteristic), while another product has a lower VOC content (also a desirable characteristic).

Purchasers should be especially careful in interpreting vague or generic claims such as "environmentally friendly," "eco safe," etc. Purchasers should ask vendors and manufacturers offering green products to clearly and specifically define their green claims.

In addition, purchasers should ask manufacturers if they have conducted life cycle studies on their products. In the absence of comprehensive life cycle data, purchasers must simply make the best decision possible with the information available. Purchasers have to make a decision about the overall best value, taking into account their own organization's policies and priorities.”

Depending upon which product you are buying, all or only a few of these questions will apply. One challenge in buying wisely is knowing which questions to ask. With this Guide helping to put environmental issues in context, asking these questions will become second nature.

### What are environmental attributes?

Environmental attributes are those features of a product that make it preferable to purchase over other products. Some of the environmental attributes to consider are as follows:

<b>Recycled Content</b>	Buying products made with recycled materials save energy and resources, and keeps waste out of landfills. Recycled content products can be made with pre-consumer content, post-consumer content, or a mixture of both. Pre-consumer content utilizes materials from manufacturer's scrap. Post-consumer content utilizes materials collected from recycling programs.
<b>Less Hazardous</b>	Avoiding products containing hazardous chemicals reduces potential serious health risks to people and damage to the environment. As a general rule, always try to use the least amount of a hazardous product. Avoid products with the following precautionary words such as Caution, Danger, Warning or Poison. Many alternative products are available that are less hazardous.
<b>Conserves Energy</b>	Reducing energy use is one of the simplest things we can do to curb impacts to the air we breathe and our environment. Energy production can contribute to emissions of carbon dioxide. Hydroelectric dams can degrade habitat and impede fish passage. By buying energy-efficient products, you will keep utility consumption down and protect the environment. The federal Energy Star label helps buyers identify energy-efficient products.
<b>Prevents Waste</b>	Preventing waste can conserve natural resources. Our state generates millions of tons of municipal solid waste annually. You can prevent waste when you reduce the amount of material you buy to accomplish any task, buy repairable items, and find multiple uses for items.

## Section 1 – Environmental Preferable Purchasing Guide

<b>Air Quality</b> Low Volatile Organic Compounds (VOC)	Selecting products with low or no VOCs reduces indoor air quality hazards for employees. VOCs are chemicals that evaporate easily (volatilize) at room temperature and often have unhealthy and unpleasant vapors. They come from many products such as adhesives, carpeting, upholstery, paints, solvents, pesticides and cleaning products. Some VOCs may cause cancer, especially, when they are concentrated indoors. When VOCs hit sunlight it creates ozone, an air pollutant harmful to both people and plants.
<b>Conserves Water</b>	Choosing products and services that conserve water can save money on water and sewer bills. Less than one percent of the Earth's water is available for human consumption. Dry spells and pollution remind us that our water supply can be threatened.
<b>End of Life Management</b>	Considering the product's end of life issues when you buy can prevent costly disposal bills. Sometimes saving money up-front on a purchase results in spending more in the long term for proper disposal or injuries related to use of a product or disposal. It also encourages manufacturers to reduce their product's environmental burden.
<b>Reduced Packaging</b>	Packaging is a large component of municipal solid waste landfills. A product's packaging can account for a significant portion of the product's contribution to municipal solid waste. EPA's recommended approach to managing solid waste is to first reduce packaging of products, and second, recycle packaging materials.
<b>Biodegradable</b>	A "biodegradable" product has the ability to break down, safely and relatively quickly, by biological means, into the raw materials of nature and disappear into the environment. These products can be solids biodegrading into the soil or liquids biodegrading into water. Biodegradable plastic is intended to break up when exposed to microorganisms (a natural ingredient such as cornstarch or vegetable oil is added to achieve this result).
<b>Bulk / Concentrate</b>	Purchases in bulk or concentrate have the primary benefit of less expense per unit. Bulk purchases also have environmental benefit of reducing the amount of manufacturing and disposal of Ready to Use (RTU) packaging materials. Concentrate includes the additional benefit of reduced transportation energy and container cost for many products. To avoid pitfalls with this environmental attribute, see "Writing Specifications" section of this document.

### Why is environmentally preferable purchasing important?

The purchase and use of environmentally preferable products can have a profound impact – and not just on the environment. From worker safety to budget savings, wise purchasing has a number of additional tangible benefits:

- Buying less-hazardous products can reduce regulatory liability, improve worker safety, and lower disposal costs.
- Using energy-efficient and water-conserving products can save money.
- Products that are reusable, refillable, more durable, or repairable create less waste and are more cost-effective in the long run than disposable or single-use products.
- Buying recycled products conserves valuable landfill space by using goods made from materials that otherwise would have been discarded. Using recycled products and packaging also conserves natural resources and energy.
- Environmentally preferable purchasing compliments other Mecklenburg County environmental policies including: practicing waste minimization and requiring environmentally sensitive design (USGBC LEED certification) for all new and retrofitted facilities.

## Practice the Four R's – Reduce, Reuse, Recycle, and Rebuy

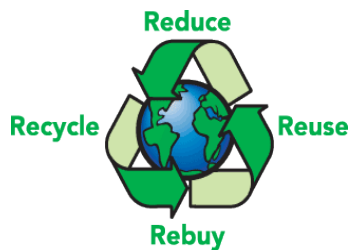
**Reduce:** is the best of the four R's—because preventing waste in the first place means you have less waste to worry about in the end!

- Shop for products that have the least amount of packaging
- Buy in bulk quantities whenever possible.
- Rent or borrow items that are used infrequently.
- Maintain and repair items to ensure a long product life.

**Reuse** is the next best—if you can reuse your waste, it is longer considered waste! Giving away old clothes and other unwanted items to charities and thrift stores keeps good items out of the trash and can save you money. Why pay extra to dump good usable items when you can donate them for free?

**Recycle:** Sometimes things can't be reused. Recycling keeps raw material in the system and keeps us less dependent on virgin ore, oil and trees for raw materials. If we can keep recycling our products, not only will we reduce the amount of material going to the landfill, we will also reduce the necessity of mining and chopping down trees! All Mecklenburg County employees are required to participate in the PaperChase program for paper and cardboard recycling. Additionally, beverage container recycling is encouraged as an addition to the PaperChase program. Get a blue bin and start recycling!

**Rebuy:** Close the loop! What good is recycling if nobody buys the recycled products? Buying recycled products creates a larger demand for them. More demand means more manufacturers will try selling more recycled products. You also might want to consider only buying products that can be recycled.



**Third Party Certification and Acceptable Standards & Guidelines**

There are a number of organizations that are putting considerable time and effort into evaluating products and services based on environmental impacts. Below are a few of the most widely recognized organizations that have established environmentally preferable product standards.

	<p><b>Green Seal</b> is a nationally recognized nonprofit organization that certifies a variety of environmental products that pass stringent testing standards. Approved products carry a Green Seal logo that is well recognized throughout industry and government as a leading environmental standard.</p> <p>Green Seal bases its work on thorough, state-of-the-art scientific evaluations using internationally accepted methodologies. Product evaluations are conducted using a life-cycle approach to ensure that all significant environmental impacts of a product are considered, from raw materials extraction through manufacturing to use and disposal.</p> <p><a href="http://www.greenseal.org">www.greenseal.org</a></p>
	<p>Sponsored by the U.S. Department of Energy and the U.S. Environmental Protection Agency, <b>ENERGY STAR</b> labels products such as computer CPUs, monitors, printers, copiers, and other devices that exceed US energy efficiency standards. ENERGY STAR also includes lighting, appliances, windows and many other products. <a href="http://www.energystar.gov">www.energystar.gov</a></p>
	<p><b>United States Environmental Protection Agency (EPA)</b> works to develop and enforce regulations that implement environmental laws enacted by Congress. EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.</p> <p>The EPA provides Comprehensive Procurement Guidelines (CPG) that is updated every two years. Through the CPG, EPA designates items that must contain recycled materials when purchased with appropriated federal funds by federal, state, and local agencies. <a href="http://www.epa.gov/cpg">www.epa.gov/cpg</a></p>
	<p><b>American Society for Testing and Materials (ASTM)</b> is one of the largest voluntary standards development organizations in the world and a trusted source for technical standards for materials, products, systems, and services. Known for their high technical quality and market relevancy, ASTM International standards have an important role in the information infrastructure that guides design, manufacturing and trade in the global economy. Standards for over 12, 000 items can be downloaded at: <a href="http://www.astm.org">www.astm.org</a></p>
	<p><b>Greenguard Environmental Institute (GEI)</b> is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program. As an ANSI Authorized Standards Developer, GEI establishes acceptable indoor air standards for indoor products, environments, and buildings.</p> <p><a href="http://www.greenguard.org/">http://www.greenguard.org/</a></p>

## Writing Specifications

When putting together your bid requirements for products and services consider how environmental attributes can be included in your specifications. Taking some time to consider environmental impacts before purchasing can result in lasting benefit for people and the environment.

Here are a few strategies:

- Require all products have a low impact to human health and environment.
- Require recycled content in products and products that can be easily recycled.
- Require packaging or containers that are refillable, returnable, or recyclable.
- Specify those environmental attributes that make sense to a product, such as non-toxic, recycled content, mercury-free, biodegradable, energy efficient, low VOC, Energy Star, or vendor recycling and take-back programs.
- Ask vendors to identify environmental attributes that are common to a product and then think about using them when preparing your specifications.
- Avoid specifications that would limit the purchase of certain products, e.g. requiring new equipment or virgin materials when refurbished or recycled products would work.
- Watch for over-specification; only specify product qualities that are critical to performance and leave other features open to alternatives, by specifying color of plastic items you may eliminate recycled-content items.
- Take into account the life-cycle costs, not just the purchase price of a product; consider long-term savings on maintenance, replacement and disposal costs.
- Give an evaluation preference to products that offer the environmental attribute that you are looking for, e.g. additional points based an environmental attribute.
- Award contracts using a good, better and best ranking for products and let the customer choose, this method allows for pricing differences for environmentally preferable products.
- Buy in bulk or in concentrate when feasible. Facilities can often realize significant cost-savings by buying certain items in bulk. Be sure to identify proper:
  - “Unit of Use” - to address the issue of large quantities of hazardous materials expiring before being used or being wasted due to improper mixing or handling, clearly identify the intended use of the item to be purchased on a daily basis; and
  - “Just in Time Delivery” – to eliminate overstocking, expiration, and storage concerns, indicate the frequency with which products should be delivered. Rather than order a year's worth of supplies in large containers to be delivered at once, receive smaller shipments of smaller-quantity products only when needed, either quarterly, monthly, or weekly—“just in time” for the project at hand. This method ensures the products are on hand when they are needed rather than having them sit in a warehouse, possibly expiring before they can be used.
- Packaging should be recycled or recyclable materials and kept to a minimum to avoid waste.
- Keep track of what works well and any difficulties you encountered in purchasing these products for future purchases.
- Set environmental purchasing goals and track them for your office, department and agency.
- Limit the use of Styrofoam in packaging and food utensils.

## Guidelines for Buying Environmentally Preferable Products

### 2.1 GENERAL BUILDING MAINTENANCE

#### 2.1.1 Carpeting

##### An Overview

Most commercial carpet is made by bonding a face fiber to a backing fiber, using one of a variety of strong bonding agents.

Recycled content and recyclable carpet options each have their own merits and considerations, depending on specific need, location, and use. Nylon, polyester, and plastic are made from petroleum, a non-renewable resource. Since the face fiber backing can contribute up to 60% of the carpet material, purchasing a nylon face fiber with 100% recycled content backing is worth consideration.

Closed loop systems, where used carpet fiber and backing are made into new carpet and backing (and can be recycled into new carpet after its useful life) are important to consider.

##### Mecklenburg County Environmental Policy Requirements:

All quantities > 2000 sq ft must meet or exceed Collaborative for High Performance Schools Section 01350 or better. The 2010 goal is 100% compliance.

##### Potential Environmental Impacts

- Indoor air quality concerns from fumes given off by new or recycled synthetic materials may favor natural materials such as wool, cocoa matting, hemp and similar materials.
- Conventional synthetic carpets are made from non-renewable resources.
- Disposal issues at the end of product life span.

##### Things to Consider Before Buying or If You Write Your Own Specifications

- Look for the highest recycled content.
- Recyclable products with “seals of approval.”
- Products that minimize volatile organic compound (VOC) emissions.
- Carpet that is not SB latex-backed.
- Product that contains natural or vegetable dyes and additives.
- Colors that match natural soiling to hide dirt and stains.
- Minimum 10 year warranty.
- Minimum of 28 ounces per square yard for loop pile carpet and 34 ounces per square yard for cut pile carpet.
- Recycle carpet and/or carpet padding. Go to [www.wipeoutwaste.com](http://www.wipeoutwaste.com) for additional information.

##### Availability

Carpet with recycled-content face fibers and/or backing is readily available through many distributors and is available in many different colors and patterns. Green Seal recommends the following carpet brands: **Beaulieu of America, Brintons, Colin Campbell & Sons, Collins & Aikman, Interface, J&J Industries, Mannington Mills, Milliken Carpet, Mohawk, Shaw, and Talisman Mills.**

## 2.1.2 Ceiling Tiles

### An Overview

Ceiling tiles generally fall under the product category of acoustical products. Ceiling tiles are generally designed to be light, to be acoustically deadening and to be durable and low maintenance. At one time ceiling tiles had high asbestos content but they are continuing to improve with the advent of new recycling technologies. Some products now on the market have a minimum of 80% recycled content (mineral fibers). They are durable and tear resistant, so they can be reused.

### Mecklenburg County Environmental Policy Requirements

Ceiling tiles should meet or exceed Collaborative for High Performance Schools Section 01350 or better.

### Potential Environmental Impacts

- Health hazards from dust and fumes during and after installation.
- Hazardous materials may enter the waste stream when disposed of.
- Paints used in ceiling tiles could contain high VOC.

### Things to Consider Before Buying or If You Write Your Own Specifications

- Look for tiles made from cellulose fibers, mineral and slag wool by-products and/or recycled fiberglass.
- NO asbestos fibers are acceptable.
- Specify products that meet Collaborative for High Performance Schools Section 01350 or other nationally recognized environmental organization.
- Tiles should contain a high percentage of recycled content. The EPA recommends a minimum recycled content of 80%.
- Look for durable construction and low maintenance tiles.
- Products must meet all building and fire codes.

### Availability

The EPA recommends the following ceiling tile manufacturers: **Armstrong, and USG Corporation**. Ceiling tiles with recycled-content materials are available through many distributors. Please check the Vendor Management System (VMS), or Advantage for a complete listing of registered vendors and always require the vendor to quote environmental preferable products when practicable.

### 2.1.3 Paint Products

#### An Overview

Paints are among the most widely purchased products in the area of building maintenance. These products range in environmental impact, but all have the potential to adversely affect the environment through improper use, waste, and end disposal.

#### Mecklenburg County Environmental Policy Requirements:

Paint should have low level of Volatile Organic Compounds (VOC). The 2010 goal is a minimum of 50% compliance.

#### Potential Environmental Impacts

- Volatile organic compounds (VOC) and fumes reduce air quality and are less hazardous.
- Unused product disposal, if not performed properly could lead to environmental problems.

#### Things to Consider Before Buying or If You Write Your Own Specifications

- Reference the Green Seal standard for paints found at <http://www.greenseal.org/certification/standards/paints.cfm>.
- Architectural paints, coatings and primers applied to interior walls and ceilings: Do not exceed the VOC content limits established in Green Seal Standard GS-11, Paints, First Edition, May 20, 1993.
  - Flats: 50 g/L
  - Non-Flats: 150 g/L
- Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates: Do not exceed the VOC content limit of 250 g/L established in Green Seal Standard GC-03, Anti-Corrosive Paints, Second Edition, January 7, 1997.
- Clear wood finishes, floor coatings, stains, and shellacs applied to interior elements: Do not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004.
  - Clear wood finishes: varnish 350 g/L; lacquer 550 g/L
  - Floor coatings: 100 g/L
  - Sealers: waterproofing sealers 250 g/L; sanding sealers 275 g/L; all other sealers 200 g/L
  - Shellacs: Clear 730 g/L; pigmented 550 g/L
  - Stains: 250 g/L
- Require low or no fumes and preferably no volatile organic compounds (VOC).
- Absence of mercury or mercury compounds is desired.
- Absence of pigments of lead, cadmium, chrome is desired.
- Longevity of application.
- Buying the right amount of paint reduces waste.
- Recycle paints at any of the County's four staffed Recycling Centers. Go to [www.wipeoutwaste.com](http://www.wipeoutwaste.com) for additional information.

#### Availability

Nationally, **recycled** paint is a relatively new product. However, **Low-VOC and less-toxic paint** are available from numerous local and national manufacturers.

Green Seal lists low VOC paints by the following paint manufacturers: **Benjamin Moore, Dutch Boy, Olympic Paint and Stain, Sico, Inc., PPG, Rodda, and Miller Paint Co.** Please check the Vendor Management System (VMS), or Advantage for a complete listing of registered vendors and always require the vendor to quote environmental preferable products when practicable.

### **2.1.4 Insulation**

#### **An Overview**

There are many thermal insulation materials on the market. They may be purchased as two types: plastic foam insulation or fibrous material. The use of thermal insulation is increasing to help curb the use of energy and non-renewable resources.

In addition, the use of recycled materials will reduce the amount of materials entering the waste stream and reduce total resource consumption.

#### **Mecklenburg County Environmental Policy Requirements:**

Insulation should contain recycled materials.

#### **Potential Environmental Impacts**

- Health hazards from dust and fumes during and after insulation reduce air quality.
- Energy and resource consumption in manufacturing the product.
- Incorporation of ozone depleting substances in the manufacture of the product.

#### **Things to Consider Before Buying or If You Write Your Own Specifications**

- Low or no fumes and preferably no volatile organic compounds (VOC).
- Require highest recycled content materials.
- Specify products that meet Greenguard Environmental Institute or EPA standards or other nationally recognized environmental organization.

#### **Availability**

Please check the Vendor Management System (VMS), or Advantage for a complete listing of registered vendors and always require the vendor to quote products that meet the EPA standards whenever practicable.

## 2.1.5 Roofing

### An Overview

For a properly constructed structure, weather protection begins at the ridge of the roof, continuing down to form an unbroken barrier that keeps out the elements -- rain, snow, and the sun's light and heat.

Currently, there is a multitude of roofing materials available, ranging from asphalt shingles, wood shingles and shakes, to roll-roofing and plastic membranes, to slate and tiles (clay and concrete), and finally to aluminum, copper and steel panels.

### Mecklenburg County Environmental Policy Requirements:

EPA recommends that procuring agencies refer to the 186 standards for roofing products maintained by ASTM's Committee D08 on Roofing, Waterproofing, and Bituminous Materials.

### Potential Environmental Impacts

- Depending on material specified, air quality may be impacted adversely during time of installation.
- Some materials may contain high VOC that may have a negative impact over longer term.
- Some materials used are non-renewable resources.
- Disposal issues at the end of product life's span.

### Things to Consider Before Buying or If You Write Your Own Specifications

- It's important to consider the climate, the buildings requirements and potential health issues of residents and the environment.
- Require the highest recycled content.
- Preference for products with "seals of approval."
- Require low or no fumes and preferably no VOCs.
- Longevity of application.
- Product should meet all building and fire codes.
- Mecklenburg County has a certified Construction and Demolition landfill for proper disposal of construction and demolition materials and recycling of selected materials. Visit [www.wipeoutwaste.com](http://www.wipeoutwaste.com).

### Availability

Please check the Vendor Management System (VMS), or Advantage for a complete listing of registered vendors and always require the vendor to quote environmental preferable products when practicable.

**W.P. Hickman** offers Green Roofing materials and can be purchased through the U.S. Communities Cooperative Purchasing Program. For more information please contact:

**W.P. Hickman**  
Walter McGee  
Bus: 440.248.7760  
Cell: 828.273.4700  
[wmcgee@wphickman.com](mailto:wmcgee@wphickman.com)

## 2.2 JANITORIAL PRODUCTS

### 2.2.1 Industrial and Commercial Cleaners

#### Overview

The primary function of industrial and commercial cleaners is for facility and machinery cleaning. The selection of a cleaner is influenced primarily by the nature of the surface to be cleaned, the nature of the soiling, and the degree of cleanliness required.

The major ingredients in cleaners are surfactants, builders, solvents, scouring abrasives, and alkalis.

#### Mecklenburg County Environmental Policy Requirements:

Products should meet Green Seal Standards. <http://www.greenseal.org/certification/environmental.cfm>

The 2010 goal is a minimum of 40% compliance.

#### Potential Environmental Impacts

- End of life management is essential. Products may be a burden on the environment in terms of wastewater loading and treatment, emissions of VOCs and resource consumption.
- If surfactants are not easily biodegraded, they may persist and harm ecosystems.
- May be toxic. County employees and contracted cleaning staff who use these products are exposed to hazards and potential injury on the job.

#### Things to Consider Before Buying or If You Write Your Own Specifications

- Preference should be for products that are biodegradable, not toxic or chlorinated, and standardized as much as possible to reduce the number of chemicals in use.
- Avoid petroleum based products. Instead specify products that are made from natural or bio-based materials like plants, fruits or trees (i.e. citrus and pine oil).
- Require current MSDS sheets on all products as a Purchase Order request to be delivered with the product.
- Choose pump sprays instead of aerosols. Aerosols produce a finer mist that is likelier to be inhaled by workers, and their containers may be hazardous if punctured.
- Low volatile organic compound (VOC) emissions.
- Minimal packaging in refillable or recyclable containers.
- Specify products that meet Green Seal or EPA standards or other nationally recognized environmental organization.
- Require flashpoint >200°F.
- Buy in a concentrated form. Buying cleaners in concentrates with appropriate handling safeguards, and reusable, reduced, or recyclable packaging, reduces packaging waste and transportation energy.
- Read the labels and avoid products that include the following cautions:
  - Warning: Mild to moderate hazard
  - Danger: extremely flammable, corrosive, or highly toxic
  - Poison: highly toxic
- Recycle cleaners at any of the County's four staffed Recycling Centers. Go to [www.wipeoutwaste.com](http://www.wipeoutwaste.com) or [www.charmeck.org/Departments/LUESA/solid+waste/household+hazardous+waste/home.htm](http://www.charmeck.org/Departments/LUESA/solid+waste/household+hazardous+waste/home.htm) for additional information.

#### Availability

Green Seal compliant cleaners are widely available through various vendors, distributors, and catalogs including, but not limited to, **Spartan, Buckeye, Johnson Wax, W.W. Grainger, Inc. and Safesource** manufactured products. For a complete listing visit:

<http://www.greenseal.org/findaproduct/index.cfm>

There are many vendors that offer cleaning products that have registered with Charlotte Mecklenburg. Please check the Vendor Management System (VMS), or Advantage for a complete listing and require the vendor to quote Green Seal approved or EPA compliant products when feasible.

## 2.2.2 Janitorial Paper Products

### Overview

What products do we use a lot, can use only once, and never use again? The answer is bathroom & facial tissues, paper towels and toilet seat covers.

These products cannot be recycled, thereby eliminating the potential to replenish what has been consumed. According to Green Seal, use of post consumer fibers reduces the impact on landfills by saving 3.3 cubic yards of space for every ton of paper that is re-channelled.

### Mecklenburg County Environmental Policy Requirements:

Products must contain 100% recycled content material and meet the Green Seal standards as follows:

Bath & Facial Tissues must contain a minimum 20% post consumer content.

Paper Towels must contain a minimum 40% post consumer content.

The 2010 goal is 75% compliance

### Potential Environmental Impacts

- Manufacture of products may release substances that contaminate the environment and enter the solid waste stream.
- Land resources can be degraded due to the manufacture process.

### Things to Consider Before Buying or If You Write Your Own Specifications

- Products must be 100% recycled and contain a minimum 20% post consumer content.
- Request minimum packaging of all products. Packaging should be recyclable.
- Require bleach free products.

### Availability

Green Seal lists the following paper manufacturers, among others: **AmSan, Cascades, Hillyard, and Wausau/Baywest.**

Mecklenburg County has installed Green Seal certified Wausau/Baywest products in all facilities. Please check with the Real Estate Services / Building and Grounds Department for all janitorial paper product needs.

### 2.2.3 Plastic Trash Bags (Can Liners)

#### Overview

A staple in most workplaces, plastic waste bags are used in trash cans or recycling bins. Their use conserves energy and promotes recycling. Workplaces can save money by instructing staff to replace bags only when they are too dirty or full for the work setting in which they are used.

#### Mecklenburg County Environmental Policy Requirements:

Products must contain minimum 10% post consumer recycled content.

#### Potential Environmental Impacts

- Use of recycled plastic trash bags conserves energy and promotes recycling.
- Manufacture of products may release substances that contaminate the environment and enter the solid waste stream.
- Land resources can be degraded due to the manufacture process.

#### Things to Consider Before Buying or If You Write Your Own Specifications

- Products must contain a minimum 10% post consumer content.
- Any bag can fail if stressed beyond its intended use. Performance features such as puncture and tear resistance should be reviewed before choosing any bag, regardless of whether it has recycled content.
- When purchasing bags, work with the vendor to determine the size, thickness, durability and other performance requirements that are appropriate for your application.
- Bags should be lead free.
- Bags should be non-toxic when incinerated, disposed of in a landfill, or decomposed in composting.

#### 2.2.3 Plastic Trash Bags (continued)

##### Availability

The availability of bags featuring recycled content is somewhat dependent on the type of bag. For bags ranging in capacity from 7 to 56 gallons and in thickness from 0.35 to 1.35 millimeters, products are widely available with up to 100% post-consumer recycled-content plastic. However, recycled content may be difficult to find in certain colors, sizes, and thicknesses.

Mecklenburg County currently has the following BOCC approved contract in place for trash bags:

**Calico Industries, Inc.**  
Ben Early  
P.O. Box 2005  
9045 Junction Drive  
Annapolis Junction, MD 20701  
Phone: 800.638.0828  
Fax: 301.498.2056

## 2.3 Computers and Monitors

### Overview

Computers are an integral part of most County offices but most contain materials that can pose a threat to the environment if not managed carefully at the end of their useful life. Desktop color monitors typically contain about two or more pounds of lead and lead can also be found inside in the circuit boards of the computer.

### Mecklenburg County Environmental Policy Requirements:

Computers and monitors should be Energy Star® certified. [www.energystar.gov](http://www.energystar.gov)  
The County's 2010 goal is 95% compliance.

### Potential Environmental Impacts

- Improper disposal of computer equipment can release lead and/or other toxins into the environment.
- Can consume excessive energy when the machines are on but not in use.

### Things to Consider Before Buying or If You Write Your Own Specifications

- Mecklenburg County IST Department should be consulted before configuring or ordering any computer equipment.
- Equipment should be Energy Star® certified.
- Computers should be recycled through the County's surplus furniture and electronics recycling program. IST 2HELP should be contacted for disposal of all IT assets.

### Availability

Many computer manufacturers participate in the Energy Star® program. Please consult with Mecklenburg County's IST Department before purchasing any computer.

## 2.4 Landscape Materials

### 2.4.1 Mulch

#### Overview

Mulch is an insulating material that is spread over the ground and is largely used as a decorative soil surface cover but actually has many horticultural benefits. Shredded wood or chips, and straw are just some of the materials that can be used as mulch. In landscaping and construction projects, mulch is used as a surface material for erosion control or as a temporary road base.

#### Mecklenburg County Environmental Policy Requirements:

Horticultural mulch made with recycled land clearing and other wood debris should be used.

#### Potential Environmental Impacts

- Reduces erosion
- Suppresses weeds
- Improves water retention

#### Things to Consider Before Buying or If You Write Your Own Specifications

- Consider the size of material, texture, composition of material, aesthetics, water-holding capacity, and odor. Specifications vary according to type of mulch and intended use.

#### Availability

Mecklenburg County Yard Waste facilities produce hardwood, pallet, and red mulch for sale in bulk and bags. Visit <http://www.charmeck.org/Departments/LUESA/Solid+Waste> for pricing and to find the nearest facility. Mulch is also available from many local landscape companies. Please check the Vendor Management System (VMS), or Advantage for a complete listing and require the vendor to quote environmental preferable products when feasible.

### 2.4.2 Compost

#### Overview

Compost is a valuable soil amendment that is produced from composting the decomposition of organic materials such as yard trimmings, food scraps, and animal waste...or waste products no one else wants or needs. From both an environmental and an economic viewpoint, recycling wastes for use as raw material in the manufacture of compost products makes sense. But beyond the obvious benefits of compost manufacture are the equally impressive advantages of compost use in conjunction with or instead of synthetic products for farming, gardening, and landscaping.

#### Mecklenburg County Environmental Policy Requirements:

Compost should meet the US Composting Council Seal of Testing Assurance. ([www.compostingcouncil.org](http://www.compostingcouncil.org))

#### Potential Environmental Impacts

- Improves soil porosity for clay soils
- Improves water retention for sandy soils
- Makes soil more resistant to disease
- Reduces pests and the need for pesticides
- Reduces erosion
- Suppresses weeds
- Enhances storage and slow release of nutrients

#### Things to Consider Before Buying or If You Write Your Own Specifications

Compost produced at Mecklenburg County yard waste facilities meets the US Composting Council Seal of Testing Assurance Program requirements.

#### 2.4.2 Compost (continued)

**Availability**

Compost is available for sale in bulk and bags. Call 704-588-9070 for deliveries. Visit <http://www.charmeck.org/Departments/LUESA/Solid+Waste> for pricing and to find the nearest yard waste facility.

**2.4.3 Native Plants**

**Overview**

Native plants are generally defined as those that occurred in North America before European settlement. Approximately 25% of the plants growing wild in the US are naturalized exotics plants from Asia or Western Europe. These plants are invasive and grow unabatedly where native plants otherwise would occur. Invasive exotic plants compete with native plants and pose a great risk to the survival of North Carolina's native species.

**Mecklenburg County Environmental Policy Requirements:**

Retain as much native vegetation as possible during land clearing and construction. In areas where plants are cleared during development, landscape using native plants. The County's goal is to use native plants 100% while continually reducing and eliminating the use of invasive exotics.

**Potential Environmental Impacts**

- Native plants are resistant to most pests and diseases which decreases the need for pesticides and herbicides.
- Native plants typically do not require irrigation, which conserves water and saves money.
- Native vegetarian buffers are particularly effective along streams, lakes and wetlands where they help to improve water quality.
- North Carolina's native plants provide well adapted food and cover for North Carolina's native animals.
- Native plants attract a diversity of wildlife to the area. This diversity allows native animals and other native plants to maintain a natural lifestyle, thus reducing the extinction of native species.
- Native plants provide diversity to the native species' food chain by hosting butterfly caterpillars larvae.
- Native plants are well-suited to the state's soil and climate and require relatively little upkeep, which conserves water.

**Availability**

The following list gives some of the more popular invasive plants used in this area and available for purchase, and the preferred native plant alternative. For more information on native plants, including suggested vendors, visit <http://www.charmeck.org/Departments/LUESA/Solid+Waste/PLANT+Program/native-plants.htm>

### 2.4.3 Things to Consider Before Buying or If You Write Your Own Specifications

#### Prohibited invasive exotic species and suggestions for native alternatives

Scientific Name	Common Name	Suggested Native Alternatives
<i>Ailanthus altissima</i>	Tree-of-Heaven	<i>Juglans nigra</i> (Black Walnut)
<i>Akebia quintata</i>	Five-leaf Akebia	<i>Gelsemium sempervirens</i> (Carolina Jessamine)
<i>Albizia julibrissin</i>	Mimosa	<i>Amorpha fruticosa</i> (Leadplant), <i>Pinckneya pubesens</i> (Georgia Feverbark Tree), <i>Robinia hispida</i> (Rose-acacia Locust)
<i>Ampelopsis brevipedunculata</i>	Porcelain Berry	<i>Callicarpa americana</i> (American Beautyberry)
<i>Bambusa spp.</i>	Bamboo Species	
<i>Berberis thunbergii</i>	Japanese Barberry	<i>Callicarpa americana</i> (Beautyberry)
<i>Clerodendron bungei</i>	Harlequin / Rose Glorybower	<i>Rhododendron prunifolium</i> (Plumleaf Azalea)
<i>Elaeagnus spp.</i>	Silverberry, Autumn olive	<i>Ilex opaca</i> (American holly), <i>Lindera benzoin</i> (Spicebush)
<i>Euonymus alatus</i>	Winged Euonymus	<i>Itea virginica</i> (Virginia Sweetspire)
<i>Euonymus fortunei</i>	Creeping Wintercreeper	<i>Antennaria plantaginifolia</i> (Southern Pussytoes)
<i>Hedera helix</i>	English ivy	<i>Bignonia capreolata</i> (Crossvine), <i>Gelsemium sempervirens</i> (Carolina jessamine), <i>Mitchella repens</i> (Partridge berry)
<i>Hibiscus syriacus</i>	Rose of Sharon	
<i>Lespedeza bicolor</i>	Bicolor Lespedeza	
<i>Lespedeza cuneata</i>	Sericia Lespedeza	
<i>Ligustrum spp.</i>	Japanese privet, Chinese privet	<i>Sambucas canadensis</i> (Common elderberry), <i>Ilex opaca</i> (American holly), <i>Lindera benzoin</i> (Spicebush)
<i>Liriope spicata</i>	Creeping lirioppe	
<i>Lonicera spp.</i>	Sweet-breath-of-spring, Japanese honeysuckle, Amur honeysuckle	<i>Callicarpa americana</i> (Beautyberry), <i>Gelsemium sempervirens</i> (Carolina jessamine)
<i>Lygodium japonicum</i> (American Climbing Fern)	Japanese Climbing Fern	<i>Lygodium plamatum</i> (American Climbing Fern)
<i>Mahonia bealei</i>	Leatherleaf Mahonia	<i>Viburnum nudum</i> (Possumhaw Viburnum), <i>Viburnum bracteatum</i> 'Emerald Lustre' (Emeral Luster Viburnum), <i>Callicarpa americana</i> (American Beautyberry)
<i>Miscanthus sinense</i>	Chinese silver grass	<i>Panicum virgatum</i> (Switchgrass), <i>Sorghastrum nutans</i> (Indian grass)
<i>Nandina domestica</i>	Nandina, Sacred-bamboo	<i>Xanthorhiza simplicissima</i> (Yellowroot), <i>Callicarpa americana</i> (Beautyberry), <i>Sambucas canadensis</i> (Common elderberry), <i>Itea virginica</i> (Virginia willow)
<i>Paulownia tomentosa</i>	Princess tree	<i>Chionanthus virginiana</i> (Fringe-tree), <i>Cercis canadensis</i> (Redbud), <i>Tilia americana</i> (Basswood)
<i>Phyllostachys spp</i>	Running Bamboo	<i>Arundinaria gigantea</i> (Switch Cane)
<i>Pyrus calleryana</i>	Bradford pear	<i>Cornus florida</i> (Flowering dogwood), <i>Cercis canadensis</i> (Redbud)
<i>Spirea japonica</i>	Japanese Spirea	
<i>Vinca spp.</i>	Periwinkle species	<i>Bignonia capreolata</i> (Crossvine), <i>Gelsemium sempervirens</i> (Carolina jessamine), <i>Mitchella repens</i> (Partridge berry)
<i>Wisteria floribunda</i>	Japanese wisteria	<i>Wisteria frutescens</i> (American wisteria)
<i>Wisteria sinensis</i>	Chinese wisteria	<i>Wisteria frutescens</i> (American wisteria)

## 2.5 OFFICE SUPPLIES

### 2.5.1 Copy Paper and Paper Products

#### Overview

Paper products include, but are not limited to, copy paper, hanging file folders, envelopes, note pads, post it notes and pre-printed forms, brochures, business cards, and archiving boxes. Recycled paper products are available in many colors, are equal in quality and performance and cost the same or less as virgin products.

#### Mecklenburg County Environmental Policy Requirements:

Whenever practicable, paper products should contain a minimum 20% post consumer recovered material and at least 30% total recovered material. The 2010 goal is 75% compliance.

Employees are required to participate and adhere to the PaperChase program guidelines. For more details visit <http://www.charmeck.org/departments/LUESA/solid+waste>

#### Potential Environmental Impacts

- Discarded paper products can create a contamination problem and decreases the value of the recycled material.
- In most cases, paper products placed in the trash would be disposed of in a landfill instead of marketed as a commodity as intended.

#### Things to Consider Before Buying or If You Write Your Own Specifications

- Look for products made from recycled contents.
- Request printing companies to use recycled paper for all pre-printed forms, brochures or other custom printed materials.
- Evaluate the need for multi part forms. A one-part form may suffice.
- Consider reformatting forms to decrease the size.
- Duplex all copies when practicable.
- Recycle paper and paper products through the County's PaperChase program.

#### Availability

Mecklenburg County currently has the following BOCC approved contract in effect for office supplies, which includes copy paper:

**Office Depot**  
Dava Biggerstaff  
888.213.8948x5701  
[dava.biggerstaff@officedepot.com](mailto:dava.biggerstaff@officedepot.com)

Office supplies should be ordered on-line by authorized users. County Finance will provide a form to County employees designated to order supplies for their department. Upon Finance approval, Office Depot will set up the user and provide a user ID and password. All orders placed on line at <https://bsd.officedepot.com> are invoiced monthly on a Countywide summary billing submitted directly to the County Finance Department.

## 2.5.2 Miscellaneous Office Supplies (non-paper)

### Overview

Office supplies manufacturers are increasingly offering a wide range of products made from recycled materials. Many items made from metal or plastic such as 3-ring binders, desk accessories, CDs and diskettes, mouse pads, paper clips and pens & pencils are available with recycled content materials.

### Mecklenburg County Environmental Policy Requirements:

Office supply items made of metal, plastic, or paper (other than copy/printer paper) should contain a minimum 10% recycled content and/or be Green Seal certified materials whenever practicable. 2010 goal is 30%

### Potential Environmental Impacts

- Buying recycled products conserves natural resources; saves energy; reduces solid waste; and reduces air and water pollutants.

### Things to Consider Before Buying or If You Write Your Own Specifications

- Look for products that contain post-consumer material contents.
- Consider refillable products such as pens and pencils.
- Consider non-toxic highlighters, markers, correction fluid, and other items identified in the supply catalogs with environmental symbols for easy recognition.
- The ability to reuse or donate the product within your department or within the County.

### Availability

Many manufacturers of various office products offer recycled content items including, Esselite, Glove-Weis, Bic, Paper Mate, ACCO, Sanford, Eberhard Faber, 3M, Kraft, and DuPont. These manufacturers are offered by Office Depot.

Mecklenburg County currently has the following BOCC approved contract in effect for office supplies:

**Office Depot**  
Dava Biggerstaff  
888.213.8948x5701  
[dava.biggerstaff@officedepot.com](mailto:dava.biggerstaff@officedepot.com)

Office supplies should be ordered on-line by authorized users. County Finance will provide a form to County employees designated to order supplies for their department. Upon Finance approval, Office Depot will set up the user and provide a user ID and password. All orders placed on line at <https://bsd.officedepot.com> are invoiced monthly on a Countywide summary billing submitted directly to the County Finance Department.

### 2.5.3 Printing Cartridges

#### Overview

Printing cartridges are widely used in photocopy and facsimile equipment, as well as in laser printers. Cartridges are often thrown away once the toner inside the cartridge is used up, typically after several thousand copies have been made, depending on the make and model of the printing cartridge. Cartridges contain many components that are in great condition at the end of the expected life of the cartridge. The practice of re-manufacturing printing cartridges involves disassembling the unit, inspecting and cleaning components, and replacing or refurbishing the unit's organic photoreceptor cell and replacing the supply of toner.

#### Mecklenburg County Environmental Policy Requirements:

Inkjet cartridges and laser toner cartridges bought by Mecklenburg County should be remanufactured cartridges when ever available. Please note that remanufactured cartridges are not available for all models of printers. The County's 2010 goal is 75% compliance.

#### Potential Environmental Impacts

- End of use disposal creates non-recyclable waste.
- Plastics and toners can be detrimental to land and water resources.
- Remanufactured toner cartridges save resources by reusing components instead of disposing of them after one use.

#### Things to Consider Before Buying or If You Write Your Own Specifications

- One of the clearest advantages of remanufactured printing cartridges is cost savings. Compared to new cartridges, remanufactured cartridges cost an average of 30% to 50% less, depending upon the model.
- Should staff find that remanufactured cartridges for a specific model of printer perform poorly, or that a specific manufacture/part number of cartridge performs poorly, use of the offending cartridge should be halted.
- All used cartridges must be returned to the manufacture of the cartridge or the vender the department is buying cartridges from, so they can be refurbished or recycled. For Mecklenburg County, Sunbelt will collect all used cartridges when contacted.

#### Availability

Mecklenburg County currently has the following BOCC approved contract in effect for office supplies:

#### 2.5.3 Printer Cartridges (continued)

1. Vendor: **Sunbelt Office & Data Supplies**  
Contact: Bryan Burns  
Phone: 704.525.3813 X205  
e-mail: bryan@sunbeltofficesupply.com

This vendor provides the County with inkjet, laser jet and toner cartridges, and offer recycled or remanufactured cartridges.

This vendor also provides a free pick up service of used cartridges. Cartridges are recycled or remanufactured which keeps them from becoming waste in our landfills.

## 2.6 Furniture and Panel Systems

### Overview

Office furniture and panel systems are made with a variety of materials including gypsum board, metal, wood and wood based products, plastic and fabric. As a result of the different materials that may be used in manufacture, various environmental issues must be taken into account.

**Mecklenburg County Environmental Policy Requirements:** Please refer to the County's Property Disposal and Reuse Policy. Look for GREENGUARD® certified or Green Seal compliant furniture products.

### Potential Environmental Impacts

- Materials used in office furniture and panel systems may emit VOCs when installed, immediately impacting indoor air quality.
- Building agents such as resins used in composite wood products can affect indoor air quality.
- The design and manufacture of furniture can effect resource utilization, pollution and worker health and safety.
- Waste generated from the manufacture and disposal of these products can be minimized through reuse, remanufacture and recycling.

### Things to Consider Before Buying or If You Write Your Own Specifications

- Re-use existing furniture where possible and refurbish if desired.
- Look for classic designs that will last without looking dated
- Consider quality carefully. Low-cost products may break more readily and offer fewer repair options.
- Avoid products containing ozone depleting substances and volatile organic compounds.
- Require reusable and demountable panel systems.
- Look for the highest recycled contents.
- Avoid fiberglass reinforcements.
- **Refurbished vs. Remanufactured Office Furniture**  
Refurbished office furniture is first touched up or otherwise cosmetically improved before being resold. By comparison, remanufactured office furniture typically has had greater value added to the product and is commonly completely disassembled; its parts are inspected, cleaned, repaired or replaced.
- **New Office Furniture with Recycled Content**  
New furniture is composed entirely of original equipment manufacturer parts. Recycled content may be found in many manufacturers' components, including metal, pressboard, and fabric.
- Furniture should be recycled in county's surplus furniture and electronics recycling program. See your departmental coordinator for program specifics.

### Availability

GREENGUARD® certified furniture includes many manufacturers such as **Knoll, Allsteel, Herman Miller, Dar-Ran, and Steelcase**. The County currently utilizes several of these manufacturers through the U.S. Communities Cooperative Purchasing Program as follows:

1. Manufacturer: **Knoll**  
Local Vendor: Carolina Business Interiors (CBI)  
Contact: Todd Wilson or Jack Hunter  
Phone: 704.525.7630 X232  
e-mail: toddw@cbi-nc.com or jack.hunter@cbi-nc.com
2. Manufacturer: **Herman Miller**  
Local Vendor: Klingman Williams, Inc.  
Contact: Russ Cox  
Phone: 704.338.9373  
e-mail:
3. Manufacturer: **Haworth**  
Local Vendor: Office Interiors Inc  
Contact: Trisha Horne

Phone: 704.361.6761  
e-mail: thorne@oiteam.com

**2.6 Furniture and Panel Systems (continued)**

4. Manufacturer: **KI**  
Local Vendor: Carolina Business Interiors (CBI)  
Contact: Todd Wilson or Jack Hunter  
Phone: 704.525.7630 X232  
e-mail: toddw@cbi-nc.com or jack.hunter@cbi-nc.com
5. Manufacturer: **Allsteel**  
Local Vendor: MacThrift Office Furniture  
Contact: S. Casuccio  
Phone: 800.261.1250  
e-mail: s.casuccio@macthrift.com

## 2.7 LIGHTING PRODUCTS

### Overview

With lighting typically accounting for 30% to 50% of energy use in most buildings, finding ways to increase lighting efficiency can result in significant savings. With the use of energy efficient lighting products, such as fluorescent lamps and energy efficient ballasts, electric lighting costs can be reduced by as much as 60%. Newer lamps and ballasts generate less heat than older models and last longer.

According to ENERGY STAR, if every American home replaced just one light bulb with an ENERGY STAR certified bulb, we would save enough energy to light more than 2.5 million homes for a year and prevent greenhouse gases equivalent to the emissions of nearly 800,000 cars.

### Mecklenburg County Environmental Policy Requirements:

All lighting should be Energy Star equivalent low mercury fluorescent lamps. Exterior lighting should consider the use of light shields, otherwise known as full cut-off lights.

### Potential Environmental Impacts

- Higher energy costs with inefficient lighting fixtures or inefficient lighting design
- End of use disposal problems

### Things to Consider Before Buying or If You Write Your Own Specifications

- Use a qualified design professional to assist with layout and selection of lighting fixtures. Require a lifecycle analysis as part of the design deliverables. Compare the use of T-8's vs T-5's for fluorescents. For high bay fixtures, consider T5HO as one of the options. As new technologies become available, they should be considered as applicable.
- Use low wattage and reflective fluorescent bulbs whenever possible
- Instant start ballasts consume less energy than rapid start ballasts. Soft start technology gives the tubes a longer lifespan. Electronic ballasts are preferred.
- Electronic ballasts consume substantially less energy when operating at very high frequencies; they hum less and do not flicker.
- When ballasts need replaced on fixtures with T-12 lamps, replace with electronic ballasts and T-8 lamps or better.
- Use task lighting to minimize the need for overhead lighting when possible. At a minimum, use of T-8 lamps and compact fluorescents are preferred.
- Recycle lamps/bulbs at any of the County's four staffed Recycling Centers. Go to [www.wipeoutwaste.com](http://www.wipeoutwaste.com) or [www.charmeck.org/Departments/LUESA/solid+waste/household+hazardous+waste/home.htm](http://www.charmeck.org/Departments/LUESA/solid+waste/household+hazardous+waste/home.htm) for additional information.

### Availability

There are many vendors that offer Energy Star approved lighting that have registered with Charlotte Mecklenburg. Please check the Vendor Management System (VMS), or Advantage for a complete listing and require the vendor to quote Energy Star approved when feasible.

## 2.8 PARK AND RECREATION EQUIPMENT AND MATERIALS

### 2.8.1 Playground Systems and Components

#### Overview

Slides, swings, climbing equipment, merry-go-rounds, and seesaws are all different types of playground equipment. These items can be made with recovered wood, steel, and aluminum. A typical set of playground equipment made with recovered-content plastic can contain plastic recovered from between 31,500 and 63,000 milk and water jugs.

#### Mecklenburg County Environmental Policy Requirements:

Playground Equipment must be made with a minimum 20% recycled content (steel, rubber, aluminum, and plastic). The County's 2010 goal is 100% compliance.

#### Potential Environmental Impacts

- Treated wood products may contain chemicals that are hazardous to children's health.
- Paint used to coat playground components may contain lead or other health hazard chemicals.

#### Things to Consider Before Buying or If You Write Your Own Specifications

When buying park and recreation items look for products made with the following environmentally preferable attributes:

- Recycled steel tubing, sheets and wire
- Recycled aluminum uprights and castings
- 100% post consumer recycled plastic curbing options
- Several options for 100% post consumer recycled rubber surfacing
- 100% post consumer recycled roof and deck options
- Recycled packaging materials
- EPA recommends that procuring agencies use the specifications found in the US Consumer Product Safety Commission (CPSC) Publication No. 325 (Handbook for Public Playground Safety) and ASTM standard F-1487-95, *Safety Performance Specifications for Playground Equipment for Public Use*, when procuring playground equipment. Playground equipment may also be subject to state and local codes and standards as well as Federal child safety laws.
- Recycle Park and Recreation products in department's specified program. Additional resources can be found at [www.wipeoutwaste.com](http://www.wipeoutwaste.com).

#### Availability

Mecklenburg County currently has three (3) BOCC approved contracts in place as follows:

1. Manufacturer: GameTime  
Local Vendor: Cunningham & Associates  
Contact: Scott Cunningham  
Phone: 704.525.5174 X127  
e-mail: [scott@cunninghamassoc.com](mailto:scott@cunninghamassoc.com)
2. Manufacturer: Landscape Structures  
Local Vendor: Carolina Recreational Products  
Contact: Russ Cox  
Phone: (800) 542-3887  
e-mail: [rcox@carolinarec.com](mailto:rcox@carolinarec.com)
3. Manufacturer: Little Tikes  
Local Vendor: Peggs Recreation  
Contact: Eric Lowder  
Phone: 704-933-0008  
e-mail: [www.peggsrecreation.com](http://www.peggsrecreation.com)

## 2.8.2 Site Furnishings

### Overview

Park benches, picnic tables, and recycling containers are found in most of the Mecklenburg County's parks, outdoor recreational facilities, and on the grounds of office buildings. Recycled milk jugs and aluminum and steel cans can be used to manufacture these items.

### Mecklenburg County Environmental Policy Requirements:

Site Furnishings should be made with a minimum 20% recycled content (steel, rubber, plastic and aluminum). The County's 2010 goal is 100% compliance.

### Potential Environmental Impacts

- Buying recycled content products conserves natural resources, reduces solid waste, saves energy, reduces air and water pollutants and greenhouse gases.

### Things to Consider Before Buying or If You Write Your Own Specifications

When buying park and recreation items look for products made with the following environmentally preferable attributes:

- Recycled steel tubing, sheets and wire
- Recycled aluminum uprights and castings
- 100% post consumer recycled plastic curbing options
- Several options for 100% post consumer recycled rubber surfacing
- 100% post consumer recycled roof and deck options
- Recycled packaging materials
- EPA recommends that procuring agencies use the specifications found in the US Consumer Product Safety Commission (CPSC) Publication No. 325 (Handbook for Public Playground Safety) and ASTM standard F-1487-95, *Safety Performance Specifications for Playground Equipment for Public Use*, when procuring playground equipment. Playground equipment may also be subject to state and local codes and standards as well as Federal child safety laws.

### Availability

Mecklenburg County currently has three (3) BOCC approved contracts in place as follows:

1. Manufacturer: GameTime  
Local Vendor: Cunningham & Associates  
Contact: Scott Cunningham  
Phone: 704.525.5174 X127  
e-mail: scott@cunninghamassoc.com
2. Manufacturer: Landscape Structures  
Local Vendor: Carolina Recreational Products  
Contact: Russ Cox  
Phone: (800) 542-3887  
e-mail: rcox@carolinarec.com
3. Manufacturer: Little Tikes  
Local Vendor: Peggs Recreation  
Contact: Eric Lowder  
Phone: 704-933-0008  
e-mail: www.peggsrecreation.com

### 2.8.3 Surfacing Materials

#### Overview

Playground surfaces can contain recovered rubber and PVC materials that are often more desirable than wood chips, sand, or asphalt, because they can provide more cushioning and thereby may be safer for children. You can find playground surfaces at most County parks and many schools.

#### Mecklenburg County Environmental Policy Requirements:

Surfacing must be made from a minimum 50% recycled content materials (rubber). The County's 2010 goal is 100% compliance.

#### Potential Environmental Impacts

Surfacing made from shredded tires may release toxic chemicals in certain conditions (water runoff).

#### Things to Consider Before Buying or If You Write Your Own Specifications

When buying park and recreation items look for products made with the following environmentally preferable attributes:

- Recycled steel tubing, sheets and wire
- Recycled aluminum uprights and castings
- 100% post consumer recycled plastic curbing options
- Several options for 100% post consumer recycled rubber surfacing
- 100% post consumer recycled roof and deck options
- Recycled packaging materials
- EPA recommends that procuring agencies use the specifications found in the US Consumer Product Safety Commission (CPSC) Publication No. 325 (Handbook for Public Playground Safety) and ASTM standard F-1487-95, Safety Performance Specifications for Playground Equipment for Public Use, when procuring playground equipment. Playground equipment may also be subject to state and local codes and standards as well as Federal child safety laws.

#### Availability

Mecklenburg County currently has three (3) BOCC approved contracts in place as follows:

1.     Manufacturer:             GameTime  
        Local Vendor:           Cunningham & Associates  
        Contact:                 Scott Cunningham  
                                       Phone: 704.525.5174 X127  
                                       e-mail: scott@cunninghamassoc.com
  
2.     Manufacturer:             Landscape Structures  
        Local Vendor:           Carolina Recreational Products  
        Contact:                 Russ Cox  
                                       Phone: (800) 542-3887  
                                       e-mail: rcox@carolinarec.com
  
3.     Manufacturer:             Little Tikes  
        Local Vendor:           Peggs Recreation  
        Contact:                 Eric Lowder  
                                       Phone: 704-933-0008  
                                       e-mail: www.peggsrecreation.com

## 2.9 Traffic Control Products

### Overview

Traffic cones are used to mark a road hazard or to direct traffic. These are typically made from plastic, and/or rubber. Traffic barricades can be used to redirect or restrict traffic in areas of highway construction or repair. They are typically made from wood, steel, plastic, fiberglass, or a combination of these materials.

### Mecklenburg County Environmental Policy Requirements: N/A

The EPA recommends 50% - 100% total recovered materials content. [www.epa.gov/cpg](http://www.epa.gov/cpg)

### Potential Environmental Impacts

- Recycled products conserve natural resources, reduce solid waste and reduce air and water pollutants.

### Things to Consider Before Buying or If You Write Your Own Specifications

- Transportation products containing recovered materials must conform to the Manual on Uniform Highway Traffic Control Devices used by the Federal Highway Administration, and NC Department of Transportation.
- Parking stops made from recycled plastics or rubbers are maintenance free. Unlike concrete stops, they will not crack or crumble.
- Heavier than their plastic-only counterparts, recycled rubber bases on products including traffic cones, safety posts (delineators), and barrels offer greater durability.
- Many of these products have multi-year warranties.
- Recycle vehicle maintenance products in department's specified program. Additional information and resources can be found at [www.wipeoutwaste.com](http://www.wipeoutwaste.com).

Use the following federal guidelines when purchasing traffic control products and require subcontractors to comply with these guidelines also.

PRODUCT	RECOVERED MATERIAL CONTENT
<b>Traffic Cones</b>	
Plastic (PVC and LDPE)	50% to 100% total recovered content
Rubber	50% to 100% total recovered content
<b>Traffic Barricades (type I and II only)</b>	
Plastic	80% to 100% post-consumer recycled content
Steel	16% to 67% post-consumer recycled content
<b>Parking Stops, plastic or rubber</b>	100% post-consumer recycled content
<b>Channelizers</b>	
Plastic	25% to 95% post-consumer recycled content
Rubber base	100% post-consumer recycled content
<b>Delineators</b>	
Plastic	25% to 90% post-consumer recycled content
Rubber base	100% post-consumer recycled content
Steel base	25% to 50% post-consumer recycled content
<b>Flexible Delineators</b>	25% to 85% post-consumer recycled content

### Availability

## 2.10 Vehicle Maintenance Products

### 2.10.1 Oils and Lubricants

#### An Overview

This category includes motor oil, hydraulic fluids, chassis grease, and transmission fluids.

Statistics show that over one billion quarts of lubricating and related oils are sold in the United States annually. Less than half of these oils are available for reclamation. Over 50,000 gallons of used motor oil are collected at Mecklenburg County recycling centers annually.

Used oil can be collected, cleaned and re-refined into new oil products.

Re-refined oil has been used throughout the United States with great success for many years, even in high-performance, mission-critical safety vehicles.

Nationally, the U.S. Postal Service has been using re-refined oil for over a decade in its fleet of almost 73,000 vehicles.

#### Mecklenburg County Environmental Policy Requirements:

Products must meet EPA standards. A proper disposal plan is required.

#### Potential Environmental Impacts

- Improper disposal of used oil and lubricants into garbage cans, sewers and backyards result in contamination of soil, drinking water supplies and ground water.
- Used motor oil contains pollutants, including organic chemicals and metals which are toxic to humans, wildlife and vegetation.
- Just one gallon of used oil has the potential of contaminating up to one million gallons of drinking water.
- Used motor oil can be reprocessed into heating fuels, re-refined into lubricating oils or cleaned and reused.

#### Things to Consider Before Buying or If You Write Your Own Specifications

- Used engine oil and solvents are considered waste and must be transported accordingly under applicable federal and state regulations.
- Re-refined engine oil conserves resources while saving your agency money.
- This environmentally preferable and cost-effective product is manufactured to the same high quality standards for refining, compounding, and performance as virgin oil. In fact, according to the Environmental Protection Agency (EPA), extensive testing from the National Institute of Standards and Technology and the U.S. Army shows that it can even out-perform virgin oil.
- Generally, re-refined engine oils can be used without warranty concerns in vehicles made by Ford, General Motors, Chrysler, Caterpillar, and Detroit Diesel. These manufacturers have issued written statements declaring that vehicle warranties will be honored as long as the re-refined engine oil meets requirements. Warranty requirements are based on performance criteria and not on the origin of the base oil.
- Recycle vehicle maintenance products in department's specified program. Additional information and resources can be found at [www.wipeoutwaste.com](http://www.wipeoutwaste.com).

#### Availability

Re-refined oil comes in a variety of blends suitable for different types of gas and diesel engines. Two refineries in the U.S. produce the base oil: Evergreen Oil in California and Safety-Kleen in Illinois. Oil blenders purchase the base stock, combine it with additives, and sell it as a finished product under various brand names. Re-refined oil is available through oil dealers, auto service centers, and retailers. **Auto Zone** currently offers re-refined motor oils through their U.S. Communities contract for automotive parts and accessories. You may purchase at any **Auto Zone** location.

## 2.10.2 Antifreeze

### An Overview

According to Federal EPA guidelines, recycled engine coolants, also known as antifreeze, might actually be purer than virgin coolant because the recycling process reduces the chlorides that come from hard water. Testing shows that, like new coolant, recycled coolant meets nationally recognized performance specifications established by the American Society for Testing Materials (ASTM) and the Society of Automotive Engineers (SAE).

### Mecklenburg County Environmental Policy Requirements:

Products must meet EPA standards. A proper disposal plan is required.

### Potential Environmental Impacts

- Toxic to small children and may be deadly to animals attracted by its sweet taste.
- Spent antifreeze may contain metals from the engine (lead, zinc, copper).
- Can disturb the biological action of sewage treatment and septic systems.
- Special rules apply to waste antifreeze and precautions must be taken to ensure its proper management.

### Things to Consider Before Buying or If You Write Your Own Specifications

- Extended-life antifreeze is designed to last five years/150,000 miles or longer, which greatly reduces the need to purchase new and manage used antifreeze.
- Waste antifreeze can be recycled using your own equipment or a recycling service. This solves a waste disposal problem while providing a high quality reformulated product to use in vehicles.
- Extensive testing indicates that when properly formulated, recycled coolants meet or exceed nationally recognized performance specifications from the American Society for Testing Materials (ASTM) and the Society of Automotive Engineers (SAE).
- Auto makers are embracing recycled coolants. General Motors (GM) endorses several coolant recycling systems; it also stipulates that the engine warranty will be unaffected if engine coolant recycling is performed as described by the manufacturer and with GM-approved recycling equipment. Ford expressly authorizes the use of certain engine coolant recycling processes and chemicals that meet its specifications. Chrysler allows any coolant to be used as long as it meets Chrysler's and ASTM's specifications. Check with your vehicle manufacturer or dealer to see which coolant recycling equipment or process is appropriate.
- Whether you recycle your own antifreeze or use a service, the recycled product should include the addition of chemicals to recondition the antifreeze. Check with the manufacturer to see which type of recycled product is appropriate for each vehicle.

### Availability

EPA does not recommend one type of engine coolant over another. EPA recommends, however, that procuring agencies purchase engine coolant containing only one base chemical, typically ethylene glycol or propylene glycol, to prevent the commingling of incompatible types of engine coolant. Mecklenburg County currently purchases antifreeze through NAPA.

### 2.10.3 Solvents and Cleaners

#### An Overview

In the course of routine cleaning, many shops use parts washing systems for engines and other equipment parts. Parts washing systems include standard reticulating parts washers, distillation units, and those with multiple filters. In choosing the right parts cleaning system, shops should evaluate both the equipment and the cleaning solvent it uses.

Solvents clean by using a surfactant (such as soap or detergent), a corrosive or alkaline ingredient, or another type of chemical to remove soil from parts.

#### Mecklenburg County Environmental Policy Requirements:

Solvents and Cleaners must meet EPA Standards. A proper disposal plan is required.

#### Potential Environmental Impacts

- Whether water based or petroleum based, cleaning solvents often pose exposure risks to employees, along with the waste produced during usage.
- In most instances, shops must manage wastes produced during parts cleaning as hazardous.
- Improper end-of-use disposal is a potential hazard to the land, water and human health.
- Exposure to concentrated vapors from these solvents can cause breathing problems and headaches.
- Many solvents are also ignitable.

#### Things to Consider Before Buying or If You Write Your Own Specifications

- Water-based solvents are usually less hazardous to the user than their petroleum-based counterparts. Although water-based cleaners are often touted as being "non-hazardous," or "environmentally friendly," they must be managed as a hazardous waste unless the waste has been evaluated and found not to exhibit hazardous characteristics
- Most petroleum-based systems use mineral spirits, Stoddard, or similar petroleum-based solvents.
- Cleaners with higher flashpoints (>140°F) are available to reduce the risk of ignition.
- Shops using petroleum-based cleaners must take extra precautions when using and storing the product and managing the wastes.

#### Availability

EPA recommends BioChem System cleaners and solvents. There are many different kinds of equipment, cleaners, and services employing Stoddard solvent, spray cabinets and services that lease equipment and collect waste cleaners. Equipment is available to purchase or lease through both manufacturers and local distributors. Cleaners are available through vehicle maintenance supply outlets, equipment manufacturers, and dealers.

### How can I Get More Information?

Other sources of information on Environmentally Preferable Purchasing are available from the following agencies and websites:

**The Clean Environment Company** has been manufacturing and distributing an excellent line of environmentally preferable and effective commercial cleaning products for over twelve (12) years. For more product information or environmental reports visit:

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

**EPPNET** is a list server linked to federal, state, local and private procurement and environmental officials established by the Northeast Recycling Council. See what they have to offer at:

[www.nerc.org/eppnet.html](http://www.nerc.org/eppnet.html)

**Office of the Federal Environmental Executive** serves to implement stronger the federal government's commitment to recycling and buying recycled content and environmentally preferable products. The web site contains various reports and resources: [www.eren.doe.gov/femp/](http://www.eren.doe.gov/femp/)

**North Carolina Division of Purchase and Contract** supports the environmentally preferable purchasing and provides information on available products, contracts and vendors. Information can be viewed at:

<http://www.doa.state.nc.us/PandC/recycled.htm>

**GREENGUARD Environmental Institute (GEI)** is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program. As an ANSI Authorized Standards Developer, GEI establishes acceptable indoor air standards for indoor products, environments, and buildings. GEI's mission is to improve public health and quality of life through programs that improve indoor air.

[www.greenguard.org](http://www.greenguard.org)

**Commission for Environmental Cooperation (CEC)** is an international organization created by Canada, Mexico and the United States under the North American Agreement on Environmental Cooperation (NAAEC). The CEC was established to address regional environmental concerns, help prevent potential trade and environmental conflicts, and to promote the effective enforcement of environmental law. The Agreement complements the environmental provisions of the North American Free Trade Agreement (NAFTA). [www.cec.org](http://www.cec.org)

**The Plastics Division of the American Chemistry Council (ACC)** represents leading manufacturers of plastic resins. We may not think about them often, but versatile plastics inspire countless innovations that help make life better, healthier and safer every day. [www.americanplasticscouncil.org](http://www.americanplasticscouncil.org)

**Mecklenburg County Ordinance to Require the Source Separation Of Designated Materials from the Municipal Solid Waste Stream:** On August 15, 2000, the Mecklenburg County Board of County Commissioners (BOCC) adopted the Solid Waste Management 10-Year Plan which established a 2006 per capita waste reduction goal of 19% from fiscal year 1999 and a 2010 per capita waste reduction goal of 23% from fiscal year 1999. To view complete details visit: <http://www.charmeck.org/Departments/LUESA/Solid+Waste/Business+Recycling/ordinance>.

**Canada's Environmental Choice Program (ECP)** is a comprehensive, national environmental labeling program initiated by Environment Canada. Certification of products and services is based on compliance with stringent environmental criteria that are established in consultation with industry, environmental groups and independent experts and are based on research into the life cycle impacts of a product or service. The Program's official symbol of certification is the EcoLogo™ which has been awarded to over 1,750 products, services, and technologies as an indication of their positive environmental attributes. [www.environmentalchoice.com](http://www.environmentalchoice.com)

**North Carolina Recycling Business Assistance Centers / Recycling Markets Directory**  
[www.pepays.org/rbac](http://www.pepays.org/rbac)