

# Sustainable Landscape Construction:

## *Materials and Products — Reduce, Reclaim, Reuse, Repurpose, Recycle, and Renew<sup>1</sup>*

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**THE PRIMARY CRITERION** for selecting site materials is the reduction of resource use.

Select materials that

- Don't contribute to air and water pollution or habitat destruction
- Require less energy to manufacture, produce and transport, and that
- Reduce the generation of waste.

Several strategies can be used to reduce resource use and protect the environment:

- **Reduce. (Use less.)** Design smaller structures — such as low fences, narrow pathways, small decks, and small benches. Further reduce material use by designing structures in modular material sizes, which can reduce cutting waste. Use durable materials with a long life. Use sound construction techniques, so repairs and replacement of materials will not be necessary.
- **Reclaim. (Use again.)** Reclaim existing materials by deconstructing, rather than demolishing. In addition to the benefits of energy conservation and environmental protection that result from using reclaimed materials, use of such materials can also help to preserve cultural history and/or create artwork or designs significant to an area with unique local materials.
- **Reuse. (Use reclaimed material for their original purpose.)** Facilitate reuse by considering an “exit strategy” in the design phase to make reuse simpler and less expensive. Use materials that lend themselves to reuse. Design for disassembly. Use fasteners and connection techniques that are easy to remove. For example, build retaining walls from interlocking block, so no mortar is used. Use metal fasteners, rather than adhesives or welding.
- **Repurpose. (Use reclaimed material for a new purpose.)** Use existing materials or structures for a new purpose. The materials are sometimes reprocessed by reducing the size or changing the shape. One example is chipping tree branches to create mulch. Reclaim materials from the original site or other sites or use reprocessed materials from a facility- such as crushed tiles, concrete, tires, or glass.
- **Recycle. (Create a new material.)** Use recycled-content materials and products. Products made from post-consumer recycled content (plastic bottles, etc.) have never been in a landfill. Simple materials — such as concrete, asphalt, wood, and polyethylene plastics — are easily recycled. Composite materials made from recycled products include mixed plastic and composite lumber (plastic and wood). Use materials and products that can be recycled. Think ahead to the end of the products useful life and consider the material's ability to be recycled.
- **Renew. (Use resources that grow quickly.)** Products made from renewable resources are those from plants, such as wood, that have a short harvesting cycle, such as ten years. For example, use coir or jute geotextiles for erosion control. Other renewable materials include willow for landscape structures and slope stabilization and wood engineered from fiber from processed crops.

Adapted from the following:

Calkins, M. (2009). *Materials for sustainable sites: A complete guide to the evaluation, selection, and use of sustainable construction materials*. John Wiley & Sons, Inc.: Hoboken, NJ

Thompson, J.W. & Sorvig, K. (2008). *Sustainable landscape construction: A guide to green building outdoors*. Island Press: Washington, DC.

<sup>1</sup> This document is ENH 1140, one of a series of the Environmental Horticulture Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date, October 2009. Visit the EDIS Web Site at <http://edis.ifas.ufl.edu>.

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