

### Materials and Products for Sustainable Landscapes Series

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The primary criterion for selecting site materials is the reduction of resource use. Select materials that don't contribute to habitat destruction, use less energy in manufacture, production and transportation, don't contribute toxins to air and water pollution, and reduce the generation of waste. Several strategies can be used to reduce resource use and protect the environment:

**Reduce (use less)** - Reduce material use by designing structures in modular material sizes to reduce cutting waste. Design smaller structures such as low fences, narrow pathways, small decks, and small benches. Use durable materials with a long life and sound construction techniques so that repairs and replacement of materials aren't necessary.

**Reuse (use for a different purpose)** - Adaptive reuse or repurpose is the use of existing materials or structures for a different purpose. Be creative- can you use the material for something other than its intended 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 and design for disassembly. Use fasteners and connection techniques that are easy to remove. For example build retaining walls from interlocking block where no mortar is used and use metal fasteners rather than adhesives or welding.

**Reclaim (use again in the original or similar form)** - Reclaim existing materials by deconstructing rather than demolishing. The materials are sometimes reprocessed by reducing the size or changing the shape- such as chipping tree branches to create mulch. On site material must be stored and reprocessed in a way that does not harm the material or the site. Bringing equipment, such as crushing machines or saws, can save transportation costs. Reclaimed materials can

come from other sites or use reprocessed materials from a facility- such as crushed concrete, tires, asphalt, glass or tiles. Besides energy conservation and environmental protection, using reclaimed materials can be significant to a project by preserving cultural history and/or creating artwork of significance with unique designs and local materials.

**Recycle (create a new material)** - Use recycled-content materials and products. Products made from post-consumer recycled content (plastic bottles, etc.) are preferable to pre-consumer because it means it never went to the 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 (plastic and wood) lumber. Use materials and products that can be recycled- think ahead to the end of the products useful life and the ability to recycle the materials.

**Renew-able (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 geotextiles for erosion control made from coir and jute. Other renewable materials include bamboo and willow for landscape structures and engineered wood made from fiber from processed crops.