

Sustainable Landscape Materials and Practices

A sustainable site incorporates renewable, local, and low-energy input landscape materials and avoids materials, products, and practices that are harmful to the environment.

Renewable materials regrow or replenish themselves to allow indefinite harvesting over a timeframe meaningful to humans.

- Use sustainably-harvested products when selecting timber or other plant-derived goods. Consult the Forest Stewardship Council (<http://www.fscus.org/>) to find out more about their certification program for forest-derived products.
- Employ energy systems that take advantage of wind, solar, and/or geothermal power.
- Select rapidly renewable materials that regenerate within ten years of harvest (e.g. bamboo, jute, coir, willow)
- Irrigate using stormwater or grey-water captured on site. For more information, consult the fact sheet "Harvesting Water," available at <http://www.ag.udel.edu/udbg/sl/hydrology.html>
- Avoid materials with toxic by-products or air-polluting admissions, as their manufacture cannot continue indefinitely without severe consequences for environmental and public health

Local materials are extracted, processed, and manufactured locally, providing support for local economies and reducing energy consumption and transportation costs.

- Identify materials and suppliers that originate locally and are harvested/produced in a sustainable manner (e.g. plants grown in local nurseries)
- Choose materials with regional character to cultivate a sense of place and establish a connection to the natural history and cultural traditions of your area.
- Conserve and use materials already existing at your site, for example:
 - During building construction when topsoil must be moved, keep it on site and spread it out again after the project is complete. (Remember to cover soil piles to prevent soil erosion; for more information consult the fact sheet "Preventing Soil Erosion," available at <http://www.ag.udel.edu/udbg/sl/hydrology.html>).

- Preserve as many important (mature, healthy, native) plants as possible on your landscape. For more information, consult the fact sheet "Checklist for Plant Removal Decisions," available at <http://www.ag.udel.edu/udbg/sl/vegetation.html>
- If tree removal is necessary, consider ways you can utilize the timber on site (e.g. as mulch, for building material)
- Recycle leaves that fall on your site. For more information, consult the fact sheet "Recycling Leaves," available at <http://www.ag.udel.edu/udbg/sl/materials.html>
- Creatively reuse hardscaping materials that exist on site. (e.g. old bricks, stones, or other pavers might be used to line a planting bed)
- Use yard waste and kitchen scraps to generate compost on-site to be used as a soil amendment. For more information, consult the fact sheet "Yard Waste and Composting," available at <http://ag.udel.edu/extension/horticulture/>
- Consider how materials are transported to your site to promote efficient energy use. Avoid air shipping especially; boats and trains are most preferable, followed by trucks. Obtain heavy materials as close to the site as possible.
- Use plants that are native to your region for maximum wildlife value. For more information, consult the article "Supporting Biodiversity in the Garden," available at <http://www.ag.udel.edu/udbg/sl/vegetation.html>

Low-energy input materials reduce energy consumed and greenhouse gases emitted in establishment, maintenance, and use of the landscape.

- Incorporate salvaged or secondhand materials into your landscape design.
- Select long-lasting, durable materials that need to be replaced less frequently. (For example, consider a green roof instead of a traditional roof. For more information, consult the fact sheet "Green Roofs," available at <http://www.ag.udel.edu/udbg/sl/hydrology.html>)
- Identify and use materials that can accomplish more than one function in the landscape (e.g. a rain garden that provides aesthetic interest while managing stormwater. For more information, consult the fact sheet "Rain Gardens," available at <http://www.ag.udel.edu/udbg/sl/hydrology.html>)
- Select materials made from recycled products (e.g. plastic lumber, asphalt with rubber tires, concrete made from fly ash) as long as the location is appropriate for this type of product.
- Consider permeable pavers, rain gardens, and green roofs to reduce need for stormwater management systems to carry water off site, where it picks up pollutants before entering our natural water bodies. (For more information, consult the fact sheets "Permeable vs. Impermeable Surfaces," "Rain Gardens," and "Green Roofs," available at <http://www.ag.udel.edu/udbg/sl/hydrology.html>)

- Incorporate plants that are specifically adapted to the conditions of your site, reducing the need for supplemental irrigation and pest/disease control. Especially, limit use of high-maintenance turf grass and replace with lower-maintenance groundcovers. For more information, consult the fact sheets "Turf Grass Madness: Reasons to Reduce the Lawn in Your Landscape" and "Groundcover Alternatives to Turf Grass," available at <http://www.ag.udel.edu/udbg/sl/vegetation.html>
- Avoid materials that cannot be recycled and reused easily (e.g. welded joints, plastic melded to metal)
- Practice Integrated Pest Management to reduce reliance on chemical pesticides. For more information, consult the fact sheet "IPM for Homeowners," available at <http://ag.udel.edu/extension/horticulture/ornamentals.htm>
- Avoid indiscriminate use of manufactured fertilizers. Utilize and add nutrients only according to recommendations. For more information, consult the University of Delaware Soil Testing page (http://ag.udel.edu/other_websites/DSTP/) and the fact sheet "Fertilizer Basics" (available at <http://ag.udel.edu/extension/horticulture/>)
- Plant deciduous trees on the south and west sides of your building and use windbreaks on the north and west sides of your property to reduce cooling and heating costs.

Additional Resources

Sustainable Sites Initiative: Standards and Guidelines: Preliminary Report
http://www.sustainablesites.org/SustainableSitesInitiative_PreliminaryReport_110107.pdf

Sustainable Landscapes – University of Delaware Botanic Gardens
<http://ag.udel.edu/udbg/sl>

Forest Stewardship Council
<http://www.fscus.org/>

Bibliography

Richardson, Edwina, David Moyle, and Jennie Curtis. (Unknown date). Choosing Sustainable Landscape Materials: Environmentally Friendly Practices for The Garden. *Australian Institute for Landscape Architects*. Retrieved November 22, 2008 from <http://www.aila.org.au/materials/>.

Sustainable Sites Initiative. (2007). Standards and Guidelines: Preliminary Report. November 1, 2007. Retrieved November 22, 2008 from http://www.sustainablesites.org/SustainableSitesInitiative_PreliminaryReport_110107.pdf.

Sustainable Landscapes – <http://ag.udel.edu/udbg/sl> – <http://ag.udel.edu/extension>