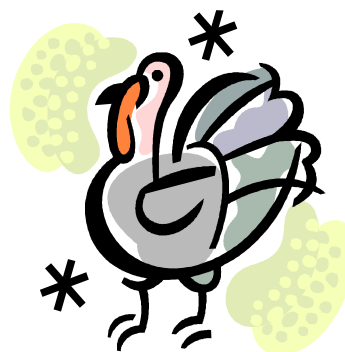




NOVEMBER 2009

BETTER ENVIRONMENTS

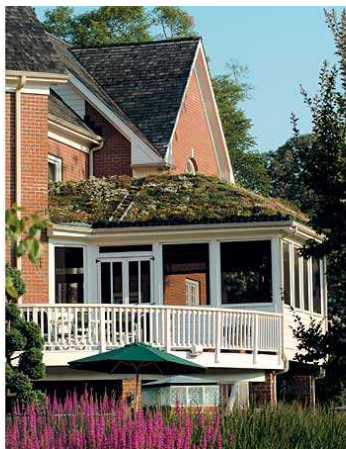
NEW TRENDS IN LANDSCAPING



Our congratulations go out to Mr. and Mrs. Lewis Baskins for winning our quarterly drawing. Thanks so much for participating and taking the time to complete this quarterly questionnaire. They really help us in doing a better job and improving communication in the areas we need to improve on, if any.

RESIDENTIAL GREEN ROOF SYSTEMS/LIVING WALLS

You might be thinking, what on earth is a green roof system? Would I have the use for one? Green roofs or Living walls are systems of living plants and vegetation installed on the roof or patio structure of an existing or new structure. The green roof concept is not new. The Hanging Gardens of Babylon constructed around 500 B.C. were perhaps one of the first green roof systems. Terrace structures were



built over arched stone beams and placed in soil. Popular in Europe for decades, technology has improved upon these ancient systems, making green roofs available in and appropriate for nearly all climates and areas of the United States. All green roof systems consist of four basic components: a waterproofing layer, a drainage layer, a growing medium, and vegetation.

These systems feature low-lying plants such as succulents, mosses, and grasses. They require relatively thin layers of soil and the plants usually produce a few inches of foliage. This system has less of an impact on the roof structure, weighing 10-50 pounds per square foot on average, and is generally accessible only for routine maintenance. Growing mediums include soils, peat and other organic materials, gravel, and other aggregates. A drainage layer is required to adequately distribute water and prevent pooling. To minimize the weight of the system, drainage layers are often made from plastic or rubber, but may also be made of gravel or clay. The drainage layer may include a filter media to ensure aeration. The waterproofing membrane is a critical component of the system and should include a root barrier to ensure the underlying roof surface is not compromised. If the weatherproofing material is



not root-resistant, an additional layer must be applied to serve this purpose.

Plants used in green roof applications must be easy to maintain and tolerant of extreme weather conditions including heat, freezing, and drought, and must have relatively shallow, fibrous root systems.

The added mass and thermal resistance of green roofs reduce heating and cooling loads of the building. These systems reduce the ambient temperature around the roof, decreasing the building's urban heat island effect; reducing the ambient temperature of the roof's surface; and slowing the transfer of heat into the building. This will reduce cooling costs. They also provide added insulation to the roof structure, reducing heating requirements in the winter. Green roofs reduce storm water runoff by absorbing and retaining the water in the soil medium for plant growth. The plants can filter pollutants and carbon dioxide from the air and rain water. These systems reduce rooftop temperatures and can reduce air and noise pollution. They also serve as living habitats for birds and other wild life. Also, vegetation can help protect the roof from extreme temperatures and ultraviolet

NOVEMBER 2009 HOLIDAY SCHEDULE:
NOVEMBER 11—WE WILL BE CLOSED IN OBSERVANCE OF VETERAN'S DAY.
NOVEMBER 26—WE WILL BE CLOSED FOR THANKSGIVING.
NOVEMBER 27—WE WILL BE CLOSED SO OUR EMPLOYEES CAN ENJOY THEIR FAMILIES. MAINTENANCE SERVICE WILL RESUME NOVEMBER 30. PLEASE CALL THE OFFICE BY NOVEMBER 10 IF YOU NEED SPECIAL HOLIDAY SERVICE DURING THIS TIME.

radiation. For many years, green roofs were installed only on flat surfaces, however, today, sloped roofs as steep as 6-12 inches can go green, thanks to mesh-like screen technology that keeps the growing medium and plants on the roof and out of the downspout. A green roof was built on this unheated porch and absorbs 27 percent of the rain that falls on it, reducing storm-water runoff that might pollute nearby rivers and streams. Please call our office for more information. (www.toolbase.org)

The wastewater your home produces is called effluent and consists of grey water (kitchen, shower, sink, reuse of washing machine water and laundry waste). Phosphate rich soaps and mild cleaning chemicals in your wastewater are considered pollutants because they accelerate algae growth in the waterways, which in turn leads to oxygen depletion for fish and other marine life forms. The beauty of this "problem" is that these same phosphorous, nitrogen, potassium and protein "pollutants" are excellent sources of nutrition when you reuse grey water for irrigation of fruit trees, landscaping, and gardens or planter beds.

The key to a workable, code-compliant, grey water irrigation system is separate plumbing for your black water (composting toilet, vault, or septic tank

system). Compared to black water, grey water has a very small amount of organic and pathogenic pollutants, so there truly is no need for treatment of grey water in a conventional septic tank. In fact, your septic tank and leach field are being overworked by mixing grey water and black water. The last thing your septic tank needs is bacteria killing soaps and more water from the washing machine. The longer your septic tank (black water) has time to settle, the better. The less germ killing soaps and detergents in your septic tank, the better. At the very least, your washing machine should be diverted away from the septic tank. Adding a grey water kit to a new or existing septic system is an excellent way to reduce septic tank pumping frequency. Grey water settling tanks (filter basins) work exactly the same as

septic tanks—they are just smaller since little or no solids are going into the system.

From an environmental standpoint, the main reason for grey water reuse is to actually reuse the soaps, skin particles, shampoo, and hair conditioner as plant fertilizer, keeping them out of the waterways.

Stick to simple direct reuse, non-electric, grey water recycling or disposal system. Avoid high tech storage and toilet flushing grey water schemes. What little grey water is produced by the average family is better directly reused for plant growth or simply disposed of back into the aquifer, which is a body of saturated rock through which water can easily move.

Here are several classic grey water system design mistakes to avoid:

- Never store "treated" grey water in a holding tank, cistern, lagoon or pond for future use
- Always filter to remove hair and other particulates to prevent bio-mat clogging of leach field
- Never allow grey water to drain atop

- bare ground. Irrigation needs to be below soil or mulch
- Never use unlabeled, unsealable, unvented containers for your grey water filter basin tank
- Never bury your settling tank without planning ahead for easy access and yearly inspection

- Never leave PVC pipes exposed to sunlight. UV damages & PVC creates toxic smoke in a fire
 - Always vent the fixtures, settling tank, and leach field. Fresh air ensures good system health
 - Always drain and vent containers & planter beds. Wet soil needs oxygen or it will go sour.
- (www.thenaturalhome.com/greywater)

Smart Controllers for Irrigation Systems

Smart Controllers are controllers that automatically update the watering schedule to allow for changes in water needs throughout the year. A Smart controller will automatically reduce the watering times as the weather gets cooler and less water is needed. Then, as the weather begins to warm up, the controller will add more watering time. The way this typically works is that you set the controller default maximum watering time based on the hottest time of year. Then, the controller reduces that time amount by a percentage value when less water is needed. There are several methods used by different controllers to determine how much to reduce the

watering time. Some controllers may allow for use of more than one method. Here is a list of common methods used by smart controllers to determine the watering time. Historical, which uses historical weather and water use for your area to determine what amount of water is required; Historical with a sensor uses historical data and adjusts also with a temperature sensor; Off-site data, which uses water and weather data provided by a remote provider, Weather station has its own weather station that you install with it, and Moisture Sensors, which are placed under the irrigation system to measure the actual amount of moisture in the soil.

Research is required as different types of sensors work better with some types of soils.

Please call our office for more information on water conservation. We can assist you in making your decisions.

(www.irrigationtutorials.com)

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With the holidays fast approaching, purchase your Poinsettias NOW. They provide a beautiful holiday touch to your property (these prices include delivery). Add appropriate sales tax.

6" pots with red foil cover and red flower:

6 or less: \$11.50 each

7 or more: \$10.50 each

Call Nancy on ext. 105 to order.