Community Association Management Insider®

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SPECIAL ISSUE

FEATURE

Sustainable landscapes require less maintenance, reduce groundwater and air pollution, and improve the physical appearance of the community.

IN THIS ISSUE

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Use Green Landscaping Practices to Save Money and Resources

By Carolyn Zezima

Creating positive curb appeal is essential to attracting and keeping members in your community. But landscaping for curb appeal no longer means wide-open lawns and box yews with a few annuals. On average, the cost of turf maintenance is 40 cents per square foot compared with 20 cents per square foot for other plants, shrubs, and ornamentals. Lawn and traditional landscape irrigation wastes up to 1.5 billion gallons of water every day and accounts for 40 percent to 60 percent of urban water use, according to ET Water Systems, a producer of irrigation control systems. Many traditional landscapes that use invasive species and pesticides and don't take into account natural habitats can all negatively impact the environment.

Many associations want to redesign their outdated landscapes into sustainable landscapes for the numerous benefits they offer. In addition to lowering costs by minimizing water usage, as well as chemical pesticides and fertilizers, sustainable landscapes require less maintenance, reduce groundwater and air pollution, and improve the physical appearance of the community.

What Is Sustainable or 'Green' Landscaping?

Sustainable landscapes need not be hot, dry gardens of cactus and gravel. They can include beautiful flowers and other plants, shrubs, and trees that reduce maintenance costs while protecting the environment. Using environmentally sustainable practices will still create aesthetically pleasing and healthy landscapes for existing residents to enjoy and to enhance the curb appeal essential to attracting eligible new residents. And they can help increase property values based on the water and other cost savings.

The goal of sustainable landscaping is to create beautiful, natural landscapes with the least environmental impact by using practices that conserve water, energy, and soil, reduce waste, and prevent water

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runoff and pollution. Unlike conventional landscaping that often uses a great deal of water, energy, labor, and other resources, sustainable landscaping:

- Uses a well thought-out, low-resource design that reduces costs by working with nature instead of spending money to work against it
- Nurtures the soil and helps it store carbon and gain fertility by using natural fertilizers and organic sources of nitrogen and replenishing and enriching the organic content and texture of the soil
- Focuses on healthier, longer-lived native and adapted plants, trees, perennials, and edibles that thrive in local climates, require little or no chemical pesticide and fertilizer use, and dramatically reduce water use
- Keeps plant waste on site for mulching and composting—and out of landfills where it decomposes anaerobically, releasing methane
- Creates habitats for beneficial insects, pollinators, and wildlife
- Reuses and sources green and recycled materials
- Uses efficient watering and irrigation and recaptures rain and stormwater for reuse

Using sustainable landscape maintenance practices makes good business sense. One of the biggest misconceptions that associations have about sustainable landscaping is that it's an all-or-nothing proposition that requires a substantial upfront investment. But once you decide to convert to sustainable landscaping, you can devise a plan that can be phased in according to a financially feasible pace.

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What type of return on investment can associations expect from converting to a sustainable landscape? Depending on your geographic location, the estimates range from 35 percent to more than 100 percent. Case studies have shown savings in water costs can range from 40 percent to 75 percent per year. In arid climates, the ROI for decreased water costs alone can result in recovery of investment in very short periods (one to 10 years). When other savings, such as decreased costs of fertilizer and pesticides, are factored in, the complete ROI can be amazingly quick, as short as three years.

NINE STRATEGIES TO CREATE A SUSTAINABLE LANDSCAPE

The following nine strategies can help you and your landscape staff and contractors design and maintain an aesthetically pleasing sustainable landscape that:

- Conserves water
- Promotes native plant species and enhances biodiversity
- Nurtures soil, reduces chemical use
- Reuses and recycles waste and resources

Strategy #1: Replace Lawn with Native and Drought-Resistant Plants

You may think that an expansive, rolling green lawn contributes to your association's overall attractiveness, but a lawn is almost always an association's largest landscape use of water, and maintaining it probably puts a huge dent in your operating budget. Outdoor water use can account for more than half of the total water used in summer months in some communities. By reducing lawn size during landscape design or retrofit, you can substantially reduce your water and pesticide usage.

Redesign outdated lawn-heavy landscaping to integrate new landscape plantings of diverse, low-maintenance, and drought-tolerant plants. Use lawn turf only where it serves a purpose, such as in a play or entertainment area. Replace most other lawn areas with native trees, shrubs, and ground cover. These plants can also help create privacy and shade around buildings, lower cooling costs, and create habitat for wildlife, particularly those animals and other wildlife that help control pests.

Select low water use plants that are appropriate for your climate. Consider using native species that are ideal for your climate zone and the type of soil. Once established, native species need dramatically less water and will thrive with less risk to disease and pests and so will need less chemical fertilizers and pesticides than other species.

Avoid invasive plant species. Invasive plant species spread rapidly and will take over and degrade the natural habitat, using water and other resources at the expense of other plants. When designing

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landscapes, avoid known invasive species in your area wherever possible and instead, choose native plants that have adapted to the environmental conditions of your regions. Familiarize yourself with locally important invasive species, and eliminate them from the community by mulching and weeding.

Include perennials, edible plants, and pollinator-attractors. Instead of planting beds of annuals every year, choose perennial bushes and flowers that live longer and once established, need less water. Include edible trees, plants and bushes like fruit and nut trees, berries, vegetable and grain plants and pollinator-friendly plant species that attract and support bees, butterflies, dragonflies, and other pollinators specific to your region and create a diverse ecosystem of wildlife and plants.

Strategy #2: Design Landscapes to Prevent Water Waste and Runoff

The amount of water your landscape uses is directly related to its features. Landscapes on sloped areas lose significant amounts of water from runoff, but properly using the contours of your land and grades on slopes can increase the availability of water to plants if placed strategically. In areas where the slope exceeds 6 percent, install drought-resistant ground cover that you won't need to worry about.

Prepare the soil. The texture of the soil has a direct influence on water retention, drainage, and aeration. Before planting, remove weeds that compete with desired plants for soil moisture, sunlight, and nutrients. If the soil is compacted, increase water absorption by aerating and amending the soil as needed.

Put plants in the right places. Water-loving plants require frequent watering and/or irrigation while others, like many trees, shrubs, perennials, and native plants, need less water. Group plants together based on their watering needs and the distance from water sources: Put low-water users farther away from buildings or where irrigation or water sources aren't readily available.

Strategy #3: Use Compost and Mulch to Nourish and Protect Plants, Build Healthy Soil

Healthy soils are essential to healthy landscapes. Adding organic matter such as compost can transform poor, infertile soils into a fertile growth medium that supports healthy plant growth while reducing your water and fertilizing needs. Spreading a layer of compost over the soil brings it to life with essential microbes that prevent grass from thatching and breaks down dead plants, turning them into more compost. When installing lawns or plants, consider adding between 12 and 18 inches of compost and/or other organic material to improve soil conditions and improve water retention. When buying mulches and composts, look for products with the highest recycled green-waste content and certified or labeled "organic."

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Apply mulch. Use mulch in flowerbeds and around shrubs and trees to insulate soil and plant roots, hold in soil moisture, and decrease erosion. Mulch can also reduce weed growth and competition between plants for soil moisture and add nutrients and healthy texture to the soil. To promote resource conservation, use recycled mulch products whenever possible. Use shredded or chipped plant materials with some wood content as a mulch cover and add wherever soil area is bare.

Reuse organic materials on-site. Instead of bagging and removing lawn debris, grass clippings, dead leaves, and trimmings from trees and shrubs, reuse them to fertilize the soil as compost. They decompose quickly and release valuable nutrients back into the soil. You'll use less water and fertilizer, reduce maintenance and compost costs, and create no waste. Consider renting or buying a chipper to mulch prunings and clippings from woody shrubs and trees and spread the mulch on the beds. If you must remove lawn clippings, shrub and tree trimmings, or prunings, take them to a local composting facility or green waste processor for recycling.

Strategy #4: Reduce Chemical Fertilizer Use to Protect Water Sources

Apply as little chemical fertilizer to your landscape and lawn as possible. Runoff from chemical fertilizers pollutes our water sources and degrades long-term soil health. And excessive fertilizing increases water use in the community and can cause plants to grow too fast, increasing the need for pruning and mowing. Instead, use organic fertilizers and soil amendments, such as fish emulsion, blood meal, kelp, horse or chicken manure, and compost, as needed based on the health of your soil and individual plant needs. But don't overuse: Test your soil and if the results show that your soil is already rich, healthy, and full of the right nutrients, you will probably need much less fertilizer, beyond compost, than with less fertile soils.

Avoid applying fertilizers before a prediction of rain or in the late fall or winter, when soil won't easily absorb the fertilizer and will instead run off into nearby water sources without benefiting any plant life.

Strategy #5: Water and Irrigate Efficiently

Water only when necessary. Frequent watering is wasteful and contributes to ground-water pollution. Overwatering plants and lawns can cause them to grow too fast and keep their roots shallow and compact, making them vulnerable to drought, damage, fungal growth, and diseases. Deep, thorough watering is better than frequent, shallow watering because it encourages deep roots.

Plant and lawn water needs vary according many factors, including sun, temperature, humidity, species, rate of growth, root depth, and soil texture. Rather than setting a regular and frequent watering schedule, monitor soil, lawn, and plant conditions to determine their watering needs. Develop watering schedules

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based on historical or actual weather data and use soil monitors to gauge soil moisture before watering.

Here are a few guidelines for efficient and healthy watering at your community:

Install an irrigation system that uses smart irrigation technology. Use water-efficient irrigation systems, such as drip or low-output sprinkler heads that deliver a precise volume of water to plant root zones. Look for "smart controllers" that apply water to landscapes based on current local weather conditions and specific landscape factors, including plant type, soil type, slope, amount of sun and shade, sprinkler type, among others, and can reduce irrigation water use by 20 to 50 percent.

Water at cooler times of day. To reduce evaporation, operate your irrigation system during the cooler hours of the early morning rather than during the heat of the day or windy weather. Lawn and plants are already damp from dew and can dry safely as the day warms up. Never use an overhead irrigation system during the middle of a hot, sunny day because most of that water will almost immediately evaporate. Watering at night will also conserve water, but can risk diseases to your plants because water stays on the plants too long as plants dry extremely slowly at night, especially humid nights.

Use hand watering, rain and reused water, and other alternative watering techniques. Alternatives to automatic irrigation systems, such as soaker hoses and other drip irrigation technologies, hand-held hoses, and manually controlled sprinklers, may be appropriate in certain circumstances, and depending on the size of your landscape area and the type of plants, may lead to more efficient water use.

Let nature and rain do the work. Create rain gardens to capture and use water from rainfall to create attractive gardens. Rather than watering your lawn in dry weather just to keep it green, consider letting it go dormant in the hot dry summer months and revive it when rain and better weather conditions return. This is particularly vital—and sometimes mandatory—in times of long and extreme drought, such as the one California recently experienced.

Reuse water whenever possible. Use water reuse technologies, such as stormwater management systems, rainwater cisterns, and reclaimed wastewater when permitted by law, to greatly reduce water use.

Install rain shutoff devices on automatic irrigation systems and set system to water infrequently (if you must use automatic irritations systems). If you must use an automatic irrigation system, avoid unnecessary or excessive watering and reduce water costs by setting to a timer and adding a rain shutoff device to shut off the system when it rains. Rain shutoff devices are inexpensive, easy to install, and can be installed on any automatic irrigation system. Set your system's timer controls to water only when necessary—generally weekly is

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sufficient. Make sure that misdirected water is not running off onto driveways, sidewalks, or streets.

Check with your state or municipality for watering restrictions. Many municipalities, water agencies, and states, particularly in the west, are imposing outdoor watering restrictions. Failure to comply with these restrictions can result in monetary fines and sends a bad message to the rest of the community in times of drought. Set your irrigation systems to meet any outdoor watering restrictions in your area.

Strategy #6: Use Integrated Pest Management (IPM) Techniques

Control pests and diseases using benign methods, such as an Integrated Pest Management (IPM) program so that you'll rely less on chemical pesticides and herbicides and more on organic and safe physical methods of controlling pests, weeds, and diseases. IPM is a method of monitoring and analyzing the pests and other threats to a particular plant's health and dealing with them individually. It favors organic and physical methods of controlling pests, weeds, and disease and uses no or limited amounts of the least dangerous chemical pesticides or herbicides only when absolutely necessary. IPM is superior to routine use of chemical pesticides and herbicides because it avoids soil and water contamination and protects beneficial insects and microorganisms that nourish the soil and help plants grow. It incorporates alternative methods for dealing with pests, weeds, and diseases, including:

- Practicing good sanitation, waste management, and watering to keep pests from getting food and water
- Creating physical barriers to pest entry
- Using biological controls such as introducing or enhancing pests' natural enemies, and creating environments that favor the desired species over the pests
- Choosing mechanical controls like traps and baits before sprays
- Choosing plants that resist disease
- Providing good air circulation

For more information about IPM, see Section 3.4: Implementing Integrated Pest Management, in ***Sustainable Affordable Housing Management.***

Strategy #7: Use Appropriate Physical Maintenance Techniques to Minimize Environmental Impact and Diseases

Reduce your reliance on gas-powered and motorized gardening equipment to reduce emissions and noise pollution. Rake instead of using a leaf blower, and use a broom instead of a hose to clean driveways and sidewalks. Use other low-impact techniques to preserve water and other resources.

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Mow properly. If you keep lawns in your community, don't mow them shorter than about 2½ or 3 inches. Longer grass cools the soil and retains water, reducing your need to water. Longer grass also is healthier and develops a stronger and deeper root system, which helps it stay healthy from insects and disease and survive drought periods more effectively, tolerate insect damage, and fend off disease. Keep lawn mower blades sharp to avoid the tearing of grass blades. Whenever possible, use mulching lawn mowers that leave grass clippings on the lawn as you mow. If you've been mowing often enough, the clippings will be short and won't cover the grass.

Use proper pruning techniques. Excessive and haphazard pruning of shrubs and trees is wasteful and unhealthy. Pruning should be used only to maintain natural growth patterns. Hedging, topping, and shearing of landscape plants into formal shapes only encourage excessive new growth and overuse resources. Using natural pruning techniques at the proper season will promote healthier plants, reduce "suckering," and stabilize growth.

Strategy #8: Reuse and Buy Green and Recycled Materials

Reusing materials reduces energy needs for transporting materials onsite and saves money. Reduce waste by reusing materials already in your community or by buying or using repurposed and recycled materials for the construction, installation, and maintenance of your landscaping. For example, your wood waste can be converted to mulch. Plastic pots can be recycled and reused. Rocks and plants can be moved. Buying recycled-content landscaping products, such as plastic edging or lumber, conserves natural resources and strengthens markets for these recyclable materials.

Strategy #9: Hire Sustainable Landscapers and Amend Landscape Contracts

If you use an outside landscape service, or don't have the staff capacity to practice sustainable green landscape practices properly, look for a contractor who does use these practices. Amend your bidding process and contracts to include specific sustainability practices, including good labor practices, use of native and perennial species, water management, green waste management, and preventive maintenance clauses.

When interviewing contractors, bring them to the community for a tour. The City of Austin Watershed Protection Department Grow Green program recommends that you ask them the following questions to test their knowledge and expertise and ensure they meet your needs:

1. Do you plan to use or reuse the materials (rocks, plants, etc.) that are already in the community?
2. What type of materials would you bring on site for hardscapes?
3. What techniques would you use to keep rainwater on the land?

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4. Can you tell me if there are any invasive species on the property, and if so, what would you recommend doing with them?
5. Do you use primarily the native and adapted plants of this region?
6. What type of plants would you use to provide food for wildlife?
7. Are you a licensed irrigator? (if your state or local department of environmental protection requires this license for in-ground systems)
8. What are the environmental features on the equipment you install?
9. How do you prevent runoff and evaporation from the system?
10. Can you tell me about our city or town's watering restrictions?
11. Do you practice Integrated Pest Management or do you provide regularly scheduled chemical prevention methods?
12. Are you a licensed IPM contractor?
13. Do you use organic pest and weed controls?
14. Will you show me the problem before treating?
15. Do you test the soil before applying fertilizer?
16. Do you use organic or chemical fertilizer?
17. Do you apply fertilizer before rainfall?
18. Do you use any alternative fuel equipment?
19. How do you recycle plant debris?
20. Do you leave grass clippings on the lawn or use a mulching mower?
21. How much mulch do you think is necessary in plant beds?

Many contractors will say they are sustainable, but don't supervise staff properly, and you may find that their workers end up resorting to traditional practices not agreed to in the contract. Get the right to terminate the contract early if you're dissatisfied with the services you receive. And don't agree to automatic renewals of the contract.

Model Contract Language

Should Landscape Contractor neglect to do the work properly or according to the sustainability practices spelled out in the contract, or fail to perform any provision of the Contract, Association, after seven (7) days' written notice to Landscape Contractor, may without prejudice to any other remedy it may have, make good the deficiencies and deduct the cost thereof from the payment then or thereafter due to Landscape Contractor or, at its option, terminate the Contract and take possession of all supplies and materials, if any, and finish the work by such means as it sees fit, and if the unpaid balance of the Contract price exceeds the expense of finishing the work, such excess shall be paid to Landscape Contractor, but if such expense exceeds such unpaid balance, Landscape Contractor shall pay the difference to Association. ♦

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RESOURCES

- California Integrated Waste Management Board Sustainable Landscaping Guidelines
  http://www.calrecycle.ca.gov/Publications/Documents/Organics%5C44300011.pdf
- City of Austin, Grow Green, Earthwise Guide to Hiring a Landscape Professional
  http://www.austintexas.gov/sites/default/files/files/Watershed/growgreen/hiring.pdf
- City of Austin, Grow Green, Earth-Wise Guide to Landscape Design
  http://www.austintexas.gov/sites/default/files/files/Watershed/growgreen/landscaping.pdf
- Massachusetts Dept. of Agricultural Resources, The Homeowner's Guide to Environmentally Sound Lawn Care
  http://www.massnrc.org/ipm/schools-daycare/ipm-tools-resources/homeowners-guide.html
- Massachusetts Dept. of Environmental Protection, Reclaimed Water (Wastewater)
  http://www.mass.gov/eea/agencies/massdep/water/wastewater/wastewater-reclaimed-water.html
- SF Tool Green Procurement Compilation, Landscaping Services
  https://sftool.gov/greenprocurement/green-services/3/landscaping-services
- StopWaste.org: Bay Friendly
  http://sarasota.ifas.ufl.edu/FYN/Pubs/FYNCommunityGuidelines-Broc.pdf

This article was adapted from Section 3.4 of ***Sustainable Affordable Housing Management: A Money-Saving Guide to Keeping Your Site Green, Healthy & Energy Efficient,*** by **Carolyn E. Zezima, Esq.** Zezima is the president of NYC Foodscape *(http://www.nycfoodscape.com/)* and a consultant with a track record of grass-rooting and managing organizations in the nonprofit sector. She has worked with food and farming enterprises and food policy organizations in Chicago and New York to promote healthy sustainable food systems, urban agriculture, and regional farming, including founding The Talking Farm, "The Farm with Something to Say," an urban farming and educational enterprise in Evanston, Ill. She can be reached at *nycfoodscape@gmail.com* or (847) 507-1785.