
HOME ECOSYSTEM CONSULTATION

GARDEN BEDS SURROUNDING THE HOUSE

Growing conditions:

- Mostly full sun, some shade
- Sparsely planted and susceptible to weeds
- Soil compaction present
- Some holes in the ground around house foundation
- Some bees apparently living near shrub
- Water seeping into basement, poor drainage away from house near driveway, drainage pipe compressed
- Previously-installed mulch too deep in many locations—contributing to fungus growth
- Previous mulch installed around plant crowns—making plants susceptible to rot, fungus, and premature decline

Existing plants:

- Limited biodiversity
- Many spring flowering shrubs
- Some crowding (particularly pachysandra, hydrangea, and hellebore)
- Invasive pachysandra crowding shrubs in front bed next to driveway
- Evidence of deer eating some shrubs—particularly along back and side of house
- Bindweed infestation in front beds, particularly in azaleas
- Uneven shrub growth

Recommendations:

- Remove invasive pachysandra.
- Monitor for new weeds, particularly bindweed.
- Dig consistent edge around front garden beds.
- Transplant ferns growing in front beds to more appropriate location (moist and shady).
- Install deer-resistant perennials and/or shrubs.
 - Ideally in the fall or spring
 - Plants improve drainage as they take up moisture through their roots—bare ground contributes to run-off problems
 - EFTE can provide a custom list of options appropriate for your growing conditions and matching your preferences in habit, color, size, etc.
- Monitor grade of beds away from house, including holes near foundation.

- Consider deer-proofing if plant damage is a concern.
 - Most common options include deer fence and Deer Scram.
- Garden maintenance at least every fall and spring
 - Fall cleanup and leaf removal
 - Non-mulched leaves create a mat that is a breeding ground for diseases, rot, insect pests, and rodents
 - Cut back unsightly herbaceous perennial foliage
 - Divide overgrown perennials
 - Transplant shrubs, if appropriate
 - Remove weeds
 - Spring cleanup
 - Remove any remaining dead foliage, leaves, weeds
 - Prune shrubs (immediately after blooming for spring-flowering shrubs)
 - Check soil quality
 - Supplement mulch if needed

GRASSY LAWN

Current condition:

- Many weeds
- Many bare patches
- Mostly sunny with some shady areas under trees

“Shade-tolerant” grasses nonetheless need at least 4 hours of sunlight per day.

Salts in dog urine can lead to bare patches. De-icing salts can also damage lawn grass.

Recommendations:

- Mow no shorter than 3”
- Soil test and amend the soil accordingly
 - Amend soil in fall or spring
 - Ideal pH is [6.0,7.5]
 - Too much fertilizing contributes to thatch
- Overseed once or twice per season (spring/fall)
- Bare patches
 - Seed bare patches that are sunny
 - Mulch or install shade-tolerant ground covers under trees where there is full shade
- Consider adding plants that require less mowing
 - White Dutch clover which is low-growing, crowds out weeds, and is largely impervious to dog urine
 - Dwarf fescue blend creates low swirl pattern when 3-4” tall
- Aerate lawn in late summer/early fall
- Limit dog urination and snow-salt runoff

Lawn Resources:

- <https://turf.cals.cornell.edu/lawn/lawn-care-the-easiest-steps-to-an-attractive-environmental-asset/>
- <https://plantscience.psu.edu/research/centers/turf/extension/home-lawns>
- <https://extension.umd.edu/hgic/lawns/lawn-care-best-practices>

LANDSCAPE TREES

Growing conditions:

- Too much mulch formed into volcanoes—making trees susceptible to rot, fungus, and premature decline
- Some trees have many dead branches—removing them improves the overall health of any tree.
- Some have stubs from incorrect pruning—these stubs generally do not heal well and invite decay, disease, and pests
- Some have water spouts and/or suckers—indicating the tree is struggling

Recommendations:

- Remove excess mulch
- Remove suckers
- Remove all dead/diseased branches
 - This is a necessary first step to try to save the oak tree in your back yard.
- Clean up bad pruning cuts and remove stubs
- Examine trees for signs of decay, disease, and pests
- Structural prune, as appropriate (late winter, early spring)
- Fertilize trees, as appropriate

COMPOST SYSTEM

There are many options for a compost system. The most common designs are built from rot-resistant wood (not pressure-treated except perhaps the 4x4 posts that extend into the ground), with multiple compartments. Each compartment must be at least 3 cubic feet to ensure decomposition. The compost system can be used for yard waste, dried grass clippings, fallen leaves (particularly if mulched first), straw, and non-meat non-dairy kitchen waste.

Recommendations:

- Decide on the location for your compost system.
- Decide on the number of compartments: 3 or 4.
- Consider having the system built by EFTE or have EFTE supply materials and lead the family through final assembly.
- Include custom class for family about composting successfully.

DRAINAGE PROBLEMS

Drainage has been a serious problem for most homeowners during 2018. We cannot say for certain whether problems experienced this year represent a rare deviation from the normal or indicate a 'new normal.'

It is important to monitor water flow patterns after heavy rainfall. Where does the water come from and where does it go? Where do puddles form? We can give you excavation flags to mark these areas.

1. Drainage considerations:
 - a. Water in basement
 - b. Soil movement during storms
 - c. Standing water
 - d. Soil compaction
 - e. Overall land grade
 - f. Location of plants to screen from neighbor's pool
2. Drainage solutions:
 - a. Fix soil grade as frequently as needed
 - b. Determine start and end location of existing drain pipes.
 - c. Remove and replace compressed black drainage pipe.
 - d. Structural options:
 - i. Rain or bog garden that takes advantage of areas that collect water
 - ii. Above ground swale (cheaper and easier to maintain than French drain)
 - iii. Underground French drain (more expensive, but underground, can clog and require costly repair)
 - iv. Dry well (most expensive, but environmentally-friendly)

ADDITIONAL RESOURCES

- *Artful Rainwater Design: Creative Ways to Manage Stormwater*, by Stuart Echols and Eliza Pennypacker
- *The Complete Compost Gardening Guide*, by Barbara Pleasant and Deborah L. Martin
- *The Green Gardener's Guide: Simple, Significant Actions to Protect & Preserve Our Planet*, by Joe Lamp'1
- *Naturally Bug Free: Homemade Pest Control for Organic Gardening Made Easy*, by Gaia Rodale
- *Rodale's Ultimate Encyclopedia of Organic Gardening: The Indispensable Green Resource for Every Gardener*, by Fern Marshall Bradley, Barbara W. Ellis, and Ellen Phillips
- Trees are Good, Resources provided by the International Society of Arborists
<https://www.treesaregood.org/treeowner>
- Missouri Botanical Garden Plant Finder database
<http://www.missouribotanicalgarden.org/plantfinder/plantfindersearch.aspx>