



earth-wise guide to

# Installation *and* Maintenance

## installation:

- Bed Preparation
- Solarization
- Hardscapes
- Irrigation Options
- Soil Preparation
- Planting Tips
- Mulch
- New Construction

## maintenance:

- Sprinkler Upkeep
- Watering Schedule
- Least Toxic Options
- Fertilizing Tips
- Tree Care
- Pruning

It is possible to have an attractive, healthy, low maintenance landscape that is also sustainable. The amount and frequency of care largely depends on utilizing earth-wise principles throughout the entire project. Proper preparation and installation greatly reduce many common landscape maintenance problems while also helping conserve resources and reduce water pollution.



## INSTALLATION

### Bed Preparation

- Once you finish your landscape design, lay out a garden hose following the contours of the beds to help you visualize the space
- Once the beds are shaped the way you like, use landscape paint or small flags to outline where to dig
- Install edging (rock, brick, metal or plastic) to define beds
- Clear new planting areas completely of existing plants and grass
- Kill the roots of stubborn perennial weeds like Bermuda grass completely:
  - Dig the roots out
  - Solarize the area to kill the roots with steam (see bubble inside)
  - See the Grow Green Weeds fact sheet for more information on prevention and treatment

## How to Solarize

**Solarization works to to reduce or eliminate weed seeds. This process works in sunny areas when temperatures exceed 80°F**

1. Moisten soil thoroughly
2. For stubborn weeds, first spray with a 20% vinegar and orange oil solution
3. Cover with 2-4 millimeter thick clear or semi-transparent plastic (clear is more effective than black in creating steam underneath)
4. Securely seal edges with rocks or bricks to create a mini-greenhouse
5. Leave in place for four-six weeks
6. Remove plastic and till the area to expose roots
7. Repeat steps 1-4 if necessary

- Drip systems installed in garden beds apply water on the ground surface and can help prevent water waste; best if “stapled” in place and covered with mulch; (do not connect multiple soaker hoses because as length increases, water pressure decreases)
- Although more costly, underground systems with controllers are convenient and are more practical, especially for large areas of turf
- If you have an older system, install a rain sensor to avoid watering during or after rain; wireless options are easiest to install

## Soil Preparation

- Amend existing soils with 2-3” of organic compost, well-rotted manure or Dillo Dirt to help improve drainage, hold moisture, and boost beneficial microbial activity



- Before installing plants or a lawn, be sure that the depth of soil is a minimum of 4”, though 6-8” for turf and most plants is preferred (some native plants require less)
- If your soil is not deep enough, purchase a good quality soil mix from a reputable company that has an approximate ratio of 25% compost, 65% loam and 10% sand blend
- The soil mix should not contain any subsoil, large rocks, weed seeds, plant parts or anything else that would be harmful to plants

## Hardscapes

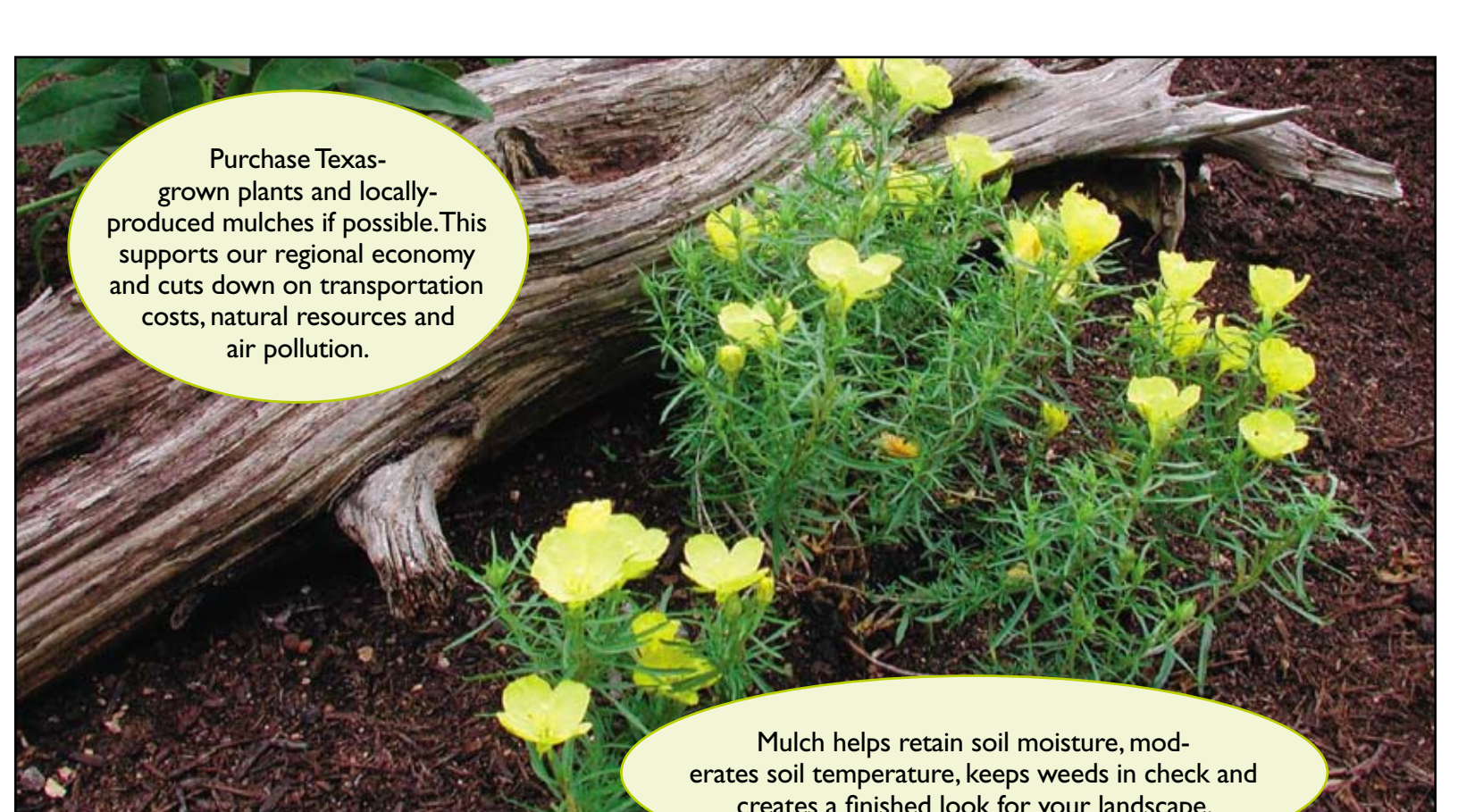
- For pathways and patios, use materials such as gravel, crushed granite, tumbled glass or wood chips which allow water to soak into the ground rather than run off the land
- If using lumber, consider sustainably-produced wood or wood alternatives like recycled plastic; avoid railroad ties that contain creosote
- Include weed barriers – see the Grow Green Weeds fact sheet for options
- When having materials delivered, use a drop cloth or tarp on pavement for easier clean-up

## Irrigation Options

- Garden hoses connected to sprinklers, bubblers and/or soaker hoses are the simplest and least expensive options to install; inexpensive timers can be attached at the faucet to control watering times

**For more information on composting visit:**  
[www.cityofaustin.org/sws/compost.htm](http://www.cityofaustin.org/sws/compost.htm)





Purchase Texas-grown plants and locally-produced mulches if possible. This supports our regional economy and cuts down on transportation costs, natural resources and air pollution.

Mulch helps retain soil moisture, moderates soil temperature, keeps weeds in check and creates a finished look for your landscape.

## Planting Tips

- The best time to plant in Central Texas is the fall so that plants are well-established before summer heat; winter and spring are acceptable choices, but avoid planting under extreme conditions of heat or cold
- When choosing plants, check them for signs of disease, insect or physical damage; be sure to look under the leaves where insects hide
- Watch out for plants that are pot-bound; their roots start growing in a circle inside the container
- When planting shrubs and trees:
  - Dig the hole twice as wide as the rootball and no deeper than its height
  - Check planting holes to ensure water will drain, not puddle
  - For non-native plants, till 1-2" of compost into the soil
  - In spring, water newly planted shrubs and flowering perennials every other day (cool season plantings and trees require less)

- When planting trees:
  - Don't pick up trees by their trunk; always pick up by the container or root ball
  - Eliminate vegetation under the canopy; create a tree well
  - Add 1" of compost to the soil under the canopy
  - Cover the soil with 4" of mulch; ensure mulch is 6" away from the trunk
  - Deeply water the soil under the canopy once a week
  - Remove wires on branches to avoid stifling growth

## Mulch

- Use organic mulch (shredded hardwood, straw, bark chips, or newspaper) or inorganic (crushed granite, river rock or processed glass);
  - Inorganic mulches are best used for plants that prefer hot, rocky, dry conditions
  - Once established, ground-covers provide a "green", organic mulch
- Mulch your planting beds with at least 2" of mulch at establishment, and add another inch once a year or as needed to maintain a constant covering over soil

## Tips for new construction

- Protect and preserve the desirable existing vegetation on your lot whenever possible; it is cheaper than replacing it
- Stockpile existing topsoil from your lot for reuse
- Protect existing trees with temporary fencing around the outside perimeter to limit damage to trunk, branches and roots
- If trees must be removed, shred and apply as mulch on the site
- Cover bare areas with erosion barriers, especially along the edges of your lot as soon as possible to avoid losing soil

# MAINTENANCE

## Sprinkler Upkeep

### Underground irrigation systems

- Conduct a complete system check (all stations, heads, nozzles and emitters) yearly, PLUS a two-minute test cycle monthly to check for broken heads
- Replace the battery in the controller yearly unless it is rechargeable
- Keep all heads at ground level to prevent mower damage

### Drip irrigation systems

- Clean filters monthly to remove sediment
- Remove flush caps at the ends of the drip supply lines so that the entire system can periodically be flushed of contaminants

## Watering Schedule

- Know how much water your plants need; water accordingly rather than following a set schedule
- Adjust watering schedule frequently based on weather and season. Taper off watering amount and frequency gradually as fall arrives and slowly increase in spring. In winter, plants will still benefit from monthly irri-

gation if there is no rainfall

- When water is necessary, soak the soil to a depth of 4-6"; let soil dry out before watering again
- If rainfall is adequate, turn your controller off or install a rain sensor to do it automatically
- Track water usage on your water bill; 15,000 gallons per month is average for a 5,000 sq. ft. property

### Austin Mandatory Watering Schedule (May 1- September 30)

- Don't water more than two times per week
- Odd house numbers: Wednesdays & Saturdays
- Even house numbers: Thursdays & Sundays
- Water after 7 pm and before 10 am
- Hand-water anytime

**[www.waterwiseaustin.org](http://www.waterwiseaustin.org) or call 974-2199 for information on water audits, finding a City-certified licensed irrigator, and other water conservation tips**

## Fertilizing Tips

- If plant fertilization is necessary, use natural or organic products – they break down slowly, releasing nitrogen throughout the growing season
- If choosing a synthetic fertilizer, use one with a high percentage of slow release components to lower leaf burn potential and excessive new shoot growth – this can prevent environmental stress and disease and insect problems
- For best results apply fertilizer when the soil is between 75 and 85 degrees
- In general, do not fertilize native trees and shrubs
- To test soil, pick up a soil test kit from a Grow Green display or visit [www.soiltesting.tamu.edu/webpages/forms.html](http://www.soiltesting.tamu.edu/webpages/forms.html)
- Use a compost tea or seaweed solution on new plantings, stressed plants or to promote general plant health
- For chlorotic (yellowing) plants, use chelated iron or soil-acidifying supplements such as sulfur

## Tree Care

- Maintain 1" of compost under the canopy
- Do not use weed eaters around tree trunks
- If pruning is necessary for established trees, follow the Pruning Calendar on the last page or contact a certified arborist for help

### Trees Susceptible to Oak Wilt

#### Red Oaks

*(die within months of infection)*

- Spanish
- Blackjack
- Shumard
- Water Oaks

#### Live Oaks:

*(highly susceptible but experience a slower death than Red Oaks)*



# Pruning

## Prune at the appropriate time of year

- In general, prune in late winter, when most plants are dormant (see pruning calendar)
- Avoid pruning immediately after new growth develops in spring; allow the plant time to regain the energy it spent growing
- Prune spring flowering shrubs soon after they bloom and summer flowering shrubs by late winter
- Avoid pruning in late summer to early fall - it can encourage new growth which is susceptible to winter damage

## Maintain pruning equipment

- Store equipment in a dry room and apply oil after each use to inhibit rust
- Maintain sharp cutting edges to allow cuts to heal faster
- When pruning diseased plants, disinfect all blades after each cut with alcohol, spray disinfectant, or a mixture of one part bleach to nine parts water to avoid spreading disease; rinse and oil tools after bleach treatment to inhibit rust

## Steps for pruning

1. Remove all dead, broken or diseased limbs by cutting them back at the point of origin or back to a strong lateral branch
2. Remove weak or narrow angled branches and eliminate undesirable trunks in multi-trunk plants
3. Make any needed cuts, keeping in mind the plant's natural growth habit
4. Look at your work; if a lot of additional pruning is necessary, you may want to do it in stages over several months to a year to prevent excessive re-growth and allow the plant time to recover

## Make cuts correctly

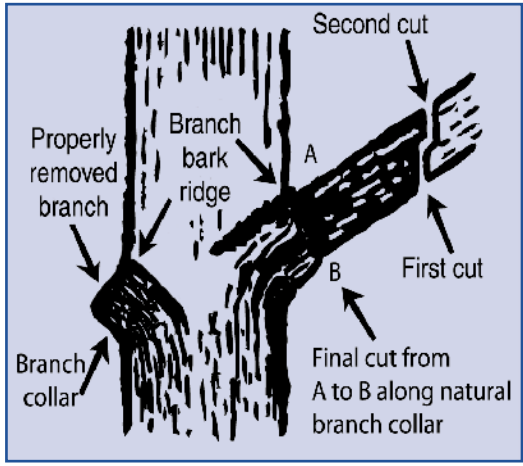
- Prune evergreen hedges so that the base is wide and the top narrow to allow light to reach the lower branches and maintain dense foliage in lower sections
- When cutting back to an intersecting branch, choose one that forms

an angle no more than 45 degrees with the one being removed

- For more side branching, remove the tips of shoots; the bud or branch nearest to the cut usually produces rapid new growth
- Make cuts 1/2" above the bud or branch you want to flourish
- Select buds that point to the outside of the plant to avoid criss-crossing of branches through the plant's interior

## Pruning large trees

- Cut branches without removing the branch collar (raised bark ridge) at the base of the branch. Avoid leaving stubs or making flush cuts
- When cutting branches more than 1 1/2" in diameter, use a three-part cut:



## Pruning oak trees

- Prune trees susceptible to oak wilt during the heat of the summer or the cold of winter when the beetles that transmit the disease are less likely to be active
- Immediately after pruning, apply pruning or latex paint to the wounds on trees susceptible to oak wilt

## Less is more

- Avoid excessive pruning which only results in vigorous, unnatural regrowth and poorly oriented branches
- Thin, don't top; thinning creates a more natural looking, stronger tree
- With young trees, leave branches on the main trunk to develop a thicker trunk more quickly; remove these branches when they reach 1" in diameter

# Pruning Calendar\*

## Jan/Feb (when dormant)

- Shade Trees**
- Ash
  - Elm
  - Maple
  - Oak
  - Pecan
  - Pistache
  - Sycamore
- Summer Flowering Trees**
- Crape Myrtle
  - Desert Willow
  - Vitex\*
- Summer Flowering Shrubs**
- Abelia
  - Butterfly Bush
  - Kidneywood
  - Mexican Oregano
  - Pavonia
  - Possumhaw Holly
  - Texas Sage
  - Roses (repeat bloomers)

## April/May/June (after spring flowering)

- Spring Flowering Trees**  
(light trimming if needed)
- Anacacho Orchid Tree
  - Saucer Magnolia\*
  - Roughleaf Dogwood
  - Fringe Tree
  - Mountain Laurel
  - Mexican Buckeye
  - Redbud
- Spring Flowering Shrubs**
- Flowering Quince
  - Mock Orange
  - Viburnum
  - Wisteria
  - Roses (one-time bloomers)

## All Year (Shear or trim anytime to maintain form and size)

- Broadleaf and Needleleaf Evergreens**
- Cherry Laurel
  - Euonymus
  - Holly
  - Juniper
  - Ligustrum\*
  - Photinia\*
  - Pittisporum\*
  - Yaupon
  - Yew
  - Southern Wax Myrtle
  - Evergreen Sumac
- \*plants included because commonly found in landscapes; not necessarily recommended*

## Pruning perennials

- Many perennials require regular pruning to maintain desired shape; refer to the maintenance tips in the Native and Adapted Landscape Plants Guide for specifics
- Cut perennials back in late winter to early spring before they start to put on new growth
- If freezing temperatures cause perennials to die back, don't worry because they have extensive root systems that help them survive from year to year
- If perennials have a nice shape and no damage to their foliage, pruning should be unnecessary

## Tips for Maintaining a Least Toxic Yard

- Monitor often for insect and disease damage to keep small problems from becoming large ones
- Do not use routine pest and fertilizer treatments -- identify pests and diseases before choosing treatment options
- Call the Texas Agrilife Extension Office at 854-9600 for help identifying problems or see the Grow Green Diagnostics fact sheet

### If you must use a pesticide...

- Use the least toxic pesticide first
- Read and follow label directions

- Don't spray pesticides when it's windy
- Never use chemicals before a rain – they can run off to harm our creeks rather than helping your yard

## Avoid Weed and Feed products

- Applying herbicides over the entire lawn is usually excessive
- The best time to use an herbicide is usually not the best time to fertilize



### use organic products

Synthetic, chemical fertilizers are usually in a highly soluble form; they are more likely to release excess nutrients by leaching into groundwater or into runoff during rain

### For specific maintenance problems, look for the following Grow Green fact sheets at [www.growgreen.org](http://www.growgreen.org)

- |                 |                      |                |                  |
|-----------------|----------------------|----------------|------------------|
| • Lawn Care     | • Lawn Problems      | • Aphids       | • Beetles        |
| • Fire Ants     | • Beneficial Insects | • Caterpillars | • Fleas          |
| • Leaf Problems | • Mosquitos          | • Scale        | • Powdery Mildew |
| • Spider Mites  | • Snails & Slugs     | • Stink Bugs   | • Weeds          |

### why grow green?

The Grow Green program educates Austin area residents on the LEAST TOXIC approach to pest management and responsible fertilizer use. The goal is to reduce the amount of landscape chemicals that run off into waterways or leach into our groundwater and degrade water quality.

Grow Green is a partnership between the City of Austin Watershed Protection and Development Review Department and Texas Cooperative Extension. Call 974-2550 or 854-9600 for more information or visit our website at [www.growgreen.org](http://www.growgreen.org).

[www.growgreen.org](http://www.growgreen.org)



**Watershed Protection  
Development Review**

974-2550

**AgriLIFE EXTENSION**  
Texas A&M System

854-9600