

Principles of Xeriscape

Step 1: Design

Craig R. Miller
Water Conservation Specialist
Parker Water & Sanitation District

Plan and Design your Landscape

- ❖ Base designs on sound landscaping principles.
- ❖ Implement the seven basic principles of Xeriscape:
 1. Planning and Design
 2. Soil Improvement
 3. Plant Selection/Zoning of Plants
 4. Appropriate Use of Turf
 5. Efficient Irrigation
 6. Mulching
 7. Appropriate Maintenance.

The original definition of Xeriscape: "Water Conservation through creative landscaping"

List your Landscaping Goals

- ❖ Maintenance – Am I trying to reduce the amount of time I spend working in the yard?
- ❖ Water use – Do I want to reduce my outdoor water consumption?
(I hope so!)
- ❖ Play areas – Is my yard an important play area for children, dogs, and/or adults? Can I decrease the size of the play area?
- ❖ Sun and shade – Does my yard have enough shade or too much shade?
- ❖ Irrigation system – Do I plan to install an irrigation system? For an existing system, can I reconfigure the system for the new landscape?
- ❖ Aesthetics – Do I want more flowers? Do I want more trees? Do I want a vegetable garden? Do I want to add a patio or moss rocks or semi-permanent outdoor furniture? Where do I want to spend time in the yard?

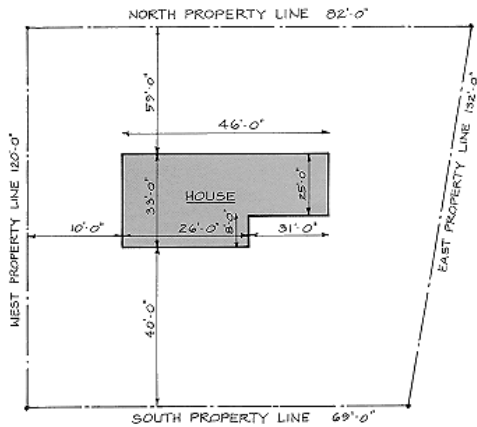
- ❖ Climate and region – How can I create a landscape that takes full advantage of the climate and region in which I live?
- ❖ Budget – How much money do I want to spend on my landscaping project?

Develop a Landscape Master Plan

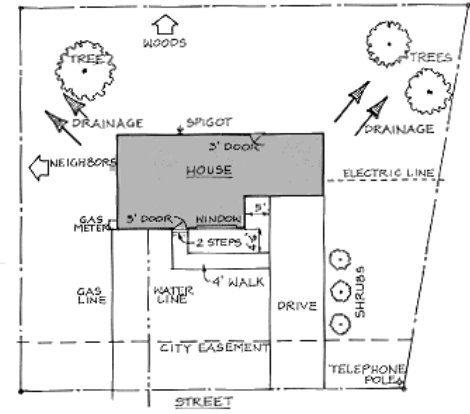
- ❖ Once you have evaluated your current landscape and given some thought to the goals of the landscaping project you are ready to develop a master plan. This plan should be as complete and detailed as possible.
- ❖ You may not complete the entire plan in a single year. It may take many years. By creating a master plan you can progressively work to achieve all of your landscape goals.
- ❖ Your master plan should be a “map” of the finished landscape on your property. Even if you don't know exactly what trees and plants you intend to use, you can include a place for planting beds and trees in your drawing.

Start with what's already there

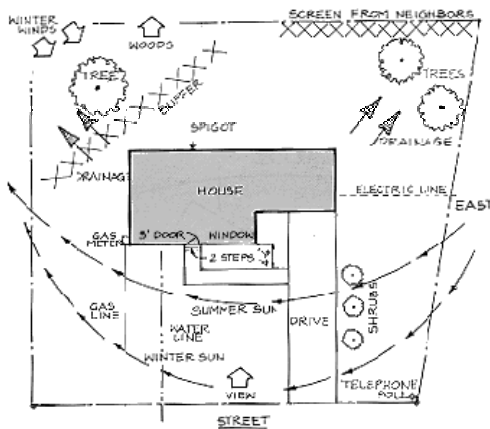
- ❖ Start with a simple base map of your property lines.
- ❖ You will need to measure from the property lines to your house, as well as all the exterior walls of your house.
- ❖ You will also need to measure other impervious surfaces, such as sidewalks, decks and driveways.
- ❖ You can use the original site survey as a starting point.
- ❖ If there are existing trees, shrubs, etc. that you wish to keep, you'll need to measure to place them accurately in your plan.
- ❖ Once you've recorded all the measurements, you'll have to transfer them to graph paper. A 1:10 scale works well. This means that every 10 feet of actual measure equals 1 inch on your plan. So if your property is 50 feet wide by 100 feet long and you're using a 1:10 scale, your plan would be 5 inches by 10 inches.
- ❖ Once you've drawn your property lines on the graph paper, you need to fill in the details, including the house outline, sidewalks, driveways, etc. You also need to show direction on your plan by drawing an arrow indicating north. This will help you select plants appropriate for specific exposures. Some of the other things you should include on your base plan are:
 - The location of spigots, downspouts and external electrical outlets.
 - Fences, walls and other structures
 - Existing lawn, garden, shrub masses and flower beds
 - Trees (both yours and your neighbors, if they shade part of your yard)
 - Site conditions, views, exposure, slopes, drainage
 - Existing utilities, sprinkler system



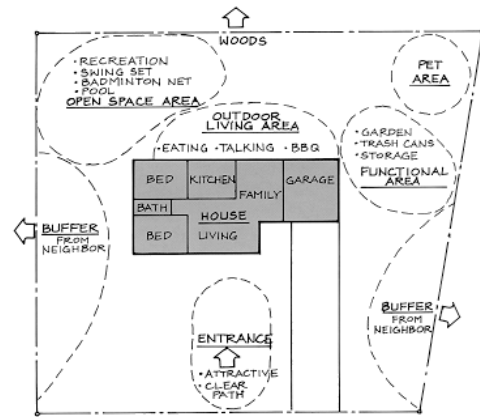
Base Plan



Existing Conditions



Existing Conditions



Intended Use of Space

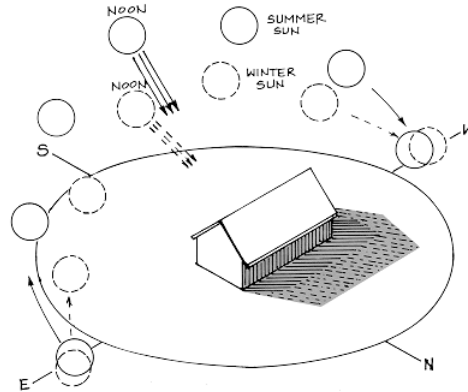
Design Issues to Consider

- ❖ Turf areas – You can save water by limiting turf to only those functional areas needed for walking, sitting, playing, recreation, picnicking, etc. Nonfunctional areas can be covered with drought-tolerant grasses (Buffalo grass, Blue grama), Xeric planting beds, alternative groundcovers, or hardscapes. Avoid using turf in areas less than 10 feet wide and on steep slopes.

IF YOU DON'T WALK ON IT, YOU DON'T NEED IT IN BLUEGRASS!

- ❖ Planting beds – These areas add beauty and shape to your landscape. This is a great opportunity to use native plants, trees, and shrubs.
- ❖ Landscaping shapes and forms – Irregular designs, narrow strips of turf or plants, and small areas can be difficult to mow and water efficiently with an automatic system. However, these forms may be irrigated more successfully with drip or manual techniques. Design your landscape forms to maximize water efficiency.
- ❖ Hardscapes – These include walkways, patios, driveways, etc. Consider using flagstone, gravel or other porous materials to keep water in the garden rather than in the gutter.
- ❖ Grading and drainage – Your soil type and any slopes will affect water infiltration and runoff rates. By reducing or eliminating slopes you can reduce runoff and preserve topsoil.
 - It is difficult to water and mow grass that is planted on a steep slope. If your yard includes a steep sloped area, consider terracing to allow heavy rains to soak in rather than to runoff and cause erosion.

- Include decorative berms, grassy swales, and buffer zones to direct water flow to cultivated areas. Design landscapes to harvest water to avoid losing runoff, especially around hard surfaces (patios, driveways, sidewalks, etc). Be careful not to create steep, hard-to-manage slopes when designing berms.
- ❖ Sun and shade – Keep track of areas in your yard that receive morning, noon, and afternoon sun (and shade). Some plants prefer sunny spots while others thrive in shade. You can plan your planting beds accordingly.



- ❖ Water use zones – Divide your plant materials into three categories: low water use (fed primarily by rainwater), moderate water use (requires occasional watering), and high water use (requires regular watering). To reduce water use, minimize usage of high water use plants and turf in your landscape plan.
- ❖ Design the site for efficient irrigation, including both state-of-the-art irrigation technologies and management practices. Landscape plans should also include specific irrigation plans.
- ❖ Obtain at least one soil nutrient analysis prior to completing a project design. Obtain more tests for sites with variable conditions or where imported topsoil is used. Ensure soils are properly prepared and amended during landscape installation.
- ❖ Group plants with like water needs together. Plants located within the drip line for large trees and shrubs should have similar water requirements as the trees and shrubs. Select plants that are well adapted to the climate, topographic and geologic conditions of the site. Native plants and plants with documented lower water requirements should be given priority in landscape design.
- ❖ Maintenance issues – If you want to reduce required regular maintenance in your landscape, select low maintenance plants. Fast growing turf grass requires regular mowing, fertilizing, and aeration. Low water use grasses, groundcovers, and plants will require substantially less maintenance.
- ❖ Where possible, retain significant native vegetation that is already adapted to the site.
- ❖ Consider using groundcovers with lower water requirements for slopes and hard-to-mow locations.
- ❖ When designing plant placement on slopes, place lower-water demand plants at the tops of slopes and higher-demand plants at the bottom.
- ❖ Incorporate trees into the landscape to provide shade, reduce stormwater runoff, stabilize soil, conserve water and protect against wind. A goal of at least 20 percent canopy coverage for Front Range communities is ideal.
- ❖ Use weed barrier fabrics and organic or inorganic (e.g., gravel, rock) materials to reduce weeds while still allowing water and air to penetrate the soil. Do not use black plastic.
- ❖ Cost – Your budget may be the single biggest constraint on your landscape plan. Consider implementing the plan slowly to spread the cost over several years. Remember, a low water use landscape will save you money in the long run with reduced water, fertilizer, and maintenance costs.