Landscape Design

Kentucky Master Gardener Manual Chapter 17

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In this chapter:

Landscape designs differ depending on how the landscape will be used. Although the principles are the same, a homeowner who wants an aesthetically pleasing, low-maintenance landscape will create a design very different than that of an avid gardener whose main purpose in life is to spend time in the garden.

This chapter is not meant to define the art of landscape design but rather to help you take a realistic approach to landscape planning. Your end design should meet your needs and incorporate principles of sustainability into an evolving landscape.

Kentucky gardeners are fortunate to be able to use a wide variety of plant materials to create landscapes that meet their needs. This available diverse plant material can be used to create outdoor rooms with canopies of trees; walls of shrubs and vines; and carpets of groundcovers, perennials, and annuals to provide color and interest.

Before beginning, consider what type of landscape will suit your needs. Landscapes reflect many approaches. Examples of landscape types are low-maintenance, water-wise, formal, informal, native, wildlife-attracting, small space/container, shade, and specialty/collection.

Avid gardeners often are collectors who consider plant arrangement and placement as their garden develops. While adhering to basic design principles, landscape design for these gardeners is an ongoing process. Just as seasons change, their landscapes take on new looks to include new structures and plants gathered from nurseries, garden centers, friends, and neighbors.

Merely planting trees and shrubs is not landscaping. Designing a landscape gives you an opportunity to create habitats for people, plants, and wildlife.

As you try to preserve clean air, clean water, and landfill space, your challenge is to create a landscape that is both aesthetically pleasing and environmentally sound. A sustainable landscape requires minimal inputs of labor, water, fertilizer, and pesticides to thrive. Creating a sustainable landscape means working toward a thoughtful balance between resources used and results gained. By factoring in environmental considerations, you can create a pleasant place that is part of an environmental solution rather than an environmental problem.

Planning

The smaller your house, grounds, or budget, the greater the need for correct and complete planning. Every square foot of space and every dollar must produce maximum results. Plan for the best use of the site, the least environmental impact, and minimum upkeep.

A master plan is essential to ensure that all work done on the property will blend into the desired final outcome. Keep in mind that landscape development can be a long-term process within the framework of your plan. There is no need to develop your entire lot at once. Completing the landscape over a five-year period is a feasible approach. This time frame allows you to evaluate plants as they grow and mature and generally is more manageable financially than doing everything at once.

Grading may be needed for a new home site. If you must have grading work done, consider ways to save topsoil and protect existing trees and vegetation from construction damage and soil compaction.

Site Analysis

For a new landscape, a thorough site analysis can help you develop a plan to enhance and maintain your property's sustainability. It's also a useful first step in renovating and changing an existing landscape. See the landscape design planning questionnaire at the end of this chapter for ideas.

A site analysis will tell you what you have to work with. A thorough understanding of your conditions is important, because in a sustainable landscape, native and introduced plants must be well suited to existing light, moisture, and soil conditions.

Your site analysis also will help you make the best use of available space in the most attractive way possible, while at the same time enabling you to consider the environmental impact of your landscape plan. Make the most of the site's natural features and advantages. Be sure to include structures such as fences, walls, patios, or decks to enhance the human environment and make the landscape more enjoyable.

Finally, the site analysis will help you select plants that best fit your landscape's design and purpose.

Factors Influencing Landscape Design

Factors influencing landscape design include property characteristics; neighborhood sights and sounds; climate; and family activities, growth, and change.

Property characteristics

In laying out a design, preserve all of your site's best natural features, such as mature trees, brooks, ponds, rock outcroppings, good soil, turf, and interesting variations in terrain. These natural elements affect the ease of construction and enhance landscape possibilities.

Carefully survey the area to determine whether site conditions are a problem or they can be incorporated into your design. Examples of problems are thin, overcrowded trees or unstable slopes that may interfere with landscape construction. You also may have to contend with *microclimates* such as windy areas, low places with cold air pockets, or areas with poor soil and inadequate water drainage.

Changes in elevation can add interest and variety to home landscapes. The character of the land—its hills, slopes, and trees—should determine the basic landscape pattern. A hilly, wooded lot lends itself to an informal or natural design, with large areas left in their natural state. In such a setting, large trees can be retained. Protect native plantings whenever possible.

Although natural slope variations are an asset, avoid creating too many artificial slopes. Avoid excessive use of terraces or retaining walls. If these features are necessary to facilitate construction or control water drainage, design them to blend into the natural terrain.
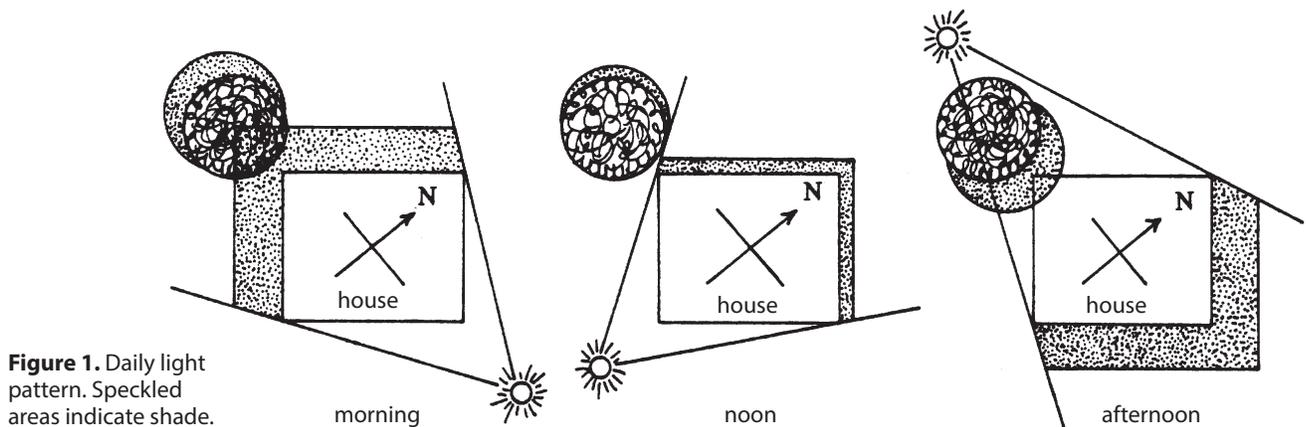
Figure 1. Daily light pattern. Speckled areas indicate shade.

morning   noon   afternoon

Neighborhood sights and sounds

Keep good views open and screen out those that are undesirable. Often a well-placed shrub or two provides necessary screening. Additionally, well-placed plantings can act as noise barriers.

Climate

Climate includes sunlight, all forms of precipitation, wind, and temperature. In the case of a new home, these factors affect how the house is placed on the lot, how the land is used, and what is planted. Don't fight the climate; capitalize on its advantages. In warm regions, enlarge the outdoor living area. In cold regions, plant so that the winter scene is enjoyed from the inside. For example, evergreens and hedges are picturesque when covered with snow, ice, or rain droplets.

It is important to study the amount and location of both sun and shade because individual people respond to them differently. Patterns of sun and shade change, depending on the time of day and season (Figure 1). The sun is higher and shadows are shorter in summer than in winter. Northern exposures receive the least light and therefore are coolest. East and west exposures receive more light; western exposures are warmer than eastern ones because they receive afternoon light. Southern exposures receive the most light and tend to be warmest.

The main rooms of a house should benefit from winter sun and summer breezes. You can control the amount of sunlight and shade by the location of buildings, fences, and plants. You also can take advantage of shade created by structures or plants on your neighbors' property.

Trees have an especially strong effect on sunlight. When locating trees in your landscape design, consider keeping a sunny area for a vegetable garden while maximizing shady areas for the house and patio or deck. Deciduous trees (those that shed their leaves) shade the house in summer and admit sun in winter.

Plant trees at a 45-degree angle away from the corners of the house (Figure 2); when mature they will accent the building. Trees should not block views from windows. Remember that having too many trees shuts out sunlight and reduces air circulation. When renovating an old landscape, consider how light will change when plants or trees are removed.

Figure 2. Tree planted at a 45° angle from the corner of a house.

Maintenance requirements

During the early design phase, decide how much time and energy you want to spend on maintenance. Some people enjoy puttering about the yard and may desire a high-maintenance design. Others, however, want a landscape that requires minimal maintenance. Generally, the simpler the landscape, the less there is to maintain.

A low-maintenance landscape is the goal of most homeowners. The following strategies will help you reduce maintenance requirements:

- Limit the size of the lawn.
- Use groundcovers, bark chips, and other mulches for weed control.
- Use paving or gravel in heavily traveled areas. Provide edging strips of brick, concrete, or bender board for flower beds and shrub borders to ease mowing.
- Use fences, walls, or informal plantings (instead of clipped formal hedges) for screening.
- Design raised flower beds for easy access and to help control weeds.
- Use native plant materials.
- Install an underground irrigation system if you get little summer rain.
- Use small flower beds. Use flowering trees and shrubs for additional color.
- Be selective when choosing plant materials. Compact varieties require less pruning; insect- and disease-resistant varieties require less spraying; drought-tolerant plants require less watering.
- Keep the design simple.

Remember that low-maintenance practices are often also sustainable landscape practices.

Family activities, growth, and change

How your landscape will be used should be a determining factor in its design. Analyze your family activities and design a landscape that will mature with the family. Don't plan a static landscape; it would not work as your family's needs change.

Parts of a Landscape

A landscape is made up of several parts. Some of these—private use areas, children's play areas, front yards, public areas, and service and work areas—are discussed in this section.

Private Use Areas

The private use area or outdoor living room is an important part of the American home. No yard is too small to have a private sitting area where family and guests can gather. Where possible, access from the house to the outdoor area should be easy (Figure 3).

Figure 3. Use areas in a landscape.
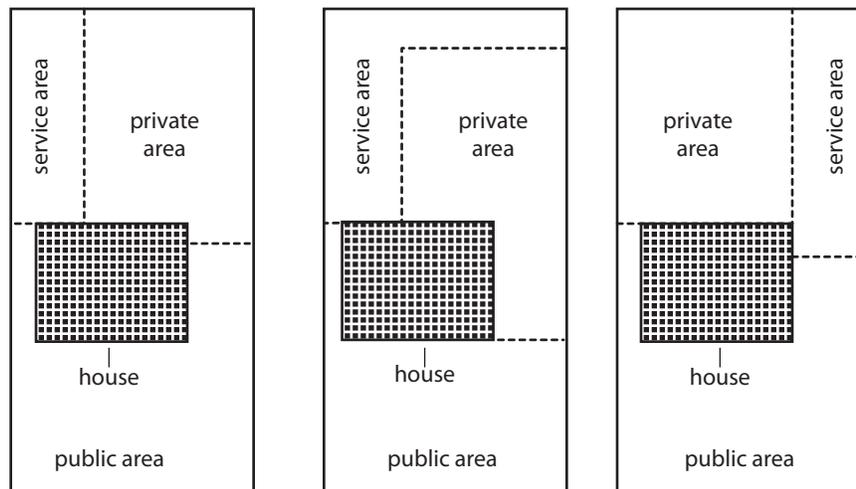
When designing private areas, consider home security. Motion sensor lights can protect these areas at night, and pruning shrubs for openness and visibility can prevent them from being used for concealment during the day. For vulnerable entry points to your property or home, choose defensive plants that are thorny or difficult to walk through.

Consider the following guidelines when planning outdoor private living areas:

Privacy—Enclose the area from public view and nearby neighbors. Properly grouped shrubs and trees work well. For a small area, use a trellis, containers with vines, or a fence. Screen the area from work areas such as clotheslines, woodpiles, and garden sheds.

Year-round interest—Plants in the outdoor living area should be varied and provide interest throughout the year, especially if the area is visible from the house. For winter interest, select shrubs and trees with colorful bark, evergreen foliage, or colorful fruit. The rest of the year, use annuals, perennials, shrubs, and trees to create interest. Take a seasonal inventory of your proposed plant list to make sure it includes year-round interest. Pools, stone steps, paving, walls, bird feeders and baths, and other architectural features do not change with the seasons. They provide interest throughout the year.

Climate control—Weather control extends the outdoor living area's usefulness. Evergreen trees provide year-round screening and shade, while deciduous trees screen the area from hot summer sun but allow maximum winter sun for solar heat. Windbreaks reduce wind. An awning or trellis-type roof can protect against inclement weather. If space allows, a garden pool or fountain can convey the effect of coolness during summer with the added benefit of attracting wildlife.

Deck or patio—The center of activity for an outdoor living area often is a space with garden or patio furniture and sometimes a grill or outdoor cooking area. It may be a porch, deck, or terrace next to the house, or it may be a shady area nearby. It may be decked, paved, or in turf. Flagstone, brick, concrete blocks, and stamped concrete are common surfaces.

The size of this area depends on its expected use and the type and amount of furniture desired. A 10x10-ft area holds four chairs and is about the minimum size for comfortably accommodating four people. Increase the size if you want space for more chairs or a picnic table.

Children's Play Area

The play area can be part of the outdoor living area or separate from it. Consider your children's ages and activities to determine the size and surface of the play area. For very young children, a small area enclosed by a fence near the kitchen or living area is desirable. As children grow up, you'll need to adjust the design to meet changing recreational needs.

Front Yard

The area in front of homes traditionally has been left more or less open so passersby can view the home. On small lots, it has become increasingly popular to screen the front yard with fencing, shrubs, or vertical plantings. Privacy may be desirable when a picture window faces the street or when the front yard is used for outdoor sitting. Where space is limited, a tall, attractive fence can provide privacy and a background for shrubs and smaller plants.

Again, consider home security when designing your landscape. It may be appropriate to use fencing that provides a sense of privacy but can be seen through. Plants that can be pruned for visibility are another option.

Be sure to consult local agencies when constructing a fence.

Public Area

This is the area seen from the street. The landscape in this area should create a sense of spaciousness. If you want the front yard to be part of the public area, keep the lawn or groundcover open and place shrubs to the sides of the house and in foundation plantings. When selecting shrubs to frame the front door, consider their texture, color, size, and shape so they enhance the total effect but do not block doors or windows. Placing tall trees in the backyard and medium-size ones on the sides and in front is effective. The house should be the focal point of the view.

Service and Work Areas

An area screened from major views is good for service and work areas; such as space for garbage cans, access to utility meters, tool storage, wood storage, compost piles, propagating structures, small greenhouses, kennels, and clotheslines.

Elements and Principles of Design

Landscape design has no hard and fast rules because each landscape is a unique creation. However, the following design principles will help you create an aesthetically pleasing and useful landscape:

Simplicity—Simplicity is achieved when different parts of the design are grouped or arranged to appear as a single unit. For example, you can group plants of similar colors or textures, or mass three or more plants of the same species together (Figure 4).

Figure 4. Lack of simplicity (a) and simplicity (b). Although 4b contains more elements than 4a, they are grouped to create a more simple design.

(a) lack of simplicity   (b) simplicity

Rhythm and line—Continuity within the landscape and integration of different elements into the design affect rhythm and line. Effective use of repetition can direct the eye or a person through the landscape and create a sense of unity among different landscape spaces (Figure 5).


Figure 5. Rhythm and line. The plantings direct the eye toward the house.

Balance—The two common types of balance in landscapes are symmetrical and asymmetrical. *Symmetrical* balance is most common in formal landscapes. It has an axis, and everything on one side is duplicated or mirrored on the other side (Figure 6a). *Asymmetrical* balance uses different objects on each side of the axis, but the end result still is a similar visual mass on either side (Figure 6b).

Proportion—This principle refers to the relationship between different elements within the landscape. The relationships to consider are plants to buildings, plants to other plants, and plants to people. To achieve correct proportion, always create designs based on the mature height of plants.

Focal point—Focal points give the eye a place to rest when viewing the landscape as a whole. A focal point may be a plant specimen, garden accessory, or water feature. The front door often is the focal point of the public use area; if so, design the landscape to enhance it.

(a) symmetrical balance   (b) asymmetrical balance
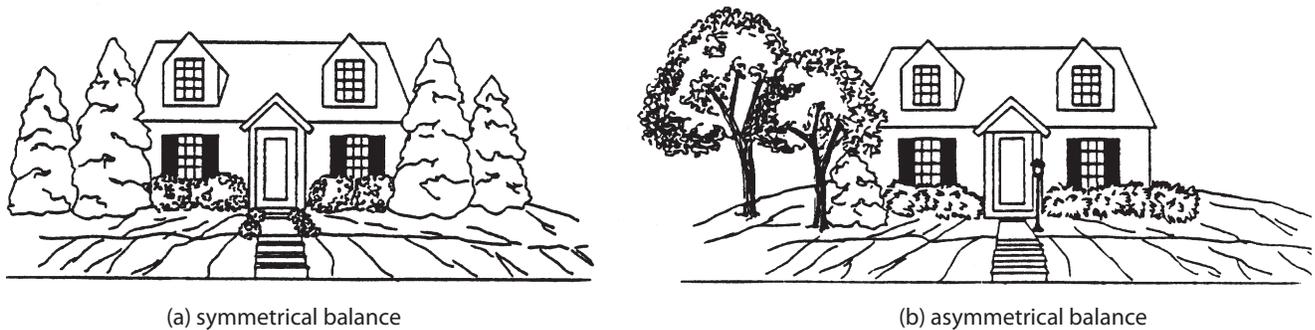
Figure 6. Symmetrical balance (a) and asymmetrical balance (b).

Plant Selection

This section discusses some of the factors involved in choosing the right plants for your landscape. For specifics on plant selection and care, see Chapter 13, "Annual and Perennial Flowers" (HO-102), and Chapter 15, "Lawn Management" (AGR-206). Extension publications such as *Plant Materials for Landscaping* (PNW 500) also are helpful when planning a landscape. (See "For More Information.")

Well-chosen plantings are necessary to achieve your desired landscape effect. Thousands of varieties of trees, shrubs, vines, and perennials are available, but remember: plants are not merely ornamental accessories. Their masses define space in the yard and, consequently, the silhouettes that produce garden design. Therefore, when selecting plants, consider both their cultivation requirements and their aesthetic value.

The best advice in plant selection is to find the right plant for the right place. The U.S. Department of Agriculture (USDA) plant hardiness zones are a starting point, since they are based on winter temperatures. In determining where a plant will survive, however, you need to consider other factors as well, including frost occurrence, seasonal rainfall distribution, humidity, soil characteristics, water availability, and duration and intensity of light. These factors may be more important to a plant's survival than are winter temperatures. Every plant tolerates a range of conditions for each of these factors. Their combined effect determines true plant adaptability.

Before selecting plants, consider your site and determine what, if any, environmental conditions exist that might cause problems. Carefully completing a site analysis will help. To what elements will plants be exposed (full sun, shade, wind, reflected heat)? What are the soil conditions (fertile or poor, high or low pH, depth, drainage)? Based on this evaluation, choose plants that are adapted to your specific growing environment.

For example, some plants, such as rhododendrons and azaleas, prefer acid soils (low pH). Most other woody plants grow well across a wide range of soil pH, from acid to alkaline. If your soil is extremely acid or alkaline, you many need to amend it to adjust the pH, depending on what plants you want to grow.

Insect and Disease Resistance

When selecting plants, look for varieties that are insect- and disease-resistant in order to eliminate unnecessary applications of insecticides and fungicides. You can obtain resistance information from plant catalogs, garden centers, nurseries, and extension offices.

Understanding Plant Survival: Hardiness Zones

A plant species that flourishes in one part of a given USDA plant hardiness zone is likely to be adaptable in other parts of the same zone or in a warmer zone. Some gardeners question a zone rating when a plant fails to survive its first winter. A single test, however, is rarely reliable. A small, young plant may be tender but may become quite hardy as it grows older. Other conditions also affect the degree of hardiness. No single winter is quite average; each differs in suddenness and severity of freezing.

Just because a plant may survive in a given zone does not necessarily mean it is recommended for planting in that zone. For example, using the USDA hardiness zone system, crape myrtle, *Lagerstroemia indica*, usually survives as a low-growing, semi-hardy specimen in the colder areas of zone 6. It develops and flowers normally, however, in zone 7. This species, therefore, is properly recommended only for zones 7 and above, although it is often used as a semi-hardy plant in zone 6.

Many ways exist to develop microclimates to allow a tender plant to grow in an otherwise inhospitable zone. For example, you can control soil fertility and water availability to some extent to delay plant growth in spring or to hasten hardiness in fall. Windbreaks can provide protection from cold winter winds. Raised beds allow soil to warm earlier in the spring.

Factors Affecting Plant Adaptability

Factors such as temperature are largely beyond your control but do have predictable yearly averages. Of the major factors that govern plant adaptability, frost dates, length of growing season, and minimum winter temperatures are among the hardest to control.

Frost

Average first and last frost dates have been calculated for each plant hardiness zone. These dates give an indication of when to expect the first frost of fall as well as the last frost of winter or spring.

However, air temperature and movement are important factors in frost occurrence and may create microclimates within your garden. Because warm air rises and cold air sinks, cool air tends to accumulate in low spots and in areas with minimal air movement, thereby creating frost pockets. Species that are marginally hardy in a given zone should not be planted in frost pockets.

Rainfall

Total average rainfall has a significant effect on plant growth and development, and rainfall distribution is equally important. Some areas receive substantial rainfall, but it may not occur during the growing season. Where summers are dry, plants may need supplemental water in order to survive. Using species that need little water is one way to reduce the amount of irrigation needed.

Soil and moisture conditions

Good soil and proper moisture conditions are crucial to plants' survival. Many plants respond unfavorably when their soil environment changes. For example, some can tolerate extremely dry or wet conditions while others cannot; some do well in poor soil while others do not. Nursery-grown plants are not inexpensive, so provide the best growing conditions possible for each species. Group plants of similar growing requirements together to conserve water.

Soil characteristics are a major factor in determining which plants will thrive in your garden. The ideal garden soil is *loam*—a light, crumbly mixture with approximately equal parts sand, silt, and clay. Good garden soil includes at least 4 percent organic matter. Organic matter is important because it promotes better soil water and nutrient retention, air exchange (porosity) and friability or looseness to allow good root penetration. Garden soils can be altered, but it is important to complete a soil test first to determine what improvements your soil needs.

Degree of sun or shade

The angle of the sun in relation to the earth varies from summer to winter. The sun's angle not only affects day length but also the shadows in a garden. These shadows determine the amount of sun that plants receive and thus may have a significant effect on their growth.

Slopes that face south or southwest get more heat during the day than those that face north or northeast. Southern exposure slopes dry out more quickly and often require supplemental water. Taking advantage of different exposures in the landscape may extend your growing season.

Aesthetic Considerations

Texture, seasonal foliage color, flowers, fruit, and bark can provide touches of beauty. You even can select plants to relate to exterior house colors.

Try to have some color in the yard year-round. Flowering trees provide pastels in spring; beds of perennials and annuals furnish vivid hues in summer; trees and shrubs whose leaves turn yellow, orange, and crimson brighten gray autumn days; the bark and fruit of some species is attractive in winter. Interesting year-round effects can also be created by strongly contrasting features.

Select plants with more than one feature during the seasons. For example, choose a tree with blossoms in April, beautiful fall or midsummer color, and exfoliating (shedding) bark for winter interest.

Plant size

Consider the mature size of plants you select for your landscape. A common mistake is to select plants that soon become too large for their location. The drastic pruning that then becomes necessary adds to the cost of maintenance and may reduce the grace and beauty of the specimen. Overgrown plants that are left unpruned alter the balance and accent of a design. In addition, they may partially hide the house instead of complementing it.
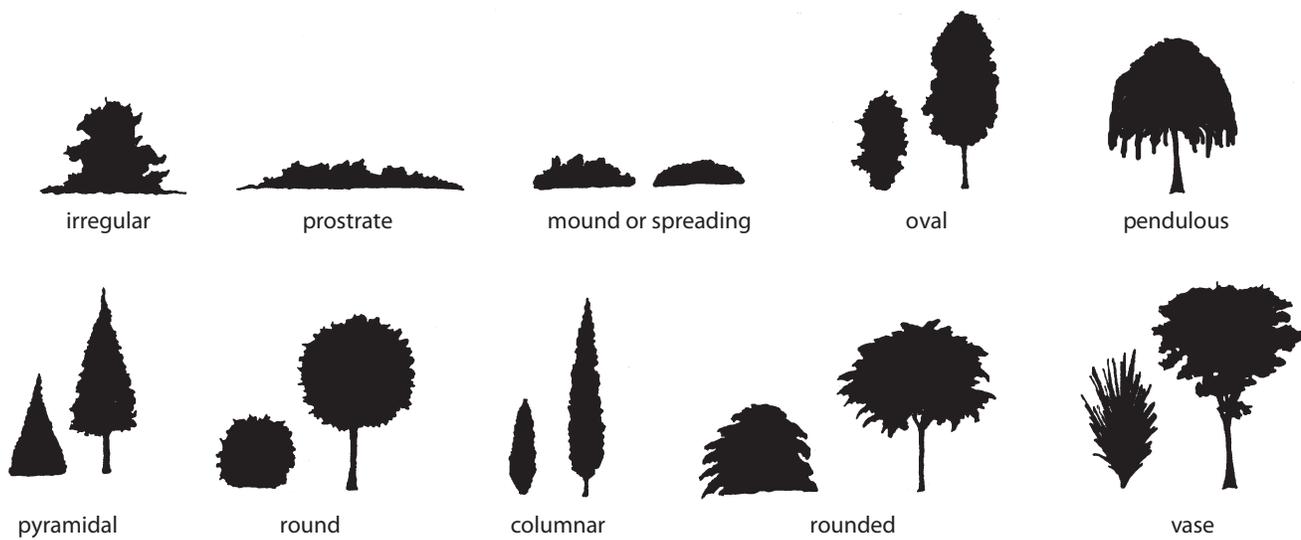
Plant form

Shrubs are woody plants that grow to a height of 3 to 12 feet. They may have one or several stems with foliage extending nearly to the ground. Common forms include the following:
- Low, spreading (e.g., juniper species)
- Round or upright (e.g., euonymous, photinia, and forsythia)
- Vase (e.g., Vanhoutte spirea)
- Pyramidal (e.g., hybrid tea roses)
- Columnar (e.g., arborvitae species)

Trees are woody plants that typically grow more than 12 feet tall and have only one main stem or trunk. The *head* or leafy portion of the tree develops a typical form such as one of the following:
- Round or oval (e.g., maple, oak, and pine)
- Vase (e.g., elm)
- Pendulous (e.g., weeping willow, cherry, and birch)
- Pyramidal (e.g., spruce, fir, and hemlock)
- Columnar (e.g., hop hornbeam)

irregular   prostrate   mound or spreading   oval   pendulous

pyramidal   round   columnar   rounded   vase

Figure 7. Common tree and shrub forms.

Mature shrubs and trees are usually more open and spreading than young plants. For example, an oak tree's head may be a pyramid shape when it is young, an irregular oval in middle age, and a spreading vase form in old age.

Trees are long-lived and relatively inexpensive in terms of initial cost and maintenance when compared to lawns, flower beds, hedges, and many other landscape features. In the past, many builders committed costly errors by destroying trees when establishing new residential subdivisions. Most real estate developers now appreciate the value of trees and attempt to save them when land is graded before house construction. However, trees that are old and diseased or improperly located should be removed and replaced with more suitable specimens.

Some common forms of shrubs and trees are shown in Figure 7.

Groundcovers such as turf, low-spreading shrubs, creeping plants, and prostrate vines are essential landscaping materials. Many designs no longer include turf but instead use hardy groundcovers. Groundcovers also are grown on banks that are too rough or steep to mow and under trees where grass does not grow satisfactorily.

Plant texture

A plant's texture depends on the size and arrangement of its foliage. Plants with large, widely spaced leaves have coarse texture. Plants with small, closely spaced leaves have fine texture. Texture can vary by season, depending on whether a plant is deciduous or evergreen.

Some variation in texture is needed to make a landscape interesting. Avoid extremes in texture, however.

Drawing a Landscape Plan

If you want the fun and satisfaction of preparing your own landscape plan, this section will help you draw a plan that embodies the elements of good design. These steps will enable you to develop a final plan that can be implemented over several years as time and money permit. The landscape design planning questionnaire at the end of this chapter is a good place to start. It will help you assess your site and your needs. Following are the steps to take to draw a landscape plan:

Prepare a Map

Prepare a scale map of your property (Figure 8). Use graph paper, with one square equaling a certain number of feet, or draw to scale using a ruler or engineer's scale as follows:

Measuring Device	Small lot	Large lot
Engineer's scale	1 inch = 10 ft	1 inch = 20 ft
Ruler	1 inch = 8 ft	1 inch = 16 ft

Figure 8. Property map.
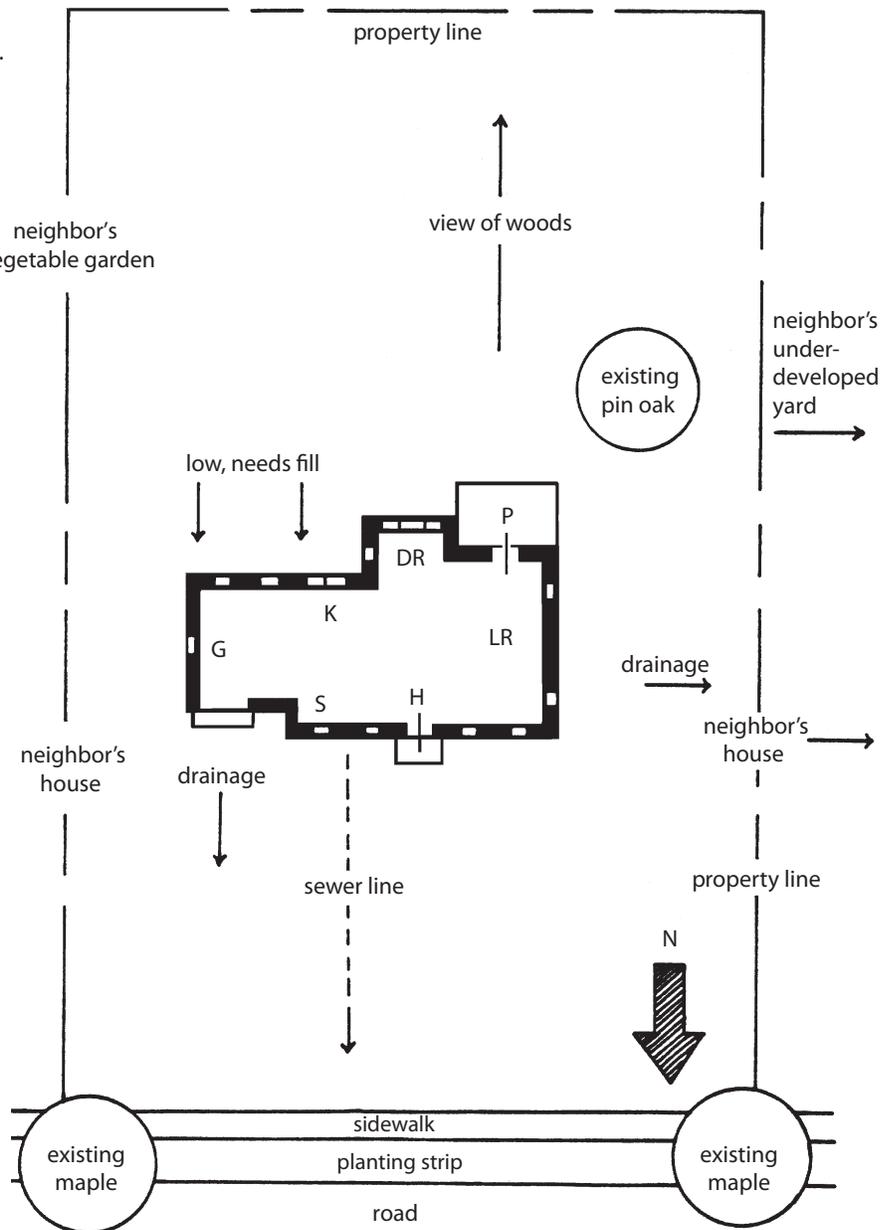
The map should include the following:
- Property lines
- North arrow
- Scale used
- Contour of the land (use an arrow to show direction of surface water flow.)
- Existing landscape features—house, garage, other buildings, trees, walks, and driveways
- Septic tank, sewer lines, or underground power lines
- Views (Point arrows in the direction of each good view.)

Figure 9. Placing use areas on a map.
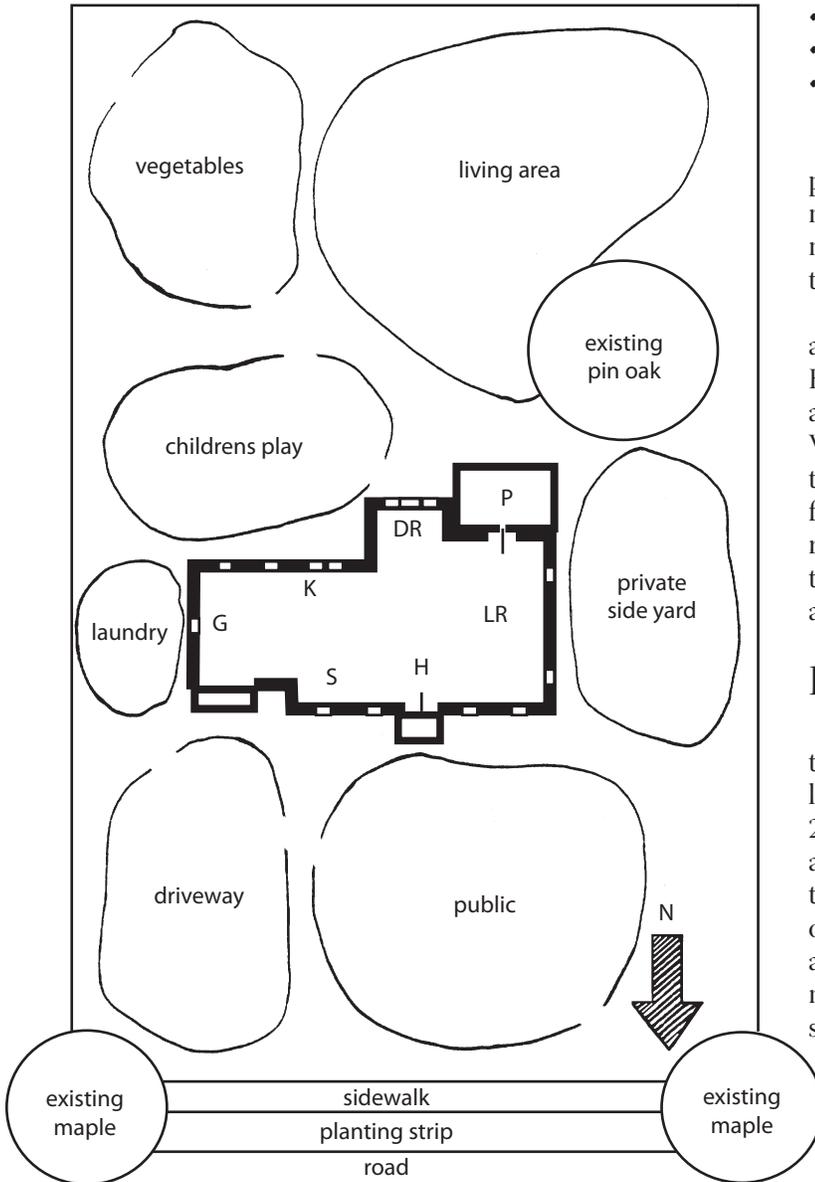
- Doors, windows, porches, and rooms (G = garage, K = kitchen, etc.)
- Undesirable features of your own or adjoining property

Identify use areas and place them on the map.

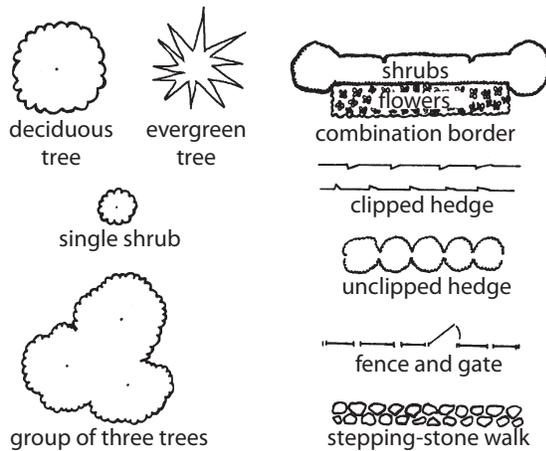The following use areas are common in residential landscapes:
- Private use area (may include cooking and eating area)
- Children's play area
- Front yard
- Public area
- Service and work area (e.g., laundry)
- Fruit and vegetable garden
- Flower beds
- Walks and driveways
- Garden pool

Choose those use areas that are appropriate for your design and add others if needed. Refer to the landscape design planning questionnaire for additional use items to consider.

Fit them together considering traffic flow and how the space will be used (Figure 9). How will people move from one area to another or from the house to outside areas? Will outdoor areas be functional in relation to the house? Will you make use of existing features such as views or changes in the terrain? Try different combinations in relation to rooms of the house, surrounding areas, and potential views.

Develop the Landscape Plan
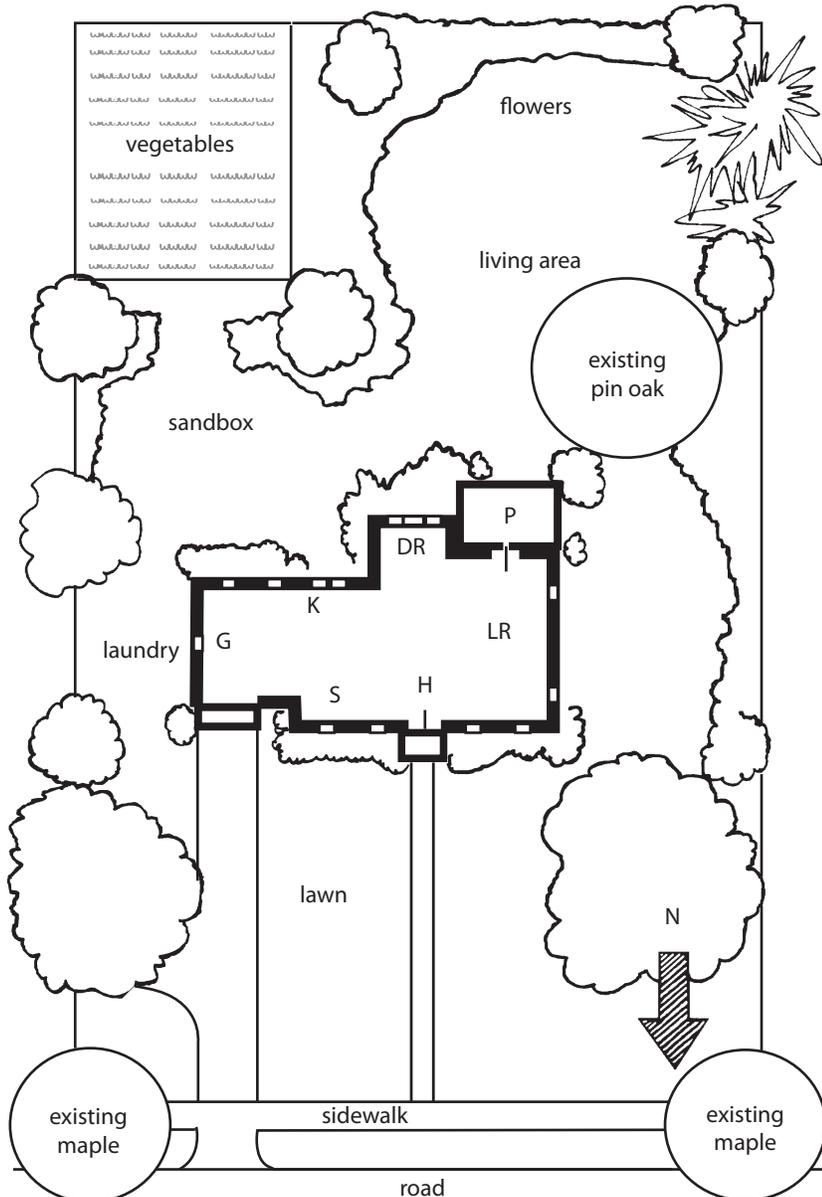
In this step, your landscape plan begins to take shape. Select the most appropriate landscape from those you developed in Step 2. Use landscape symbols to indicate trees and shrubs (Figure 10). Draw the symbols to scale so they represent the actual amount of space involved (Figure 11). For example, a mature white pine has a spread of approximately 20 feet, so make the symbol represent 20 feet.

Figure 10.
Landscape symbols.

deciduous tree

evergreen tree

single shrub

group of three trees

shrubs
flowers
combination border

clipped hedge

unclipped hedge

fence and gate

stepping-stone walk

On your map, indicate driveways, walks, other structures, and plants. Indicate where plant masses are needed to separate areas; screen undesirable views; and provide shade, windbreaks, and beauty. At this point, do not attempt to name trees and shrubs. Rather, think in terms of plant masses that will serve a particular purpose and tie areas together into a unified design. Keep in mind the design elements discussed in this chapter.

To confirm that your proposed scheme is practical, make sure you can answer the following questions satisfactorily:

- Is the driveway design pleasing, useful, and safe? Is the entrance easily accessible? Is there a turnaround? Is there guest parking?
- Are walkways convenient? Are guests directed to the front door?
- Will the landscape be attractive from the living room? picture window? porch? dining room? Will it be attractive all year?
- Is there a private living area? Is it screened from neighbors? from the service area? from other buildings?
- Is the clothesline near the laundry?
- Is the gas meter, power meter, or oil tank easily accessible and, if necessary, screened from public view?
- Has home security been considered?
- Will the septic tank, sewer lines, or drainage fields interfere with planting shade trees?
- Do all parts of the landscape fit together into a unified plan?

Figure 11. Sample landscape plan.

vegetables

flowers

living area

sandbox

existing pin oak

P

DR

K

G

LR

laundry

S

H

lawn

N

existing maple

sidewalk

existing maple

road

Create a Final Plan and Planting Key

Specific plants for your landscape design can be selected in many ways. For example, you may choose to initially concentrate on the desired cultural needs of the plants or desired height, but you will eventually need to address several other purposes when selecting plants (Table 1).

Table 1. Sample specifications for a tree or shrub mass.

Purpose	Shade, background, hedge, screen, or accent
Height	Low, medium, or tall
Form	Spreading, upright, arching, or globe
Seasonal interest	Fruit, flowers, foliage
Type	Needleleaf evergreen, broadleaf evergreen, or deciduous
Cultural needs	Shade, sunlight, and moisture requirements
Maintenance	Pruning and insect- or disease-control requirements

Next, select a plant or group of plants to meet your specifications. Consult garden books and nursery catalogs or visit a local nursery. Become familiar with plant materials and discuss the plan with nursery growers. Try not to get too bogged down in this process! Review the section on "Evaluating Landscape Sustainability" before making final plant selections.

Finally, on your map, designate specific plantings and develop the planting key (Figure 12). By following the guidelines in this chapter, you will create a pleasing landscape. Remember, however, that plans are made to be changed, and a landscape is a work in progress.
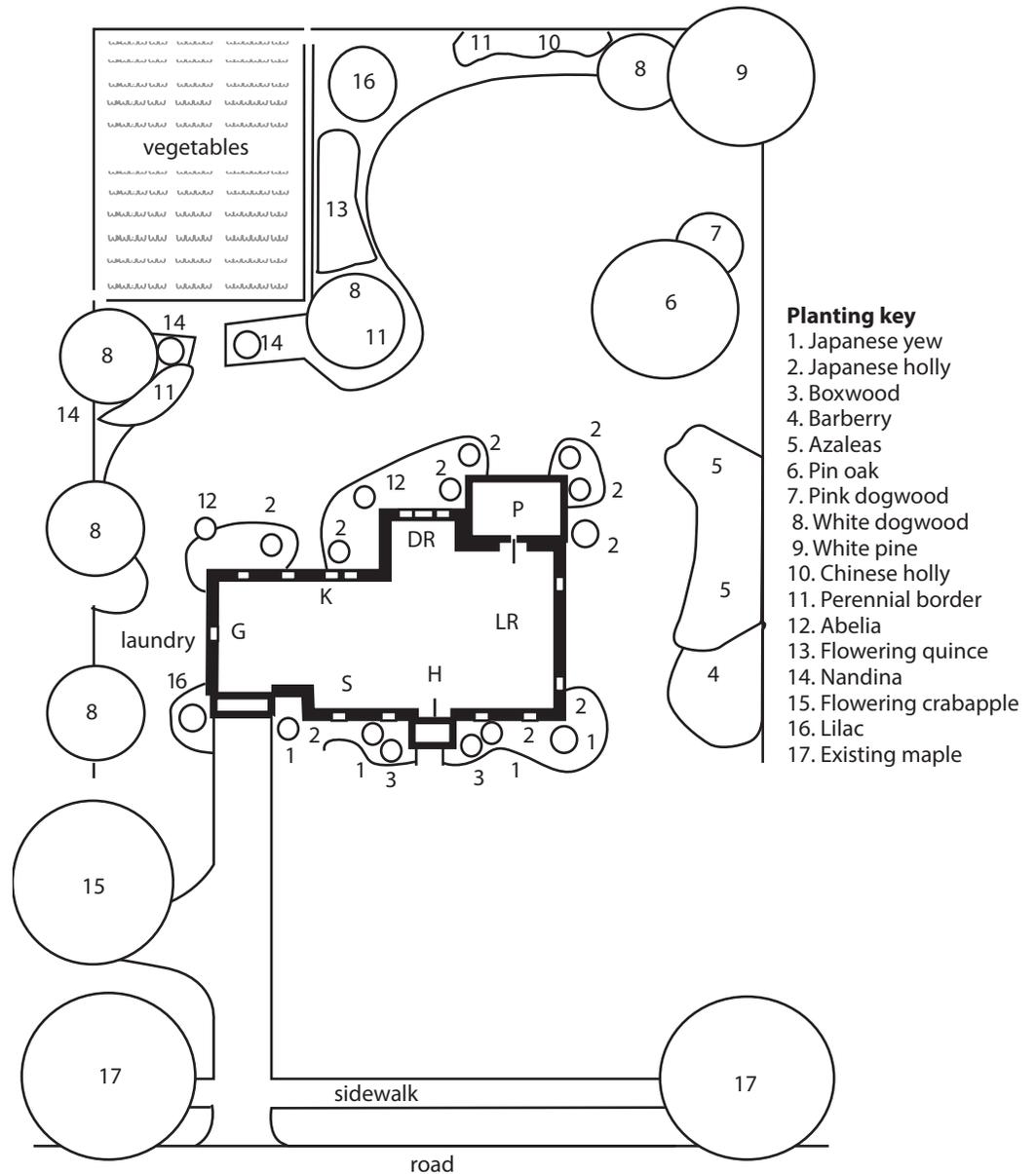
Renovating an Established Landscape

Making major changes or renovating a mature landscape can be a challenge. If you move to a home with a mature landscape, it's a good idea to live with the design for a full year before deciding which shrubs and trees to keep and which ones to remove or transplant. When making these judgments, keep the previously described design principles in mind.

The following questions may help you decide how to renovate an overgrown, mature landscape:

- Has a site analysis been done?
- What is important in the landscape and what is expendable?
- If the landscape has ample shade, could more shade-loving plants be incorporated?
- Does the landscape have seasonal color and interest?
- Have trees and shrubs become so overgrown they block light from desirable plants that need sun?
- Are your houseplants getting as much light as they used to, or are mature outdoor trees or shrubs blocking their light?
- Do shrubs crowd each other? Do they block views from windows? Should they be pruned or removed? What are some innovative ways to prune overgrown shrubs?
- Have use areas changed? Could old play areas be incorporated into the landscape differently?
- Could raised beds be incorporated to make gardening easier?
- Has a security check been made? Are mature plants concealing doors and windows? Have plants been thinned to create visibility?
- Is there enough time and help to accomplish a major renovation?
- How long will the renovation take? What should be done first?

Figure 12.
Landscape plan with planting key.

Planting key
1. Japanese yew
2. Japanese holly
3. Boxwood
4. Barberry
5. Azaleas
6. Pin oak
7. Pink dogwood
8. White dogwood
9. White pine
10. Chinese holly
11. Perennial border
12. Abelia
13. Flowering quince
14. Nandina
15. Flowering crabapple
16. Lilac
17. Existing maple

Evaluating Landscape Sustainability

In order to create a truly sustainable garden, you may need to change your expectation of what a landscape ought to look like. Perfect lawns, plants, and fruits are all desirable. However, by adjusting your expectations slightly, you can reduce the labor and chemical inputs needed in your landscape.

The following checklist gives guidelines for determining your landscape's sustainability:

- What are the environmental benefits of the landscape?
- Are mulches used to maintain soil fertility and earthworm activity?
- Were plants selected properly to reduce pruning, spraying, and fertilizing?
- Are plants placed in ideal growing conditions (e.g., correct light and drainage)?

* Were plants properly sited so that, when mature, they complement rather than stress each other?
* Have drainage problems been corrected to provide adequate water penetration?
* Was the landscape planned to help prevent erosion?
* Has water runoff been handled properly?
* Has the landscape been developed to reduce the need for high-nitrogen fertilizers?
* Does plant selection take into consideration the effect of sunlight on summer cooling and winter heat?
* Has the landscape created a better environment for people?
* Does the landscape attract beneficial wildlife?

Creating landscapes that are both environmentally sound and aesthetically pleasing can be difficult. However, there are many steps you can take to achieve both beauty and environmental enhancement. The following design strategies all lead to a sustainable landscape:

* Take advantage of existing terrain.
* Capitalize on microclimates.
* Select plants that are appropriate for your growing environment.
* Select plants with disease and insect resistance.
* Incorporate mulches to suppress weed growth and reduce runoff and water evaporation from soil.

For More Information

* HO-80: Spring, Summer and Fall Bulbs
* HO-79: Ornamental Grasses for Kentucky Landscapes
* HO-78: Ground Covers for Ky Landscapes
* HO-77: Perennials for Shady Locations
* HO-76: Perennials for Sunny Locations
* HO-65: Annual Flowers
* HO-62: Landscape Design with Plants: Creating Outdoor Rooms
* HO-61: Trees Shrubs Ground Covers and Vines Suitable for Kentucky Landscapes
* HO-55: Guidelines for Choosing Hedges for Kentucky Yards

Landscape Design Planning Questionnaire

This questionnaire will help you organize your thoughts when designing or renovating your land-scape. It may bring to mind topics you have not considered and will give you a better idea of how to design a landscape to meet your needs.

Site information

First, gather information about your existing yard to see how it will affect your plan.

Color of house: _____   Architectural style:_____

Desirable views: _____

Undesirable views: _____

Overhead utilities: _____

Unique features: _____

1. Soil:
☐ Clay
☐ Sandy
☐ Rocky
☐ Compacted
☐ Surface Rocks

2. Direction of winds:
Summer _____
Winter   _____

3. Are wind screens needed?
☐ No
☐ Yes: Where?

_____

_____

_____

_____

_____

_____

4. Are sound buffers needed?
☐ No
☐ Yes: Where?

_____

_____

_____

_____

_____

_____

5. Are there elevation differences?
☐ Minimal
☐ Moderate
☐ Severe slopes

6. Are retaining walls needed?
☐ No
☐ Yes: Where?

_____

_____

_____

_____

_____

_____

7. Are there soggy areas (high water table)?
☐ No
☐ Yes: Where?

_____

_____

_____

_____

_____

_____

8. Where will water drain?

_____

_____

_____

_____

_____

_____

9. Is a French drain required?
☐ No
☐ Yes

10. Sun exposure:

_____
_____
_____
_____
_____
_____

11. Where is your yard too hot in the summer?

_____
_____
_____
_____
_____
_____

12. Existing trees, shrubs, and surface roots:

_____
_____
_____
_____
_____
_____

13. Existing site features and structures:

_____
_____
_____
_____
_____
_____
_____

14. Existing walks:
☐ Brick
☐ Cement
☐ Gravel
☐ Stone
☐ Bark

15. Is there a parking strip?
☐ No
☐ Yes: Where?

_____
_____
_____
_____
_____

16. Preferred level of maintenance:
☐ High
☐ Medium
☐ Low

Landscape Design Planning Questionnaire, continued

Design considerations
Now, consider how the landscape will be used.

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17. Who will use your yard?
☐ Adults
☐ Children
☐ Elderly
☐ Pets

18. Preferred style:
☐ Formal
☐ Semiformal
☐ Informal
☐ Theme (e.g., English, Oriental, or natural)

19. Preferred shapes (for lawns, walks, decks):
☐ Rectangular
☐ 45° angles
☐ Circles
☐ Straight lines
☐ Curving/free-form
☐ Combination

20. Type of front entryway:
☐ Straight to the door
☐ Meandering
☐ Private courtyard

21. Outdoor structures/features:
☐ Patio roof
☐ Raised planters
☐ Children's play area
☐ Satellite dish
☐ Dog pen/run
☐ Storage shed
☐ BBQ area
☐ Gazebo
☐ Deck
☐ Fence
☐ Swimming pool
☐ Spa/hot tub
☐ Sculpture
☐ Boulders
☐ Dry creek
☐ Mounds/berms
☐ Pond
☐ Bench
☐ Fountain
☐ Waterfall and stream
☐ Greenhouse
☐ Other:

_____

_____

_____

_____

_____

_____

22. What size patio/deck do you need?
☐ 2–4 people
☐ 4–8 people
☐ 8–12 people
☐ 12+ people

23. Do you want walkways connecting parts of your yard?
☐ Yes
☐ No

24. Do you want outdoor lighting?
☐ Landscape
☐ Security

25. What items need storage space?
☐ Garden equipment
☐ Garbage cans
☐ Other:

_____

_____

_____

_____

_____

26. Do you need off-street parking for guests?
☐ Cars
☐ RVs
☐ Other:

_____

_____

_____

_____

_____

_____

27. How will you water?
☐ Garden hose
☐ Sprinkler system
☐ Drip irrigation

28. Photos can help you visualize what you want. Do you have photographs of your yard?
☐ Yes
☐ No

29. Finally, think about the types of plants that will meet your needs. What type of plants do you like?

_____

_____

_____

_____

_____

_____

30. Broadleaf evergreens trees and shrubs:
☐ Flowering
☐ Nonflowering

31. Deciduous trees and shrubs:
☐ Flowering
☐ Nonflowering
☐ Conifer trees
☐ Fruit trees
☐ Shade trees
☐ Junipers
☐ Vines
☐ Roses
☐ Annual flowers
☐ Perennial flowers
☐ Vegetables
☐ Herbs
☐ Other:

_____

_____

_____

_____

_____

_____

32. Do you like fragrant plants?
☐ Yes
☐ No

33. Favorite colors:

_____

_____

_____

_____

_____

_____

34. Least favorite colors:

_____

_____

_____

_____

_____

_____

35. How much lawn do you want?
☐ None
☐ Small
☐ Average
☐ Large
Where will the lawn be?

_____

_____

_____

_____

_____

_____

36. Is anyone in your family allergic to specific plants?
☐ Yes
☐ No

37. Is anyone in your family allergic to bees?
☐ Yes
☐ No

38. Are deer a problem?
☐ Yes
☐ No

39. What special garden areas do you want?
☐ Vegetables
☐ Annuals
☐ Roses
☐ Perennials
☐ Herbs
☐ Wildlife/native
☐ Orchard
☐ Shade
☐ Rock garden
☐ Cut flowers
☐ Fragrance
☐ Wheelchair-accessible
☐ Other:

_____

_____

_____

_____

_____

_____

40. Other comments:

_____

_____

_____

_____

_____

_____