

*David Berle, Extension Horticulture Specialist*

the hardness of the lead. The typical rating system for drafting pencils goes from 6H to 6B, where 6H is very hard and light and 6B is very soft and dark. Different pencil lead weights help depict the landscape features in different ways. Ink pens make clearer, darker lines, but erasing is almost impossible. Smearing is also a potential problem with ink pens. Inexpensive pens with a rolling tip work almost as well as the more expensive professional pens with interchangeable heads.

A good base map should show all structures, including sidewalks and driveways. The outline or footprint of the house should also include the location of doors, windows, heating and air conditioning units, and spigots. Draw the street in front of the house along with the property lines. The base map should also include the locations of meters, utility boxes and poles, as these are expensive to move and require occasional access. Some base maps also show details such as the location of overhead and underground utilities, streams, ditches and any easements or setbacks. Interesting landscape features such as rock outcroppings could also be drawn on a landscape base map. The base map is usually drawn after completing a site analysis. (See Circular 1032-4, *Drawing a Landscape Plan: Site Analysis*, for more information on conducting a site analysis.)

The base map is essentially a bird's-eye view of the landscape. Features of the landscape are drawn with a sharp pencil or rolling ink pen. Most beginners prefer to draw landscape plans using a regular pencil and a good eraser. Special drafting pencils vary based on



The type of paper used to draw a landscape plan depends on the type of copy that will be made and how the plan will be used. Landscape architects usually draw on a strong tracing paper called vellum and then copy onto bond, which is the same paper used in most computer printers. Graph paper helps beginners make accurate measurements and makes it easier to calculate the area of an enclosed space. Each square on the graph paper can be used to represent a specific dimension. For example, if one square equals a square foot, a square that is four squares by four squares in size would represent 16 square feet. Blue-lined graph paper can be copied and the graph lines will not show if the copier is at a lighter setting. Large sheets of white paper and graph paper are usually available wherever art supplies are sold and can also be found at blueprint supply companies. With a base map complete, tracing paper can be laid overtop to experiment with different landscape ideas. Straight lines and circles are drawn to represent the elements of the landscape. For example, circles are drawn to represent the approximate area covered by the tree canopy. A common ruler and circular objects such as coins and jar lids can be used, and inexpensive templates are available from office supply stores. Everything can also be drawn free-hand, depending on your skill and the accuracy required. Drawing boards and drafting tables are used by professionals to provide a clean, smooth surface for drawing. Some come with a sliding straight edge connected. These special boards are expensive for one-time users, but may be worth the expense if drawing is a frequent activity. Otherwise, the drawing paper can be placed on a clean, smooth table.

### **Computer Landscape Drawing**

Many people are uncomfortable with hand drawing and feel computer drafting is easier and more accurate. There are many software programs available, but in general, those that are easy to use do not provide very accurate drawings and those that create accurate drawings take a long time to learn. Many of the programs that provide 3-D imagery are less accurate and offer a selection of plants not always adapted to Georgia. If you are skilled with computers, the best programs are those that are used by landscape architects and engineers and draw using “vector graphics” and “real” measurements and dimensions. There are cheap versions of vector graphic programs and even some “freeware” programs available that can create accurate drawings. Other than how the drawing is drafted, the process of drawing by hand or computer is similar.

### **Scaled Drawing**

The drawing of the landscape should be scaled to accurately to depict the landscape and allow measurements to be taken from the drawing. A scaled drawing means that measurements taken outside will be drawn in a much smaller dimension on the paper, depending on the size of scale used. Most landscape plans are drawn to a scale of 1:10, which means that 10 feet on the ground equals 1 inch on paper. For example, a 100-foot driveway would be 10 inches on paper. Using a 1:4 scale, 100 feet would be 25 inches on paper. Other popular landscape scales are 1:4, 1:5, 1:8, 1:10, 1:16 and 1:20. Scales of 1:4, 1:8 or 1:16 match the common increments used on a conventional ruler, but scales of 1:10 and 1:20 are used by engineers and landscape architects. Scaled rulers, especially for drafting, are available with multiple scale increments marked on them. They are inexpensive and can make drawing easier. The size of the paper and the size of area to be represented will determine the scale chosen. The larger the piece of paper, the smaller the possible scale, which makes it easier to read. If the landscape area cannot fit onto the paper without scaling down to a size that is difficult to read, several sheets of paper will be necessary. One benefit of computer drafting is the ability to print the drawing at various scales, depending on access to larger printers.

### **Measuring and Mapping**

If the house is fairly new, much of the base information will be found on a property survey, subdivision plat or deed. Current property maps and base information are often available from the local planning office. County tax offices may also be a source of information. In many areas, this information is now available online through county websites, or in some cases, through websites that provide aerial imagery. If none of these are available, it will be necessary to take the measurements and create a base map. For this job, a 100-foot measuring tape is helpful.

First, locate the property corner markers. If none are found, estimate their locations. Measure from each corner point and record this on a sketch of the property. Make the sketch approximately the shape of the property boundary line. This process may take several attempts to get accurate dimensions that fit together to form the boundary, but the time spent at this step will make the rest of the drawing easier and more accurate. If the corner markers cannot be found, avoid land-

scape activity close to the estimated boundary that will impose on neighbors and possibly violate local zoning and building codes. If there is any question about property line location, the cost of a professional surveyor will pay for itself in the long run. If the property is too large to measure, consider mapping just the area chosen for the landscape project. Measure the street and sidewalk in relation to the property lines before locating the house. In most situations, there are setbacks and easements from the street that could affect the landscape plans, so check with the local planning office to get this information and draw in these lines as well.

Next, take measurements of the house by starting at a corner that faces the street. Sketch in the approximate outline, or footprint, of the house. Show all the corners and turns. Then measure from the first corner of the house to the next point the house changes direction and record this distance on the sketch. Measure from this second point on the house to the street. Keep the measuring tape as straight as possible. Continue along the front of the house, measuring to each turning point, and then out to the street. Every point does not need a measurement to the street. When finished measuring along the front of the house, move to the other three sides. Be sure to measure and indicate on the drawing items such as porches, air conditioning units, steps and the front door. These, and other similar elements, can be critical to the final design. Once the

house is measured on all sides, stop and draw a scaled version of the entire house or the portions that relate to the landscape plan. This will serve as guide for the remaining measurements.

With the house drawn on the base map, move out into the yard and record measurements of existing beds, natural areas, individual trees and any other landscape elements such as gardens or dog pens. The easiest way to measure the locations of landscape features is to measure the distance from the house or known location and a second fixed location, such as the street or driveway. This will increase the accuracy of the drawing and make it easier to draw on the plan. For example, to locate a tree in the yard, measure from two different corners on the house to the tree. The two distances can be matched up on the base map to correctly show the location of the tree.

### **Copies and Prints**

Once the measuring and drawing of all the features is complete, the base map can be “cleaned up” with an eraser or liquid paper to remove smudge marks, crooked lines and any other non-essential lines or notes. This drawing can then be copied onto standard white bond paper. Make several copies of the base map to use in preparing the final plan. Any landscape design plans can be drawn on these copies or drawn on tracing paper laid over top.

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