Field Painting

by Mike Hebrard

Do your homework

Field dimensions for each sport at every level of play are clearly defined by the appropriate governing and sanctioning bodies. If you don't have the direct contact information for this resource, visit the Sports Turf Managers Association Web site, *www.sportsturfmanager.org*, or a general sports Web site, such as *www.sportsknowhow.com*, to track it down.

Determine where the measurements should begin—the middle of the line, the inside or the outside. This varies with the sport, and even with the specific markings for that sport. With football, for example, the measurement is from the inside of the line along the goal lines, end lines and sidelines. That means you start painting the line at the point of measurement and paint out from it. For the yard lines, the distance is measured at the middle of the painted line. Soccer is measured to the outside of the lines, except for the centerline, which is measured from the middle.

Be square

For football and soccer fields, establish the four corners, and then mark them permanently so you can use them again. Drive a 2-inch metal pipe into the ground, sinking it slightly below the surface of the soil. You can find it in the future by using a metal detector. Or use one of the commercial products available to permanently mark these points.

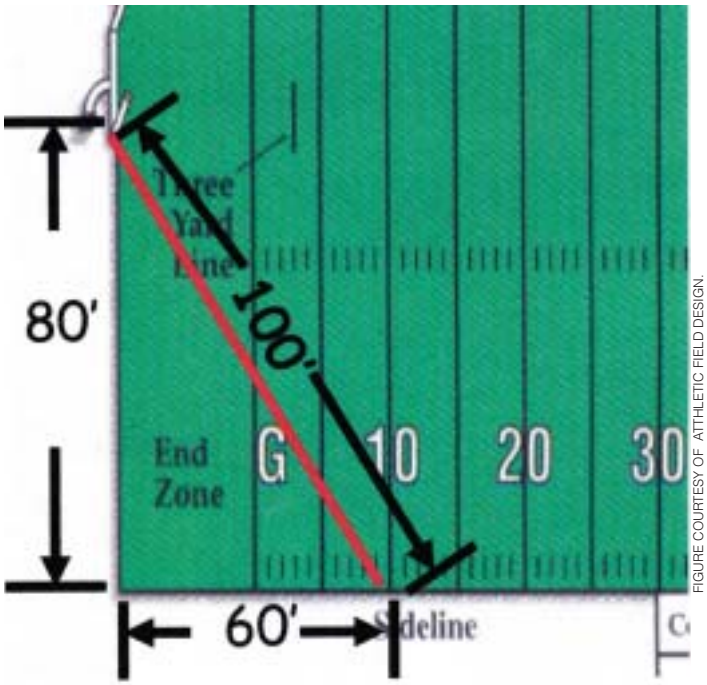

FIGURE COURTESY OF ATTHLETIC FIELD DESIGN.

Figure 1.
- *Middle of goalpost to inside of sideline, 80 feet.*
- *From end line to middle of 10-yard line, 60 feet.*
- *Middle of goalpost to middle of 10-yard line at the sideline, 100 feet.*
- *Repeat at four corners.*

PHOTOS COURTESY OF MIKE HEBRARD.

Painting a warning track at the Little League Softball World Series.

American football fields at the high school, college and professional levels have the same overall dimensions. The length is 360 feet or 120 yards, including the two 10-yard deep end zones. The width is 160 feet or 53-1/3 yards.

You'll need string or cord for stretching along the area you'll want to mark. String may stretch or break, so try 1/8-inch nylon cord instead. You can use a spool attached to a cordless electric drill to quickly wind up the cord. Use the permanent stakes as the attachment point for the cord when you lay out the sidelines and end lines. Bright florescent orange Philips screwdrivers can be used to anchor the string at both ends while allowing you to site down the string to see if it is straight. The screwdrivers stand out in the grass so you won't leave them behind.

The "WL" was done freehand using a grid system with removable paint.

The "G" is freehand using an ellipse formula with permanent paint.

Now determine the center of the field. Since not all goalposts are the correct distance apart, or in line with each other, start measuring at the middle of the goalposts. For the "H" style goalposts, measure the distance and set the halfway point. (High school goalposts should be 23 feet, 6 inches wide. College and pro level goalposts should be 18 feet, 6 inches wide.) For gooseneck goalposts, measure from the front of the pole. Depending on how much the goalpost hangs, usually between 5 and 6 feet, mark a spot the same distance from each goalpost along the string line that matches the amount of the overhang. By using a premade cable with the proper measurements or a steel-clad fiberglass tape measure at least 360 feet long, you can mark that distance so that it is the same from each of the goalposts. Run the cord from goalpost to goalpost to pinpoint the center of the field. From that point, measure straight out 80 feet to each sideline and mark that spot with a landscape flag, color-coded nail or a dot of aerosol field paint.

Now follow the 3-4-5 guidelines to establish square corners on the football field. Since 80 feet is one of the multipliers, (the 4), run a cord from the center of the goalpost 80 feet straight to the side to the inside point of the sideline and mark that spot. Run a cord from the center of the goalpost 60 feet straight out toward the other goalpost. This point should be the middle of the 10-yard line. Now run a cord from the center of the goalpost 100 feet diagonally to the middle of the 10-yard line where it meets the sideline. That's the 5 multiplier. The distance from this point, along the sideline, will be 60 feet to the point of the end line (the 3 multiplier). This forms a triangle with the 90-degree angle the corner point where the sideline meets the end line. Repeat this step at all four corners. (See Figure 1.)

Similar 3-4-5 guidelines provide the basis for laying out soccer fields. (See Figure 2.)

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Using stencils

Stencils are a great way to quickly outline complicated logos that you use frequently and for the basics, such as the numbers for a football field. Logo stencils can be purchased or developed in-house if you prefer.

To make your own logo stencil, project the design, in the size it will be painted, onto a white polyethylene tarp with grommets. Trace the image with a black marker and note the correct colors per area, or use colored markers corresponding to the logo colors. Use a razor to cut half-moon shaped holes in the tarp at the edge of the design at about 1-foot intervals. Use closer spacing if needed to clearly define the design. The curved section of the half-moon should face into the area that will be painted. The straight edge of the half-moon should indicate the outside line of the design. When drawing the stencil, try to center it on the tarp as this makes it easier to lay out correctly.

Anchor the stencil to its proper place on the field. Check and double-check to make sure the placement is accurate for location and is squared both horizontally and vertically before you start painting. It's far easier to reposition a stencil than to redo a paint job. Then paint the half-moons in the appropriate colors. Once the stencil is removed, fill in the areas on the rounded side of the different half-moons with the matching colors of paint to complete the logo.

Freehand painting

A graph system is the most precise method of freehand painting. There are three major shapes that really help guide you in freehand painting: the circle, the star and the ellipse. The circle is the most basic. Determine the appropriate size and placement. Measure from predetermined points (such as end zones, sidelines or lines) to form the horizontal and vertical axis lines. The spot where these two lines cross is the center of the circle. Place a stake or nail at that point. Measure a length that is one-half the desired width (or diameter) of the circle. For example, if the diameter of the circle is 18 feet, half that distance (or the radius of the circle) would be 9 feet. Anchor one end of the 9-foot cord at the center of the circle and stretch it outward to create the marking points for the perimeter of the circle.

You can set up a circle, and then use it as the base to develop a five-point star. (See Figure 3.) You'll be using a 7 to 6 ratio. If the radius of the circle is 9 feet, multiple that by 7, which equals 63, and divide it by 6, which equals 10.5 feet. Mark your first point at the top of the circle. Move 10.5 feet along the perimeter of the circle to mark your second point. Measure from that spot 10.5 feet along the perimeter to mark your third point. Repeat the process until you are back to the top spot. You'll have five spots marked on the perimeter of the circle, which are the locations of the five points of the star.

To form an ellipse, determine the dimensions you want from top to bottom and side to side. (See Figure 4.) String cords both horizontally and vertically to these lengths at the location on the field, making sure they are squared with existing lines. The center of the ellipse is the point where the two lines intersect. From this point measure half the width in both directions and mark these points with a pin. Stretch a cord to the top to measure half the height. Using half of the width, measure from the top along the width axis and mark that spot in both directions. Wrap a cord around all three pins and tie it off. Remove the top pin. Use a marking device and, keeping the cord tight, mark in a clockwise direction all the way around the ellipse. The ellipse can form the border for either freehand or stencil-formed logos or letters.

Figure 2.

Width	1/2	X	3	5
50 yard at 150 feet	75 feet	18.75	56.25	93.75
55 yard at 165 feet	82.5	20.625	61.875	103.125
60 yard at 180 feet	90 feet	22.5	67.5	112.5
65 yard at 195 feet	97.5 feet	24.375	73.125	121.875
70 yard at 210 feet	105 feet	26.25	78.75	131.25
75 yard at 225 feet	112.5 feet	28.125	84.375	140.625

X is the multiple for half of the width to create "4"

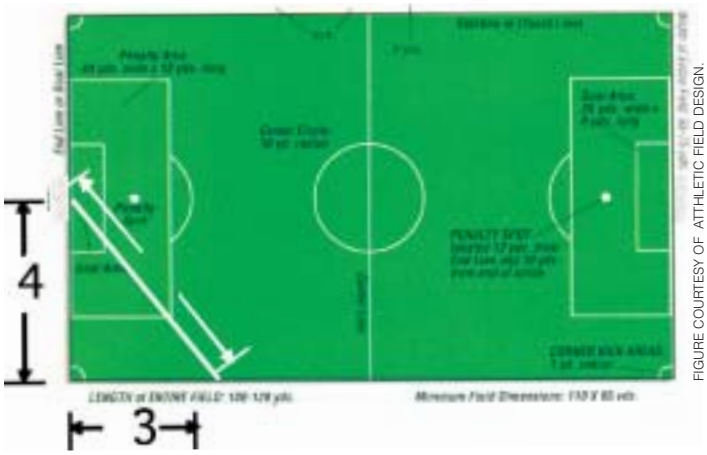

FIGURE COURTESY OF ATHLETIC FIELD DESIGN.

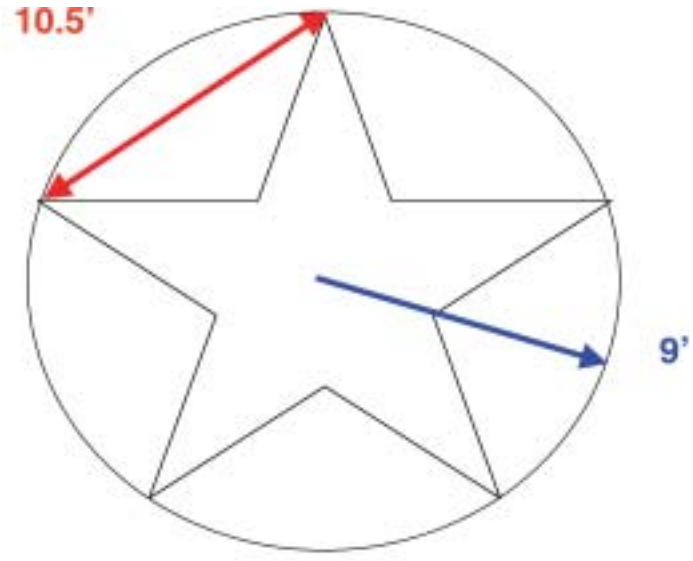

Figure 3.
The best way to describe the process is using a 7: 6 ratio. Say your radius is 9 feet, multiply by 7 feet (63 feet) divided by 6 feet equals 10.5 feet or 9 feet x 7 feet divided by 6 feet.

More hints

You can paint on dirt, but it takes quite a bit of prior planning, and traffic or rain quickly erases it. You need to work on a moist surface. This creates a staining effect much like staining wood, and the logo will last longer. If the area is rock hard, the paint won't stick. If it's dry and loose, the pressure of the paint application will move the surface. You won't be able to walk on the areas you've just painted, so figure out what colors you want to use in which order and at which locations.

When the center of a football field is badly worn, maybe even down to the dirt, use a stencil to place a dark colored helmet (even black) as the base for the center logo. Then freehand paint the team's helmet logo on that helmet.

You can line out areas with paint for crowd control for concerts or community activities on your fields. Use cord lines to set out the dimensions of the areas and paint the boundaries for places for attendees to stand and to sit. Remember to also designate areas to keep clear for fire lanes.

When natural turfgrass is wet, but the paint has to go down, try one of these methods to prepare the surface. Use a gas-powered blower to clear the water droplets off the blades. Or, use a length of .5-inch PVC pipe or a length of water hose to swipe over the turf surface to knock off the water.

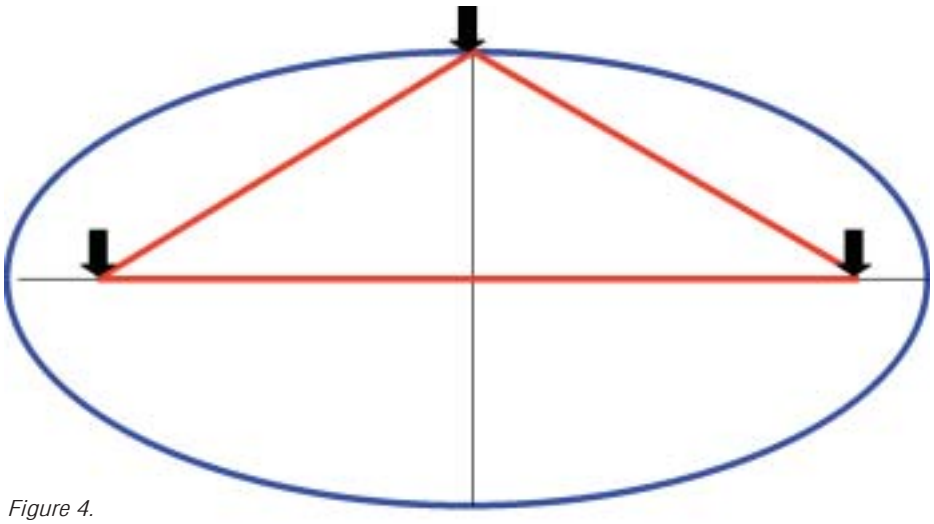

Figure 4.
From center of ellipse measure half the width in both directions and mark with a pin, measure half the height to the top and mark with a pin. Using half of the width measure from the top along the width axis and mark in both directions. Wrap string around all three pins and tie off. Remove top pin. Use marking device and, keeping string tight, mark in a clockwise direction all the way around the ellipse.

Using hot water while mixing the paint can improve drying time.

Don't be afraid to think out of the box. The aesthetics you create through field lining and painting adds to the overall sports experience for participants and spectators, and that makes it all worthwhile. SFM

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