With state-of-the-art equipment and materials, the sports turf manager can create simple, attractive logos that do not detract from the playability of the turf.

Painting and Striping Athletic Fields

By Mike Hebrard

Congratulations! Because of your years of loyalty and your high degree of intellect, you have been selected to layout and stripe the athletic fields this season. Also, no one else knows how to do it. So it’s up to you to educate yourself. For instance, you’ll want to have on file drawings of dimensions for the sports that pertain to you. You’ll be surprised how many other grounds persons are in the same predicament as you and need a quick reference source. You’ll also want to have readily available some basic equipment and materials for the various tasks required.

String

I like to use a 1/8-inch nylon cord on a reel that I can wind up with a cordless electric drill. Cotton can be used, but it tends to lose its strength over a period of time and can break. Builders’ string is good for marking short distances as it absorbs the paint better and is less likely to mark the grass when one moves the string. The string should be tight without any “slop” considering the conditions of the turf so that the holding pins won’t pull out easily in soft ground.

It is a good idea to coat with bright paint any and all marking devices to make finding them easy. Otherwise, they might be left on the field, causing either damage or injury.

By lifting the string, snapping it and rolling it off your fingers, you can get the string as straight as possible.

Marking

There are some products available to the grounds person for the ease of marking the field. I like to use the Mark Smart system from Marker Inc. to permanently mark the corner of the field as well as the corner and radius points for soccer. Football pylons as well as soccer flags can be inserted into the markers as well. Along with Milburn’s E-Z Right pre-marked cable, I can accurately get the correct measurements and insert a marker at the correct locale.

Paint

There are several paint manufacturers that specialize in paint for athletic fields. When you choose a supplier, cost is probably the biggest factor, but also be careful in what you specify. Make sure you buy paint, not 50 percent water with paint. Some paint adheres to the grass blades better, and others are brighter.

Availability and service support can also be a very valuable consideration. What good is it to receive paint on Monday if the game was on Friday? Consider what kind of assistance your supplier can provide regarding technical support or accessories. Sometimes the company with the best price for white can’t come close to matching another company’s price for five gallons of red. Different colors can have drastic price differences depending on the quantity and ingredient.

Also, some colored paint can kill the grass if the formulation is not intended for that application. To ensure that you have purchased a high quality color paint, stay away from the brands that are made from a tint base. After a mild frost or rain, the painted turf will lose its brightness, and the grass leaves will have a white cast to them. Aerosol cans have their place for layout and quick striping but can’t give the clarity for the cost as a mixed paint solution applied properly.

When possible, mix the paint with hot water to place some of the solids in suspension more easily and to obtain a quicker drying time, especially during cold fall and winter mornings. By using a weed-eater with a curved shaft (remove the shroud and line holder), you can mix the muckiest mess thoroughly in minutes. By removing the lids when mixing the paint, as opposed to unscrewing the little cap on top, you can more thoroughly inspect the paint and mix it. Other methods of mixing paint can be used, such as bucket to bucket, or a paint mixing paddle on an electric drill. But my favorite is still the weed-eater because of its high RPMs, which mixes the paint thoroughly.
Be sure to have an MSDS on file for any paint or chemical that you apply to the field. Avoid using paint that is exposed to freezing. It turns to a cottage-cheese-looking sludge. It can be used in a pinch, but be prepared for a mess and clogged nozzles.

**Wet Weather**

If the grass is wet, there are a couple of last-minute techniques that can be used to ensure a better quality line. Use a gas-powered blower to remove the larger water droplets from the grass blades. When the paint makes contact with those heavy droplets, it will dilute the painted line. Also, you can whip a long 1/2-inch PVC pipe or a hose across the turf to knock the water off. Or you can use hot water to help a really wet surface dry faster. Plus, using a little heavier concentration of paint can help.

If the paint is applied properly before it rains, it has a better chance of lasting, so timing is of the essence. Yes, you might have to work through a scheduled break to beat the weather, but in the long run it will be worth it.

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**Using the table and diagrams here, anyone can layout any size of soccer field.**

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Painting

It is best to paint a light coat first and let it dry if time permits. This will act as a primer base and allow for a brighter line. Don’t paint too quickly or you will dilute the line with the added water in the paint being applied and lose some of the brightness.

There are several ways of applying paint to the turfgrass. The standard way is to use a powered painter. A low pressured application is usually around 30 to 50 psi with the pressure derived from CO₂, electric pump, hand pump, gear pump or piston pump.

By far the most professional method is with an airless type painter. This allows you to atomize the paint during application for a quicker drying time, thus applying a second coat or another color quicker. Airless painters develop anywhere from 1,500 to 3,000 psi, so more safety concerns are present. Also with an airless painter, one can accidentally shoot the paint into the soil, leaving a sealed barrier at the crown of the plant that causes turf damage.

It is best to paint along the side of the string so as not to soak the string with paint and cause painted string marks in the turf or drip marks — although the easiest and quickest method is painting directly on the string. Other painting techniques that can be used are a painter with a four-inch shield to prevent any drift outside of the desired line thickness, the use of a four-inch paint brush along a string (don't laugh — some grounds people swear by it), and a 20-foot-long aluminum stencil board for the most perfect four-inch line that can be painted. This is a method used by George Toma's Super Bowl grounds crew and several other stadium professionals.

Different spraying nozzles can be an option. Stay away from the cone type; they leave a hollow spot in the middle of the spray and don’t offer good density. The fan tip nozzles are the most popular and can have several patterns and angles to choose from, so check with your local supplier.
Nozzles should be replaced when the spray pattern becomes distorted. Be sure to use a filter to prevent clogging, as one little grit can quickly alter a near perfect line. I have had some success with a twin type nozzle, which sprays out of two orifices, painting on both sides of the grass on one pass. A special tooth brush-looking brush can be purchased to aid in quickly cleaning the plugged nozzle.

Always remove the nozzle after painting, as some of the paint residue may still be in the line and settle into the lowest spot in the line, plugging it up. It is also advisable to have other nozzles available in case of a plug or if a different angle is needed.

**Stencils**

More and more stadiums are trying to let it be known they have the best marked field. However, with a little planning and some constructing, anyone can make a field look like that on the "Game of the Week."

Numbers can be made from scrap plywood or other materials. Be careful when using some of the plastic stencils during a drizzle or rain as they will re-dilute the paint and make for a messy job. It doesn't take that much more time or paint so I recommend using the biggest numbers possible, which is six feet, and using the arrow pointing toward the goal from the 40's on in. The numbers can also be highlighted with the teams' colors, which can become very labor intensive and costly.

All of these marks on the football fields aren't just for looks; there are some underlying advantages. Besides building up an atmosphere and excitement for the players and student body, there are statisticians, announcers, coaches and game officials that value these markings to help with the overall administration of the game.

I'm not a big fan of painting logos in the end zones at the high school and small college level for a couple of reasons. First, most of the seats are in the middle of the field and not that high up; second, the amount of paint and area to cover can become very costly if done correctly. I like to use a standard football helmet stencil in the middle of the field. That is where most of the turf damage takes place, and sometimes with a big logo in the middle of the field, it can cover some of that wear.

By outlining any logo or letter with a pin-line to four-inch contrasting color, you can give the logo or letter more definition. Another highlight that will help your field stand out more, for not much money and time, is to paint on each side of the 20's and 50 yard lines with one of the school colors. This really gives you a perspective of where the ball is.

Be prepared to take a lot of photographs — what better way to dress up your office or school than a large picture of your hard work? There are now companies that can be hired to take air photos from a large blimp with a remote control.

If you properly communicate with your athletic department or booster club, the labor force for moving stencils can be provided by the students while the coaches supervise your instructions.

I learn every time I mark a field. So, keep your eyes and mind open. There is always a better way to do something, and by staying alert, you might just find methods that fit your style.

Mike Hebrard is an athletic field consultant with Athletic Design in Portland, OR.

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