

## SUPER TIP

# Drainage, Drainage, Drainage

By Darren J. Davis

On a recent ride around my golf course, I had my ever-present paint gun locked and loaded and within easy reach. That day as I negotiated the 16th hole with my assistant Andy riding shotgun, a wet area caught my attention out of the side of my eye. With my right hand still grasping the steering wheel and my eyes trained forward, I reached for the floor, grasped the handle of my paint gun with my left hand, and within seconds my index finger hit the trigger—painting another drainage project.

Not that I am proud of it, but I am fairly skilled at having a paint gun in my hand and in use in seconds, all without impeding my forward progress. As I hit my mark, my assistant remarked, “You know Darren, I am worried about you.”

I stopped the cart and asked, “What do you mean? What’s up?”

He looked me in the eye and said, “I think you may need to attend ... meetings.”

With a quizzical look on my face I



Use a 12-inch wide sod cutter blade to make the initial cut on the painted drain lines. Photo by Darren Davis.

said, “Huh?! What meetings?”

He said, “You know ... drain-aholic meetings” Without missing a beat he added with a smile on his face, “Hi, my name is Darren Davis, and I am a drain-aholic.” Not necessarily known for his humor, I had to laugh out loud

and compliment his wit.

Truth be told, Andy is not far off on his assessment. As I wondered whether I was indeed addicted, and thought about the more than 14 miles of subsurface drain tile that I have installed on my 18-hole golf course, it dawned on me. I realized that the blame, or more appropriately, the credit belongs to one of my mentors, Dr. Joe Duich, professor emeritus of turfgrass science at The Pennsylvania State University.

Dr. Duich developed the two-year turfgrass management technical program in 1957. He was known for his wit and challenging teaching method, and he was also one of my professors in 1990 and 1991. I can vividly recall many examples—one of which involved drainage.

During a class in the fall of 1991, after my classmates and I couldn’t provide Dr. Duich with a suitable answer to his question, “What is one of the most fundamental aspects of successful turfgrass management,” Dr. Duich informed us that the correct response was, “Drainage, drainage, drainage.”

My classmates and I, who could rarely provide the famed turfgrass scientist



Excavate the drain line to a depth of 16 inches and 12 inches wide. Photo by Darren Davis.



*Install a strip of stucco mesh lath over the gravel layer. Photo by Darren Davis.*

with an acceptable answer to one of his oral pop quizzes, sat quietly, somewhat confused and definitely speechless. After what seemed like minutes, but in hindsight was probably seconds, Dr. Duich continued, “It’s not rocket science. If you want to be successful at growing turfgrass, you need air drainage, surface drainage and subsurface drainage.”

As was often the case with Dr. Duich, it took me a while to really get to the take-home message of this “Super Tip,” which is subsurface drainage and our use of stucco mesh lath as part of the process. In case you are curious, the aforementioned 14 miles of subsurface drainage installed during my 18-year tenure at Olde Florida Golf Club is not an exaggeration.

Our method of installing drainage is not unique; however, based on the comments I have received from others, what is unique is our use of stucco mesh lath as a cover. The steps in our drainage installation and use of stucco mesh lath are as follows:

Step one of our drainage installation is to figure out the best method to get water from “point A to point B”. After my trusty paint gun and I paint out a

drainage project, which is, of course, the easy part, my assistants consult our irrigation as-built, a wire tracer, etc., to determine if there are any subsurface items that the staff will need to avoid.

Next, a sod cutter with a 12-inch blade is used to remove the turfgrass (Note: the use of the narrow sod cutter blade will become evident at the end).

The soil is then excavated to a depth of 16 inches and a width of 12 inches.

Flexible, perforated drainage pipe is laid in the bottom center of the trench and pea gravel is carefully installed and compacted so the gravel is level with existing grade.



*The mesh will hold the gravel in place and help turf coverage. Photo by Darren Davis.*

Now—DRUMROLL—for the “Super Tip” part of this drainage procedure... We purchase sheets of stucco mesh lath (without paper backing) from our local Lowes that measures 27 by 96 inches. After marking the center of the sheets’ width with a tape measure and a Sharpie, an employee cuts the sheet with a pair of tin snips to produce two 13½-inch sheets. In the field, the sod on both sides of the new drain line is lifted with a shovel, and the mesh lath is tucked under the turf on both sides of the trench.

And that’s why we used the 12 inch sod cutter blade width.

Using stucco mesh lath as a cover provides several benefits. First, the drainage will be more effective in quickly removing water from the surface if the water does not have to penetrate a layer of thatch and/or soil. Second, the mesh lath holds the gravel beneath the surface so machinery does not dislodge the gravel and damage the reels on our mowing equipment. Finally, the mesh lath also provides a fixed surface for bermudagrass stolons to attach as they grow laterally across the trench. It really isn’t rocket science, but the stucco mesh lath has worked well for us.