STMA in Action

Getting into the Game

For STMA chapters, winter was a busy time. Most chapters held their annual elections, the new officers and board members held their initial planning meetings, and the wheels are rolling for 1997 events.

For those events, the behind-the-scenes activities take lots of time. Coming up with ideas, making the right contacts, and coordinating all the details must happen long before the event takes place. Then comes the actual work for the event itself.

If you can help, it would be a way of giving something back to "your industry." It's also a great way to get to know your peers better and gain a sense of accomplishment. Most of the time, it's fun, too! So, if you've been standing on the sidelines wondering if the game is worth playing, now is the time to ask the coach to get you into the game.

Besides planning events, your chapters have also used the winter season to increase the visibility of sports turf managers.

Now there are sports turf sessions at most state and regional turfgrass conferences. Those sessions are often planned with the help of STMA members and provide worthwhile information for other turf managers.

STMA chapters are offering scholarships and internship programs to sports turf students, and are contributing funds to university turf research programs to advance industry technology.

Besides those intra-industry efforts, STMA chapters are developing service projects to bring community sports turf facilities to the best possible condition. Those hands-on work sessions include donations of materials and labor hours and often instruction for those who will maintain the improved fields.

Iowa Chapter's president, Kevin Vos (right), presents a check for research on behalf of the chapter to Iowa State University's Dr. David Minner.

Several recipients of STMA's Field of the Year Award have been honored by their communities during public ceremonies at sports events. This helps increase community awareness of what sports turf managers do and why it matters.

STMA Chapter News

Florida Chapter #1: The Florida Chapter's next meeting will be an aerification seminar — with demonstrations — held in June in conjunction with the Dade County Extension Service.

For more information, contact John Mascaro at (954) 938-7477.

Minnesota Chapter: The Minnesota Chapter's events schedule for 1997 is in the planning stages.

For information, contact Connie Rudolph at (612) 644-0639.

Colorado Chapter: The Colorado Chapter is developing plans for its 1997 special events.

For information, call the 24-Hour CSTMA Chapter Hotline/FAX: (303) 438-9645.

Iowa STMA: The Iowa Sports Turf Managers Association is working on the events schedule for 1997.

For more information, contact Lori Westrum at The Turf Office: (515) 232-8222 (phone) or (515) 232-8228 (fax).

Southern California Chapter: The Southern California Chapter board is wrapping up plans for its 1997 special events.

For information, contact Chris Bunnell at (619) 432-2421.

Midwest Chapter: The Midwest Chapter is putting together the 1997 schedule of events.

For information, call The Chapter Hotline: (847) 439-4727.

STMA Chapters on the Grow

KAFMO: The Keystone Athletic Field Managers Organization (KAFMO) is currently working toward STMA affiliation.

Their next event, "A Field Day with Floyd Perry," will include members of the Pennsylvania Recreation and Park Society. One field day will take place on May 15 in central Pennsylvania, a second on May 16 in western Pennsylvania. For more details on these field days, contact Don Fowler at (717) 485-4709.

For more information about KAFMO or other events, contact Dan Douglas, Reading Phillies Baseball Club, at (610) 375-8469, extension 212.

MAFMO: The Mid-Atlantic Athletic Field Managers Organization (MAFMO) is currently working toward STMA affiliation.

MAFMO will hold a dinner meeting beginning at 6:30 p.m. on April 17 at the Fireside Beef House in Greenbelt, Md. The featured speaker, Dr. Pete Dernoden of the University of Maryland, will give a presentation on broadleafed weeds.

MAFMO's next meeting is tentatively scheduled for May 15. This "Irrigation Troubleshooting" seminar will be held at Cedar Lane Park in Columbia, Md., from 8:30 a.m. to 3 p.m. A confirmed date and further details will be announced soon.

For more information, contact The Hotline: (410) 290-5652.

Arizona: On April 25, the Sports Turf Managers Association of Arizona will meet at Grand Canyon College, home of the NAIA Division I Soccer champions. Educational sessions will run from 8 a.m. to 1 p.m. The afternoon portion of the meeting will focus on field renovation with demonstrations on aeration, sprinkler systems, topdressing and renovation of soccer goals. For information on this meeting, contact Lonnie Danials at (602) 589-2888 or Bill Murphy.

For information on the STMA of Arizona or other upcoming events, contact Bill Murphy, City of Scottsdale Parks and Recreation Department, at (602) 994-7954.

Great Plains STMA: Attendance at this forming chapter's February meeting was over 50, despite a snow storm, and plans are in the works for a summer event. Want more information? Contact Mark Schimming, City of Wichita, at (316) 337-9123.

Low-Budget Water Removal

The high-powered blow-pack, which spreads water to dry areas without disturbing the clay, is an easy way to handle shallow bodies of water.

By Floyd Perry

Today, many major conferences require full infield tarps to save wasted weekends and departmental travel expenses. That's fine for the big boys, but what about the rest of us? How do we create an opportunity to play after some serious rain?

Illustrated here are methods that will help. They include three tricks that have proven themselves successful for removing standing water: (1) blow-packs, (2) sponges and (3) pumps. Also included here are methods for drying clay surfaces and preventing standing water by installing French drains.

Large sponges can be made from mattresses and emptied in a turf area.

Hand pumps (or small gas-powered pumps) work in puddles one to two inches deep or deeper and can drain water into a turf area, a bucket or a cart. Photo courtesy: Kuranda U.S.A.

Calcined clay (and other drying agents) can soak up puddles that are less than two inches deep.

After calcined clay has been raked smooth, a field should be ready within about 20 minutes.

Drying the Surface

The biggest problem that occurs is how to dry the clay surface after removing the water, especially on days when it is cloudy or overcast. If your surface is something like Stabilizer Red — which dries exceptionally fast — then you shouldn't be concerned. But if your surface has a high clay content, then a drying agent such as a Turface calcined clay should be added.

Two particle sizes of calcined clay are on the market, and both offer high quality results. The fine-ground is more of a puddle removing particle, whereas the larger size is for drying and reducing slippage. With a little raking of the new additive to the existing clay material, your field should be acceptable to any umpire within 20 minutes after the rain.

As coaches and groundskeepers, we all know rain is coming. It's a matter of "when" and not "if." The biggest time-saving part of the "wet field scenario" is having the correct materials and supplies on hand and within close

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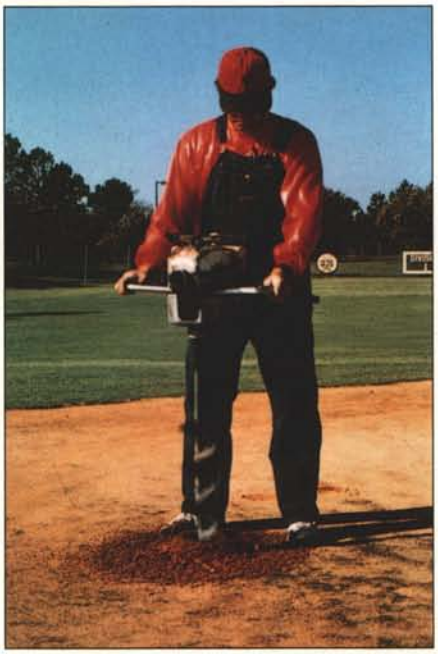
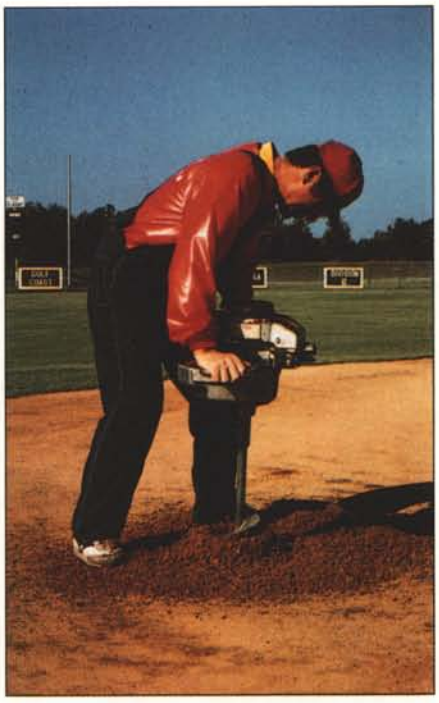


French Drain — Step One. Use a fence-post auger (which can be rented) and dig multiple holes into the heavily compacted soil. For larger areas, a telephone-pole auger can be used.



French Drain — Step Two. Attempt to go as deep as you can to remove all excess compacted sub-surface material.

Removing Water

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proximity to the field. Besides calcined clay, other drying agents include calcined diatomaceous earth (such as Play Ball!) and corn-husk byproducts (such as Diamond-Dry).

French Drain — Step Three. Fill holes with less dense material, such as sand, pea gravel or small rocks.

French Drain — Step Four. Tamp approximately two inches of loose clay over the opening for consistent and even playing surfaces.

French Drains and Severe Standing Water

On certain sections of infield clay, due to extreme compaction or a hard-soil make-up, puddles of water will remain

long after other surface water has percolated. The "French drain" technique shown here is effective for both clay surfaces and outfield turf areas. Some field managers have reported using telephone-pole augers to dig large holding holes in outfields — which have saved games by removing large amounts of rain water from the playing field.

Try this technique first on a small section of a field to see how well it works in your area. Then, if it works for you, try it in larger areas.

Whatever the outcome, you should evaluate your individual water problem and chart a course of action, since prolonged standing water is a serious problem.

The above article comes from Chapter 10, "Water Removal and French Drains," of Floyd Perry's Pictorial Guide to Quality Groundskeeping — Covering All the Bases. *For more information call (800) 227-9381.*

French Drain — Step Five. Rake smooth and finish drag. Apply large amounts of water to check your drainage. Then wait for the first big rain to reap rewards.

Avoid laying PVC pipe close to the trunks of trees, which can crush pipe.

Reducing Irrigation Maintenance

By John Blevens

Like most other decisions, features selected for irrigation systems are based on the experiences of the person making the choices. You should realize very early in your career that a tremendous amount of experience from others is available, and tap it.

Over the years, I have sought out opinions from people in different facets of the irrigation industry to try to refine designs for better systems. I call on distributors for product reliability, for they are usually the first to know about a product problem and are very willing to share the information, so they have to deal with it as little as possible. Maintenance people are a good source of longer-term product reliability and assembly methods. The contractor is a good source for practical construction methods, including assembly techniques.

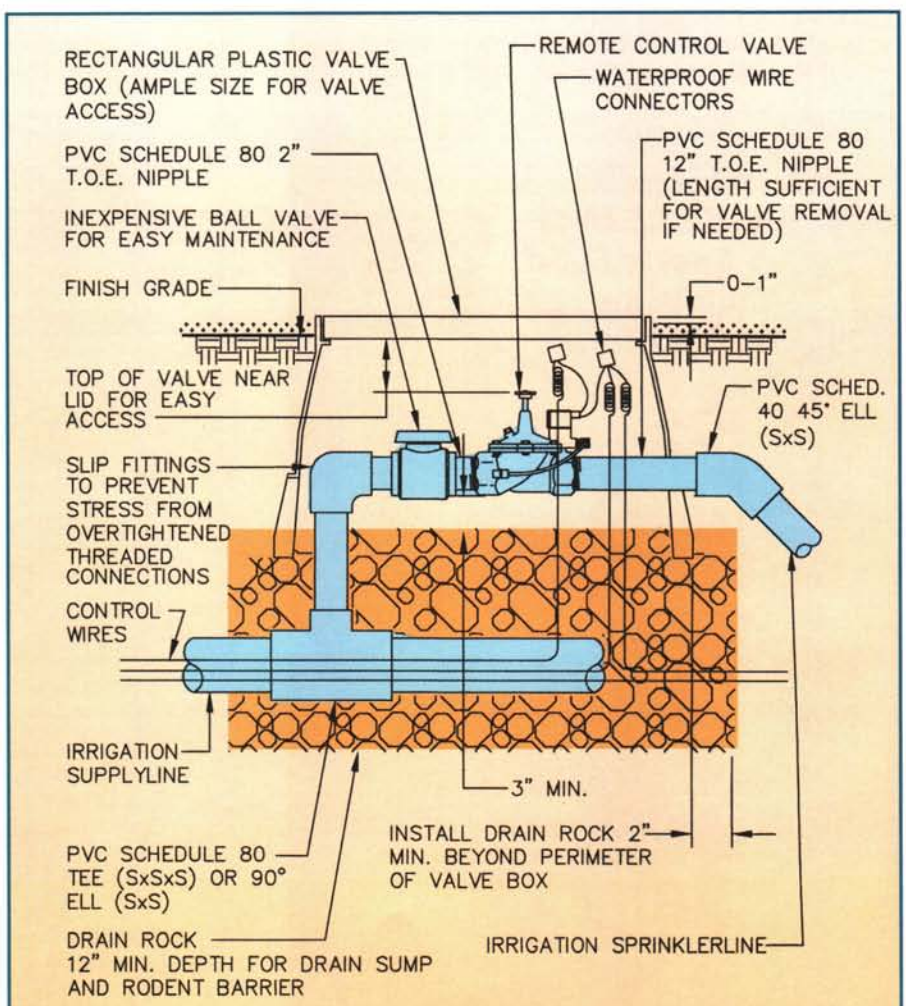
From these sources and my own experience, I have gleaned the following desirable and undesirable features of the various components in irrigation systems.

Piping

In the West, PVC pipe predominates, except for drip systems, and even then it is used for some drip/bubbler systems.

Since my experience is largely confined to this type of system, I will restrict my comments to PVC pipe.

1. Expansion. Most everyone has seen the diagram showing piping



Remote Control Valve Installation Detail

"snaked" along a trench, to be used as a guide for the contractor to follow when installing PVC pipe to allow for thermal expansion. I have yet to see a pipe snaked in a manner that in any way resembles that type of diagram.

PVC material has a high thermal expansion coefficient, potentially making it a critical factor. In temperate areas, the temperature change 12 to 24 inches below grade is very minimal. Nonetheless, stresses can be created from temperature variations in long runs of pipe.

Large-sized main lines are almost always used in projects requiring long runs. Therefore, we specify gasketed pipe for main lines of 3 inches and larger to account for expansion. In situations where 2- or 2 1/2-inch pipes have abnormally long runs, gasketed pipe should also be considered. In most situations, lateral piping is not an issue.

2. Threads. Threaded connections should be avoided in most cases using PVC pipe, particularly in main line connections. Sprinkler risers (excluding valve-in-head) where leak-tight connections are not critical is an exception.

Plastic threaded connections create a dilemma, because tightening the connections to avoid leaks is highly desirable: disassembling connections, adding sealant and re-assembling the connection to stop leaks is a disagreeable, time-consuming hassle. But as a result, threaded connections tend to be *over-tightened,* creating stress. These connections are susceptible to cracking when additional stresses are introduced by water flow or by turning valves on and off.

3. Differential. Lateral piping should be sized for minimal pressure differential between the first head nearest the control valve and the last head at the end of the line. As a general rule, 10 percent is a maximum differential to improve uniformity and reduce coverage problems.

4. Trees. Trees surrounding a sports field can play havoc when PVC pipe is installed too close to their trunks. This problem seems to be more frequent as tight plant spaces increase. Aggressive roots can crush pipe.

Valves

1. Transition. Valve assemblies that crack at male adapters have been a persistent problem. This is a weak point in valve assemblies and should be eliminated.

Galvanized steel pipe is mechanically strong but corrodes in many soils and from elements carried in water. Brass is also a strong material, but is expensive. With either material, the transition from the plastic pipe to the threaded connections is still an issue.

The best solution is to use schedule 80 PVC nipples threaded one end (t.o.e.) — which increases the connection's strength and also makes the slip-to-thread transition effectively. These t.o.e. nipples are placed on either side of the valve and connected to PVC pipe using slip couplings. For larger pipes, of course, you should use an appropriate flange coupling adapter.

2. Shut-Offs. Often, not enough shut-off valves are installed in large projects. Maintenance is made easier when major sections can be isolated with these valves. In addition, they can be helpful in shutting down sec-

tions in emergencies or if construction is later done at a portion of the site.

3. Pressure Regulators. Sometimes pressure-regulating valves are also not installed when they are needed. Excessive pressure can significantly reduce the life of a system, especially when water-flow rates are high. Under high pressure, flow rates through sprinkler nozzles are often higher than the design flow, which in turn means higher rates in the piping. High flow rates cause water hammer and induce extreme stresses that can damage pipe, fittings and other system components. Proper pressure regulation eliminates these problems.

Partially closing gate valves or control valves is *not* the way to do it. In a few situations where the pressure is not too great or never varies, this technique can work, but generally is not recommended.

4. Quick Couplers. I suspect that a great many quick-coupling valves have been installed but never used, or have only been used to water-in plants during establishment. Those valves should be installed only in situations where they have a possible use.

Place them in a round box, set above grade by a minimum of an inch, to make them easier to find. Bracing them with angle iron will provide greater stability than rebar or galvanized stakes. When at the end of a hose and tugged, the angle iron will reduce the likelihood of joint loosening and leaking.

Control Valves

1. Connectors and Wires. There should no longer be any doubt as to the value of waterproof connectors, especially now that several good, inexpensive, easy-to-use brands are available. The type using heat-shrinkable tubing with an inner wall sealant, in my opinion, is superior to all the rest. But those types take a blowtorch to install.

Coiling the control wires at the valve makes finding the wires easier and is a compact way to store excess wire that may be needed if replacing solenoids becomes necessary.

2. Boxes. Valve boxes should be of ample size and centered above the valve for good repair access. Also, valves should be raised from the main line to within a few inches from top of grade for easy access.

3. Ball Valves. Installing inexpensive plastic ball valves in front of control valves is very handy for servicing and/or replacing solenoids and diaphragms. Some public agencies require that one or two unions be installed with the control valves. Since solenoids and diaphragms are the most frequently serviced items, I would choose the ball valves over union(s). Very seldom does the entire body of a valve have to be removed.

4. Gravel. Installing gravel beneath the valve not only provides a sump during manual bleeding or while servicing the valve, but also provides a barrier to gophers from getting to the valve and filling up the valve box with dirt. The gravel should be a minimum depth of 12 inches and at least two inches beyond the perimeter of the bottom edge of the valve box.

5. Threads. Just as you should avoid threaded pipe connections, so should you avoid threaded connections on the control valve assembly. If

threaded connections are necessary, I urge that you make, at the minimum, a slip connection at the tee joining the assembly to the supply line. A broken tee is a major repair project.

Sprinklers

1. Height. Selecting the appropriate pop-up height for the plant material being irrigated can avoid major problems as the material matures. This may include coordinating planting and irrigation plans so heads and shrubs/trees are not too close to each other. When this cannot be avoided, such as in tight areas with shrub masses, flat sprays shooting under the shrubs or bubblers to flood the root areas can be appropriate options.

2. Hose. Flexible hose with thread/insert adapters (and maybe one or two street ells) or the triple swing seem to be the most favored for riser assemblies. A quintriple swing assembly — mainly for part-circle rotor heads — allows the head to be rotated to the desirable location once it's set at the correct height. A good way to keep PVC pipe away from trees when irrigating them with bubblers is to use flexible PVC hose from the PVC lateral line to the rootball.

Drip Vs. Overhead

Drip irrigation is a good tool, but should be used only when appropriate. There must be access as plant material matures (except for temporary irrigation during establishment only), and sub-grade drip should not be used with groundcovers that have aggressive, invasive roots.

If a drip system is installed in an environment that prevents repair and maintenance access, it will be a failure — at least in the longer term.

On the other side of the coin, I have seen overhead systems used in narrow strips where drip would be much more effective.

Since this is an article about sports turf, I will not say any more about drip maintenance except that it is an article in itself. I predict that drip will play a larger role in irrigating sports fields in the future. Eliminating pop-up sprinklers, sub-grade drip is a safer system for athletic fields, and eventually it will be proven reliable in the long haul.

Sensors

Sensors — especially *flow sensors* — can obviously reduce maintenance work. I believe we will see, in the near future, a large increase in the number of stand-alone controllers that will be able to interpret flow-sensing input and react and report on exceptional flow events.

Rain sensors, for the most part, are easy to add and are a minor cost. In the spring and fall, they can save many trips to controllers for adjustments.

Moisture sensors have their place, but in many situations they have not been effective. Sports fields can be a good application, if scheduling issues can be satisfactorily controlled. Moisture sensors in more complex landscapes, from my observations, have not been successful.

John Blevens, a member of ASIC, is an irrigation consultant based in San Carlos, Calif. His phone number is (415) 802-8236.

TIP O' THE MONTH

De-Winterizing Pumps

The following are seven steps that will put "spring" in your pump after a long winter.

1. Check all mechanicals: (1) Open all necessary valves. (2) Inspect for freeze damage. (3) Equipment should rotate freely.

2. Reconnect all components: (1) Install valve trim. (2) Install sensing lines. (3) Install flush valve trim. (4) Install heating exchange lines.

3. Tighten connections, electricals and mechanicals: (1) First, turn off all power. (2) Tighten connections. (3) Check voltage supply. (4) Inspect control panel for foreign objects.

4. Meg all motors: (1) Make sure motors are clean and dry. (2) Make sure meg readings track manufacturer specs.

5. Visual Inspection: (1) Look for moisture, rust, objects and other problems. (2) Check condition of support structure for rust and cracks. (3) Schedule painting if required. (4) Make sure internal circuit breakers are not tripped.

6. Power up station: (1) Safety first — close all panels and doors. (2) Apply power to VFD station at least 8 hours before starting. (3) Check operator interface.

7. Charge irrigation system: (1) Open irrigation heads at highest point to allow air to leave the system. (2) Fill system slowly to prevent water hammer damage. (3) After system is charged, check auto operation by staging flow.

The above was prepared by Flowtronex PSI. For more information, contact Melinda Taylor Swan at (614) 262-1443.

If you have a tip, send it to sportsTURF, *68860 Perez Rd., Cathedral City, CA 92234.*