

AUTOMATICS — The Superintendent's View

By John Dunlap

A great deal has been written and said about automatic irrigation systems in the past 10 years; some of it good and some bad. Many of the first automatic systems were badly engineered and also poorly installed; consequently raising the voices of dissent. In recent years equipment advances and new technologies have greatly increased the reputations of automatics.

The new "super" automatic systems that are now being installed in the Northern Ohio area are very large investments, ranging in costs up to \$200,000. Any project of this magnitude takes careful planning and engineering, so for the next few minutes let's take a look at what is involved in getting one of these systems into the ground.

Planning and design for a system must start at least a year ahead of the time you hope to install it. Contact qualified irrigation personnel to help you layout a basic plan for your course. After the basic plan is made the superintendent should then go over it and make all necessary changes so that the system is now custom designed to water his particular course as effectively as possible. The next step is to contact as many equipment manufacturers as possible and get some of their equipment for your own testing purposes. It is quite surprising to see how much performance differences there are between various makes of equipment. times no matter if 1 Head or 20 heads were in operation; and what type of pipe you think will best fit your needs. But choose carefully because there are no bargains and beware of people offering "deals." Above all else, do not design the system to a preset dollar figure. Design the system to meet your specifications of performance and then put this plan out for bids to good irrigation installers.

Beware of plumbing contractors bidding on such installations — they simply do not have the experience necessary to install something this complex.

When the bids are received from the installers, turn the bids and contracts over to your club lawyers and make sure everything is down in black and white. In the final analysis of the bids the lowest bid does not necessarily represent the best dollar value, so here again choose carefully.

Even though the system will probably be installed by an outside contractor and his crew, it is the course superintendent's responsibility to see that the system is installed properly. So let's look at a few things that are important for good installation.

We mentioned before that planning should start at least a year ahead of time. One reason is so that the contract can be signed several months ahead of the actual installation date and the installer will have plenty of time to order the bill of goods and have them delivered to the job site. Delays caused by lack of piping and sprinkler materials is very costly. When the paper version of the system design is transferred to the course, the superintendent should be respons-

ible for the placing of all sprinkler heads and where necessary be willing to make field changes if they will improve upon the basic design.

The pumping facility of a super automatic is very important. In the past, many systems were installed with much too small a G.P.M. capacity and this impaired the proper programming of the system. The G.P.M. of today's systems should be adequate to run all controllers simultaneously without loss of pressure. This is of particular value when a syringe cycle is included in the system since a syringe cycle must be completed in as little time as possible to be of value. A good syringe cycle should be able to wash off the entire golf course in no more than 30 minutes, and in order to do this the pumping capacity for most systems should be at least 1200 G.P.M. and better yet around 1500 G.P.M. Another feature to consider would be some type of pressure regulating valve so that main line pressure would remain constant at all times. You should decide which kind of electric valve will do the job. All pump controls should be fully automatic and be kept as simple as possible. This is one area where designers tend to over design. Flow switches and pressure switches still give the best pump control available and are almost completely trouble free.

Since the operation of a master control was covered in the previous talk we won't dwell on it here except to say that this is the heart of an automatic system. Without a master control panel the superintendent becomes a virtual slave to the system.

Every time a change in the weather occurs he must visit all the controllers and reschedule his watering program. With a master control he can change, stop, or start all watering cycles from his office. This convenience will pay for itself many times over because the superintendent will easily change his watering program to match day to day weather changes instead of "letting it go" as previously programmed.

After the system is installed and in operation you can expect to spend at least a year balancing and adjusting the system to perfection. Time clocks must be adjusted to compensate for various soil conditions, nozzle sizes on some sprinklers will have to be changed, and pressure might have to be adjusted at individual heads to give proper operation.

All of the things we have said in the last few minutes sound like a lot of work, and they are, but when you are finished you will have a most efficient irrigation system that will be able to give you "quality control" of the water applied to the course.

Above article taken from the "Northern Ohio Turfgrass News" (Editor — John Dunlap). John says, "Automatic Irrigation has really gone wild in their area with each new system becoming more elaborate than the one before."

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