



WATERING SYSTEM

If you're in the market for an irrigation layout and aren't familiar with water requirements, pumps, pipe, costs, etc., this article should be of value to you

By GEORGE RUDGE

Mgr., Turf Watering Systems
Carlson Products Corp., Aurora, O.

At first glance the job of buying a turf-watering system for your course may seem extremely complicated, but two steps will help you simplify the technicalities and make a sound decision.

First, use the help offered by architects, consultants, manufacturers and engineers who specialize in the water systems field. These companies and their representatives have a stake in the success of your turf-watering system. There are so many "ifs" in any course watering system that you will need the aid of people who know their business.

Second, to get maximum benefits from your installed system, try to provide the best information you can on soil conditions and topography of your course.

Check on Surveys

First of all you will need either a survey or an aerial photograph. Surveys may have already been made by your county agricultural agent or another government agency, saving you the expense. Federal power agencies or the geodetic survey may

also have made them.

Frequently you will find that your state industrial commission or chamber of commerce has aerial photographs which are usable. If you have to have one taken, the cost should be about \$100. Be sure that it is taken vertically to avoid distortion. Also be sure that it shows a landmark which you can use to establish map-scale. Your automobile mileage-gauge is a good way to measure the distance, for instance, between two indicated road intersections.

Soil Analysis

An analysis of soil is important because percolation rate and water retention properties will affect the rates at which your system should supply water. Analysis can be obtained from your state university agriculture department or from your county agent for a small fee.

Once you have provided basic information to prospective bidders they will begin to prepare their proposals for you. The next step, that of evaluating the proposals, is the most important one you'll perform.

If you and your green committee members will ask yourselves three basic questions about each proposal you will be well on your way to a satisfactory watering

system. The questions are:

1. Is the initial cost economical?
2. Will operating costs be economical?
3. Will the proposed system satisfy moisture requirements necessary for establishment and maintenance of excellent turf under the most extreme conditions?

The answers are not difficult to get if you remember that the watering system is only a part of the complete turf program. Step-by-step consideration of all the elements will bring you to a commonsense decision.

Ask Some Questions

Following are the things that you should ask your representatives to explain to you about the proposals they give you:

1. How do their costs compare with those submitted in other proposals?
2. What are estimated operating costs for water and electricity?
3. What are operating costs for labor?
4. What are the advantages and disadvantages of the type of pump recommended for use with this system? (This is a complicated subject on which you may want to have the opinion of a pump specialist.)

Any watering system is made up of a number of components. From all possible combinations you must select the two or three that most closely serve your needs. The following brief studies will tell you some of the things to look for in discussing various proposals with your committee and the representatives who developed them for you.

Water Requirements

Water requirements vary with seasons and the geographical location of your course. During periods of drought in most areas you will want a system with capacity to apply one acre-in. of water during every five day period. An acre-in. is about 27,000 gallons of water: one inch of water distributed over an acre area.

This rate is for fairways. It is determined by soil percolation rate and retention properties. The objective is to maintain optimum growth conditions in the top 8 to 10 ins. of the soil. This, in conjunction with a well planned turf program, will offer maximum area for the development of root depth and mass. This greater area will result in more efficient use of fertilizers and inherent nutrients.

If water is applied too fast, or if the soil percolation rate is too rapid, fertilizer and nutrients will "leach" through the root-growth depth too quickly to be of full benefit to the turf. If application or

Architects Hold First Summer Conference in Quebec

The first summer meeting of the American Society of Golf Course Architects was held at Lachute G&CC, Lachute, Quebec, June 27-29. The group gathered to prepare material for general distribution acquainting the public with the character of the services offered by members. Proper planning of golf courses from selection of site to the final stage of development is essential not only to the creation of courses of character but to an efficient economical operation.

The architects discussed the proper integration of the valuable services of specialists such as agronomists and engineers who, without due regulation, defeat the creation of sound courses and often increase construction costs materially.

Members of the society, it was brought out, have spent a lifetime in the acquisition of their experience and skills without which courses of merit cannot be economically created. The retention of designers who are not completely qualified is certain to result in unnecessary expense, poor layouts and general dissatisfaction, the architects agreed.

percolation is too slow, only the top 2 or 3 ins. of soil will maintain the proper moistness. The resultant shallow-rooted turf then becomes much more vulnerable to heat and disease.

Consider Greens Separately

The watering of greens should get separate considerations since they are different in construction from fairways. In most cases a top layer of specially composed soil (varying amounts of sand, loam, peat moss and other materials) is placed over a drainage bed of gravel. Below the gravel bed may be a special drainage system of drain pipe.

The whole construction is designed to permit rapid percolation of excess water, allowing only minimal amounts to be retained in the soil layer. This necessitates daily or bi-daily doses of water to maintain the soil moisture content. In an effort to keep greens green, it probably is a universal practice (although unintentional) to apply more water than is actually needed: If good drainage is not provided, this type of saturation may sour the soil,

(Continued on page 67)

Watering System

(Continued from page 29)

cause wilt, or increase susceptibility to disease.

Heart of the System

The pump is the heart of the watering system. The type of pump you use depends entirely on your needs. Pump performance characteristics are usually expressed in a curve-graph showing how much water can be handled by the pump when it is operating at a given pressure.

What you need to determine about the pump for your system depends on how you intend to use your system. For instance, if you intend to operate small sections of the system one at a time, the pump you use should be able to handle varying amounts of water without big jumps in operating pressure.

Pipe Materials

There is a variety of pipe materials for golf-course watering: plastics, cement asbestos, steel and cast iron. Each has its own advantages and its own limitations. Your decision on pipe material will be based on a combination of initial cost, operating costs and economical pipe sizes. By economical pipe sizes is meant the one

pipe size that offers the best overall operating economy for a prescribed capacity than any other size pipe, larger or smaller.

For example, if you select a too small-size pipe to get a low initial cost, you automatically increase operating costs because the system will require longer to apply the recommended amount of water. Larger pipe, on the other hand, may save operating cost but will probably increase initial cost.

Golfing Grandmothers

An unusual golf group recently was formed at Tam O'Shanter CC, Orchard Lake, Mich., where Warren Orlick is pro. Qualification for membership? The golfer must be a grandmother.

Considering the average youthful age of the Tam membership, it took some contriving to find 16 golf playing grandmas.

These pert golfers meet on the first Tuesday of the month for coffee and note matching on their grandchildren and then repair to the course where they play 18 holes. There is a prize for low net and another prize for a gimmick tournament. Points are accumulated toward a season's grand prize.

How did your greens come through the winter of 1958-59?

Admittedly, the toughest winter for bent greens was the winter of 1958-59. Hundreds of golf courses had some, if not practically all, of their greens heavily damaged by so-called "winter kill."

With over 400 golf courses having from one, to all greens, planted to Old Orchard C-52, we were trying to find out if any of these greens were damaged. We invite any golf course superintendents with Old Orchard C-52 greens that suffered damage during the 1958-59 winter to write us.

Old Orchard Turf Nurseries

P.O. Box 350 — Tel. AL 6-6395 — R. R. Bond, Prop. — Madison 1, Wisconsin

Branch Nurseries in Farmington, Iowa — Camarillo, Calif.

Arlington C-1

Congressional C-19

Old Orchard C-52

THE GREENS ARE THE FOUNDATION OF ALL SUCCESSFUL GOLF COURSES

The above advertisement was published in the Mar. edition of Golfdom and the Mar. Apr. edition of Golf Course Reporter.

As this part of the adv. is written, July 25th, not a single Greens Supt. nor anyone else connected with a golf course have answered our invitation to write, and bear in mind there are over 400 Greens Supts. who have at least one or more Old Orchard greens under their supervision.

Signed — RALPH R. BOND

Owner & Developer of the Famous Old Orchard C-52 Strain of Creeping Bent Grass.