

What to look for when buying an irrigation system

Firstly some good advice from John Ruskin, the philosopher, written some 100 years ago; "It is unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money - that's all. When you pay too little sometimes you lose everything, because the thing you bought is incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot - It can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run, And if you do that, you'll have enough to buy something better."

Getting value for money is a delicate balance; the purchasing of an irrigation system is no exception.

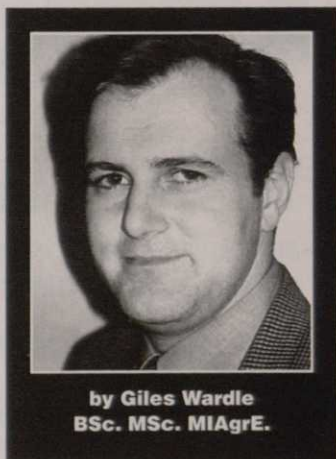
The awarding of an irrigation installation contract requires the assessment of a multitude of factors.

So what are the things to look out for in an irrigation salesman's presentation?

Specialist golf irrigation materials (sprinklers, control systems, solenoid valves etc.)

This is where the irrigation salesman has a field day. It provides the basis of his armoury to persuade the customer to buy his products. These components are the most visible parts of the irrigation system and the ones that bear the name of the manufacturer whom he represents or for whom he is the distributor/agent.

No two sprinklers or controllers



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are the same and therefore there are numerous differences in terms of the features of the products on offer that the salesman can use to show his products in a better light. As every greenkeeper knows, the benefits of these features according to the salesman are that his sprinklers are more energy efficient, require less maintenance and apply water more uniformly. His control system is more "flexible", easier to use, more reliable and, the most common claim of all, saves you water.

Because of the wide range of equipment available, very often people and specially committees can get bogged down and spend too much time deciding on which manufacturer or model of sprinkler, valve or controller is the best. Often insufficient consideration is given to the other major facets of an irrigation system (design, installation, service).

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'It is wise to ask for references from the tenderers...'

True, the specialist irrigation products are crucial to the success of an irrigation system, however it is important to remember the old adage that the "system is greater than the sum of its parts". While the individual components are of paramount importance; their incorporation into a system design is of greater significance.

By and large all manufacturers of golf irrigation equipment produce quality materials, since golf is at the vanguard of irrigation technology. The important aspect in choosing the specialist irrigation equipment is to choose the right type of sprinkler and controller rather than the make. There are numerous products available but only a handful of manufacturers; the name on the sprinkler lid is of less importance than the type, model and performance of the sprinkler.

Since irrigation manufacturers and distributors are in the business of selling the specialist irrigation components, they will spend more time selling the benefits of their latest all-singing-and-dancing products than the other facets of the system that are equally as important and collectively more important. These are....

Irrigation System Design

Golf course irrigation system design involves more than just hydraulics calculations and is as much an art as a science. As such, like all engineering disciplines, there are no such things as wrong designs and right designs, rather good designs and bad designs.

Consequently if you give the course plans to three engineers you will get three completely different designs. These designs will be very difficult to compare equitably when choosing which one to buy. If the golf club or developer chooses to invite tenders on the basis of "design and build", then he would be wise to give tenderers at least a performance specification to adhere to when designing their system. Otherwise the task of choosing which tender will be reduced to choosing which design; two completely separate matters. While you may decide which is the best design, you will have no way of knowing if it is the most competitive.

A performance specification obviously will vary according to the layout of the course, the type of course, the climate, the soil, the topography, the grass species

utilised etc. However a performance specification should detail the following;

- The design water application (ie. the peak water requirement in mm/day)
- The design irrigation cycle (the time in which the above must be applied to avoid disrupting daytime play, commonly 9-10 hours)
- The areas of playing surface to be watered
- The pumping plant location
- The type of system (e.g block system or valve-in-head)
- The materials to be used (e.g type of sprinkler, controller, MDPE or uPVC pipe etc)
- The method of installation (e.g. trenching/mole-ploughing)
- The pumping plant (minimum No. of pumps, fixed-speed/variable-speed etc).

It is a testament to the fact that creative input is required in irrigation system design that even with a performance specification the designs submitted are likely to differ. The alternative option is to invite tenders from prospective contractors for a single specific design, undertaken by an independent engineer. This will ensure competitive tendering.

Non-specialist materials (pumping plant, pipework, cable, ancillary items)

The pump and pipes are the heart and arteries of an irrigation system. The hydraulic design of an irrigation system is, therefore, fundamental to its long term performance and reliability, not only in terms of the amount of water the system is capable of applying

but also the running costs and maintenance requirement.

However this is often the least discussed topic between salesman and customer, partly because this is the facet that the layman is most poorly equipped to discuss. The modern day golf architect, golf director or greenkeeper is technically very aware and well informed. However hydraulic design does not, nor should, form part of his technical competence.

It is rare to find an irrigation system that has been over-designed in terms of pipework and pumping plant but not uncommon to find one over-specified in terms of specialist irrigation equipment. Not surprisingly, since the pipework and pumping plant return smaller profit margins to the irrigation manufacturer, distributor or contractor than the specialist equipment that bears their name.

It is not uncommon for a golf course to employ a permanent member of the greenkeeping staff whose sole duties are to tend to the maintenance requirement of the irrigation system. Probably the greenkeepers biggest headache during the irrigation season is to repair pipe bursts. This is the one failure of a bad irrigation system which has the most serious consequences since pipe bursts can result in damage to the course, disruption of play, loss of water, temporary shut down of the irrigation system, which in turn disrupts irrigation scheduling and may cause drought-stress to the turf if the damage is not repaired quickly.

Often a customer, fearing this

scenario, will ask for a longer guarantee on the system, five years instead of one or two. However this should not really offer peace of mind, because an irrigation system should last a lot longer than five years. Good hydraulic design is worth much more than a guarantee. The customer should therefore ensure that the system has been designed by a competent and qualified engineer with experience of golf irrigation design. Installation and After-sales Service

A chain is only as strong as its weakest link. Often the weak link in an irrigation system is poor installation. There is nothing more annoying than paying for poor, defective or incomplete work particularly when you've paid for quality materials and good design.

Often the tenderers are well-known and respected irrigation contractors with good reputations. However this may not always be the case. It is wise to ask for references from the tenderers and in most cases they will provide several references in their sales literature.

The references, not surprisingly, will comprise the most recent and prestigious installations they have undertaken. However it is important to note that the majority of problems arising from a poor standard of installation occur either during construction, whence they are ironed out before handover, or many years later. Checking up on a recent reference therefore is unlikely to yield a negative response in terms of the contractor's standard of workmanship (unless of course they are really bad). It could be more informative to check up on old references.

The British Turf & Landscape Irrigation Association has a code of practice for irrigation design and installation; ensure the contractor adheres to it.

When assessing tenders it would be prudent to ascertain the contractors ability to provide after-sales service. Do they have a maintenance department or is maintenance undertaken by the installations staff? Do they offer a service & maintenance contract? How fast can they respond to a call-out? Are spares and replacements charged at list prices or are they discounted? Do they stock spares or are they only stocked by the manufacturer or distributor?