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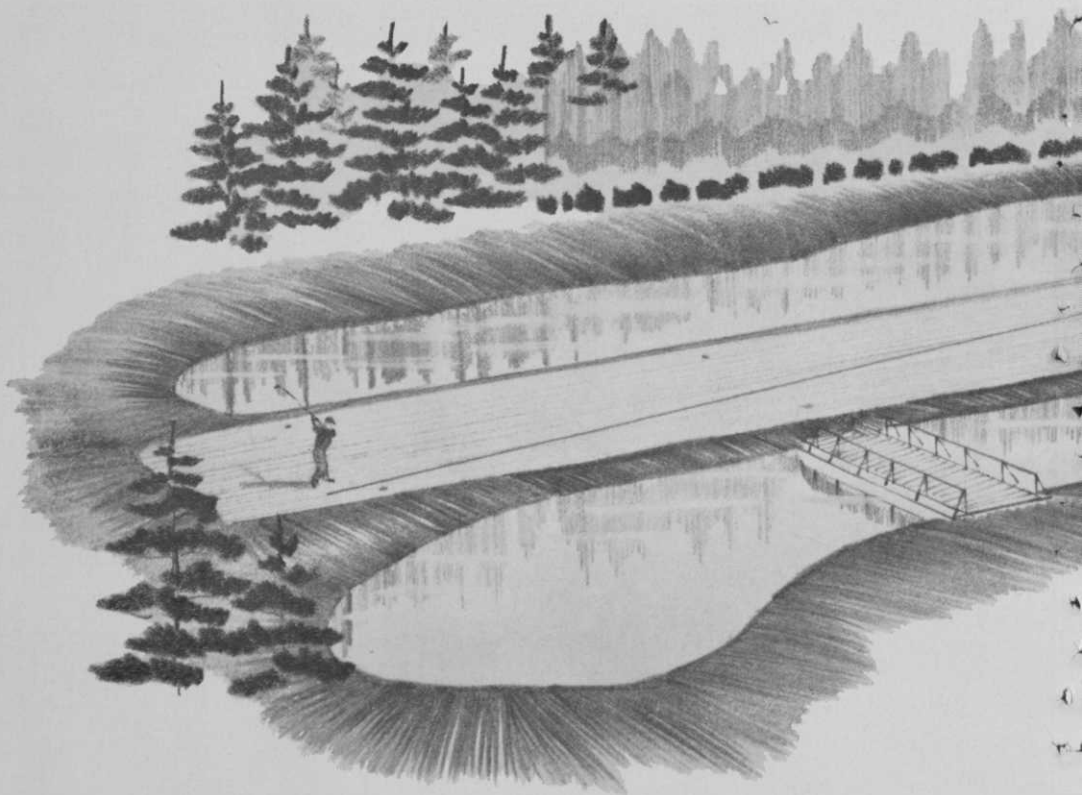
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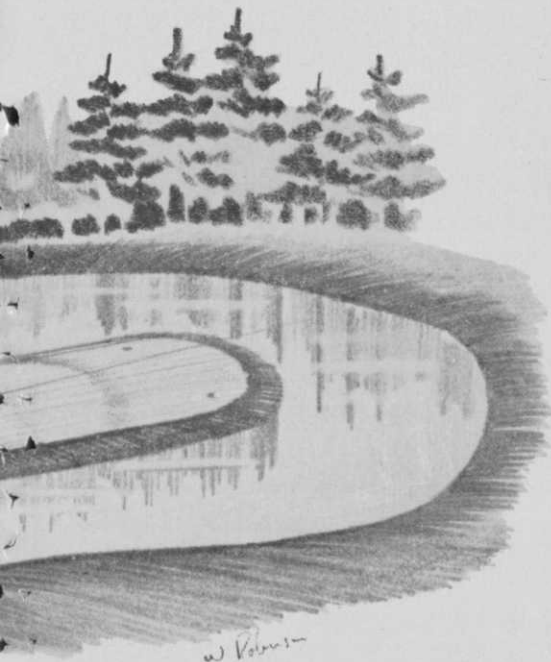
Careful planning enables two small-town New England courses to stay within budget, meet local needs.

By GEOFFERY CORNISH
and WILLIAM ROBINSON

In this era of enormous golf growth it is not surprising that numerous municipal courses are under construction and innumerable others are being actively considered by cities, towns and various governing bodies throughout the nation. It is however, noteworthy that about 40% of the nation's golfers play on municipal facilities that still represent less than 20% of all courses in play, according to Harry C. Eckoff, executive director of the Na-

tional Golf Foundation. It is also significant that some of those now coming into reality have been seriously contemplated for a decade or more.

For a municipal golf course to reach reality, the utmost determination and perseverance are necessary upon the part of one or more elected or appointed officials. In the final analysis, it is these dedicated individuals who overcome seemingly endless obstacles and thus as-



W. Volante

Eye appeal is given to 18th tee at Chicopee Municipal by placing it in curve of horseshoe-shaped springfed pond.

sure the success of these attractive and popular recreation features, which are becoming great assets to an increasing number of communities.

Promoting a golf course to be built with public money presents as great and as intense a variety of problems as any encountered by steering committees or organizing private member-owned clubs or by owners starting profit-motive ventures.

Land Acquisition is one of the first major problems to be encountered and can prove the most difficult factor. Happy is the city or town that already owns satisfactory acreage or can obtain inexpensive state land within its jurisdiction. Also fortunate are those governing bodies who gain land from generous citizens who would prefer to see their properties converted into golf rather than housing facilities, and are therefore willing to sell below market value. This also can happen when a developer parts with some of his property for a course at a low cost per acre because its installation will increase the value of his subdivision.

In urban areas the acquisition of property still remains one of the most for-

midable problems. Open space grants of land for recreation purposes by the Federal Government can, however, ease the payment situation.

Construction Costs, or at least an approximation, must be known almost from inception of the project. Actual construction costs (rounded figures) are given in Table I for two recently completed 18-hole municipal courses, one belonging to Bangor, Maine, opened in late 1964 and the second in Chicopee, Massachusetts, opened in mid-1965. Both courses were built on good but fairly rough terrain. The design and construction of each embodied the highest standards—with large and massive greens and tees; true championship, regular and short yardages; also ponds, sand traps and large practice fairways.

Although actual construction of each took about five months, contemplation and promotion took a decade or more in each instance. Both courses, operated and maintained by highly qualified professional golfers and superintendents, have been immense successes from date of opening onward.

Every type of golfer should be considered. An argument frequently encountered in all phases of planning is whether a course should be designed for the good or the poor golfer, the long or the short hitter, and whether for championship or regular play. Each of the sides has ardent devotees. But the truth is that the course can be designed to suit almost every type of player through strategic rather than penal placement of hazards and with long tees permitting the course to play from a short yardage upward to a long championship course. Chicopee's course, for example, can be played as short as 5,800 yards and on the opposite extreme at a yardage over 7,000.

Building a regulation course—municipal, private or semi-private—exclusively for any one type of golfer can prove a tragic error. Short hitters and poor golfers, it is true, often enjoy a round more from short than long yardages. But we feel they receive more pride and satisfaction from their rounds if they know the course also has championship qualities.

Continued on next page



Bangor's clubhouse has only 3,000 sq. ft. of floor space, which has proved adequate so far, although patio may be added for "outdoor living space" during warm months when club is open.

MUNICIPAL COURSES

Continued from previous page

Similarly, the highest standards of maintenance are required at the municipal course today. Superintendents Richard Lussier at Chicopee and Austin Kelly at Bangor have already brought their young courses into near perfect shape. This is reflected in the crowds playing both layouts. The day of the rundown "muny" is rapidly passing and the era of the plush municipal is upon us. We note

this trend continent-wide. Everywhere more money is being spent on municipal course maintenance. Although this means higher green fees, the patrons do not object if the situation is adequately explained to them.

Modest but Handsome Clubhouses are proving most satisfactory. Chicopee's attractive clubhouse has a floor space of only 2,500 square feet and Bangor's around 3,000. Both provide adequate space for pro shop, storage, snack bar,

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ACTUAL CONSTRUCTION COSTS (rounded figures) BANGOR (ME.) AND CHICOPEE (MASS.) MUNICIPAL COURSES

	BANGOR ¹	CHICOPEE ²
1. 18 holes including irrigation and architect's fees	\$150,000 ³	\$217,000 ⁴
2. Initial maintenance equipment and course furnishings	22,000	25,000
3. Maintenance equipment building	9,500	4,000
4. Maintenance of course after acceptance	5,500	15,000
5. Clubhouse and furniture	40,500	42,000
6. Entrance road and parking lot	8,500	17,500
7. Miscellaneous items	6,000	5,000
	<hr/>	<hr/>
	\$242,000	\$325,500

¹ Figures prepared by City Engineer John Frawley and course professional and construction supervisor Austin Kelly.

² Figures prepared by Chairman of the Golf Course Commission Leo Roy and Construction Chairman Gilbert LaValley.

³ Includes green and tee irrigation.

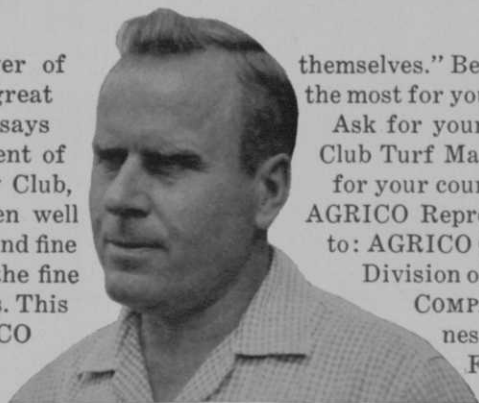
⁴ Includes green, tee and fairway irrigation (Manual).

Land acquisition costs and bond interest not included in above.



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themselves." Be sure you're getting the most for your fertilizer dollars.

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Austin Kelly, professional and superintendent at Bangor Municipal, gives one of his very popular group lessons. Kelly is known as "Mr. Golf" among grateful citizens of Bangor.

MUNICIPAL COURSES

Continued from page 24

washrooms and office, but with a minimum of space for showers and lockers.

Adequate outdoor living space in the form of large patios and overhanging eaves is also useful at daily fee courses. The former are used in crowded periods while the latter are utilized during sudden showers when several hundred persons may suddenly seek shelter.

A huge clubhouse at a municipal course can prove a millstone around the neck of the entire operation. Perhaps one is only justified if it is built to cater to an activity in addition to golf. Nevertheless, even though only a small clubhouse is built originally, it is wise to leave ground space so that if circumstances change it can be enlarged in the future.

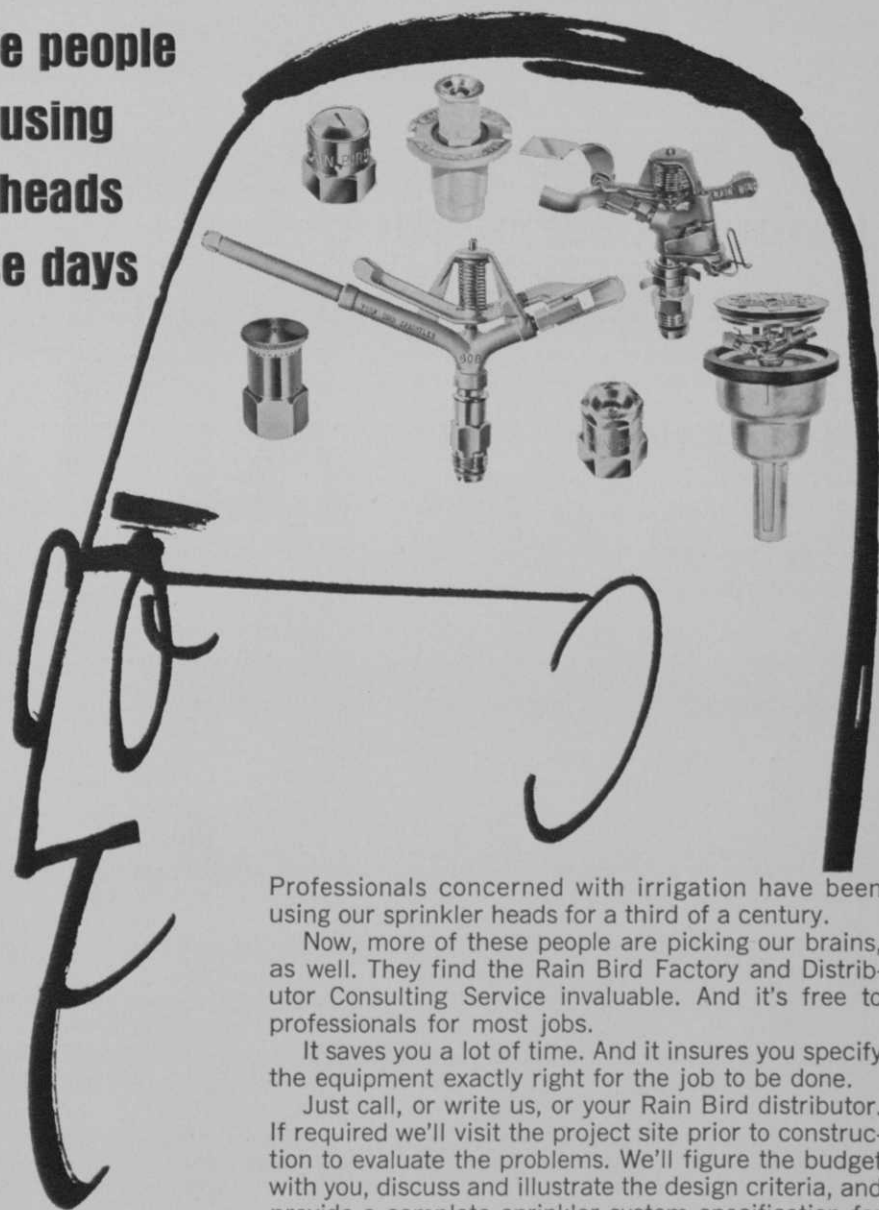
The **Municipal Course** can become a large revenue producer. This is particularly true if the standards of design, construction, maintenance and operation are high. The first week the Chicopee course was opened in mid-July, 1965, it was played by more than 1,600 golfers and this weekly number did not diminish until the golf season waned. At Bangor

it is also noteworthy that tourists en route elsewhere are staying over a day or more to play the new layout. Bangor ended 1965, its first full season of play, with income almost \$10,000 more than operating expenses.

It is understandable that many an operator of a profit-motive course feels the municipal layout, built with public funds and operated free of many taxes, constitutes unfair competition. More often than not, this occurs only in areas of limited population. Serious competition is not encountered where the National Golf Foundation's yardstick of one 18-hole daily fee course for each 25,000 people within a radius of 20 miles has been followed.

Although the path of dedicated persons who undertake to promote a municipal course will seldom be easy or short, the results of their efforts can be enormously worthwhile in producing an attractive revenue-producing recreational facility. It should be added that their paths will be made easier if they avail themselves of the magnificent but free services of the National Golf Foundation, as did both Bangor and Chicopee. •

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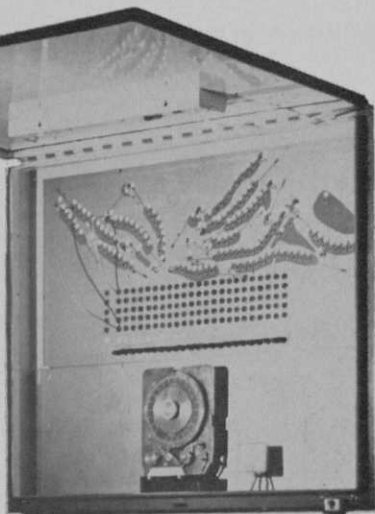
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RAIN BIRD

Complete irrigation with central control

Electronic panel device, new pump and piping give St. George's Club "tomorrow's system today."

By MICHAEL O. MATTWELL
President, St. George's G&CC, Stony Brook, N. Y.



Central electronic control panel has color-coded course diagram, 23 timed rows of plug-in jacks, and time clock with pre-warning device.

A completely automatic irrigation control system, based on a central electronic control panel, has been operating flawlessly since we installed it at St. George's Golf & Country Club, Stony Brook, Long Island, N. Y., in mid-July, 1965.

Basically, our system consists of a central electronic programmer with more than 20 sequentially timed circuits to control irrigation of all fairways, greens and tees. Each component—pumping, piping and control center—is designed as a coordinated system. The action and reaction of each component is considered, and each is engineered to eliminate any adverse effects on another.

Major features of our system include:

- Unmatched reliability since only one programmer is used.
- Overall operating cost is less than that of manual or previous automatic systems.
- Flexibility and adaptability to additional features is unlimited.
- Central automatic control is adaptable to either new or existing piping systems.
- Pressure at each sprinkler head is maintained automatically within close limits to compensate for pressure drops and differences in elevation.

- Installation cost is less than that of semi-automatic systems with several automatic programmers at stations in the field.

- Control panel can be operated easily by unskilled laborers because of color coding in panel and plug-in jacks.

This is how the new system came about. In July, 1964, members of our club elected to install an irrigation system to water the drought-parched fairways, and to replace the 1917 system which provided insufficient water for greens and tees. Because of my electrical and mechanical engineering background, I was given the job of Chairman of the Irrigation Committee.

I accepted the job as a real challenge and immediately set a goal to see that St. George's had the most advanced, simple, versatile and trouble-free system yet developed. It wasn't easy, but it was interesting. We formed a representative committee and used all of the technical talent available within the membership of the club, in addition to the experience of Sid Brown, our green superintendent.

First, without any pre-conceived ideas of what the automatic golf course irrigation design concepts were, our com-

Continued on page 30

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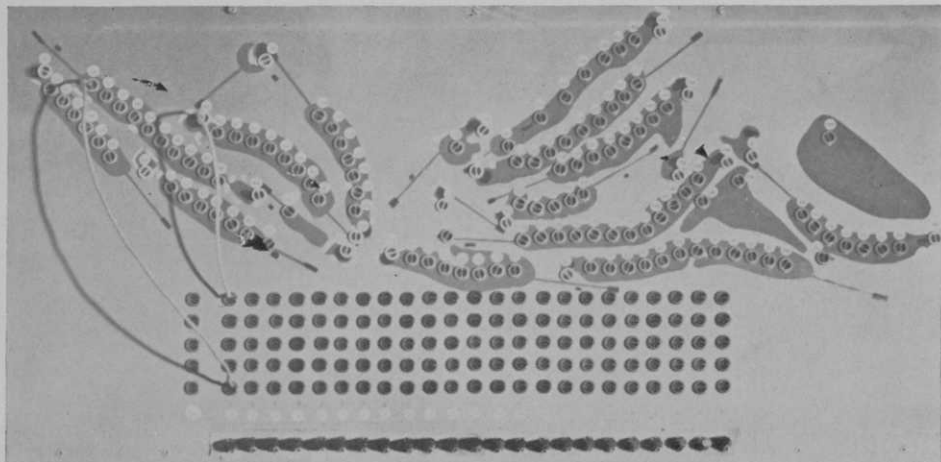
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Schematic color layout of course has plug-in jacks at each sprinkler head location with pilot light and sprinkler head identification number above. Bottom row has variable time setting or adjustment knobs for each of the 23 circuits on the new electronic control panel.

COMPLETE IRRIGATION

Continued from page 28

mittee outlined the features we thought desirable. I then sat down to design an electronic control center that would accomplish all of these features. To do this I had to call on many years of automation experience designing and servicing automatic control systems for various processes in power plants, water works and petro-chemical plants.

It was easy for me at once to see the overwhelming advantage and practicality of a central control center where all manual and automatic control functions could be programmed and performed. Today, almost every new power plant, water works, chemical plant and office building has only one central control center. Yet, most automatic irrigation systems installed in recent years still use automatic programmers grouped at several locations with the resultant lack of flexibility and coordination, and decrease in reliability.

We pooled our ideas with other committee members and unanimously agreed that we should have a central electronic control center. In addition, after an exhaustive analysis of several manufacturer's lines of irrigation equipment, we actually tore down and examined every manufacturer's control valve, sprinkler

head and programmer we could find. Thus, we became convinced that reliable components were available, and our combined experience with more sophisticated equipment assured us that we could build a trouble-free system. Next, we read every article we could find on automatic irrigation systems, listing the shortcomings and desirable features of each. Since we were not influenced by any source, we could take a truly objective approach. Shortcomings and potential trouble spots of previous systems were easy to see, and it was amazingly simple to overcome them. We were not satisfied with an adequate automatic system or one that was just better than a manual system. We selfishly and prudently wanted one with minimum operating and maintenance expense, and we wanted the simplest and most reliable equipment available regardless of how many different manufacturers we had to use. Not only did we want the best system, but the *best buy*, since we are a financially modest club.

Fortunately, we had designed our central electronic control system based upon the latest automation techniques prior to becoming exposed to limited multi-programmer systems. We gave each of these systems an honest engineering appraisal, but since the entire club

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