



## *Golf Course Design - Construction - Renovation Issue*

### CONTEMPORARY DESIGN STANDARDS

*Geoffrey S. Cornish, Golf Course Architect Fiddlers Green, Amherst, Mass.*

Except for World War II and two other years I have attended every Massachusetts Turfgrass Conference since 1937. In my opinion the 1968 Conference assembled one of the greatest groups of speakers of any conference to date. Great credit must go to Dr. Joe Troll for organizing this conference and for doing it year after year despite an unusually heavy teaching load. And Leon St. Pierre who has so often borne the heavy load of chairing the conference will agree with me that Anthony Caranci performed magnificently in chairing this one and in bringing it to so successful a conclusion.

My subject is summarized as follows:

A. In designing a golf course there are three major considerations. These are the game of golf, maintenance and aesthetics.  
B. In regard to the game itself the course must be exciting and challenging for all types of players. And adequate consideration in arriving at shot values must be given to wind effects, the sun, the horizon, distant vistas, alternate routes, terrain, variety and visibility. Contemporary design is strategic rather than penal. Notwithstanding the difference in maintenance standards as brought out so effectively by Dr. Skogley between the ancient courses of the British Isles and those of North America, the links of Scotland are our only enduring texts on strategic design.

C. Design for machine maintenance is a must today as emphasized by both Tom Mascaro and David Moote in their splendid presentations.

D. In this last half of the twentieth century, mankind yearns for beauty. Green grass, trees, white sand and impressive surroundings automatically provide what is called pastoral beauty. But this beauty is enriched by the embodiment wherever appropriate of the principles of art. Appropriateness is determined by the law "Form Follows Function."

E. The five principles of art are defined as follows:

1. *Harmony* is the principle that produces a sense of unity in the composition. In our case the composition is the golf hole. A similarity between lines of a green, its foreground and its background will provide harmony.

2. *Proportion* is the law of scale or size. An example in high mountain country would be large sand traps and other features if they are to be in scale with their surroundings.

3. *Balance* is rest or repose. The restful effect is obtained on each side. This may be bisymmetrical or asymmetrical. The former would be exemplified by bunkers on both sides of a

(Cont'd page 6)

# Golf Course Superintendents Association

## LIST OF DIRECTORS

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## APRIL MEETING

The April meeting of the G.C.S.A. of N. E. was held at the Holiday Inn, Newton, Mass. on April 1, 1968 with 55 members and guests attending. This was the last indoor meeting of the winter sessions.

Lou Duval reminds us that the dues are coming in better than last year. However, may we also refer you to your bylaw book:

Article IV Section 10, 1-2

1. All Association dues shall be payable December 1. On the first day of December and April the Treasurer shall send a statement to every member indebted to the Association.
2. All Members whose dues or assessments shall remain in arrears more than five (5) months shall be suspended from the Association without necessity of notice given of such suspension.

## WELCOME TO NEW MEMBERS

Regular — Robert St. Thomas  
Associate — Robert Heeley  
Assistant — David Macora

*The eye, especially, demands completeness.*

Goethe

## Coming Events . . .

June 3, 1968 is the annual Superintendent-Chairman tournament and this year it will be held at The Country Club in Brookline, Massachusetts. Jim MacDonald is the super of this fine 27-hole layout.

July 8, 1968 will be the first annual Superintendent-Press tournament. It is going to be held at the Twin Hills Country Club in Longmeadow, Mass. Roy MacIntosh is the super. It will be the responsibility of each member wishing to play in this new event to line up his own "press partner." If you have trouble finding a partner, please contact Wayne Ripley as he is the Golf Chairman.

The August meeting will be at the Agawam Hunt Club where Wayne Zoppo is the super.

## Fatal Dosage

This technology we "enjoy" today is little else but a widespread suicidal pollution. It is a blight affecting not only the air we breathe and the water we drink, but also the land we till and the outer space we hardly know.

—*Oceanographer Dr. Jacques Piccard, saying he doubts man will survive the 21st century.*

## PRESIDENT'S MESSAGE

After hearing the presentation given by Sherwood Moore at the University of Massachusetts 1968 Turf Conference concerning unions on the golf course, it was certainly apropos to the last president's message. When his talk is published in the turf clipping magazine I highly recommend that all green chairmen take the time to read it thoroughly. Those Superintendents who may not have attended this excellent conference should make sure that he obtains a copy and forward it to his club officers. One emphatic point Superintendent Moore stated, "it cost the Country Club \$27.50 per month per man for fringe benefits alone for his maintenance crew." We have been *very fortunate* in the New England States, whereby, organized labor has been very slow in unionizing the country clubs. However, the country clubs should take the initiative and begin to realize that golf is the reason for *being* and more money must be budgeted for Golf Course payrolls. Full staffs of kitchen and dining room employees are retained during the winter months. When the busy golfing season begins the restaurant end of the country club is guaranteed service by competent help who are ready to perform their duties and serve the membership. Reducing a golf course crew down to two or three men during the winter months does not save money. In the spring, not only does the problem of acquiring a crew under the present wage conditions exist, but 75% of your crew are new men, the problem of training them arises. This consumes time and time is money. It is a fallacy to believe that the club is saving money with a part time crew. On paper it may look cheaper, but the wasted unproductive hours in teaching a new crew comes out of the efficiency of the golf course operation which in turn gives a *lesser* golf course to the membership. The unnecessary crude abuse of our very expensive golf course equipment by this new help is immeasurable. After weeks of training have transpired (although it takes years to make a good golf course crewman) the newly trained men start leaving for landscaping and other positions that offer them higher wages. The actual cost per hour for the amount of work accomplished is actually more expensive than if you paid crewmen more per hour, all year round with fringe benefits. Many clubs have already begun to act. They are keeping 5 to 7 men on the payroll year round, offering a living wage; plus fringe benefits, initiating a comprehensive winter work program. These are the clubs who will have no labor problems this spring or in the future because they have the foundation of their crew, who are trained, responsible and dedicated to their clubs. Most country club memberships are made up of very successful business men who have been faced with labor problems in their respective fields. Analyzing this situation as business men, you demand the best and are entitled to the best. Give the Superintendent the best to work with; put your golf course operation on a business basis and improve these conditions; before we will have to tolerate unions. If unions come to our golf courses, remember, the country clubs will have forced it upon themselves, the decision is yours now, you may not have the right to decide later.

Anthony B. Caranci, Jr., President

## Some Elements of Golf Course Design

*Philip A. Wogan, Golf Course Architect, Beverly, Mass.*

An ancient axiom in architecture is "form follows function." This is just as true in golf course architecture. It seems obvious that the function of a golf course would be to provide a playing ground for the game of golf; but quoting Kettering, "Nothing is more obscure than the obvious," and that probably applies in this case.

Golf means different things to different people. To some, it is a business; to others, it is a recreational or social activity; and to many, it is a sport. Hence, it would appear that golf courses must serve different functions and, thus, must take different forms. For example, the operator of a fee-type course is interested in maximizing his income and minimizing his expenditures. For this reason, he would like a golf course that would permit maximum traffic. This would require the elimination of a number of features which would slow play. This would mean much less bunkering, wider fairways, less rough, et cetera. He would also want a course that is relatively easy to maintain. As a case in point, in green design, he would want larger greens with very gentle contouring to allow for more cupping space; larger aprons and collars to facilitate gang mowing and shallower bunkers to decrease the amount of hand labor. The managers of publicly owned courses are also interested in volume play — not for profit, but to serve the growing golfing public. The foregoing would apply to a municipal course.

Now, for those people who think of golf as a sport, those individuals who believe that the courses they play on should be of "championship caliber", the architect must consider other design forms. I agree that the expression "championship course" is a very nebulous term and certainly a much abused one. What constitutes a championship course? Certainly, the often advertised fact that it is more than 6,300 yards is not the criteria; for, we know there are many courses that can fall in that category which cannot be considered of championship caliber. Also, the fact that they are architect designed, have sculptured greens, have large tees and attractive landscaping cannot be considered a determining factor. Rather, it is a combination of many factors, some of them unique to a particular course itself, which determines whether or not a course is of championship caliber. However, there is one thing we can be sure of — any course worthy of a championship test must be wholly related to the nature of the game itself. Golf is basically a game of accuracy, skill and finesse with a heavy emphasis on iron play. As an illustration, let us take the matter of finesse around and on the putting green. Putting surfaces should not be so large as to require a put that is not a finesse shot. A golfer should not have to drive that ball across the green in order to reach the cup. If he is this distance away, he should be able to play a "pitch and run" or a "chip" shot to the pin, depending upon the contours which must be carried. These are some of the enjoyable shots in golf and make the game what it is. The contouring of the green must be such that it allows for a great variety of putting skills, whether they be mental or physical. This means, of course, that on many greens this will cut down on cupping space and, therefore, will increase our maintenance problems. It is recognized that certain maintenance considerations must be built into the golf course; for example, in the case of green contours, they must provide for adequate surface drainage, and these considerations cannot be compromised.

For an example of skill and finesse combined, we might use bunker shots from green bunkers. There has been a trend in recent years towards shallow bunkers to cut down on main-

tenance problems. It is my opinion that a golf course of "championship caliber" should provide a number of opportunities for explosion shots from the bunker. Too often, a golfer can get out of a shallow bunker with a "Texas wedge." This, in my view, is a "nothing" shot; therefore, a number of green bunkers should be deep enough and with steep enough gradients to require a golfer to go after the ball with a "sand wedge" or nine iron and bring that ball up quick. Here again, this design feature will require maintenance; but our golf course superintendents have the management skills to handle these extra problems; and the golfer should be willing to pay the "freight" in increased maintenance costs to get a course of a more challenging nature.

Let us take another point. What design features are necessary to put a premium on accuracy and skill in playing the middle to short iron, or more specifically, the four iron down to the pitching wedge? These irons, well played, can make a day on the golf course worthwhile. I am in agreement with a number of golfing authorities that believe too much emphasis has been placed on the long ball and not enough on accuracy. Provisions should be made in the size of the target area and in the placement of bunkers that would place greater shot value on the approach iron. This means that provision should be made on a number of holes for smaller target areas. This can be done by reducing the green size and placing the green bunkering closer to the putting surface. This would put less emphasis on putting. After all, it already has enough emphasis with thirty-six strokes allotted to it for every eighteen-hole round. In my judgment, the average green size on a course of championship caliber should be 6,000 to 6,500 square feet, ranging from 4,500 to 8,000 square feet.

In general, in order for the architect to arrive at a design, he must try to anticipate the ultimate function of a golf course. He must take into consideration certain golfing values inherent in the game and, at the same time, incorporate design features which will, within reason, minimize maintenance problems.

### CIRCULATION

*We design for an attractive space and theme modulation, from drive entrance to building entrance, to parking court and return.*

*We do not violate the landscape.*

*We design, of course, to take full advantage of the site — its topography, its cover, its vistas, views, and other landscape features, and its native character.*

*We flow with the contours of the land.*

*We move from hollow to ridge, from dense cover to open sweep, — maximizes in all ways possible the pleasurable impact at the site.*

John Ormsbee Simonds

*As long as man's activities are in sympathy with nature, or are on so small a scale that they do not interfere with nature's self-renewing cycle, the landscape survives, either in a predominantly natural form or as a balanced product of human partnership with nature. But as soon as the growth of the population or its urban activities are sufficient to upset nature's balance, the landscape suffers, and the only remedy is for man to take a conscious part in the landscape evolution.*

Sylvia Crowe

# Golf Course Superintendents Association

## Construction By Contract and the Role of the Superintendent

David Canavan, President, Moore Golf, Inc. Culpeper, Virginia

The method by which a vast majority of golf courses today are being built is by contract, with a firm experienced in golf course construction. This can be done with one contract and one firm doing all the construction or with three separate contracts. This latter method is used extensively in areas that are planted with Bermuda grass. The breakdown of these contracts is:

1. Clearing, earthwork, drainage, soil mix, fine grading.
2. Irrigation system.
3. Planting.

The first step for an individual or group planning a golf course is to obtain the services of a competent architect. If there is a choice of sites, which is now very seldom the case, it is wise to have the architect in the picture prior to making a definite commitment on the land. If you want his time and opinion, be sure to pay for it.

The architect will then prepare detailed plans and specifications and put the job out for bids. After the bids are in, the work is then awarded to the lowest responsible contractor and the work will progress.

Where does the golf course superintendent fit into this picture? All too often he is the forgotten man. Everyone knows that a superintendent must be hired, but usually no one does anything about it. Now that construction is under way, attention turns to hiring a pro who may well be needed but usually not for a year. The superintendent, in most cases, will be an absolute must in four months.

It would be ideal for the new superintendent to be on the job from the start, and to have some say in the specifications. It is more normal for the superintendent to be hired after the job has started, so I will try to outline some things for a new superintendent to do and look for.

Before you take the job, one of the most important things to do is read the specifications and look at the plans. You will have very little chance to change anything major after a contract has been let. It is a good idea to find out what the proposed budget will be and, if possible, talk to the architect.

Once on the job, it is important to do the following:

1. Find out exactly what your responsibilities and your authority will be during the construction.
2. If you have any questions as to the plans and specifications, go directly to the architect for his thoughts and reasons for them.
3. Avoid as much as possible having to give orders and messages from the architect to the construction superintendent.
4. Give any suggestions or complaints directly to the construction superintendent — not to any of his employees.
5. Sit down with the architect and contractor and determine at what point you will take over maintenance. The contract may end in many ways:

a. With seed in the ground.

This type of contract definitely is the most clearcut, and is perhaps the best in the long run. It forces the club to hire a good superintendent early. It also drives home the point that he must have men and equipment that fall.

b. Other ways of ending are:

A reasonable stand of grass.

A green cover.

One or two mowings.

None of the above will give the owner a golf course. It will only delay the take-over of maintenance by the owner's superintendent 10-30 days.

c. Contractor will maintain until ready to play. In the few contracts so worded, the owner usually is not planning to hire a superintendent.

As a maintenance superintendent, you should be ready to take over the work as soon as the contractor has fulfilled his contract on any given area — green, fairway, or tee. It is important that there be no lapse in the maintenance of the seedling turf. This take-over of the maintenance by the superintendent will in no way relieve the contractor of any obligations he may have under his contract.

6. Maintenance building.

One of your first needs will be a maintenance building for your equipment. It must either be built or converted from a present structure.

7. Maintenance equipment.

While it is advisable to give the club a complete list of equipment needed, it is imperative that you have the items which you will need when you take over maintenance.

8. Topdressing.

Get a good supply under cover if possible, as it is advisable to try to get 3 topdressings on greens and 2 on all tees before opening day. It may be advisable and cheaper to pay the contractor to mix some of your topdressing with his larger plant. This usually is not fine enough for finish topdressing, but will do for the first topdressing on the greens and all topdressing on the tees.

9. Watering.

The most important single factor in bringing in a course is to keep the seed and seedling turf damp. If you have to take over the course from seed, you should have a crew of about four men one week before you will need them to water, once the seed is in the ground. About all one man can handle is one hole, as he must water very light and often.

10. Mowing.

The greens should be mowed at about 1" the first time and lowered slowly, once the greens fill in. All other areas should be mowed about 1" higher than their final height and slowly lowered. It is very important to mow often as new turf, many times, will grow faster than an older stand of grass.

11. Washes.

Unless you have sheet washes which will require complete reseeded, it is best to ignore washes no matter who is required to repair them, until the grass in the unwashed areas has taken a firm hold.

It is very important for the superintendent of a new course to impress upon the official of his club the work he must do and the men and equipment he must have. On an existing course, you will usually have a greens chairman who has some idea of what has to be done, but the bringing in of a new course is usually one thing he is not used to.

The bringing in of a new course can be, in spite of the hard work, a very enjoyable and rewarding job.



## Golf Course Superintendents of Maine

Editor — Dr. Burton R. Anderson, Route 5, Augusta, Maine

### New Officers

At the annual meeting of the Association held at the Holiday Inn in Portland on March 20, the following officers were elected for the coming year:

President: John Davis, Superintendent  
Riverside Golf Course  
Portland

Sec. Treas. Ernest Hawkes, Superintendent  
Gorham Country Club  
Gorham

Vice President, Southern Maine  
Lloyd Ruby, Assistant Superintendent  
Portland Country Club  
Portland

Vice President, Central Maine  
Harvey LaMontagne, Pro-Superintendent  
Rockland Country Club  
Rockland

Vice President, Northern Maine  
John P. Dana, Pro-Superintendent  
Maine Central Institute Golf Course  
Pittsfield

### NEXT MEETING

Next meeting will be held on May 7th at Howard Johnson's restaurant, South Portland. The business meeting will be followed by a panel discussion on winter damage. Golf may be played after the meeting at Willowdale Golf Course at Scarborough.

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Your editor repeats that this Newsletter can be mailed to appropriate officials of golf courses where member superintendents are employed. Members are urged to send in names and addresses of these officials to the editor or secretary so that this mailing may occur.

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### Good Design or Good Construction Specifications?

*Dr. Burton R. Anderson — Golf Course Architect*

Obviously the answer to the question is that a good golf course has both good design and good construction specifications, although the writer is inclined to emphasize specifications since course quality often seems poorer through substandard construction than through design. Certainly a good part of the trouble is that good design standards used before, say 1930, are often obsolete today especially in the matters of course length and tee and green size. And ignorance of principles of course construction and turf management was greater so that courses made in the "old days" with the best of intentions may have become mediocre in design and quality and be costly and difficult to maintain.

In this area remodeling of present courses has hardly begun, and construction of new courses too often shows little evidence of the advances in course architecture and construction. The nub of the matter is that the effects of that long, grim period from 1930-1945, when golf declined severely with a decrease in the number of courses by 25%, are very much with us as evidenced by the low valuation placed by golfers on the game, or, to put it another way, the small increase since 1945 in greens fees and annual dues that golfers are willing to pay. Ignorance that there has been a great inflation economically since that time is another factor, although readily excusable since monetary matters are so difficult to understand. (Reasoning a bit further, it could be prophesied that private recreation could become a casualty of an unstable dollar, with such inflation very likely to occur in the future as we are forced to come to grips with our huge urban problems which are to be attacked with money from public sources. Certainly no one hopes that all of our wealth will have to provide for necessities, as in wartime or depression economies, but present trends are not optimistic).

It would appear that when golf course officials face up to the problems of remodeling or building a course, they find

that the costs of building even a "cow pasture" course are staggering with reference to their former or preconceived notions on such matters. Isolation from the mainstream of golf is part of the reason for their discomfort, and their ignorance or unwillingness to accept the concept of a modern golf course superintendentship (and superintendent) helps keep them from knowledge of realistic golf course construction and management costs.

Often an initial response to the shock of golf course costs is that a golf course architect will not be consulted at all. Instead local talent will be pooled, often with a heavy weight of opinion going to golfers of great skill. Or general contractors without experience in golf course construction are expected to set the design and specifications. If an architect is consulted, his preliminary plan is likely to be used as though it were the complete plan and specifications are to take care of themselves. And if the architect is retained to develop complete plans and specifications and to supervise construction, he finds increasing resistance to acceptance of advanced design and good construction specifications because of the increased costs involved. Most architects do well in pointing out the bad consequences of compromising design and specifications, yet the customer too often elects too low grade a course apparently trusting to "Heaven, Home and Mother" to make things come out right. Finally, the architect has a hard time to sell the new course on a golf course superintendent in the proper sense, and this makes commissions rather hard indeed.

Developers of most any product or service are aware that there is a market for a quality grade of such product or service, even if not readily apparent through market research. In this regard the writer is of the opinion that the future of golf enterprise in Maine belongs to those who build or rebuild quality into their golf courses.

# Golf Course Superintendents of New Hampshire



Editor — George Hauschel, Supt. Rockingham Country Club, Newmarket, N. H.

## APRIL MEETING

The April meeting was held at the New Hampshire Highway Hotel, Concord, New Hampshire, on April 9, 1968. Mr. Charles Pickering of the Atlas Chemical Industries, Inc., Wilmington, Delaware, spoke on the use of dynamite for ledge and rock removal, and how to blow drainage ditches with ditching dynamite. Mr. Pickering stressed the "Do's and Don't's", instructions, and warnings in the use of this explosive.

## NEXT MEETING — MAY 14

Directors' meeting	10:00 a.m.
Regular meeting	11:00 a.m.
Dinner	12:15 p.m.
Educational Program	1:15 p.m.

On May 14, 1968, the meeting and dinner will be held at the "THUNDERBIRD" Golf Course, on Route 3, Tyngsboro, Mass. Dinner will be charcoal steak at \$4.50 a plate, including two drinks. After the dinner, we will go to the Green Meadows Golf Club, where co-hosts Phil Friel, owner, and Dick Lorman, superintendent, will give us a short talk and a tour of the 36-hole layout, the only 36-hole club in New Hampshire.

After the educational program there will be a nine-hole golf tournament for those who wish to participate.

## Two Years in the Rough

*By George Hauschel, Superintendent, Rockingham Country Club, Newmarket, N. H.*

During the early summer of 1943, I was offered a job at the Rockingham Country Club, weeding greens at forty cents an hour. I was then eleven years old; today I am thirty-five years old and still working at the same club. In 1956 I became Superintendent, so whatever the problems at our club from 1943 to date, I have always been involved in them, one way or another.

In the winter of 1963 the Hauschel family bought the golf course and my brother, Bruce, became the Pro. Up to that time we had operated without a pro, as a public golf course, and had not held any tournaments or group events. New problems now confronted us — problems such as schedule conflicts between Pro and Superintendent. He had his schedule and I had mine, but we weren't yet quite accustomed to getting together on them so that the two schedules blended smoothly. We would find out on less than twenty-four hours' notice that a tournament was being held while we were top-dressing the greens.

The consequence of this was a general foul-up in plans. The watering schedule and the mowing schedule were upset, leaving us no chance to polish up the course as nicely as I would have liked for tournament play. It also called for unexpected extra hours for me and my crew, and if they had already made plans for that day off, they might not be able to return to work on such short notice. This led to disgruntled and demoralized employees, and to a poor relationship between members and superintendent, for the superintendent caught the blame if the course wasn't ready on time.

It was almost two years before we finally found a satisfactory solution to our problem. During the winter of 1965, my brother Bruce and I organized a Greens Committee, made up of a geographical cross-section of our members, to help us

## PRESIDENT'S MESSAGE

The 1968 golfing season is upon us and it promises to be an interesting and demanding one. For the past few months we have been attending conferences, local seminars, catching up on our accumulating literature and now it is time to put this added information into practice.

With each year a more definite emphasis has been placed on the superintendent's managerial duties. Due to the rising costs of equipment, materials, and labor, coupled with slow increases in membership dues, assessments, and other incomes, the superintendent must spend more time working on efficiency measures.

Slowly vanishing from the scene is the superintendent working side by side with his crew out on the course. The changing role of the superintendent, brought about by more demanding pressure from members, labor, and higher costs of materials, is leaning towards that of a manager. More time is necessarily spent on paperwork; precise records are needed on the various phases of maintenance operations to evaluate the efficiency of present procedures. By this method we can determine where funds are needed, justify present spending, and estimate future increases and decreases.

We have progressed from "caretaker" to "greenskeeper" to "Superintendent." If we examine closely our profession in terms of duties performed, we will find that we do more than superintend. *Who Are You: Superintendent or Manager-Superintendent?*

Robert Flanagan     President

with our problems. This committee has a chairman, social chairman, rules chairman, handicap chairman, and steward — plus the Pro and Superintendent. The objectives of the committee are: to give the members a voice in our club; to handle all local rules; to set up, one year in advance, dates for tournaments, weekend group outings, and Pro Days, and to leave a couple of open dates for extra club activities, if desired; to handle all member grievances; to give active assistance with club activities; to bring about a better relationship between the leagues and the management; and to act as a liaison between members and Superintendent and to support the Superintendent's decisions.

For the first Greens Committee, Bruce and I picked people whom we felt would make good committee members. In the second and third years, they have elected their own members, with the president of the league being automatically a member. All these men serve without compensation. Bruce and I do not have a vote on this committee unless it is to break a stalemate, as we want the committee members to feel that this is their club, even though it is privately owned. This has been well accepted by the committee members.

Most golf clubs are not owned by private individuals, as our club is, and these other clubs usually function quite well with their greens committees; my point here is that privately-owned clubs can also function successfully with a greens committee working with the pro and superintendent.

Since the organization of our greens committee, the entire management of the club has gone much more smoothly; there is no more friction between pro and superintendent about time and date of club activities. I feel that if the pro and superintendent can get along in harmony, at least ninety-eight per cent of the large problems of this relationship are already solved.



## Golf Course Superintendents of Maine

Editor — Dr. Burton R. Anderson, Route 5, Augusta, Maine

### NEXT MEETING

There will be July meeting on August 6, 1968. We will meet at Rockland Golf Club, Rockland, Maine. Big Harv is the superintendent.

### Care of Trees on Golf Courses

Since trees grow so profusely in the northeast and thereby receive a lower valuation than they do farther south and west, superintendents often find it difficult to budget tree care on a golf course. Of course, a winter crew, if present, can do a lot of tree care such as pruning off lower branches, thinning out of stands and clean-up, and such items do not need special budgeting. But for the more intrinsic work to be done in the tree tops, the superintendent would rather hire an outside arborist, and it is this special budget item that club officials seem to reject as unnecessary.

This short-sighted policy of attempting to consign the superintendent and his crew into the trees usually means that trees do not get adequate care and for the following reasons: (1) The superintendent and his crew are untrained in tree climbing and far less efficient working in trees than arborists even accounting for the higher rate of pay for an arborist. (2) If a superintendent and crew are inefficient in trees they are unsafe as well. Certainly no one wishes to force men into obviously unsafe working conditions, and in addition insurance underwriters of workmen's compensation or health and accident programs, while covering accident loss from *casual* work in trees (and extension ladders) do not cover loss from *sustained* work therein unless so notified that such is to occur, in which case the insured's premiums are adjusted upwards sharply to cover this special risky work. (3) While the superintendent and crew may do well enough sawing off branches, they are not competent in matters of installation of guy wires or filling cavities left by rotting wood, for example. The arborist is trained for this sort of work and is more learned in fertilizing and insect and disease control as well.

More and more people are giving up their own tree care and now hire arborists, pointing up their increased valuation put upon trees and the wish they receive full, proper care, as attested by the explosive growth of this field of endeavor.

### JUNE MEETING

The June meeting was held at Philippe's restaurant in Biddeford on the 4th. That Gary Merrill dined there assured members that they had picked a good place to eat.

Informal golf occurred at Dutch Elm Golf Course. The Association is grateful to Roger Lowell for being host.

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### MODERN FERTILIZER PACKAGING

Transportation costs are now so high that most of a fertilizer's cost is now in shipping. Fertilizer producers have responded to this problem by increasing the fertilizer element content in their products to lower the total costs of total nitrogen, phosphorus and potassium. Application and storage costs to superintendents are likewise reduced.

A question must be raised about the form of the increased element content. There seems little doubt that the sources of phosphorus are and will continue to be superphosphate and ammophos, while muriate of potash is the potassium supply. In consideration of nitrogen there is indeed danger of uncertainty and confusion. From the earliest times superintendents have believed in the efficacy of nitrogen supplied in a natural organic carrier, and these materials were formerly readily available. The chief reason for favoring organic nitrogen is probably that its release is gradual. In short, it is a fundamental part of our fertilizer "lore" that a complete turf fertilizer should have some or all of its nitrogen from organic sources, and most turf fertilizers packaged both for retail trade and golf courses come this way.

The main point revolves about the definition of the word "organic." An organic chemical is one that contains carbon, and a material used to carry nitrogen that is organic does contain carbon. Such materials may occur naturally or be made artificially. The criterion that organic chemicals containing nitrogen will release their nitrogen gradually when applied to soil is *not* part of the definition.

Urea is an organic chemical in the strict sense but is readily water soluble and releases its nitrogen quickly when applied to soil. It is an organic nitrogen source but does not react like one in the sense visualized by those favoring such materials because they release nitrogen slowly.

It is very likely that the great step-up in nitrogen content in blended fertilizers is due mostly to urea, because the claim made on the bag is that of "25%, 35% or 50% organic nitrogen" while in fine print the amount of water insoluble nitrogen remains a small fraction of the total claimed. The only way to get total nitrogen up to 15-25 units is to use such concentrated chemicals as ammonium nitrate, urea or urea-formaldehyde, the natural organic materials being too low in nitrogen content. Use of much urea-formaldehyde in a mix would indeed bring the nitrogen content up sharply and the water insoluble nitrogen content as well.

So it would seem that blended fertilizers are being pepped up with urea to give a high "organic" and total nitrogen content. These fertilizers are not cheap per unit of fertilizer element, but may well be worth the price if they come through well granulated for easy, efficient application with a whirl-cast spreader. Those concerned with the use of organic nitrogen will likely go back to blending their own from raw materials, seeing no sense in paying a great deal for urea, which can be obtained locally for a very low cost per pound of nitrogen.

## New Hampshire Golf Course Superintendents Association, Inc.

### A DEALER'S AMEN

By O. O. CLAPPER

I am attracted by Mr. Barry's recent article in the *Newsletter* relative to equipment, parts and service.

Dr. Nutter says in his recent *Turfgrass Times* editorial that we are at the threshold of needing newly designed and more sophisticated equipment designed for today's new needs.

The late Prof. Dickinson of U. of M. used to ask the question — "Are we designing the golf courses to fit the equipment or vice versa?" There was never a unanimous answer to this question, and I doubt if there will ever be one.

I can well remember the hassles I used to get into with Prof. Dickinson when I was asked to address the graduating class. I would advocate the use of a FIVE gang fairway outfit on 9 holes and a SEVEN on 18 holes and even a seven on 9 if space and tractor power permitted. I advocated FOUR Power Greens mowers for 9 holes and SEVEN for 18 holes. A spare is handy in case of a breakdown or if weather is pushing the grass ahead too fast. Too many clubs are using the MINIMUM equipment and they have *no* reserve. Too many clubs are over anxious to trade away extra gang mowers and other equipment when it would be worth *three* times the trade for emergency use.

As an equipment dealer for some 45 years I should like to get in my two cents worth for you to read as I believe I have some thoughts that merit consideration.

I am sure that Dr. Nutter's forecast will come true but before it can there must be a *desire* and a *willingness* on the part of the thinking superintendent to invest some *real* money in more modern equipment. The resistance on the part of the buyers for anything new and radical has held development back many years. If you wait for the perfect machines — you'll never have them. This is true of even colored TV and all mechanical products. Engineers invent and design only what the public wants. Want it and you'll get it.

My guess is that the men who are having the least amount of trouble with equipment, parts, downtime, etc. are the ones who selected the best, to their knowledge, available for the specific tasks. They carry a normal working stock of common needed parts — they service their own equipment in the off season and do a thorough job then — they have trained alternate operators just in case of illness or absence from the job — they have selected the best performing operator for the special machine or task — they convinced the financial committee to purchase the machines they wanted rather than being beaten down on a high trade or low purchase figure.

It would be very difficult for you to name just one mechanical product which sells at the lowest price, that has the longevity, freedom from breakdown, less downtime, and does the better quality of work. Then why not apply the same common sense to equipment purchases that may have to last for many years?

Manufacturers of turf equipment have moved from the process of making just the orders on hand but to large scale predetermined production. Machines are made many months before reaching the ultimate owner. This means lead time on their materials, sales projections, and all that goes with big business for that is what it is today. They purchase on the open market such items as engines, transmissions, rear ends, clutches, steering gears and because of purchase compacts, to expedite parts service and greater turnover, the parts for these components must be purchased from the local service

station of the component maker, not from the ultimate maker who incorporated these into a final machine. His stock is not always 100% and under the new method of doing business the manufacturers fill in his parts needs on either a once or twice monthly parts shipment. There can be a delay if the factory backorders a part. We, the dealers, at the tailend of the distribution line, must go to this supplier (sometimes called the Central) for these parts and if he is out then we have no place to turn but just wait, and in turn cause you to wait.

Trade journals tell the dealer he must *turn* his parts inventory *four* times per year to get his cost of materials and operations back. We have some 16,000 individual parts items in normal stock. Some sell rather rapidly but the largest portion of the investment sells very rarely but we must stock it, as on such an item there can be a long wait if it must come from the Central or the factory. We are still hoping for the day when we get just *three* turnovers.

It might be impossible to completely equip a club with *one* make of machines. You might get 90% from one dealer or perhaps two dealers. If such a plan was worked out then stocking normal replacement parts at the club and the employment of a good mechanic — year round — would reduce costs and certainly save downtime.

We operate a fleet of 13 vehicles, 9 of these are FORD products and they are the ones doing the most miles and haul the biggest loads. We are prepared to give almost instant service to these, thus our downtime is almost nil. The major overhauls etc. are done by the Ford dealer but only after we get a place on his service schedule. Every vehicle is given a thorough inspection and all needed service — for the next year — is done while our operation is in its slack months. Ford dealers and rental agencies are amazed at our very low cost per mile. This is due to good drivers and proper maintenance plus starting with top quality products.

We keep one 4-wheel drive Jeep just for snow plowing of our parking area but you would be surprised to see the extra miles it accumulates as an emergency delivery or service truck during the year. It is worth about \$100 in trade but you could not buy it from us for \$500 if we could not get another.

We have scores of owners of our products who brag to us as to their longevity, low upkeep costs, downtime, and how proud they are of their judgment and investment. These men cannot be wrong as experience has proven them otherwise. We value their judgment and many times we'll stake our future sales to a new customer on what these men will tell the prospect when we send him to them.

Select the best equipment, in your judgment, pay the legitimate going price rather than trying to sell the junk you have as part payment, take care of it once you have it, give it to a good operator, check maintenance upkeep rather than waiting for it to break down, service it in your own shop, make it do what it was made to do in a satisfactory manner or call the dealer and tell him to come and get it.

Last, and not least, clean it in the winter, overhaul and paint it your chosen colors that blend into the surroundings, and be as proud of it as if you personally owned it — after all, you selected it, or did you?

#### NEXT MEETING

The next meeting of the N.H.G.C.S.A. will be held Tuesday, July 9, at the Maplewood Golf Course in Bethlehem, N. H. Host Superintendent-Owner will be Ray Johnson.

Directors' meeting	10:00 a. m.
Regular meeting	11:00 a. m.
Lunch	12:15 p. m.
Educational program	1:15 p. m.

Let's all try to attend this meeting, as this club is one of the oldest in New England, is very picturesque, and has one of the few par 6 holes in New England.

## "The Golfer's Golf Course"

Somewhere along the long line of progress in the game of golf there has been acquired a certain type of education by the golfer, himself. Call it a self-taught subject like "golf course appreciation." That's fancy enough all right. But even without a name or title, golfers have found themselves lured to the study and orderly discussion of the merits of their summer playground.

From an idealistic standpoint the epitome of a golf course would have to be molded out of the contributions of three different people — the architect, the superintendent and, alas, the reason for the project in the first place . . . the golfer.

The only trouble with pinpointing the concern of the golfer lies in attempting to arrive at a norm as far as meeting his personal requirements. Unfortunately, all golfers are not alike, both in manner of playing ability and aesthetic values. That latter term often is deceiving. Often, according to the player's manual, aesthetic leaning is used to camouflage a definite defect in the product. Then again, it is most difficult to hide your mistakes on a golf course.

In this particular plunge into the field of course design we shall discount the theories of the architect and superintendent. These views have been presented elsewhere, the position of the latter thoroughly defined as a matter of facilitating the task of his profession. This is a golf course, according to a golfer.

The immediate problem in designing a layout to meet the player's specifications is to recognize the variance of playing ability to be found among members and public swingers. There are two extremes — the expert and the hacker. In between is the so-called average golfer, a rather vague expression since it encompasses the fringe areas of both extremes.

Fortunately for the designer the demands of the game enhance the overwhelming numbers in the hackers' division. Appropriately, then, it should be the prime concern of the course maker to consider the high handicapper, yet still leave some margin to gain unanimous approval by making allowances to beef up the grounds when the experts start groaning.

Of course, all things are relative because of pending differences in amount of land, contour, etc. It would seem that the primary objective of the designer would be to concentrate on making the course interesting for everyone. This I call the "layout." Even hackers swallow their lofty scores easier when they have experienced pleasure in simply walking the course. The factor of keeping interest flowing should compensate for all and any displeasure a golfer encounters while trying to realize a perfect blend of accomplishment on the scorecard and satisfaction from the physical properties of the course along the way.

The most popular and accepted method of bringing about a happy medium for the masses is the building of revolving tees. Many courses have three sets . . . one considered for championship length, another middle or average driving grounds and the third for the ever-growing distaff portion of the customers.

Obviously, such arrangement isn't always possible. Here, too, the designer would do well to organize his drawing board back to the top-priority concern . . . that of making the course interesting for the numbers. Even if it means throwing in extra length his goal will come closer to fulfillment because of a little-advertised wild card in his hand, an intangible known as ego. All golfers are cursed by it, many saturated with it. Sometimes the most minute moment of glory can be magnified beyond imagination. The attaining of par on a testy hole or the clearing of a heretofore unyielding water hazard. Often such small parts of the whole round result in hurrahs for the "layout."

Actually, it is not difficult for the architect to achieve success if he only remembers that to appease the golfer's ego is akin to assuring testimony on behalf of his product. The summation of the golfer's golf course is simple. It has been described in letter-perfect tones by the great Bobby Jones: "A golf course should never become hopeless for the duffer, nor fail to concern and interest the expert. Once this is realized, it becomes more delightful the more it is studied and played."

— Gerry Finn



Joe Rybka

## NEXT MEETING

A return to the great outdoors and the great wars fought there signals the start of the on-course meetings of the superintendents May 6, 1968 at Thorney Lea. Our host green thumb will be Joe Rybka who is beginning his third year at Thorney, where the silica sand comes up to meet you like a white tornado. Joe, a native of Utica, N. Y., advises everyone to use blue or red golf balls, so immaculate are his bunkers. The opening member tournament of the year will get off the mark at 1 p. m. following a meeting and lunch.

Directors' Meeting	10:30 a. m.
Regular Meeting	11:00 a. m.
Buffet	12:15 p. m.
Golf	1:30 p. m.

### Directions to Thorney Lea

Route 128 to Route 24 south to Route 27. Go east on 27 to Brockton, at first stop sign go left, then first right (West Street) and then go right on Torres Street to club.

# Golf Course Superintendents Association

## Man and Nature

The delicate balance between man and nature has not yet been destroyed. But, it is evident that the world we live in today has become increasingly inhospitable to both our wildlife and our natural resources.

Every new highway, housing project, or other development which extends the boundaries of suburbia reduces the amount of open land which supports birds and animals, forests, rivers and streams — in fact our entire natural environment.

The annual meeting of the North America Wildlife and Natural Resources Conference, which convenes next week in Houston, has chosen "The World People Want To Live In" as its theme. A point which should also be taken into account is that man himself is endangered by constant, and often ill-considered, tampering with his environment.

A Washington University professor has warned that the environment is being subjected to stress "to the point of collapse." The planet, he said, is nearing "a crisis which may destroy its suitability as a place for human society."

This is a dire and perhaps overdramatic warning. The message, however, should be clear. If man continues to disrupt the balance of nature, he may, unwittingly, be sowing the seeds of his own destruction.

*Springfield Daily News*  
March 4, 1968

## Contemporary Design (Cont'd from page 1)

green while an example of the latter is hazards on one side of the green only but balanced by trees or some other feature.

4. *Rhythm* is movement and is achieved in many ways. Norman Mucciaroni's concentric mowing patterns at Woodland are examples of radiation, one form of rhythm, while contour or sinuous mowing of fairways as contrasted to straight line mowing is still another example. Also the capes and bays on traps and ponds exemplify rhythm.

5. *Emphasis* is the art principle by which the eye is first drawn to the most important thing in the arrangement — in our case the putting green. This is achieved in several ways on a golf hole. First by contrasting color and texture of the putting green turf. Irregularly shaped sand traps also achieve it. Backdrops of trees or mountains also produce the depth perception necessary to make the green the central point of the composition.

The question may well be asked — is the absorbed golfer aware of art principles as he plays his round? The answer is "NO." He is not consciously aware of these principles. But he senses them subconsciously and indeed if they are missing in the golf hole he may feel ill at ease. On the other hand their presence gives him a sense of well being. This is one reason a golfer can feel better for having played a round despite a poor score.

There are two other points I should emphasize. These are —  
(a) A golf course in an urban area is a fresh air factory that funnels air into downtown areas thus reducing air pollution and smog.

(b) If the superintendent is conservation minded the golf course can be a conservation area for bird life and small animals. It is significant that a member of the Audubon Society recently addressed the New England superintendents.

In conclusion I would like to say that a vast bank of knowledge has been stored up by golf architects because of the scores of courses each has designed in the present golf boom now 15 years old. Nevertheless despite this and the amazing use of computers in checking plans we still must look to the old courses of Scotland as our only enduring texts on course design from point of view of play.

## "Two For the Price of One???"

An outdated method of budget-cutting, disproven a thousand times. This should alert those in command of the situation to the speckled reincarnation of employing a pro-superintendent, while forcefully reminding them it shall only bring, at most, false returns.

The practice can be shot full of so many holes it almost seems ridiculous to recognize recent recurrences of it. However, the New England Association of Golf Course Superintendents feels obligated to take a definite stand against such a fallacy. In turn, it is hoped that the Professional Golfers Association follows suit in voicing opposition from its rostrum.

The idea of doubling up on jobs constitutes a return to the game's dark ages. Accordingly, it should be outlawed, if that be possible, so that the gains of both professions made over a long haul for recognition will not fall victim to this flagrant attempt to deceive members of private clubs and those who unload their swings on public courses.

We are concerned with the superintendent's plight, although still aware of the fact that the golf pro possesses similar thoughts on the ludicrousness of combining the two jobs.

Each is unto itself. It is bordering on the impossible to visualize that any one man could accomplish both tasks to the satisfaction of his employers. For one, the superintendent not only works on the course, he lives there. It is his summer home, so to speak. As far as he is concerned, for practical purposes the pro shop is another world.

The concept of meshing the two jobs leans more to absurdity in the growing tendency of the superintendent's assignment toward a scientific dispatch of his numerous duties. It takes a complete working day for the superintendent of an 18-hole course to set up his schedule, make certain adjustments in personnel and then personally supervise the orders of that day.

Finally, it is glaringly obvious that a golf professional hardly qualifies to take charge of the most important job at a club, that of conditioning the course to the specific requests of the greens chairman and members. Changes in methods and products would soon see the golf pro drowning in understandable ignorance. Likewise, it would be asking somewhat of the course superintendent to dash up to the pro shop to give a lesson in chipping or set up the starting times for an upcoming tournament.

The truth is evident. The move, however small in the direction of combining the jobs, is a selfish way of shortchanging the member and player. There can be no such thing as "two for the price of one" as far as these two separate positions are concerned. Club presidents and course owners would do well to recognize this accepted fact.

— Gerry Finn

## HARMONY WITH LAND

*We shall never achieve harmony with land, any more than we shall achieve justice or liberty for people. In these higher aspirations the important thing is not to achieve, but to strive. It is only in mechanical enterprises that we can expect that early or complete fruition of effort which we call "success."*

*The problem, then, is how to bring about a striving for harmony with land among a people many of whom have forgotten there is any such thing as land, among whom education and culture have become almost synonymous with landlessness. This is the problem of "conservation education."*

Aldo Leopold

## Construction — Superintendents' Viewpoint

Robert E. Grant — Superintendent Brae Burn Country Club West Newton, Massachusetts

According to the National Golf Foundation, over 400 golf courses are under construction in the United States today. In addition many of the older established clubs are enlarging their playing facilities or are engaged in major reconstruction.

Obviously the superintendent who has the opportunity of participating in the construction of a new course which he will eventually maintain or in the reconstruction of his own course will have a head start toward giving his members the proper playing conditions.

Unfortunately for all concerned this opportunity is often denied the superintendent as he is appointed after construction is well advanced.

In order to build an outstanding golf course four steps must be taken and the superintendent should be involved in each phase. The steps are design, specifications, construction and maintenance.

Although the design phase is the duty of the architect the superintendent should have the opportunity to go over the plans to be sure the golf course can be maintained at the highest degree of perfection in a practical manner.

Many turf problems are traced to the original specifications so step number two is as important as step number one. The specifications must contain all details of proper soil preparation, drainage and soil modification. The quality and quantity of seed, lime, fertilizer and directions as to how and when each is to be used. Complete specifications for the proper construction of the greens, tees, fairways, bunkers, water system, ponds, pump house, service roads, or any other construction that is included in the project is a must. Architects each year are involved in the building of many golf courses, therefore the specifications are usually right but the superintendent should use his maintenance experience as a guide line and make suggestions as he may see fit.

At times there is a tendency to cut costs during construction. This is the cause of dissatisfaction and irritation when the new course does not measure up to expectations.

There is another area that is sometimes responsible for the failure to achieve the desired results. Making major changes in design after construction has started are expensive plus the fact seeding, water system installation, and completion dates are disrupted. If design and specifications are carefully studied, this unnecessary expense can be eliminated.

Once the design and specifications have been agreed on by all involved the superintendent takes over. It will be up to him to supervise every single phase of the project. He will confer with the architect periodically on work that has been completed and to plan work to be done until the architect again visits the site. If unforeseen problems do arise they must be worked out by the superintendent to the satisfaction of all parties involved. We should recognize the fact that there will be only one person who will be on the site every working day from the start of the project until it is completed and that is the construction superintendent.

Many people feel that when the last acre is seeded the construction is over and the course is ready for the full membership to start play under ideal conditions. In most cases it takes from one to three years to develop desirable turf and playing conditions. Greens will require many top dressings, stone removal, soil erosion, final shaping of traps, pruning of trees are just some of the many problems. Funds should be allotted to carry out this work in the shortest time possible. Only dedicated maintenance can develop a course to its full potential.

### CONSTRUCTION METHODS

There are several methods by which a course can be built or rebuilt after the architects' plans and specifications have been prepared and accepted. The five most commonly used in doing the actual work are:

No. 1—A lump sum contract selected through competitive bidding. The contractor should be required to hire an experienced construction superintendent or the club may have its own superintendent serve as clerk of works.

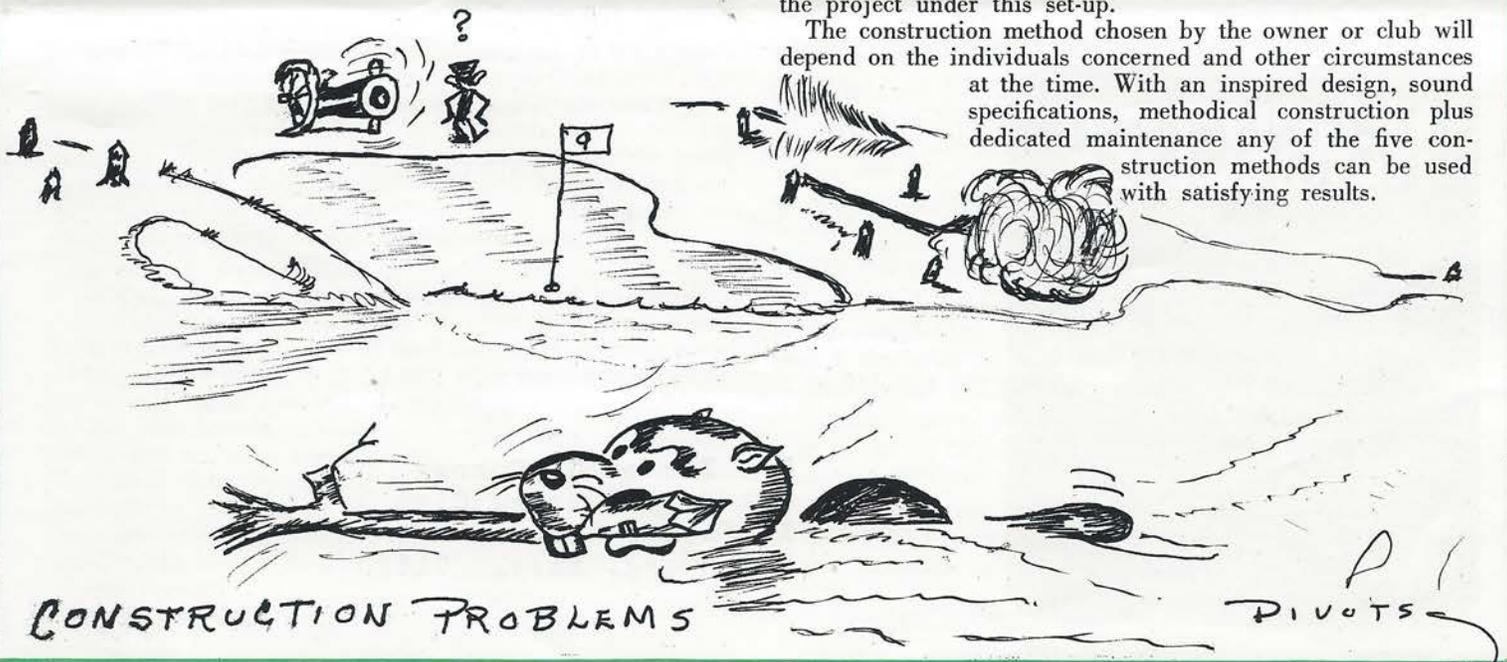
No. 2—The golf course architect contracts to do the work himself. Again it is advisable to have the club superintendent on the job.

No. 3—The club's own superintendent builds the course hiring equipment and labor directly on the club payroll. He also purchases all materials directly from the suppliers.

No. 4—The club hires a construction superintendent who builds the course in the same manner as the course superintendent in No. 3.

No. 5—Instead of letting out a complete contract the work is let out in single phases. The first contract is for clearing, the second for earth moving, the third for irrigation and so on. The club superintendent is the ideal person to coordinate the project under this set-up.

The construction method chosen by the owner or club will depend on the individuals concerned and other circumstances at the time. With an inspired design, sound specifications, methodical construction plus dedicated maintenance any of the five construction methods can be used with satisfying results.



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