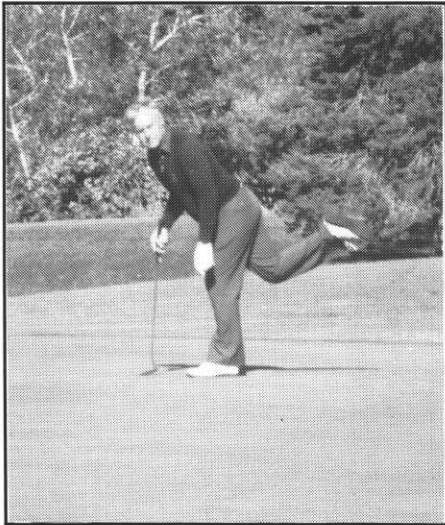
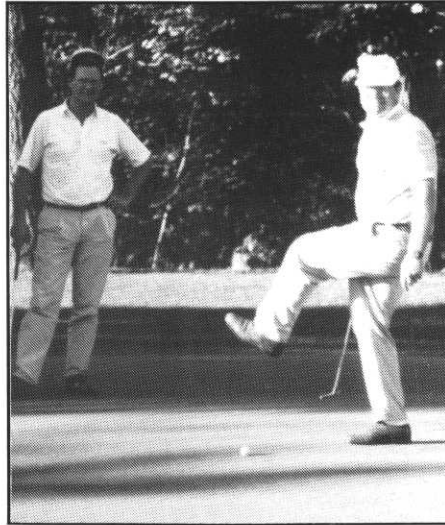


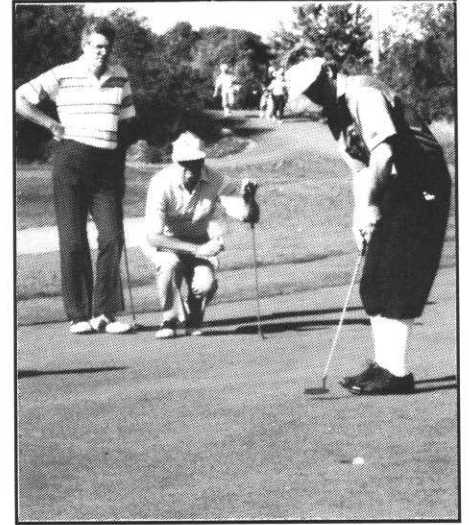
They're Doing the Putters' Polka at the Stodola Scramble



BILL JOHNSON, Edina, sinks a 30-foot putt on the second hole at Dellwood.



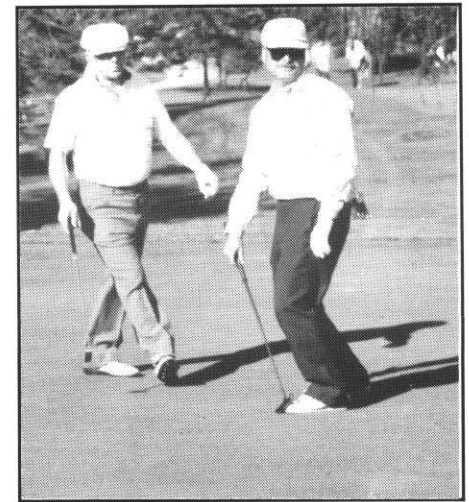
KEITH GREENINGER, Woodhill, rims the cup while Supt. Rick Fredericksen watches.



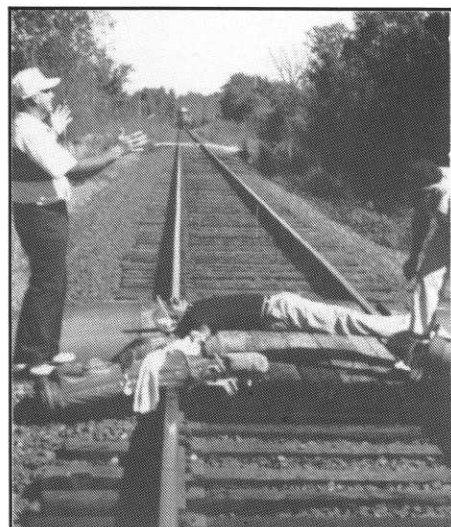
SINKING A BIRDIE PUTT is Scott Austin, Midland Hills. Watching are Dale Mernke and Dick Olsen.



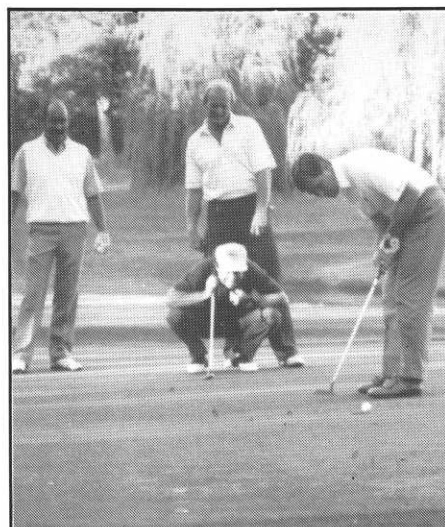
HOST SUPERINTENDENT at the Stodola Scramble was John Bichner, right. He's pictured with Glenn Baldwin.



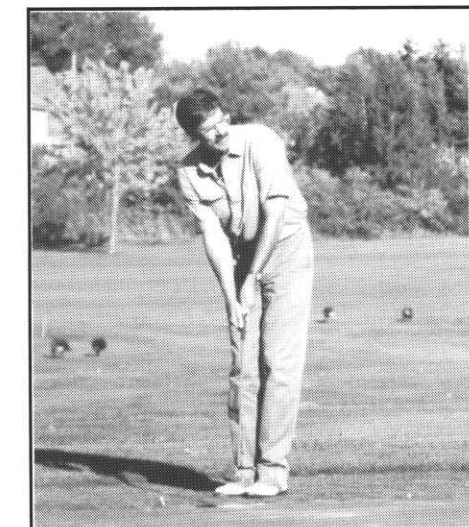
RANDY ALLEN dips as his ball doesn't with Dave Lonett watching.



C'MON MURALT. "We're just two holes away from a giant skin. Don't give up yet," exclaim Tom Haugen and Dwayne Slaughter.



WATCHING TOM FISCHER, Edinburg USA putt, are, from left, Dean Spencer, Bob Wolman and Craig Kapitan.



TOWN & COUNTRY'S BILL LARSON eyes his ball roll toward the cup.

Remedial Investigation at Faribault Golf & Country Club

By **DALE WYSOCKI**
Golf Course Superintendent

(Ed. Note: This is Dale Wysocki's follow-up article to "Some Difficult Decisions Had to Be Made Regarding Underground Storage Tanks at Faribault Golf & Country Club" which appeared in the September, 1990 issue of Hole Notes.)

We knew that contamination existed. Now we had to find out the extent of the contamination. This called for a remedial investigation.

I had sent out bids to a couple of different environmental consultants with the soil test from the previous excavation and topographical maps pinpointing the location of the tank. Within a couple of weeks I had received the bids back with outlines of what each company would be doing.

I presented the Faribault Golf & Country Club board with the bids and left the choice up to the board. After some discussion and several questions regarding MPCA policy, they selected Barr Engineering.

Barr Engineering had proposed drilling seven wells over and around where the UST was buried (*see map*), down to either the water table or to five feet below the base of contaminated soil. However, before this or anything else could take place, we had to give locations of rescue squads, hospital, and of course, call Gopher State for any underground wires, oil lines (we have two running under the 10th tee) and telephone wires.

Once the "all clear" was sent and insurance requirements approved, it was time to start the remedial investigation so that a corrective action design (CAD) could be set up. On Tuesday, September 25, a CME-55 truck-mounted drill rig, operated by Exploration Technologies, would begin the test borings.

The soil borings were placed to determine the horizontal and vertical extent of soil contamination. Samples were taken every five feet vertically from the surface to the water table or to a minimum of 5 feet below the base of the contaminated soil. The soil samples are recovered by advancing a split-spoon sampler two feet be-

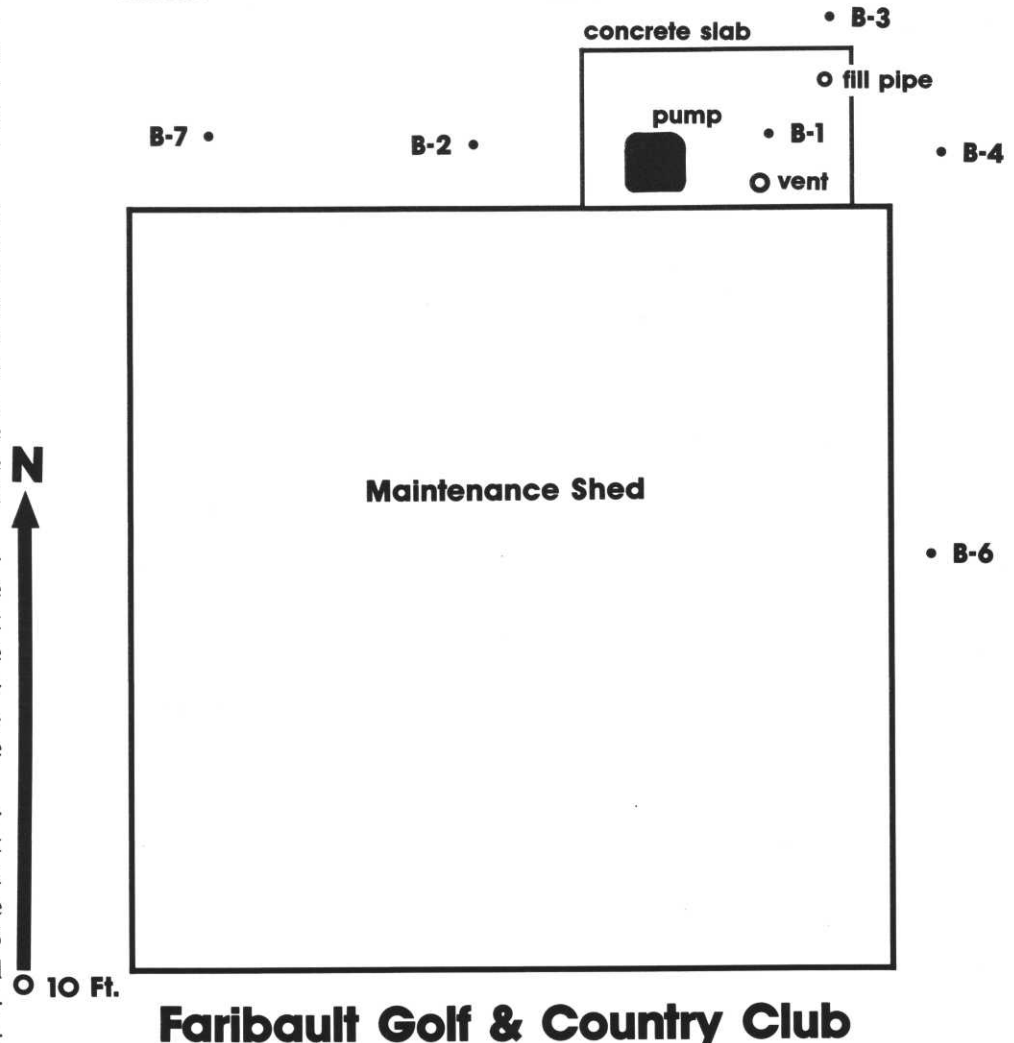
low the auger. The split spoon is then pulled out, lifted to the surface and taken apart.

The samples brought up by the split-spoon are immediately placed in airtight jars for the following analysis:

- Jar headspace analysis
- Laboratory analysis for components of the hydrocarbon stored in the tank, in this case:
 - benzene

- ethylbenzene
- toluene
- xylene
- lead
- lead
- total hydrocarbons

The jar headspace analysis is a field technique for determining the presence of volatile organic compounds in soil. A jar is half-filled with freshly sampled soil, sealed and shaken for 15 seconds. Then



the sample is set aside for at least 10 minutes to allow any contaminants in the soil to volatilize.

Then the jar is shaken again for 15 seconds, and a probe connected to a photoionization detector is inserted into the jar to draw off air from the jar. The photoionization detector measures the concentration of volatile organic compounds in the air, which indicates the concentration of volatile organic compounds in the soil.

Now what did we find? Of the seven borings made, four turned up clean, but the other three—B-1, B-2, B-3—show us that there is a definite problem—a problem that extends down to 30-35 feet. The jar head space analyses indicated 48-28 ppm at 30'-32'. The maximum allowable rate set by the MPCA is 10 ppm, so now the petroleum tank release investigation suggests that the release may have impacted shallow groundwater at the site. A groundwater investigation is going to take place following this work, and a final remedial investigation report will be submitted to the MPCA for approval of recommended corrective action and site closure.

The groundwater investigation will consist of the following procedures:

1. Install three monitor wells to collect samples of groundwater for laboratory analysis;

2) Determine the rate at which groundwater flows across the site (performance of aquifer tests.;

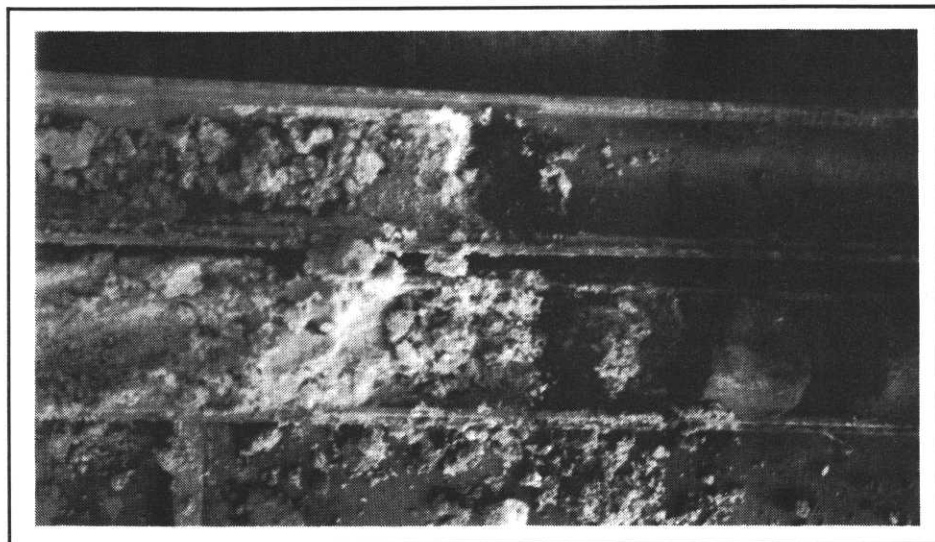
3) Identify potential receptors of contaminants derived from the site. These include water wells within one mile down gradient of the site and surface water bodies that may receive groundwater discharge from the impacted aquifer.

The wells will be located in a manner which will result in one well in the up-gradient direction of groundwater flow through the site, and two wells located in the down gradient direction from the site.

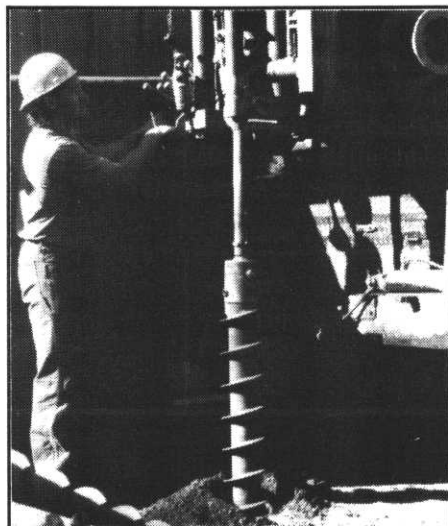
Finally, after all the data is collected and all the results are in from laboratory analyses, recommendations will be presented for corrective action for site closure. Based on the recent soil boring program, it appears that soil excavation may not be the most efficient means of preventing further migration of contaminants to the shallow aquifer.

Possible alternatives are surface capping of the site, in-site soil venting or bioremediation. I would like to thank Denny Palmer, Dan Witala and Dave Dahlstrom for their technical advice in this article.

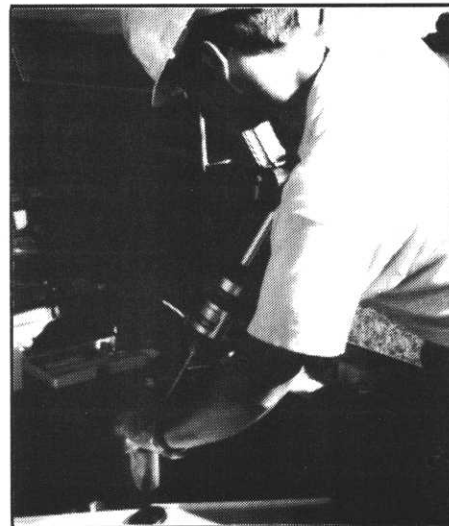
—Dale Wysocki



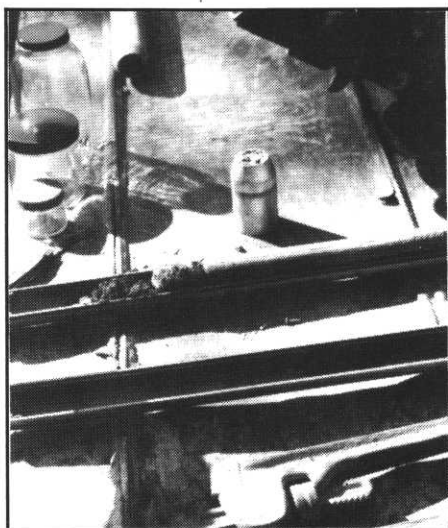
THE BLACK LAYER on the top half of the split spoon was extremely high in soil contaminants, located right above groundwater.



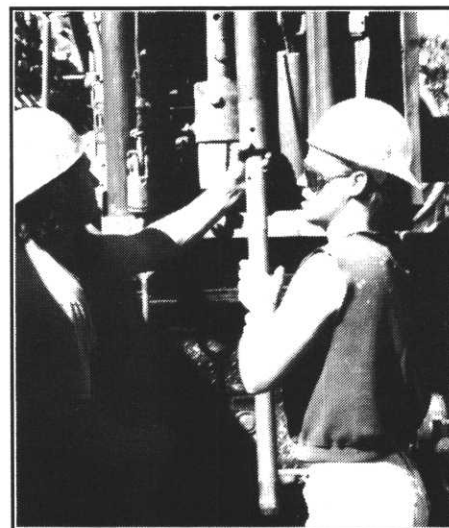
OPERATING a CME-55 is Jerry Scallin of Exploration Technologies.



PERFORMING jar headspace test is Dave Dahlstrom of Barr Engineering Co.



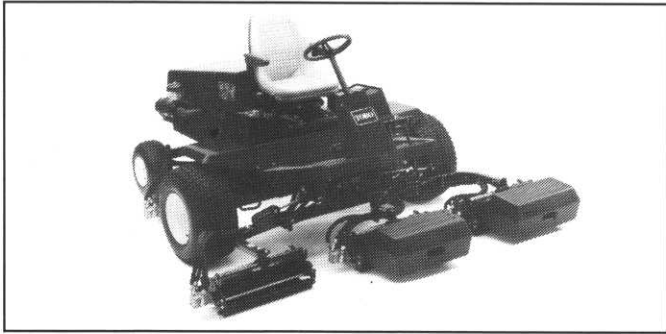
A SPLIT-SPOON SAMPLER with a sample of soil that later would be checked for contaminants.



TECHNICIANS from Exploratory Technologies attach a "split-spoon" sampler.

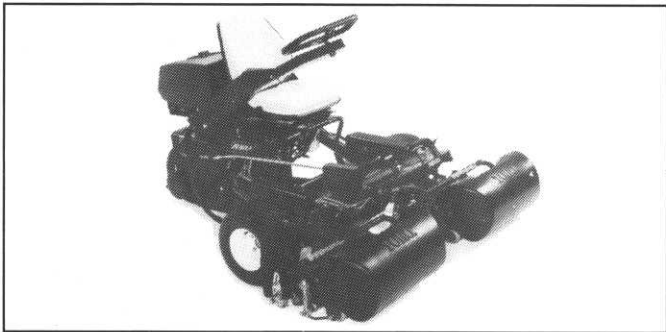
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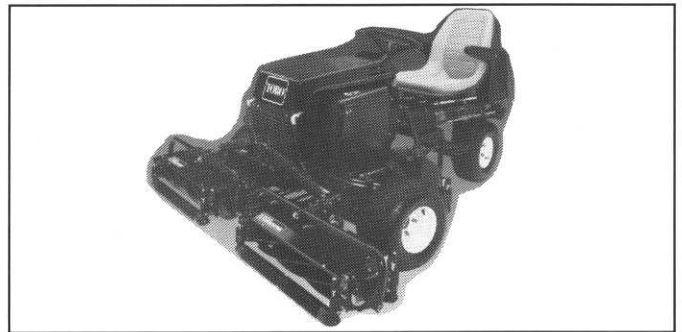
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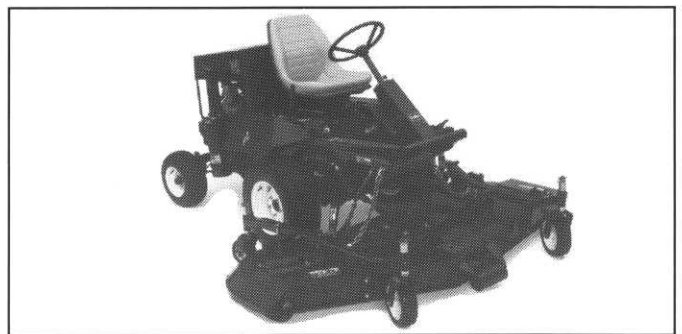
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Par Aide Seeks Persons Interested in Charter, Rooms, Golf at Vegas

Par Aide Products, Co., St. Paul, has announced tentative arrangements for reservations on a charter flight, hotel rooms and tee times for the GCSAA Conference in Las Vegas, Nev. in February.

"February will be here sooner than you think," said Steve Garske. "Maybe we can help with the various tentative arrangements, which will be confirmed on interest."

Par Aide has arranged for:

- A group discount with Northwest Airlines for travel to and from Las Vegas;
- A block of 50 rooms reserved at the Paddlewheel Hotel/Casino, a short walk from the Convention Center, with rates of \$32/night plus tax for single or double rooms Sunday through Thursday and \$49/night Friday and Saturday.

Par Aide also is trying to secure a block of tee times at a local golf course.

"However, with 13,000 GCSAA people coming to a town with only 18 golfer courses, the odds are not good," Garske said. "If we are successful, the number of tee times available will be very limited, but let us know if you are interested."

To arrange your own tee time, he said, first contact your hotel in case they have an arrangement for hotel guests — but do it far in advance.

If you have questions, call Steve Garske at 612/779-9851 or Dan Miller at 612/484-8411 or Fax Steve at 612/779-9854.

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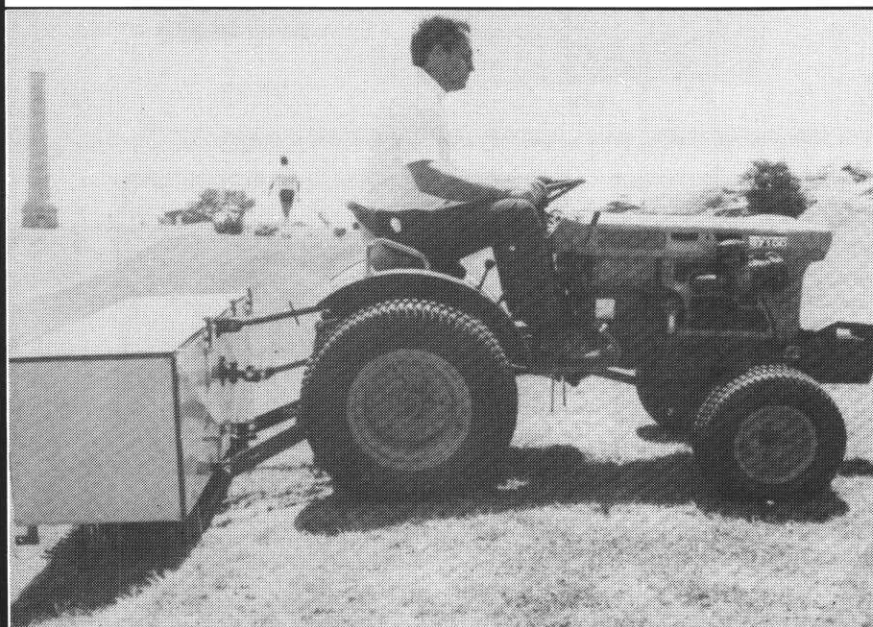
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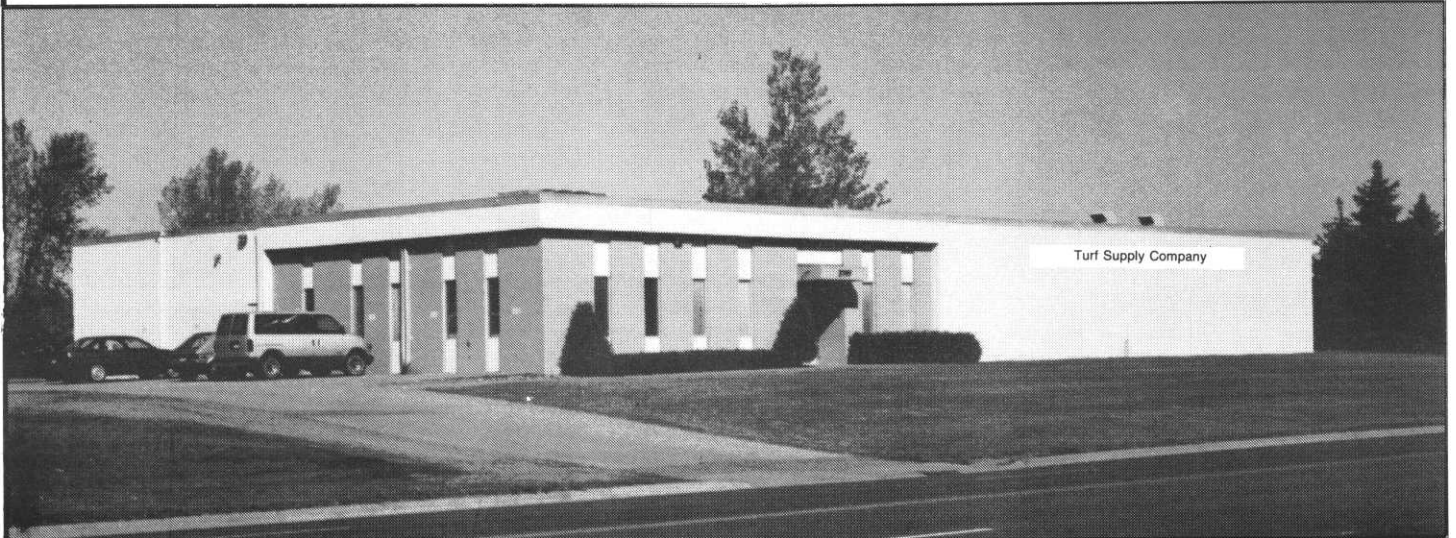


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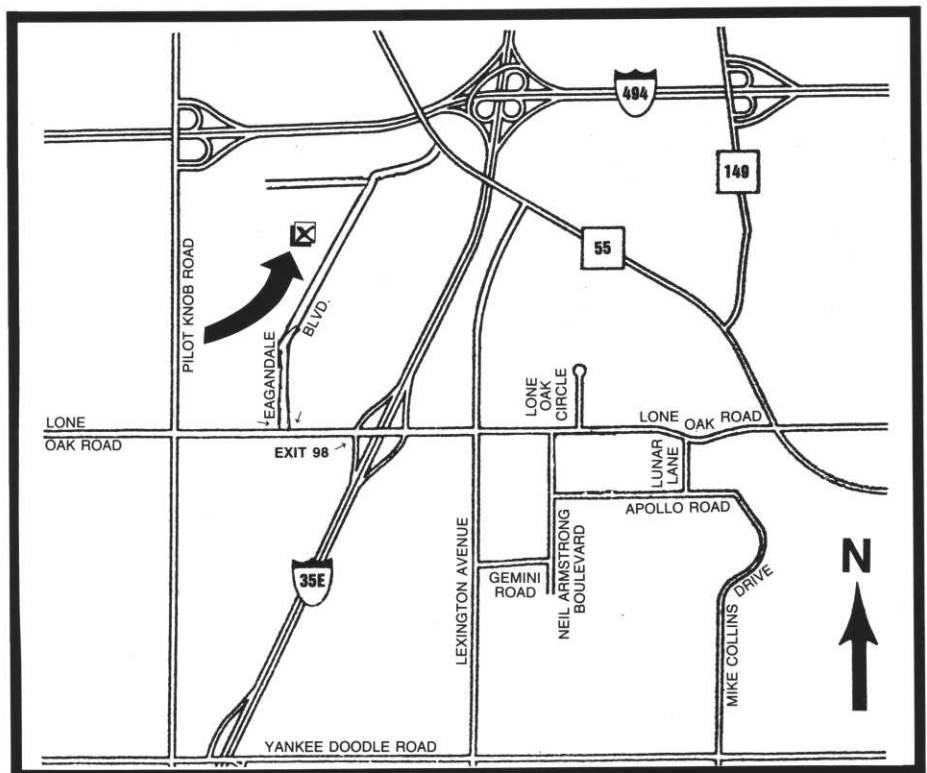
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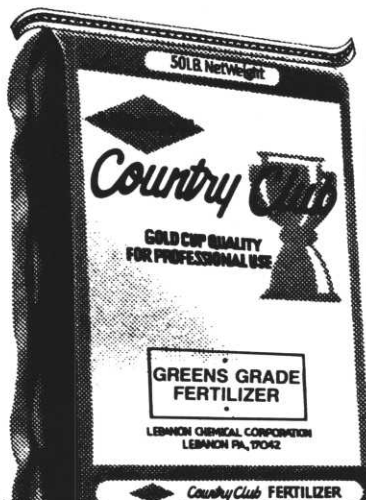
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Make plans now to attend the 63rd Annual MGCSA Turf Conference and Business Meeting. This year promises to be the best ever.

The Northland Inn has all the necessary accommodations to host a top-notch show. Consider staying for an evening or two and avoid the drive. And plan on attending this year's banquet as Alex Cole will highlight the evening with his comedy performance. Miss this event, and you'll miss out.

* * * *

As you know, the MGCSA Scholarship Committee has selected three recipients; their photographs appeared on the October cover of *Hole Notes*. If you should cross paths with one or all of these gentlemen, be sure to congratulate them... and thanks and congratulations to the Scholarship Committee members—Chairman Rick Fredericksen, John Hopko, John Harris and Dave Krupp.
—John Harris, Lafayette Club, Co-Editor.

Planning to Play in the 1991 GCSAA Championship? Enter NOW!

Registrations for the 1991 GCSAA Golf Championship are already streaming into GCSAA headquarters. The 600-player field for the annual tournament is expected to be filled well before the December 1 deadline, so members interested in participating are urged to register early.

Golf championship registration forms were included in the Early Bird conference brochure mailing. To register, you must complete the registration form and return it with proof of USGA handicap and full payment of the \$345 entry fee.

Contestants will be assigned to flights according to USGA handicap. Tournament Chairman Gary T. Grigg, CGCS, will determine the handicap ranges for each flight after Nov. 1.

The championship flight will consist of class A, B, C, A-Retired, B-Retired, C-Retired and AA Life members with handicaps falling within the range specified by Grigg. The flight will be limited to a maximum of 120 players.

The overall winner in the 36-hole stroke play championship will be an amateur; professionals are eligible to win second place only.

Flights other than the championship flight will play a point system. A player's point quota for each day will be determined by subtracting the player's handicap from 36. However, all players with handicaps of 36 or higher will be assigned a minimum of six quota points.

Points will be accumulated in the following manner:

- 0 - double bogey and higher
- 1 - bogey
- 2 - par
- 3 - birdie
- 4 - eagle
- 5 - double eagle

Three senior flights (divided by age) and one affiliate flight will also play the point system. Senior division players will be allowed to compete in only one flight, so they must indicate the appropriate senior flight on the tournament registration form; if no senior flight is indicated, the player will be placed in a flight based on handicap.

The 1991 GCSAA Golf Championship will be played at five Scottsdale, Ariz., courses: The Palm and Pine courses at McCormick Ranch Golf Club; Stonecreek, the Golf Club; Orange Tree Golf Resort; and Papago Golf Course.



GCSAA 1991 GOLF CHAMPIONSHIP CONTESTANTS will compete at McCormick Ranch Golf Club's Pine and Palm courses (pictured above), where water comes into play on 15 of the 36 holes. Players will also face the challenges of Stonecreek, The Golf Club, a links-style course; Orange Tree Golf Resort, a tree-lined resort layout, and Papago Golf Course, a desert-type municipal course. The championship will be played Feb. 4-5 at these five Scottsdale, Ariz., courses.

MGCSA Establishes Environmental Committee

* * * *

Research Underway, Findings to Be Published; Your Input Is Solicited

By KEVIN CLUNIS

Chairman, MGCSA Environmental Committee

It is hard these days to pick up a newspaper and *not* find an article on problems with our environment.

Pollution. PCBs. Pesticides. Hazardous wastes. You name it. The various news media are focusing on all of these problems.

Golf courses also seem to be getting their share of finger-pointing on potential problems. Legislators—be it on the local, state or national level—have enacted laws for us, as golf course superintendents, to follow. It's mind-boggling just trying to decipher the meaning and intent of all of these laws.

With this challenge in mind, the Board of Directors of the Minnesota Golf Course Superintendents Association last June established a new committee on environmental issues regarding golf courses. I was volunteered (?) to chair this committee.

Serving with me are Shane Andrews, Hudson Country Club; Scott Austin, Midland Hills CC; Jim Gardner, Rochester Golf & Country Club; Paul Mayes, Brackett's Crossing GC; Dave Krupp, Turf Supply Co.; Bob Mugaas, Hennepin County Extension office; Dean Herzfield, Department of Agriculture, and Dr. Ward Stienstra, University of Minnesota.

At our initial meeting we established some goals, one of them being to inform our membership about the laws and regulations affecting golf courses.

We felt that if we could get information—in printed form—to our members, we would be taking our first step in the right direction.

We also concluded that the main areas of concern to research were:

- Hazardous Waste and Removal;
- Toxic Spills;
- Underground Storage Tanks;
- Above-ground Storage Tanks;
- Pesticide Storage, Handling and Container Disposal.

Water Quality, Irrigation Seminar To Be Held Nov. 26 in Rapid City

A regional seminar titled "Water Quality and Irrigation Scheduling" will be held at the Rushmore Plaza Holiday Inn in Rapid City, S.D., on November 26, 1990.

It is sponsored by the Golf Course Superintendents Association of America with the South Dakota GCSAA serving as co-host.

Speakers will be Dr. David M. Kopec, associate extension specialist with the University of Arizona, and Dr. Clark Throssell, assistant professor of turfgrass science at Purdue University.

Techniques, methods, tools and practices of irrigation scheduling will be presented. Seminar participants who pass the examination at the conclusion will earn .7 Continuing Education Unit and a certificate of achievement from the GCSAA.

Telephone registrations by credit card are welcome. For more information call 1-800-471-7878. Ask for Betsy Evans, education coordinator, or Nancy Benson, education clerk.

Currently we are researching these issues with various agencies associated with these regulations, including EPA, MPCA, Department of Agriculture, Department of Health, OSHA and local and county governmental bodies.

What we have found out so far is that if you do have a problem, communicate and be open with the agencies, because they are there to help you.

The bottom line to all of these rules and regulations is that if you don't comply or attempt to comply, then you and your facility could face termination of your operations.

There are various other aspects we wish to explore, but, for now, we will try to publish this information by the first of the year. We will include phone numbers and contact persons, and also put the phone numbers in our membership roster.

If any of you have had dealings with any of the issues we are researching, please contact us.

We are looking for any helpful information. Meantime, I will keep our membership updated as much as possible with periodic stories in *Hole Notes*.

The Readers Write

NCTGA Conference/Trade Show Set in January in Fargo

Mr. Ralph Turtinen
Publisher, *Hole Notes*

Dear Mr. Turtinen:

Thank you for the September, 1990 issue of *Hole Notes*. We appreciate being kept up to date on what your association is doing. You are an inspiration and have many programs that we are aspiring to achieve.

Please include notice of our 6th Annual North Central Turf Grass Association Conference and Trade Show (January 15-16-17) at the Doublewood Inn in Fargo, N.D. Our contact person is myself, Betsy Smith, executive director, and our phone number is 701-232-0215. Dr. James Beard of Texas A&M will be our keynote speaker.

We hope you enjoy receiving our NCTGA newsletter. We feel the best way for growth for all is through the free exchange of information and ideas.

Sincerely,
Betsy Smith
Executive Director