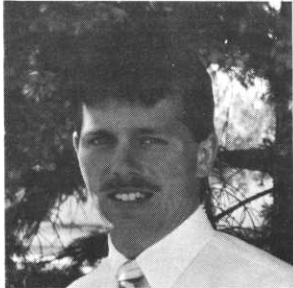
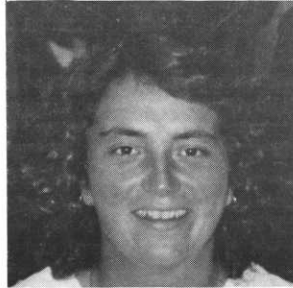


## HAROLD STODOLA SCHOLARSHIPS AWARDED

by Rick Fredericksen, CGCS  
Scholarship Committee Chairman



*Michael Mohnenstingl*



*Nancy O'Connor*

The Harold Stodola Memorial Scholarship Committee announced this year's recipients of its annual grant. Michael Bohnenstingl at the Anoka Technical College and Nancy O'Connor at the Horry-Georgetown Technical College in South Carolina are this year's recipients.

Mike, the assistant at Maddens Resort in Brainerd had listed in his application that his interest in the profession developed as his interest in the game grew. Nancy, greens employee at Brookview Golf Club had listed her superintendent as the major force behind her decision to pursue golf course management as a career.

Scholarship grants are awarded to turfgrass students who have displayed high scholastic achievement and a strong desire to become a golf course superintendent. The two winners were selected by a committee whose membership included Dan Hanson, CGCS; Doug Mahal, CGCS; Dale Caldwell, CGCS; Dave Krupp and Mike Leitner.

The scholarship grant is dedicated to the memory of Harold Stodola who committed his entire life to "the propagation and enhancement of the finest quality turf on earth so the masses could enjoy this game called golf in the most relaxing atmosphere on the most beautiful and tranquil spots in the world".

### EDITOR'S NOTE-

*Harold Stodola, a Minnesota native, was President of the National Greenskeeper Association, predecessor to GCSAA, during the war years, 1941-1945. He single handedly held the national association together during this very trying period. He held head superintendent's positions at Keller Golf Course and Mendakota Country Club in Minnesota, Firestone Country Club in Ohio, and Paradise Valley and Tucson Country Clubs in Arizona. Besides many other honors, Harold was the recipient of the Distinguished Service Award from GCSAA in 1977.*

## PUMP STATION TECHNOLOGY ON THE MOVE

by Lee Krmpotich, Watertronics, Elm Grove, WI  
Tom Emmerich, Certified Irrigation Designer

As energy and labor costs continue to rise, Golf Course Greens Committees, owners and superintendents are demanding more efficient, flexible and reliable pump stations. Pump station manufacturers have responded to their call through the innovative use of computer circuitry and solid state measuring devices. This technology provides precise control of pump selection corresponding to flow, pressure and safety controls while increasing efficiency and reducing maintenance.

Current technology in solid state circuitry has allowed pump station manufacturers to move beyond hydraulic regulating valves and limit switches, which have been the mainstay for pressure regulation and pump sequencing over the last quarter of a century.

Pressure regulations has become more accurate and trouble free with the increased use of electronic flow and pressure sensors, variable frequency drives (VFD) or electrically actuated butterfly valves.

VFDs regulate pressure by varying the rotation speed of the pump in response to changes in the irrigation cycle. Electrically actuated butterfly valves maintain constant pressure by modulating the performance of each pump, again in response to changes in the irrigation cycle.

Butterfly valves reduce the high friction loss inherent to hydraulic regulating valves. They are virtually maintenance free and dirty water tolerant. There are no pilots or screens to plug or clean. The discharge pressure of each pump is individually controlled which allows extremely accurate regulation of the irrigation system pressure.

Another advantage to VFDs and electrically actuated butterfly valves is that surge pressure created from pump starts are completely eliminated from the irrigation system. With a butterfly valve, this is accomplished by closing the valve as a pump is turned off. When the pump is reactivated the valve remains closed. As the pump reaches full speed the valve is slowly opened to allow the water down stream. This slow opening is what eliminates the pump start surge. Variable frequency drives eliminate surge pressure by starting slowly and ramping the pump speed up to achieve the desired operating pressure.

Prompting the move toward VFDs is the potential for energy savings and the subsequent reduction in utility bills. Prime candidates for VFD pumps stations would include courses with any of the following:

- 1) Variations in suction pressures supplying the pumps.
- 2) Unpredictable and changing flow rates.
- 3) Varying discharge pressures. (Possibly due to elevation changes).
- 4) High electrical demand charges.

As pump stations age the valves and pressure regulating components become more maintenance prone. Retrofitting existing pump controls becomes an economical alternative to replacing the entire station. With today's programmable logic controllers and new methods of pressure regulation, the performance of an existing pump station can be greatly enhanced through retrofit. The replacement components are typically preassembled at the manufacturer's facility and often installed with only a one or two day interruption to the irrigation cycle.

Some irrigation applications call for a small amount of water or simply a pressure boost from a main supply line. In these cases a single pump booster station is a suitable choice. The landscape or sports turf packages as they are called feature automatic actuation through pressure sensor, flow sensor, or irrigation controller pump start circuitry. Various means of pressure regulation include electrically actuated butterfly valves or diaphragm operated hydraulic valves. All the components are preassembled by the manufacturer and contained in a lockable steel enclosure making the pump station tamper resistant

while eliminating the need for a pump house.

When considering a pump station change, a golf course should be evaluated with respect to its unique requirements. Evaluation parameters should include current irrigation system demands for pressure and flow, plans for future expansion, horsepower requirements, pump preference (vertical turbine or horizontal centrifugal), type of pressure regulation desired, geographic location, utility rates (including off peak), and budget.

Today, prefabricated pump stations are available in a greater variety and with more features than just a few years ago. There is little doubt that innovative pump station manufacturers will continue to use improving technology to provide the Turf grass Industry with more efficient and reliable pump stations.



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