

To get the most pump station for your dollar, be prepared to address all of these issues with system suppliers:

Course owner/operator pump station selection list

TYPE OF STATION

- Vertical Turbine
- Centrifugal
- Variable Frequency Drive
- Other:

CAPACITY

- Gallons Per Minute
- PSIG (Discharge Pressure)
- Wet Well Depth
- Pump Extensions
- Wet Well Diameter
- Number Of Pumps
- Ft. Water Lift

ELECTRICITY

- Inlet Pressure
- Volts
- Phase
- HZ
- Mechanical Options: (Check Option Required)
- Non Reverse Ratchets on Motors

INDIVIDUAL PUMP ISOLATION VALVES

- Station Isolation Valve
- System Relief Valve
- Dual Backflush Pilot Assembly

Wye Strainer, Automatic or Manual

- Can Filter Screen
- Lake Screen

ELECTRICAL OPTIONS

(Check Options Required)

1. Type of Panel:
 - Relay
 - PLC
 - NEMA Rating: 3R or 4
2. Main Station Disconnect
 - Non-Fused
 - Fused
 - Circuit Breaker

3. Motor Fault Protection

- Fuses Only
- Fused Disconnect with Handle Through Door

- Breaker Internal
- Breaker with Disconnect Handle Through Door

4. Type of Starter (Required For Motors)

- Across the Line, Full Voltage
- Part Winding
- Wye Delta
- Other

5. Safety Alarms

- High System Pressure
- Low System Pressure
- Low Level
- Low Suction Pressure
- High Flow Rate
- Pump Failure
- Pump High Temperature
- 6. Flow Meter and Totalizer
- 7. Auxiliary Power Zone
- 8. Station Lighting Package
- 9. Remote Transfer Pump controls
- 10. Building Heater
- 11. Common Alarm Light: Remote or Station
- 12. Computer Monitoring Package



While golfers sleep,

you don't.

Because a

superintendent

doesn't just work

from nine to five. Your course

is a 24 hour concern.

We see things your way. So we don't

measure the performance of Toro

equipment solely in terms of horsepower

and rpms. We measure it in your terms.

Consistently superb quality of cut.

For example, we know that your

climate, terrain and turf are unique.

That's why Toro offers a complete range

of fairway mowers.

So you can

choose the one

that best keeps your

fairways strikingly

beautiful and eminently playable.

No better way to enjoy your

morning drive.



Reelmaster® 5100-D.
With Automatic Control
Electronics™ for advanced
reliability and serviceability.



Reelmaster® 450-D.
Has variable clip control for
highest quality of cut in
varying course conditions.



Helping You Put Quality Into Play.™

Pump stations

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vided. You must be assured: The factory is a single, reliable source for design, hydraulic, mechanical, electrical, safety issues associated with each irrigation pumping system; thereafter providing a network of factory trained service representatives qualified to provide on-site system service and user training.

There are precious few consultants able to independently spec out a complete course system, including precise pump system requirements. Simply asking for a 1,000-gallon pump at 100 PSI will get you bids between \$60,000 and \$30,000. In one case, the low bid gets you savings up front, but adds 50% to the seasonal operating costs due to other critical pumping details like pump efficiency. A simple review from a course operator's perspective can assure the best operational value from a packaged pumping system, and the fewest problems later.

Water quality report sheds important light

WASHINGTON, D.C. — The Council for Agricultural Science and Technology's (CAST) report, "Water Quality: Agriculture's Role," presents information on agriculture and the nation's water quality and provides a basis for diverse groups to come together and agree on policy measures to address current problems.

"This report should be read by all those on Capitol Hill who will be involved in the reauthorization of the Clean Water Act," said The Fertilizer Institute President Gary D. Myers. "The report recognizes the complexity of water-quality problems and that solutions must be local and site-specific and must address many factors."

The report, Myers said, demonstrates the strides made by agriculture in minimizing environmental impact.

There is one notable omission in the report. The chapter entitled "Risk/Benefit Considerations" contains no discussion of the benefits from agriculture.