

Value of environmental practices

Help your golf course by helping the environment

BY MARK A. SCENNA

Golf course superintendents may have the mistaken perception that improvements to their environmental management practices are too costly to be practical. Therefore, refinements to environmental practices can sometimes rank low in superintendents' priorities. However, concern for the environment is now a driving force within the golf industry.

Associations like CGSA are forming committees, establishing mandates and hashing-out environmental directions. I was honoured to be one of 40 participants attending the March 5, 1996 'Environmental Round Table' during CGSA's 47th Annual Turfgrass Conference and Trade Show in Vancouver, BC. The topic was

sequences that may follow.

Confirmation of the importance of environmental management also comes from CGSA's US-based sister organization, the Golf Course Superintendents Association of America (GCSAA). Its Board of Directors has committed its association to a mandate which includes the environment.

Case histories

Instituting sound environmental management practices encourages public respect and improves the image of the entire golf course management industry. Here are some noteworthy examples:

**Glen Abbey Golf Club
Oakville, ON
Superintendent: Dean Baker**

It was a pleasure to work with one of the most friendly and motivated superintendents I have come to know — Dean Baker. The Glen Abbey Golf Club must be commended for its environmental dedication (supported by the Royal Canadian Golf Association and Teri Yamada).

Glen Abbey's maintenance facility, along with a concentrated sampling and analysis program.

In particular, Glen Abbey corrected its fuel storage arrangements in the spring of 1996. The choices: upgrade or buy new. With upgrades required before December 31, 1996 (see diagram—Gasoline Handling Code/Underground Storage Tank Upgrade Requirements), Glen Abbey Golf Club, like other golf courses, had to decide quickly. After reviewing their fuel tank's age and construction characteristics, in addition to a check on its Cathodic Protection Corrosion Prevention System, it was evident Glen Abbey could comply by installing: (1) spill containment under the fuel pumps; (2) an overfill protection device at the fill pipe; and (3) spill containment around the top of the fill pipe.

Mandate: Glen Abbey Golf Club will continue annual sampling and analysis programs (for old or current pesticide residue) as part of its environmental mandate. The course will further update compliance infractions and continue its efforts to obtain certification under the Audubon Cooperative Sanctuary Program for Golf Courses.

**Donalda Club
Don Mills, ON
Superintendent: Paul Scenna**

Paul Scenna and the Donalda Club have rectified a maintenance facility full of environmental violations. Now the course is in full compliance with all governing regulations. A Phase 1 Environmental Compliance Audit occurred in June 1995, and a Phase 2 followed in August of that same year.

Areas of interest include: (1) notification of a 'regeneration management plan' of the Don River; (2) notification of a Conservation Authority regulated flood plain/fill placement line; and (3) notification of non-compliance within the Donalda maintenance facility, including non-registered pesticide inventory, used oil/fuel storage, pesticide storage, PCB storage/placement and recycling initiatives.

As noted above, an extensive Phase 2 sampling and analysis program was instituted in August 1995. Two different background scenarios were arranged. The 'fate' of two pesticides, Chlorothalonil (Daconil) and Benomyl (Tersan 1991), was tested the same day



Glen Abbey's spill containment upgrade at the top of a fill pipe.

Environmental Stewardship. During this inaugural Round Table, the CGSA Board of Directors made it clear that environmentalism is not a trend. Superintendents should be concerned about inaction and the downward con-

Phase 1 and 2 Environmental Compliance Audits were performed in the spring of 1995. In the spring of 1996, remediation of an old equipment wash-pad was conducted. Full reviews of environmental compliance and historical liability were performed within



Donalda's twin above-ground, dual-hauled, vacuum-monitored fuel tanks, new oil storage tank and pesticide storage facility.

they were applied (six ounces or 0.17 kilograms per 1,000 of Daconil). While laboratory results indicated high residual levels of Chlorothalonil in the boom-sprayer after one rinsing, no levels above 0.02 parts per million were detected in the soil profile.

The second scenario involved checking the golf course for residual levels of pesticides frequently applied in the 1995 season. These included Diazinon, 2,4-D, Mecoprop, Dicamba, Propiconazole and Mercury. Laboratory results indicated levels below regulated standards.

Donalda's most notable corrective actions include: (1) removal and dis-

posal of non-registered pesticide products; (2) acquiring two new above-ground, vacuum-monitored, dual-hauled fuel tanks (2,500 litres each); (3) installing a dual-hauled used oil holding tank (1,000 L); and (4) a new 4.9- x 3.5-metre (16- x 10-foot) pesticide storage facility with a one-hour fire rating, spill containment floor, R-12 insulation value and a ventilation system capable of producing 12 air exchanges per hour.

Mandate:

Donalda intends to further rectify non-compliance elements of their operating system according to budget allocations. Like Glen Abbey, the Donalda Club is participating in the Audubon Cooperative Sanctuary Program for Golf Courses.

**Hamilton Golf & Country Club
Ancaster, ON
Superintendent: Rhod Trainor**

Like many superintendents across Canada in addition to Glen Abbey, Rhod Trainor was faced with the predicament of complying with legislated upgrade requirements for his underground fuel storage.

An underground fuel storage Environmental Compliance Audit took place in August, 1995. Stringent

upgrade requirements (see diagram), plus a failed test of the Cathodic Protection Corrosion Prevention System, indicated it was in the best interest of the club (financially and morally) to purchase a new above-ground, vacuum-monitored, dual-hauled fuel tank.

In addition, the course removed its old underground fuel tank and conducted a sampling and analysis program to determine the susceptibility level of contamination in the soil profile beneath the tank's bottom in May 1996 (a failed Cathodic test could indicate leaking fuel). Five soil samples were analyzed for lead content and BTEX (Benzene, Toluene, Ethyl Benzene and Xylene) — substances considered to be the most important in terms of establishing clean-up criteria for this site. It is essential to clean BTEX substances from fuel storage sites. Upon removal, the tank was found to be structurally sound and analysis indicated no fuel leakage.

Mandate:

Hamilton Golf & Country Club has been intent on performing more sampling and analysis programs. Its environmental focus will switch to nitrate, total nitrogen, total phosphorus, organochlorine pesticides (old active

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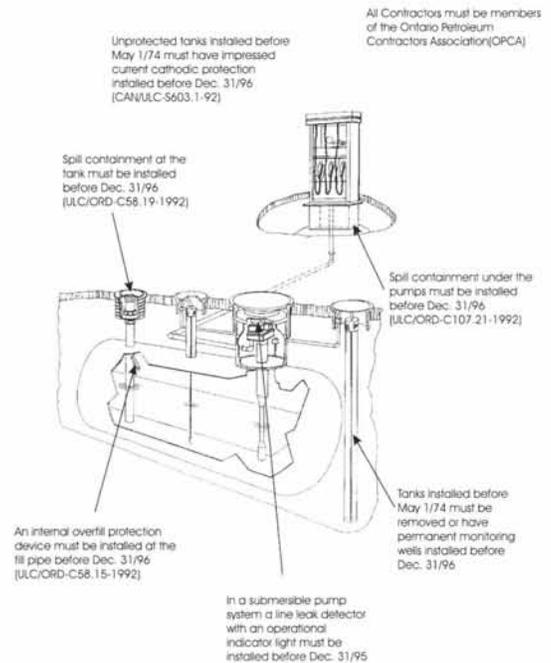
As trade associations move toward a more proactive stance in terms of environmental issues, it's only logical its members implement them. The previously-mentioned superintendents were chosen as case scenarios simply because they demonstrate stewardship roles in the golf course management industry. They chose to make environmental issues a priority. With continued efforts like this, golf course management practices will be praised, not ridiculed, and the trade image will move to a higher echelon.

Mark A. Scenna is President of Burlington ON-based Environmental Investigations Ltd., a US Environmental Assessment Association-Certified Environmental Inspector, and a member of the Canadian Environmental Auditing Association. Scenna's company performs environmental compliance audits and consulting services for the golf course management industry.

The upgrade requirements represent the 1993 Ontario Gasoline Handling Code deadlines. These requirements were originally derived from the Canadian Council of Ministers of the Environment (CCME). All other Canadian provinces have adopted these requirements through their own code and/or regulations, although timelines for implementing upgrade requirements do vary from province to province. (Reprinted from Tanks & Storage April 1996 Vol. 1, No. 1 — A supplement to Canadian Environmental Protection & Canadian Heavy Equipment Guide.

Diagram created by ENSAT Canada, Markham, ON, an environmental contracting firm).

Gasoline Handling Code, Underground Storage Tank Upgrade Requirements





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