

A Wetland Wonder

Architect, builder had to be at their best to build a golf course amid flood plains, marshes and streams

BY MARK LESLIE

Golf course architects talk in eloquent terms about “painting” a course on a “canvas.” When Robert Trent Jones Jr. and chief design officer Bruce Charlton arrived at the new Kanata Research Park in Ottawa, Ontario, to look over a property on which they were to build 18 holes, they discovered “the canvas barely had a frame around it,” Charlton said.

Here were 230 acres, the core of which was unusable for anything but a golf course. To make a golf course possible, though, Jones, Charlton and ASL Golf Course Construction would have to be at their enterprising best.

“A large portion of this land is flood plain and marsh, with some low-key streams,” Charlton says of what is now appropriately called The Marshes GC. “It is mostly flat or gently rolling. ASL basically filled the fairways, tees and greens to make playable high ground, and then reconfigured and re-established wetlands adjacent to those holes.”

The challenge of re-establishing wetlands, however, was exacerbated by the fact that the course handled not only its own water and drainage but also that of the 500-acre Kanata Research Park which surrounds the course. But Charlton sought to simplify the situation.

The challenge Charlton faced was to create a stream corridor that connected two points at opposite ends of the property. The government agencies gave him and ASL permission to make the stream meander through the golf holes in whatever fashion they desired. Kanata Research Park owner Terry



“We used the wetlands to provide all kinds of strategy and shot definitions on a number of holes,” says architect Bruce Charlton.

Matthews enlisted the help of Bernie Muncaster, a biologist with ESG International’s Ottawa office, and together they turned a detriment into a positive element of the golf course design.

“That corridor of interconnected wetlands

Continued on page 60

Problem

How do you build a golf course on 230 acres of land dominated by wetlands? Architect Bruce Charlton faced several challenges in doing so.

Solution

Charlton had to re-establish the wetlands. In doing so he had to create a stream corridor that connected two points at opposite ends of the property.

Real-Life Solutions

Continued from page 58

is how we created the drama in holes seven, eight and nine," Charlton says. "We used the wetlands to provide all kinds of strategy and shot definitions on a number of holes.

"The contrast of the linear marshes with the manicured turf is superb," he adds. "Nice clean, simple lines define the edges of the marshes. In the end, the wetlands became an opportunity we did not want to lose."

ASL engineer Murray Amirault said the plan saved Matthews from buying expensive native grass seed to provide the regrowth required in the wetlands.

Instead, ASL used excavators to scoop up 55,200 yards of the property's hydric topsoil, resembling muck, and stored the material in piles until it could be spread along the small ponds, canals and other waterways that Charlton wove into his course design.

Because marsh and pond habitat are

part of the same hydrologic system, Charlton created a wetland buffer zone to the pond habitat. "It works well, especially in non-play areas like next to tees and on the opposite side of the lake," he says.

Of the 27 acres of wetlands that existed on the site, about 11 acres were retained in their existing conditions, Muncaster said. He then set about crafting "duig" pools (a habitat and refuge for larger fish), riffles (shallow places where the water's surface flow is broken by rocks, gravel or logs and where small fish can spawn), and realigning 1.6 miles of water course to improve the habitat for small forage fish like minnows.

Whereas the property originally contained a channelized ditch, Muncaster said his revamped creek is another 25 percent longer, greatly improving the fish habitat.

"It's a very shallow gradient, so you have to be careful to maintain the flow

of the runoff," he says. "We do that by natural channel design, incorporating bends and curves and placing rocks and logs in specific places."

Muncaster said the wildlife will establish itself in the newly created wetlands from upstream in a natural process called "drift."

Integrating Muncaster's plans with its own, ASL used Total Station, which Amirault characterized as "a computerized system that performs as well as GPS." ASL digitized the plans and downloaded them into the Total Station, from which it was able to precisely lay out all features, including the exact layout, curves, pools, rocks and more in the realigned creek. The rest is history.

"Things grew like mad as soon as it rained and they were watered," Amirault says. "Everyone was surprised by how fast it grew. It looks like it's been there forever."

Continued on page 62

PAY LESS. CLIMB MORE.



Get the most out of your budget while out-mowing all competitors on steep hills and banks. Try the new 8400—the next generation of National.

- A lower center of gravity and hydrostatic drive make the 8400 the King of the Hill
- The 8400's 15" overhang is the best in the industry—dramatically reducing hand-mowing time
- All-new electric clutch gives you perfect reel and ground speed, allowing you to slow down to cut the tough spots while maintaining a high quality cut

**It's time to demo the next generation of National.
Call 888-907-3463 today.**



SINCE 1919

www.nationalmower.com

Real-Life Solutions

Continued from page 60

Charlton said RTJ II International has used this simple system on a dozen projects with great success.

"We take the site's native hydric soils — those that stay wet most of the time — strip them and stockpile them for as short a time as possible," he says. "You create a depression, wetland, marsh or

linear hazard that you want to become a marsh, then put this hydric topsoil back down, about 1 foot deep. Typically, if you can do it within a month you're more successful, depending on how hardy the [transplanted] seeds in the soil are. The shorter the stockpile sits, the more active those seeds will be."

With that complete, Charlton, Jones



Seeds of wisdom.

Selecting the right seeder for your needs is the wisest choice of all. Whether you're simply overseeding, drop seeding, looking for high germination rates or targeting a specific growth date, you need equipment that is designed to do the job efficiently and reliably.

Redexim Charterhouse offers you a broad range of seeders varying in performance as well as price points. Choose from the Verti-Seed, the Proseed, Speedseed or the Overseeder.

With the Verti-Seed, turf professionals get precision control of seed dosage and depth ensuring maximum germination.

For economy and random seed dispersion, nothing beats the

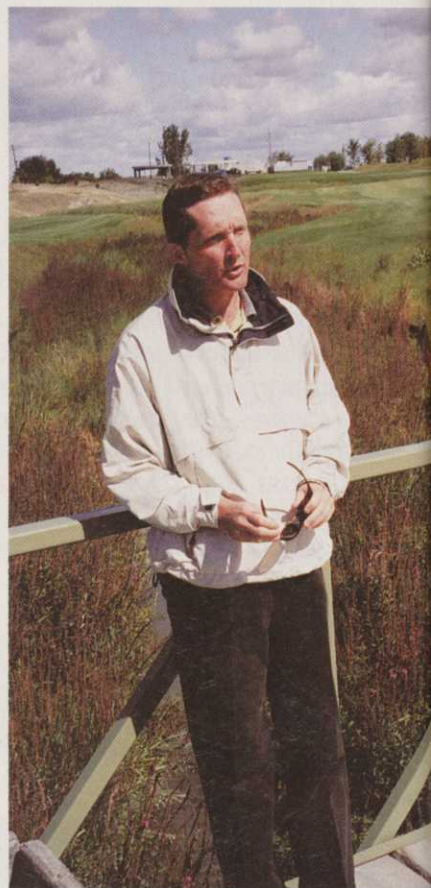
unique Proseed system. And finally, the Overseeder makes the seeding operation easier and faster, working at up to 9 mph.

Each seeder offers you the quality of manufacture and engineered reliability focused in user-friendly features that you've come to expect from Redexim Charterhouse.

Plant a seed now, that will harvest you great rewards in the future. Make a call today. Redexim Charterhouse has many options, attachments and seeder models so that you can make the most informed, wisest choice. Phone or visit us on the web for more details.



Redexim Charterhouse Inc.
950 Sathers Drive
Pittston Township, PA 18640
1-800-597-5664
Tel: 570-602-3058
Fax: 570-602-3060
www.redexim.com



Engineer Murray Amirault and his company ASL Golf Course Construction filled the fairways, tees and greens to make playable high ground. Then they reconfigured and re-established wetlands adjacent to golf holes.

and ASL can look over a canvas that is now fully framed and ready for presentation to the public. The Marshes GC opens June 1, and the word is it's already being eyed for major competitions.

That would fit perfectly into the portfolio of the owner. Matthews is the developer of Celtic Manor in Wales, a RTJ II design that will host the Ryder Cup in 2010. ■

Leslie is a free-lance writer from Monmouth, Maine.

**Read another
Real-Life Solutions
on page 67**