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CHINA

golf course management

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Success story

A once-barren garbage dump in Beijing has been reclaimed as an award-winning golf course that is making positive environmental contributions.

Alexis Abel

A beautiful course with sweeping vistas can transform a great golf experience into an exceptional one. Course design is an important factor for golfers, but another key aspect of great play is great turf. Establishing that turf and then keeping it lush can be water- and resource-intensive.

That's a particular challenge in China, home to 20 percent of the world's population but only 7 percent of its water. The good news is that conservation techniques, managed landscaping, erosion control and vegetation technologies can help maximize whatever water is available. Those elements all came into play in the successful renovation of the Yinhong No. 6 Course at Yintai Hongye Golf Club in Beijing.

As water issues intensify in China and arable land continues to dwindle, the Central Government has banned new golf construction. The government makes an exception, however, for the restoration of sites to improve water quality and reduce overall water use.

In 2009, contractors developed a barren site in southwest

Beijing into the 54-hole Yintai Hongye Golf Club. The transition wasn't an easy one. Stone quarries had once operated on the site, which is situated on 165 hectares along the riverbank and flood basin of the Yongding River. The quarries were shut down more than 30 years ago, and the site had become a garbage dumping ground.

The abandoned site was also plagued with water problems. During major rain events, severe flooding would occur. The rest of the time, the area was as dry as a desert because of the diversion of water upstream to irrigate agriculture. The harsh environment was also the source of large sandstorms that occasionally plagued Beijing.

The contractors constructed 30 new lakes and wetlands, and planted 65 hectares of turf and 160,000 trees and plants. The first phase of the renovations addressed many of the site's environmental challenges, but it didn't go far enough. In spring 2014, the Yintai Hongye Golf Club took on a project to renovate its third course, Yinhong No. 6, under the guidance



A flexible-growth medium from Profile Products called Flexterra helped protect the newly redesigned bunkers while providing good conditions for turf establishment during the renovation of Yintai Hongye GC's YinHong No. 6 course.

of architect Rick Robbins, a member of the American Society of Golf Course Architects (ASGCA), to revive the course design and reduce water usage even further.

Beginning the work

The club's three courses were initially constructed without the assistance of an architect. With the third course about a year away from opening, the developer contacted Robbins & Associates with a desire to create a higher quality of play on the course while complying even more with China's strict environmental regulations. Robbins was tasked with the challenge of redesigning the site into a destination course that could host high-level international tournaments.

"It's a large golf course with large features, and the bunkering didn't fit the scale of the course and the look we wanted," Robbins says. "We completely rebuilt every single bunker and every single green, making them larger and more intricate, with more of a shape to them."

In addition to beautifying the course and improving playability, reshaping the bunkers and greens helped make them an integral part of the landscape and supported the nearby wetlands. This required disturbing the existing turf, often in periods of heavy rains or in dry, dusty conditions.

Robbins and Techland, the golf course contractor, needed a solution that would protect the revived bunkers while providing optimal conditions for vegetation establishment. They turned to assistance from Profile Products' Tammy Harney, vice president of international business, and John Maeder, Profile Golf's business manager, who helped devise a solution using Profile's Flexterra high-performance, flexible-growth medium.

When work began, there was no clear delineation between bunker edges and where the sandy and inhospitable soil began. The native sandy soil is prone to erosion, especially with the region's regular heavy rainfall.

"The site had a very high likelihood of seed migration, due to the rainfall and dry soil conditions," Harney says. "Preventing the seed from washing away was critical for improving vegetation germination rates and preventing plant species from growing in undesired locations."

These challenges, combined with the course's narrow land plots and steep slopes, made the project ideal for the use of hydraulic mulch. Rebuilding the bunkers and greens also required the removal of hundreds of hectares of water-reliant grasses and plants throughout the course, and the quick establishment of native vegetation in their place. The available equipment also added a level of complexity to the project, as the small, on-site hoses required more time to fill each hydro-seeding tank.

"We recommended Flexterra because it's easy to apply and offers smooth and even coverage on intricate bunker edges and narrow fairways," says Harney.

When it came time to hydroseed steeper areas of the course, contractors increased the application rate of the hydraulic mulch. Once cured, the Flexterra matrix expands to create air space cavities and allow the native plant seeds to germinate and thrive.

Cosmetic and environmental benefits

The application of hydraulic mulch produced excellent vegetative establishment on the site, which reduced the impact from heavy rains and minimized runoff of soil, seed and water.



Rick Robbins' renovation of YinHong No. 6 at Yintai Hongye GC included work to rebuild bunkers and greens to make their size, scope and shape fit better with the overall property.

Another benefit was greater moisture retention in grasses and plants.

Robbins worked closely with the landscape design firm to set guidelines for plant types and placement of landscaping. Many of the plants and grasses used were acclimated to the region. Once established, they needed less supplemental irrigation.

The course's new design transitioned it to a "firm-and-fast" style, allowing golfers to roll the ball onto greens while reducing daily turf damage and watering needs. The new design was also adapted to provide a better transition between golf play areas and forested areas, with special attention paid to constructing lakes and wetlands. The new lakes and wetlands provide a natural means of filtration for long-term improvement of water quality. Contractors planted native plants and grasses along the pond and lake edges to assist the natural filtration process.

Robbins also recommended expanding wetland and storm-water retention sizes to reduce areas of the course that needed heavy maintenance and irrigation. "The expanded wetlands increased the volume of irrigation water for the maintained areas of the course, without having to remove any water from the nearby Yongding River," Robbins explains.

Award-winning results

The renovation of the barren site was so successful, the government appointed the developers to assist in the continuing management and maintenance of the riverbank by awarding them a long-term contract.

The Yintai Hongye Golf Club renovation went on to win many local and international awards. In 2010, *Golf Magazine*

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The new design of YinHong No. 6 worked to improve the transition between the golf course and the forested areas on the property.

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China recognized it as a Top 10 China Golf Course for “Best Environmental Protection Creativity.” The course was also awarded a “Green Enterprise of Beijing” award from the Fengtai District of Beijing City and the city of Beijing municipal government for its environmental contribution to the Yongding River and the restoration of the river’s biosystem. The course was the only golf club among the 182 award winners to be recognized with this honor.

In 2014, the golf club was honored with the Design Excellence Award from the ASGCA, which is given to courses that showcase innovative and problem-solving skills required in modern golf course designs. Nominees are reviewed by a panel of golf industry leaders, including representatives of the Club Managers Association of America, Golf Course Super-

intendents Association of America, Golf Course Builders Association of America and National Golf Course Owners Association.

“This is one of the neatest projects I’ve worked on,” Robbins says. “It’s an example of golf being used as remediation for a bad environmental site and coming out very successfully.”

It took an entire team — architects, contractors and turf specialists — to transform a barren, environmental wasteland into one of China’s most attractive and playable courses. The renovation project wouldn’t have been successful without the expertise of everyone involved.

“We always have great results when we work with Profile, and they’re great to work with,” says Robbins. “They have excellent technical knowledge and aren’t afraid to offer their expertise to help you get the job done.”

In the near future, owners of the Yintai Hongye Golf Club hope to host an international tournament on the grounds, but until then, the third course is enjoying a soft opening. Only about 20 players per day are allowed to test their prowess on the beautiful but formidable course.

“The comments from the owners and the players have been extremely positive,” Robbins says. “They’re really enjoying playing the course, and find it challenging, but very enjoyable.”

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