



A view from one of the tees. The steep sides dropping off from the tee are kept in natural vegetation.

# Maintaining a shop and a course

By BRIDGET FALBO

**F**or a golf course superintendent, the layout and design of the maintenance shop can be almost as important as the design of the course. Luckily for Mariana Butte Golf Course superintendent Ron Mielke, he was on board with the City of Loveland, Colorado, prior to course construction and helped with the design of the shop.

Mariana Butte is set in the foothills of the Colorado Rockies bordering the Big Thompson River and features a backdrop of the snow covered peaks of Rocky Mountain National Park. The public golf course opened in 1992, and made *Golf Digest's* list of 100 Great Value Golf Courses and also received the magazine's four-star rating.

Mielke had worked as superintendent for Loveland's Olde Course for eight years before moving to the site of the Mariana Butte course and supervising construction under the direction of architect Dick Phelps in late 1990.

## Limited maintenance space

When it came time to plan the maintenance area, Mielke found they had limited space in which to build a maintenance shop (as happens with most golf courses). It also needed to be constructed in such a way as to be out of sight of the expensive homes that would encircle the course.

Landscape berms were constructed surrounding three sides of the shop, to act as a natural barrier to noise and unsightly equipment. The berms, however, turned into an attribute of the shop area rather than just taking up precious space. They

were cut in half and backed by concrete storage bins, which Mielke says have become very useful in storing sand, gravel, top dressing and even equipment.

"You can't see it from the road and it's contained here within the walls," explains Mielke.

With his experience working on other golf courses, Mielke knew many details he wanted to incorporate into the shop design, such as an equipment hoist, meeting room and out-of-the-building pesticide storage. But he also gathered information from other superintendents whenever he had the chance. He's more than satisfied with the result, but says it's still a work in progress. The landscaping hasn't been completed yet, for instance.

The front end of the maintenance shop houses comfortable work spaces --offices

for Mielke, his assistant, the irrigation system computer and an approximately 18-ft. by 28-ft. open room filled with long tables and chairs for lunches and meetings. A dry erase board covers the entire back wall, prominently displaying the work schedule. A large map of the whole course mounted on the wall helps Mielke and his team plan the day's work activities.

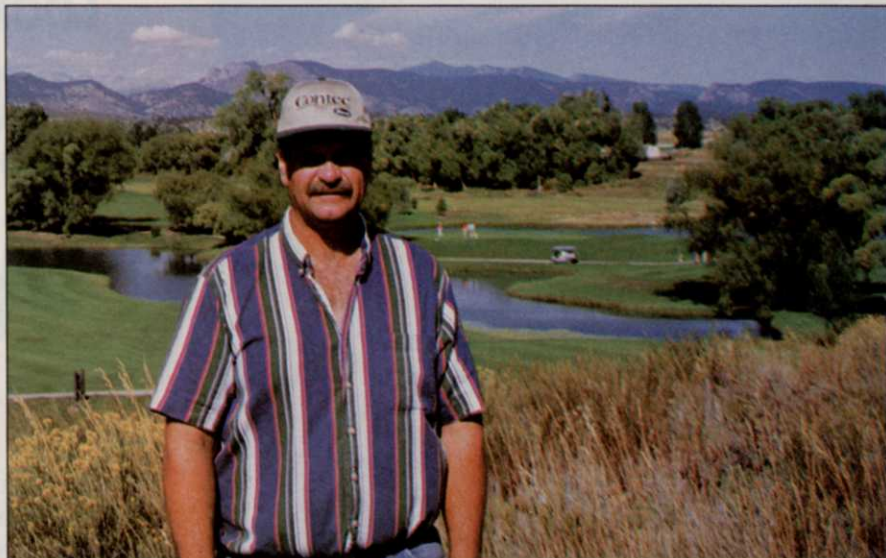
The 44-ft. by 48-ft. heated maintenance room provides the space required for the mechanic to keep the equipment in tip-top shape. One of the best features of the shop, according to Mielke, is the small enclosed room with its own exterior ventilation for the mechanic to use specifically for grinding. Closing the room off keeps the dust from getting into bearings and motors and alleviates the noise problem, says Mielke.

The state-of-the-art chemical storage area in a separate, all-metal enclosed building has an automatic containment feature below the floor in case of a pesticide leak. By housing the chemicals in a separate facility, in case of a fire, the safety of workers and firefighters is increased and it will keep the chemicals from contaminating a nearby lake.

#### **Water recycling**

In the blueprint stage, Mielke knew the course would eventually purchase a water recycling system for cleaning equipment, so the building was specifically designed to handle this type of system. A small room next to the equipment area houses the water recycling equipment, which was installed this past spring. Just outside, a covered wash bay with drainage was built where the equipment is cleaned, to keep rain water from entering the recycling system.

Last year Mielke and mechanic Dave Batt toured golf courses looking at their water recycling systems. What they found was that many people were dissatisfied with different parts of their systems. Mielke used that knowledge in deciding to buy a new system from Hydrodynamics, Inc., of Florida not yet used by other



**Ron Mielke has been in the golf course business all his life, so he knew what he wanted when it came time to build a maintenance shop at the Mariana Butte Golf Course.**

courses. (The water recycling system costs approximately \$28,500, according to the manufacturer.) They installed the system in the spring of 1998.

"After a couple of months of trial and error, we've worked the bugs out of it," says Mielke. "It's working out very well."

The equipment cleaning process begins with using compressed air to blow the dry grass off the equipment; the clippings are then recycled into compost. The unit is brought into the wash bay and spray washed with a pressure washer. The water and debris fall into a sump, which is then pumped through a screened cart that separates out the grass clippings and other large debris. Next, the water is pumped through a series of four clarification tubes to remove very fine grains of sand and silt. Then it passes through an ozonation chamber which uses ultraviolet light to kill bacteria in the water. From there it returns to the cistern and recirculates. That makes up the primary loop.

In the secondary loop, the water is removed from the primary loop cistern, pumped through a series of cloth filters covered with diatomaceous earth and then

through an activated charcoal filter to remove gasoline, pesticides and oils. Then it fills a water reservoir which feeds the pressure washer, and some water returns to the wash bay to be recycled again.

Mielke figures he saves up to 4,000 to 5,000 gallons of water a month. He believes it's just a matter of time before state and federal regulations require such recycling to avoid contaminated water runoff into lakes and streams near golf courses.

Proper irrigation is a key to maintaining this course. Mielke explains they are very conscientious about their water use and only water as much as the course needs to keep the turf in playing condition.

Since irrigation is so important, Mielke and other employees will be able to access pump station information at home via computer link. This will enable staff to monitor pump station stats 24 hours a day.

#### **Course maintenance**

Because of the very low humidity, the course suffers from few disease problems. Mielke handles any disease with a curative approach rather than preventative, except in the case of snow mold. In the latter part of October, he applies Scotts Fungicide 9



because the grass is still actively growing. Then around Thanksgiving he applies Scotts FF2 to last through the winter. Last winter, Mielke said the course was only closed for three to four days because of snow, but some winters snow may cover the turf for over a month.

Since its beginning, the course has been popular for tournament play, especially for shotgun and scramble type tournaments. The course generally schedules 15 or more tournaments per month.

Mielke finds the toughest part of his job to be fitting in necessary maintenance activities, such as top dressing, so as not to interfere with tournament play. Since the entire course has to be ready by 7:30 a.m. for shotgun tournament play, the crew starts mowing at 5:30 a.m.

The crew mow the tees and fairways on the front nine on Monday, Wednesday and Friday, and the back nine Tuesday, Thursday and Saturday. They mow greens and set cups daily. They mow roughs after these are completed. Paul Mason, assistant superintendent at Mariana Butte, schedules the maintenance staff of 14 seasonal employees and five full-time employees.

As with most golf courses, finding good employees can prove difficult. The Loveland course is helped by the fact that nearby Fort Collins

Concrete storage units built into the back of earth berms which surround the front and sides of the maintenance building.

The course purchased water recycling equipment from Hydrodynamics, Inc. of Florida.

Pressure washing equipment in the wash bay; the water runs into a sump and begins the water recycling process.



is home to Colorado State University, which has a course of study on turf management. Students studying in the program often find summer jobs with Mariana Butte. But having that employment pool nearby also comes at a price. "We lose half our crew when school starts," says Mason. "And sometimes we're still mowing greens as late as Thanksgiving."

As might be assumed because of its location in the foothills, some of the tees must be mowed with hand mowers because of the severe elevations, describes Mason. On the 16th hole, the tee has an

almost vertical drop of 40 feet. Many of the slopes themselves are kept in native vegetation to alleviate extra maintenance and reduce irrigation needs.

Working with the steep elevations and tournament timing offer the biggest challenges to managing this course near the Rockies, but Mielke says meeting those challenges provides great satisfaction and every new problem that crops up just makes his day more interesting. *The author is a freelance writer in Minneapolis who writes about the green industry.*