

Put on the Map

Idaho superintendent discovers how beneficial it was to chart his course by GPS. Oh yeah, it wasn't as complex and expensive as he thought it would be either

BY LARRY AYLWARD, EDITOR

Clink! Clang!
“That’s not supposed to be there,” Gerald Flaherty said to himself and anyone else within earshot.

The scene was the first hole of a wide-scale renovation at Crane Creek CC in Boise, Idaho, last September. Flaherty, superintendent of the course, had just watched a backhoe strike a main irrigation line by mistake.

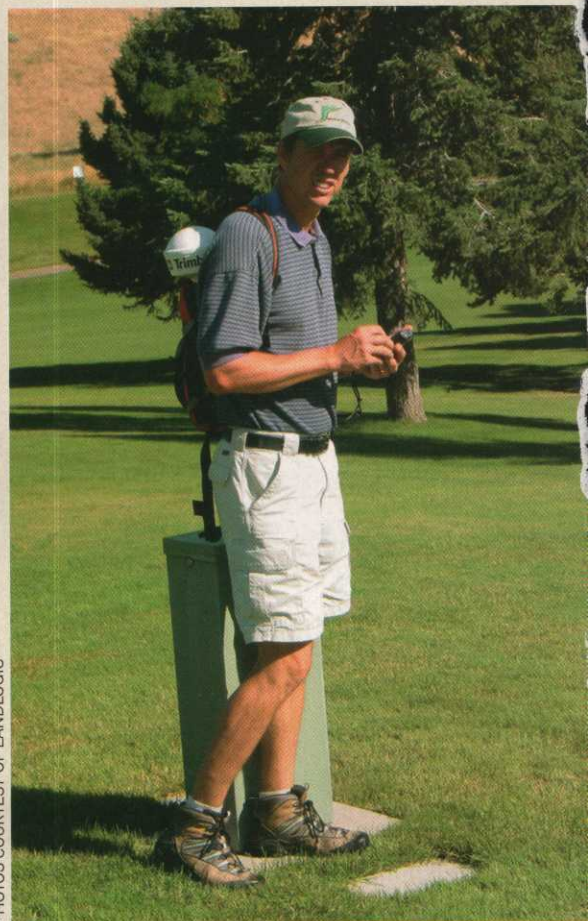
According to the course’s “as-built” map, the irrigation line was supposed to be about 20 feet south from where the backhoe was digging. But there the pipe was, right in front of the befuddled superintendent’s face.

The renovation was a typical modernization of a 40-year-old golf course, consisting of adding cart paths, expanding greens, reworking tees, rebuilding bunkers, and subtracting and adding trees. But problems ensued on the first hole when construction equipment encountered — make that hit — items such as irrigation pipe lines and power lines that weren’t on the course’s original 1953 map.

“We started finding things in the ground that we thought were many feet away from where we thought they were,” Flaherty says.

Being only the first hole, Flaherty didn’t have much confidence left in the old map. He knew he needed a new map. He knew the course needed to be mapped according to the Global Positioning System (GPS), something he had been wanting to do. (The GPS is a web of 24 government-run satellites in 12-hour orbits.)

“It became an easy sell [to the course’s de-



PHOTOS COURTESY OF LANDLOGIC

Gerald Flaherty collects the location of an irrigation controller while mapping his course.

cision makers] once we started finding things in the ground that weren’t supposed to be there,” Flaherty says.

And once the decision was made to map the course, Flaherty recognized it made sense to map it twice, before and after the renovation.

‘It was cake’

Flaherty studied several companies to perform the mapping but settled on LandLogic in Boise. Flaherty had heard good things about LandLogic from fellow superintendent Kevin Hicks of Hillcrest CC in Boise. Hicks

Problem

This is a classic case of a superintendent not “knowing” his course when he and his crew set out on a renovation. But it wasn’t the superintendent’s fault. The course’s 1953 “as-built” map didn’t provide much direction as to where items were located.

Solution

To create a better and more informative map before and after the renovation, the superintendent mapped his course according to GPS.

had helped LandLogic creator, Larry Robinson, test his mapping system and software.

Robinson began LandLogic out of his love for golf and his desire to help superintendents use the technological advancements of GPS in mapping of their golf courses. When he started the company in the mid-1990s, his goal was to present superintendents with a GPS mapping program that was simple and affordable. Robinson spent more than three years testing three prototypes. He introduced his system in late 2000.

Flaherty says LandLogic's price for its mapping services was substantially lower than the other companies he researched. It costs less because LandLogic's philosophy is to let superintendents map their courses rather than pay the high cost of labor to have mapping experts do it for them. "All we do is provide the equipment and mapping expertise," Robinson says, adding that LandLogic's price for mapping is about \$7,000.

Robinson says there's a perception that GPS mapping is the sole domain of engineers, hydrologists and geologists. While that's hardly the case, it's still difficult to get superintendents to believe they can map their own courses, he says.

The 42-year-old Flaherty was a perfect example. He half-jokingly says he's not sure now to turn a computer off, so he was skeptical that he could consult a satellite to map his golf course. But as it turned out, Flaherty says mapping his course was "a walk in the park."

"I'm not a computer guy at all, and I was nervous about this. But it was cake," he says. "[Robinson] spent about 10 minutes explaining the procedure to me. I couldn't mess it up if I tried."

While the mapping equipment consists of sophisticated computer software, superintendents need not be intimidated, Robinson says. All they need to do is wear the equipment as a backpack and walk the course with a hand-held personal digital assistant (PDA). The PDA provides simple and explicit directions ("Here's how to map this bunker"), communicates with a satellite and stores the information.

It takes several hours to map the course, but that's to be expected. Areas to be mapped include fairways, greens, tees, irrigation

heads, bunkers, trees, ponds and even manholes.

Flaherty says it makes sense for a superintendent — not a hired hand — to map his or her own course because it's a great way to view the track. It took about five days to map Crane Creek. "You notice things you might not have noticed if you weren't the person mapping it," he says.

After the mapping was completed, Flaherty sent the equipment — and all of the recorded data — back to Robinson, who organized the data and formulated an accurate map of the golf course from it. The data was then loaded onto a laptop computer along with LandLogic's course management and map maintenance software.

"A superintendent can use the software to view and edit his course map, and to access a myriad of other functions like head triangulation, perimeter measurements and irrigation site codes," says Robinson, noting that the software is also provided on a pocket computer that a superintendent can wear on his belt.

Old and new

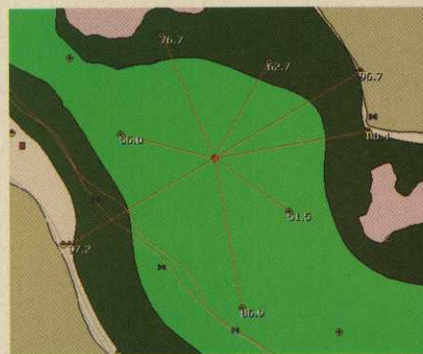
The first time Flaherty performed the procedure last September, he walked all over his course — mapping everything from bunkers and trees to valve boxes and sprinkler heads. Flaherty called representatives from local power and utility companies and had them come out to the course and mark their lines. Then he mapped them.

If he wouldn't have done that, Flaherty is sure he and his crew would have run into even more trouble during the renovation. "We avoided hitting a fiber optic line which would have been ungodly expensive to repair," he says.

After the renovation was complete, LandLogic sent the equipment back to Flaherty so he could conduct a second mapping to update the course with the renovations. The second mapping is included in the \$7,000 fee.

It's great to have a comparison of the "new" and "old" courses on computer to show to

Continued on page 66



A superintendent can use the software to access functions such as irrigation head triangulation.

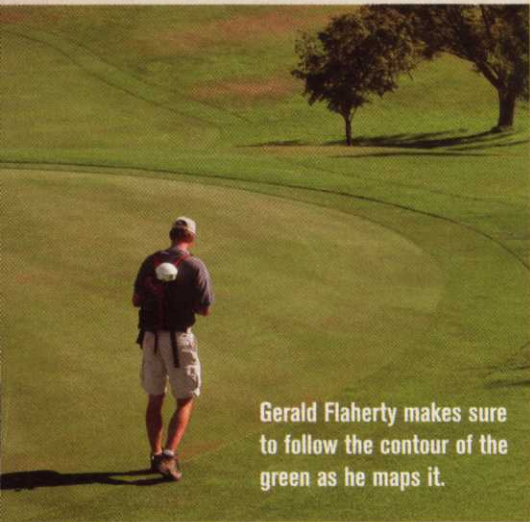
**Read another
Real-Life Solutions
on page 72**

Real-Life Solutions: GPS Mapping

Continued from page 65

green committee members and other decision makers, Flaherty says, especially when it comes to forming a budget.

"We can show them that our bunkers doubled in size, our tees increased by 30 percent, and our greens



Gerald Flaherty makes sure to follow the contour of the green as he maps it.

increased by 10 percent," he says. "We can show them that we took down more than 'a couple' of trees."

Because the system can store vital information about maintenance procedures, such as square footage and labor rates, superintendents can provide their bosses with thorough reports on how much was spent on tasks such as fertilizer applications and fairway mowing. Robinson says the information collected for the map is accurate from 4 inches to 6 inches of the exact measurements.

Attaining accuracy

Mapping a course continues to be beneficial in subsequent years, Robinson says. That's when superintendents can access records to see what maintenance procedures they performed on a particular green the season before and how the turf responded to the procedures. They can also check to see what the weather was when they performed cer-

tain tasks. They can use all the information gathered previously to make real-time decisions.

Flaherty says the new map is already playing an important role in his operation. In June, he and his crew installed 300 feet of new drainage. "Because we knew where the drain lines were, we could dig with confidence," Flaherty says.

Mapping is also important if superintendents are planning renovations with outside contractors. That way, they can work with contractors to define the square footage of the areas to be renovated accurately.

While GPS mapping is a proven tool to improve a golf course's maintenance operations, it's still not in demand because it's regarded as complex and expensive, two labels LandLogic has strived to combat. "The biggest issues are education, education and education," Robinson says. ■

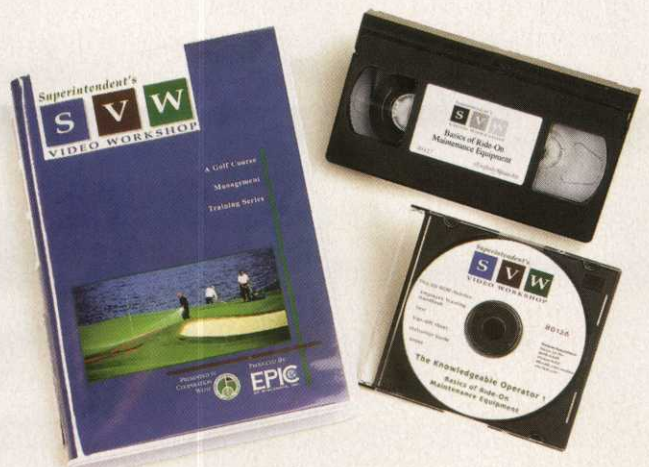
Dumping the Carry-All in the Lake...

\$ 1495.00

CARRY-ALL-II Club Car

Using SVW To Train Your Crew...

\$95.00



"We Teach Common Sense!"

Superintendent's Video Workshop: Helps reduce risk of personal injury and maintenance mishaps • Teaches personal responsibility
Promotes professionalism • Provides written documentation of training
Choose from 26 titles – most also available in Spanish.

Order online at www.svwonline.com
or call 800-938-4330

SVW/EPIC of Wisconsin, Inc. • 3014 E. Progress Drive • West Bend, WI