

land. When Willard's son and partner, Ron Willard II, hired architect Richard Mandell of Richard Mandell Golf Architecture, Willard was pleased with Mandell's reverence for the lay of the land and respect for nature. But Willard was vehemently opposed to the removal of trees on the property – even for the sake of a clearer view.

Mandell is perhaps the only architect in the industry who also shares the title of certified arborist. Still, it took a lot of effort to convince Willard they were on the same team.

"One tree can limit the survival of five other trees right behind it," Mandell says. "It can also create erosion and difficulty for growing grass. A true environmental advocate understands all elements of the golf course."

Willard became that environmental advocate as the project progressed, Mandell says, but only after he relinquished his tendencies toward tree-hugging. Adkins recalls the early process of tagging trees for removal at each hole.

"We would go out and tag a bunch of trees according to Richard's plan, and by the next morning, almost all of the tags would be gone," Adkins says. "We thought it was vandalism, local kids playing a prank. Then we found out Willard was walking the course at night and pulling marking tape from trees."

Though he remains somewhat proud of his rebellious antics, Willard explains he and Mandell eventually saw eye-to-eye when he realized their mutual desire to preserve the property.

"We chose Mandell because he was the one guy who didn't want to destroy the design or change Loving's architecture," Willard says. "He refined it."

REDESIGNED AND REFINED

Mandell recognized the unique responsibility of his role in such a sensitive renovation.

"With a new project, you have a virgin piece of property," he says. "With a renovation, you have a piece of property with 18 existing holes. There are roads and homes. You can't just build or rebuild wherever you want. You have to take into account where things are and how things work."

Mandell's goal from a practical standpoint was to make the rest of the course less maintenance intensive and create less handwork. The biggest challenge came with the sand bunkers, Mandell says. Loving's course de-

sign is typical of the 1970s, complete with large, serpentine bunkers. Mandell stayed close to Loving's style, softening bunker faces but maintaining the original flashed-sand appearance.

"The flashed bunkers are so much more maintenance intensive than flat bunkers," he says. "I haven't worked with this style of bunker before. It was a fun challenge."

Aspen used Luck Stone white sand to fill several new bunkers, created on the course as needed.

Another issue was tee-box drainage.

"We enlarged all the tees to spread out wear and tear," Mandell says. "We softened slopes here and there. The square tee got a little bit away from the kidney shape of the '60s and '70s, but we maximized the usable tee shape."

Tees were seeded with L-93 bentgrass once the crucial earthmoving process was complete.

"We enhanced the ability to move water with proper shaping and earthwork and modern interior drainage systems," Adkins says.

One detail of Loving's original design that wasn't honored is part of hole eight. A tiny old chapel – just 30 feet by 20 feet – that had been frequented by black workers in the area stood here on the grounds. During the original course construction in 1986 the dozer operator was ordered to level it.

"They called me in on the two-way radio," Willard recalls. "I knew we'd bought a church, but I'd never really thought about it. When I got there, the African-American operator insisted he wouldn't move God's house."

Loving amended his original blueprint to preserve the chapel. It was renovated and used as storage space – but the second time around, Willard recognized the strength and potential within the four walls.

"During this renovation, we gutted the church and restored it to its original condition," he says. "We added a copper steeple and made sure it was lit at night. It became a focal point of the project."

Four weddings were held at the renovated chapel during the summer of 2008.

GETTING TO THE GREEN

Jeff Snyder, manager of golf course maintenance and son of The Water's Edge's original golf professional, made the initial contact with Aspen in 2005.

WHAT THE JUDGES SAID

"Aspen delivered the project on time within two weeks of the scheduled date, with substantial changes that were added by the owner. There was an excellent relationship between the owner and Aspen, which contributed to the finished product. It sounds like Aspen was able to help the owners see opportunities for expanded vistas and tree removal that the owner was unable to see originally. It was a good coordination between all parties, and it shows in the end product."

– Mike Bylen, owner, Shepherd's Hollow Golf Club, Clarkston, Mich., and Pine Trace Golf Club, Rochester Hills, Mich.

"Aspen was able to open up more views on the golf course and create a better and more enhanced golf course compared to what was there originally. The ability of the contractor to find a sod supplier on short notice to put more sod down on the golf course was noteworthy, as well as the contractor's willingness to supply and install plastic liner around the greens at its own cost to help those areas. The club is generating more revenue than it's seen during past years."

– Mike Benkusky, golf course architect and president of Michael J. Benkusky Golf Course Architecture, Lake in the Hills, Ill.

"Aspen worked daily with an owner who was heavily involved financially and emotionally in the project. Aspen was able to take and modernize an old facility. It looks like it belongs where it is today. The architect was happy and recommends working with Aspen again. The quality of the work presented is outstanding."

– Tommy Sasser, vice president of development, Linger Longer Communities, Greensboro, Ga.

"We had *Poa annua* issues on our greens, and we were thinking of renovating them in the future," Snyder says.

Snyder had to put his dream of faster greens on hold until the following year, when Aspen's schedule opened up and renovation got underway. The goal was to make the greens as fast as possible without struggling to manage two different types of grasses on the greens during the summer. To accomplish

this goal, the team focused on new grass and irrigation.

In addition to considerable drainage problems, irrigation at the Water's Edge was hindered by an old pump station.

"It was a clay-valve system with a very high-demand electrical system," Snyder says. "The pump station was always trying to give us hundreds of gallons of water, even if we only needed 50."

Course irrigation is now fueled by a VFD pump station, which supplies only as much water as required.

"We save electricity and wear and tear on our piping system," Snyder says. "Our irrigation breaks were cut dramatically, our electrical use was cut dramatically, and we have more water flow. We were able to go from 1,000 gallons per minute to 1,300."

Using a double-row system, more than 1,000 Toro 854S and 855S sprinkler heads are in use now – about a 30-percent increase in head quantity from the previous system, Snyder says. The team also added an OSMAC control system.

But the irrigation installation process turned out to be much more complicated than originally planned. The irrigation had to be addressed as the project unfolded, Adkins explains, because about a month into the project, Willard decided to change from seeding to

sodding the A1/A4 greens. Unfortunately for Aspen, winter was fast approaching, bringing with it a nightmare for sod installation.

"The only company that could cut the sod during the wintertime was a vendor in Delaware," Adkins says. "In freezing, windy temperatures, we had to take every precaution not to let the sod freeze in transport. We've had a lot of experience in grow-in projects in the wintertime. We made sure to keep the sod fresh the evening before. On the tractor-trailers, it had to be netted, covered and brought in."

Installing as many as two to three acres of sod per day, Aspen had to move quickly.

"It had to arrive fresh and be laid immediately to avoid freezing," Adkins says. "Sodding in the wintertime was the only way to get it green fast enough."

This labor-intensive work required high levels of quality control for hours and weeks.

"There were many seven-day weeks to get it all done," Snyder says. "Aspen didn't miss a beat."

In hindsight, Willard wishes he would've elected to sod the golf course completely.

"It's more money, but it balances out," he says.

COMMUNICATION

The biggest success of the whole project was

the communication and the ability of the team to work together, Snyder says. What he appreciated most was the transparency of Aspen.

"There weren't any secrets or hidden costs," Snyder says. "Whether we wanted to add a little drainage or sod, it was easy for us to do the math with the contractor."

Mandell had high praise for Aspen's project superintendent Joe Kubin.

"Kubin is one of the finest project managers I've had the pleasure of working with," he says. "For the most part, I describe this project as a nonevent. To me, the term 'nonevent' is the highest mark I could give to a contractor because it means there were few issues and dramas."

But perhaps most indicative of Aspen's success is the fact the team was just two weeks past the original deadline, despite receiving almost twice the original workload. Getting it all done in time required daily input from every single member of The Water's Edge renovation team, from Kubin, Mandell, Snyder and Willard.

"If you wanted to do a case study of teamwork, you could do it on this project," Adkins says. **GCI**

Margaret Hepp is a freelance writer based in Cleveland.

The owner of The Water's Edge was vehemently opposed to removing trees on property.



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Workers had so much confidence in their erosion and sediment controls, they used the existing Spring House for drinking water.

Leave nothing to chance

A well-prepared Aspen Corp. overcomes environmental restrictions and withstands bad weather to complete a renovation project at Wisp Resort

BY JOHN WALSH

'09 *Affinity*
Award Winner

Wisp Resort Course

Location: McHenry, Md.
Web site: wispgolf.com
Type of project: Renovation
Cost: \$1.5 million
Construction start: July 17, 2006
Course opened: June 2008
Architectural firm: Design Workshop
Builder: Aspen Corp.
Grow-in superintendent: Scott McMillion
Owner: DC Development

Even though Steve Richards and his two partners in DC Development saw a tired property, they purchased Wisp Resort in McHenry, Md., in 2001. They began to improve it right away – so much so they've spent \$30 million in 8 years. Improvements and expansions were made in areas such as the snow-making operation, facility infrastructure, and ski and golf course terrain.

One project (named Fantasy Valley), the renovation of the daily-fee, 18-hole Wisp Resort Course, turned out to be challenging from an environmental perspective. A daunting task for DC Development, which previously hadn't been involved in a golf course construction project.

No problem, though. Aspen Corp., a certified builder member of the Golf Course Builders Association of America, used its experience and resources to overcome inclement weather and numerous environmental hurdles to renovate a portion of the course on schedule without disturbing the environmentally sensitive and protected trout stream that runs adjacent to the course, which generates, on average 18,000 to 20,000 rounds a year.

The renovation included moving four of the most difficult, steep-sloped holes, which backed up to the base of Marsh Mountain, while not disturbing Hoyes Run Creek, which is one of the state's few Class Tier II trout streams.

"The original Wisp Resort Course was difficult to play for the average golfer," Richards says. "There were four difficult holes, so we closed them and moved them. We will put ski-in/ski-out condos in their place. The renovation was done to make the golf course easier for golfers, speed up play and maximize real estate opportunities."

The project went so well, the same builder (Aspen), architect (Todd Schoeder) and management company (OB Sports Golf Management) are building a private course, called Lodestone, at the top of the mountain for DC Development. Nine holes will open in July, followed by another nine the following summer.

"We bring the same intensity to all projects," says Donnie Adkins, president of Aspen. "We take the best way to protect the environment."

EROSION CONTROL

The Fantasy Valley project was the first golf course work applied for and permitted in Garrett County, Md., with the Department of Environmental Protection. The whole process was new to Garrett County, which resulted in delays and abundant erosion and sediment measures. More than 22 sediment basins were built on four holes. Many were placed in landing areas and feature locations. Extensive supersilt fences were installed, too.

"The amount of erosion control and protect-



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ing the trout stream below was challenging,” says Scott McMillion, director of golf maintenance for Wisp Resort. “The state of Maryland has the most stringent erosion control regulations that need to be in place before building a golf course.”

Many of the sediment basins and diversion ditches were expected to function at finished subgrade by the Maryland Department of the Environment. This expectation created situations in which the erosion and sediment controls wouldn't function until the earthwork was finished. So, Aspen worked with the MDE and DC Development to come up with a workable solution that would satisfy compliance and function using the most common-sense or practical approach. This strategy often required installing and adjusting grades on sediment basins multiple times.

“The workers had so much confidence in the results of their erosion and sediment controls they regularly used the existing Spring House, which was located in the middle of the project, for their drinking water,” Adkins says.

Aspen worked well with all the environmental agencies.

“Donnie developed a good relationship with the MDE,” Richards says. “He showed them the things we could do that are less impactful to the environment than the design itself.”

Architect Todd Schoeder, principal of Denver-based Design Workshop, views the environmental groups as necessary partners in the construction process.

“We needed to involve them from day one,” he says. “They're essential to make the project work. The same agencies are reviewing the golf course on the top of the mountain because of the job we did on the base of the mountain. The environmental groups trust us and aren't on site as often for the course on the top.”

“Aspen helped enhance the environment, not just protect it,” adds Schoeder, who hadn't worked with Aspen before.

TROUT STREAM AND WETLANDS

Several permits were delayed, which extended the project. Multiple regulatory agencies – the MDE, the DEP and Trout Unlimited – were involved in the permit process. For example, it took one year to receive a permit

to remove a pond from the property.

“Trout Unlimited was the watchdog down there,” Richards says. “Hoyes Run Creek is a highly protected stream. The toughest thing was keeping the tree canopies, which covered the stream. We needed to remove the trees but had to leave some. Removing too many trees would warm the stream. So this limited our design in some areas. We took a minimalistic approach.”

The site's wetlands required protection, so those areas received special care during the project. Bridges had to be installed to avoid negative impact to the area by using free-span bridges and having them at an elevation that wouldn't harm the wetland. Clearing required a lot of hand work and special equipment that couldn't remove the woody materials without the equipment encroaching on the actual wetland.

“We had zero wetland impact,” Richards says. “Once we got into the project, it became difficult, especially the pond removal, but it worked out better than expected.”

INCLEMENT WEATHER

During construction and throughout grassing, the area experienced record rainfall. Aspen reworked several features extensively, added erosion and sediment controls, and added sod to counter the rain's effects.

“Heavy and frequent rains hammered the project site, making it even more difficult for Aspen,” Schoeder says. “However, they never complained or asked for schedule extensions and cheerfully completed the project on time.”

“The thunderstorms up here in the mountains will kick our butt,” McMillion says. “We can get 4 inches of rain in one hour. It's a difficult site as far as weather conditions. For example, Aspen teamed up with us to repair a hole after a heavy rain even though it wasn't their job. We couldn't have done it without them.”

CAREFUL WITH THE UTILITIES

Underground septic tanks were discovered during construction, which required properly pumping and disposing the contents before removal. Aspen worked closely with DC Development and subcontractors, which was critical because utilities crossed almost every hole. Neighboring properties needed



The new four holes were built on soil, which forces a greater dependency on erosion control than sand does.

to retain utilities, so Aspen coordinated removing some, but not all, of the overhead utilities until new services could be extended to the affected properties.

"I liked their team approach," Schoeder says about Aspen. "They weren't afraid to offer opinions and disagree at times. They listened, provided ideas, ran a clean job site, shaped innovatively and had a professional attitude."

AN UPDATED LOOK

Schoeder started working on the project about six years ago when he was asked to look at a parcel of land, called Fantasy Valley, adjacent to the Wisp Resort Course with the intent of expanding it. There was a lot of analysis, planning, financing, funding and waiting for approval. Schoeder ranks the project as one of the three most challenging he's ever worked on.

Originally, the owners planned to add nine holes, but because of the environmental concerns and restrictions, the project was scaled back. There were about 12 different routing plans, everything from three holes and a practice facility to nine holes, Schoeder says.

Even though DC Development had never been involved in a golf course construction project before, the lack of experience didn't hinder the project in any way.

"We took Steve to other projects we did in the past and explained the process to him," Schoeder says. "We educated him. It's common for us to work with first-time developers."

Dominic Palombo was the original architect of the Wisp Resort Course, and because he wasn't a famous architect, there was less pressure on Schoeder when redesigning the course. Schoeder was matching a style, which was a mix of old and new school, not a strategic design.

"The bottom line is that I had to compliment and match the character of the existing course, which was outdated," he says. "DC let us do our job, yet they offered us opinions from a golfer's perspective. They let us do what was best for the project and the environment. DC didn't balk at the environmental costs, either, which added about a half million dollars to the cost of the project."

LET IT GROW

McMillion, who has been at Wisp since July of last year, was brought in to work on the project about two months before the seed hit the ground. When he arrived, two greens were complete, but two holes hadn't been started yet.

"Everyone got together to make decisions about where the water went and the steepness of greens," he says. "No reasonable request was denied."

Before McMillion's arrival on the scene, superintendent Mark Halsig was – and still is – maintaining the Wisp Resort Course. But because he had never managed a grow-in, DC hired OB Sports Management – which brought in McMillion – to manage the property and the one under construction on the top of the mountain. Now that the Fantasy Valley project is complete, Halsig focuses on maintaining the course, and McMillion is focused on growing in Lodestone.

The four new holes were built on soil, which forces a greater dependency on erosion control, making it more difficult than sand, which was used on the USGA-sped greens and tees. During the project, the native top soil was removed, the golf course was shaped and then the soil was replaced.

"Aspen had superintendents on site who bend over backward to make sure things were done right the first time," McMillion says. "There were many sets of eyes. They were proactive in the process. They made some good changes, such as softening the swales on the greens and adding drainage in some areas. They did the right thing. If any reseeding needed to be done, you didn't have to look for them."

AFTER CONSTRUCTION

After the project was finished, a few drainage tweaks needed to be made, McMillion says. But overall, the project was successful.

"We opened in the summer to rave reviews," he says. "Golfers were happy. The course looked great. We didn't have to redo anything. It was just a matter of seeding, growing in and turning it into turf. The contractors were the big difference between this project and others I've worked on, which were smaller in scope. They had all the resources."

Aspen attacked the project with a full

WHAT THE JUDGES SAID

"Aspen endured tremendous rain events and renovated four holes successfully. It worked with multiple state and environmental regulatory agencies in the presence of a Tier II trout stream."

– Craig Felton, golf course superintendent, Oak Hills Country Club, San Antonio

"Aspen had a challenging project, even though it was only four holes. It paved the way with some regulatory agencies. This was a sensitive site. It has a Class Tier II trout stream adjacent to it, making it difficult to permit. The project was monitored closely, even to the point of having a project engineer from the regulatory agencies on site regularly. Aspen was innovative in finding solutions to satisfy the agencies. It dealt with record rainfall and still was able to deliver the project on time, albeit some delays with permitting were beyond their control."

– Mike Bylen, owner, Shepherd's Hollow Golf Club, Clarkston, Mich., and Pine Trace Golf Club, Rochester Hills, Mich.

"This golf course is the first one in Garrett County, Md., to have a project like this, and Aspen had to deal with two environmental agencies. It installed 22 sediment basins and used buffer strips of vegetation to protect a Class Tier II trout stream. It took one year to get a permit to remove a pond. It did this all during a record rainfall. It set up many silt fences and cleaned up a lot of silt. It had excellent erosion and sediment control, and responded to design changes and met all deadlines."

– Terry Buchen, CGCS, MG, president and consulting agronomist, Golf Agronomy International, Williamsburg, Va.

contingent of personnel, including a job superintendent, assistant superintendent, irrigation superintendent, two shapers, a finishing superintendent and all support labor, plus all of the iron (on site) necessary, Schoeder says.

"I appreciate Aspen's attention to detail, from the immaculate job yard to the red polo shirt uniform each employee wore while on the job," he says. "They left nothing to chance." GCI



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THE BEST-LAID PLANS

Superintendents rely on experience, peers and experts to craft effective agronomic programs

BY KURT LAWTON

There's no right or wrong way to write an agronomic plan. That is, unless you're over budget or dealing with unresolved agronomic issues.

Superintendents, PGA Tour agronomists and multicourse agronomic consultants all may view the details of growing and managing turf a little differently, but their goals are primarily the same: keep golfers happy with a consistent playing surface and, in all likelihood given the economy, spend less money achieving that.

Because golfers are playing fewer rounds and stiff competition exists to attract daily-fee golfers or club members, there's a heightened business pressure to do more with less. That's where good maintenance and agronomic plans, complete with past history, are invaluable.

PLAN BEYOND THE BASICS

Most superintendents have a plan for maintaining greens, tees, fairways, roughs and bunkers on a spreadsheet or written down in some form. Where plans differ is with the attention to detail, along with a happy and hard-working staff to carry out the plan. These details often separate pristine courses from mid-level courses.

Surrounding himself with experts, sound advice from peers and experience helps Mike Caranci thrive as golf course superintendent at Candlewood Country Club in Whittier, Calif.

"I'm very organized," Caranci says. "I have a

daily, weekly, monthly and three-month list of plans. I'm particular about applying and tracking exactly how much product goes where, when and under what conditions."

Caranci is passionate about his job. One of his most valuable tools, aside from his maintenance and agronomic plans, is his daily diary.

"I've been tracking my daily plans since I started here 21 years ago because we had a lot of problems when I arrived," he says. "This history of issues/treatments/results has served me well throughout the years because I'm presented with different weather and turf challenges, along with product changes every year."

COMBO PLAN

Caranci combines his maintenance and agronomic programs together, breaking them down by area - greens, tees, fairways, roughs and trees. He also has categories for machinery and irrigation system maintenance.

"Maintenance and agronomy plans go hand-in-hand in my detailed and organized mind," he says. "I think and plan in terms of everything that goes into keeping a golf course in tournament shape all year round."

Caranci's greens plan is detailed by season and other parameters. It includes:

- Mowing heights by season;
- Fertilizer application rates and timing;
- How and when preventive fungicides are used;
- Growth regulator amounts and timing;
- Proper leaching of greens for salinity management;
- Exact aeration types and timing; and
- The hows and whys of syringing at various temperatures.

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Cal Roth (right) works with Jeff Potts at TPC Scottsdale in preparation for the 2009 FBR Open. Mike Caranci (far right) is particular about applying and tracking how much product goes where, when and under what conditions at Candlewood Country Club in California.



BRING IN THE EXPERTS

One piece of valuable history Caranci garnered – and lived through 19 years ago – helps many superintendents in California combat high salt in irrigation water successfully.

“For me, the date I’ll never forget is August 1, 1990 – the day I had to cut a new green in front of the first green I lost – a day that was forever humbling,” he says. “It led me to consult with Larry Stowell, Ph.D., at PACE Turf in San Diego. We began applying IPM strategies on what we thought at the time was brown patch, then pythium.”

Caranci and Stowell realized the problem wasn’t fungus based – it was salt in the irrigation water that was weakening the turf, allowing diseases to move in. This issue wasn’t well understood at that time, Caranci says. So Stowell invited Caranci to join his first advisory board and gave him a project to find a way to leach salts away from the root structure of Candlewood’s *Poa annua* greens.

From 1993 to 1996, Caranci began a vigorous deep-tine aeration and heavy topdressing program while monitoring salt levels. The program helped rebuild the greens from the bottom up.

“Despite humbly losing four greens, it was rewarding to develop the program with Larry that saved greens everywhere and is still being applied today,” he says.

Being a mentor to younger superintendents brings joy to Caranci. He strongly urges organization, planning and communication skills in place of attempting to be a plant pathologist.

“Too many young superintendents want to be pathologists, which means they’re in the wrong job,” he says. “I tell them to focus on doing their job right and leave the diagnostic work to highly trained pathologists.”

KNOW THE COURSE

Cal Roth, senior vice president of agronomy for the PGA Tour, has helped PGA Tour and TPC club superintendents compile knowledge and plans during the past 25 years. Roth recommends a thorough evaluation process of a property.

But before a superintendent can develop optimum fertilizer and chemical plans for various areas of a course, he must have in-depth knowledge of it, such as:

- The type of property (resort, public, private);
- Property condition expectations;
- The number of rounds played per month;
- Results of on-going soil and water quality tests;
- Typical weather patterns;
- Typical insect/weed/disease pressure patterns; and
- Hosted tournaments and related issues during that time frame.

“Once you have this information and compile it into a system, you can develop a specific fertilizer and chemical plan for each area,” Roth says. “Be prepared to make constant adjustments because you can never follow your plans exactly.”

The agronomic plan spreadsheet, used by all 18 PGA Tour-owned TPC clubs and many PGA

Tour event locations, lists every product used, location on course, rates, timing, acres applied, total product applied, product cost per unit and total cost. Each line item is listed by actual day of application, as well as where it was applied (greens/collars, spectator hubs, fairways, roughs, tees, general, etc.). The fertilizer section includes the same breakouts by amounts of nitrogen, phosphorus and potassium applied.

Once this information is plugged into the spreadsheet, it calculates exact product amounts and budgets by day, month and year for chemicals and fertilizers, Roth says. This provides a clear blueprint plan to follow, including the approximate costs.

Roth’s staff of 11 agronomists handles about 110 to 120 tournaments for the PGA Tour, Nationwide Tour and Champions Tour. They also contribute to the agronomic plans for 18 TPC courses. Many man-hours are spent at each course to help the superintendent and staff, beginning with a one-day visit eight to 10 weeks before the tournament. The second visit begins one week before the tournament starts, and the staff usually will stay until Wednesday of tournament week, and sometimes through the final round on Sunday.

Roth’s staff also will make a follow-up visit six to 10 weeks after the tournament to begin plans for next year. Roth’s staff reviews each course’s agronomic plan throughout the year to iron out any needed changes.

“My staff constantly talks with each other, sharing issues and solutions that contain good general knowledge for any course,” Roth says. “Fortunately, we work with experienced and talented superintendents and staffs, so it makes the process easier when tournaments are repeated year after year – except when dealing with new sites, which takes much more work.”

FOLLOW THE MODEL

Like Roth, Nick Dunn, vice president of agronomy for Dallas-based Eagle Golf, oversees multiple courses – 79 to be exact.

“Because our business model comprises managing properties we own and properties for others (private and city owned), we view the budget and business model to be just as important as the maintenance/agronomic plan,” Dunn says. “We expect our superintendents and assistants to be good agronomists and good business people. Because the maintenance budget of these properties may be 30 to 50 percent of