REVOLUTIONIZING CONSERVATION DELIVERY
PondBuilder's Speed & Efficiency "Amazing"

Jim Sladek will use five new center pivots that draw water from a 19-acre pond to irrigate 475 acres of corn and soybeans in Johnson County, IA. Irrigated land drains back to the pond, so the water will be recycled. PondBuilder helped verify in minutes that the location was a good one.

Jim Sladek, a Johnson County, Iowa, farmer who's been successfully irrigating corn and soybeans with well water, ran into a new challenge in the newest center pivot irrigation project he's undertaken on 475 acres north and west of his farmstead. "We've put irrigation on other land, and up until now we've used well water for our water source," Sladek says. "But in this case we were somewhat limited in water. It was questionable whether we could get enough water from wells to supply water to 475 acres through the five center pivots we were planning."

Sladek knows the lay of his land well, and had a site in mind he felt might work as a surface water supply. But he needed more than his hunch it would work if he was going to invest in a major irrigation system.

"I felt there was a logical location for a pond," Sladek says. He called his contractor, Bruce Barnhart, and took him to the proposed site when he came to the farm one day. "I asked him for his opinion on whether we could build a pond at the site," Sladek recalls. "He opens his cell phone and calls Tom Buman at Agren. Tom asked if we had time to go back to my office to use our computer for an online meeting."

"We did that—Tom used Agren's internet-based PondBuilder program to verify this was a good location for a pond, and within half an hour we had basically all the information my contractor needed to build the pond!"

> *"within half an hour we had basically all the information my contractor needed to build the pond."*

"I thought that was amazing for a couple of reasons," Sladek says. "From a cost standpoint, it was extremely efficient. In very short order, we knew we had a location that would work for a pond. Within half an hour, we knew we could go ahead and move forward with our project. That was extremely valuable to me. The issue for us at the time was the purchase of the irrigation equipment for this year."

"We had a small window of time to decide whether we pull the trigger and commit to purchasing the equipment this year," Sladek says. He adds that it would have taken much longer to get essentially the same information through traditional processes. "We're putting in a center pivot system that consists of five pivots to irrigate about 475 acres," Sladek says. "The 19-acre pond that will supply the water for the irrigation units will hold about 100 acre-feet of water."

Precision Conservation Practical. Smart. Fast.

Growers have limited resources to help them make cost-effective, timely decisions for managing soil and water on their farmland. Today, with the arrival of Agren's precision conservation tools, that is changing.

Precision conservation involves targeting conservation practices to places on the landscape where they will be most effective. It is applying practices in the right place, at the right time, and at the right scale, to optimize cost and benefits. Precision conservation redefines the way landscape conservation is approached and minimizes the amount of time and resources required to protect soil and water.

At Agren, we are passionate about agriculture and natural resources. Our work to discover and develop new technologies to target, plan, and apply soil and water conservation has resulted in a full-suite of conservation planning software that can be used to help farmers protect their soil and water resources and applied nutrients.

Thanks to a recent partnership between Agren and United Suppliers, Iowa growers can now take advantage of precision conservation services offered through their local ag retailer. United Suppliers' SoilVantage™ program teams an experienced conservation planner with Agren's precision conservation software to offer growers soil and water management options that are practical and smart. This makes good sense -- to the grower, to the landowner, to agriculture, and to the community.

SoilVantage™ services include soil savings plans, soil erosion and steepness data layers, and site specific plans for structural conservation practices including grassed waterways, sediment control basins, grade stabilization structures, ponds and wetlands.

For SoilVantage™ services, contact your local ag retailer or phone a United Suppliers representative directly at 712-830-7713.

SOILVANTAGE

Sladek's choice for a pond site allows for a natural recharge system. The majority of the acres being irrigated drain back into the pond, so a combination of tile drainage and surface runoff will refill the pond. He also has a withdrawal permit from the Iowa Department of Natural Resources (DNR) to use water from a nearby creek if needed. His one-time watering capacity for the system is 2 inches per acre of irrigated land.

Cost savings

"Basically all the information we needed we got from PondBuilder," Sladek says. "I could show you the engineering plan and the plan Tom did in half an hour and they're virtually the same. The final design is right at 19 acres of surface water, while I think Tom's surface area was 17 or 18 acres, so there's a slight difference in the height of the dam."

"The PondBuilder plan had estimated construction costs, the height of the dam, the pond's surface area, and the estimated drainage area that would be filling the pond. It had the acre-feet of water, too—all the information that our contractor would have needed to build the pond. But those plans are not currently acceptable to DNR as design plans, so we went ahead and hired an engineering firm to draw us up a set of plans," Sladek says.

As Agren points out to potential users, PondBuilder provides a plan with estimates and very useful information, but at this point doesn't provide a design for the pond. For that, a qualified engineering firm must be engaged. "For the pond's design, we put out a bid to three engineering firms," Sladek says. "All three had access to the information I got from PondBuilder in making their bids. Two came back with extremely high bids. The third—one I would call more progressive—sees their business is changing and adapting to use the newer technology. They were able to use the information Agren's program provided to cut costs and speed up their process. That's the firm we worked with. The difference in cost between the firm we hired and the other two that were still using the traditional approach was ten-fold."

Heavy rains began filling Jim Sladek's irrigation pond even before the dam was fully built.

> *The engineer we chose trusted the results of PondBuilder and was able to provide me a ten-fold savings over other engineers."*

Good for earthmoving contractors

"My first thought very early on was to get Jim in touch with Agren, because I know their software can indicate in a few minutes if a pond is feasible. If it is, PondBuilder then gives my clients a quick, quality plan for a pond that is much more accurate than anything I can offer," says Bruce Barnhart, the earthmoving contractor who built Sladek's pond.

"So the program makes me more professional in the eyes of my clients. And, we are more professional and up to date with technology. With PondBuilder, we can use that plan to feed elevations into our dozer blades. The resulting machine control makes us more efficient in the construction process."

Planning time reduced by a year

Serious weather challenges, including heavy rains during construction, delayed the pond from being built in time to use it for irrigation in 2014. But it will be operational in 2015. "Without PondBuilder, I would have had to hire an engineering firm to do an engineering plan just to determine if the site could be a logical site for a pond," Sladek says. After that, there were about ten different time-consuming and expensive permits and processes that took six months to resolve. If I wouldn't have had that information early on from Agren, it would have probably taken me an additional year to build the pond. I think Agren's software is really changing the way engineers are going to do their jobs."

Did Sladek have other reasons for wanting to get his irrigation system up and running? "We're farming mostly Tama-Muscatine soils with high CSR's that most people don't think need to be irrigated," he says. "Our first priority on our farms is to pattern tile, and our second priority is to put irrigation on it if we have a water source. We feel over a ten-year period, we can average over a 50-bushel increase in yields with irrigation."

"To me, the real value of the PondBuilder program is the efficiency in both time and cost—being able to speed up the decision-making process and allow us to move forward with good information much quicker than we could have otherwise."