

# Landscape plan combines visual

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Dr. Walter Moritz and his wife, Kay, have operated a dairy farm in Fort Atkinson for the last 32 years. While Walter was busy as an orthopedic physician, Kay was pursuing her own personal interest of assisting on the dairy farm.

During the years, they either had hired help or renters on their farm but it gave Kay, who had grown up on a dairy farm, an opportunity to work with calves and get involved in a farm.

When the time came to decide what the future would bring for the dairy operation, their son Keith, who had earned an economics degree in college, decided he was ready to take over management of the business. When he did, however, he knew he didn't want it to remain the smaller, stall barn set-up. That's when the family made the decision to build brand new facilities on a site near their home farm.

A milking parlor and barn were built in 2000 and an addition was put on the barn in 2002. The barn houses up to 700 milking cows, which have a rolling herd average of over 28,000 pounds of milk a year.

Everything in the farming operation was going smoothly. Herdsman Jim McFarland worked with the cows and Keith handled the overall management of the entire operation. Kay remained active helping out where ever she could.

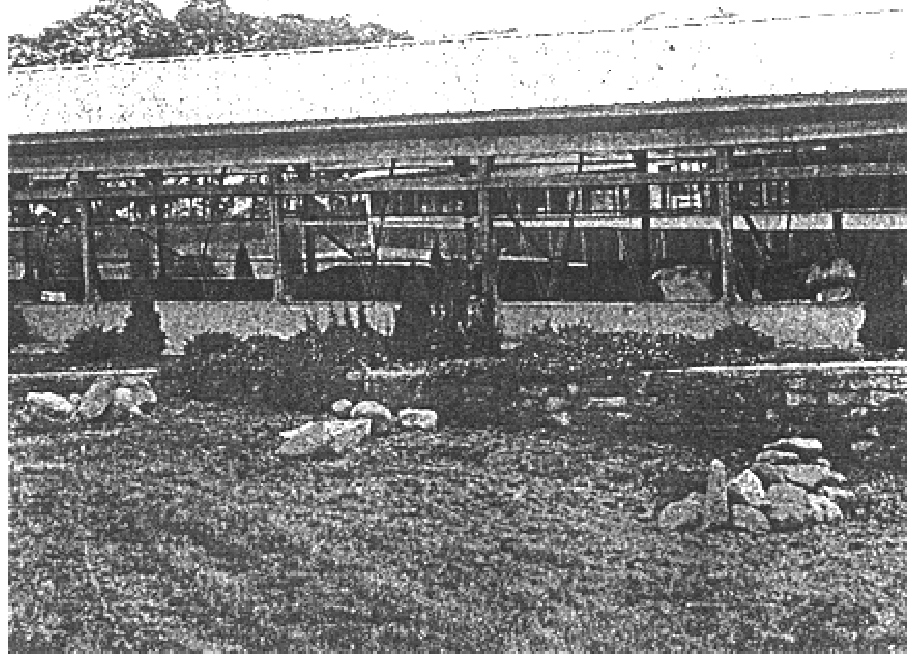
One problem arose, though. The buildings were constructed on a hill to capture the breezes and keep the facilities well ventilated but the roof lines on their new facilities meant huge amounts of water running into an area between the buildings.

That resulted in erosion in both the area around the buildings and the field below where a culvert carried runoff.

That's when Margaret Burlingham, a landscape architect of LanDesign and Hope Oostdik of Dutch Designs, a landscaping firm, got involved.

The result was a bioswale filter system that infiltrates clean roof water.

According to Burlingham, who also operates a farm with her husband in Palmyra, the landscape plan for the Moritz farm had two goals: to create a visual-



*IMPROVING WATER RUNOFF - Rocks and prairie plants help to control the water runoff from the barns at Moritz Dairy, Fort Atkinson. The treatment area where the palpation rail is located connects the holding pen and milking parlor with the freestall barn. With buildings on three sides and lots of steel roofs, water runoff was a concern.*

ly pleasing landscape around the office and parlor area that ensures good air circulation for the cattle and minimizes insects, and to reduce erosion potential immediately around the dairy buildings, the bank west of the buildings and downhill in the crop field.

"We had 10,000 square feet of roof to deal with. We calculated how much rain could come off those roofs and knew there would be a problem," she said.

They put slope right next to the buildings to prevent invasion by rodents and decided, there would be no blooming flowers in the treatment area that connects the holding pen with the main freestall barn. This was to prevent bees from hovering around the area and causing problems for the cattle.

The problem was different than runoff from cow yards because the water coming off the roofs was clean. She says they just wanted it to soak in slowly and move away from the buildings without taking soil with it.

The bioswale created on the farm includes native plants with thick root systems and vegetation to hold soil and slow

down water. That way it will infiltrate into the soil, reducing erosion, filtering pollutants and replenishing groundwater, she notes.

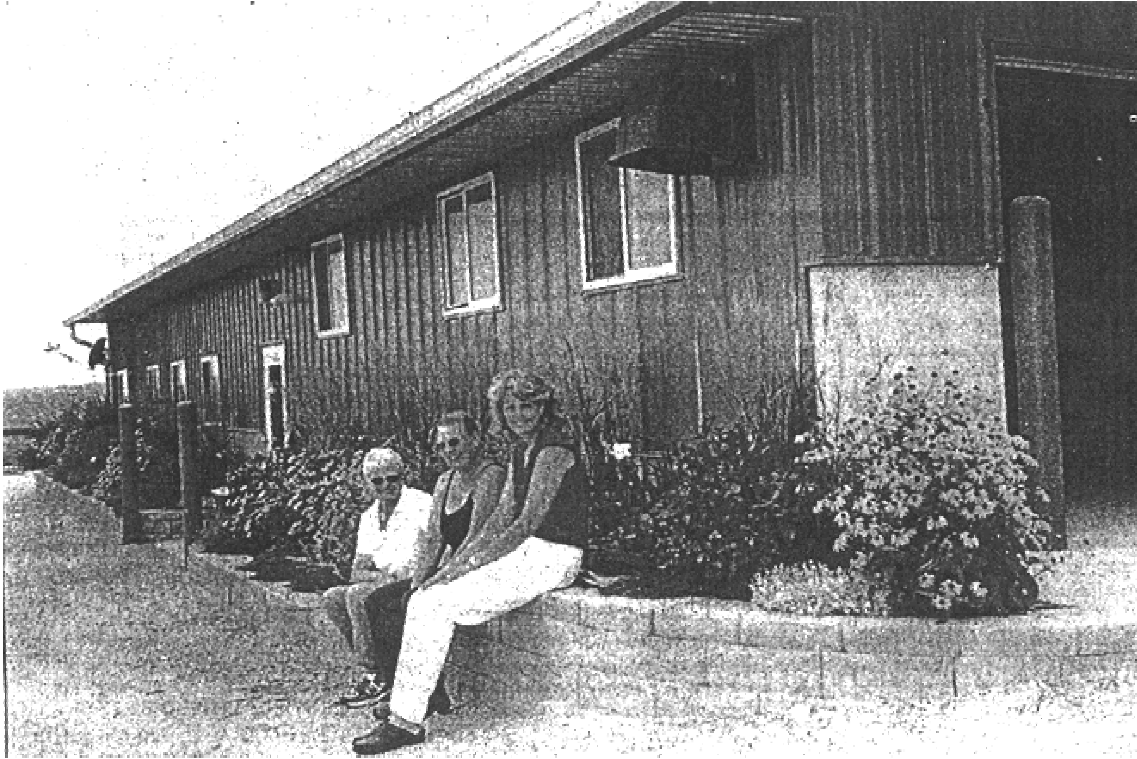
Plants and boulders or walls slow down and hold water temporarily so that sediment and possible pollutants (such as fertilizer or manure) that the water is carrying are trapped and not carried downstream. The boulders are set on coarse gravel beds that also slow down the water flow and aid in filtration.

The bioswale creates an attractive and easy maintenance area that does not need mowing. Burlingham says, "Continually mowing grass, especially when it is wet, causes compaction and drastically reduces water infiltration into the soil."

Kay Moritz maintains the flowers around the yard and says, "I've learned a lot. They really aren't hard to take care of. They just need to be cut back at times."

With this system, Burlingham says the roof water is treated at its source before it causes erosion and sedimentation downstream. Flower and shrub beds catch and

# appeal with erosion control



*NEW LOOK - Kay Moritz, an owner of Pond Hill Farm, Hope Oostdik, Dutch Designs, and Margaret Burlingham, LanDesign, are pleased with the looks of the area around the new livestock facilities on the Moritz dairy farm in Fort Atkinson. (Photos by. Gloria Hafemeister)*

infiltrate water before it reaches the swale.

Replanting and covering the steep slopes west of the barn with erosion control fabric has significantly reduced gully erosion.

The swale between the buildings is about 10,000 square feet and there is a 105-foot flower bed established on each side of the building and a 65-foot bed next to the parlor and holding area.

"It takes some time to get a prairie garden started," Burlingham says. "Usually it takes about three years for the plants to be well established. It hasn't helped any that it is dry but I think the roots are going down. It just isn't real visible on top of the ground yet."

The real test for how the system works will come when it finally starts to rain a lot but she is confident that the plants are established enough that it will pull water into the soil.

Oostdik provided the plants for the project and worked with the actual landscaping. She and Burlingham have worked together on a number of projects and first got acquainted with working together on the Jefferson County Land Trust. Oostdik is currently president of the Friends of Korth Park at Lake Mills, working to restore a historic farm that is now a part of the city's park system.

She met Moritz when she broke her

wrist and he talked with her about his problems with water runoff at the new farm.

Around the same time Burlingham visited his office and also learned of his concern.

Oostdik and Burlingham also work together on some shoreline restoration projects and on establishing rain gardens as a means of keeping pollutants out of lakes and streams.