



SAVE WATER, TIME AND MONEY.

FORSTA FILTERS GOLF COURSE IRRIGATION CASE STUDY – MOSINEE, WI

An 18-hole championship public golf course carved beautifully out of the rolling Wisconsin countryside was losing up to 20 sprinkler heads a year due to debris in their irrigation system. The stuck heads were disrupting the nightly watering cycle, incurring replacement costs and requiring upwards of 20 man hours a day just for repairs. The cumulative cost to the course was easily \$10,000 a year. Learn how the installation of a Forsta self-cleaning water filter in 2010 eliminated these problems and is saving the golf course water, time and money.



Forsta Filters Golf Course Irrigation Case Study – Mosinee, WI

When irrigation systems are unprotected, dirt and debris collect in sprinkler nozzles and quickly disrupt spray patterns. Regardless of sprinkler head spacing, clogged nozzles can cause uneven coverage leading to brown patches and severe damage. Left unchecked, clogged nozzles become completely obstructed and must be replaced. This requires regular maintenance, which can be time consuming, disruptive and costly.

It was precisely this type of costly disruption that Marty Van Ells of Municipal Well and Pump wanted to eliminate at Indianhead golf course in 2010.

As the project manager for the 18-hole championship public golf course, Van Ells had to solve the issue of irrigation heads sticking due to the large amount of sand coming from the course's pond water source. Van Ells explained that, "When the heads would get "stuck", they often had to be replaced due to how cemented the debris was packed into the head. They would lose as many as 20 a year at a replacement cost of several hundred dollars each. In addition, the nightly watering cycle was significantly impacted due the water losses from the stuck heads. Frequently, the entire course would not be completely watered, and they would get many sand trap washouts. On any given morning, they might have 15 heads to clean, or replace, which would cost them upwards of 20 man hours a day just for repairing heads."

The golf course pump station flows 900gpm in a 6-inch line at 110psi. Based on these parameters, Forsta engineers proposed the B6-180 model filter which would provide 5.25 sq ft of screen area. A 200 micron (70 mesh) screen was selected to protect the sprinkler heads from the sand and other debris that had been disrupting the system.

The B6-180 model filter was installed at the pump discharge in early 2010. The filter was positioned at the discharge of the pump in order to best utilize the available line pressure to power its point-of-suction backwash cycle. This unique approach to backwashing ensured that even while cleaning itself, filtered water



would continue to flow. The continuous flow of the Forsta self-cleaning filter eliminated the need for standby filters and complex valve schematics, frequently needed with other types of filters.



The initial installation/case study review was conducted in the latter portion of 2010. When asked how the filter was performing at that time, Van Ells said,

“The filter works awesome! It looks like this is going to be a great success! We’re going to be pushing Forsta Filters for other installations.”

At ~5 years of operation, Forsta conducted an additional installation case study review to follow up on the performance parameters of the filter, and the problems that the golf course had wanted to correct.

Currently, the filter typically backwashes every 15 – 20 minutes in the spring, and once every 30 minutes summer through fall. The filter is set to a 15 second backwash cycle and the flush water returns to the irrigation pond away from the inlet pipe to the pump station.

According to Van Ells, “a quart jar sample of water prior to the filter would typically have a circle of sand about 3-inches in diameter with a lot of vegetation floating in the water. The filtered water truthfully has no visible sand or vegetation in the jar.”



When asked how the problem of sticking heads has improved in the long-term, Van Ells answered, "The filter has essentially eliminated the sticking heads."

Water losses from sprinkler heads that remained stuck in the open position during the night were estimated at 30,000 gallons per head.

Van Ells indicated that in addition to the water savings, "The course has easily saved \$10,000 a year in parts and labor. I believe they have been able to reduce their staff by at least one person, because they do not have to work on heads due to plugging, other than what normal irrigation conditions would create."

Based on the savings amount per year, the course was able to recover the cost of the equipment within 2 years of its installation.

Describing his experience working with Forsta Filters over the last 5 years Van Ells said, "Forsta has been incredibly helpful and responsive to the needs of our customer... he [the customer] says he will never operate the system without the filter again!"

Contact Forsta Filters today for help with your golf course irrigation application.



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