



## **Cordova Bay Golf Course** *A Game Changer for Golf Course Maintenance*

*20% decreased water usage — measurably-enhanced soil chemistry plus saving time and money isn't magic ...it's Magnation.*

*It wasn't easy to convince a seasoned golf course superintendent to try magnetizing the water used by his staff to maintain the beautiful, critically acclaimed greens of the Cordova Bay Golf Course on Vancouver Island, B.C. Dean Piller, a 30-year veteran of golf course maintenance, has been superintendent at Cordova Bay since before it officially opened in 1991. Although Piller had always been open to using new technologies and programs to enhance the grounds and improve Cordova Bay's "green" footprint, magnetized water seemed, at first, more like hocus-pocus than quantifiable science. That is, until Piller and his crew decided to test it out for themselves.*

*Located on Vancouver Island, with views across the water to the San Juan Islands, Cordova Bay is a family owned golf course whose guiding principal has been to provide "private" conditions on a public daily-fee golf course. Certified by Audubon International as an Audubon Sanctuary in 2005, Cordova Bay is recognized for providing a pristine setting and impeccable conditions. In fact, most of the many glowing online reviews that can be found posted on sites such as TripAdvisor or Yelp, emphasize the Course's exceptional greens with comments such as: "If you want an absolutely great golfcourse, this is it. Beautifully manicured," "Elegantly landscaped and a joy to play," "Beautiful course," and "Great greens!"*

*Cordova Bay Golf Course offers a magnificent setting by anyone's standards. "We have a 60 acre Douglas*

*“During one of the driest and hottest seasons on record, we ended up saving an average 80,000 gallons of water per night ... that's 2.4 million gallons of water over the course of a month.”*

*Dean Piller,  
Superintendent  
Cordova Bay  
Golf Course*

*Fir and Western Red Cedar forest in the middle of the course, many streams, and 16 ponds,” said Dean Piller, Cordova Bay's Superintendent for 24 years. There are 73 species of birds that reside at one time or another at the golf course creating a chorus of bird songs throughout the spring and summer. "It's truly a wondrous place and it is our highest priority to keep it that way." According to Piller, he and the owners are continually looking for innovative new products to allow them to improve the course, save expenses in maintaining the property, and to make it "greener" by reducing its carbon footprint. That's how Piller found Magnation Water Technologies.*

## **Putting Magnation to the Test**

*While attending the Golf Industry show in San Diego two years ago, Piller found the Magnation exhibit booth. Although initially skeptical, Piller admitted that he was impressed with the company's presentations and information about the trials they had done. He decided to conduct his own trial on his golf course to compare results.*

*"I have a degree student from Olds College (a well-known school of agriculture in Alberta) currently working for me. He looked into the Magnation claims to see if they were legitimate and was quite skeptical to begin with, but after doing some research and running trials over that first summer, we became believers! We were finding solid evidence that supported Magnation's claims."*

*The defining moment for Piller came during a long weekend in July of 2013. Up to that weekend, we had a fairly cool spring with limited irrigation pressure. We decided not to run an irrigation cycle on our fairways since the forecast didn't call for it to be unusually hot during the day. Unfortunately, the temperatures soared Monday afternoon and we received a call from the proshop saying "your fairways are dying!" Not something that a golf course superintendent wants to hear. "Our fairways were wilting, but there wasn't a lot we could do that afternoon with a golf course full of patrons and staff off for the day," said Piller.*

*Piller had his crew take moisture readings using a spectrum moisture meter on their tees, greens and fairways. On a couple of large, dry areas on the 16th fairway moisture levels were down to 12 percent and had turned brown and dormant. (If moisture levels fall under 18%, as measured by our meter, we know that in the afternoon during periods of heat stress there will be wilting.) "I knew the only way to reverse this would be with lots and lots of hand watering." For three days, Piller's degree student hand watered the first large dry patch that had been down to 12% moisture, but after three days the moisture level had only risen to 13%.*

*"Traditionally, when soil becomes hydra-phobic like this, unless you use extensive wetting agents it's really hard to re-wet those areas," said Piller. So, in the second area, they decided to put the one-inch Magnation Rainbolt to the test. "With the Magnation device installed on our water hose, we watered for three days and then tested the second fairway area that was also at 12% moisture. We were extremely pleased with the results: the Magnation-treated ground was well on its way to recovery; the moisture level had climbed to 23%." What that showed Piller and his crew was that, with Magnation, they could reduce, if not eliminate, wetting agents for bringing back hydra-phobic areas. "Plus," said Piller, "it made our hand-watering team 2 to 3 times more efficient when spot watering dry spots."*

## Olds College Research

After getting such impressive results with the Magnation Rainbolt, Piller asked one of his employees, Max MacKenzie, who was in the fourth year of his degree program at Olds College if he'd be interested in conducting a more formal study at the school's labs. Max and two other colleagues at the College, Myles Jobb and Nicholas Plantje, created a controlled research experiment entitled "The Effects Of Magnet Treated Irrigation Water On Kentucky Bluegrass In A Greenhouse Environment." The study's results supported the use of the Magnation product. It concluded that the amount of water needed to sustain identical clipping yields of grass was 20% less with the Magnation-treated soil than with the non-treated soil.

"This finding alone, should be of major interest to golf course superintendents, especially in areas of limited rainfall or those experiencing drought conditions," said Piller. "If you can reduce your watering by 20% with a low-cost Magnation product and still receive similar results in growth and soil moisture retention, it seems like a sound management decision to me."

### Field study confirms all findings

After being impressed by the initial results from the use of Magnation for hand watering, Piller approached the owners of Cordova Bay and described the results they were experiencing in their field studies. Knowing the course so well and how it reacted to summer heat stress and poor irrigation coverage, Piller recommended to the owners the purchase of Magnation mainline units for both of their golf courses. A Magnation 8 inch and 6 inch post pump were installed in the Spring of 2014 and quickly began to deliver noteworthy results. "The first thing is that our dry spots began to shrink," said Piller. "Magnation claims that it will 'reduce friction loss in your pipes' and I truly believe that happened. In my 23 years of tending this course, I knew that we had dry areas that appeared every summer because of poor sprinkler coverage as a result of spacing in many cases that were too far apart or from poor system hydraulics. It's hard to measure the improvement with a percentage but many of the areas we struggled with every summer that required hand watering disappeared. With fewer areas to cover with a hand watering team, Piller felt that they were able to keep up with hand watering, something that wasn't normally the case.

Already extremely excited at the results they were receiving from Magnation, the next measure of validation for Piller and his crew, occurred last summer (2014). "During one of the driest and hottest seasons on record, we ended up saving an average 80,000 gallons of water per night ... that's 2.4 million gallons of water over the course of a month," Piller exclaimed. "I've been on the same property for 24 years and REALLY know this course. I can honestly say there is a marked difference since we started using Magnation. I am extremely impressed with these benefits we're experiencing."



Wet Weight of Clippings after 7 Weeks of Treatment



Side View of Control vs. 80% Treated with Magnation

### After Installation of Magnation Water Treatment

**1** 20% LESS WATER  
needed

**2** Enhanced soil  
chemistry...

- ✓ Saturation of calcium over 70%
- ✓ Sodium levels below 2%
- ✓ Sodium reduced by 50% in base saturations
- ✓ Magnesium, calcium and potash solubilized in soil

According to Piller, one of the most unexpected results they experienced from using Magnation was how much the soil chemistry at Cordova Bay Golf Course improved with the magnetized water treatment. “I’ve accumulated 24 years of soil tests readings on this golf course – the last 15 years were through Brookside Labs. Our sodium levels dropped by 50% last summer on our July soil tests with the Magnation units on our pump station even though last season was one of our highest use years for our wells.

“Our base saturations of calcium were over 70% for the first time on record for our fairways, and our sodium levels were below 2%, which we’ve never seen before. With Magnation, the sodium was reduced by 50% in our base saturations. We went from 120 pounds per acre of sodium down to 60 pounds, in our soil tests. So the claims that Magnation makes about flushing sodium through the soil and solubilizing cations - magnesium, calcium and potash - are very true. We definitely saw that in our own results. We’re finding tremendous benefits to our soil chemistry since the Magnation units have been put in and this has been realized in healthier, easier to manage turfgrass.”

### In conclusion: Seeing is believing

Piller says that in the early days of being a golf course superintendent, he worked at a course in the prairies that had poor water and it made his job challenging, at best. “I lived and died by rain. The condition of that golf course was reliant on a good rainfall. I remember saying back then if I could produce rain water, I could write my own ticket as a golf course superintendent. Well, Magnation is the closest thing to rain water that I’ve witnessed in my 30 years in the business.”

But for Piller, there’s one thing that sums up his perception of Magnation. It’s all about sustainability. “My definition of sustainability is implementing programs that are self-sustaining. So, for instance, a wetting agent approach or an acid injection approach is not self-sustaining because that is something that requires continuous funding to purchase the inputs. Whereas, with Magnation, it’s a one-time cost, a tremendous return on investment, and you receive those benefits for 10 to 15 years.”

And speaking of return on investment, Piller says that Cordova Bay recovered the cost of their mainline Magnation units for both courses in just three months. “An 8-inch Magnation unit is just over \$8K, so in our first season using it, it was paid for.

We reduced our wetting agent and fertility inputs by 25%, we reduced our hand watering, and we reduced the amount of water we needed to purchase from the Municipality by 15%. **We have experienced substantial savings on our budget. Savings in water, savings in labor, savings in wetting agents and fertilizers.**

After putting Magnation through these series of trials, Dean Piller believes Magnation can help municipalities and farmers save water and has the potential to be a huge game-changer for golf course maintenance. "Golf courses spend hundreds of thousands of dollars per year on keeping their soils and turfgrass in great condition. All it takes is a very small investment and a simple test of the product for people to see for themselves and grasp the significance of how groundbreaking this is. The proof is in actually using it."

For more information about Magnation Water Technologies: [RainlikeWater.com](http://RainlikeWater.com)



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## Contact Us

Give us a call for more information about how Magnation Water Technologies can help you.

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- MagnationWater
- Magnation-Water

## How much water is 1 million gallons?

A standard Olympic swimming pool contains about 660,000 gallons.



**2.4 million gallons per month x 7 months of irrigation =  
16.8 million gallons saved per year**

2017 Canadian Golf Course of the Year and Certified Audubon Cooperative Sanctuary,  
Cordova Bay Golf Course saves this much water per year while keeping their greens beautiful.

