City of Eden Prairie, Minnesota

Saving Water with Soil Moisture Sensors

PRODUCT LIST

- BaseStation 3200™ Irrigation Controllers
- Baseline biSensor™ Soil Moisture Sensors
- BaseManager™ Central Control
- Cell Modem Communication
- Master Valves
- Flow Sensors
- Hydrometers
- Rain Click

RESULTS

- One Baseline controller replaced multiple existing controllers.
- Soil moisture sensor determines when irrigation will run.
- Controller shuts off irrigation if a leak occurs.
- Saved water and reduced labor.
- Reduced number of trips to the sites due to central control access.
- Turf quality is excellent.

The City of Eden Prairie irrigates 23 parks, sports fields, and facilities.

Even though they had been using rain sensors on their systems for 10 years, water usage continued to increase.

When it peaked at close to 45,000,000 gallons in 2008, they wanted to make changes in order to conserve money and save water.

In the summer of 2008, the City converted several athletic fields in Miller Park to a Baseline 3200 irrigation controller with a soil moisture sensor-based watering strategy.

Groundskeepers had been watering the City properties the same way for years without seeing much variation in water use. **After the Baseline systems were installed, the City saw a dramatic reduction in water use.**

2009 water use was reduced by 6 million gallons saving $22,000

2010 water use was reduced by 8 million gallons saving $29,000

"As a city that must enforce watering bans and charge extra for irrigating, we asked ourselves what we could do to lead the way in water conservation and labor savings. For the past 6 years, Baseline has provided us the conservation and labor savings results we needed." –Pete Hammerlind, City of Eden Prairie

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Soil Moisture Sensor-Based Watering

EDEN PRAIRIE'S ET-BASED WATERING EXPERIENCE

In 2009, the City converted one park to an ET-based controller. While this site showed water savings of as much as 45 percent, the City noted the following disadvantages of the system:

- The weather station equipment is expensive.
- The weather station equipment is susceptible to vandalism.
- The weather station irrigation controller is not compatible with central control, so staff must make regular visits to the site.
- The weather station irrigation controller does not have flow management capability.
- Weather-based watering does not measure actual soil moisture.

Miller Park Fields 4—7

The graph below shows the soil moisture sensor readings from Miller Park Fields 4 –7 for a 3-week period during the summer of 2009.

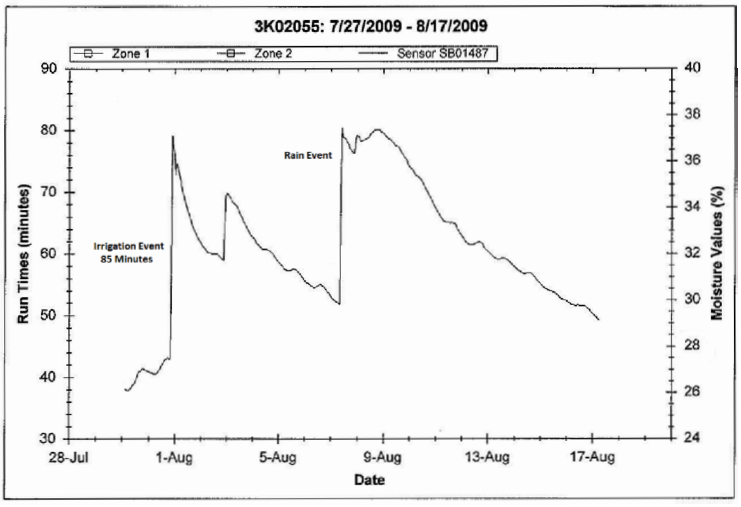
The irrigation program ran at the beginning of the period and raised the soil moisture to the upper threshold.

Before the soil dried to the lower threshold (which would start irrigation again), a series of rain events occurred. This precipitation raised the soil moisture back to the upper threshold and prevented the controller from irrigating.

The controller only ran once during this 3-week period.

Since their first experience with Baseline products in 2008, the City of Eden Prairie has gone on to install Baseline controllers, moisture sensors, and flow products at 7 additional city properties.

In 2012, the City saw a water savings of 12 million gallons. They attribute the majority of the savings to their Baseline systems.



Park maintenance technician Pete Hammerlind estimates that city park staff reduced site visits by 50 percent due to their ability to manage the Baseline systems with central control. This increases productivity, reduces wear and tear on City vehicles, and decreases fuel consumption and emissions.

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BASE·LINE IRRIGATION SOLUTIONS