

# Irrigation turnaround saves millions of gallons of water

EDI's irrigation upgrades and maintenance met, then exceeded, client's water-savings goals

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By Cherie Courtade



At the reception for The 2019 ELITE Awards, there was a lot of buzz in the room when the announcer read the water savings statistics that earned Environmental Designs, Inc. (EDI), Henderson, The ELITE Award for Irrigation Management: more than 5 million gallons saved per year. The numbers were impressive, due not just to the large size of the site but to the extensive work put in by EDI to bring the property's irrigation system into the 21st century and within the water budget mandate.

Centerra Metro District's (CMD) previous system was installed more than a decade ago, when the site was developed. The site consists of eight City of Loveland hydrozones, pieces of property with a distinct water tap and a city-mandated water budget. It also consists of areas that are not hydrozoned, but that the CMD board of directors wishes to have water conservation measures in place. The vision and mission of the CMD is to bring people closer to nature through the creation of commercial and retail spaces that support the landscape.

This large-scale complicated property requires rigorous irrigation management and high-quality landscape maintenance. Over time, however, inconsistent maintenance resulted in high inefficiency. The property continuously exceeded its water budget, and a change was imperative.

### Getting to the root of the problem

In spring 2015, EDI took on maintenance of the property, and they conducted an extensive initial irrigation audit. Controller by controller, tap by tap, they inspected the

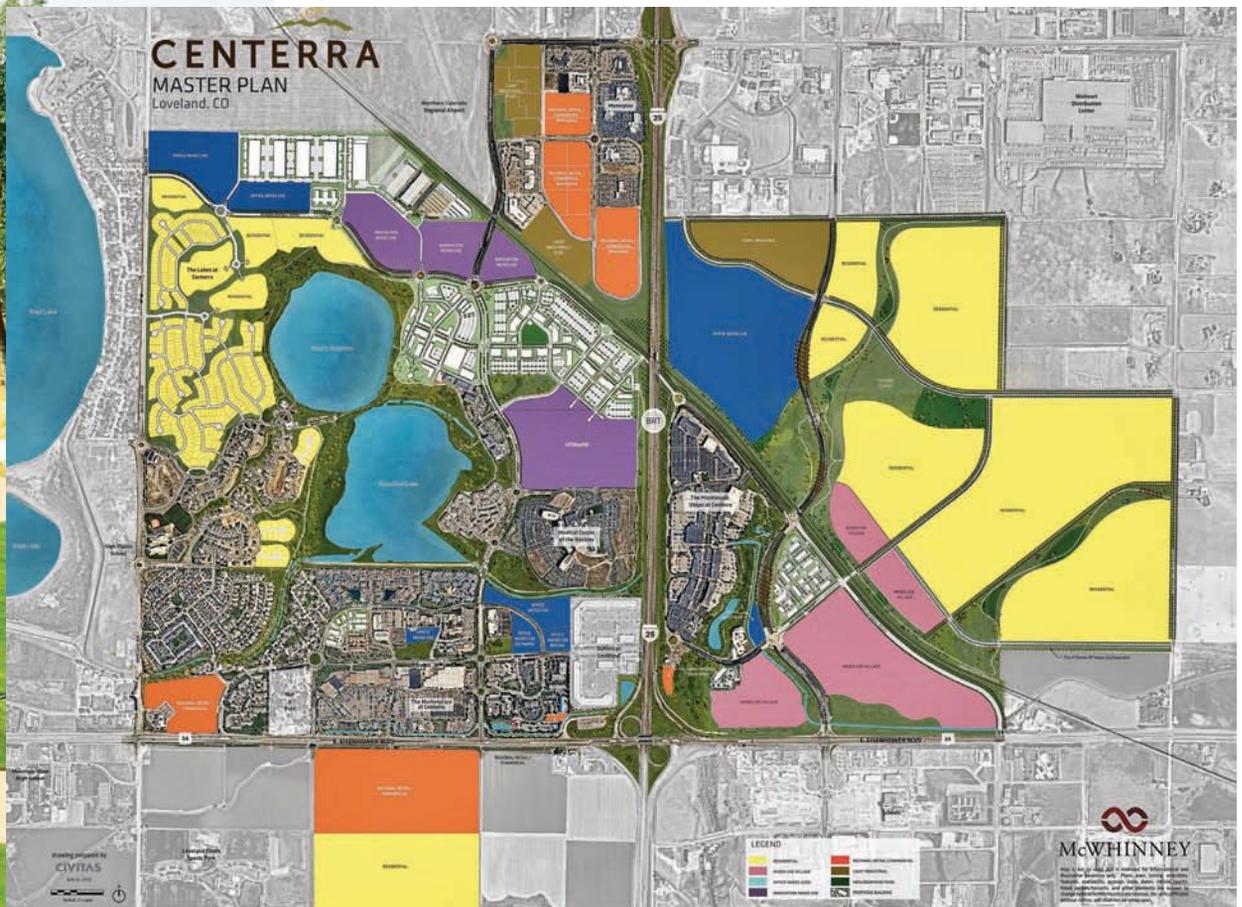
entire system in order to identify all areas where water loss or waste might occur.

The audit revealed nearly half of the system was in disrepair. EDI's first order of business was to bring the system back to its original specifications; from there they could consider water-saving improvements. Issues uncovered included:

- Many mainline breaks that had never been found or reported.
- Flow sensors that had never been activated.
- Master valves that were left open (and could no longer be closed).
- Several irrigation zones that had simply been turned off, perhaps an attempt to limit water use.

Project budget constraints meant that EDI could not simply replace the extensive irrigation system to resolve these issues. Chason Geister, branch manager and business devel-

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Centerra's Community master plan

Photo courtesy McWHINNEY



Photos courtesy Environmental Designs, Inc.



Chason Geister

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### Laying the groundwork

In late 2015, Geister delivered the news to the CMD board of directors. He explained the existing, outdated control system, and they were able to understand the issues that were causing water loss. They also understood what needed to be done.

From 2015 into 2016, EDI fixed breakages. Restoring the system to be fully operational resulted in a spike in water use. “I estimate that 75% of the water loss was due to damage,” said Geister, “and the property needed more aggressive irrigation maintenance to reduce that loss.”

### Addressing the next challenges

The following season, the focus was on repairing the irrigation that serves the native acreage of the property. The mission of CMD aims to strike a balance between manicured and natural/native habitat. Much, though not all, of the natural landscape is irrigated.

In early 2016, EDI received approval from CMD and Pinnacle Consulting Group, Inc. to upgrade the control system, “bringing it into the 21st century,” as Geister explained. He did much research to identify the most appropriate upgrades and worked with distributors to

find the best price.

The new online control platform and the installation of rain sensors “made a huge difference.” The old spray heads installed more than 10 years ago were replaced with pressure regulation/rotary nozzles.

Water efficiency was further enhanced by the update. Sensors meant that irrigation would no longer run during rain. The ET Water control system uses 24/7 weather forecasting, downloading local weather station data each day.

Ultimately, water usage fell to 24% below the budget mandate from 2016-2018.

Replacing master valves and flow sensors in 2017 was a significant move. “That was tremendous,” said Geister. “It took us two and a half months to replace all of the master valves in the system. When everything is calibrated properly, we receive alerts in real time: main breaks, high- or low-flow alerts. Very little water is lost due to those issues.”

2017 was also a turning point in that CMD chose Geister to be CMD’s Irrigation Administrator. He manages all aspects of the CMD’s irrigation, setting and maintaining irrigation programming, seasonally adjusting as needed, and overseeing installations and repairs.

Each morning, Geister spends two hours checking system alerts, a daily effort resulting in great water savings. It also saves a tremendous amount of time since one person can observe and manage the system remotely rather than multiple employees checking the property on-site.

The result of all this effort: over 10 million gallons of water saved over the past two years.

### Credit where credit is due

Geister is quick to credit EDI’s partners at CMD, McWHINNEY and Pinnacle for the success of the irrigation overhaul. “None of this has been a one-man show. We have a deep and consistent collaboration with CMD and Pinnacle.”

“If we as contractors want to keep a good name for ourselves, we need to be willing to open the lines of communication,” Geister says. “Transparency is important. Some people might be afraid to report issues for fear that it will reflect poorly upon them. But honesty and respect can go a long way. Work with your clients to show them what can be improved, and give them options.”

“Say to them: ‘This is what we need to do to make your landscape better,’” he continued. “Collaborate with your clients. Most of the time it leads to excellent results.”

EDI continues to maintain the property and enhance water savings each season. | **CG**

opment for Northern Colorado at EDI, began by learning the existing Toro Sentinel system. “I took some classes, used tutorials and utilized many resources including many from CPS Distributors and others to learn everything I could.”

The existing master valves and flow sensors were left in place, and the EDI team tried to repair all leaks and bring the system up to specifications. “First, we had to locate all isolation valves—no simple task since it required reviewing tens of miles of main line,” said Geister. “We replaced broken parts and identified which parts of the system had been shut off.”