

Sterling Ranch uses surprisingly little water

Douglas County subdivision residences use about 30% less water than most urban homes

BY JERD SMITH
THE COLORADO SUN

Douglas County is adding new homes like crazy. Some of its communities plan to double in size in the next 30 years, but these new homes use shockingly little water, blowing up traditional water planning rules and raising questions about how much water Colorado communities need to grow.

Sterling Ranch, for instance, has more than 10 years of data showing that the master-planned community of 3,400 residences just off U.S. 85 uses just 0.18 acre-foot of water for each single family home, about 30% less than most urban homes, where 0.25 to 0.50 acre-foot per home is the norm. An acre-foot equals 326,000 gallons.

The community conserves by requiring water-wise lawns, using super-efficient showers and toilets, and installing separate meters for indoor and outdoor use. It also uses recycled water for its parks.

In response, Douglas County has allowed Sterling Ranch to adopt much lower water standards for the thousands more new homes it plans to build. The community will hold 12,500 homes when it is fully built.

Since 2013, Douglas County commissioners have twice allowed the community to dedicate less water to new homes, agreeing to a reduced standard of 0.40 acre-feet, from 0.75 in 2013 and to 0.24 in 2021. Sterling Ranch and its water district, Dominion Water and Sanitation, are asking the county for the authority to set the standards in the future as it sees fit, without county review, something that incorporated municipalities, such as Parker and Castle Rock do now.

Lindsay Rogers, a municipal water conservation analyst with Western Resource Advocates, said the lowering of water demand standards is welcome news.

"The new standard is a good approach," she said, and very different from traditional planning efforts in Colorado, where cities routinely ask for much more water than is actually needed, placing higher demands on rivers and underground supplies and raising the cost of water service, a major contributor to higher home prices.

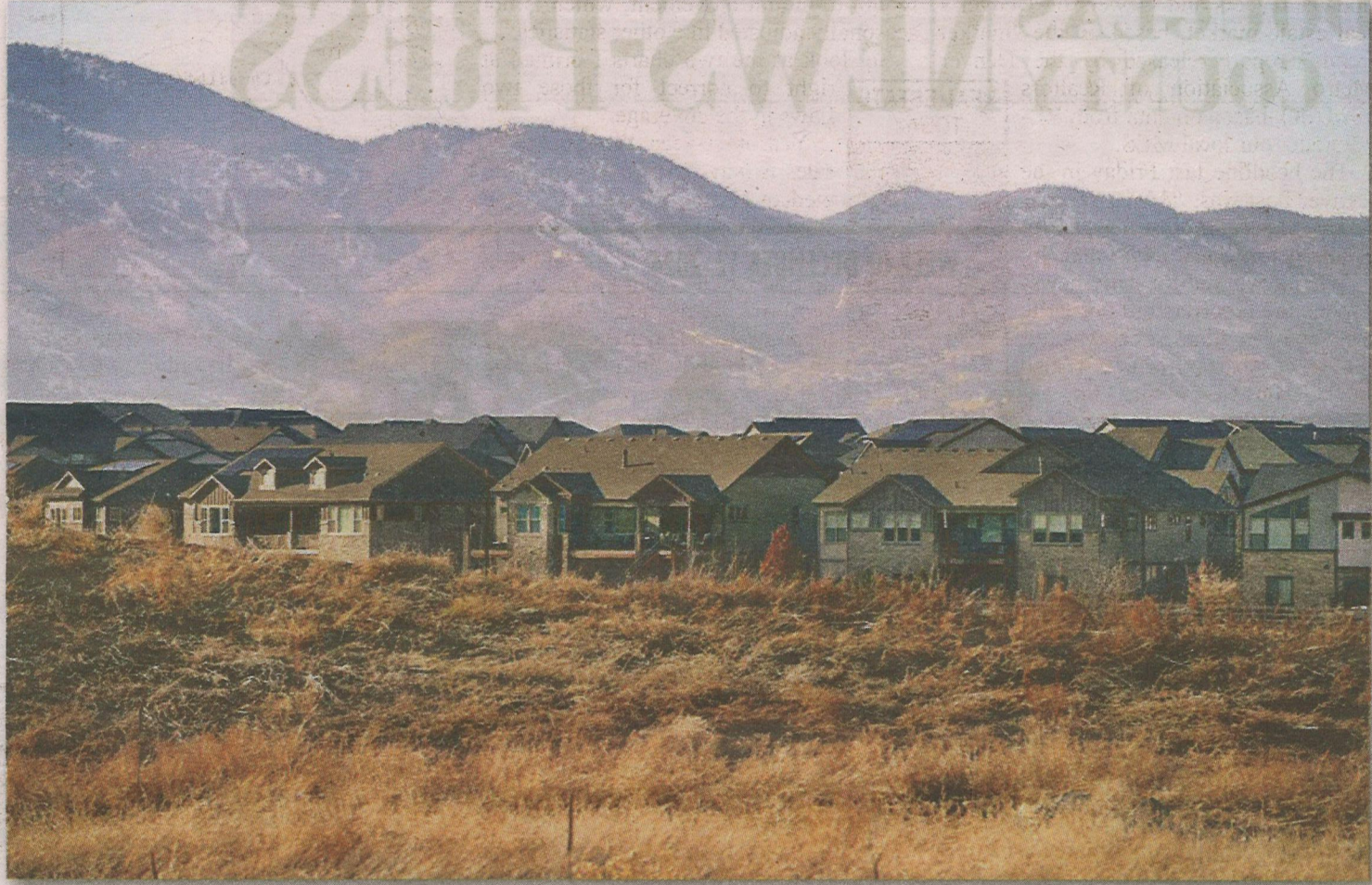
"We want to see counties, cities, and water providers setting a water dedication that is as closely aligned as possible with the water use on site," she said.

"Sterling Ranch is a great example who has done this well, and has proven savings, and should be rewarded for its efforts," she said.

More and more homes

Like other arid Western states being blistered by drought, warming temperatures, and lower stream flows, Colorado's water future is not assured. The Colorado Water Plan predicts that the state could need up to 740,000 acre-feet of new water supplies by 2050 under the most dire planning scenarios, where the climate warms intensely and growth surges.

Cities are looking to add tens of thousands of homes to put roofs over the heads of new residents. Some estimates indicate as many as 325,000 new homes will be needed.



The Sterling Ranch community of new homes in Douglas County on Nov. 21.



New homes in the Sterling Ranch community in Douglas County on Nov. 21.

PHOTO BY KATHRYN SCOTT / SPECIAL TO THE COLORADO SUN

But if new homes can operate with 30% less water than they once did, would that lessen future shortages and provide the state some breathing room? Possibly.

But it's not likely to do much, according to Kat Weismiller, acting head of the water supply planning section at the Colorado Water Conservation Board, because the scale of development is small.

"We look at a range of drivers, including social values, around water conservation and development to understand

future water demands. While the new development at Sterling Ranch is innovative and sets an important example for how we can develop new communities in a water-efficient way, at this time, the scale of this type of development is fairly limited and it would be unlikely to meaningfully shift the way we forecast water needs at the state level or entirely close the gap," she said.

Ultra-water efficient homes

The trend toward ultra-water efficient

homes appears to be on an upward trajectory.

Another large Douglas County development under consideration, the Pine Canyon Ranch on Castle Rock's border, asked for and has been given preliminary approval by the Douglas County Planning Commission to build 800 new homes and 1,000 townhomes and apartments with just 0.27 acre-feet of water per home.

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STERLING

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Kurt Walker owns Pine Canyon Ranch. His family has been trying to annex into Castle Rock for 20 years. Tired of waiting for the city to act, the Walker family went to the county. Its plan calls for a sophisticated recycled water system and water-efficient homes.

The plan has drawn opposition from Castle Rock and others worried about the potential use of nonrenewable groundwater, and added traffic and congestion. If the land is annexed into Castle Rock — talks are underway again — the town would likely supply the water, bringing the ranch's groundwater into its own water system, which uses a combination of surface water, recycled water and groundwater. Castle Rock requires new homes to come with 1.1 acre-feet of water.

Walker said he believes a deal will eventually be reached with Castle Rock. But he defends his family's use of the nonrenewable groundwater it owns. In Colorado, landowners typically own rights to the water contained in the aquifers beneath their land.

"If I really wanted to maximize the amount of houses on my property, I would not have reduced the water stan-

dard to 0.27. ... Our plan would leave about 50% of our groundwater rights in the ground, untouched," Walker said. "If I was in this just to put as many houses on this property as I could, I would have taken everything out of the aquifer that I could. That could have added 600 or 700 houses onto what we proposed. But we didn't do that."

A look into the past

There was plenty of that type of development in the 1970s as Douglas County began to boom. Developers tapped its groundwater repeatedly. The water was so pure, it needed little treatment. Other cities, such as Denver, brought water over mountains from miles away. But here, it could just be pulled up through a water well. This helped keep the cost of building homes low and lured developers who built Highlands Ranch, Parker and Castle Rock.

But those underground water supplies proved to be fragile. Some aquifers can be recharged from snowmelt and rain, but these, in the Denver Basin, are sealed in rock formations that recharge slowly. As pumping increased, the aquifers declined. Soon, wells began to fail and alarms began ringing.

The water picture today is much different. In 1985, state lawmakers forced well owners to limit their pumping by extract-

ing just 1% of available water supplies each year, in the hope of extending the aquifers' life for 100 years.

Now, though the Denver Basin aquifers continue to supply millions of gallons of water to Douglas County communities, the declines have slowed, and water districts and municipalities have moved to develop and use renewable surface supplies from rivers, and from recycled water plants.

And the county itself is much more concerned about future water supplies today. Though it does not own reservoirs and pipelines, it guides water use, as other counties do, by regulating how much water developers must bring to the table before they are approved to begin building.

This year it created its own Water Resources Commission and is creating a 25-year water plan. The county has been criticized for not creating a longer-term plan, say 100 or 300 years, as nearby counties have done. But County Commissioner George Teal said the 25-year plan is only a first step.

"We plan on a 20-year horizon right now," he said. "It doesn't mean we won't do a 100-year plan at some point."

Some say it's time to stop groundwater use entirely

Steve Boand, a former county commissioner and water consultant, has been

monitoring the health of the county's groundwater supplies for decades.

He supports lower water requirements for new homes, but he wants the county to go further and outlaw building solely with nonrenewable groundwater, something he acknowledges isn't on the county's political radar right now.

"It's up to community planners to figure out what the right balance is — 0.5 is OK, if a house only needs 0.3, and 0.2 can be allocated to other uses, like park land," Boand said. "We have to try these things to see if they will work."

Western Resource Advocates' Rogers says she's encouraged by the data, at Sterling Ranch and elsewhere, that shows new homes can be built with much lower water profiles. That they are also likely to encourage more growth is real but less concerning, she said.

"It's possible that these new standards will mean more homes," she said. "But growth is happening, and it is going to continue whether it is in Douglas County or other places in Colorado. The fact that the growth is happening in places like Sterling Ranch, where they have all of these efficiencies in place, is a good thing."

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