# Webinar

**Water Wise Development Coalition Meeting - 2**

Date: July 12, 2023

**00:00:22 --> 00:00:23:** Hi, everyone.
**00:00:23 --> 00:00:24:** Thank you so much for joining today.
**00:00:25 --> 00:00:26:** I'm Marion Epic.
**00:00:26 --> 00:00:29:** I'm the Director of Resilience for the Urban Land Institute,
**00:00:29 --> 00:00:32:** and this is our second water wise development coalition.
**00:00:33 --> 00:00:36:** And just for some newbies, we developed this coalition in
**00:00:36 --> 00:00:41:** partnership with the Alliance for Water Efficiency, the Sonoran Institute,
**00:00:41 --> 00:00:43:** and the Water Now Alliance.
**00:00:43 --> 00:00:46:** And the whole point of this coalition is to convene
**00:00:46 --> 00:00:50:** land use and real estate professionals with policy makers and
**00:00:50 --> 00:00:54:** decision makers to advance water, smart real estate development and
**00:00:54 --> 00:00:56:** supportive policies.
**00:00:56 --> 00:00:59:** We have 3 quarterly virtual meetings, and this is one
**00:00:59 --> 00:00:59:** of them.
**00:00:59 --> 00:01:02:** And we hope that you'll help us spread the word
**00:01:02 --> 00:01:03:** about this coalition.
**00:01:04 --> 00:01:07:** Anyone who emails me or fills out the survey form
**00:01:07 --> 00:01:10:** for the coalition is welcome to join.
**00:01:10 --> 00:01:11:** We're excited that you're here.
**00:01:13 --> 00:01:16:** In terms of the agenda for today, we hope that
**00:01:17 --> 00:01:19:** you introduce yourself in the chat box.
**00:01:19 --> 00:01:24:** Please include your name, title, organization, and where you're calling
**00:01:24 --> 00:01:24:** in from today.
**00:01:26 --> 00:01:28:** I just let you know a little bit about the
**00:01:28 --> 00:01:31:** Development Coalition, but if you have any questions, feel free

**00:01:31 --> 00:01:33:** to put those in the chat box or e-mail me.

**00:01:33 --> 00:01:36:** You can see my e-mail address on my On My

**00:01:36 --> 00:01:40:** Face icon and then we'll have 4 presentations today.

**00:01:41 --> 00:01:43:** The 1st is by Brock Smethills, who's the President of

**00:01:43 --> 00:01:45:** Sterling Ranch Development Company.

**00:01:46 --> 00:01:49:** Then Kyle Harris, the Senior Vice President of Community Development

**00:01:49 --> 00:01:50:** for Mcwinney.

**00:01:50 --> 00:01:51:** Stephen Conchier.

**00:01:51 --> 00:01:53:** I'm sure I'm mispronouncing that.

**00:01:53 --> 00:01:57:** Steve Sorry, Director of Housing Development for Maker Housing Partners

**00:01:57 --> 00:02:02:** and Jacob Batala, Vice President of Sustainability Initiatives for KB

**00:02:02 --> 00:02:02:** Home.

**00:02:03 --> 00:02:06:** We'll have plenty of time for Q&A and group discussion

**00:02:06 --> 00:02:06:** towards the end.

**00:02:06 --> 00:02:09:** We'll also be talking about upcoming meeting topics, So we

**00:02:09 --> 00:02:11:** hope you stay until the end.

**00:02:12 --> 00:02:14:** And with that, we'll just get started.

**00:02:15 --> 00:02:16:** I'll introduce our first speaker, Brock.

**00:02:17 --> 00:02:17:** Go ahead, Brock.

**00:02:20 --> 00:02:22:** Marianne, thank you so much for having me.

**00:02:23 --> 00:02:27:** So I am my name is Brock Smethols.

**00:02:27 --> 00:02:32:** I am President of Sterling H Development Company and I

**00:02:32 --> 00:02:34:** will go through my slide deck.

**00:02:34 --> 00:02:38:** So let me know if we can see my screen

**00:02:38 --> 00:02:39:** here hopefully.

**00:02:42 --> 00:02:44:** Can you go into presenter mode Brock, or do you

**00:02:44 --> 00:02:45:** need to share a different screen?

**00:02:46 --> 00:02:47:** Did that work?

**00:02:47 --> 00:02:48:** Yep, that works great.

**00:02:48 --> 00:02:49:** Thank you.

**00:02:49 --> 00:02:49:** Yeah.

**00:02:51 --> 00:02:51:** All right.

**00:02:53 --> 00:02:56:** So I said earlier, I'm president Sterling Reinstalling company.

**00:02:57 --> 00:03:02:** Our mission statement is building premier and enduring communities that

**00:03:02 --> 00:03:04:** enrich our customers lives.

**00:03:06 --> 00:03:09:** For those of you who are unaware of Sterling Ranch,

**00:03:09 --> 00:03:12:** we're a 3400 acre master plan community just South of

**00:03:12 --> 00:03:15:** Chapel Reservoir located in Douglas County.

**00:03:15 --> 00:03:19:** We're about 15 miles to the southwest of downtown Denver,

**00:03:19 --> 00:03:22:** about 30 to 45 minutes from downtown.
**00:03:22 --> 00:03:23:** Almost done.
**00:03:26 --> 00:03:31:** Let's see that picture box here.
**00:03:33 --> 00:03:37:** So again, 3400 acres were zoned for 12,050 units.
**00:03:38 --> 00:03:41:** We have 19150 occupied homes and ultimately the master plan
**00:03:41 --> 00:03:44:** will have about 1300 acres of parks and open space.
**00:03:47 --> 00:03:49:** You know a little bit about our land plan.
**00:03:49 --> 00:03:53:** We really embrace the the quote Serban environment, which is
**00:03:53 --> 00:03:57:** a, a term that John Burns has developed to define
**00:03:57 --> 00:04:03:** suburban communities that embrace some urban attributes like walkability, neighborhood
**00:04:03 --> 00:04:08:** walkable retail and kind of combine the best attributes of
**00:04:08 --> 00:04:09:** suburban and urban.
**00:04:09 --> 00:04:11:** So that is that is really what formed our master
**00:04:11 --> 00:04:12:** plan design.
**00:04:13 --> 00:04:15:** We have 9 villages and ultimately a Town Center.
**00:04:15 --> 00:04:18:** Each of these colors on this map delineate a different
**00:04:18 --> 00:04:21:** village that'll be within 5 to 10 minutes walking in
**00:04:21 --> 00:04:22:** Citrix circles of retail.
**00:04:26 --> 00:04:27:** So this is a view of the property.
**00:04:27 --> 00:04:29:** It's actually an older picture, but it's one of the
**00:04:29 --> 00:04:32:** prettier ones of dusk looking to the southwest.
**00:04:32 --> 00:04:34:** This is our first phase.
**00:04:34 --> 00:04:36:** It's about 1000 minutes that are fully occupied.
**00:04:36 --> 00:04:39:** And then you can see development activities going on in
**00:04:40 --> 00:04:43:** the South, just South, as well as approximate mountains.
**00:04:44 --> 00:04:46:** And this is it, as you can see, a lot
**00:04:46 --> 00:04:48:** greener with all the rain that we've been getting.
**00:04:48 --> 00:04:51:** So this was taken in in May, but you can
**00:04:51 --> 00:04:53:** see we've had substantial growth.
**00:04:53 --> 00:04:56:** We've been the top selling master plan community in the
**00:04:56 --> 00:04:58:** demo metro for the past three years and we should
**00:04:58 --> 00:04:59:** be again this year.
**00:05:02 --> 00:05:04:** And I'll, I'll point this out a little bit later.
**00:05:04 --> 00:05:05:** I'm sure one of my other panelists will touch on
**00:05:05 --> 00:05:06:** this.
**00:05:06 --> 00:05:08:** But as you can see, the native grasses take a
**00:05:08 --> 00:05:09:** little bit longer to grow in.
**00:05:10 --> 00:05:13:** You know, this is 3 to 4 years post construction.
**00:05:13 --> 00:05:16:** So of the rec center, excuse me, two years post
**00:05:16 --> 00:05:20:** construction rec center and it's certainly takes a little bit

**00:05:20 --> 00:05:24:** longer for some of these native Colorado grasses to grow.

**00:05:27 --> 00:05:29:** So Sterling Ranch is thriving.

**00:05:29 --> 00:05:34:** We have 5600 total residents, 25 plus events a month

**00:05:34 --> 00:05:39:** with 19150 occupied homes, 3100 developed lots and then really

**00:05:39 --> 00:05:44:** embracing that mixed-use retail serve an environment over.

**00:05:44 --> 00:05:46:** We have 45,000 square feet existing and we'll be adding

**00:05:46 --> 00:05:47:** 150,000 square feet.

**00:05:47 --> 00:05:50:** So at full build out will be you know our

**00:05:50 --> 00:05:55:** little valley here in Chatfield Valley, which includes Roxboro and

**00:05:55 --> 00:05:58:** Solstice will be in the top 25 largest kind of

**00:05:58 --> 00:06:00:** municipalities in the state.

**00:06:04 --> 00:06:07:** So we've defined sustainability in three components.

**00:06:07 --> 00:06:10:** And obviously today's topic is water, but those three are

**00:06:10 --> 00:06:13:** water lifestyle, energy and, and to Marianne's point, I'm here

**00:06:13 --> 00:06:17:** to talk about kind of holistic water sustainability and water

**00:06:17 --> 00:06:18:** demand management.

**00:06:19 --> 00:06:23:** So this slide does the best job that I know

**00:06:23 --> 00:06:27:** of to, to describe the situation in Colorado.

**00:06:27 --> 00:06:30:** So there's Colorado's 8020 rule.

**00:06:30 --> 00:06:33:** 80% of our population is east of the Continental Divide

**00:06:33 --> 00:06:35:** where we only have really the S Platte.

**00:06:35 --> 00:06:39:** The Arkansas 20% is West of, sorry, 80% of our

**00:06:39 --> 00:06:43:** water is West of the Continental Divide where there's 20%

**00:06:43 --> 00:06:45:** of the population.

**00:06:45 --> 00:06:49:** So clearly there's a mixed match of natural resources and

**00:06:49 --> 00:06:50:** population densities.

**00:06:52 --> 00:06:54:** And as such, if you look at the area in

**00:06:54 --> 00:06:58:** between Denver and Colorado Springs, the vast majority of the

**00:06:58 --> 00:07:00:** of the development in our area has been on groundwater.

**00:07:00 --> 00:07:07:** And and groundwater is a non replenishing, non renewable source

**00:07:07 --> 00:07:12:** of water that has enabled Douglas County to grow from

**00:07:12 --> 00:07:17:** 7000 people in 1975 to now over 382,000 people in

**00:07:17 --> 00:07:18:** 2023.

**00:07:18 --> 00:07:21:** And now a lot of water districts in our area

**00:07:21 --> 00:07:26:** including Centennial, Parker and Castle Rock are all converting from

**00:07:26 --> 00:07:32:** groundwater, which is relatively affordable and easy to deliver to

**00:07:32 --> 00:07:33:** renewable water.

**00:07:33 --> 00:07:34:** And that's a huge cost.
**00:07:34 --> 00:07:37:** And so every drop of water really needs to be
**00:07:37 --> 00:07:37:** used to extinction.
**00:07:38 --> 00:07:41:** And then what is unique to Sterling Ranch is also
**00:07:41 --> 00:07:45:** unique to Douglas County is we're fortunate that we can
**00:07:45 --> 00:07:49:** actually use the aquifer really in a conjunctive use system,
**00:07:49 --> 00:07:52:** which just means that we use renewable water when it's
**00:07:52 --> 00:07:53:** available.
**00:07:53 --> 00:07:56:** When it's not available, we're able to use groundwater to
**00:07:56 --> 00:07:57:** create a resilient system.
**00:08:00 --> 00:08:05:** So in the West, waters whiskeys for drinking, waters for
**00:08:05 --> 00:08:05:** fighting.
**00:08:06 --> 00:08:10:** This map just shows the number of water districts in
**00:08:10 --> 00:08:14:** Douglas County alone, and that's a county of 382,000 people.
**00:08:14 --> 00:08:17:** So you can see just how to spare it.
**00:08:17 --> 00:08:21:** The infrastructure is in our area and how there's so
**00:08:22 --> 00:08:25:** many different water and wastewater providers.
**00:08:25 --> 00:08:29:** In addition, both the city of Denver, Denver water, I
**00:08:29 --> 00:08:34:** should say, and Aurora water infrastructure underlie Sterling Ranches property.
**00:08:35 --> 00:08:38:** So in addition to all the map colors you see
**00:08:38 --> 00:08:41:** on the map, you also have downturn Aurora in very
**00:08:41 --> 00:08:42:** crowded space.
**00:08:43 --> 00:08:46:** As a as you saw earlier in the the Basin
**00:08:46 --> 00:08:49:** maps, the South Flat River is really the lifeblood of
**00:08:49 --> 00:08:53:** the Denver metro area for our water source and we're
**00:08:53 --> 00:08:55:** fortunate to be adjacent to it.
**00:08:55 --> 00:08:58:** And I'll explain a little bit more of our water
**00:08:58 --> 00:09:02:** source, but this map also shows the amount of infrastructure
**00:09:02 --> 00:09:06:** that we've had to construct to deliver our water supplies
**00:09:06 --> 00:09:07:** to Sterling Ranch.
**00:09:07 --> 00:09:10:** So the green, blue and purple pipelines were all cost
**00:09:10 --> 00:09:13:** shared with the city of or the town of Castle
**00:09:13 --> 00:09:16:** Rock and Parker Water and Sanitation District.
**00:09:17 --> 00:09:19:** And then we ended up building this blue line all
**00:09:19 --> 00:09:22:** the way from the town of Castle Rock up to
**00:09:22 --> 00:09:25:** Sterling Ranch along with two series of tanks cumulatively for
**00:09:25 --> 00:09:26:** cost.
**00:09:26 --> 00:09:29:** That's about, you know, $40 million of infrastructure, not even
**00:09:29 --> 00:09:30:** including the water.
**00:09:33 --> 00:09:36:** So Sterling Ranch will be able to exist with the

**00:09:36 --> 00:09:38:** water supply without regional partnerships.

**00:09:39 --> 00:09:43:** Most of our renewable water comes from contract water with

**00:09:43 --> 00:09:47:** the city of Aurora, where water we traded with the

**00:09:47 --> 00:09:51:** city of Aurora for service in Sterling Ranch as well

**00:09:51 --> 00:09:55:** as YS, which stands for Water infrastructure system efficiency.

**00:09:56 --> 00:09:58:** The map on the right is the map of the

**00:09:58 --> 00:09:58:** Y system.

**00:09:58 --> 00:10:02:** So we're actually using water that comes from the South

**00:10:02 --> 00:10:05:** Flat River, even though it's a mile away from Sterling

**00:10:05 --> 00:10:09:** Ranch, most of our water comes from the South River

**00:10:09 --> 00:10:11:** 85 miles away using Prairie waters.

**00:10:12 --> 00:10:15:** So you know we'll get into water conservation in a

**00:10:15 --> 00:10:19:** second, but I'm just explaining that really why water conservation

**00:10:19 --> 00:10:23:** is so important to continue growth in the metro region

**00:10:23 --> 00:10:26:** just given how constrained we are in in water assets

**00:10:26 --> 00:10:27:** here.

**00:10:28 --> 00:10:31:** Ultimately at full build out, we are required in our

**00:10:31 --> 00:10:34:** zoning to be a minimum of 70% renewable water on

**00:10:34 --> 00:10:36:** a 10 year rolling average.

**00:10:36 --> 00:10:39:** Our goal is to achieve 90 plus percent.

**00:10:40 --> 00:10:43:** We are the state's only rainwater harvesting pilot project.

**00:10:44 --> 00:10:46:** So that means that we will be able to use

**00:10:46 --> 00:10:50:** rainwater for outdoor irrigation purposes for the entire master plan.

**00:10:50 --> 00:10:53:** And I'll touch on how important that is for demand

**00:10:53 --> 00:10:54:** management in a second.

**00:10:57 --> 00:11:00:** Just the water demand reductions that we're talking about in

**00:11:00 --> 00:11:03:** the next couple of slides have reduced the amount of

**00:11:03 --> 00:11:07:** infrastructure and districts that have to build by over $100

**00:11:07 --> 00:11:07:** million.

**00:11:08 --> 00:11:10:** That's over $10,000 a house.

**00:11:11 --> 00:11:15:** And and ultimately getting into developers bottom line that increases

**00:11:15 --> 00:11:19:** the amount per lot the developer can charge by 2500

**00:11:19 --> 00:11:20:** to $3000 a lot.

**00:11:21 --> 00:11:25:** And ultimately what's enabled Sterling Ranch to exist is we

**00:11:25 --> 00:11:28:** use water to extinction, IE we will treat wastewater at

**00:11:28 --> 00:11:32:** a wastewater treatment plant that we will be building with

**00:11:32 --> 00:11:33:** the town of Castle Rock.

**00:11:34 --> 00:11:37:** At that time we will discharge it into the South

**00:11:37 --> 00:11:41:** flat and actually intake downstream and be able to use

**00:11:41 --> 00:11:43:** indoor water to extinction.
**00:11:43 --> 00:11:46:** And that's our largest single water supply as we're using
**00:11:46 --> 00:11:46:** water.
**00:11:47 --> 00:11:50:** And ultimately that's whatever use of the of the pond.
**00:11:53 --> 00:11:55:** So I'm talking about success in water demand management and
**00:11:55 --> 00:11:57:** I'll explain how we achieved the success.
**00:11:58 --> 00:12:03:** In 2022 our per home water consumption was .17 acre
**00:12:03 --> 00:12:07:** feet was about 55,000 gallons.
**00:12:08 --> 00:12:11:** A typical rule of thumb for Denver water or for
**00:12:11 --> 00:12:14:** most water providers across the country is a typical home
**00:12:14 --> 00:12:15:** uses half an acre foot.
**00:12:16 --> 00:12:21:** So we're less than half of what the averages nationwide
**00:12:21 --> 00:12:26:** are 45% roughly lower than the Denver metropolitan area and
**00:12:26 --> 00:12:31:** ultimately that's 26% lower than what the state water plan
**00:12:32 --> 00:12:36:** calls for what super water fishing homes in 2050.
**00:12:37 --> 00:12:38:** So how do we achieve that?
**00:12:40 --> 00:12:45:** We achieve that really using technology and rate structures and
**00:12:45 --> 00:12:49:** then we also kind of layered in it wasn't really
**00:12:49 --> 00:12:53:** A1 silver bullet 1, you know, quick easy fix.
**00:12:53 --> 00:12:55:** It was a series of incremental steps.
**00:12:55 --> 00:12:59:** So the first one on the technology side is there's
**00:12:59 --> 00:13:02:** a local company here in Colorado that had a large
**00:13:02 --> 00:13:06:** investment from Amazon called Ratio and they tie in the
**00:13:06 --> 00:13:11:** irrigation controllers for residential houses to weather monitoring stations and
**00:13:12 --> 00:13:15:** they irrigate at the most efficient time of day.
**00:13:16 --> 00:13:20:** They also can provide some predictive analytics and that's all
**00:13:20 --> 00:13:24:** you know, available throughout $250 I believe Amazon.
**00:13:25 --> 00:13:27:** In addition to that, we have dual water meters.
**00:13:28 --> 00:13:29:** Why is that important?
**00:13:29 --> 00:13:31:** Well, as I said earlier, we'll be using indoor water
**00:13:31 --> 00:13:32:** to extinction.
**00:13:32 --> 00:13:35:** So it goes from the house to the wastewater treatment
**00:13:35 --> 00:13:35:** plant.
**00:13:35 --> 00:13:39:** It is treated to higher quality water than what the
**00:13:39 --> 00:13:42:** intake raw S flat discharges it into a river.
**00:13:43 --> 00:13:46:** The intake off the the river are fully consumable return
**00:13:46 --> 00:13:47:** flows.
**00:13:47 --> 00:13:48:** It comes back in the system and it goes through
**00:13:48 --> 00:13:49:** the system again.

**00:13:50 --> 00:13:53:** Well, every time it stays on the indoor system of
**00:13:53 --> 00:13:56:** our water system, we get to reuse it.
**00:13:57 --> 00:14:00:** Every drop of water that's used in outdoor irrigation is
**00:14:00 --> 00:14:01:** a system loss.
**00:14:01 --> 00:14:04:** It's basically going to irrigate plants and it evaporates and
**00:14:04 --> 00:14:06:** it's gone out of the system entirely.
**00:14:06 --> 00:14:10:** So outdoor water has a higher rate, indoor water has
**00:14:10 --> 00:14:11:** a lower rate.
**00:14:11 --> 00:14:15:** And in lieu of using, you know, water consumption during
**00:14:15 --> 00:14:19:** the winter months to create a baseline, we actually truly
**00:14:19 --> 00:14:23:** monitor water separately with two separate meters.
**00:14:24 --> 00:14:28:** As part of that, we partnered with Siemens Building Technologies
**00:14:28 --> 00:14:31:** to also partner with another company called Copper Labs that
**00:14:31 --> 00:14:35:** provides predictive analytics both for water, but also for gas
**00:14:35 --> 00:14:37:** and electric in conjunction with Excel.
**00:14:37 --> 00:14:40:** So on your phone, you're able to see what your
**00:14:40 --> 00:14:43:** anticipated monthly bill will be in each of the natural
**00:14:43 --> 00:14:45:** resource consumption areas.
**00:14:45 --> 00:14:48:** So water, natural gas and electricity.
**00:14:49 --> 00:14:51:** And then ultimately we also do kind of the standard,
**00:14:51 --> 00:14:53:** which is low flow fixtures in in the West and
**00:14:53 --> 00:14:55:** and become more commonplace.
**00:14:56 --> 00:14:59:** On the landscaping side, we have a partnership with the
**00:14:59 --> 00:15:00:** Denver County Gardens.
**00:15:00 --> 00:15:02:** We've had that partnership for over 10 years, including a
**00:15:02 --> 00:15:06:** pilot project where we experimented with trainwater harvesting before the
**00:15:06 --> 00:15:08:** state legislature, legislature changed the law.
**00:15:09 --> 00:15:13:** They created our pallet of landscapes that homeowners can pick
**00:15:13 --> 00:15:17:** from when they're doing their landscapes, which rolls into our
**00:15:17 --> 00:15:18:** home owner education.
**00:15:19 --> 00:15:24:** So we have a series of landscaping classes that are
**00:15:24 --> 00:15:27:** available to every home owner.
**00:15:28 --> 00:15:31:** Ultimately what they get is a example landscape plan is
**00:15:31 --> 00:15:34:** like the one on the screen and it says based
**00:15:34 --> 00:15:37:** on this lot width and this depth, here is a
**00:15:37 --> 00:15:39:** way to achieve a water budget.
**00:15:39 --> 00:15:42:** Every lots square footage has a water budget they can
**00:15:42 --> 00:15:46:** use for outdoor irrigation and that's what ultimately sets their
**00:15:46 --> 00:15:48:** rates for the outdoor tiers.

**00:15:48 --> 00:15:52:** So we have a tiered outdoor water rate that changes
**00:15:52 --> 00:15:55:** based on if you're within your water budget or over
**00:15:55 --> 00:15:59:** your water budget and how far over your water budget
**00:15:59 --> 00:16:04:** dictates which to every single landscape plan goes through a
**00:16:04 --> 00:16:05:** design view committee.
**00:16:06 --> 00:16:11:** We have two to three full time landscape architecture viewing
**00:16:11 --> 00:16:13:** all these plans that come in.
**00:16:14 --> 00:16:17:** I think one thing that's a little unique that you
**00:16:17 --> 00:16:20:** probably don't hear from a lot of jurisdictions is there's
**00:16:20 --> 00:16:22:** a big push to to eliminate grass.
**00:16:23 --> 00:16:26:** I don't personally believe that grass is is the enemy
**00:16:26 --> 00:16:27:** always.
**00:16:27 --> 00:16:29:** I think, you know, dogs still need a place to
**00:16:29 --> 00:16:33:** relieve themselves when they're walking at the street and everyone
**00:16:33 --> 00:16:34:** in Colorado is a dog.
**00:16:34 --> 00:16:37:** So I think there really isn't A1 size fits all
**00:16:37 --> 00:16:37:** solution.
**00:16:37 --> 00:16:41:** I think this opportunity of saying you homeowner have a
**00:16:41 --> 00:16:43:** budget, stay within that budget.
**00:16:43 --> 00:16:46:** How do you use that budget is wholly up to
**00:16:46 --> 00:16:49:** you really generates a diversity of landscaping in in the
**00:16:49 --> 00:16:52:** community and it adds to the overall community fuel.
**00:16:53 --> 00:16:57:** So these are some examples of different landscape pallets we
**00:16:57 --> 00:17:02:** have across communities are taken just straight from different residents
**00:17:02 --> 00:17:06:** backyards and, and we have all these homeowners that like
**00:17:06 --> 00:17:09:** you said, have gone through that design process.
**00:17:09 --> 00:17:12:** And, and again, you know, I, I think the grass,
**00:17:12 --> 00:17:16:** you see some artificial grass, you see some actual real
**00:17:16 --> 00:17:20:** bluegrass hybrids that are, are meant more for Colorado air
**00:17:20 --> 00:17:20:** climates.
**00:17:21 --> 00:17:24:** That blend really creates A pallet that doesn't just look
**00:17:24 --> 00:17:24:** monotone.
**00:17:24 --> 00:17:27:** And I know a lot of jurisdictions are really pushing
**00:17:27 --> 00:17:28:** to enforce all rock.
**00:17:28 --> 00:17:30:** And I think that that's ultimately a mistake.
**00:17:33 --> 00:17:36:** And then another thing too is just product diversity.
**00:17:36 --> 00:17:39:** You know, the house on the far left is going
**00:17:39 --> 00:17:43:** to use significantly more water than for outdoor irrigation than
**00:17:43 --> 00:17:47:** per unit than the apartment building down on the right.
**00:17:47 --> 00:17:50:** And so I think what allows us to get those,

**00:17:51 --> 00:17:55:** those lower water usages is that we're really creating that
**00:17:55 --> 00:17:58:** diversity of product, diversity of housing.
**00:18:00 --> 00:18:04:** And ultimately that diversity of housing will let us, you
**00:18:04 --> 00:18:08:** know, provide housing for right variety of incomes and created
**00:18:08 --> 00:18:12:** a diverse community other than just everyone having $1,000,000 that
**00:18:12 --> 00:18:13:** mansion.
**00:18:14 --> 00:18:16:** I know that's unpopular term, but it's true.
**00:18:17 --> 00:18:21:** And then ultimately, you know, I think this product diversity,
**00:18:21 --> 00:18:24:** you know really plays out and you're creating a diverse
**00:18:24 --> 00:18:25:** street scene.
**00:18:25 --> 00:18:27:** So it's not just something that it looks like the
**00:18:27 --> 00:18:29:** same community over and over and over again.
**00:18:29 --> 00:18:33:** And then finally you know before I wrap up, so
**00:18:33 --> 00:18:37:** I'm sure your name will come down over, but we
**00:18:37 --> 00:18:42:** are 2022 number was .17 acre feet with rainwater harvesting
**00:18:42 --> 00:18:46:** I believe on a fully consumed basis, meaning water we
**00:18:46 --> 00:18:50:** take from the river and bring into our system and
**00:18:50 --> 00:18:55:** is lost either through consumption and domestic use or in
**00:18:55 --> 00:18:56:** outer irrigation.
**00:18:56 --> 00:18:59:** I think we'll be able to get that down to
**00:18:59 --> 00:19:01:** .1 acre feet or .12 which would be roughly 10
**00:19:02 --> 00:19:03:** homes per acre foot.
**00:19:03 --> 00:19:05:** So we would have increased the number of homes per
**00:19:05 --> 00:19:07:** acre foot by a factor of 5 which I think
**00:19:07 --> 00:19:08:** is a huge success.
**00:19:08 --> 00:19:11:** So when we're harvesting this huge component that we will
**00:19:11 --> 00:19:14:** not be able to get anywhere close to that number
**00:19:14 --> 00:19:14:** without it.
**00:19:14 --> 00:19:17:** So with that, I will stop sharing my screen and
**00:19:17 --> 00:19:19:** I'll be around for the Q&A.
**00:19:19 --> 00:19:20:** But thank you for having me, Marianne.
**00:19:21 --> 00:19:23:** Thank you so much, Brock.
**00:19:23 --> 00:19:26:** So we have we're going to have rapid fire presentations.
**00:19:26 --> 00:19:29:** So, so that you don't forget what questions you want
**00:19:29 --> 00:19:31:** to ask, please put them in the chat box and
**00:19:31 --> 00:19:34:** we'll circle back to those at the Q&A at the
**00:19:34 --> 00:19:34:** end.
**00:19:34 --> 00:19:37:** So our next speaker is Kyle Harris with Mcwinney.
**00:19:38 --> 00:19:39:** Awesome.
**00:19:39 --> 00:19:39:** Thanks, Marianne.

**00:19:39 --> 00:19:41:** Is this showing up for everybody?
**00:19:41 --> 00:19:42:** Yeah, looks great.
**00:19:43 --> 00:19:43:** Good deal, let.
**00:19:44 --> 00:19:45:** Me get my curse in the right spot.
**00:19:45 --> 00:19:46:** Awesome.
**00:19:46 --> 00:19:47:** Brock, thanks for that.
**00:19:47 --> 00:19:50:** Brock's actually a colleague also based in Denver.
**00:19:50 --> 00:19:53:** I happen to be in Denver, work for Mcwinney, SVP
**00:19:53 --> 00:19:55:** of Community Development.
**00:19:55 --> 00:19:57:** In that capacity, I lead our master plan community group.
**00:19:58 --> 00:20:01:** Whereas Brock is about 15 miles South of town, I
**00:20:01 --> 00:20:04:** am 15 miles north of town with a project that
**00:20:04 --> 00:20:07:** I'm going to be talking about and that is let's
**00:20:07 --> 00:20:09:** see if I can get this to.
**00:20:09 --> 00:20:13:** There we go, which is baseline and just to Orient
**00:20:14 --> 00:20:18:** the group, we are a community, 1100 acres at this,
**00:20:18 --> 00:20:23:** at this master plan community and the entitlements are pretty
**00:20:23 --> 00:20:28:** robust, 9205 residential units and eye popping 17.2 million square
**00:20:28 --> 00:20:32:** feet of commercial which I will tell you is not
**00:20:32 --> 00:20:33:** going to get built.
**00:20:34 --> 00:20:37:** We're probably looking at closer to 6 to 7 million
**00:20:37 --> 00:20:38:** ultimately at full build out.
**00:20:40 --> 00:20:46:** One of our guiding principles is environmental stewardship and water
**00:20:46 --> 00:20:51:** conservation falls squarely within that guiding principle.
**00:20:51 --> 00:20:55:** So we have had that as one of our values
**00:20:55 --> 00:20:59:** from the get go, but we haven't until recently tried
**00:20:59 --> 00:21:04:** to quantify what is the ROI on the expense associated
**00:21:04 --> 00:21:05:** with that.
**00:21:05 --> 00:21:08:** So my presentation is going to be concerned a bit
**00:21:08 --> 00:21:11:** more on just the the economics of what that looks
**00:21:11 --> 00:21:15:** like as it pertains to water consumption on call it
**00:21:15 --> 00:21:19:** the public lands or the publicly accessible lands within the
**00:21:19 --> 00:21:20:** baseline community.
**00:21:21 --> 00:21:23:** One other point of reference before I dive into some
**00:21:23 --> 00:21:24:** of the specifics.
**00:21:25 --> 00:21:29:** We have also partnered with the Butterfly Pavilion Center for
**00:21:29 --> 00:21:34:** Invertebrate Research and Conservation and in so doing are creating
**00:21:34 --> 00:21:38:** a pollinator district across the entire 1100 acres of baseline.
**00:21:38 --> 00:21:42:** And So what this is doing is it means that
**00:21:42 --> 00:21:45:** we are creating a very curated landscape.

**00:21:46 --> 00:21:51:** We actually have entomologists and horticulturalists from the Butterfly Pavilion

**00:21:51 --> 00:21:55:** on our design review committee to ensure that we are

**00:21:55 --> 00:21:59:** increasing both the absolute number of pollinators and the diversity

**00:21:59 --> 00:22:01:** of pollinators within the community.

**00:22:02 --> 00:22:05:** And that's has a bit of a symbiotic relationship between

**00:22:05 --> 00:22:08:** water conservation because it means we're using in large part

**00:22:08 --> 00:22:10:** native species, Xerox species.

**00:22:10 --> 00:22:13:** And so you'll see that come into play as we

**00:22:13 --> 00:22:14:** go through the presentation.

**00:22:16 --> 00:22:18:** This is a master plan for baseline.

**00:22:18 --> 00:22:21:** We're still relatively early in the build out phase.

**00:22:21 --> 00:22:25:** What we've done is we have color-coded the various we

**00:22:25 --> 00:22:27:** call landscape typologies.

**00:22:27 --> 00:22:31:** Again, these are the the public portions of the community.

**00:22:31 --> 00:22:33:** So we've got our tree lawns, pocket parks, open land

**00:22:33 --> 00:22:36:** tracks and by open land tracks, those are actually we're,

**00:22:37 --> 00:22:39:** we're calling them garden ways and more on that in

**00:22:39 --> 00:22:40:** just a moment.

**00:22:40 --> 00:22:45:** Parkways are largely those areas which are adjacent to our

**00:22:45 --> 00:22:49:** arterial roadway network and then of course the large regional

**00:22:49 --> 00:22:50:** open lands tracks.

**00:22:52 --> 00:22:54:** And So what we've done is we'll go through each

**00:22:54 --> 00:22:56:** of those typologies and talk a little bit about the

**00:22:57 --> 00:23:00:** economics and associated with the landscaping that we're doing.

**00:23:00 --> 00:23:03:** So what you see here are the tree lawns, bottom

**00:23:03 --> 00:23:07:** right hand corner approximately 20 acres worth in the darker

**00:23:07 --> 00:23:07:** blue.

**00:23:09 --> 00:23:12:** And when you look at the chart on the left,

**00:23:12 --> 00:23:16:** what we attempted to do is take a subset of

**00:23:16 --> 00:23:20:** a tree lawn in this instance 3000 acres and say,

**00:23:20 --> 00:23:23:** OK, how are we developing that tree lawn?

**00:23:23 --> 00:23:28:** What are the landscaping styles that we're doing here relative

**00:23:28 --> 00:23:32:** to what is more typical in in the marketplace?

**00:23:33 --> 00:23:36:** And so you see in there the typical category tree

**00:23:36 --> 00:23:39:** lawns, the, the de facto standard is, hey, just throw

**00:23:39 --> 00:23:43:** some turf in there, spray irrigate it highly water consumptive.

**00:23:43 --> 00:23:47:** And so you see at the bottom for that 3,

**00:23:47 --> 00:23:51:** three, yeah, 3000 square foot of tree lawn space, it's
**00:23:51 --> 00:23:56:** consumptive of approximately 58,000 gallons per year.
**00:23:56 --> 00:24:01:** By contrast, the planting strategy that we are employing is
**00:24:01 --> 00:24:05:** far less on the irrigated turf side of the equation,
**00:24:05 --> 00:24:08:** about 1/3 of what is typical.
**00:24:09 --> 00:24:12:** Instead we are using a lot of drip irrigation for
**00:24:12 --> 00:24:16:** the shrubs and those pollinator plantings that I referenced.
**00:24:16 --> 00:24:20:** And we're also using rock mulch crusher finds and the
**00:24:20 --> 00:24:25:** results of that is overall consumption that is at 66%,
**00:24:25 --> 00:24:28:** so considerably less than 100% of typical.
**00:24:28 --> 00:24:32:** And you can see what we're estimating as the reduction
**00:24:32 --> 00:24:37:** in water consumption 58 for 58,000 gallons for typical 27,
**00:24:37 --> 00:24:40:** it was 28,000 for the tree lawn treatment.
**00:24:42 --> 00:24:44:** And Marianne, thank you for asking us to do the
**00:24:44 --> 00:24:47:** ROI because we at some base level thought that well
**00:24:47 --> 00:24:49:** we'll be really happy if we break even on this
**00:24:49 --> 00:24:52:** with we are doing it because we think it is
**00:24:52 --> 00:24:53:** the right thing to do.
**00:24:53 --> 00:24:56:** But this is actually caused us to do a bit
**00:24:56 --> 00:24:59:** of a deep dive into the numbers and so and
**00:24:59 --> 00:25:01:** we were pleased with what we discovered.
**00:25:01 --> 00:25:06:** Not surprisingly the installed cost on the landscaping typologies that
**00:25:06 --> 00:25:10:** we are putting in is greater than what is what
**00:25:10 --> 00:25:12:** we would consider the standard.
**00:25:12 --> 00:25:14:** By the way, I should mention when we talk about
**00:25:14 --> 00:25:19:** the standard, we're comparing ourselves against adjacent properties and what
**00:25:19 --> 00:25:21:** is being what is typically being done sort of in
**00:25:21 --> 00:25:22:** our marketplace.
**00:25:23 --> 00:25:27:** So yes, to get this done initially, it's about a
**00:25:27 --> 00:25:31:** 40% higher cost initial capital, but we get a significant
**00:25:32 --> 00:25:34:** reduction in our water rights.
**00:25:34 --> 00:25:38:** Think about our tap fees, 52% reduction there.
**00:25:38 --> 00:25:43:** Yes, because of these drip irrigated shrubs replacement requirements, the
**00:25:43 --> 00:25:46:** cost to maintain is a bit higher.
**00:25:46 --> 00:25:49:** But then again on our yearly water costs, we have
**00:25:50 --> 00:25:51:** a significant savings 52%.
**00:25:52 --> 00:25:57:** So using this 3000 square foot example we have and
**00:25:57 --> 00:26:01:** then propagating that over a 10 year.
**00:26:02 --> 00:26:07:** We're showing a 29% decrease in expense or a 10
**00:26:07 --> 00:26:10:** year savings of 226, almost $227,000.

**00:26:10 --> 00:26:13:** So this was a little bit unexpected for us.
**00:26:13 --> 00:26:16:** Again, we thought we were going to be hitting a
**00:26:16 --> 00:26:18:** break even, but I think this is showing that there
**00:26:19 --> 00:26:21:** is some economic motivation to to do this.
**00:26:21 --> 00:26:24:** Similarly, pocket parks that you see in purple, by the
**00:26:24 --> 00:26:26:** way, you may say, well, wait a minute, why aren't
**00:26:26 --> 00:26:28:** there pocket parks on the entire eastern half of the
**00:26:28 --> 00:26:29:** project?
**00:26:29 --> 00:26:31:** But frankly that's because we have not gotten there yet.
**00:26:31 --> 00:26:34:** We're still in the process of doing the master planning.
**00:26:34 --> 00:26:38:** But for what you see represented there, 25 acres, again
**00:26:38 --> 00:26:40:** similar analysis.
**00:26:42 --> 00:26:46:** The the big differences are far less reliance on high
**00:26:46 --> 00:26:49:** water consumptive irrigated turf.
**00:26:49 --> 00:26:51:** It's not to say that we've gotten rid of it
**00:26:51 --> 00:26:53:** all together to Brock's earlier point, we still believe there's
**00:26:53 --> 00:26:54:** a place for it.
**00:26:54 --> 00:26:56:** It's just in far lesser quantities.
**00:26:56 --> 00:27:02:** And again, more reliance upon drip irrigated shrubs, significant reduction
**00:27:02 --> 00:27:06:** in water gallons per year, 343,000 versus 100 and about
**00:27:06 --> 00:27:09:** 146,000 for our pocket parks.
**00:27:11 --> 00:27:14:** And then from the cost side, again a little bit
**00:27:14 --> 00:27:18:** more expensive on the initial capital outlay, but in this
**00:27:18 --> 00:27:22:** instance, we have savings on the tap fees, yearly maintenance
**00:27:22 --> 00:27:24:** costs and on yearly water costs.
**00:27:25 --> 00:27:29:** So for our pocket parks, on average, we're seeing a
**00:27:29 --> 00:27:33:** 17% sort of 10 year look at the economics.
**00:27:34 --> 00:27:38:** So again compelling argument there, open lands and garden ways,
**00:27:38 --> 00:27:41:** this is a maybe a little bit unique to us,
**00:27:41 --> 00:27:45:** but what these are, are these non motorized pathways, sort
**00:27:45 --> 00:27:49:** of we're calling them garden ways sort of in deference
**00:27:49 --> 00:27:52:** to all the plantings we're putting in in support of
**00:27:52 --> 00:27:57:** the pollinator district ways for homeowners to have their homes
**00:27:57 --> 00:28:02:** directly fronting these pedestrian through ways, great opportunities to have
**00:28:02 --> 00:28:05:** these Zurich pollinator plantings.
**00:28:05 --> 00:28:09:** We have two flavors, 1 is what we're calling the
**00:28:09 --> 00:28:12:** native flavor and the other one is Botanic.
**00:28:13 --> 00:28:17:** In the economic slide you'll see next what we're comparing

**00:28:17 --> 00:28:20:** is the typical to our Botanic version because that's what
**00:28:20 --> 00:28:22:** is most prevalent in the community.
**00:28:24 --> 00:28:30:** Again, you'll see significantly less turf area, a very, very
**00:28:30 --> 00:28:36:** huge emphasis on the shrubs, on the pollinator plants drip
**00:28:36 --> 00:28:37:** irrigated.
**00:28:37 --> 00:28:41:** And then at the end, you see again a significant
**00:28:41 --> 00:28:45:** reduction in water consumption based upon this type of of
**00:28:45 --> 00:28:47:** planting regime.
**00:28:47 --> 00:28:52:** And not unexpected, the installation costs, again heavier on the
**00:28:52 --> 00:28:56:** front end, but significant savings on the initial tap fees.
**00:28:56 --> 00:28:59:** Maintenance on this is a lot more expensive because of
**00:28:59 --> 00:29:02:** the prevalence of those shrubs and plants.
**00:29:02 --> 00:29:07:** But again, we get a significant yearly or annual water
**00:29:07 --> 00:29:08:** savings cost wise.
**00:29:09 --> 00:29:11:** And I was a little surprised to see that's on
**00:29:11 --> 00:29:13:** average this yields over that 10 year.
**00:29:13 --> 00:29:18:** A 51% reduction in overall sort of 10 year life
**00:29:18 --> 00:29:21:** of project cost Parkways.
**00:29:21 --> 00:29:23:** This is around our arterioles.
**00:29:24 --> 00:29:27:** You can see an example in the in the photo
**00:29:27 --> 00:29:32:** there a lot of reliance upon rock mulch, drip irrigated
**00:29:32 --> 00:29:35:** Zurich grasses as well as Buffalo grasses.
**00:29:35 --> 00:29:37:** I'll just cut to the chase.
**00:29:37 --> 00:29:40:** You can see again the same analysis of typical versus
**00:29:40 --> 00:29:42:** how we are doing things.
**00:29:43 --> 00:29:49:** The reduction in water is significant, 359,000 gallons per year
**00:29:49 --> 00:29:55:** versus it's 98,000 and again similar economics, more expensive to
**00:29:55 --> 00:30:01:** install, but a lot of savings on the ongoing maintenance
**00:30:01 --> 00:30:05:** and a cost of the water over a 10 year
**00:30:05 --> 00:30:05:** period.
**00:30:06 --> 00:30:11:** Last typology that I'll mention is the regional parks.
**00:30:12 --> 00:30:13:** We have a lot of these.
**00:30:13 --> 00:30:16:** I think this shows about 83 acres.
**00:30:16 --> 00:30:19:** This is sort of the main event within the community.
**00:30:20 --> 00:30:21:** This bisects the project.
**00:30:22 --> 00:30:26:** Our goal was to have something that feels a bit
**00:30:26 --> 00:30:29:** more natural than curated.
**00:30:30 --> 00:30:35:** We are irrigating less of the high water consumptive turf,
**00:30:35 --> 00:30:40:** but we are actually in total irrigating more acreage than
**00:30:40 --> 00:30:41:** what is typical.

**00:30:41 --> 00:30:45:** And the type of irrigation we're deploying is largely to
**00:30:46 --> 00:30:50:** not only the shrubs and the pollinator plants, but also
**00:30:50 --> 00:30:51:** native seed.
**00:30:52 --> 00:30:56:** And you can again see the reduction in the gallons,
**00:30:56 --> 00:31:01:** 28 million big #28,000,000 gallons versus about 13 million on
**00:31:01 --> 00:31:03:** an annual basis.
**00:31:04 --> 00:31:08:** Cost wise, this is interesting, a little bit less expensive
**00:31:08 --> 00:31:11:** to do the treatment that we are at baseline versus
**00:31:12 --> 00:31:13:** what would be more typical.
**00:31:14 --> 00:31:18:** And then you can see the associated cost savings throughout
**00:31:18 --> 00:31:23:** the other categories, put that all into a blender and
**00:31:23 --> 00:31:28:** basically propagate those ideas and those metrics across all of
**00:31:28 --> 00:31:29:** baseline.
**00:31:29 --> 00:31:33:** And you can see that overall and this was a
**00:31:33 --> 00:31:38:** big aha for us that actually taking the 10 year
**00:31:38 --> 00:31:42:** view, we have a cost savings of $24 million by
**00:31:42 --> 00:31:44:** going this route.
**00:31:44 --> 00:31:48:** To be clear, there has to be an ability and
**00:31:48 --> 00:31:53:** a willingness to do some initial capital investment.
**00:31:53 --> 00:31:56:** I think the installed cost which is showing a little
**00:31:56 --> 00:31:59:** bit less on that first line, the Regional Park is
**00:31:59 --> 00:32:03:** masking that somewhat because quite frankly in most instances of
**00:32:03 --> 00:32:06:** our neighborhoods is a higher initial cost.
**00:32:06 --> 00:32:08:** But looking over that 10 year.
**00:32:09 --> 00:32:14:** This is significant cost savings and something that makes us
**00:32:14 --> 00:32:16:** very happy.
**00:32:17 --> 00:32:21:** Last slide here, this is just a summation of the
**00:32:21 --> 00:32:27:** various landscape prototypes showing that putting all of this together,
**00:32:27 --> 00:32:31:** we're showing a 64% in water consumption versus what is
**00:32:31 --> 00:32:32:** typical.
**00:32:32 --> 00:32:34:** And again what is typical is what we're looking at.
**00:32:34 --> 00:32:38:** We actually had our water engineers and our planners look
**00:32:38 --> 00:32:41:** at what is going around in our immediate vicinity.
**00:32:41 --> 00:32:44:** So this is a significant pick up in water conservation
**00:32:44 --> 00:32:48:** versus what's going on at least currently around our and
**00:32:48 --> 00:32:49:** our surrounding area.
**00:32:49 --> 00:32:54:** Last thing I would mention, all of our publicly accessible
**00:32:54 --> 00:32:57:** lands are also using what we call purple pipe.
**00:32:57 --> 00:33:01:** It's our reuse water that is supplied to us at

**00:33:01 --> 00:33:05:** a reduced cost through the City of Broomfield.
**00:33:05 --> 00:33:07:** So just another data point there.
**00:33:08 --> 00:33:10:** So that is it and I thank you and I
**00:33:10 --> 00:33:13:** will turn it over to our next presenter.
**00:33:15 --> 00:33:17:** Thank you so much, Kyle.
**00:33:17 --> 00:33:21:** Our next presenter is Steven, and I'll let him say
**00:33:21 --> 00:33:22:** his own last name's.
**00:33:22 --> 00:33:24:** I don't Butcher again, Steven, go ahead.
**00:33:26 --> 00:33:26:** Thank you, Marianne.
**00:33:26 --> 00:33:28:** Thanks everyone and good afternoon.
**00:33:28 --> 00:33:32:** My last name is Kunscher and thanks for having me.
**00:33:32 --> 00:33:37:** I'm the Director of housing development for Maker Housing Partners.
**00:33:37 --> 00:33:41:** We are a Housing Authority and we are the Housing
**00:33:41 --> 00:33:46:** Authority for Adams County IN just north of Denver in
**00:33:46 --> 00:33:47:** Colorado.
**00:33:48 --> 00:33:52:** And we as part of our mission, we own, manage
**00:33:52 --> 00:33:57:** and affordable housing throughout the county.
**00:33:57 --> 00:34:02:** We currently have just over 2000 units under management across
**00:34:02 --> 00:34:03:** 17 communities.
**00:34:03 --> 00:34:10:** We also administer the housing vouchers for Adams County, which
**00:34:10 --> 00:34:12:** are a subsidy for renters.
**00:34:14 --> 00:34:16:** And today I want to talk a little bit about
**00:34:16 --> 00:34:18:** some water strategies for affordable housing.
**00:34:20 --> 00:34:23:** I'm going to first start with talking a little bit
**00:34:23 --> 00:34:27:** about what affordable housing is, and then I'll look at
**00:34:27 --> 00:34:30:** a case study of an existing property that we were
**00:34:30 --> 00:34:33:** able to do some retrofits on plumbing fixtures, talk about
**00:34:33 --> 00:34:37:** some of our strategies for new construction, and lastly go
**00:34:37 --> 00:34:41:** over some of the benefits and why implementing these strategies
**00:34:41 --> 00:34:42:** is important.
**00:34:46 --> 00:34:50:** So first, affordable housing, sorry, there we go, the most
**00:34:50 --> 00:34:52:** common types of affordable housing.
**00:34:52 --> 00:34:54:** First, you have housing choice vouchers.
**00:34:55 --> 00:34:59:** Those are Section 8 vouchers that households can take to
**00:35:00 --> 00:35:04:** any community and rent a market rate or income restricted.
**00:35:05 --> 00:35:06:** Second is public housing.
**00:35:06 --> 00:35:10:** This is the traditional HUD model which is going away.
**00:35:11 --> 00:35:14:** We actually disposed of our last affordable or public housing
**00:35:14 --> 00:35:18:** community and converted it to tax credit housing.

**00:35:18 --> 00:35:21:** So there are still a lot of public housing communities
**00:35:21 --> 00:35:24:** across the country, but it is not a typically a
**00:35:24 --> 00:35:25:** new type.
**00:35:26 --> 00:35:30:** And then lastly, the most common to HUD subsidized project
**00:35:30 --> 00:35:34:** based Section 8, that's a community that has Section 8
**00:35:34 --> 00:35:39:** vouchers, housing choice vouchers built into the project specifically to
**00:35:39 --> 00:35:41:** serve all of the units at that project.
**00:35:42 --> 00:35:45:** And then I think the biggest and most common type
**00:35:45 --> 00:35:49:** low income housing tax credit program, which is what we've
**00:35:49 --> 00:35:52:** been using for the last decade plus to build new
**00:35:52 --> 00:35:54:** and renovate our existing communities.
**00:35:58 --> 00:36:01:** And one quick thing to note as we start to
**00:36:01 --> 00:36:05:** talk about utilities and water usage rules for the road.
**00:36:05 --> 00:36:11:** So there's some requirements for both tax credits as well
**00:36:11 --> 00:36:16:** As for Section 8 households that the utility costs must
**00:36:16 --> 00:36:20:** be deducted from the gross rent for the rent that
**00:36:20 --> 00:36:22:** the tenant pays.
**00:36:22 --> 00:36:26:** So as you can see in this example, the current
**00:36:26 --> 00:36:31:** rents for a 60% average area median income household, 2
**00:36:31 --> 00:36:36:** bed units, 1675 water and sewer utility allowance, $70.00 per
**00:36:36 --> 00:36:37:** month.
**00:36:37 --> 00:36:42:** They end up paying a net rent of 1605 dollars.
**00:36:47 --> 00:36:50:** The first, the first thing I want to talk about
**00:36:50 --> 00:36:53:** is a case study of a property we've owned since
**00:36:53 --> 00:36:56:** the early 80s called Orchard Crossing.
**00:36:57 --> 00:37:01:** We recently in 2021 went through a replacement of all
**00:37:01 --> 00:37:04:** of the plumbing fixtures in the units.
**00:37:05 --> 00:37:08:** This is a 74 unit property was built in 1973.
**00:37:08 --> 00:37:11:** We had a lot of old outdated fixtures, a lot
**00:37:11 --> 00:37:15:** of hodgepodge of fixtures replaced at various times throughout the
**00:37:15 --> 00:37:17:** four decades we've owned the property.
**00:37:18 --> 00:37:21:** This is a project based Section 8 community, so we
**00:37:21 --> 00:37:24:** serve typically 30 to 50% very median income residents, so
**00:37:24 --> 00:37:26:** very low income households.
**00:37:27 --> 00:37:30:** It has one 2-3 and four bedroom units.
**00:37:30 --> 00:37:32:** So we have a lot of families, a lot of
**00:37:32 --> 00:37:36:** kids, so a lot of water usage and different types
**00:37:36 --> 00:37:40:** of water usage or levels of water usage throughout the
**00:37:40 --> 00:37:41:** community.
**00:37:42 --> 00:37:44:** This actually was a project that was funded by the

**00:37:44 --> 00:37:45:** City of Westminster.
**00:37:45 --> 00:37:49:** It's a pilot, pilot project and they hired Mile High
**00:37:49 --> 00:37:52:** Youth Corps to complete the retrofits.
**00:37:53 --> 00:37:55:** The total project cost was 75,000.
**00:37:55 --> 00:37:59:** And this was part of a program that the West
**00:37:59 --> 00:38:03:** that City of Westminster was looking at to reduce consumption
**00:38:03 --> 00:38:07:** throughout the city and therefore lower their costs on new
**00:38:08 --> 00:38:12:** projects related to their water infrastructure and the high cost,
**00:38:12 --> 00:38:17:** high capital cost for that infrastructure throughout the city.
**00:38:18 --> 00:38:22:** So what we targeted here is replacements of all toilets,
**00:38:22 --> 00:38:25:** shower heads, kitchen faucets and bathroom faucets.
**00:38:25 --> 00:38:30:** And you can see the levels here, the flow rates
**00:38:30 --> 00:38:36:** that we installed on each of those fixtures and the
**00:38:36 --> 00:38:37:** results.
**00:38:38 --> 00:38:41:** We looked at the average winter consumption.
**00:38:41 --> 00:38:43:** So when our irrigation is turned off, we can look
**00:38:43 --> 00:38:45:** at just what the households are using.
**00:38:46 --> 00:38:49:** We saw a 48% reduction the first year in our
**00:38:49 --> 00:38:53:** water usage, so very significant reduction.
**00:38:54 --> 00:38:58:** That was in 2021, the winter compared to 2022 or
**00:38:58 --> 00:38:59:** I'm sorry, 2020.
**00:39:01 --> 00:39:04:** And then on a cost basis, these costs do include
**00:39:04 --> 00:39:07:** irrigation since that's included in our overall cost.
**00:39:08 --> 00:39:11:** But you can see we started at a very high
**00:39:11 --> 00:39:14:** cost 159,000 annually in 2020.
**00:39:15 --> 00:39:18:** This is we targeted this property because it is one
**00:39:18 --> 00:39:22:** of our highest cost properties for water and sewer.
**00:39:23 --> 00:39:28:** And we saw immediately the first year a 33% reduction
**00:39:28 --> 00:39:33:** in our cost and then into 2022 A 43% reduction
**00:39:33 --> 00:39:34:** from 2020.
**00:39:35 --> 00:39:39:** And there was a 4% increase in our water rate
**00:39:39 --> 00:39:41:** from 2020 to 2021.
**00:39:41 --> 00:39:43:** So we were able to not only absorb that, but
**00:39:43 --> 00:39:45:** then see additional reduction.
**00:39:45 --> 00:39:48:** And I think one of the things we saw year
**00:39:48 --> 00:39:52:** over year is we saw not only our consumption reduced,
**00:39:52 --> 00:39:55:** but then they adjust your sewer costs based on your
**00:39:55 --> 00:39:57:** average winter consumption.
**00:39:57 --> 00:40:00:** So our sewer costs then dramatically lowered as well.
**00:40:00 --> 00:40:02:** So we saw this.
**00:40:03 --> 00:40:04:** Two year decrease.

**00:40:04 --> 00:40:07:** So we're very happy with that.
**00:40:07 --> 00:40:11:** However, I can say that this community does still have
**00:40:11 --> 00:40:14:** some work to do on the irrigation side, which will
**00:40:14 --> 00:40:17:** bring our costs even lower to what we're seeing at
**00:40:17 --> 00:40:21:** our new communities where we do have some new strategies
**00:40:21 --> 00:40:24:** implemented on our irrigation to keep our our costs low.
**00:40:27 --> 00:40:30:** And for our new construction projects, here are some of
**00:40:30 --> 00:40:32:** the things that we do.
**00:40:32 --> 00:40:36:** So on our unit fixtures, we follow the Enterprise Green
**00:40:36 --> 00:40:37:** community's 2020 standards.
**00:40:38 --> 00:40:41:** That's a requirement by our local housing and finance authority
**00:40:41 --> 00:40:44:** or by the state housing and finance authority.
**00:40:45 --> 00:40:48:** And we have to install all Watersense certified fixtures.
**00:40:49 --> 00:40:53:** I can tell you since 2013, we've been opting for
**00:40:53 --> 00:40:58:** the rates that were in the previous slide, the most
**00:40:58 --> 00:41:01:** advanced why rates that we can find.
**00:41:01 --> 00:41:05:** One exception that we've got a lot of pushback from
**00:41:05 --> 00:41:09:** our maintenance and I'll mention this as a practical matter
**00:41:09 --> 00:41:13:** for any management development groups out there is on the
**00:41:13 --> 00:41:16:** toilets there's a .8 gallon per flush toilet.
**00:41:16 --> 00:41:20:** However, what we've seen is the cost to maintain those
**00:41:20 --> 00:41:24:** and replace those is very high still down the road.
**00:41:24 --> 00:41:28:** And so we've seen some pushback on our maintenance teams
**00:41:28 --> 00:41:30:** ongoing from the 1.1 to the .8.
**00:41:32 --> 00:41:35:** But we're going to continue looking at that and hoping
**00:41:35 --> 00:41:38:** that there's going to be some lower cost up front
**00:41:38 --> 00:41:41:** as well as maintenance wise on on the lower flow
**00:41:41 --> 00:41:42:** toilets down the road.
**00:41:44 --> 00:41:47:** The other thing that I want to mention here is
**00:41:47 --> 00:41:49:** leak detection systems.
**00:41:49 --> 00:41:53:** There are now some more affordable options for leak detection
**00:41:53 --> 00:41:56:** for a lot of market rate groups.
**00:41:56 --> 00:42:00:** They'll use meter systems so they can track the amount
**00:42:00 --> 00:42:03:** of usage per unit and charge back.
**00:42:03 --> 00:42:07:** In our case, we include all water and sewer costs
**00:42:07 --> 00:42:11:** in our rent, so we do not charge back our
**00:42:11 --> 00:42:12:** residents.
**00:42:12 --> 00:42:15:** So it's very important for us to keep our costs
**00:42:15 --> 00:42:19:** low and make sure if there's any issues with toilet

**00:42:19 --> 00:42:23:** sinks that we know what what's going on and we
**00:42:23 --> 00:42:25:** can address those issues.
**00:42:25 --> 00:42:29:** Currently our leak detection system is not a technological system,
**00:42:29 --> 00:42:33:** it's a maintenance solution where our maintenance team inspects the
**00:42:33 --> 00:42:36:** units on a regular basis and we also monitor our
**00:42:37 --> 00:42:39:** usage on a on a regular basis as well.
**00:42:40 --> 00:42:46:** Then the last thing I'll mention is resident education, particularly
**00:42:46 --> 00:42:52:** with the populations that we serve typically and when you're
**00:42:52 --> 00:42:57:** including utilities with rents, we tend to see the usage
**00:42:57 --> 00:42:59:** education be very low.
**00:42:59 --> 00:43:03:** And So what we've tried to do, and we're partnering
**00:43:03 --> 00:43:06:** currently with one of our larger municipalities is to provide
**00:43:07 --> 00:43:10:** a consistent education to residents on how to lower their
**00:43:10 --> 00:43:13:** water usage, on why it matters, on where the water
**00:43:13 --> 00:43:14:** comes from.
**00:43:14 --> 00:43:16:** A lot of times folks will take it for granted
**00:43:16 --> 00:43:19:** that you go and turn on the faucet and leave
**00:43:19 --> 00:43:21:** it on while you're brushing your teeth and it's just
**00:43:21 --> 00:43:24:** there and you have great clean, fresh water.
**00:43:24 --> 00:43:27:** But we're facing some real challenges.
**00:43:28 --> 00:43:32:** And so we're really trying to educate our population, which
**00:43:32 --> 00:43:34:** not only is going to help with our usage but
**00:43:34 --> 00:43:36:** lower our overall operating costs.
**00:43:38 --> 00:43:41:** On the landscape and irrigation side, a lot of the
**00:43:41 --> 00:43:45:** strategies that were have already been talked about.
**00:43:45 --> 00:43:49:** We are implementing on some of our current projects, installing
**00:43:49 --> 00:43:54:** native species plantings as well as using drip systems only
**00:43:54 --> 00:43:55:** less spray systems.
**00:43:56 --> 00:43:59:** We limit the use of turf and grass.
**00:43:59 --> 00:44:02:** The picture on the first slide, you can see there's
**00:44:02 --> 00:44:06:** one rectangular area of turf and that was it except
**00:44:06 --> 00:44:09:** for the requirement along the tree lawn on the main,
**00:44:09 --> 00:44:12:** main road from the city to have additional turf.
**00:44:12 --> 00:44:15:** We really try to limit turf use and anything we're
**00:44:15 --> 00:44:17:** installing is on a drip system.
**00:44:18 --> 00:44:20:** So we've gone away from the aesthetics of turf to
**00:44:20 --> 00:44:23:** really what is it functioning and who's using it and
**00:44:23 --> 00:44:25:** what are the areas we need to target.
**00:44:26 --> 00:44:30:** We've also done larger properties, used native seed and

we've

**00:44:30 --> 00:44:34:** seen some success there as well in lowering our water

**00:44:34 --> 00:44:39:** usage, weather based irrigation controllers, very simple low cost solution.

**00:44:40 --> 00:44:42:** We see a lot of our older properties do not

**00:44:42 --> 00:44:46:** have this very easy to implement on new construction and

**00:44:46 --> 00:44:48:** very cost effective on existing communities.

**00:44:48 --> 00:44:52:** We just saw in Colorado typically very dry and when

**00:44:52 --> 00:44:56:** is 2 months in decades, so can save a lot

**00:44:56 --> 00:45:00:** of money with a very simple solution on the controller

**00:45:00 --> 00:45:00:** side.

**00:45:01 --> 00:45:03:** And then lastly, high efficiency sprinkler heads.

**00:45:04 --> 00:45:07:** Like I said, we're using DRIP and anywhere we can

**00:45:07 --> 00:45:10:** and anywhere there are sprinkler heads, we're going towards the

**00:45:10 --> 00:45:14:** newer high efficiency sprinkler heads, very low cost upfront, simple

**00:45:14 --> 00:45:15:** solution.

**00:45:18 --> 00:45:20:** And then lastly, why does it matter?

**00:45:21 --> 00:45:24:** The big thing, the bottom line, it reduces our utility

**00:45:24 --> 00:45:28:** expenses and improves the NLI, the performance, financial performance at

**00:45:28 --> 00:45:29:** our properties.

**00:45:29 --> 00:45:33:** As I mentioned, we include utilities in all of our

**00:45:34 --> 00:45:38:** rents and so it does make a big difference when

**00:45:38 --> 00:45:39:** water usage is high.

**00:45:40 --> 00:45:44:** Typically, as you can see from the example on replacing

**00:45:44 --> 00:45:47:** fixtures, you have a $75,000 upfront cost and you're saving

**00:45:48 --> 00:45:51:** that within two years, you're seeing that payback.

**00:45:52 --> 00:45:55:** That also allows us to take on other costs and

**00:45:55 --> 00:46:00:** we've seen significant increases overall throughout the last few years

**00:46:00 --> 00:46:02:** in our maintenance expenses.

**00:46:02 --> 00:46:05:** So we can now divert those funds to other things.

**00:46:06 --> 00:46:10:** Secondly, we're able to decrease our upfront tap fees by

**00:46:10 --> 00:46:14:** showing the municipalities that we can use less water in

**00:46:14 --> 00:46:18:** our new developments, we can lower our tap sizes.

**00:46:18 --> 00:46:22:** This can really create hundreds of thousands of dollars of

**00:46:23 --> 00:46:25:** savings upfront on new projects.

**00:46:26 --> 00:46:30:** One of the larger municipalities we work in the city

**00:46:30 --> 00:46:33:** of Thornton, they recently put a stop to all new

**00:46:33 --> 00:46:38:** development because they do not have water, their water supply

**00:46:38 --> 00:46:43:** connected and cannot allow any future any further growth.
**00:46:43 --> 00:46:47:** Their tap fees are currently or I'm sorry in 2024
**00:46:47 --> 00:46:50:** will be just under $40,000 per unit.
**00:46:50 --> 00:46:54:** So it's a very significant cost and by showing we
**00:46:55 --> 00:46:59:** can utilize less water, we can reduce our cap size
**00:46:59 --> 00:47:05:** and reduce those fees 700,000 reduce consumption and preserving our
**00:47:05 --> 00:47:06:** water resources.
**00:47:06 --> 00:47:10:** Another issue that we're seeing is we are now being
**00:47:10 --> 00:47:15:** required to purchase water shares and bring those to the
**00:47:15 --> 00:47:17:** city and assign those to the city.
**00:47:18 --> 00:47:21:** Whereas typically your tap fee purchased was the rights that
**00:47:22 --> 00:47:22:** the city owns.
**00:47:22 --> 00:47:27:** So the cost of of providing water for a project
**00:47:27 --> 00:47:29:** has gone up significantly.
**00:47:30 --> 00:47:33:** And any way we can partner to reduce consumption and
**00:47:33 --> 00:47:37:** show to municipalities that we have the lowest water usage
**00:47:37 --> 00:47:40:** and our new projects are going to be really at
**00:47:40 --> 00:47:44:** the cutting edge of water usage is really going to
**00:47:44 --> 00:47:48:** help improve our our ability to move forward with projects
**00:47:48 --> 00:47:50:** and reduce our our upfront cost.
**00:47:52 --> 00:47:55:** And lastly, it lowers cost for low income households.
**00:47:55 --> 00:47:58:** As part of our mission, we want to provide the
**00:47:58 --> 00:48:01:** best quality affordable housing for our residents.
**00:48:01 --> 00:48:05:** And in cases where we are charging back for utilities
**00:48:05 --> 00:48:09:** being able to show or for for groups that do
**00:48:09 --> 00:48:13:** charge back utilities, being able to keep that cost as
**00:48:13 --> 00:48:16:** low as possible is going to make a huge difference
**00:48:16 --> 00:48:18:** for these households.
**00:48:20 --> 00:48:24:** And lastly, this is really a strategy of promoting equity
**00:48:24 --> 00:48:26:** and affordability for our residents.
**00:48:27 --> 00:48:30:** And you can see here in this chart the makeup
**00:48:30 --> 00:48:33:** of the residents that live in our communities.
**00:48:34 --> 00:48:38:** Just over 75% are at 50% or below of the
**00:48:38 --> 00:48:40:** area median income.
**00:48:40 --> 00:48:45:** For a family of four in Adams County, that is
**00:48:45 --> 00:48:49:** around $42,000 per year at the 50% level.
**00:48:49 --> 00:48:53:** So almost 40% at 30% or below these are we
**00:48:53 --> 00:48:57:** have a lot of residents that are seniors on fixed
**00:48:57 --> 00:49:01:** income, disabled folks on, on fixed incomes.
**00:49:01 --> 00:49:05:** And so we're really wanting to make sure that when
**00:49:05 --> 00:49:09:** we're passing on cost and we're providing quality housing

that,

**00:49:09 --> 00:49:13:** that our our families can rely on the the cost

**00:49:13 --> 00:49:17:** of rent and not having great fluctuation in their costs.

**00:49:21 --> 00:49:25:** And thanks everybody, and I'll pass it on to Jacob.

**00:49:27 --> 00:49:28:** Thank you so much, Steve.

**00:49:29 --> 00:49:29:** Thank you.

**00:49:35 --> 00:49:37:** Steve, you can stop screen sharing and then great.

**00:49:37 --> 00:49:38:** There you go.

**00:49:43 --> 00:49:44:** Jacob, take it away.

**00:49:45 --> 00:49:46:** Yes.

**00:49:50 --> 00:49:54:** Oh, are you seeing all right, You're seeing the right

**00:49:54 --> 00:49:54:** screen.

**00:49:56 --> 00:49:57:** Good afternoon, everyone.

**00:49:57 --> 00:50:01:** It's a pleasure to be amongst this panel and with

**00:50:01 --> 00:50:01:** you all.

**00:50:02 --> 00:50:05:** I think the panel has done a fantastic job and

**00:50:05 --> 00:50:09:** prepping for what I'm going to say and probably reducing

**00:50:09 --> 00:50:11:** how how much I will say.

**00:50:13 --> 00:50:17:** But we're really taking a lot of what they said

**00:50:17 --> 00:50:21:** to from the macro level to a micro level to

**00:50:21 --> 00:50:25:** the lot to the last 50 feet of of this

**00:50:25 --> 00:50:29:** of these strategies and see what we can do with

**00:50:29 --> 00:50:30:** it.

**00:50:30 --> 00:50:36:** So I'm Vice President of Sustainability and Innovation at KB

**00:50:36 --> 00:50:42:** Home and my responsibility spans across the entire footprint of

**00:50:42 --> 00:50:47:** KB Home, which is coast to coast mostly in the

**00:50:47 --> 00:50:49:** Sunbelt of the US.

**00:50:50 --> 00:50:53:** As such, we have a lot of of our lots

**00:50:53 --> 00:50:57:** that we own or control that are in stressed water

**00:50:57 --> 00:51:02:** stressed areas, whether that is drought or whether it is

**00:51:02 --> 00:51:08:** infrastructure or water stress in terms of the economics of

**00:51:08 --> 00:51:08:** it.

**00:51:09 --> 00:51:14:** So it's important to a builder even at the last

**00:51:14 --> 00:51:20:** 50 feet to bring together a very good water efficiency

**00:51:20 --> 00:51:22:** strategy for the homes.

**00:51:22 --> 00:51:25:** I'm going to talk about efficiency by design.

**00:51:25 --> 00:51:28:** We heard a lot about it at the macro scale.

**00:51:28 --> 00:51:32:** We'll talk a little bit about it on on the

**00:51:32 --> 00:51:37:** micro, talk about how we can also then verify the

**00:51:37 --> 00:51:42:** efficiency and what you measure you can always improve.

**00:51:42 --> 00:51:45:** So we'll talk about ratings and scores and how can

**00:51:45 --> 00:51:48:** we improve these scores going forward.
**00:51:49 --> 00:51:53:** We'll talk a little bit about confirmed savings and and
**00:51:53 --> 00:51:58:** then a little bit about permitting and carrots and sticks
**00:51:58 --> 00:51:59:** in that area.
**00:51:59 --> 00:52:04:** And then because we're a publicly traded home builder, ESG
**00:52:04 --> 00:52:06:** is important to us.
**00:52:06 --> 00:52:10:** It's important to even non public companies, but very important
**00:52:10 --> 00:52:14:** to public companies and we'll talk a little bit about
**00:52:14 --> 00:52:15:** that as well.
**00:52:15 --> 00:52:23:** So KB Home, we focus on affordability balanced with sustainability.
**00:52:23 --> 00:52:28:** The two work together, attainability, the initial price point of
**00:52:28 --> 00:52:32:** the house because we're focused on first time and 1st
**00:52:32 --> 00:52:36:** move up buyers, we have to have the right price
**00:52:36 --> 00:52:40:** point to to allow for people to to fulfil their
**00:52:40 --> 00:52:40:** dream.
**00:52:40 --> 00:52:45:** And then affordability also as we heard from Steve, it
**00:52:45 --> 00:52:49:** continues in the ownership of the home in lower bills
**00:52:49 --> 00:52:51:** for customers.
**00:52:51 --> 00:52:55:** And I think even from the earlier presentations, I'm making
**00:52:55 --> 00:52:59:** an assumption that they have lower HOA fees with the
**00:52:59 --> 00:53:03:** lower cost of irrigation and and with the savings that
**00:53:03 --> 00:53:04:** we saw there.
**00:53:05 --> 00:53:11:** So moving on to the next slide, let's just quickly
**00:53:11 --> 00:53:15:** get into the efficiency again.
**00:53:15 --> 00:53:20:** But before I go there, let me just mention that
**00:53:20 --> 00:53:25:** we've been earning the EPA Sustained Excellence Award for from
**00:53:25 --> 00:53:29:** Watersense program for many years.
**00:53:29 --> 00:53:32:** And that's because of a real deep commitment for water
**00:53:33 --> 00:53:33:** efficiency.
**00:53:33 --> 00:53:38:** We really saw it as a permit to operate and
**00:53:38 --> 00:53:44:** social responsibility #1 but it also with the price of
**00:53:44 --> 00:53:49:** water to to the end consumer going up higher than
**00:53:49 --> 00:53:55:** any other many other indices, it's, it's the right thing
**00:53:55 --> 00:53:59:** to do to lower their monthly cost.
**00:54:00 --> 00:54:04:** And so we, the Water Sense program came about in
**00:54:04 --> 00:54:08:** 2010 and we jumped on it right away.
**00:54:09 --> 00:54:13:** And then there was a rating system created for water
**00:54:13 --> 00:54:19:** efficiency and we were the first builder also to implement
**00:54:19 --> 00:54:22:** it to water efficiency by design.
**00:54:23 --> 00:54:29:** We've heard about this from from the previous presenters.

**00:54:29 --> 00:54:32:** And the main thing that I would say is you
**00:54:32 --> 00:54:36:** gotta take it as a whole house approach, not just
**00:54:36 --> 00:54:40:** fixtures, not just the landscaping, the whole house approach.
**00:54:40 --> 00:54:44:** One of the big wasters of of water inside the
**00:54:45 --> 00:54:48:** house is hot water distribution.
**00:54:49 --> 00:54:52:** You're waiting a lot, a lot of time for the
**00:54:52 --> 00:54:55:** hot water to arrive at the at the faucet or
**00:54:55 --> 00:54:56:** shower.
**00:54:56 --> 00:55:02:** And that can be resolved with what's called on demand
**00:55:02 --> 00:55:06:** resork pumps, or it can be solved also by quick
**00:55:06 --> 00:55:07:** design.
**00:55:07 --> 00:55:12:** So for example, many floor plans and designs of homes
**00:55:13 --> 00:55:17:** have the water heater in the garage at the far
**00:55:17 --> 00:55:23:** side of the garage towards the side side side yard.
**00:55:23 --> 00:55:27:** But a simple relocation of that water heater to the
**00:55:27 --> 00:55:32:** other side of the garage, the side that's closer to
**00:55:32 --> 00:55:36:** the middle of the house makes it very much easier.
**00:55:36 --> 00:55:39:** And the distance that hot water has to travel is
**00:55:39 --> 00:55:40:** much less.
**00:55:40 --> 00:55:45:** So that's a minimum kind of design feature that that
**00:55:46 --> 00:55:47:** we do everywhere.
**00:55:47 --> 00:55:51:** It's minimum cost and and it's very effective.
**00:55:52 --> 00:55:56:** The one other thing you've seen here, the water sense
**00:55:56 --> 00:56:02:** fixtures, others talked about them, water pressure regulators are important
**00:56:02 --> 00:56:05:** because even if you have low flow fixture but the
**00:56:06 --> 00:56:09:** pressure is very high, it will still flow more water
**00:56:09 --> 00:56:10:** than needed.
**00:56:12 --> 00:56:15:** And finally, technologies, we heard about them.
**00:56:15 --> 00:56:18:** I'm not going to go there, but lot size is
**00:56:18 --> 00:56:19:** very important.
**00:56:19 --> 00:56:22:** I don't know if you all have been noticing lot
**00:56:22 --> 00:56:26:** sizes are getting smaller and with a smaller lot size
**00:56:26 --> 00:56:28:** we can do better.
**00:56:30 --> 00:56:33:** However, how do we communicate all this to a customer
**00:56:33 --> 00:56:34:** in a very simple way?
**00:56:35 --> 00:56:37:** Well, and and of course, how do we measure so
**00:56:38 --> 00:56:39:** we can continue to improve?
**00:56:40 --> 00:56:46:** That's where certification like the water sense certificate for the
**00:56:46 --> 00:56:47:** house.
**00:56:47 --> 00:56:51:** We're not talking water sense certificate for a fixture, toilet

**00:56:51 --> 00:56:52:** or or a shower head.
**00:56:52 --> 00:56:53:** This is for the whole house.
**00:56:53 --> 00:56:56:** So the whole house approach there is such a certificate.
**00:56:57 --> 00:57:02:** It has a easy check, not easy, but an effective
**00:57:02 --> 00:57:08:** doable checklist and it also requires on the score for
**00:57:08 --> 00:57:14:** for the Resnet hers H2O score, it requires a score
**00:57:14 --> 00:57:19:** of 70 or less and the lower the better of
**00:57:19 --> 00:57:20:** course.
**00:57:20 --> 00:57:23:** But if you have 70 or less with the checklist
**00:57:24 --> 00:57:29:** that they have minimal prescriptive checklist, you get the home
**00:57:29 --> 00:57:34:** water sense certified, which is an easy communication with our
**00:57:35 --> 00:57:39:** home owners to say you, you know, your home has
**00:57:39 --> 00:57:42:** achieved an EPA better than standards label.
**00:57:43 --> 00:57:47:** And of course the with the score as well.
**00:57:47 --> 00:57:50:** We are, we have a yardstick that is very, very
**00:57:50 --> 00:57:56:** usable throughout our territories, also throughout different floor plans we
**00:57:56 --> 00:57:56:** use.
**00:57:57 --> 00:58:01:** And we, we can use it to continually improve or
**00:58:01 --> 00:58:04:** even play what if, what if we change this and
**00:58:04 --> 00:58:09:** see how the scores change or set targets for ourselves.
**00:58:09 --> 00:58:15:** Today, our last year in in 22, our average HERS
**00:58:16 --> 00:58:19:** H2O score across was 62.
**00:58:20 --> 00:58:24:** We may set a standard in five years, we want
**00:58:24 --> 00:58:25:** to be at 50 etcetera.
**00:58:26 --> 00:58:31:** And this certification and rating is very easy because it
**00:58:31 --> 00:58:35:** is done by the same raters that come to do
**00:58:35 --> 00:58:39:** energy rating and very easy for for us to do
**00:58:39 --> 00:58:40:** that.
**00:58:41 --> 00:58:45:** So what's covered in the H2O rating there is there
**00:58:45 --> 00:58:50:** are they cover everything from inside the house to outside
**00:58:50 --> 00:58:54:** the house and all the uses related to that including
**00:58:54 --> 00:58:55:** leaks.
**00:58:55 --> 00:59:02:** So they predict some leaks, particularly in the landscaping irrigation
**00:59:02 --> 00:59:07:** and they create, they compare that to a standard home
**00:59:07 --> 00:59:11:** and a baseline home, which was designed in the NC
**00:59:11 --> 00:59:16:** standard for this rating system and it it goes from
**00:59:16 --> 00:59:17:** there.
**00:59:17 --> 00:59:20:** We don't ourselves, KB Home does not do a whole
**00:59:20 --> 00:59:24:** lot of pools and spas, but if other builders do,

**00:59:24 --> 00:59:26:** that's calculated in there as well.
**00:59:28 --> 00:59:33:** The result is an analysis in the software and a
**00:59:33 --> 00:59:34:** score.
**00:59:34 --> 00:59:38:** This is the score for our lowest home in our
**00:59:38 --> 00:59:41:** fleet that we got last year.
**00:59:41 --> 00:59:44:** It had a HERS H2O score of 44 and the
**00:59:44 --> 00:59:49:** analysis provides that information for a home owner along with
**00:59:50 --> 00:59:54:** this water sense label and then of course tells us
**00:59:54 --> 00:59:59:** a little bit about what sort of savings the customer
**00:59:59 --> 01:00:03:** can expect and what's, what are the savings in terms
**01:00:03 --> 01:00:04:** of gallons.
**01:00:05 --> 01:00:09:** As it was said by Steve a few minutes ago,
**01:00:09 --> 01:00:13:** these kind of things can can help us present to
**01:00:13 --> 01:00:18:** a municipality that a builder and new construction, new development
**01:00:18 --> 01:00:21:** is part of a the solution, not the.
**01:00:22 --> 01:00:27:** Problem, the problem are the homes that use a lot
**01:00:27 --> 01:00:30:** of water and here is a solution.
**01:00:30 --> 01:00:34:** It also could help us produce our tap fees and
**01:00:34 --> 01:00:37:** other requirements that we've heard about so far.
**01:00:40 --> 01:00:42:** You know, was this confirmed?
**01:00:42 --> 01:00:45:** Was this tested and confirmed?
**01:00:45 --> 01:00:50:** Yes, by EPA, they with the Southern Nevada Water Authority
**01:00:50 --> 01:00:54:** took the fleet of homes, some of the homes that
**01:00:54 --> 01:00:59:** we built in Las Vegas that were Watersense labeled in
**01:00:59 --> 01:01:04:** the year 2021 and worked with the local water utilities
**01:01:05 --> 01:01:09:** to access the actual usage of these homes for about
**01:01:09 --> 01:01:11:** a year, a year plus.
**01:01:12 --> 01:01:16:** And did the did the analysis on how was how
**01:01:16 --> 01:01:21:** are these homes using water versus homes that are typically
**01:01:21 --> 01:01:23:** in the in the market.
**01:01:23 --> 01:01:29:** And also against this predictive analysis that the software did.
**01:01:30 --> 01:01:32:** And the answers were really good.
**01:01:32 --> 01:01:34:** This this study is available.
**01:01:35 --> 01:01:40:** It was published in AW, the journal AWWA, which is
**01:01:40 --> 01:01:43:** a very, very reputable journal.
**01:01:43 --> 01:01:47:** And again, this is a study by EPA and and
**01:01:47 --> 01:01:53:** result is that the median water use for these water
**01:01:53 --> 01:02:00:** sense labeled homes was 44,000 gallons per year compared to
**01:02:00 --> 01:02:05:** typical 97,000 gallons per year in the area.

**01:02:05 --> 01:02:11:** That's an average savings of 55% roughly when we talked
**01:02:11 --> 01:02:16:** about acre foots earlier and so on, roughly 7.5 home
**01:02:16 --> 01:02:22:** per homes, 7.5 homes per acre foot per year compared
**01:02:22 --> 01:02:27:** to three or four homes per acre foot per year
**01:02:27 --> 01:02:30:** typically seen in the West.
**01:02:30 --> 01:02:35:** So significant savings documented and can be used for the
**01:02:35 --> 01:02:41:** purposes that we talked about upstream in the development and
**01:02:41 --> 01:02:44:** entitlements and taps etcetera.
**01:02:46 --> 01:02:51:** Moving on to quickly to what's the entitlement picture out
**01:02:51 --> 01:02:56:** there, we're seeing mixed picture carrots and sticks.
**01:02:56 --> 01:03:01:** Let's just focus on, I'll focus on Arizona for a
**01:03:01 --> 01:03:01:** minute.
**01:03:01 --> 01:03:07:** And we've seen what the governor had stated just recently.
**01:03:07 --> 01:03:12:** Yet at the same time, there is a water authority
**01:03:13 --> 01:03:19:** that is responsible for recharging the water tables in a
**01:03:19 --> 01:03:25:** portion of Arizona that had evaluated, you know, these homes
**01:03:25 --> 01:03:31:** and what they save and decided or calculated the value
**01:03:31 --> 01:03:36:** of keeping that water for in, in the in, in,
**01:03:36 --> 01:03:42:** in the aquifers and provided an incentive for a water
**01:03:42 --> 01:03:44:** sense home, $1000.
**01:03:44 --> 01:03:49:** Takes us a long way to and incentivizes other builders
**01:03:49 --> 01:03:54:** to, to start building water sense labeled homes and rate
**01:03:54 --> 01:03:57:** them and, and document their savings.
**01:03:57 --> 01:04:01:** So that's just a sample.
**01:04:02 --> 01:04:06:** Arizona, of course, Colorado, the 2 examples that we heard,
**01:04:06 --> 01:04:10:** master plan communities that we heard is amazing.
**01:04:10 --> 01:04:15:** And we'd clearly like the carrots more than the sticks,
**01:04:15 --> 01:04:18:** but we have to deal with both of them.
**01:04:20 --> 01:04:25:** Finally, as I said, we are a publicly traded company.
**01:04:27 --> 01:04:32:** ESG is becoming very important to investors and water is
**01:04:32 --> 01:04:37:** a big portion of the ESG environmental, social and governance
**01:04:38 --> 01:04:39:** and we report on it.
**01:04:39 --> 01:04:44:** There is a a report or or a disclosure form
**01:04:44 --> 01:04:53:** called SASB Sustainability accounting standards and that that standard, they,
**01:04:53 --> 01:04:59:** they have it for financial FAS B is for financial.
**01:04:59 --> 01:05:02:** Now there is a SAS B for sustainability accounting.
**01:05:03 --> 01:05:08:** They have a certain framework for disclosure and very, very
**01:05:08 --> 01:05:12:** pointedly they ask question how many of your lots are
**01:05:12 --> 01:05:17:** in water stressed area based on a Atlas that's available

**01:05:17 --> 01:05:20:** online for where are water stresses.
**01:05:20 --> 01:05:23:** You have to declare that and, but also they ask
**01:05:24 --> 01:05:27:** how many homes did you label as water sense or
**01:05:27 --> 01:05:30:** where do you use water sense fixtures?
**01:05:30 --> 01:05:32:** How many of your homes use water sense fixtures?
**01:05:32 --> 01:05:37:** So that starts to create transparency and accountability in front
**01:05:37 --> 01:05:38:** of investors.
**01:05:39 --> 01:05:44:** And it's, it's, it's very useful.
**01:05:45 --> 01:05:51:** It's KB has been very responsive in that area and
**01:05:51 --> 01:05:59:** we have earned the Newsweek responsible company designation for several
**01:05:59 --> 01:06:00:** years now.
**01:06:01 --> 01:06:05:** But I think water will continue to get more important
**01:06:05 --> 01:06:10:** for investors, municipalities and consumers as we go forward.
**01:06:10 --> 01:06:14:** And I'm so glad that Marianne put together this this
**01:06:14 --> 01:06:14:** forum.
**01:06:14 --> 01:06:17:** So I'll stop sharing.
**01:06:17 --> 01:06:19:** I think I can.
**01:06:21 --> 01:06:23:** Thank you so much, Jacob, and a huge round of
**01:06:23 --> 01:06:25:** applause to all of our panelists today.
**01:06:26 --> 01:06:28:** It's been so exciting to see the ROI that you
**01:06:28 --> 01:06:30:** guys are showing us.
**01:06:30 --> 01:06:32:** I haven't seen these numbers before, so thank you.
**01:06:33 --> 01:06:36:** And all of you are just rock stars in this
**01:06:36 --> 01:06:36:** space.
**01:06:37 --> 01:06:40:** We've been receiving a lot of great questions in the
**01:06:40 --> 01:06:41:** chat box.
**01:06:41 --> 01:06:44:** Thank you to our audience members for submitting those.
**01:06:44 --> 01:06:46:** I'm going to go through them as much as I
**01:06:46 --> 01:06:49:** can and, and if you wanna unmute and ask as
**01:06:49 --> 01:06:51:** well, you're welcome to do that.
**01:06:52 --> 01:06:54:** I'm gonna start with a few questions that I saw
**01:06:54 --> 01:06:57:** and any of the panelists are welcome to respond.
**01:06:58 --> 01:07:01:** The first one was how should water districts engage with
**01:07:01 --> 01:07:02:** builders?
**01:07:02 --> 01:07:05:** And I'll just mention that you and I published a
**01:07:05 --> 01:07:09:** report called Water Wise Strategies for Drought Resilient Development recently.
**01:07:09 --> 01:07:12:** I'm going to put that in the chat box and
**01:07:12 --> 01:07:15:** we talked a lot about how water districts and city
**01:07:15 --> 01:07:18:** planners should work more in tandem and then together they

**01:07:18 --> 01:07:21:** canmore effectively communicate with the development community.

**01:07:22 --> 01:07:24:** So I'll just, I put that in the chat as

**01:07:24 --> 01:07:26:** a resource for all of you, but I'd love for

**01:07:26 --> 01:07:28:** our panelists to respond as well.

**01:07:28 --> 01:07:32:** In addition to that question about water districts, there's a

**01:07:32 --> 01:07:36:** question about how local government policies affect what is built

**01:07:36 --> 01:07:40:** and what consumer responses to water efficient development are.

**01:07:41 --> 01:07:44:** Maybe I'll ask, we'll do it maybe in speaker order

**01:07:44 --> 01:07:47:** because I think everyone will have good response to this.

**01:07:47 --> 01:07:48:** Brock, do you want to go first?

**01:07:51 --> 01:07:52:** I was reading the check.

**01:07:52 --> 01:07:53:** Can you repeat the question?

**01:07:55 --> 01:07:55:** Sure.

**01:07:55 --> 01:07:58:** So the So how should water districts engage with builders?

**01:07:58 --> 01:08:01:** And then how do local government policies affect what is

**01:08:01 --> 01:08:03:** built and how do consumers respond?

**01:08:05 --> 01:08:07:** So we're in a little bit of a unique situation

**01:08:07 --> 01:08:10:** where I serve on our water and sanitation district, but

**01:08:10 --> 01:08:12:** I'm also the master developer and we had to build

**01:08:12 --> 01:08:13:** our own water system.

**01:08:14 --> 01:08:16:** So I, I, I've kind of seen it from both

**01:08:16 --> 01:08:19:** the private sector side and the water district side.

**01:08:21 --> 01:08:25:** You know what, what they're seeing up north in the

**01:08:25 --> 01:08:28:** northern part of the metro area is there a lot

**01:08:28 --> 01:08:32:** of builders are having to buy CBT shares and then

**01:08:32 --> 01:08:34:** pay tap fees on top of that.

**01:08:34 --> 01:08:37:** So a lot of our builders kind of see our

**01:08:37 --> 01:08:42:** taps as being a relatively good deal relative to Castle

**01:08:42 --> 01:08:46:** Rock and some of our other municipalities.

**01:08:46 --> 01:08:49:** And then a lot of the technology, the push back

**01:08:49 --> 01:08:52:** more comes on the technology and builder packages they have

**01:08:52 --> 01:08:55:** to install more so than the actual tap fees given

**01:08:55 --> 01:08:58:** where, where we are in water and sewer costs in

**01:08:58 --> 01:08:58:** our area.

**01:08:58 --> 01:09:02:** So we've seen it more on the, I'd say kind

**01:09:02 --> 01:09:07:** of the dual water metering the ratios and making sure

**01:09:07 --> 01:09:10:** their trades can get up to speed.

**01:09:10 --> 01:09:13:** That's typically we've got mostly builder push back.

**01:09:14 --> 01:09:19:** I'm an enforcement I we've had Lennar pretty much screw

**01:09:19 --> 01:09:24:** up every landscape install they've done in the past year.
**01:09:24 --> 01:09:27:** So we have to go out and hammer them pretty
**01:09:27 --> 01:09:28:** frequently, so.
**01:09:28 --> 01:09:29:** That's fun.
**01:09:33 --> 01:09:35:** Kyle, Steve and Jacob, anyone?
**01:09:35 --> 01:09:36:** Do you guys want to respond to this as well?
**01:09:39 --> 01:09:42:** I don't know that I have any silver bullets offer
**01:09:42 --> 01:09:45:** on how the water districts work with the builders.
**01:09:45 --> 01:09:49:** I think perhaps, and this is a supposition on my
**01:09:49 --> 01:09:54:** part, where you're located geographically probably has something to do
**01:09:54 --> 01:10:00:** with builder receptivity and the receptivity of your consumers to
**01:10:00 --> 01:10:03:** all these water conservation techniques.
**01:10:03 --> 01:10:05:** I mean, you've heard from a three of us are
**01:10:05 --> 01:10:07:** representing the Front Range.
**01:10:07 --> 01:10:09:** That is a lot of discussion right now.
**01:10:10 --> 01:10:12:** And there has been a fight, not necessarily fight, maybe
**01:10:12 --> 01:10:15:** a fight between, as Brock mentioned, all this water that's
**01:10:15 --> 01:10:18:** on the Western Slope that is now being apportioned to
**01:10:18 --> 01:10:21:** many other States and the Front Range is trying to
**01:10:21 --> 01:10:21:** get it.
**01:10:21 --> 01:10:25:** So it is top of mind with, I would argue
**01:10:25 --> 01:10:28:** everyone I'd speak with on on the Front Range.
**01:10:29 --> 01:10:33:** And so this idea of a builders, we want you
**01:10:33 --> 01:10:39:** to collaborate with us in creating these the Xeric landscapes
**01:10:39 --> 01:10:45:** and deploying the water wise toilets, faucets, all of that
**01:10:45 --> 01:10:46:** stuff.
**01:10:46 --> 01:10:49:** It's not a hard sell at all.
**01:10:49 --> 01:10:52:** But I suspect in places where you don't have the,
**01:10:52 --> 01:10:55:** OR at least there's not a perception of water scarcity,
**01:10:55 --> 01:10:58:** that might be a bigger a bigger challenge.
**01:10:58 --> 01:11:02:** I would mention that relative to how do the municipalities
**01:11:02 --> 01:11:02:** play into this.
**01:11:02 --> 01:11:04:** I was just on a call with Broomfield, one of
**01:11:05 --> 01:11:07:** the counties in and around the Denver metro area.
**01:11:07 --> 01:11:12:** They are mandating now water wise landscapes.
**01:11:12 --> 01:11:14:** So it is happening.
**01:11:14 --> 01:11:17:** And I think for all of us who develop in
**01:11:17 --> 01:11:21:** areas where water is a scarce resource, this is absolutely
**01:11:21 --> 01:11:23:** a sign of things to come.
**01:11:23 --> 01:11:26:** And if you haven't been mandated to do it, it's,

**01:11:26 --> 01:11:29:** it's, you're going to be in the not so distant
**01:11:29 --> 01:11:31:** future, probably not, not a help.
**01:11:31 --> 01:11:33:** I think I saw somebody from Texas who, who asked
**01:11:33 --> 01:11:34:** for that advice.
**01:11:34 --> 01:11:37:** I, I don't have a sense for the scarcity or
**01:11:37 --> 01:11:38:** not of water in that area.
**01:11:38 --> 01:11:40:** But for where it is scarce, you're going to see
**01:11:40 --> 01:11:42:** a lot of additional regulation.
**01:11:42 --> 01:11:43:** So better to get out of it.
**01:11:46 --> 01:11:48:** I can say from my perspective, I am with a
**01:11:48 --> 01:11:52:** Water Management District, I'm with the Southwest Florida Water Management
**01:11:52 --> 01:11:53:** District.
**01:11:53 --> 01:11:57:** As you just mentioned, Kyle, there's the difference between the
**01:11:57 --> 01:11:59:** scarcity and the perceptive scarcity.
**01:11:59 --> 01:12:02:** When you live in Florida, we're surrounded by water with
**01:12:02 --> 01:12:04:** rainfall and heavy, heavy humidity.
**01:12:05 --> 01:12:09:** But that also means within Central Florida, we definitely our
**01:12:09 --> 01:12:12:** population is growing 1100 people a day.
**01:12:13 --> 01:12:16:** We've actually got Polk County is the 11th fastest growing
**01:12:17 --> 01:12:20:** county in the nation, worked a lot with KB Homes
**01:12:20 --> 01:12:20:** actually.
**01:12:20 --> 01:12:25:** But from the water management perspective, we do offer rebates
**01:12:25 --> 01:12:29:** of $1000 per home per day that meets certain water
**01:12:29 --> 01:12:31:** efficiency criteria.
**01:12:31 --> 01:12:35:** I will say those rebates we've had funding of $13
**01:12:35 --> 01:12:35:** million.
**01:12:35 --> 01:12:38:** Now we're going on 14 years of $13 million.
**01:12:39 --> 01:12:43:** We've had absolutely 0 builders take advantage of a dollar
**01:12:43 --> 01:12:44:** of any of that.
**01:12:45 --> 01:12:48:** What we found is that in order to get the
**01:12:48 --> 01:12:52:** rebate, it's more about the fact that it's just another
**01:12:52 --> 01:12:54:** requirement in the inspection process.
**01:12:55 --> 01:12:58:** So what we found is most effective is we do
**01:12:58 --> 01:13:01:** work with local municipalities.
**01:13:01 --> 01:13:05:** As of now, there are about 16 municipalities within one
**01:13:05 --> 01:13:07:** county, specifically Polk.
**01:13:08 --> 01:13:08:** Is that right?
**01:13:08 --> 01:13:11:** It's a program called Florida Water * If you want
**01:13:11 --> 01:13:14:** to Google it, it's Florida Water star.com into ordinance.
**01:13:15 --> 01:13:20:** There's, you know those local municipalities as well as even

**01:13:20 --> 01:13:24:** within Water 1 water service provider, they're looking at building

**01:13:24 --> 01:13:27:** 20,000 homes within three years.

**01:13:27 --> 01:13:30:** 20,000 homes with one water service provider.

**01:13:31 --> 01:13:33:** So what they did there is an order for water

**01:13:34 --> 01:13:37:** service to transfer from the builder to the home buyer.

**01:13:37 --> 01:13:40:** They require Florida Waterstar certification.

**01:13:41 --> 01:13:45:** The way that we work with, I work with municipalities

**01:13:45 --> 01:13:49:** is really meeting with the city managers as well as

**01:13:49 --> 01:13:54:** local developers and builders together on the onset explaining the

**01:13:54 --> 01:13:59:** delicate water resource issue and then the water savings.

**01:13:59 --> 01:14:02:** We have been able to quantify water savings through this

**01:14:02 --> 01:14:06:** program through real world development studies comparing homes that are

**01:14:06 --> 01:14:10:** Florida Water Star certified compared to traditional development.

**01:14:11 --> 01:14:16:** Annual water savings per home is about 48,301 gallons per

**01:14:16 --> 01:14:21:** home and that also results also in annual utility savings,

**01:14:21 --> 01:14:26:** both water and electric of $531 per homeowner per year.

**01:14:27 --> 01:14:31:** So right now with this current ordinances that are in

**01:14:31 --> 01:14:36:** place, we're looking at 55,989 homes, which ends up the

**01:14:36 --> 01:14:42:** numbers aren't going to multiply perfectly because I deducted a,

**01:14:42 --> 01:14:46:** A, it's 55,000 units cause some of these are apartment

**01:14:46 --> 01:14:47:** units.

**01:14:47 --> 01:14:50:** So I take the apartment units out because apartment units

**01:14:50 --> 01:14:54:** have less landscape area and that definitely has an impact.

**01:14:54 --> 01:14:56:** So this is actually lower than it would be.

**01:14:56 --> 01:15:01:** But annually we're looking at 2.68 million gallons of water

**01:15:01 --> 01:15:04:** a year saved just through those ordinances.

**01:15:04 --> 01:15:07:** So if anyone wants to learn more about how to

**01:15:07 --> 01:15:12:** work with both the local municipalities, your Water Management District

**01:15:12 --> 01:15:17:** also builders, developers on how to develop those relationships and

**01:15:17 --> 01:15:21:** focus groups and trying to work together even through rebates

**01:15:21 --> 01:15:23:** and mandates, I'm I'm happy to help.

**01:15:25 --> 01:15:29:** I would just comment on on the question and and

**01:15:29 --> 01:15:33:** these this information a little bit more.

**01:15:34 --> 01:15:38:** I would say from a consumer perspective, the answer is

**01:15:38 --> 01:15:41:** start with the dollars with the customer.

**01:15:41 --> 01:15:45:** I would say everybody loves green, but the first green

**01:15:45 --> 01:15:48:** they love is the green dollar in their pocket.

**01:15:48 --> 01:15:51:** Then they can get you can continue the conversation to

**01:15:52 --> 01:15:53:** other green items.

**01:15:53 --> 01:15:57:** So always we like to give the customer a certificate

**01:15:57 --> 01:16:02:** and some savings documentation of savings that they can use

**01:16:02 --> 01:16:05:** that can help us with the customer.

**01:16:05 --> 01:16:08:** But I will take that and say yes, kudos.

**01:16:09 --> 01:16:13:** There is green dollars in in thirteen, $14 million.

**01:16:14 --> 01:16:19:** Perhaps the important thing that I would advise water utilities

**01:16:19 --> 01:16:23:** and districts consider a program that is national in scope

**01:16:23 --> 01:16:28:** because for you know, the small builder that's working in

**01:16:28 --> 01:16:32:** a local market, yes, maybe a local program could work.

**01:16:33 --> 01:16:37:** But for a program for a national builder that needs

**01:16:37 --> 01:16:41:** to look at one process that works across the country,

**01:16:41 --> 01:16:46:** a national program or national system like Watersense labeled homes

**01:16:46 --> 01:16:50:** and the HERS H2O rating isn't a tool that we

**01:16:50 --> 01:16:53:** can can use not just in Florida, but across the

**01:16:53 --> 01:16:54:** whole country.

**01:16:55 --> 01:16:58:** And so for you to get the get the big

**01:16:58 --> 01:17:04:** builders to play, perhaps consider using tools that are national

**01:17:04 --> 01:17:08:** in in scope that will get the attention and get

**01:17:09 --> 01:17:12:** traction within that builder's machine.

**01:17:14 --> 01:17:17:** I do completely agree and that's why I was definitely

**01:17:17 --> 01:17:20:** involved with the Hearst development of their program.

**01:17:21 --> 01:17:22:** We were on their team.

**01:17:23 --> 01:17:25:** We actually started about 15 years ago.

**01:17:25 --> 01:17:28:** The reason why Florida Water Star is a little bit

**01:17:28 --> 01:17:31:** different is if you look at Colorado's environment versus a

**01:17:31 --> 01:17:35:** very subtropical environment in Florida, it's very different.

**01:17:35 --> 01:17:37:** But I really appreciate all your feedback.

**01:17:37 --> 01:17:38:** I just wanted to throw that in there.

**01:17:38 --> 01:17:39:** Thank you so much.

**01:17:40 --> 01:17:41:** Thank you, Robin.

**01:17:41 --> 01:17:44:** And I want to also mention that Austin, Austin, are

**01:17:45 --> 01:17:46:** you still here?

**01:17:47 --> 01:17:49:** He works for Denver Water and had a a good

**01:17:49 --> 01:17:51:** response to this as well.

**01:17:52 --> 01:17:53:** Yeah, I'm still here.

**01:17:53 --> 01:17:55:** I can run through our program real quick.

**01:17:56 --> 01:18:00:** So for new system development charges, if we have developers

**01:18:00 --> 01:18:03:** that want to reduce their tap fees, we require all

**01:18:04 --> 01:18:08:** of the most efficient fixtures, appliances, water using devices that

**01:18:08 --> 01:18:10:** are currently on the market.

**01:18:11 --> 01:18:15:** And we go above and beyond the EPA Watersense products

**01:18:15 --> 01:18:20:** because those are already mandated at the state level in

**01:18:20 --> 01:18:21:** Colorado.

**01:18:21 --> 01:18:24:** So those should be the only products that are available

**01:18:25 --> 01:18:26:** in our marketplace.

**01:18:26 --> 01:18:29:** So we need to take that next step to incentivize

**01:18:29 --> 01:18:31:** developers to go beyond that.

**01:18:31 --> 01:18:34:** But what we do is we offer a 2020% reduction

**01:18:34 --> 01:18:37:** in tap fees if they put all the most efficient

**01:18:37 --> 01:18:42:** fixtures in and then also design outdoor landscapes to use

**01:18:42 --> 01:18:44:** 7.5 gallons per square foot or less.

**01:18:45 --> 01:18:49:** And we have been running that program for about six

**01:18:49 --> 01:18:54:** years now and probably have about 30 different large properties

**01:18:54 --> 01:18:58:** developments through it and are just now getting back all

**01:18:58 --> 01:19:02:** of our data analysis to show that it has worked

**01:19:02 --> 01:19:03:** really well.

**01:19:03 --> 01:19:06:** And we're seeing more than a 20% reduction in water

**01:19:06 --> 01:19:10:** use compared to standard building construction in City and County

**01:19:10 --> 01:19:13:** of Denver and our surrounding communities.

**01:19:17 --> 01:19:17:** Excellent.

**01:19:17 --> 01:19:17:** Thank you.

**01:19:17 --> 01:19:18:** Sure.

**01:19:19 --> 01:19:22:** And I'll just mention that we're going to focus more

**01:19:22 --> 01:19:24:** on policies in another session.

**01:19:24 --> 01:19:26:** So I'm going to go back to a question that

**01:19:26 --> 01:19:30:** someone put in the chat about, you know, Mcwinney seeing

**01:19:30 --> 01:19:32:** a lot of ROI in a 10 year time frame

**01:19:32 --> 01:19:35:** and a lot of developers will build something and then

**01:19:35 --> 01:19:36:** sell the asset.

**01:19:36 --> 01:19:39:** So I think the question is, I mean, I know

**01:19:39 --> 01:19:42:** you answered that you hold for 30, but for other

**01:19:42 --> 01:19:46:** developers, are you also seeing an increase in asset value

**01:19:46 --> 01:19:51:** from these efficiency improvements and how can we quantify that

**01:19:51 --> 01:19:53:** And it's I guess for Kyle.

**01:19:54 --> 01:19:54:** Sure.
**01:19:58 --> 01:20:01:** The analysis that I I walked us through is actually
**01:20:02 --> 01:20:06:** a little bit different from being specific to an asset,
**01:20:06 --> 01:20:08:** but rather the public lands.
**01:20:08 --> 01:20:10:** And so this may be a bit of a unique
**01:20:10 --> 01:20:13:** situation as a master developer.
**01:20:14 --> 01:20:18:** We have you know we've got baselines 1100 acres and
**01:20:18 --> 01:20:19:** terrace 3500 acres.
**01:20:19 --> 01:20:22:** We have another project we're looking at is another 1000
**01:20:22 --> 01:20:22:** acres.
**01:20:22 --> 01:20:25:** So those, my comment on the 30 years was yes,
**01:20:25 --> 01:20:29:** we will sell off some things during that time period,
**01:20:29 --> 01:20:30:** but really the build out.
**01:20:30 --> 01:20:32:** Is measured in terms of decades.
**01:20:33 --> 01:20:36:** We will retain ownership of some of the physical assets,
**01:20:36 --> 01:20:39:** some of the actual vertical assets themselves for for a
**01:20:39 --> 01:20:41:** long period of time.
**01:20:41 --> 01:20:45:** And I suspect if you have less water consumption specific
**01:20:45 --> 01:20:49:** to those assets that could absolutely be calculated into an
**01:20:49 --> 01:20:51:** NOI cap at at the end of some time period.
**01:20:51 --> 01:20:55:** And you can figure out, hey, this is what the
**01:20:55 --> 01:20:59:** value of that is more of from a master developer
**01:20:59 --> 01:21:00:** perspective.
**01:21:01 --> 01:21:04:** What is helpful for us is, and this gets a
**01:21:04 --> 01:21:09:** little bit into the esoteric topic of metro districts and
**01:21:09 --> 01:21:12:** other municipal financing mechanisms.
**01:21:12 --> 01:21:15:** But to the extent that we can help our metro
**01:21:15 --> 01:21:19:** district structures, which are quasi municipal structures that have the
**01:21:19 --> 01:21:22:** ability in Colorado, I think there are Muds in Texas
**01:21:22 --> 01:21:26:** and they're different iterations of these in other states.
**01:21:26 --> 01:21:31:** They have the ability to put in infrastructure using by
**01:21:31 --> 01:21:35:** and large tax increment financing to the extent that they
**01:21:35 --> 01:21:40:** are also putting in irrigation infrastructure and paying for the
**01:21:40 --> 01:21:46:** ongoing operation of landscaping and doing landscaping maintenance as part
**01:21:46 --> 01:21:48:** of their charge.
**01:21:48 --> 01:21:53:** Then from a master developer perspective, who relies upon those
**01:21:53 --> 01:21:57:** districts and those funds that are generated to not only
**01:21:57 --> 01:22:03:** lands, public landscaping, public irrigation, but also roadways and water
**01:22:03 --> 01:22:07:** and sewer and any number of other things, those are

**01:22:07 --> 01:22:09:** dollars that that district can save.
**01:22:10 --> 01:22:13:** And in so doing, it can, because money is fungible.
**01:22:13 --> 01:22:17:** It can use those dollars to spend on other infrastructure,
**01:22:17 --> 01:22:20:** public infrastructure projects.
**01:22:20 --> 01:22:23:** And it's helpful to know that I've never worked on
**01:22:23 --> 01:22:26:** a project where the Metro District funding mechanism is enough
**01:22:26 --> 01:22:27:** to cover all the infrastructure.
**01:22:27 --> 01:22:28:** Cost.
**01:22:28 --> 01:22:32:** So by saving the district money in one area, those
**01:22:32 --> 01:22:37:** dollars can be deployed elsewhere and ultimately it reduces the
**01:22:37 --> 01:22:41:** dollars that the developer has to come to the table
**01:22:41 --> 01:22:42:** with for infrastructure.
**01:22:43 --> 01:22:46:** So that's really what and as a master developer who's
**01:22:46 --> 01:22:48:** going to be doing this thing over the course of,
**01:22:48 --> 01:22:51:** you know, well, 20-30 in some instances 40 years, that
**01:22:51 --> 01:22:52:** adds up over time.
**01:22:52 --> 01:22:56:** So we do have a long term perspective by virtue
**01:22:56 --> 01:23:00:** of the build out of these long master plan communities.
**01:23:00 --> 01:23:03:** And that's, I guess one of the motivations for for
**01:23:03 --> 01:23:06:** doing what we're doing, if that makes sense.
**01:23:06 --> 01:23:07:** Yeah, that's great.
**01:23:07 --> 01:23:08:** And then, Jacob, I guess I'm going to turn that
**01:23:08 --> 01:23:09:** question to you.
**01:23:09 --> 01:23:13:** Are you seeing asset value increases from efficiency improvements?
**01:23:13 --> 01:23:15:** And I know you also do 00 homes.
**01:23:15 --> 01:23:17:** I don't know if you can talk a little bit
**01:23:17 --> 01:23:17:** about that.
**01:23:19 --> 01:23:19:** Yeah.
**01:23:20 --> 01:23:25:** So we have not tested it related to water efficiency,
**01:23:25 --> 01:23:28:** but related to energy efficiency.
**01:23:29 --> 01:23:30:** We've tested that.
**01:23:30 --> 01:23:35:** And there are also some third party studies that were
**01:23:35 --> 01:23:39:** done about the additional value especially at the resale level
**01:23:40 --> 01:23:44:** if the home has the Energy Star certification for the
**01:23:44 --> 01:23:44:** home.
**01:23:44 --> 01:23:49:** There are studies out there, one by UCLA, another I
**01:23:49 --> 01:23:52:** think by Fannie or Freddie.
**01:23:54 --> 01:23:55:** They also did a study there.
**01:23:57 --> 01:23:59:** As far as water, I'm not I'm not aware of
**01:23:59 --> 01:24:02:** a study that was done or we have not been

**01:24:02 --> 01:24:03:** able to put a value on that.
**01:24:03 --> 01:24:09:** However, the tool cost of ownership as documented either by
**01:24:09 --> 01:24:15:** developers or by the rating software that we have, the
**01:24:15 --> 01:24:21:** rating system is very much achievable and will add value
**01:24:21 --> 01:24:22:** to to customers.
**01:24:24 --> 01:24:29:** As far as the 00, you know, we've heard the
**01:24:29 --> 01:24:30:** idea of 2 meters.
**01:24:31 --> 01:24:32:** We love that idea.
**01:24:32 --> 01:24:35:** We also love the idea of buying water once in
**01:24:36 --> 01:24:40:** the home and using it twice, but sometimes that doesn't
**01:24:40 --> 01:24:44:** happen for some economic or other regulations.
**01:24:44 --> 01:24:48:** We would love to see that happen where it's used
**01:24:48 --> 01:24:52:** after regular use, it's used in toilets or after regular
**01:24:52 --> 01:24:56:** use it's used in, in, in the landscaping before we
**01:24:56 --> 01:24:58:** give up that water.
**01:24:59 --> 01:25:03:** These are useful things and that's what the 00 house
**01:25:03 --> 01:25:04:** was about.
**01:25:04 --> 01:25:06:** It was or, or series of homes.
**01:25:06 --> 01:25:10:** It was homes with grey water recycling that used the
**01:25:10 --> 01:25:12:** water twice before letting it go.
**01:25:12 --> 01:25:17:** And it's still it's in in in its infancy again.
**01:25:17 --> 01:25:22:** There is some resistance to it economically, but also sometimes
**01:25:23 --> 01:25:24:** some regulations.
**01:25:25 --> 01:25:28:** And before I give up the mic, I just have
**01:25:28 --> 01:25:29:** to please forgive me.
**01:25:29 --> 01:25:32:** I need to drop off in a couple of minutes
**01:25:32 --> 01:25:33:** for another meeting.
**01:25:34 --> 01:25:35:** I know, I know a lot of us will need
**01:25:36 --> 01:25:37:** to drop off in a couple minutes.
**01:25:37 --> 01:25:39:** I just want to take a moment to thank all
**01:25:39 --> 01:25:40:** of our speakers.
**01:25:40 --> 01:25:42:** Again, I know we didn't get to all the questions
**01:25:42 --> 01:25:43:** in the chat box.
**01:25:43 --> 01:25:45:** If the speakers have a moment to look at those
**01:25:45 --> 01:25:47:** and respond to the ones that pertain to them, that
**01:25:47 --> 01:25:48:** would be great.
**01:25:48 --> 01:25:51:** And I'm just going to talk a little bit about
**01:25:51 --> 01:25:55:** our upcoming programming for the Coalition before everyone needs to
**01:25:55 --> 01:25:55:** leave.
**01:25:56 --> 01:26:00:** So our next meeting is already scheduled for September 6th

**01:26:00 --> 01:26:02:** from 1:00 to 2:30 PM Mountain Time.

**01:26:02 --> 01:26:05:** And I'll let you guys, I've already sent the calendar

**01:26:05 --> 01:26:08:** invite, so hopefully that's in your local time.

**01:26:09 --> 01:26:13:** We'll have a presentation from Jonah Shine with EPA Watersense

**01:26:13 --> 01:26:17:** program to talk about Watersense homes, which Jacob already did

**01:26:17 --> 01:26:19:** a great job teeing up today.

**01:26:19 --> 01:26:23:** And we'll also have a presentation by Michael Colignon about

**01:26:23 --> 01:26:25:** the water efficiency rating system.

**01:26:26 --> 01:26:30:** So these are really wonderful things that are resources for

**01:26:30 --> 01:26:30:** everyone.

**01:26:31 --> 01:26:37:** We'll have upcoming quarterly presentations on landscaping codes, water wise

**01:26:37 --> 01:26:43:** policies, water pricing and affordability, one water approaches, water reuse

**01:26:43 --> 01:26:48:** and then potentially appraisals and MLS listings and how do

**01:26:48 --> 01:26:51:** we advance water smart development.

**01:26:52 --> 01:26:55:** So if you have any other ideas or proposals for

**01:26:55 --> 01:26:58:** things that you would like to share with the group,

**01:26:58 --> 01:27:02:** please send me an e-mail, my emails on my face

**01:27:02 --> 01:27:05:** icon, but also you can find my e-mail and all

**01:27:05 --> 01:27:07:** of our e-mail communications.

**01:27:07 --> 01:27:10:** And we just want to thank you for joining us

**01:27:10 --> 01:27:10:** today.

**01:27:10 --> 01:27:12:** This has been a real pleasure to hear from you

**01:27:12 --> 01:27:13:** all and to see you.

**01:27:13 --> 01:27:15:** And we hope that you stay in touch over time.

**01:27:16 --> 01:27:17:** Thank you again.

**01:27:23 --> 01:27:24:** Thank you everyone.

**01:27:24 --> 01:27:25:** Thank you.

---