



How InfoWater Pro helps Davidson Water handle the pressure

From upgrading pumps to choosing the right surge control device, the membership-based utility has gone from strength to strength using Autodesk's InfoWater Pro. Find out more in this ebook.



Preventing piping problems

70% of Davidson Water's water distribution system is comprised of PVC piping that it has been slowly replacing over time. It has experienced a significant number of water main breaks, many of which it has attributed to water hammer or transient events.

To keep moving forward on its replacement of PVC, it performs systemwide transient analyses to mitigate the risk of leaks and breaks.

Originally an add-on app called InfoSurge, Autodesk added this critical functionality into the app in early 2023. It's now standard issue for all InfoWater Pro subscribers.

“Full distribution surge models are important in identifying issues not just at pump stations but throughout the system. Creating an accurate transient model allows us to understand the dynamics of the entire system. It can also help you perform ‘what if’ scenarios without going into the field to try things with experimentation.”

Crystal Broadbent, Senior Associate at Hazen and Sawyer

To skeletonize... or not to skeletonize?

While it's tempting to rely on skeletonization (the process of representing a water distribution network model by only selected pipes) to reduce your model size and make your analysis more simplified when computing transients like this, try rethinking skeletonization.

Skeletonization techniques and demand reallocation strategies can sometimes lead to poorly designed and inadequate transient mitigation strategies or overdesign. So, systemwide transient analysis becomes critical.



To find the best, test

Davison Water modeled the water distribution network in InfoWater Pro, including its new pump station and several new water lines on both the suction and discharge sides.

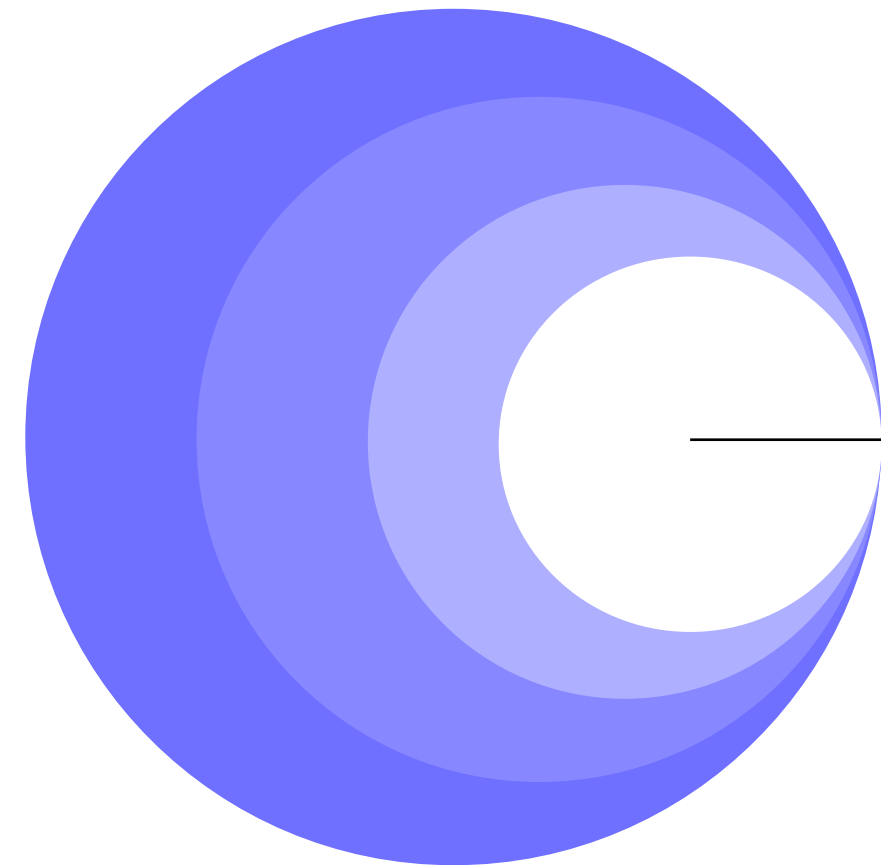
InfoWater Pro's Surge Analysis feature can accommodate a wide range of commonly employed devices, including open surge tanks, closed surge tanks and pump bypass lines.

By considering and testing all your options, you can choose the most reliable device and pinpoint exactly where it should be located.

By trying out a bypass check valve in InfoWater Pro to mimic the behavior of water as it continues to pass through the station, Davidson gained additional benefits such as helping to attenuate unforeseen transient surges that may develop in the future.

Focusing on water hammer effects has given Davidson the clearest and most accurate view of the inner workings of its pipes.

PVC pipe replacement strategy using hydraulic modeling has already paid off big.



36%
decrease in leaks over 10
years after replacing PVC
with Ductile Iron (DI) pipe.

Puddles the detection dog

Not all pipe breaks and leaks can be avoided, even with every high-tech tool. So, in 2022, Davidson Water added a new tool to its toolbox: Puddles the leak-detection dog.

This three-year-old chocolate Labrador retriever has been trained to sniff out off-gassing chlorine in treated water, sometimes from up to four feet underground.

A rock-solid future

In 2022, Davidson Water recorded **no violations of any permit conditions, environmental regulations, or environmental laws.**

Building community with integrity

Thanks to 50 years of harnessing digital technology and innovation like InfoWater Pro, Davidson Water has gone from strength to strength.

It also works closely with the community by bumping up security beyond what is required for both its water plants and source waters.

If that's not enough, it also offers scholarships to local high schools and colleges and donates money to local charities and food banks.

Want to know more?

Discover how InfoWater Pro can help you plan, design, and operate your water distribution systems more efficiently.

[Learn more >](#)