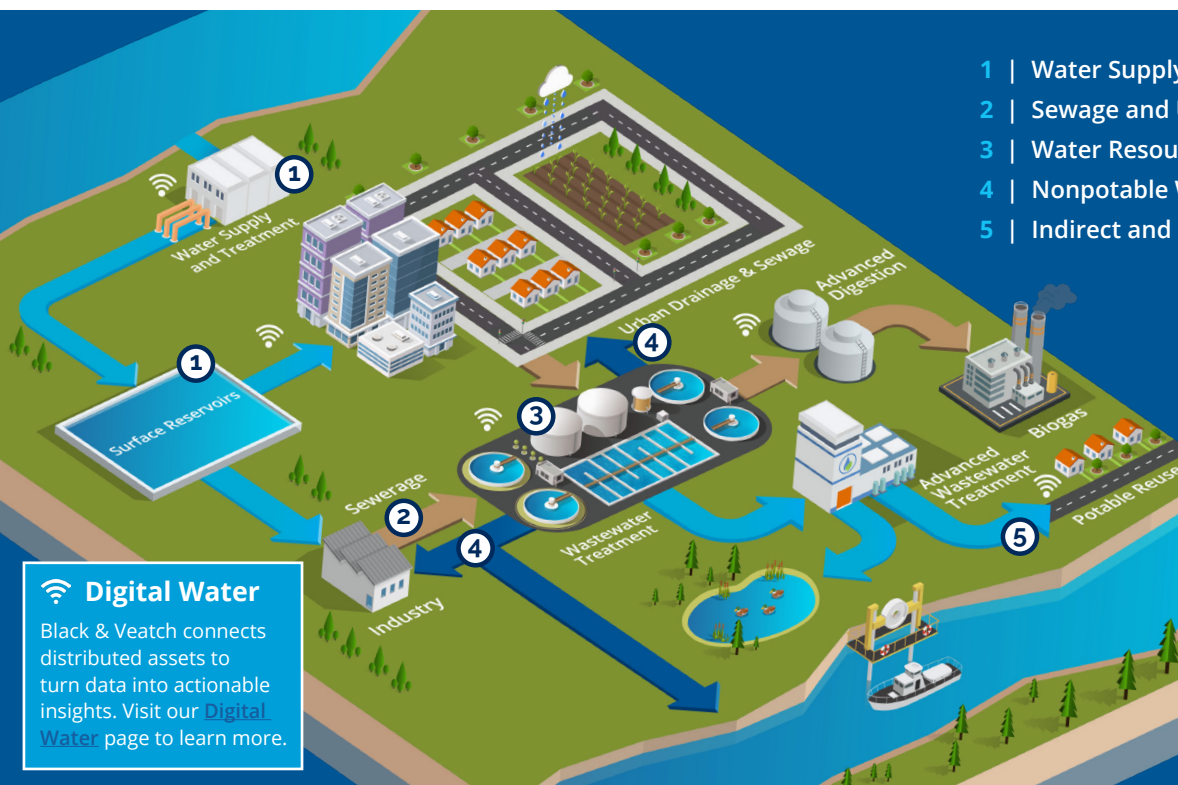


COVID-19: Total Water Cycle and Recycling

SARS-CoV-2 is the type of coronavirus that causes COVID-19. It is one of millions of viruses that exist in nature. While much is still unknown about this novel coronavirus, the science behind water and wastewater treatment, including the removal and inactivation of pathogenic organisms and viruses, is well established. Modern water systems and facilities are designed to remove and destroy a multitude of viruses and pathogens.



We have deployed our resources and are collaborating with research and industry institutions to improve existing and develop new solutions to detect, monitor and abate this and similar systematic problems. See our other similar items on:

[COVID and the Treatment of Drinking Water](#)

[COVID and the Treatment of Wastewater](#)

[COVID and Water Utility Resilience](#)

	Urban Drainage & Sewage Collection System	Water Resource Recovery Facility (WRRF)	Nonpotable Water Recycling	Indirect and Direct Potable Water Recycling
<p>What we know</p>	SARS-CoV-2 is shed and present in sewage from communities that have contracted the virus. Sewage environment is suitable for survival of pathogens.	SARS-CoV-2 can persist in sewage until it arrives at WRRFs. Existing processes result in removal, predation, and inactivation of broad classes of viruses and other pathogens.	Conventional treatment units are designed for disinfection of known levels of other viruses and pathogens. Disinfection has been proven adequate for related coronaviruses.	Advanced treatment design and regulations provide multibarrier approach. Pathogens are targeted to ensure public safety.
<p>Challenges & information gaps</p>	<ul style="list-style-type: none"> Viability and fate of virus once shed Measurement methods and reliable data management Community health and virus presence correlations 	<ul style="list-style-type: none"> Presence and viability of it in aerosols, worker safety impacts Fate under different operating conditions Inactivation with different disinfectants 	<ul style="list-style-type: none"> Additional levels of safety factors may be needed depending on the findings of fate of CoV-2 virus Ability to monitor and respond to outbreaks using other surrogates 	<ul style="list-style-type: none"> Additional levels of safety factors may be needed depending on the findings of fate of CoV-2 virus Ability to monitor and respond to outbreaks using other surrogates Applicability of standard protocols and guidance
<p>BV's current efforts</p>	<ul style="list-style-type: none"> Supporting and leading research Developing virus tracking and monitoring tools Deploying Digital Water solutions for predictive warning systems 	<ul style="list-style-type: none"> Supporting and leading research Assessing the fate of the virus through treatment processes Developing virus tracking and monitoring tools Deploying Digital Water solutions for operations support 	<ul style="list-style-type: none"> Supporting and leading research Assessing the need for additional safety factors in design of new systems Using multibarrier approach for operations flexibility and resilience Deploying Digital Water solutions 	<ul style="list-style-type: none"> Supporting research into viability, public health impacts, developing new guidance Assessing the need for additional safety factors in design of new systems Using multibarrier approach for operations flexibility and resilience Deploying Digital Water solutions