May 19, 2021

The Honorable Nancy Pelosi
Speaker of the House
U.S. House of Representatives
Room H-305, The Capitol
Washington, DC 20515

The Honorable Chuck Schumer
Majority Leader
United States Senate
Room S-221, The Capitol
Washington, DC 20510

The Honorable Kevin McCarthy
Minority Leader
U.S. House of Representatives
Room H-204, The Capitol
Washington, DC 20515

The Honorable Mitch McConnell
Minority Leader
United States Senate
Room S-230, The Capitol
Washington, DC 20510

Dear Speaker Pelosi, Majority Leader Schumer, and Minority Leaders McCarthy and McConnell:

The undersigned organizations applaud the Senate for their swift bipartisan passage of the Drinking Water and Wastewater Infrastructure Act, but more needs to be done to address the pressing need for investment in water infrastructure. Resilient and sustainable water, wastewater, storm water, and water recycling are essential to public health and economic growth, and proposals under consideration in Congress would go a long way toward investing in this critical infrastructure. These proposals include increased funding for the Water Infrastructure Finance and Innovation Act (WIFIA), the State Revolving Funds (SRFs), Title XVI-WIIN Water Reclamation and Reuse Grants, and Alternative Water Source Grants. The following recommendations would enhance our shared commitment to rebuild America's water infrastructure with a focus toward modernizing the delivery of this critical public health service.

As Congress continues its deliberations, we urge you to also prioritize measures that would encourage and facilitate the adoption and deployment of smart water technologies to rebuild our infrastructure investments for the 21st century. American ingenuity is second to none, and the adoption of smart technologies can improve the efficiency and effectiveness of water utilities, improve resiliency, protect public health and water quality, strengthen the technical and managerial skills of our workforce, prevent disasters like that in Flint, Michigan, conserve water, and help address climate change by reducing energy consumption and associated greenhouse gases. In addition, as water affordability increasingly becomes an issue for many communities, these technologies can make utilities more efficient, improving services for consumers.

For example, water main breaks, sanitary sewer overflows, and storm water management increase the financial burdens on utilities both by increasing the amount of non-revenue water and wasting the costs associated with treating and pumping water. But with existing management techniques, water service providers often are unaware of problems, such as a pipe leaks, until that leak erupts. This causes significant financial, social, and environmental damage. Thus, operators are trapped in a reactive cycle rather than being empowered to proactively manage their systems with access to better, real-time data from technologies that provide the information about critical issues such as network operation and integrity and water quality.

Many utilities have begun to embrace "smart solutions" to address these urgent problems. Wireless technologies, advanced sensors, and analytical techniques create opportunities to optimize the collection, treatment, and transport of America's drinking water, wastewater, and storm water systems. These solutions empower operators by putting data to work, addressing water quality improvements, infrastructure maintenance and integrity, public health concerns, labor constraints, and water conservation. Smart solutions also will make utilities, and the companies and communities that depend on them, more resilient

to natural disasters and other disruptions, such as future pandemics, earthquakes, and floods, by enabling more accurate, timely, and targeted responses. Savings from these increased efficiencies are estimated in excess of $12 billion each year (see attachment).

In addition, digital, data-driven solutions will directly address the social and economic disparities revealed by the COVID-19 pandemic and the well-documented funding gap that jeopardizes the safe and reliable supply of water for all citizens. These investments can improve the delivery of public health services to underserved and disadvantaged communities in urban and rural America, extend infrastructure life cycles, mitigate climate impacts, and help to train the next generation of the water sector workforce in managing infrastructure operations.

Over the past several months, many of America's leading water associations, businesses, and leaders have worked together to identify opportunities to accomplish these goals, and on March 18, 2021 hosted a Congressional briefing during which they discussed many of these topics. A recording of that briefing, along with additional background information, case studies, and model legislation, can be accessed at *H_2OFutureTech.org*. In this letter, we would like to highlight several ways in which Congress can address America's water infrastructure needs of tomorrow.

Create A Water Technology Grant Program. As Congress develops water infrastructure assistance legislation, we strongly urge you to include provision for a water technology grant program similar to that included in last year's H.R. 2, *Moving Forward Act*. Such a program would support the adoption of smart water technologies and stimulate smart and innovative investments, returning multiple benefits to consumers, the environment, and public health.

Establish an Advanced Research Projects Agency – Water (ARPA-H2O). Aging infrastructure, growing compliance costs, budgetary constraints, threats to cybersecurity, and increasingly complex water quality challenges are making it more difficult and costly for communities to continue providing safe, reliable, and affordable public drinking water and clean water services to their residents. ARPA-H20 can provide a critical hub and resources for advanced research, development, and deployment of water innovation and technology to help ensure communities have the long-term and cost-effective tools needed to further provide essential water services, protect public health and the environment, and pass cost-savings onto ratepayers. We strongly support the bipartisan ARPA-H2O Act that would establish this important Agency within U.S. EPA.

Reauthorize and Fully Fund AWIA Technology Grant Programs. Section 2007 of the 2018 American Water Infrastructure Act (AWIA) authorized $10 million for each of FY19 and FY20 to promote the acceleration of water technology to address drinking water supply, quality, treatment, or security of public water systems, areas served by private wells, or source waters. Section 2017 authorized $10 million for FY19 for the review of technologies that would ensure the integrity of community water systems, including prevention and detection of contaminants. In FY21, Section 2007 received $4 million and Section 2017 received zero. To ensure that utilities upgrade their systems to leverage the efficiencies from the latest technology, we urge Congress to renew and increase the authorization for each of these programs for FY22-FY26 to $30 million per year, and fully appropriate funding.

Create a Technology Clearinghouse. Drinking water and wastewater technologies have been deployed around the country to address contaminants, water efficiency, water reuse, improved asset management, leak detection, energy, nutrient recovery, and resiliency. Due to a lack of coordinated information exchange and sharing, however, many states, which have ultimate plan and specification approval, are unaware of technology deployment in other states or do not have adequate information about technology efficacy and operations to approve and adopt those technologies. As a result of this information gap, the states have

become siloed, with technologies approved in one state often lacking approvals in others. This lack of knowledge makes it very difficult and costly for innovators and manufacturers to gain state approval, even for well-established technologies. To encourage more rapid approval of these technologies across the states, including the potential for reciprocity, Congress should authorize the creation of a technology clearinghouse to provide access to utilities, state regulators, engineering firms, and technology manufacturers to information related to the deployment and use of technologies for water, wastewater, and water recycling systems. The clearinghouse should be housed within a third-party organization best suited to collect, disseminate, update, and protect confidential business information.

Thank you for your consideration of these ideas to take full advantage of these opportunities.

Economic Justification for Smart Water Infrastructure

Examples and Case Studies

Smart Sewers

The conventional cost of South Bend, Indiana's long-term control plan for their sewer overflow problem was estimated at more than $860 million. For South Bend, with a population of just over 100,000, this equated to a burden of nearly $10,000 per citizen, which was economically unfeasible given that the average annual household income was around $32,000. The implementation of smart sewers cost approximately $360 million and reduced overflows by 70%.

Similarly, the conventional cost of Buffalo, New York's long-term control plan for their sewer overflow problem was estimated at $525 million. By employing a smart sewers approach, the overflows have already been reduced by more than 100 million gallons over expected reductions and the project budget has been reduced by $145 million with the system only partially completed.

While the capital savings numbers are significant in the above examples, even more significant is the fact that four cities that implemented smart sewers (South Bend, IN; Cincinnati, OH; Buffalo, NY; and Evansville, IN) in the 2018-2020 time period prevented 5.8 billion gallons of sewer overflows.

Smart Water Meters

Economic justification for Smart Water Meter installations varies significantly due to the varying size of cities and towns and the age of their existing water meters. One net gain that always results from smart water meter installations is savings of non-revenue water (water provided to users but not paid for due to meter inaccuracy or leaks). According to a Center for Neighborhood Technology report in 2013, 6 billion gallons of water are lost by water utilities every day. Thus, reduction in non-revenue water reduces water rates for all users and installing smart water meters is one major way to reduce water losses.

Examples: Jacksonville, FL recovered 1 billion gallons of non-revenue water over a five-year period after upgrading to smart water meters. Dallas, GA where 20% of the city's water was being lost, recovered 600,000 gallons of non-revenue water by replacing just 320 water meters. Bayonne, NJ has reduced leakage by nearly 40% and reduced water usage by over 4%. By deploying machine learning to optimize their system, the City of Manteca, CA, has reduced energy consumption and costs for treatment by up to 25%.

Acoustical Pipe Assessment

Dallas TX Water Utilities used acoustical pipe assessment to cut water main leaks from 40 leaks to less than 21 leaks per 100 miles of pipeline over a five-year period. These efforts reduced water losses on transmission pipelines by an estimated 54 million gallons per day.