APPENDIX __

Trump For America
Presidential Transition Team

A Blueprint for a 21st Century Water Infrastructure Policy

Transportation & Infrastructure
Water Policy Implementation Team

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Donald J. Trump's Vision:

TIME FRAME	NATURE OF ACTION	ACTION

Day One	Executive Order	• Issue a Presidential Policy Directive for an Integrated and Effective Water Infrastructure Policy and Strategy
		• Establish Presidential Commission on Water Infrastructure Policy Coordination and Security to:
		  ○ Review all water infrastructure programs and policies across all federal agencies and departments for consolidation, rationalization, reduction, elimination or modernization
		  ○ Development of consistent, integrated, and cost-efficient strategic plan and policy for:
		  ▪ Reorganization and streamlining federal water laws and responsibilities
		  ▪ Integrated water source and watershed management and protection to reduce costs of treatment
		  ▪ Integrated water and energy management plan
		  ▪ Water infrastructure funding
		  ▪ Sharing and adoption of best practices among utilities
		  ▪ Security of water infrastructure, including cyber security
		  ▪ Coordination of domestic water policy with international aid programs
		• Appoint an Assistant to the President for Water Policy and Security
		• Require and reinforce Buy American for all water programs, including international aid programs

First 100 Days	Executive Order/Policy Directive	• Executive Order to strengthen the cyber security of America's water infrastructure • Mandate all cost-benefit analyses consider opportunity costs incurred because of increased compliance costs • Bolster the U.S. Environmental Export Initiative's focus on promoting the export of U.S. goods and services for water and wastewater • Require full life-cycle costing for bids on federally funded projects, and that bid awards be determined on lowest long-term life-cycle cost • Mandate more rigorous water science and data collection for all new and existing regulations • Deploy the Blue Wave program to build capacity for water and wastewater utilities • Direct DOL to establish a cross-agency program for workforce development within water sector
	Legislative Action	• Ratify Commission on Water Infrastructure Policy Coordination and Security and appropriate funding • Remove cap for private activity bonds for water infrastructure • Appropriate $1 billion of new funding for WIFIA • Appropriate greater of 20% of total infrastructure spending plan or $10 billion of new funding for each of SRFs • Pass permanent Buy American standards for all water programs • Tax credits for service line replacement/filtration programs [Flint issue] • Establish and fund a "National Water Infrastructure Test Bed Network" for water technology verification, that would encourage adoption of emerging cost-saving technologies • Amend the Clean Water Act to improve federal agency coordination and advance integrated water resources management • Reform the Agricultural Act of 2014 to protect water sources by requiring collaboration between ag producers and water systems to reduce degradation of water sources
	Regulatory Action	• Eliminate regulatory barriers to pension fund investments in SRF's • Eliminate barriers to public-private partnerships (P3) investments • Establish standards encouraging use of most resilient and sustainable systems and materials in infrastructure construction, including energy efficiency
First 200 Days	Executive Order	• Improve federal agency collaboration and support for state and local in water quality research, monitoring, and data collection. • Issue an Executive Order to develop a "Knowledge and Information for Customers" (KIC) Lead program • Issue an Executive Order to promote greater water quality trading (WQT)
	Legislative Action	• Create incentives for total-cost accounting for water service and full-cost pricing, with low-income assistance • Modify LIHEAP program to apply to water (LIWAP)
	Regulatory Action	• Enhance Industrial Control Systems Cyber Emergency Response Team to deal with water sector risks
First Year	Executive Order	• Complete a Global Water Strategy by October 2017
	Legislative Action	• Establish a Center for Water Conflict Prevention and Resolution to enhance national security. • Increase investment for improved global access to Water, Sanitation, and Hygiene (WASH)
	Regulatory Action	• Require integrated regional planning for water infrastructure construction and management • Clarify EPA requirements for storm water discharges from municipal water facilities.

- Transform America's crumbling water infrastructure into a golden opportunity for accelerated economic growth and more rapid productivity gains with a deficit-neutral plan targeting substantial new infrastructure investments.

- Pursue an "America's Water Infrastructure First" policy that supports investments in clean drinking water on a reliable infrastructure grid.

- Provide maximum flexibility to the states.

- Create thousands of new jobs in construction, iron and steel manufacturing, and other sectors to build the water and wastewater infrastructure needed to enable new economic development in the U.S., all of which generate new tax revenues.

- Put American products made by American workers in the backbone of America's water infrastructure.

- Leverage new revenues and work with financing authorities, public-private partnerships, and other prudent funding opportunities.

- Harness market forces to help attract new private infrastructure investments through a deficit-neutral system of infrastructure tax credits.

- Link increases in spending to reforms that streamline permitting and approvals, improve the project delivery system, and cut wasteful spending.

- Employ incentive-based contracting to ensure projects are on time and on budget.

- Approve private sector water infrastructure projects — including pipelines, waterways, and canals — to better connect Americans with clean water.

- Work with Congress to improve our water infrastructure network, end unsafe drinking water, and reform the State Revolving Funds (SRFs), USDA programs, WIFIA and WRRDA, while also ensuring Americans that their water supply is safe.

- Incorporate new technologies and innovations into our national water infrastructure such as state-of-the-art pipelines and advancements in water distribution and conservation.

- Make clean water a high priority. Develop a long-term water infrastructure plan with city, state, and federal leaders to upgrade aging water and wastewater systems. Triple funding for state revolving loan funds programs (SRF's) to help states and local governments upgrade critical drinking water and wastewater infrastructure.

- Link increased investments with positive reforms to water infrastructure programs that reduce leaking and waste and cut costs. Complete projects faster and at lower costs through significant regulatory reform and ending needless red-tape.

Key Issues

- Water and wastewater infrastructure investment strengthens our economic platform, makes America more competitive, creates thousands of jobs, increases wages for American workers, and reduces the high cost of water for Americans associated with an aging infrastructure.

- America's water and wastewater infrastructure is a linchpin of private sector growth but, today, much of America's drinking water, wastewater, and stormwater infrastructure, including the more than one million miles of pipes beneath our streets, is nearing the end of its useful life and must be replaced.

- Many communities strain to maintain and operate their water treatment systems because of lack of funding and a morass of conflicting and overly-burdensome regulations.

- Infrastructure projects across the U.S. are routinely delayed for years due to endless studies, layer-upon-layer of red-tape, bureaucracy, and lawsuits—with virtually no end in sight. This increases costs on taxpayers and blocks Americans from obtaining the kind of water infrastructure that is needed for them to compete economically.

Quotes from Donald J. Trump on the Issue

- "We have a great plan and we are going to rebuild our infrastructure. By the way, her [Hillary Clinton] numbers is a fraction of what we're talking about, we need much more money than that to rebuild our infrastructure. Well I would say at least double her numbers and you're going to really need more than that. We have bridges that are falling down." -- Fox Business

- "We must make the investment in our fresh water infrastructure to ensure access to affordable fresh water solutions for everyone," he said on ScienceDebate. "We must explore all options to include making desalinization more affordable and working to build the distribution infrastructure to bring this scarce resource to where it is needed for our citizens and those who produce the food of the world." -- Business Insider

Campaign Promise

Mr. Trump will work with Congress to pass legislation that will reform several Acts to improve our nation's water infrastructure during the first 100 days of the Trump Administration. Trump says that clean water will be a "top priority" for his administration and that it may be "the most important issue we face as a nation for the next generation".

EXECUTIVE SUMMARY

Water is our most precious resource, one that is essential to human life and health. Access to water depends upon a reliable water infrastructure system that preserves, treats, and delivers safe drinking water to our nation's communities. However, many communities strain to maintain and operate their water treatment systems, and as much as 25-30% of the treated water that goes into our distribution systems leaks into the ground as it flows through pipes installed as many as 150 years ago. Those losses not only squander a vital and sometimes scarce resource, they represent a massive waste of the energy and associated capital required to treat and pump that water. Water is also a vital national security issue.

Investment in water infrastructure means more jobs: every $1 billion invested in infrastructure creates or supports 28,500 jobs, and every dollar invested in water and wastewater infrastructure adds $6.35 to the national economy. Moreover, every dollar of water infrastructure investment generates $1.35 in tax revenue to the federal government and $.68 to state and local governments. Water also offers an opportunity to project American leadership and boost exports of U.S. solutions, products, and services abroad.

We should carefully prioritize and invest in water and wastewater infrastructure renewal that will ensure the public health, safety, security, and economic vitality of our communities.

Below is an agenda that will meet America's water and wastewater infrastructure needs for generations to come and make the United States a leader in bringing clean water and sanitation to the world.

I. ESTABLISH A COMPREHENSIVE, INTEGRATED, AND STRATEGIC APPROACH

A. Issue a Presidential Policy Directive (PPD) for an integrated and effective water infrastructure policy and strategy.
B. Establish a Presidential Commission on Water Infrastructure Policy Coordination and Security to evaluate and create a coordinated, rational, and efficient water infrastructure policy and a process for administration. Appoint an Assistant to the President for Water Policy and Security.
C. Incorporate water security as a priority in the National Security Strategy.
D. Complete a Global Water Strategy by October 2017.

II. INCREASE PUBLIC AND PRIVATE INVESTMENT IN AMERICA'S WATER INFRASTRUCTURE AND CREATE JOBS

A. Remove the volume cap on private activity bonds (PABs).
B. Significantly increase congressional appropriations for State Revolving Funds (SRFs), enable private sector participation in SRF projects).
C. Increase the funding for the Water Infrastructure Finance and Innovation Act (WIFIA) Program.
D. Issue a "Buy American, Hire American" Executive Order on procurement.
E. Eliminate or modify U.S. Treasury tax rules and regulations related to defeasance that create obstacles to public-private partnerships and deployment of more private capital.
F. Retain tax exemptions for municipal bonds.
G. Encourage water utilities and operators to fully account for total costs.
H. Grant greater flexibility to the states to make use of unliquidated obligation (ULO) balances to provide an additional source of funding for projects.
I. Bolster the U.S. Environmental Export Initiative's focus on promoting the export of U.S. goods and services for water and wastewater.
J. Fund the U.S. Army Corps of Engineers Public-Private Partnership Demonstration Program.

III. MAKE AMERICA'S WATER INFRASTRUCTURE WORK BETTER

A. Promote Smart Technologies and Smart Cities.
   1. Establish the "National Water Infrastructure Test Bed Network".
   2. Regulatory reforms to promote adoption of better infrastructure technology.
      i. Reform technology approval process
      ii. Reform National Science Advisory Board
      iii. Infrastructure Investment Merit Test
   3. Enact legislation to promote 21st century digital water solutions.
B. The Regional Infrastructure Accelerator Demonstration Program.
C. Issue an Executive Order to strengthen the cyber security of America's water infrastructure.
D. Promote water infrastructure resilience and durability.
E. Empower local decision making.
F. Require life-cycle costing to ensure long-term value.
G. Improve systems management.
   1. Issue an Executive Order to deploy the Blue Wave program to build capacity for water and wastewater utilities.
   2. Develop a water workforce for the 21st century.
H. Promote integrated watershed management and planning.

1. Codify EPA's Integrated Planning Process as an option for local governments to address their wastewater and stormwater management needs.
2. Amend the Clean Water Act to improve federal agency coordination and advance integrated water resources management (IWRM).
3. Reform the Agricultural Act of 2014 to protect water sources by reducing agricultural runoff in watersheds.
4. Issue an Executive Order to promote greater water quality trading (WQT).
5. Issue an Executive Order to promote water and wastewater regulatory reform.

IV. MAKE AMERICA'S WATER INFRASTRUCTURE SAFER AND MORE SECURE

A. Ensure water quality.
   1. Improve federal agency collaboration and support for state and local in water quality research, monitoring, and data collection.
   2. Issue an Executive Order to develop a "Knowledge and Information for Customers" (KIC) Lead program.
   3. Replace, fix, or otherwise remedy contaminated water service lines.
   4. Clarify EPA requirements for stormwater discharges from municipal water facilities.

B. Promote global water security.
   1. Establish a Center for Water Conflict Prevention and Resolution to enhance national security.
   2. Increase investment for improved global access to Water, Sanitation, and Hygiene (WASH).

Our Challenge

Water is our most precious resource, one that is essential to human life and health. Access to water depends upon a reliable water infrastructure system that preserves, treats, and delivers safe drinking water to our nation's communities. However, "out of sight, out of mind" best describes our attitude toward water infrastructure. Much of America's drinking water, wastewater, and stormwater infrastructure, including the more than one million miles of pipes beneath our streets, is nearing the end of its useful life and must be replaced. Many communities strain to maintain and operate their water treatment systems. According to the U.S. Census Bureau, nearly half a million U.S. households still do not have access to safe drinking water or a working toilet. As much as 25-30% of the treated water that goes into our distribution systems leaks into the ground as it flows through pipes installed as many as 150 years ago. Those losses not only squander a vital and sometimes scarce resource, they represent a massive waste of the energy and associated capital required to treat and pump that water. In fact, as much as 19% of our nation's electricity consumption and 30% of our natural gas consumption is related to water treatment, pumping, and recovery. Compounding the problem, our shifting population brings significant growth to some areas of the country requiring larger pipe networks to provide water service, while population decreases in other areas deplete budgets necessary to sustain water systems built for larger customer bases. Water is also a vital national security issue. U.S. security experts expect that within ten years, countries of strategic interest to the U.S. will face significant water challenges and more and more will come to the U.S. for expertise.

In every crisis, there is opportunity, and the water infrastructure crisis is no different. Investment in water infrastructure means more jobs: every $1 billion invested in infrastructure creates or supports 28,500 jobs, and every dollar invested in water and wastewater infrastructure adds $6.35 to the national economy. Moreover, the investment is largely self-sustaining. With the increase in GDP, every dollar of water infrastructure investment generates $1.35 in tax revenue to the federal government and $.68 to state and local governments, tax revenues to help pay for the investment. Water also offers a unifying opportunity to make progress at home, while also projecting American leadership and boosting exports of U.S. solutions, products, and services abroad.

Our country has a choice: we can continue to ignore the problem, thus increasing the long-term burden for future generations,[1] or we can do the responsible thing and take a strategic approach

[1] "Tapping Private Finance and Delivery to Modernize America's Federal Water Resources," Ash Center for Democratic Governance and Innovation, Harvard Kennedy School (pending publication in January 2017). This report indicates that taxpayers typically spend several times more to fix infrastructure failures compared to the costs of routine maintenance.

to carefully prioritize and invest in water infrastructure renewal that will ensure the public health, safety, security, and economic vitality of our communities.

President-elect Trump has set forth a bold vision for a new era of American infrastructure investment. His deficit-neutral plan aims to transform America's infrastructure "into a golden opportunity for accelerated economic growth and more rapid productivity gains with … substantial new infrastructure investments." Mr. Trump's vision includes developing a water infrastructure plan with cities, states, and federal leaders that, among other things, will "[t]riple funding for state revolving loan fund programs to help states and local governments upgrade critical drinking water and wastewater infrastructure," and "[l]everage new revenues and work with financing authorities, public-private partnerships, and other prudent funding opportunities." These and other investments, in turn, will be linked to "positive reforms to infrastructure programs that reduce waste and cut costs, [and] [c]omplete projects faster and at lower cost through significant regulatory reform and ending needless red-tape."[2] (emphasis added).

To make this vision a reality we must:

- Organize our efforts into a comprehensive, integrated, and strategic approach;
- Invest in America's water infrastructure and create jobs;
- Make America's infrastructure work better; and,
- Make America's infrastructure safer and more secure.

Below is an agenda that will meet America's water infrastructure needs for generations to come and make the United States a leader in bringing clean water and sanitation to the world.

I. ESTABLISH A COMPREHENSIVE, INTEGRATED, AND STRATEGIC APPROACH

The first order of business is to create the strategic framework for all other actions to modernize America's outdated water infrastructure and strengthen our water security. Mobilizing and aligning U.S. government agencies, the private sector, and civil society organizations will break down existing "silos" and ensure efficient coordination and implementation across the water sector. Establishing a strategic framework would set the foundation for all other executive, legislative, and regulatory actions to create appropriate enabling conditions for the success of other potential solutions. This includes the below actions:

[2] https://www.donaldjtrump.com/policies/an-americas-infrastructure-first-plan.

A. Issue a Presidential Policy Directive (PPD) for an Integrated and Effective Water Infrastructure Policy and Strategy.

At present, the nation has no coherent nor comprehensive water strategy. Water policy is determined by as many as thirty federal agencies, commissions, and other organizations[3] who administer dozens of overlapping and often conflicting agendas, priorities, programs and regulatory regimes. In addition, each state has responsibility for administering their funding allocations from the Clean Water State Revolving Fund (CWSRF), the Drinking Water State Revolving Fund (DWSRF), the 2014 Water Infrastructure Innovative Finance Act (WIFIA) and the environmental regulatory system that drives much of the need for additional investment. Although EPA has primary jurisdiction over the SRF's at the federal level a myriad of requirements (not all of which are under EPA purview) are applicable to SRF projects due to the nature of federal funding. These silos of competing and conflicting regulatory and statutory regimes sometimes create significant inefficiencies and waste scarce resources, while hamstringing the effective management of our water and wastewater infrastructure.

As a foundational first step toward eliminating these obstacles to success, on Day One the President should issue a Presidential Policy Directive (PPD) outlining a vision for the development of a fully integrated, efficient and effective Water Infrastructure Strategy. The PPD would offer the overall strategic underpinning to all other federal action on water infrastructure. The President would prioritize water infrastructure development and security through policies and programs across U.S. economic development and national security interests.

The PPD would identify the following priorities: 1) Elevating water infrastructure modernization, improvement, and security as a national priority; 2) Establishing inter-agency coordination and oversight mechanisms, resources, and staffing to align U.S. government agencies' priorities, actions and budgets, and improve collaboration, coordination, and efficiency across federal agencies; 3) Encouraging local co-finance, full-cost and life-cycle accounting, and information sharing for federal assistance; 4) Strengthening compromised water and wastewater systems; 5) Promoting economic growth, development, and exports of U.S. technologies, products and services; and, 6) Advancing national security and international cooperation over water.

[3] Some of these agencies with include: U.S. EPA, the Departments of Agriculture, Defense, Energy, Interior, the U.S. Army Corps of Engineers, the Center for Disease Control and Prevention, and National Oceanic and Atmospheric Administration, the U.S. Agency for International Development, Export-Import Bank, and U.S. Trade and Development Agency.

Timing: Day One
Proposal Type: Presidential Policy Directive
Draft Proposal: See Exhibit 1

B. Establish a Presidential Commission on Water Infrastructure Policy Coordination and Security to Evaluate and Create a Coordinated, Rational, and Efficient Water Infrastructure Policy and a Process for Administration. Appoint an Assistant to the President for Water Policy and Security.

In 1951, President Truman formed a President's Water Resources Policy Commission that successfully evaluated and recommended a program for the development, utilization, and conservation of water resources. In 1973, the U.S. National Water Commission (USDWC) developed a strategy for dealing with the water quality issues facing the nation at that time. There has been no effort at creating a consistent and coherent water strategy in the 43 years since.[4] The federal level of responsibility for water infrastructure and quality is currently shared across approximately thirty agencies, ten departments, and several independent commissions, councils, and offices. Although there are several informal inter-agency coordination mechanisms, they have had only limited success in breaking down the silos that create inefficiency, waste, and ineffectiveness.

As a means of implementing the PPD outlined above, the President should appoint a Commission on Water Infrastructure Policy Coordination and Security (the "Water Commission") to break down these silos and create a coordinated, rational, and efficient water policy and administration and foster better collaboration and coordination across federal agencies. This Water Commission should drive policy discussions and develop a national strategic plan for water investments, and would provide the overall strategic direction, coordination, and oversight to domestic and international water-related activities. This effort would include a review of cross-cutting regulations to substantiate whether the same remain applicable and warranted. Those that are not should be identified for potential elimination. The Water Commission should also consider convening a White House Water Infrastructure and Security Summit that would bring together industry, government agencies and other key stakeholders to highlight the importance of water as an economic development and national security priority.

[4] In 2005 the House of Representatives passed a bill entitled the "Twenty-First Century Water Commission Act of 2005" that would have established a commission to study and develop recommendations for a comprehensive water strategy to address future water needs. It was referred to Committee in the Senate but was not enacted. The Bill was reintroduced by Rep. John Linder (R-Ga) in 2009.

Similar to the Defense Base Closure and Realignment Commission (BRAC), this bipartisan Water Commission would depoliticize the decision-making process, and linking revenue proposals to a national strategic plan would also raise confidence that infrastructure funds would be spent judiciously. Both factors should alleviate obstacles to approving new revenue sources or raising water rates.

The Water Commission would consist of no less than 11 and no more than 17 members appointed by the President, together with key federal ex-officio members such as the Secretaries of Agriculture, Defense, Energy, Interior, and State, the Administrator of the EPA, the Commanding General of the U.S. Army Corps of Engineers. The Commission's activities would initially be funded from the Executive Office Budget, but in his first budget the President should ask that Congress empower and resource the Commission in the White House, elevating the stature and important role as an inter-agency coordination mechanism.

Timing: Day One/First 200 days
Proposal type: Executive Order for formation of the Water Commission. Legislation and, as appropriate, executive action for implementation of the Water Commission's recommendations.
Draft Proposal: See Exhibit 2

The Water Commission's activities should be supported by an Executive Office within the White House, the Assistant to the President for Water Policy and Security. This office could be created without adding new head count or a budget increase by re-tasking the Office for Climate Change to include these responsibilities.

Timing: Day One
Proposal type: Executive Order
Draft Proposal: See Exhibit 2

C. Incorporate Water Security as a Priority in the National Security Strategy.

The PPD should recommend that water security be included in the next annual National Security Strategy to leverage U.S. strategic advantages in diplomacy, development, defense, intelligence, science, and technology and align U.S. government agency mission priorities.

Timing: First 100 days
Proposal type: Presidential Policy Directive

D. Complete a Global Water Strategy by October 2017.

Under the Senator Paul Simon Water for the World Act of 2014, the Trump administration is required to issue a Global Water Strategy (the Strategy) by October 2017. The PPD should encourage the Presidential Commission on Water Infrastructure Policy Coordination and Security to work with the U.S. State Department and other agencies to provide recommendations on the key priorities to be contained in the Strategy, including how various foreign policy, defense, and export assistance agencies should interact.

Timing: First 200 days
Proposal type: Executive Report

II. INCREASE PUBLIC AND PRIVATE INVESTMENT IN AMERICA'S WATER INFRASTRUCTURE AND CREATE JOBS

Rebuilding our nation's water and wastewater infrastructure will require increased public and private capital investments. In its report *Buried No Longer*, the American Water Works Association and EPA have estimated it will cost between $650 billion and $1 trillion over the next 25 years to maintain current levels of water service. At the same time, private investors with billions of dollars of private capital are searching for ways to invest in water infrastructure. By creating the right mix of incentives, the United States can enhance the ability of state and local service providers to raise the capital they need and encourage significantly more private investment to help modernize America's water and wastewater infrastructure, thus putting millions of Americans to work in renewing our infrastructure for the 21st century.

U.S. infrastructure technologies, products, services, and know-how will also assist in building American competitiveness and economic growth in markets around the world. In 2012 U.S. exports of water purification technologies amount to approximately $1.8 billion.[5]

[5] U.S. International Trade Commission, 2012. "*USITC Executive Briefings on Trade U.S. U.S. Exports Of Water Filtration And Purification Equipment Show Significant Growth*" Available online: https://www.usitc.gov/publications/332/WaterFiltration9_17_12.pdf

Background on Infrastructure Finance[6]

Water infrastructure capital projects are typically funded with pay-as-you-go with revenues from taxes, fees, and utility charges or debt financed through the municipal bond market. The U.S. Conference of Mayors estimates that in 2008, local governments invested $93 billion in their water systems, of which 40% went to capital investments, with the remainder for operations and maintenance. In 2014, municipal bond issuance for water and sewer projects totaled $31.9 billion according to the Securities Industry and Financial Markets Association (SIFMA). Total municipal bond issuance in 2014 was $314.9 billion, of which $282.8 billion was tax-exempt. From 2003 through 2012, tax-exempt financing for water and sewer facilities totaled $258 billion. While a summary of bond ratings for water and sewer debt is not available, a 2014 analysis of outstanding municipal market debt shows that 19 percent of issues were rated BBB or below, or were unrated. As such, the potential market for lower-rated investment-grade municipal borrowers, which could benefit most from WIFIA, is significant.

After pay-as-you-go and bonds, the next largest source of water infrastructure financing are the Clean Water State Revolving Fund (CWSRF) and Drinking Water State Revolving Fund (DWSRF) programs. The SRFs are state-operated finance programs that receive capitalization grants from EPA. These capitalization grants, combined with required state match and loan repayments with interest, allow the SRFs to provide a far greater amount of assistance annually than the amount appropriated for the programs. The SRFs provided $7.9 billion in assistance to projects across the country in 2015. In addition, communities also received water infrastructure funding through at least two other federal agencies in 2015. The U.S. Department of Housing and Urban Development (HUD) authorized $333.4 million in block grants to communities for water infrastructure projects, and the U.S. Department of Agriculture (USDA) approved $1.5 billion in grants and loans for small communities.

As suggested by the estimated size of national water infrastructure needs, currently available funding sources are not sufficient. SRF programs under the Clean Water Act and Safe Drinking Water Act are designed to primarily provide a benefit to smaller projects, typically under $100 million, in communities that often have limited access to funding. There is a large segment of need associated with projects that the SRFs cannot fund due to project size or ownership. The average CWSRF wastewater treatment project is $3.5 million, while the average DWSRF project is $2.4 million. According to the most recent data, states issued only 180 CWSRF loans over $50 million, and 35 of those were over $100 million, out of over 14,000 loans issued

[6] Excerpted from Federal Register /Vol. 81, No. 243 /Monday, December 19, 2016 /Rules and Regulations, p. 91822.

since 2004. Since 2009, states issued only 20 DWSRF loans over $50 million, and ten of those were over $100 million, out of over 6,700 loans. Private wastewater treatment facilities are not eligible for most CWSRF financing.

Bond-financing requires strong debt service coverage to benefit from low interest rates and long tenors. In addition, private entities generally cannot access the tax-exempt bond market. Finally, grant funding and USDA loans are targeted at specific underserved sectors and are generally less applicable to large projects.

Similar to large-scale transportation projects, the financing of large water infrastructure projects can be addressed through the use of several financing tools and techniques that, when combined, can result in a highly efficient capital structure that minimizes the financial impact on system users. To assist in the financing of large scale projects, Congress enacted the Water Infrastructure Finance and Innovation Act of 2014 (WIFIA) as part of the Water Resources Reform and Development Act (WRRDA) of 2014. WIFIA established a new federal credit program for water infrastructure projects to be administered by EPA. Congress authorized EPA to provide federal credit assistance through WIFIA in the form of loans or loan guarantees to eligible entities: corporations; partnerships; joint ventures; trusts; federal, state, or local governmental entities, agencies, or instrumentalities; tribal governments or consortiums of tribal governments; or State infrastructure finance authorities. Generally, WIFIA projects must have eligible costs of not less than $20 million. However, for projects that serve a community of not more than 25,000 individuals, eligible project costs must be no less than $5 million.

WIFIA will assist in delivering on these needs in the water sector. WIFIA is in a position to promote the use of public-private partnerships in this area by reducing the cost of private participation. At the same time, WIFIA will have limited impact on the municipal bond market. Total municipal bond issuance was $314.9 billion in 2014, of which water infrastructure accounted for 10%. Even if WIFIA is able to provide $1 billion annual assistance, it will account for approximately 3% of the market for water infrastructure bonds such that the program is not expected to impact the municipal bond market.

Below are the key steps to mobilize increased water infrastructure investment:

A. Remove the Volume Cap on Private Activity Bonds (PABs).

Congress should amend the Internal Revenue Code of 1986 to remove the volume cap for private activity bonds used to finance water and sewage facilities. PABs are a form of financing whereby a private entity partners with state or municipal government to

receive tax-exempt financing for a project (in this case water) that is in the general public's interest (as defined by law). Congress provides to states an annual allocation of the federal tax-exempt bonds, based upon population (Section 146 of the Internal Revenue Code). Historically, most of the tax-exempt bonds have been issued to politically attractive, short-term projects such as housing and education loans. The annual volume cap hinders the use of PABs for water and wastewater infrastructure, which are generally multi-year projects and out of sight. In recent years as little as 1-1.5% of all exempt facility bonds were issued to water and wastewater projects.

Removing water and wastewater projects from the restrictive state volume caps will increase private capital investment in the nation's aging water infrastructure by up to $5 billion annually according to the EPA, increasing jobs, GDP, and tax revenues while solving a tremendous public need. According to the Congressional Budget Office, over ten years this policy change could infuse $50 billion in private capital investment at a cost of only $354 million in lost tax revenue.

Timing: First 100 days
Proposal type: Legislation
Draft Proposal: See Exhibit 3

B. Significantly Increase Congressional Appropriations for State Revolving Funds (SRFs), Enable Private Sector Participation in SRF Projects.

Congress should authorize and appropriate funding for SRFs, which are the nation's principal federal-aid programs for clean and drinking water infrastructure, at the level of the greater of 20% of the funding provided in the Infrastructure Investment Package advanced by President-elect Trump, or $10 billion annually for the Clean Water State Revolving Fund (CWSRF) and $10 billion annually for the Drinking Water State Revolving Fund (DWSRF).

In addition, based on relevant recommendations from the Water Commission or a successor body, SRF authorizing legislation and implementing regulations and guidelines should be amended to:

1) Enable private sector entities to have access to SRFs, provided they are engaged in public-private partnership (P3) projects to serve the recognized needs of public agencies;

2) Enable private sector entities to provide the source of the 20% matching funds for a qualified project (i.e., a P3 project providing water or wastewater services to a public agency);
3) Afford a preference, in the approval of grants or loans, to those projects that bring private investment to complement the federal financing; and,
4) Review and, where appropriate, relax or eliminate certain federal regulations governing SRFs.

Timing: First 100 days
Proposal type: Legislation

C. Increase the Funding for the Water Infrastructure Finance and Innovation Act (WIFIA) Program.

Congress should harness the authorized but unutilized WIFIA program and increase its size to support more for loan guarantees. In 2017, Congress should appropriate $1 billion for WIFIA. To leverage private sector funds as effectively as possible, a loan guarantee preference should be given to those projects that bring private investment to complement the financing of the project. Such preference should only apply to larger projects, e.g., serving communities with populations greater than 100,000. This change would provide greater access to private capital and leverage federal investments. When used to provide credit enhancements, every dollar provided by WIFIA will generate $65 in additional, private capital. Thus $1 billion of funding could generate as much as $65 billion in infrastructure investment.

Timing: First 100 days
Proposal type: Legislation

D. Issue a "Buy American, Hire American" Executive Order on Procurement.

Buy American laws applied to federal-aid infrastructure spending are critical to U.S. manufacturers. They provide producers with critical incentives to preserve production capacities in the United States, make significant capital investments to improve manufacturing capabilities, and maintain workforces critical to sustaining the communities around them.

The benefits of strong Buy American policies extend beyond economics. U.S.-made waterworks products conform to the world's most rigorous and effective, but also

expensive and onerous environmental standards. American companies have invested significantly, at great cost, to modernize their U.S. operations to meet federal environmental and worker safety regulations. Every day, however, U.S. producers must compete against foreign foundries and mills that have no regard for worker safety, the environment, or public health and are not required to operate by standards comparable to those with which U.S. manufacturers must comply. In fact, the foreign-origin producers with whom U.S. iron and steel producers most often compete are also the most polluting. A typical foundry in China, for instance, emits more than 20 times the particulate (9.4 lbs. per ton versus 0.4 lbs. per ton) and nearly 35 times the carbon monoxide (149.4 lbs. per ton versus 4.4 lbs. per ton) than are emitted by a typical U.S. foundry. The carbon dioxide emitted from China's iron and steel industry accounts for as much carbon dioxide emissions as the rest of the global iron and steel industry.

Although Buy American laws and the markets to which they apply are of immeasurable importance, these laws apply to only a fraction of federal-aid infrastructure spending. Moreover, these laws typically only apply to the acquisitions of iron or steel products, which accounts for only a small fraction of the overall federal-aid infrastructure spending. A review of the federal-aid programs for drinking and waste water infrastructure demonstrates the limited application of these laws. At present, only the WIFIA, WRRDA and CWSRF have permanent Buy American requirements. The DWSRF has an annual requirement through the appropriations process, but Congress in 2016 declined to make that requirement permanent. Other programs with no Buy American requirement include the U.S. Department of Agriculture's Rural Utilities Services' Water and Waste Disposal Program, the U.S. Department of Housing and Urban Development's Community Development Block Grant program, the U.S. Bureau of Reclamation's Rural Water Supply program, the Economic Development Administration's Public Works and Economic Development Program, and the Indian Health Services, Facilities and Environmental Health program.

On the first day of his administration, the President should issue a "Buy American, Hire American" Executive Order that:

- Mandates the use of American made products on all federally funded and assisted water infrastructure projects; and
- Establishes a Buy American/Hire American Directorate within the White House to ensure consistent and diligent enforcement of all Buy American requirements and the elimination or modification of any waivers, exceptions, or exemptions that are inconsistent with the intent of Congress or the Presidential Executive Order.

To ensure that these protections and benefits are preserved, Congress should amend all authorizing programs related to spending on water infrastructure to include a domestic preference. Among the water programs that should be amended to include a permanent domestic preference are: The DWSRF; USDA Rural Utilities Service, Water and Waste Disposal Program; HUD Community Development Block Grant; Department of the Interior, Bureau of Reclamation, Rural Water Supply; Economic Development Administration, Public Works and Economic Development Program; Indian Health Services, Facilities and Environmental Health.

Timing: Day One/First 100 days
Proposal type: Executive Order/Legislative

E. Eliminate or Modify U.S. Treasury Tax Rules and Regulations Related to Defeasance that Create Obstacles to Public-Private Partnerships and Deployment of More Private Capital.

Current regulations discourage many municipalities from entering into cost-saving and efficiency-driven partnerships with private water companies for the operation of municipal water supply and treatment facilities. Given the current state of the U.S. economy, and that infrastructure planning is deferred to state and local governments, leaders are challenged to think in new ways to improve their financial flexibility to address other important city priorities and to ensure critical infrastructure investment in their water systems, and they look to the private sector for assistance. An estimated $100 billion in private capital is available to invest in the domestic U.S. domestic water and wastewater market, which some experts have valued at approximately $130 billion. Municipalities often determine that their water service can best be provided either by selling to or in a partnership with a private water company. However, current IRS regulations impose a significant financial penalty on municipalities who sell or lease their water system to a private company if it was originally financed with tax-exempt debt. Removing tax inefficiencies for lease and sale of municipal water systems will provide greater options and opportunities for communities with failing water systems to attract more private investment and expertise to rehabilitate and restore failing water infrastructure though public-private partnerships.

Most municipalities have issued bonds over the years that were used for the purchase, upgrade and/or maintenance of their water facilities. If a municipality with such bonds outstanding chooses to engage in a public-private partnership for the provision of water

services, existing rules essentially require that the municipality either pay off the bonds or set aside funds (in a process known as defeasance) to pay off the bonds before entering into the public-private partnership. During the past several years since interest rates have been at historic lows, the cost of defeasing bonds has been unusually high because the issuer must set aside enough funds to provide for the defeased bonds while investing at very low rates (for example, providing for interest on bonds paying a 5% rate while investing the defeasance escrow at 1%). The funds required for defeasance could be 120% or more of the tax-exempt debt defeased, reducing the amount of funds that could otherwise be used to finance operations and maintenance expenses, make capital investments, or reduce rates for the customers. This discourages municipalities from entering into public-private partnerships.

To better enable municipalities to enter into public-private partnerships, the Treasury Department should broaden the remedial actions under Section 141 of Treasury's rules so that permitted alternative uses of disposition proceeds also apply to public-private partnership transactions. This simple change would provide municipalities with greater financial flexibility and eliminate the economic loss of funds through a defeasance action. However, the rules should continue to require that the affected bonds be retired on their first call date, so as to eliminate the often significant cost resulting from "negative arbitrage" on the defeasance escrow. In addition, for both dispositions and public-private partnership, Treasury guidance is needed to make clear that legitimate governmental purposes for the use of proceeds include the payment of debt service on other obligations of the issuer and contributions to public pension plans.

Prior to the Tax Reform Act of 1986, the IRS tended to apply the tax-exempt bond rules based on the bond issuer's expectations when it issued the bonds. After the 1986 Act, the IRS increasingly viewed compliance with all the tax-exempt bond rules as something that had to continue throughout the term of the bonds based on actual compliance/noncompliance rather than based on the issuer's expectations regarding compliance when it originally issued the bonds. It was as part of this effort that the IRS imposed the rules saying that "changes of use" of bond financed facilities, such as sales and leases, can cause the bonds to become taxable unless a remedial action is taken. In order to allow for more efficient public-private partnerships to go forward, a narrowly tailored modification to IRS regulations on defeasance is needed, which would stipulate that defeasance as it relates to the sale or lease of municipal water systems is not required where certain conditions or criteria are met that protect taxpayer interests while avoiding penalties to municipalities.

On Day One the President should sign the Executive Order attached as Exhibit 4, which sets forth specific amendments to section 1.14112 of the Treasury Regulations.

Timing: First 100 days
Proposal type: Executive Order, Regulatory action and Legislation
Draft Executive Order: See Exhibit 4

F. Retain Tax Exemptions for Municipal Bonds.

Tax-exempt municipal bonds are the primary means by which utilities and municipalities raise capital for water infrastructure projects. The market for these bonds provides an established, reliable, and efficient mechanism for public utilities to raise low cost capital. The tax-exempt feature of these bonds should be preserved in any tax reform measures adopted by Congress.

G. Encourage Water Utilities and Operators to Fully Account for Total Costs.

In part because of a steady decline in federal funding for water infrastructure, approximately 98% of water projects are financed by local water utilities through their rate structures. However, water is arguably the world's most undervalued resource, as traditional approaches to pricing have not reflected the true cost of service. A recent survey found that only one-third of water utilities are operating under rate structures that provide adequate revenue to fully cover their costs. This undervaluation of water as a commodity creates severe constraints on the ability of utilities to finance the investment required as their infrastructure continues to age. To correct this problem, a multi-faceted approach is needed – one where the true cost of water is understood and water is priced to meet the growing needs for investment in the system, while ensuring that lower-income households have reliable and affordable water service.

State and local water agencies are best suited to determining how best to meet the needs of their water consumers. Where federal support might be needed, federal agencies should nonetheless encourage all utilities and their users to bear their fair share of the costs of maintaining their systems. Utilities of a certain scale and service scope that apply for Federal SRF, WIFIA, or "Low-Income Water Assistance Program" (LIWAP) funding (see below) should be required to conduct and produce as part of their applications a study of the total costs associated with constructing, operating, and maintaining their water, wastewater and storm water systems, including long-term capital costs. The report should also outline a pricing structure and a plan for implementing a pricing program that

will capture all of those costs. Once submitted, the approving agency should either: (1) require that the applicant commit to the implementation of that structure as a precondition to the recipe of federal assistance; or (2) include the applicant's implementation of a full-cost pricing program among the agency's selection criteria for project approvals (See Section IIID, below). Either of these steps could be implemented by executive order, rulemaking, or legislative action.

The second step would be to ensure that low-income customers are protected against significant rate increases that jeopardize their health and well-being. To accomplish this safety net Congress should establish a support fund modeled on the Low-Income Home Energy Assistance Program called the "Low-Income Water Assistance Program" (LIWAP). Eligibility for LIWAP assistance would be based on stringent guidelines and managed by through the Department of Health and Human Services (HHS). This initiative would facilitate equity and affordability among low-income consumers alongside and full cost pricing of non-LIWAP customers. It would thus reduce the political constraints on the ability or willingness to raise rates so that they more realistically reflect the true cost and value of water.

Timing: First 100 days
Proposal type: Executive Order and Legislative. Pending the Water Commission's recommendations, issue executive order and regulatory change to require applicants for federal-aid to complete full-cost studies and establish prioritization criteria for applications for assistance. Legislation would be needed to make criteria permanent and implement related programs to assist low-income water consumers.
Draft Proposal: See Exhibit 5

H. Grant Greater Flexibility to the States to Make Use of Unliquidated Obligation (ULO) Balances to Provide an Additional Source of Funding for Projects.

This change would accelerate completion and delivery of water supply and wastewater treatment projects to communities facing urgent challenges. "ULO balances" refer to unspent funds from grants provided by EPA to the states to support the financing of infrastructure improvements to drinking water systems. States may also use a portion of their DWSRF grant funds as set-asides for other important public health protection purposes. For example, these funds can be used to help water systems, particularly small systems, strengthen their technical, managerial and financial capacity; to implement state Public Water System Supervision (PWSS) programs; or to provide support for source

water protection. Annual grant funds to states may go unspent for various reasons, including but not limited to the following:

- Projects fail to progress in a timely manner, coupled with state's inability or unwillingness to deallocate the funds and repurpose the same towards other projects;
- Lack of demand for the funds in certain states;
- Lack of readiness to proceed with projects, or a state's inability to identify ready projects;
- A state's failure or delay in establishing effective financial, managerial and technical assistance programs, despite having previously set aside funds for the same purpose; and,
- A state's inability to draw down the annual grant funds for various reasons, including match portion concerns.

The new Water Commission should develop a program for assessing the current balance of ULO's across the states, and then incentivizing the states to utilize these funds to advance needed DWSRF and similar projects. In particular, the Water Commission should focus on incentives to use private capital, and to promote engagement with private parties, and to accelerate needed projects. The focus of regulatory reform might be on developing flexibility in the use of ULOs for this purpose. In this way, funding that has already been allocated to the states in previous years – but simply remains unspent – could be applied to meet current-year and future-year water infrastructure needs and thus reduce the level of additional appropriations necessary.

Timing: First 200 Days
Proposal Type: Regulatory reform

I. Bolster the U.S. Environmental Export Initiative's Focus on Promoting the Export of U.S. Technologies, Goods and Services for Water and Wastewater.

Water is at the core of economic development. Smart water action can promote economic growth, as we apply American ingenuity and innovation to solving water and wastewater challenges. Water should not become an impediment to economic growth in the U.S. and globally. The Trump administration should promote export opportunities for U.S. water technology innovation by harnessing "Buy American" policies and boosting U.S. government commercial diplomacy to expand the export of U.S. technologies and expertise, such as reverse trade missions and engagement with U.S. embassies and

missions in key markets. The proposal would also promote a "whole of U.S." approach by elevating coordination and integration among U.S. export assistance programs at the Export-Import Bank, Overseas Private Investment Agency, U.S. Department of Commerce, U.S. State Department, and the U.S. Trade and Development Agency to prioritize water security as a key issue, jointly support specific investments to reduce duplication and risk, and strengthen market intelligence efforts. This will support increased growth of U.S. jobs and sales of U.S. products and services in key international markets.

In addition, American manufacturers should have priority in bidding on all U.S. funded foreign aid projects.

Timing: Day One
Proposal type: Executive Order
Draft Proposal: See Exhibit 6

J. Fund the U.S. Army Corps of Engineers Public-Private Partnership Demonstration Program.

Our nation's inland waterways – chief among them the Mississippi and Illinois rivers – are critical to America's economic well-being. But the infrastructure of these rivers and others is in serious need of improvement. Many of the locks and dams required for the safe and efficient passage of goods and products on these rivers were built during the Roosevelt Administration – almost 80 years ago. The U.S. Army Corps of Engineers (USACE) is overwhelmed and underfunded. It is estimated that the necessary repairs and upgrades to many locks and dams could take many decades to complete. Public-private partnerships (P3s) can be a powerful tool for our nation to work with the private sector to meet our growing infrastructure needs.

Over the years, Congress authorized thousands of locally popular projects for the USACE to undertake. Unfortunately, the federal budget for the USACE has not matched the list of projects and backlog now exceeds $40 billion. Because the need for these projects has not diminished and the federal budget is not likely to grow over the next few years, an alternative financing method would be necessary to fund them.

The U.S. Army Corps of Engineers Public-Private Partnership Demonstration Program was incorporated into Public Law 113-121 (the 2014 WRRDA law as Section 5014), and created the USACE's first public-private partnership program to promote more innovative financing in critical water projects that involve the USACE. It is a pilot program whereby

the Secretary of the Army for Civil Works is authorized to pursue fifteen projects nationwide and allow the USACE to enter into P3 agreements that expedite critical projects.

Funding this program is a cost-effective and bipartisan solution to reducing the USACE backlog while simultaneously pursuing alternative delivery solutions for critical water projects like flood protection and inland waterways rehab nationwide. It will remove financial burdens from the USACE and taxpayers, stimulate growth in the private sector and guarantee our waterways remain safe and navigable for the countless number of goods and products that float down these rivers every day to markets across the world. To advance this program Congress should appropriate adequate funding, s recommended by the Water Commission.

Timing: First 100 Days
Proposal type: Legislation

III. MAKE AMERICA'S WATER INFRASTRUCTURE WORK BETTER

American ingenuity is second to none, as our cities, states, and private enterprise represent tremendous laboratories for new ways to grow our economy while using and re-using water more efficiently. The best thing the federal government can do is to empower state and local authorities and the private sector to do what Americans do best: innovate. Below are key actions that will unleash America's know-how, strengthen the technical and managerial skills of our workforce, vastly improve the efficiency and resiliency of our water systems, and promote the development, deployment, and diffusion of 21st century solutions throughout the United States and around the world.

A. Promote Smart Technologies and Smart Cities.

Non-revenue water (NRW) can account for 50% of total water withdrawn from the environment due to distribution system leaks, theft, and poor measurement techniques. The World Bank estimates that the total cost to water utilities caused by NRW worldwide can be conservatively estimated at $141 billion per year and represents enough water to service nearly 200 million people. In the U.S. infrastructure issues including water main breaks, sanitary sewage overflows, untreated wastewater and storm water overflows, and water pipe degradation could increase costs to households through higher water rates by an estimated $59 billion, and a $147 billion cost increase to utilities by 2020.

Water service providers are oftentimes unaware of an issue, such as a pipe leak, until it literally surfaces and bursts. Without a full set of data and actionable information into network infrastructure conditions, operators are trapped in a negative reactive cycle. In addition, most utilities continue to utilize water quality and pressure monitoring techniques that provide incomplete and often stale information about critical situations such as toxicity and chemistry, a situation that can endanger the public's health and the integrity of the water systems.

Many utilities are embracing the Internet of Things (IoT) as a way to address these urgent problems. For example, wireless technology and new sensing and metering capabilities create opportunities for remote but inexpensive real-time flow and quality monitoring. These digital water solutions, together with the associated software, will transform the way utilities manage water and wastewater treatment, distribution, and usage using software solutions. According to research commissioned by utility infrastructure company, Sensus, digital water networks can save utilities up to $12.5 billion a year. Digital water solutions can connect water plant operations with distribution networks to optimize the holistic treatment and delivery life-cycle for drinking and wastewater. Software-as-a-Service (SaaS) can produce operational efficiencies that improve water quality and availability for municipalities and consumers worldwide. Using data and analytics, digital industrial companies can work with utilities and consumers globally to solve the challenges of water distribution and monitoring and storm water and wastewater collection. Municipalities and water utilities worldwide can use a seamless software solution set built on industrial internet platforms to put their data to work, addressing infrastructure maintenance, health concerns, manpower constraints, and water conservation.

This section offers a spectrum of policy tools that remove barriers to digital water adoption.

1. **Establish the "National Water Infrastructure Test Bed Network".**

   Current funding for water infrastructure investments primarily focuses on providing communities with the funds to repair and replace water infrastructure. There remains a significant need for development and deployment of innovative technologies to ensure new infrastructure can meet our next generation water and wastewater needs. Funding opportunities already exist for early stage research and technology development and for later stage commercial deployment in the innovation chain. However, America lacks sufficient focus on the middle stage, which includes the

bench, pilot, and full-scale demonstrations of technologies. Unless utility operators have the confidence that new technologies will work, they are reluctant to adopt or deploy them. But few are willing to serve as the pilot program because of the demands on time and budget, and even those pilot programs that do proceed can take years to complete. As a result the deployment of workable, cost-saving and efficiency- creating technologies is unnecessarily delayed.

EPA's Environmental Technology Verification program provided a mechanism for industry and consumers to evaluate various water infrastructure technologies, and compare and contrast their capabilities and performance. It received mixed reviews and was retired in 2014. Nevertheless, the need for common and transparent technology evaluation and commercialization remains.

Given the significant and capable laboratory testing and analysis capabilities that exist at EPA's Cincinnati complex (including the National Risk Management Program's Test & Evaluation Facility, the Andrew Breidenbach Environmental Research Center, Center Hill Facility, Experimental Stream Facility), EPA's Office of Research & Development should add technology verification and evaluation to the mission of these facilities. Congress should also enact legislation authorizing and funding creation of a "National Water Infrastructure Test Bed Network (TBN), based at the Cincinnati complex to promote greater uptake of 21st century water and wastewater technologies. The TBN would coordinate and accelerate the water industry's deployment of new technologies. The TBN would provide a systematic and organized approach to the commercialization of innovative technologies in the U.S. water industry. It would bring together the broader water community (i.e., regulators, operators, consulting engineers, etc.), and engage them in piloting and demonstration efforts to raise confidence in innovative technologies. The network would store data/results from pilot projects and make this information readily available to stakeholders. The TBN's process would reduce the number of pilot projects otherwise needed by making the pilot data more broadly applicable (from a regulatory perspective). It would also shorten the time needed to pilot a technology to achieve commercial acceptance.

Timing: First 100 days
Proposal type: Legislation
Proposal Draft: See Exhibit 7

2. Regulatory Reforms to Promote Adoption of Better Infrastructure Technology.

Duplicative, unnecessary and/or outdated regulations present a significant barrier to addressing water infrastructure issues. Public water authorities are loath to take substantial risks in new and efficient technology procurement, because they must manage an essential public service for perpetuity and at minimum cost. This creates the need for efficient and transparent EPA efforts to foster sound and timely infrastructure investment. Some specific examples of opportunities for EPA reform:

i. Reform Technology Approval Process.

Both the Safe Drinking Water Act and Clean Water Act require utilities to use EPA approved protocols for monitoring and treatment. While EPA's drinking water offices have implemented an Alternative Technology Approval process that has significantly expedited the commercialization of new technologies, the wastewater program has not adopted this new, more efficient process. As a result, the deployment of new technologies in the wastewater sector has been slow. The agency should adopt the same approval processes across its programs so that they are consistent and efficient. In addition, the agency should use existing consensus bodies (e.g., ASTM, AWWA) to the maximum extent possible to foster best management practices and standards that support the technology adoption, while minimizing agency expenditures on this mission.

ii. Reform National Science Advisory Board.

EPA's National Science Advisory Board plays an essential function in advising the agency on all manner of technical issues affecting regulatory promulgation and the water sector. This board should be comprised of representatives from across the water sector in a balanced fashion, so that the agency fully understands state-of-the-art science, industry practices, and the challenges facing water infrastructure owners and managers and their rate-payers.

iii. Infrastructure Investment Merit Test.

Both the grant programs and the regulatory apparatus administered by EPA keenly impact the character and velocity of water infrastructure investment. Coherent standards and best management practices should be embedded in the grant and regulatory efforts to encourage speedy adoption of sound and resilient infrastructure that will last for more than 100 years.

For example, the Philadelphia Water Department commissioned a triple-bottom-line analysis that considered economic, environmental, and social benefits of a suite of resilient infrastructure investments that have minimized compliance costs, led to some permit flexibility, and decreased rate-payer costs. The notion of a *Merit Test* is recommended – not to rank investment options among regions or states – but to evaluate and promote those technologies, designs and practices that will minimize life-cycle costs to investors or rate-payers in water infrastructure. Adoption of *Smart-City* policies and guidelines, *LEED* and U.S. Green Building Alliance practices, or the Institute for Sustainability's *Envision* ratings are all pathways to ensuring long-term efficient and sound water infrastructure investment.

3. Enact Legislation to Promote 21st Century Digital Water Solutions.

The Internet of Things brings together people, machines, and data to solve problems in a faster, more predictive way. It can enable water utilities to connect their physical assets with other key pieces of information, such as soil conditions, water chemistry and quality, and geospatial seismic activity, into a single platform to expedite the process for fixing infrastructure problems, reducing service disruptions, decreasing water losses, avoiding public health emergencies, and predicting other potential problems for early intervention. Similarly, industrial companies can utilize this key information to streamline plant operations, build resilience, and use water and energy more efficiently. Enhanced opportunities for utilities and industrial companies to utilize digital water projects will improve America's water infrastructure, optimize industrial water consumption, and create high-value jobs.

Expanding existing water infrastructure funding programs (SRFs, WIFIA, and private activity bonds) to include digital water projects as eligible activities will promote rapid and wide-spread adoption of digital water solutions, and in turn create high-value jobs for digital water solutions providers and utilities.

Similarly, industrial companies could benefit from a 30% investment tax credit (ITC) to incentivize the use of digital water solutions and improve the efficiency of their operations. This tax credit could be as high as 30%, depending on demonstrated results commensurate with efficiencies achieved. For example, if a company spent $10 million implementing digital water solutions to make its operations more efficient

and to reduce energy and water consumption, that company would be eligible to receive up to a 30% tax credit.

Timing: First 100 days
Proposal type: Legislation
Proposal Draft: See Exhibit 7

B. The Regional Infrastructure Accelerator Demonstration Program.

A major challenge in infrastructure development is lack of resources and tools to explore innovative procurement methods. When faced with the option of traditional procurement or innovative financing, local project sponsors, who almost certainly lack expertise in project financing, will undoubtedly rely on traditional methods even if the numbers make sense to bring in private financing.

The Regional Infrastructure Accelerator Demonstration Program, as included in the FAST Act as Section 1441 (Public Law 114-94), will demonstrate a model that will support efficiency, safety, and expediency in infrastructure development across the United States. The objective of the infrastructure accelerators is to facilitate project development through a unique regional platform designed to spur infrastructure innovation and accelerate a pipeline of infrastructure projects in the partner states. The accelerator model will help public sector decision-makers develop best practices and access expertise in project financing while also providing certainty to potential investors and stakeholders through the development of common standards to a variety of projects and infrastructure types. The accelerators will serve local and regional interests through the planning, delivery and oversight of major infrastructure projects using innovative approaches. The accelerator's services will augment the states' and local project sponsors' abilities to undertake the planning and procurement of complex projects, specifically those involving the use of private sector expertise, services, and capital. The program allows for a broad definition of infrastructure that includes water projects, but also those related to transportation and energy.

The program is bipartisan and fully authorized, but unfunded. The President's Budget should fund it within U.S. Department of Transportation for $12 million.

Timing: First 100 days
Proposal type: Legislation

C. Issue an Executive Order to Strengthen the Cyber Security of America's Water Infrastructure.

Many water and wastewater utilities remain poorly equipped to prevent or recover from cyber-attacks. Enabling utilities to better withstand cyber-attacks is vital to improving water and wastewater systems management and to maintain public confidence in those systems.

The President should issue an Executive Order directing coordinated federal participation in collaborative public-private efforts to: 1) Boost cybersecurity of U.S. water systems; 2) Expand aggressive investigation and prosecution of cyber attackers; 3) Enhance programs that support and build cyber risk management capacity of all critical infrastructure sectors; and, 4) Provide technical support to help water utilities, particularly small and medium-sized utilities, overcome the technical knowledge and skills gap related to cyber security systems.

Timing: First 100 days
Proposal type: Executive Order

D. Adopt Prioritization Criteria for the State Revolving Funds to Promote More Effective and Efficient Water Infrastructure Investment.

As noted above, the Water Resources Reform and Development Act of 2014 (WRRDA), created the Water Infrastructure Finance and Innovation Act of 2014 (WIFIA), which authorizes EPA to provide secured (direct) loans and loan guarantees to eligible water infrastructure projects. Section 3907(b) (2) of the statute establishes 11 criteria for evaluating and selecting among eligible projects. In its proposed interim final rule implementing the new WIFIA program, EPA added two additional criteria and modified several others.[7] The weightings will be established in a separate Notice of Funding Availability (NOFA).

[7] As proposed in the interim final rule the criteria are: 1. The extent to which the project is nationally or regionally significant, with respect to the generation of economic and public health benefits; 2. The likelihood that assistance under this subtitle would enable the project to proceed at an earlier date than the project would otherwise be able to proceed; 3. The extent to which the project uses new or innovative approaches such as the use of energy efficient parts and systems, or the use of renewable or alternate sources of energy; green infrastructure; and the development of alternate sources of drinking water through aquifer recharge, water recycling or desalination; 4. The extent to which the project protects against extreme weather events, such as floods or hurricanes, as well as the impacts of climate change; 5. The extent to which the project helps maintain or protect the environment or public

These prioritization criteria provide guidance to the states and assistance applicants that encourages the deployment of funds in rational and effective manner by focusing applicants on considerations such as increasing the utilization of private sector funding, using innovative technology, energy savings,[8] resiliency and sustainability,[9] water and resource conservation.[10] Unlike regulatory mandates, however, they do not dictate how

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health; 6. The extent to which a project serves regions with significant energy exploration, development, or production areas; 7. The extent to which a project serves regions with significant water resource challenges, including the need to address water quality concerns in areas of regional, national, or international significance; water quantity concerns related to groundwater, surface water, or other resources; significant flood risk; water resource challenges identified in existing regional, state, or multistate agreements; and water resources with exceptional recreational value or ecological importance; 8. The extent to which the project addresses identified municipal, state, or regional priorities; 9. The readiness of the project to proceed toward development, including a demonstration by the obligor that there is a reasonable expectation that the contracting process for construction of the project can commence by not later than 90 days after the date on which a Federal credit instrument is obligated for the project under this subtitle; 10. The extent to which the project financing plan includes public or private financing in addition to assistance under this subtitle; 11. The extent to which assistance under this subtitle reduces the contribution of Federal assistance to the project; 12. The extent to which the project addresses needs for repair, rehabilitation or replacement of a treatment works, community water system, or aging water distribution or wastewater collection system; and 13. The extent to which the project serves economically stressed communities, or pockets of economically stressed rate payers within otherwise non-economically stressed communities.

[8] Treating and pumping water through our utility systems represents a huge portion of the nation's total energy consumption – as much as 19% of all electricity consumption and as much as 30% of natural gas use. Ensuring that applicants focus on reducing energy costs at the initial design phase can significantly reduce energy consumption, which in turn reduces operational costs. These savings can be redeployed to fund other infrastructure investments or reducing utility rates.

[9] Our nation's aging infrastructure faces challenges from natural disasters, such as earthquakes, hurricanes, and increased traffic loads. Given that the costs and inconvenience of excavating and replacing damaged infrastructure can be enormously expensive, especially in dense urban areas, federal agencies and programs should encourage the use of systems and materials that demonstrate superior performance, including those that are the most durable and provide the longest useful lives. Investing in resilient water infrastructure will save money over the short and long-term term in both operating and maintenance (O&M) costs and capital expenditures.

[10] The promotion of recycling in federal acquisitions is one means of conserving water and other resources and reducing costs. Recycling water and wastewater reduces energy consumption, thus reducing O & M costs, by reducing the amount of treatment necessary. Encouraging the use of materials with recycled content increases job growth in recycling industries, reduces energy consumption by reducing resource extraction and processing, and reduces solid waste generation which in turn reduces the number and size landfills. Under Section 6002 of the Resource Conservation and Recovery Act, EPA is required to designate items that are, or can be, produced with recovered materials and to recommend practices for purchase of these items. The EPA's Comprehensive Procurement Guideline (CPG) program has identified 61 products in eight categories. In addition to adding recycled content to the prioritization criteria, EPA should expand the CPG program to cover a broader range of construction products used in water infrastructure projects.

these goals are achieved or prioritized by the applicant; rather, they leave room for the applicants to innovate creatively and to determine the right mix of considerations for their circumstances.

As enacted, WIFIA is available to fund projects of more than $20 million (or small system projects of $5 million), and may be used in conjunction with financing from other programs such as the SRF's. To ensure uniform standards in the application of these funds and the achievement of the goals Congress set forth in the WIFIA selection criteria should be applied to all federal water assistance programs, including the SRF's, WIFIA, and rural assistance programs within the Department of Agriculture.

Timing: First 100 days
Proposal type: Executive Order and Regulatory action
See attached Exhibit 9

E. Empower Local Decision Making.

Communities across the country have diverse water and wastewater infrastructure needs. They must evaluate numerous factors when considering the proper design and materials for their community and water projects. Encouraging and supporting local governance allows those closest to the problem to determine the best solution. Deference to local decion-making also saves money, as local communities can hold those in their community more accountable. Federal agencies should defer to the engineer of record so long as the designs meet nationally recognized standards for water projects, absent extraordinary circumstances demonstrating arbitrary action.

Timing: First 100 days
Proposal type: Executive Order

F. Require Life-Cycle Costing and Pricing to Ensure Long-Term Value.

To ensure that the true costs of building, maintaining, and operating our water systems are captured and funded, all federally supported projects should require full life-cycle cost analyses that demonstrate the true cost of systems and materials over their entire useful lives as a comparative tool at the project specification setting and proposal evaluation

stages. Life-cycle cost estimates provide an accounting of all resources and associated cost elements required to develop, produce, deploy, and sustain a particular program or project. Thereafter, purchasing decisions and bid awards should be based on full life-cycle costs rather than merely the upfront cost.

Currently owners of water infrastructure projects are incentivized to design and build systems emphasizing short-term, initial costs, without giving appropriate consideration to longer-term considerations such as O&M, as well as considering useful life expectancy. They often design and award projects that may offer short-term acquisition cost benefits to the detriment of future generations that will be faced with higher O&M costs as well as faster replacement decisions. Proper project analysis should emphasize the local use of an economic life-cycle cost analysis to determine the least cost of alternatives over the design life for federally funded infrastructure projects.

Economic evaluations of alternatives using a Life-Cycle Cost Analysis (LCCA) to determine the least cost of those alternatives is a common approach in the private sector and in direct procurement by many federal agencies. LCCA facilitates the consideration of the full cost of alternatives during the design phase of a proposed project, including cost factors beyond upfront purchase prices, such as installation costs, energy consumption over the useful life, maintenance expense, and costs to replace alternatives with longer or shorter useful design lives. In doing so, an economic evaluation of the true least cost alternative is achieved.

Examples of the use of life-cycle costing in federal programs include:

- The Office of Management and Budget in 2 CFR 200.320(c) states that for sealed bids, "life-cycle costs must be considered in determining which bid is lowest" when such considerations are included within bid specifications.
- The Interagency Memorandum of January 2013 (among the USDA, EPA, HUD, and DHHS) details best practices for the development of Preliminary Engineering Reports. For these reports, a LCCA is needed.
- The USDA Rural Utilities Service requires facilities financed by the agency to be designed to provide the "most economical services practicable." See 7 CFR 1780.57.
- The Council on Environmental Quality (CEQ) issues Principles and Requirements and Interagency Guidelines for Water and Land Related Resources Implementation (PR&G). The most recent standards state that economic, social, and environmental measures should be considered when analyzing sustainable economic development.

- The Department of Transportation Office of Asset Management published a LCCA primer in 2002 that stated, "LCCA provides a means...to extend consideration of the merits of alternative projects beyond initial agency costs to include future agency and user costs. Additionally, LCCA documentation, as well as the analysis itself, can be used to demonstrate management's commitment to good stewardship and to making the analytical process more transparent and efficient."

To ensure that water infrastructure projects are built, operated, and maintained in the most cost-efficient manner over the long-term, the Trump administration should issue an Executive Order that would ensure all federally financed or assisted water projects require consideration of a LCCA in the design and purchase of all systems and materials.

Timing: First 100 days
Proposal type: Executive Order and Regulatory Action

G. Improve Systems Management.

1. Issue an Executive Order to unleash the "Blue Wave" to Build Capacity for Water and Wastewater Utilities and Other Water Resources Managers.

The President should issue an Executive Order creating a platform for collaboration among public enterprises, in the form of a web-based portal and network – the "Blue Wave." This portal would enable urban and rural utilities of every size and service to share best practices, develop joint partnerships with public and private agencies, engage private sector expertise and technology and access private capital markets and funding. In addition, this network would provide small rural and distressed water systems with the technical capacity to comply with regulations and to undertake projects to improve or expand their services.

The United States has more than 60,000 water utilities, the majority of which are small utilities (serving less than 10,000 customers). Thousands of small utilities have difficulty in assessing, selecting, implementing, and financing necessary capital upgrades or in implementing new smart technologies that can improve service and reduce operating costs. By creating the "Blue Wave" to deliver up-front expertise and transaction support and foster public-private partnerships, the federal government would enable small utilities to carry out quickly a backlog of vitally needed capital improvements worth hundreds of billions of dollars. This

would generate tens of thousands of jobs and boost U.S. businesses engaged in design, construction, maintenance, operations, and technology and scientific support.

A relatively small investment of the federal government to support the start-up costs (approximately $5 million per year for two years from the appropriated funding for the state revolving funds), to be matched 2:1 by the private sector, would fully support the development of the network. Membership in "Blue Wave" would be cost-free to agencies seeking assistance, although a fee would be assessed on successful partnerships and collaborations to cover the on-going costs of the Blue Wave Network.

"Blue Wave" is designed to be the implementation arm of many of the parallel water infrastructure proposals to small and distressed communities, as well as the dissemination arm of the policies of either the Water Commission or the White House Council on Environmental Quality. The Blue Wave Network would be a private enterprise supported by and leveraging current platforms of public and private agencies, trade associations, and sector coalitions.

Timing: Day One
Proposal type: Executive Order

2. Develop a Water Workforce for the 21st Century.

Attracting and training the next generation of water and wastewater system operators is critically important, particularly for small and disadvantaged communities. Many water and wastewater utilities undertake the complex challenge of consistently delivering safe drinking water with a small and under-resourced staff with limited technical skills and training. Current estimates place the anticipated loss of utility employees at between 30% to 50% within the next 10 years due to the aging workforce in the water sector.

As a result, even large utilities will soon face loss of talented workers with the skills essential to the effective operation of their systems. Moreover, the introduction of new technologies will aggravate this problem for all utilities, because the operators of the future will need greater technological skills than are common today. But this challenge also presents an opportunity to create a talent pool utility managers and workers with sills for the 21st century.

The Safe Drinking Water Act includes several set-asides related to operator certification and training for water systems from the funding authorized for the state revolving funds. Under that authority, the President should include in the charter for the Water Commission a directive to coordinate with the U.S. Department of Labor in developing a workforce development program helping American workers get the skills and credentials needed to support the operation, maintenance, and improvement of water and wastewater systems of tomorrow. This program would engage other key federal agencies including EPA, National Science Foundation, as well as innovative partnerships with state and local community colleges, to develop a blueprint for the overall professional development of water and wastewater operators. In addition, the Executive Order would direct the EPA Administrator to issue an update on how EPA and the states will implement the Capacity Development and Drinking Water State Revolving Fund (DWSRF) programs to equip the operators to address the water and wastewater challenges of the 21st century.

Timing: Day One
Proposal type: Executive Order

H. Promote Integrated Watershed Management and Planning.

Frequently, agencies and local officials only manage the water bodies near urban areas rather than upstream sources. Moreover, they often take their water from the source "as they find it" when it arrives at the treatment plant. As a result, when the water arrives for treatment it often contains severe contamination from upstream activities. This not only creates a public health threat, it also dramatically increases the costs to utilities to treat the water to safe standards. More effective management at the watershed level will significantly reduce operational costs to utilities and customers by limiting the amount of local water treatment necessary to ensure good water quality.

1. Codify EPA's Integrated Planning Process as An Option for Local Governments to Address their Wastewater and Stormwater Management Needs.

For years, communities have been told to achieve Clean Water Act mandates without any consideration of whether those requirements are feasible, affordable, or provide a significant environmental benefit. This problem is especially acute for separate sanitary sewer systems.

To partially address this issue, H.R. 6182, the Water Quality Improvement Act, introduced in the last Congress, would allow local governments to prioritize and focus on their wastewater and storm water management needs with the greatest public health and environmental benefits. This legislation would codify EPA's Integrated Planning process as an alternative to facing costly consent decrees while establishing economic affordability criteria for the EPA to assess the financial capability of communities to implement control measures.

Timing: First 100 days
Action Type: Legislation
Proposal: See Exhibit 8

2. **Amend the Clean Water Act to Improve Federal Agency Coordination and Advance Integrated Water Resources Management (IWRM).**

Congress should codify integrated water resource management (IWRM) principles into the Clean Water Act (CWA) to promote greater coordination among federal agencies such as the Army Corp of Engineers, the Department of Agriculture, the Department of Interior, and EPA, which often pursue separate and sometimes conflicting agendas for water resource management. Amending the CWA to promote greater coordination through the Water Commission and IWRM would foster more coherent water management among relevant federal, state, and local authorities, thereby optimizing the use of water for agricultural, urban, and ecosystem needs.

Timing: First 100 days
Action Type: Legislation

3. **Reform the Agricultural Act of 2014 to Reduce Agricultural Runoff in Watersheds.**

Congress should reform the Agricultural Act ("Farm Bill") to upgrade water quality standards at the watershed level for runoff originating from agricultural areas that affect downstream water users. Existing laws do not adequately protect sources of drinking water from contamination by agricultural runoff, which includes pesticides, herbicides, or animal wastes, thus imposing greater treatment costs on downstream water utilities. Farmers should be encouraged to use existing

incentive mechanisms to deploy best management practices to meet the standards.

Timing: First 100 days
Proposal type: Legislation

4. **Issue an Executive Order to Promote Greater Water Quality Trading (WQT).**

The EPA introduced WQT as a way to reduce water pollution from multiple sources in a more cost-effective manner. Entities are able to sell water quality credits to others that are not able to effectively reduce their pollution so that both entities are in compliance with CWA standards. WQT has already been used to good effect in the Chesapeake Bay, Great Lakes, and Gulf of Mexico areas. However, these trading markets have not fully developed in the United States, largely because WQT has not been codified by law or regulation.

Timing: First 100 days
Proposal type: Executive Order and Legislation

5. **Issue an Executive Order to Promote Water and Wastewater Regulatory Reform.**

One of the most important trends in water policy is integrated water use and reuse of wastewater, graywater, stormwater, produced water, brackish water, and ocean water. While the states are primarily responsible, the federal government could significantly advance progress by issuing an Executive Order on comprehensive, improved procedures for streamlining and reforming regulatory requirements regarding the design, construction, location, operation, and maintenance of water and wastewater infrastructure. Reforms should include the identification and removal of unnecessary, cross-cutting requirements, and incentives for better, faster, more coordinated reviews among agencies in evaluating technical, procedural, and substantive requirements, including cost and relevancy of standards and other requirements.

Another key reform measure would be to require the consideration of opportunity costs in assessing the economic toll of any new, proposed regulations. The true cost of compliance with a regulation not only includes the direct costs incurred, but also the loss of other opportunities because of the divergence of scarce resources. For example, burdensome recordkeeping or treatment requirements

that do not materially improve public health might require the expenditure of thousands of dollars that could have been spent on infrastructure repairs or the addition of smart technologies that would have reduced water loss or otherwise improved efficiency. The benefits lost from those alternatives should be included in the calculation of the true cost of a new regulation, so that policy makers have a more accurate understanding of the consequences of regulations.

Timing: First 100 days
Proposal type: Executive Order

IV. MAKE AMERICA'S WATER INFRASTRUCTURE SAFER AND MORE SECURE

Americans must have confidence in the safety and reliability of their water supplies. Likewise, by promoting improved water management and greater cooperation on shared waters within the United States and internationally, we minimize the potential for disruptive conflicts over water, thereby strengthening America's security and economic interests at home and abroad.

A. Ensure Water Quality.

Over 300 million Americans rely on more than 50,000 community water systems to provide safe drinking water. Many small and disadvantaged communities face technical, managerial and financial capacity challenges that can complicate their efforts to sustainably provide safe drinking water to the populations they serve. The number and small scale of these systems is one of the single greatest challenges facing the U.S. drinking water system.

1. Improve Federal Agency Collaboration and Support for State and Local in Water Quality Research, Monitoring, and Data Collection.

Investing in research, monitoring and data allows Americans to identify and understand the true condition of the system and design strategies that are more safe, efficient and effective. This could provide cost savings to invest in other water infrastructure needs. As indicated in Section I above, as part of his Presidential Policy Directive and his charge to the Water Commission, the President should issue an Executive Order to improve collaboration and coordination across federal agencies such as EPA, Centers for Disease Control and Prevention, Departments of Agriculture, Energy, and Interior, and the National Oceanic and Atmospheric Administration. This Executive Order should also strengthen federal support for state and local efforts to

integrate and analyze community drinking water quality data with public health data (such as childhood blood lead levels) and other key indicators. This could also include federal strategy for the research and application of science and technology to understand and address water quality challenges associated with providing safe drinking water.

Timing: Day One
Proposal type: Executive Order

2. **Issue an Executive Order to Develop a Knowledge and Information for Customers (KIC) Lead Program.**

The localized issues regarding lead contamination underscore the need to circulate best practices using currently available treatment and monitoring technologies and to develop and deploy better technologies over time. The President should issue an Executive Order instructing the EPA to develop a "Knowledge and Information for Customers (KIC) Lead Program." This program would enable the public to become better informed about what is known about the condition of their drinking water service lines. This program would include potentially matching funds to encourage consistent implementation at local levels. It would also use existing federal law on disclosure of lead paint risk as a template for similar required disclosure for the existence, or possible existence, of lead service lines.

KIC Lead would have three major components, comprising the "Lead in a Box" concept of reducing up-front implementation costs for local agencies:

- National GIS-based Lead Service Line Mapping Tool. The appropriate federal agency (e.g., HUD or EPA), would be tasked with developing a national lead mapping tool that can be populated with whatever information a local community has about lead service lines.
- National Free Lead Monitoring Kit. The appropriate federal agency, working through the states, would develop a system that would establish a model "kit" for a self-monitoring that end users can use to determine the safety of water at the tap. Citizens in communities with known lead service lines would each receive one free monitoring kit per year. The relevant federal agency would identify a network of labs to undertake the lab analysis at reduced bulk cost, and provide standardized information on what the lab results mean and appropriate next steps.

- Enact a "lead in water" disclosure law. The Trump administration should work with Congress to develop legislation modeled after the Residential Lead-Based Paint Hazard Reduction Act of 1992, which protects families from exposure to lead from paint, dust, and soil. This new legislation could emulate Section 1018 of the 1992 law on lead paint, which directs HUD and EPA to require the disclosure of known information on lead-based paint and lead-based paint hazards before the sale or lease of most housing built before 1978. A new "lead in water" disclosure law should likewise establish specific disclosure requirements to be met prior to closure of a home sale or rental contract.

This KIC Lead program would enable home buyers or renters to access the best information possible about the condition of lead lines serving their homes. It would also enable them to take appropriate steps to avoid or reduce their risks to lead exposure in household water systems. This effort could be matched to potential funding targeted to KIC Lead from WIFIA and/or the Clean Water Revolving Fund.

Timing: Day One (for Executive Order) and first 100 days (Legislation)
Proposal type: Executive Order and Legislation

3. **Replace, Fix, or Otherwise Remedy Contaminated Water Service Lines.**

Service lines, including those made of lead, can be a major source of toxins entering households across the country. Service line ownership is typically split between the homeowner and the water system. An array of solutions exists for dealing with toxins in water, ranging from better treatment and system management to in-home filtration to full replacement of outdated service lines. Full replacement is very expensive, and replacing all lead service lines across the country could cost a total of approximately $30 billion. Many homeowners have limited discretionary funds to fund replacement of their lead service lines. Moreover, lower-income families tend to live in older housing units that are more likely to contain lead service lines, so the potential burden for a replacement program might disproportionally affect the poor.

In addition to facilitating better awareness as outlined above, Congress should consider providing financial assistance, particularly to low-income households, for help with installation of filtration systems or service line replacements, if needed. Specifically,

Congress could:

- Enact tax credits or deductions for households below a certain income level who incur qualified costs for installation of in-home filtration systems or service line replacement to remove lead and other toxics from drinking water;
- Enact tax incentives for replacement of service lines or installation of in-home filtration systems to remove lead and other toxics from drinking water;
- Expand EPA and HUD real estate disclosure requirements to include whether a service line is present;
- Include lead in drinking water in the EPA and HUD's Lead-Safe Housing Rules;
- Adapt federal assistance programs such as the Federal Housing Administration (FHA) to allow people buying or refinancing homes to add the cost of full lead service line replacement to the mortgage without it counting against the loan-to-value maximums or to make lead service line replacement an eligible activity for rehab mortgage insurance under Section 203(k) or as a Title I insured loan for property improvements; and,
- Increase funding allocated to existing grant programs such as HUD's Community Development Block Grant program for targeting low-income households for purposes of lead service line remediation, either through filtration or replacement.

Timing: First 100 days
Proposal type: Legislation and Administrative Action by FHA, et al

4. **Clarify EPA Requirements for Stormwater Discharges from Municipal Water Facilities.**

The EPA should provide clear technology-based standards or an equivalent standard regarding stormwater discharges from municipal water facilities so that utilities can have greater certainty about compliance with EPA requirements.

Heavy precipitation elevates flows in water collection systems, which overwhelms treatment plants and causes them to discharge municipal stormwater directly to local waterways. The current Clean Water Act penalizes clean water utilities that cannot collect, transport, and treat wastewater in wet weather situations to the same standards that apply during dry weather. Combined sewer utilities are working to comply with the CWA's Combined Sewer Overflow (CSO) Control Policy. These utilities have benefited from a consistent national policy that outlines what is expected of them. However, the EPA continues to enforce a zero-overflow standard for sanitary

sewer systems and has cracked down on peak wet weather treatment strategies like "blending" that were designed and funded with federal grants to provide the highest level of treatment to the greatest amount of flow. The EPA now views these flow management techniques as illegal bypasses and has pushed its regions and state permit writers to stop these practices. Thus, utilities need greater certainty and additional flexibility beyond EPA's current zero-overflow standard for sanitary sewer systems. Such certainty would eliminate large and costly enforcement orders from EPA obligating utilities to spending millions, and in some cases billions, of dollars to address wet weather challenges when more cost-effective options are available.

The EPA should use its existing regulatory authority under the CWA to adopt a more flexible approach and provide clear technology-based standards or an equivalent standard regarding stormwater discharges. To ensure greater certainty over the long-term, Congress should revise key sections of the CWA to make clear EPA permits sanitary sewer overflows under certain conditions and to clarify that EPA cannot dictate the type of treatment technology used at treatment plants to achieve federal secondary treatment requirements.

Timing: First 100 days
Proposal type: Administrative (EPA) and Legislation

B. Promote Global Water Security.

1. Establish a Center for Water Conflict Prevention and Resolution to Enhance National Security.

The United States can enhance national security and cooperation by managing and reducing conflict over water resources. Incorporating a stronger focus on global water challenges in the next National Security Strategy (NSS) would align U.S. government priorities across multiple agencies and leverage strategic advantages in diplomacy, development, defense, intelligence, science, and technology.

Congress should enact legislation establishing and funding a Center for Water Conflict Prevention and Cooperation. This Center is key to oversee and coordinate the strategic deployment of U.S expertise and resources. Through research and analysis, the Center will provide recommendations, as well as training and support, on policies, laws, and practices for conflict prevention and resolution on water issues. It will also convene multitrack "hydro-diplomacy" on transboundary basins with strategic value

to the United States. Finally, it will assist in generating investment for projects by assisting in creating public-private partnerships to achieve resilient economies and communities.

Timing: First 200 days
Proposal type: Legislation

2. **Increase investment for improved Global Access to Water, Sanitation, and Hygiene (WASH).**

Congress should increase investments by $100 million per year beyond current appropriations across the U.S. government. This would have wide-reaching impacts on global water challenges, and increase opportunities for partnership and leveraged impacts among U.S. and non-U.S. partners. Effective U.S. foreign assistance could improve WASH access by mobilizing innovation and reducing future investments in military interventions and disaster assistance, and improved peace, stability, and improved livelihoods in countries important to the U.S. and our allies:

- Water security can help prevent the next droughts (unavoidable) from becoming the next famines (largely preventable).
- Water security can help prevent the next water-related diseases (e.g. cholera, Ebola) from becoming pandemics.
- Water security can lessen the likelihood, or mitigate the severity of local, national, and regional violent conflict.

Timing: First 100 days
Proposal type: Legislation

Exhibit 1

DRAFT PRESIDENTIAL POLICY DIRECTIVE

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Introduction

Water powers the U.S. economy. Clean, safe water ensures the health and productivity of our people, provides more than 50 percent of the nation's total renewable energy, sustains our agricultural productivity and is critical to our economic development. America's water security rests on its infrastructure. These systems are comprised of the pipes, pumps, and purification systems that ensure we have clean water to drink; the multipurpose dams to provide electricity, protect against floods and droughts and ensure our waterways remain navigable; the desalination and wastewater treatment plants that can increase supplies and promote reuse; the in-house and on-farm technologies that reduce water use; and the space and land-based systems that allow us to monitor U.S. supplies and forecast potential challenges. This is the infrastructure that powers America, employs America and drives American economic growth and power.

Today, much of our water-related infrastructure is at risk. Many water supply systems are in desperate need of replacement. Water treatment systems cannot handle growing needs, are based on obsolete technologies, and are not equipped to meet the needs of many regions within the United States, which remain at risk for floods and droughts. Limited water resources are now becoming a significant impediment to our economic growth. As much as 25 to 30 percent of the treated water that goes into our distribution systems leaks into the ground as it flows through pipes installed 150 years ago. Those losses not only squander a vital and sometimes scarce resource, but also represent a massive waste of the energy and associated capital required to treat and pump that water.

Moreover, the physical and management infrastructure for water in the U.S. has major gaps, and the structure of the Country's public policy sometimes creates barriers to filling these gaps. The federal level of responsibility for water management is currently shared across approximately thirty agencies, ten departments and several independent commissions, councils and offices. There are several informal inter-agency coordination mechanisms, which have had limited success.

Water beyond America's borders is also an issue of U.S. National Security concern. When communities globally do not have ample clean water, there is poor health, failing economies, and regional instability. People should have access to the water they need, when they need it, where they need it, without living in fear of floods and droughts, public health risks, or conflict. This

directive recognizes America's responsibilities and opportunities to share our know-how, technologies, and approaches with countries in need across the globe.

This Presidential Policy Directive will make achieving the nation's water security through sound infrastructure a priority – contributing to a more healthy, prosperous and resilient America. An important first step will be the creation of a Presidential Commission on Water Infrastructure Policy Coordination and Security ("the Water Commission"), which will develop a structure and process to break down the policy silos and create a coordinated, rational, and efficient water policy and administration, to include better collaboration and coordination across federal agencies. In addition, since water is also a major national security issue, the U.S. it must also examine its water policy through the lens of U.S. national and economic security. The Water Commission will convene leading experts to develop an immediate plan to improve and enhance water infrastructure and security, and should report its recommendations within 180 days of formation and thereafter oversee long-term federal agency coordination and policy implementation.

Policy

It is the policy of the United States to make water security a domestic and international national priority. People should have access to the water they need, when they need it, where they need it, without living in fear of floods and droughts or public health risks or conflict. This effort includes, but is not limited to, water for drinking and domestic use, water for agriculture, water for energy, water for industry, water for navigation, and water for health.

Key U.S. Water Principles

This water initiative will follow certain key principles:

- **Support for local communities** – The federal government will speak with one voice and be a source of reliable support to states and local communities. Our federal water infrastructure programs, regulations, and rules are currently spread across multiple agencies with little or no coordination or rationalization. They will be reorganized to make them more coherent, coordinated, rational, effective, and economical, and to encourage local autonomy and decision-making.
- **Invest in our water infrastructure** – We must adequately fund and support our existing federal programs to ensure communities and utilities have the resources necessary to operate and maintain their systems.
- **Leverage and promote access to private capital** – Because public funds alone will not solve these challenges, a coordinated federal action agenda will be designed to increase the level of private sector investment in water infrastructure.

- **Ensure safe, reliable and affordable service** – American water systems must be safe, reliable, and achieve fair pricing (full cost recovery) so that no one is left without reliable water services simply because they cannot afford it.
- **Support for American workers and manufacturing** – As we build and rebuild our water infrastructure, we should support our fellow citizens by Buying and Hiring American, using American tax dollars to support American jobs and industry.
- **Catalyze technology innovation** – Federal agencies will support the accelerated deployment of the best innovative technologies and support small community access to the most appropriate technologies to meet their needs.
- **Data collection and dissemination for sound water management** – Collect, strengthen and ensure access to timely forecasting data and information on the state of the nation's water resources.
- **Utilize global water security to drive U.S. economic growth and national security** – Make water security a foreign policy and foreign assistance priority that increases the exports of American technologies and approaches.

A Global Water Security Strategy

As we invest in a U.S. water infrastructure that employs the most innovative ideas and technologies, and serves every individual and community in this country, we need to apply our experience and expertise to partner with people in countries important to the U.S. who are also suffering from water insecurity. Today, approximately 1.8 billion people lack access to water that is safe to drink and nearly 2 billion people lack access to sanitation. Water-related diseases worldwide are the second leading cause of death in children and a major cause of physical and cognitive stunting. Water scarcity and poor water quality will undermine economic growth, limit food production and become an increasing threat to peace and security in many regions of the world where the United States has strong strategic interests. The United States can leverage its own experience and technologies to create a more water secure world and generate new opportunities for U.S. businesses overseas.

As required by law, the administration will develop, by October 2017, a U.S. Government Global Water Strategy to improve water security internationally by increasing access to safe drinking water and sanitation, improving water resources management, and promoting cooperation on shared waters. This initiative directs the U.S. State Department to take the lead on the development of the Global Water Security Strategy, in close coordination with the U.S. Agency for International Development and all relevant agencies.

Immediate Actions, Roles and Responsibilities

This water initiative will be charged with acting within a tight time frame. Accordingly, the administration is taking a series of immediate Executive actions to begin to address gaps that are leaving people underserved, to accelerate private investment, increase jobs, improve the efficiency, reliability, and performance of our infrastructure, deploy innovative technologies, and build public-private partnerships. To create and sustain long-term improvements, set forth here are a set of immediate steps needed to develop a more detailed action plan within 180 days:

- **Establish the Presidential Commission on Water Infrastructure Policy Coordination and Security** – The Water Commission will develop recommendations for a long-term structure and process to break down the policy silos and create a coordinated, rational, and efficient water policy and administration, to include better collaboration and coordination across federal agencies on domestic and international water policy. The Water Commission will be modeled after the 1973 U.S. Water Commission as an independent, bipartisan body that would drive a policy discussion and provide oversight for a national strategic plan for water investments.
- **Provide dedicated staffing** – Create the post of Assistant to the President for Water Policy and Security, reporting to the White House Chief of Staff. The President will empower this staff to coordinate and support the activities of the Water Commission, integrate federal agency responsibilities, listen to America's communities, consumers, businesses, and investors, and rapidly develop and implement action steps to achieve the above objectives. The Assistant would oversee all U.S. activities addressing or supporting programs designed to improve water infrastructure and security and has the authority to coordinate, convene, and mobilize U.S. government agencies when responding to the diverse issues associated with water nexus challenges including, but not limited to, energy, food, health, trade, and transboundary cooperation.

This Water Commission will consist of key federal agencies, state and local representatives as well as leading thinkers in the private, nonprofit and financial communities and be co-chaired by the President's National Security and Economic Policy Advisors. It will be sharply focused on developing a structure and process for the achievement of the following objectives:

- Develop a set of national objectives to ensure that all agency approaches to protecting water resources, maintaining our water infrastructure, and providing safe, reliable, and affordable drinking water are fully coordinated.
- Establish a formal inter-agency coordination process across all federal domestic and international agencies with jurisdiction over water management and water security.
- Reorganize and streamline the diverse federal water responsibilities, laws, and regulations, including better coordination among energy, water, and food policies.

- Convene a White House Water Summit to receive feedback from key sector experts to begin developing the action plan.
- Identify the root cause of why private sector business and private capital are not more effectively deployed in water projects and needed water investments and develop policies to eliminate those barriers. Propose long-term approaches to encouraging more private investment and public-private partnerships.
- Ensure the many existing innovative technologies that allow us to do more with less can be verified and deployed on a much faster track.
- Align all the activities of federal agencies around a sound, risk-based approach to protecting watersheds, to ensure that we are focused on the priority threats and risks and avoid focusing on things that do not work.
- Incentivize regional planning processes and full cost accounting to encourage more integrated long-term strategic approaches, innovation and engagement with local stakeholders.
- Establish a peer-to-peer network among local water utilities to share information and best practices to improve performance.
- Recommend the best ways to make U.S. expertise and technology available to international citizens and markets and to encourage foreign investment in U.S. infrastructure, technologies, products and services, including public-private partnerships and cognitive learning platforms.
- Enhance and improve basic water science and data collection.
- Identify ways to modernize water-quality laws, in particular the Clean Water Act and the Safe Drinking Water Act.
- Provide recommendations on water security and infrastructure to be included in the annual National Security Strategy process.
- Task the U.S. State Department, working with the U.S. Agency for International Development and other agencies and stakeholders as appropriate, to develop and implement the Global Water Security Strategy.

The Water Commission will be required to provide a detailed action agenda within 180 days and a long-term national strategic plan for water investments by no later than December 31, 2017. This will include both specific Executive actions, legislative recommendations, and a plan to ensure the best possible coordination among the federal, state and local bodies responsible for water with full accountability.

Exhibit 2

DRAFT EXECUTIVE ORDER

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ESTABLISHMENT OF THE PRESIDENTIAL COMMISSION ON WATER INFRASTRUCTURE POLICY COORDINATION AND SECURITY AND ASSISTANT TO THE PRESIDENT FOR WATER POLICY AND SECURITY

By virtue of the authority invested in me as President of the United States, it is ordered as follows:

Section 1: Establishment-

There is hereby established in the Executive Office of the President a Commission, which shall be known as the Commission on Water Infrastructure Policy Coordination and Security ("the Water Commission").

Section 2: Membership-

(a) This Water Commission shall be staffed by an Assistant to the President for Water Policy and Security, reporting directly to the White House Chief of Staff. The Assistant would oversee all U.S. activities addressing or supporting programs designed to improve water infrastructure and security and has the authority to coordinate, convene, and mobilize U.S. government agencies when responding to the diverse issues associated with water nexus challenges including, but not limited to, energy, food, health, trade, and transboundary cooperation.

(b) The Water Commission shall be composed of no fewer than 11 but not more than 17 non-federal government members who shall be appointed by the President upon recommendation by the Chair. The members shall be drawn from among distinguished individuals, and may include those with experience in or representing the scientific, engineering, and environmental communities, the water sector, or any other area determined by the President to be of value to the Water Commission in carrying out its duties. To ensure proper federal representation in coordination, the Water Commission shall include the following federal government organization leaders or their designees as Ex-Officio members or Special Government Employees, depending on specific expertise:

- Secretary of Agriculture

- Secretary of Commerce
- Secretary of Defense
- Secretary of Energy
- Secretary of Homeland Security
- Secretary of Interior
- Secretary of State
- Secretary of Transportation
- Secretary of Treasury
- Administrator of the Environmental Protection Agency
- Administrator of the National Oceanic and Atmospheric Administration
- The U.S. Army Corps of Engineers

The non-governmental members shall include representatives from the following areas of expertise:

- State government
- Local government
- Private sector companies
- Civil society, academic, and associations
- Financial and banking community
- President of the National Academies of Science, Engineering and Medicine

Membership must meet the balance membership plan specified under the Federal Advisory Committee Act (FACA).

(c) The initial members of the Commission shall be:

(d) The President designates _____and the Assistant to the President for Water Policy and Security and the Executive Assistant to serve as the Water Commission's Co-Chairs.

Section 3: Mission and Work-

(a) The Water Commission shall develop a national strategy for water infrastructure investment and water security to include key economic, public health and safety, and

national security considerations. Mobilizing and aligning U.S. government agencies, the private sector, and civil society organizations will break down existing silos and ensure efficient coordination and implementation across the water sector.

(b) The Water Commission shall develop recommendations for long-term coordination across the approximately thirty agencies, ten departments and several independent commissions and offices currently responsible for water resources and infrastructure management, including options involving:

1) Improvements to federal laws, regulations, and industry practices to promote more effective coordination of federal policy and financial support for state and local agencies with primary responsibilities in the water sector.

2) More effective, locally –directed, and coordinated actions to improve protection of public health and safety, promote economic growth, commerce, and national security, and to better protect and respond to situations where flood risks exist, water supplies are threatened or whose quality presents any health or safety issue to affected communities.

3) Organizational or other reforms of federal agencies or processes necessary to ensure such potential improvements are identified, implemented and maintained.

(c) The Water Commission shall identify, evaluate, and recommend actions necessary to improve access to the knowledge needed to make informed water infrastructure and water security management decisions, demonstrate the nature and severity of water security threats to our nation and worldwide, and develop partnerships with industry, civil society, and international stakeholders to maximize the economic and national security benefits of our actions. The Water Commission will give particular consideration to the following key issues:

1) Develop a set of national objectives to ensure that all agency approaches to protecting water resources, maintaining and improving our water infrastructure, and providing safe, reliable, and affordable drinking water are fully coordinated.

2) Establish a formal inter-agency coordination process across all federal, domestic, and international agencies with jurisdiction over water management and water security.

3) Reorganize and streamline the diverse federal water responsibilities, laws, and regulations, including better coordination among energy, water, and food policies.

4) Convene a White House Water Summit to receive feedback from key experts and stakeholders and to receive input and commitments.

5) Identify root causes of why private sector business and private capital are not more effectively deployed in water projects and needed water investments and developing policies to eliminate those barriers.

6) Ensure that the many existing innovative technologies can be verified and deployed on a much faster track.

7) Align all the activities of federal agencies around a sound, risk-based approach to protecting watersheds, to ensure that we are focused on the priority threats and risks, (i.e., reducing risks to floods and droughts) and avoid focusing on things that do not work.

8) Incentivize regional planning processes (i.e., integrated water resources management), local management autonomy, and full cost accounting to encourage more integrated long-term strategic approaches, innovation, and engagement with local stakeholders.

9) Establish a peer-to-peer network among local water utilities and among flood and stormwater water management bodies to share information and best practices to improve performance.

10) Recommend the best ways to make U.S. water planning and management expertise and technology available to international citizens and markets and to encourage foreign investment in U.S. infrastructure, technologies, products and services, including public-private partnerships and cognitive learning platforms.

11) Enhance and improve basic water science and data collection.

12) Identify ways to modernize water-quality laws, in particular the Clean Water Act and the Safe Drinking Water Act.

13) Provide recommendations on water security and infrastructure to be included in the annual National Security Strategy process.

14) Task the U.S. State Department, working with the U.S. Agency for International Development and other agencies and stakeholders as appropriate, to develop and implement the Global Water Security Strategy, as required under the Senator Paul Simon Water for the World Act.

(d) Where appropriate, the Water Commission may conduct original research, direct studies, and hold hearings to further examine particular issues.

(e) Submit an initial action agenda to the President with its findings and options for consideration within 90 days of the date of the Water Commission's first meeting.

(f) The Water Commission shall be advisory in nature and shall submit the national strategy to the President by no later than December 31, 2017. This strategy shall be published on a public website along with any appropriate response from the President within 45 days after it is provided to the President.

Section 4: Administration-

(a) The Water Commission shall hold periodic meetings in public forums in an open and transparent environment.

(b) In carrying out its mission, the Water Commission shall be informed by, and shall strive to avoid duplicating, the efforts of other governmental entities.

(c) The Water Commission shall have a staff, headed by an Assistant to the President for Water Policy and Security, which shall provide support for the functions of the Commission. The President shall appoint this senior staff, who shall be a full-time federal employee, and the Water Commission's staff. The Assistant to the President may also serve as the Designated Federal Officer in accordance with the Federal Advisory Committee Act, as amended, 5 U.S.C. App. (FACA, the "Act").

(d) The Assistant to the President, in consultation with the Co- Chairs, shall have the authority to create subcommittees as necessary to support the Commission's work and to examine particular areas of importance. These subcommittees must report their work to the Water Commission to inform its final recommendations.

(e) The Co-Chairs will work with the heads of Executive departments and agencies, to the extent permitted by law and consistent with their ongoing activities and in accordance with their membership in the Water Commission, to provide the Water Commission such information and cooperation as it may require for purposes of carrying out its mission and ensure effective federal coordination of key water infrastructure and security policy priorities.

(f) The non-federal members will meet with federal members to provide advice and input to meet national water infrastructure and security objectives,

Section 5: General Provisions-

During the Fiscal Year 2017, the commissioners shall serve without compensation other than travel expenses and per-diem allowances. The Office of Management and Budget shall initially determine the source of funding and the first budget of the President will request Congress to empower and resource the Water Commission in the White House, elevating its stature to an important role as an inter-agency coordination mechanism.

(a) To the extent permitted by law, and subject to the availability of appropriations, the President directs the Director of Office of Management and Budget to provide the Commission with such expertise, services, funds, facilities, staff, equipment, and other support services as may be necessary to carry out its mission.

(b) Insofar as FACA may apply to the Water Commission, any functions of the President under that Act, except for those in Section 6 and Section 14 of that Act, shall be performed by the Assistant to the President.

(c) Members of the Water Commission shall serve without any compensation for their work on the Water Commission, but shall be allowed travel expenses, including per diem in lieu of subsistence, to the extent permitted by law for persons serving intermittently in the Government service (5 U.S.C. 5701-5707).

(d) Nothing in this order shall be construed to impair or otherwise affect:
   1) The authority granted by law to a department, agency, or the head thereof;
   2) The functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals;
   3) The existing authorities of state and local governments to administer water quality laws to protect public health and safety.

Section 6: Cooperation-

All Executive departments and agencies of the federal government are authorized and directed to cooperate with the Water Commission in its work and to furnish the Water Commission with such information and assistance as it may require in the performance of its duties.

Section 7: Termination-

The Water Commission shall terminate within two years of the initial meeting, unless extended by the President.

DONALD J. TRUMP

THE WHITE HOUSE,
March 22, 2017.

Exhibit 3

LEGISLATIVE ACTION

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PRIVATE ACTIVITY BONDS

Enact legislation to remove the volume cap from private activity bonds for water and wastewater facilities. Such legislation was most recently introduced as "The Sustainable Water Infrastructure Investment Act of 2015" in the 114th Congress (H. R. 499 and S. 2606), and similar legislation has been introduced in previous Congresses. In each instance it had broad bipartisan support, one year with more than 100 co-sponsors.

The purpose is to provide cost-effective, alternative financing for long-term water infrastructure capital investment programs, to restore the nation's safe drinking water and wastewater infrastructure capability, and protect the health of our citizens.

(1) Our nation's water and wastewater systems are among the best in the world, providing safe drinking water and sanitation to our citizens.
(2) In addition to protecting the health of our citizens, community water systems are essential to our local economies, enabling industries to achieve growth and productivity that make America strong and prosperous.
(3) Regulated under title XIV of the Public Health Service Act (42 U.S.C. 300f et seq.; commonly known as the "Safe Drinking Water Act") and the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), community drinking water systems and wastewater collection and treatment facilities are critical elements in the nation's infrastructure.
(4) Water and wastewater infrastructure is comprised of a mixture of old and new technology. In many local communities across the nation, the old infrastructure is at or near the end of its intended life cycle, has deteriorated to critical conditions and is very costly to replace. Recent government studies have estimated costs of $500,000,000,000 to $800,000,000,000 over the next 20 years for maintaining and improving the existing inventory, building new infrastructure, and meeting new water quality standards.
(5) The historical approach of funding infrastructure is insufficient to meet the investment needs of the future.
(6) The federal partnership with State and local communities has played a pivotal role in improving the nation's water quality and drinking water supplies. Federal assistance under this partnership has been the linchpin of these improvements.
(7) In light of constrained federal budgets, the availability of exempt-facility financing represents an important financing tool to help close the gap between funds currently being invested and water infrastructure needs, preserving the federal partnership.

(8) Providing alternative financing solutions, such as tax-exempt securities, encourages investment in water and wastewater infrastructure that in turn creates local jobs and protects the health of our citizens.
(9) Federally mandated State volume cap restrictions in conjunction with other priorities have limited the use of tax-exempt securities on water and wastewater infrastructure investment.
(10) Removal of State volume caps for water and wastewater infrastructure will accelerate and increase overall investment in the nation's critical water infrastructure; facilitate increased use of innovative infrastructure delivery methods supporting sustainable water systems through public-private partnerships that optimize design, financing, construction, and long-term management, maintenance and viability; and provide for more effective risk management of complex water infrastructure projects by municipal utility and private sector partners.

Exempt-facility bonds for sewage and water supply facilities

(a) Bonds for water and sewage facilities exempt from volume cap on private activity bonds
Paragraph (3) of section 146(g) of the Internal Revenue Code of 1986 is amended by inserting (4), (5), after (2),.
(b) Conforming change
Paragraphs (2) and (3)(B) of section 146(k) of the Internal Revenue Code of 1986 are both amended by striking (4), (5), (6), and inserting (6).

Exhibit 4

EXECUTIVE ORDER

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REMOVAL OF FEDERAL BARRIERS TO PRIVATE CAPITAL INVESTMENT IN U.S. INFRASTRUCTURE

By the authority invested in me as President by the Constitution and the laws of the United States of America, and to aid in the removal of federal barriers to private capital investment in U.S. infrastructure:

Section 1. Policy. Infrastructure investment strengthens our economic platform, makes America more competitive, creates millions of jobs, increases wages for American workers, and reduces the costs of goods and services for American consumers. America's infrastructure is a linchpin of private sector growth but, today, much of our infrastructure is crumbling.

More than 60,000 bridges are considered "structurally deficient." Traffic delays cost the U.S. economy more than $50 billion annually. Most major roads are rated as "less than good condition."

An investigation by USA Today "identified almost 2,000 additional water systems spanning all 50 states where testing has shown excessive levels of lead contamination over the past four years." This included 350 systems that supplied drinking water to schools or day care facilities.

According to the National Association of Manufacturers (NAM), without major improvements to our transportation systems, "the United States will lose more than 2.5 million jobs by 2025" (NAM, Build To Win, 2016). NAM estimates a "ten-year funding gap" of approximately $1 trillion. The Trump Infrastructure Plan is aimed at achieving a target of investment to fill this gap. NAM also found that $8 billion in infrastructure tax credits would support $226 billion in infrastructure investment over 10 years. Innovative financing programs also provide a 10-to-1 return on investment.

Under current policies, infrastructure projects across the U.S. are routinely delayed for years and years due to endless studies, layer-upon-layer of red-tape, bureaucracy, and lawsuits—with virtually no end in sight. This increases costs on taxpayers and blocks Americans from obtaining the kind of infrastructure that is needed for them to compete economically.

According to the Wall Street Journal, "more than a dozen [energy infrastructure] projects, worth about $33 billion, have been either rejected by regulators or withdrawn by developers since 2012, with billions more tied up in projects still in regulatory limbo." This includes coal and shale energy export facilities. Major pipelines are being blocked as well. As noted in the Wall Street Journal, blocking such projects "leaves some communities without access to lower-cost fuel and higher-paying jobs."

Global infrastructure investment funds, insurance companies, and U.S. pension funds are eager to invest in such projects in this country, as they have been doing overseas in recent years. However, a number of federal barriers limit the use of private capital to rebuild and modernize infrastructure that is owned and operated by state and municipal governments. A wide array of long-established government policies favor traditional procurement and traditional government ownership, operation, and maintenance of infrastructure facilities. Among the most important are tax policies.

Accordingly, to further the Administration's priority of improving our nation's crumbling infrastructure, it is imperative that we remove federally created barriers to private investment in U.S. infrastructure.

Section 2. Removal of regulatory tax barriers to investment in infrastructure. The Secretary of the Treasury is hereby directed to eliminate barriers to investment in infrastructure by modifying and clarifying certain provisions of the regulations and other administrative guidance applicable to tax-exempt bonds.

Language for OMB Memorandum on Infrastructure Tax Proposals

Consistent with Executive Order [ ] the Secretary of the Treasury is hereby directed to take the following actions:

1. Modify Revenue Procedure 2016-44 regarding management contracts to eliminate remaining barriers to public private partnerships. Specific changes to be considered include the following:

    a. Limit on contract term. Eliminate the 30-year limitation on the term of permitted management contracts and clarify that the 80 percent of useful life limitation may take into account contractual "return conditions" on the property (for example, a requirement that the manager return the property in good, operating condition).

    b. Limits on compensation. Permit compensation to include compensation based on both revenues and expenses as long as such compensation is not effectively a share of net profits. In conjunction with this change, consider a change to Treas. Reg. § 1.141-3, which contains an outright prohibition on sharing of net profits, to permit a modest sharing of net profits (e.g., up to 10 percent) with the manager in a contract that otherwise qualifies as a "good" management contract.

    c. Governmental control. Modify the requirement that the governmental entity retain significant control over the property to clarify that such control can be established through requirements in the contract regarding the manner in which the facility is to be operated, maintained, insured, etc. and that if such requirements are in place it is not necessary for the governmental entity to approve annual budgets or rates charged.

d. Risk of loss. Clarify that the requirement for the governmental entity to bear the risk of loss on the property can be satisfied through a contractual requirement placed on the manager to insure against such losses.

2. Modify the remedial action requirements of Treas. Reg. § 1.141-12

Treas. Reg. § 1.141-12 permits the tax-exempt status of outstanding bonds to be maintained in the context of a disposition of a facility entirely for cash if the cash is used for other qualifying purposes. The regulations should be modified to clarify that the "alternative use of disposition proceeds" remedial action is available in the case of leases, concessions, and operating agreements. The clarification would eliminate the necessity to redeem or defease tax-exempt bonds in the context of post-issuance changes of use of the bond-financed property, such as may occur in the context of a public private partnership transaction. Specific changes to be considered include the following:

a. Definition of "disposition proceeds." The definition of "disposition proceeds" in Treas. Reg. § 1.141-12(c)(1) should be broadened to include amounts derived from a lease, concession, or operating agreement if the arrangement does not have the effect of transferring to the new user of the property ownership of the property.

b. Allocating disposition to an issue. Technical clarification to delete the second sentence of Treas. Reg. § 1.141-12(c)(2) so that the paragraph would provide a uniform rule for dispositions other than sales.

c. Cash consideration requirement. The cash-consideration requirement in Treas. Reg. § 1.141-12(e)(1)(i) should be revised to require the consideration to be exclusively cash, paid either at the time of the sale or exchange or later pursuant to the terms of a lease, concession, or operating agreement.

d. Timing of expenditures. The two-year expenditure requirement in Treas. Reg. § 1.141-12(e)(1)(ii) should be revised to require that the issuer reasonably expect to expend the cash disposition proceeds within two years of the disposition or, if later, within two years of the receipt of each payment of cash from the disposition.

e. Defeasance requirement. For situations that do not qualify for the "alternative use of disposition proceeds" remedial action, eliminate the requirement to defease the outstanding bonds but continue to require that the affected bonds be retired on their first call date.

3. Issue Guidance Related to Municipal Pension Funds

Clarification of the treatment of governmental pension funds would permit access to an additional source of capital for infrastructure that is not currently available without tainting

outstanding tax exempt bonds or preventing the use of additional tax exempt bonds for future improvements.

a. Include government pension funds in definition of instrumentalities.

Regulations under section 141 of the Internal Revenue Code provide that an instrumentality of a governmental unit is treated as not creating private business use. The only definition of "instrumentality" is contained in Revenue Ruling 57-128, which contains a six-factor test that the IRS has applied in a variety of contexts to identify agencies or instrumentalities. Although the IRS has issued numerous private letter rulings applying the six-factor test, there is little guidance applying this Revenue Ruling in the context of municipal pension funds. Guidance should be issued clarifying that a governmental pension fund is an instrumentality of the associated governmental unit so as to be treated as a "governmental person" for private activity bond purposes.

b. Exclude interests acquired by government pension funds in public infrastructure projects from definition of investment-type property.

As part of the Tax Reform Act of 1986, the term "investment type property" was added to the Code to broaden the types of investments that are subject to the arbitrage rules. Treas. Reg. § 1.148-1(e)(1) states that investment property includes any property that is held principally as a passive vehicle for the production of income. If the acquisition of an infrastructure asset by a public pension fund is treated as investment-type property, the related bonds could be characterized as arbitrage bonds. The regulations should clarify that the acquisition of an interest by a public pension fund in a public infrastructure project would not be treated as investment type property.

Exhibit 5

LEGISLATIVE ACTION

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DRAFT LANGUAGE FOR THE LOW-INCOME WATER ASSISTANCE PILOT PROGRAM

H. R. XXXX

To amend the Safe Drinking Water Act to establish a low-income water assistance pilot program.

IN THE HOUSE OF REPRESENTATIVES
January XX, 2017
Mr. _____ introduced the following bill; which was referred to the Committee on Energy and Commerce.

A BILL
To amend the Safe Drinking Water Act to establish a low-income water assistance pilot program.
Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,
SECTION 1. SHORT TITLE.
This Act may be cited as the "Low Income Water Assistance Program Act of 2017".
SEC. 2. LOW-INCOME WATER ASSISTANCE PILOT PROGRAM.
Title XIV of the Safe Drinking Water Act (42 U.S.C. 300 et seq.) is amended by adding at the end the following:
"SEC. 1459. LOW-INCOME WATER ASSISTANCE PILOT PROGRAM.
"(a) Establishment.—The Administrator shall establish a pilot program to award grants to not fewer than 10 eligible entities to assist low-income households in maintaining access to drinking water services.
"(b) Report.—Not later than one year after the date of enactment of this section, the Administrator shall submit to Congress a report on the results of the program established under this section.
"(c) Definitions.—In this section:
"(1) ELIGIBLE ENTITY.—The term 'eligible entity' means a municipality or a public entity that owns or operates a public water system, that is affected by a consent decree relating to compliance with this Act.
"(2) HOUSEHOLD.—The term 'household' means any individual or group of individuals who are living together as one economic unit.

"(3) LOW-INCOME HOUSEHOLD.—
"(A) IN GENERAL.—The term 'low-income household' means a household—
"(i) in which 1 or more individuals are receiving—
"(I) assistance under a State program funded under part A of title IV of the Social Security Act;
"(II) supplemental security income payments under title XVI of the Social Security Act;
"(III) supplemental nutrition assistance program benefits under the Food and Nutrition Act of 2008; or
"(IV) payments under section 1315, 1521, 1541, or 1542 of title 38, United States Code, or under section 306 of the Veterans' and Survivors' Pension Improvement Act of 1978; or

"(ii) that has an income determined by the State in which the eligible entity is located to not exceed the greater of—
"(I) an amount equal to 150 percent of the poverty level for the State; or
"(II) an amount equal to 60 percent of the State median income; and
"(B) LOWER INCOME LIMIT.—For purposes of this section, a State may adopt an income limit that is lower than the limit described in subparagraph (A)(ii), except that the State may not exclude a household from eligibility in a fiscal year solely on the basis of household income if such income is less than 110 percent of the poverty level for such State.
"(4) PUBLIC WATER SYSTEM.—The term 'public water system' has the meaning given that term in section 1401 of the Safe Drinking Water Act (42 U.S.C. 300f).
"(d) Cost Sharing Requirements.—As a condition on the receipt of funds, eligible entities that receive funds under this section shall provide a 67 percent match.
"(e) Terms and limitations – The amount of funding received by an eligible entity under this section shall not exceed 33 percent of program costs."

Exhibit 6

DRAFT EXECUTIVE ORDER

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ENHANCED EXPORT INITIATIVE FOR WATER AND WASTEWATER TECHNOLOGIES AND SERVICES

By the authority vested in me as President by the Constitution and the laws of the United States of America, including, inter alia, the Export Enhancement Act of 1992 and 15 U.S. Code 4727 and 4728, in order to advance global water security and to enhance and coordinate federal efforts to facilitate the creation of jobs in the United States through the promotion of exports of technologies and services related to water and wastewater, and to ensure the effective use of federal resources in support of these goals, it is hereby ordered as follows:

Section 1. Policy. Creating jobs in the United States and promoting water security in the United States and internationally are top priorities for my administration. The United States is a world leader in technological innovation and in promoting a holistic approach to water and wastewater management. Ensuring that American businesses can actively and fairly participate in international markets for water and wastewater-related technologies, goods and services will help other countries to meet growing demands for water and sanitation services, thereby enhancing public health, agricultural productivity, and other developmental objectives. At the same time, expanding exports of American goods and services in the water and wastewater sector will, in turn, create good high-paying jobs in the United States.

The Enhanced Export Initiative for Water and Wastewater Technologies and Services shall be an administration initiative to improve the private sector's ability to export American expertise and products in this vital sector of the U.S. and global economy. This initiative will work to reduce and, where possible, eliminate trade barriers abroad, by helping firms -- especially small businesses -- overcome the hurdles to entering new export markets, by assisting with financing, and by promoting a coordinated "whole of United States" approach to export advocacy for water and wastewater-related goods and services.

Sec. 2. Water and Wastewater Technologies and Services Sub-Working Group. There is established Water and Wastewater Technologies and Services Sub-Working Group under the existing Environmental Trade Working Group (ETWG) of the Trade Promotion Coordination Committee (TPCC) established under 15 U.S. Code Section 4727. This Sub-Working Group will develop and coordinate the implementation of this initiative to increase the export of U.S. goods and services in water and wastewater. It shall be Chaired by the Assistant to the President for Water Resources and Water Security and include senior representatives from:

(a) the Department of State;
(b) the Department of Commerce;
(c) the Department of the Treasury;
(d) the Department of Agriculture;
(e) the Department of The Interior;
(f) the United States Trade Representative;
(g) the Millennium Challenge Corporation;
(h) the U.S. Agency for International Development;
(i) the Director of the Office of Management and Budget;
(j) the Environmental Protection Agency;
(k) the Export-Import Bank of the United States;
(l) the Small Business Administration;
(m) the Overseas Private Investment Corporation;
(n) the United States Trade and Development Agency; and,
(o) representatives of other departments and agencies that are part of the existing TPCC.

The Sub-Working Group shall meet periodically and report through the ETWG and TPCC to the President on the progress of this Initiative.

Sec. 3. Enhanced Export Initiative for Water and Wastewater Technologies and Services. This Initiative shall address the following:

(a) Federal Export Assistance. The Sub-Working Group shall identify and promote ways to coordinate and direct effectively U.S. export financing offered by the EXIM Bank, OPIC, and USTDA, to assist U.S. providers, particularly Small and Medium-Sized Enterprises, in pursuing new or expanded export opportunities in the water and wastewater sector.
(b) Trade Missions. The Commerce Department, in consultation with the State Department and other TPCC members, as well as relevant state and local officials, and the private sector, shall ensure that U.S. Government-led trade missions include, where appropriate, an emphasis on export opportunities for U.S. providers of water and wastewater technologies, goods and services. "Reverse" trade missions of international decision makers to engage U.S. water and wastewater technology, product, and service providers to see U.S. experiences should also be considered.
(c) Commercial Advocacy. The Advocacy Center at the Department of Commerce, in consultation with the State Department, shall ensure that the federal government's overseas commercial advocacy programs include, where appropriate, emphasis on export opportunities for U.S. providers of water and wastewater technologies, goods and services.

(d) Reducing Barriers to Trade. The United States Trade Representative, in consultation with Commerce, State, and other members of the Sub-Working Group, shall take steps to improve market access overseas for American providers of water and wastewater technologies, goods and services by actively opening new markets, reducing significant trade barriers, and robustly enforcing relevant trade agreements.

Sec. 4. General Provisions.

(a) Nothing in this order shall be construed to impair or otherwise affect:

(i) authority granted by law to an executive department, agency, or the head thereof, or the status of that department or agency within the federal government; or

(ii) functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

DONALD J. TRUMP

THE WHITE HOUSE,
March 22, 2017.

Exhibit 7

LEGISLATIVE ACTION

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DRAFT LANGUAGE FOR RESEARCH TEST BED NETWORK AND DIGITAL SOLUTIONS

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Water Research and Technology Test Bed Act".

SEC. 2. FINDINGS.

Congress finds that—

(1) communities across the United States face threats to their drinking water systems and therefore to public health, and these threats are exacerbated by the need for advancements in technological solutions, such as the ability to test water in real time, as well as to filter, monitor, and deliver clean water in response to changing contaminants;

(2) wastewater treatment in the municipal, industrial, and agricultural sectors is energy-intensive and costly in both infrastructure and operational costs, and is in need of advancements in technological solutions to meet these challenges in a cost-effective manner;

(3) water supply and water quality challenges create acute pressures across the United States, such as—

(A) in 2014, as much as 57 percent of the continental United States experienced abnormally dry or drought conditions, which were serious, but not unprecedented, conditions; and

(B) wetter regions are challenged by water quality issues, such as harmful algal blooms prohibiting safe water consumption in Lake Erie;

(4) economic sectors of the United States including agriculture, energy, consumer goods, and information technology report exposure to water risk, and these uses conflict with one another and with the demands for private and public drinking water supplies and ecosystem services;

(5) outside the United States, water challenges also threaten global health, security, and development, as 780,000,000 people worldwide lack access to clean water;

(6) considering the scale and severity of these challenges, there is a need for strategic research and development of new technologies, processes, and policies to address water quality, supply, distribution, treatment, reuse, conservation, and management; and

(7) a national strategy for water research, development, and deployment and efforts to facilitate public-private partnerships will help the United States effectively address high priority water challenges.

SEC. 3. DEFINITIONS.

In this Act:
(1) Advisory committee.—The term "Advisory Committee" means the Water Resources, Quality, and Technology Advisory Committee established under section 5(d)(1).
(2) Assistant director.—The term "Assistant Director" means the Assistant Director for Water Resources, Quality, and Technology described in section 5(d)(1).
(3) Director.—The term "Director" means the Director of the National Science Foundation.
(4) Directorate.—The term "Directorate" means the Directorate for Water Resources, Quality, and Technology established under section 5(a).
(5) NSTC.—The term "NSTC" means the National Science and Technology Council.
(6) RD&D.—The term "RD&D" means research, development, and deployment.
(7) Water research center.—The term "water research center" means a water research center established under section 6(a).
SEC. 4. WATER RESEARCH REPORT.
Not later than 180 days after the date of enactment of this Act, the NSTC shall submit to Congress a report on the status of Federal efforts toward advancing water research, including—
(1) identification of existing programs and projects for each of the Federal agencies that carry out or support (including through grants, contracts, inter- and intra-agency transfers, and multiyear and no-year funds) basic and applied water RD&D activities; and
(2) a needs assessment for advancing research priorities of the United States related to water quality, supply, distribution, treatment, reuse, conservation, and management, including partnerships with private entities engaged in these areas of water research.
SEC. 5. FACILITATING PUBLIC-PRIVATE RESEARCH THROUGH ESTABLISHMENT OF THE DIRECTORATE FOR WATER RESOURCES, QUALITY, AND TECHNOLOGY.
(a) Establishment.—The Director shall establish within the National Science Foundation a Directorate for Water Resources, Quality, and Technology, to carry out the duties described in subsection (c).
(b) Purposes.—The purposes of the Directorate shall be—
(1) to advance the water research strategy of the United States as described in subsection (c);
(2) to facilitate public-private partnerships that increase leveraging and private cost-sharing on federally funded water research;
(3) to accelerate the deployment of water technologies that advance human health outcomes, water and energy efficiencies, water savings, and environmental protection; and
(4) to foster strategic collaboration between research conducted within Federal agencies and departments, researchers conducting federally funded research, institutions of higher education, industry, utilities, and nonprofit organizations.
(c) Duties.—
(1) In general.—The Directorate shall—

(A) develop and, every 5 years, present to the NSTC, the Director of the Office of Management and Budget, and Congress a recommended long-term national water research strategy, which shall—
(i) be based on a regular review of water resources research supported by the Federal Government and other research organizations;
(ii) identify unmet and emerging water research challenges;
(iii) advise the Director of the Office of Management and Budget and Congress on the adequacy of mission-driven research budgets of Federal agencies relating to water; and
(iv) engage with States, industry, and other stakeholders to identify unmet and emerging water research challenges;
(B) promote the deployment of smart technologies that gathers, analyzes, and incorporates data from systems to improve the effectiveness and efficiency of civic operations and services and to ensure the resilience of civic systems against cybersecurity threats and physical and social vulnerabilities and breaches;
(C) establish an interdisciplinary funding pool focused on addressing water research priorities, particularly those that span the authorities of multiple Federal agencies and departments;
(D) through the new funding pool described in subparagraph (B), enter into non-Federal cost-sharing research grants, contracts, memoranda of understanding, or cooperative agreements with eligible entities to efficiently and effectively advance the goals and priorities of the Directorate;
(E) leverage existing Federal programs by encouraging joint solicitations, applications, and cost-share matching with non-Federal partners;
(F) coordinate with regional and the national water research centers;
(G) coordinate with national water research organizations; and
(H) carry out such other activities as the Assistant Director determines to be consistent with the purposes of the Directorate.
(2) Agreements.—
(A) In general.—Agreements entered into under paragraph (1)(C) shall be evaluated and awarded competitively through selection criteria developed by the Assistant Director.
(B) Eligible entities.—An eligible entity referred to in paragraph (1)(C) may include—
(i) an institution of higher education or a consortium of institutions of higher education;
(ii) [representatives of] industry;
(iii) industry associations;
(iv) national water research organizations;
(v) public and private utilities;
(vi) Federal research labs; and
(vii) public-private partnerships.

(C) Results.—The Assistant Director shall develop criteria to determine whether the results of any RD&D activities carried out by the Directorate shall be made public, in consideration of intellectual property norms and publicly funded research requirements.
(3) Relationship to other activities.—The activities described in paragraph (1)—
(A) shall not supplement any other activities of the National Science Foundation; and
(B) shall not preempt any authority or responsibility of the National Science Foundation under another provision of law.
(d) Administration.—
(1) In general.—The Directorate shall be managed by an Assistant Director for Water Resources, Quality, and Technology.
(2) Advisory committee.—
(A) In general.—The Assistant Director shall manage the Directorate with the assistance of a Water Resources, Quality, and Technology Advisory Committee, which shall include the Director, acting in consultation with—
(i) the Secretary of Energy;
(ii) the Secretary of Agriculture;
(iii) the Secretary of Commerce;
(iv) the Secretary of the Interior;
(v) the Secretary of Defense; and
(vi) the Administrator of the Environmental Protection Agency.
(B) Bylaws.—The Assistant Director shall establish bylaws for the Advisory Committee that, at a minimum, include policies and terms for Advisory Committee membership, ethical standards, conflicts of interest, and sharing of intellectual property developed through activities of the Directorate.
(C) Membership.—
(i) In general.—The Assistant Director shall establish terms of membership, including setting procedures for appointment to the Advisory Committee, terms of member service, procedures to manage conflicts of interest, and all other such bylaws as are determined to be necessary by the Assistant Director.
(ii) Non-federal representatives.—The Assistant Director shall ensure that not less than \2/3\ of the members of the Advisory Committee are representatives of the non-Federal sector, including water and wastewater utilities.
(D) Chair.—The Assistant Director shall appoint a chair of the Advisory Committee, who shall serve at the pleasure of the Assistant Director.
SEC. 6. ESTABLISHMENT OF WATER RESEARCH CENTERS.
(a) Establishment.—
(1) In general.—The Assistant Director shall establish 6 public-private water research centers—

(A) to be located at institutions of higher education or consortia or systems of institutions of higher education; and
(B) to serve as implementation partners for the Federal water research strategy and points of entry for private entities to engage with Federal water research and new partnerships.
(2) Geographic diversity.—There shall be one national center and 5 regional centers. Each regional water research center shall be located in a distinct region of the United States that differs in terms of—
(A) the water supply and demand challenges facing the public, agricultural and industrial sectors, and ecosystems; and
(B) the policy and legal frameworks impacting the region.(3) Focus.—Each water research center—
(A) shall focus primarily on the water priorities of the region, including the verification and testing of water and wastewater technologies at scale in which the water center is located, while providing collaboration, support, and expertise on water issues outside the region as may be necessary; and
(B) may partner with an entity or accept proposals from any region of the United States.
(C) the national research center will focus primarily on issues of importance to the entire water sector. It will commission original research, facilitate collaborations amongst regional centers and communicate research results to the end users.

(b) Duties.—Each water research center shall—
(1) identify needs, facilitating the provision of information to the Directorate through annual reports identifying regional challenges, research priorities, and RD&D findings;
(2) promote deployment of smart technologies that –
(i) gathers and incorporates data from systems, devices, and sensors embedded in civic systems and infrastructure to improve the effectiveness and efficiency of civic operations and services;
(ii) aggregates and analyzes gathered data;
(iii) communicates the analysis and data in a variety of formats;
(iv) makes corresponding improvements to civic systems and services based on gathered data; and
(v) Integrates measures to —
(vi) ensure the resilience of civic systems against cybersecurity threats and physical and social vulnerabilities and breaches;
(vii) protect the private data of residents; and
(viii) measure the impact of smart technologies on the effectiveness and efficiency of civic operations and services.

(3) serve as a point-of-entry and Federal liaison for businesses and researchers at institutions of higher education—
(A) to participate in Federal research relating to water; and
(B) to benefit from research developments, including through technology transfer, commercialization, participation in field testing, and incorporating research into best practices.
(c) Selection.—
(1) In general.—The Assistant Director shall select water research centers through a competitive process after careful review of all applications received and evaluation of criteria established by the Assistant Director under paragraph (2).
(2) Criteria.—The Assistant Director shall establish criteria for the evaluation of applications under this subsection with respect to the proposed water research center, including—
(A) the availability of appropriate research resources and technical expertise to meet objectives including research dissemination and stakeholder engagement;
(B) the strength of partnerships with regional industry, agriculture, and utilities facing water challenges, particularly small- and medium-sized entities that may face barriers to participating in or leveraging Federal RD&D funds due to limited resources;
(C) the presence of relevant regional technology clusters and private industry that demonstrate interest in partnering with the water research center; and
(D) successful and established engagement with relevant organizations focused on technology transfer, commercialization, or policy.
(d) Funding Priority.—The Assistant Director shall consider the RD&D findings described in subsection (b)(1) in setting RD&D research funding priorities and guidelines.
SEC. 7. FUNDING.
(A) Authorization of Appropriations.—There is authorized to be appropriated to the Director to carry out this Act [$50,000,000] for each of fiscal years 2017 through 2021.
(B) Allocation.— Of the amounts authorized to appropriated under subsection (a), [$30,000,000] shall be allocated for each fiscal year [equally] to the 6 water research centers.

Exhibit 8

EXECUTIVE ORDER

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CODIFY EPA'S INTEGRATED PLANNING PROCESS AS AN OPTION FOR LOCAL GOVERNMENTS TO ADDRESS THEIR WASTEWATER AND STORM WATER MANAGEMENT NEEDS

Congressman Bob Gibbs introduced H.R. 6182, the Water Quality Improvement Act to amend the Federal Water Pollution Control Act to provide for an integrated planning and permitting process, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Water Quality Improvement Act of 2016''.

SECTION 2. INTEGRATED PLANNING PROCESS.

Section 402 of the Federal Water Pollution Control Act (33 U.S.C. 1342) is amended by adding at the end the following:

''(s) INTEGRATED PLANNING AND PERMITTING.—

''(1) IN GENERAL.—The Administrator shall establish a comprehensive and flexible integrated planning process and permitting process for municipal wastewater and stormwater management that will help municipalities comply with the requirements of this Act by enabling municipalities to identify the most cost-effective and protective approaches to comply with such requirements, and prioritize their investments in addressing such requirements.

''(2) PLANNING AND PERMITTING PROCESS.—

The Administrator shall ensure that, under the planning and permitting process established under paragraph (1)—

"(A) actions taken by the municipality to comply with the requirements of this Act are implemented in a manner that—

''(i) considers alternative approaches and actions for the municipality to comply with such requirements;

''(ii) takes into consideration the technical feasibility and economic affordability of the alternative approaches and actions considered;

''(iii) accounts for the financial capability of the municipality to comply with such requirements;

''(iv) prioritizes such requirements in order to provide the greatest environmental and public health benefits for the resources expended;

"(v) accounts for both the municipality's preexisting and reasonably anticipated future compliance requirements related to, as applicable—

"(I) a combined sewer overflow;

"(II) a sanitary sewer overflow;

"(III) a capacity, management, operation, and maintenance program for sanitary sewer collection systems;

"(IV) a municipal stormwater discharge;

"(V) a municipal wastewater discharge;

"(VI) a water quality-based effluent limitation to implement an applicable wasteload allocation in a total maximum daily load;

"(VII) source water protection efforts that protect surface water supplies; and

"(VIII) nonpoint source controls through proposed trading approaches or other mechanisms;

"(vi) allows a municipality to develop a schedule of compliance that sequences the implementation of effluent limitations and other control measures based on the priorities established under clause (iv), in accordance with paragraph (4);

"(vii) enables the municipality to implement innovative or sustainable technologies, approaches, and practices to comply with such requirements, including through the use of green infrastructure measures as set forth in the memorandum issued by the Administrator on April 20, 2011, entitled 'Protecting Water Quality with Green Infrastructure in EPA Water Permitting and Enforcement Programs';

"(viii) provides for meeting the requirements of this Act by using the existing flexibilities in this Act and its implementing regulations, policies, and guidance; and

"(ix) reflects State requirements and planning efforts and incorporates State input on priority setting and other key implementation issues;

"(B) a municipality may develop an integrated plan, in consultation with the Administrator (or an authorized State, in the case of a permit program approved under subsection (b)), that—

"(i) identifies the compliance requirements of the municipality under this Act, including effluent limitations and other control measures to be implemented by the municipality;

"(ii) includes, as applicable, a schedule developed under subparagraph (A)(vi) for complying with such requirements; and

"(iii) includes documentation of the integrated planning and permitting process of the municipality under this section, including data and other information on which the integrated plan is based;

"(C) such an integrated plan (including as applicable, the schedule of compliance included in the plan) may be incorporated in whole or in part into a permit issued to the municipality under this section;

"(D) progress in implementing the integrated plan is tracked and evaluated;

"(E) a process for revising the integrated plan, using adaptive management processes, to account for adjustments and further actions that may be needed to comply with the requirements of this Act is incorporated into the integrated plan and the municipality's permit issued under this section;
"(F) with respect to any permit issued under this subsection that includes effluent limitations and other control measures that are established as part of a schedule of compliance included in such an integrated plan, such effluent limitations and other control measures included in that permit shall be based on water quality and other requirements under this Act that are technically feasible and economically affordable, as described in paragraphs (6) and (7); and
"(G) an authorized State, in the case of a permit program approved under subsection (b), may implement the integrated planning process under this subsection.
"(3) INTEGRATED PLANS.—
"(A) PLAN CONTENTS.—An integrated plan developed under this subsection shall include the elements described in Part III of the Integrated Municipal Stormwater and Wastewater Planning Approach Framework, issued by the Environmental Protection Agency and dated May 2012.
"(B) DISSEMINATION OF INFORMATION.—
The Administrator shall—
"(i) inform municipalities of the opportunity to develop an integrated plan; and "(ii) at the request of a municipality or a State, provide information and technical assistance to the municipality or State regarding developing an integrated plan.
"(4) COMPLIANCE SCHEDULES.—
"(A) DURATION.—A schedule of compliance developed under paragraph (2)(A)(vi) and incorporated into a permit under this section may be implemented over more than 1 permit term.
"(B) SEQUENCING IMPLEMENTATION OF HIGH-PRIORITY CONTROL MEASURES.—A schedule of compliance under this subsection may allow a municipality to sequence the implementation of effluent limitations and other control measures that allow the municipality to implement, and assess the effectiveness of, the highest priority effluent limitations and other control measures before requiring implementation of other effluent limitations or control measures, if the schedule, once completed, would result in compliance with all requirements of this Act.
"(C) REASONABLE PROGRESS.—A schedule of compliance under this subsection shall provide for reasonable progress, including interim dates and milestones, as appropriate, to be made towards meeting the permit requirements subject to such schedule.
"(D) CONTROLS IDENTIFIED IN CURRENT AND SUBSEQUENT PERMITS.—Approved effluent limitations and other control measures to be implemented by the municipality pursuant to this subsection—
"(i) during the term of the current permit shall be identified as such in the schedule of compliance and the current permit, and shall be requirements of the current permit; and

"(ii) subsequent to the term of the current permit shall be identified as such in the schedule of compliance and the current permit, and shall become requirements of an appropriate subsequent permit, but shall not be requirements of the current permit.
"(E) STATE AUTHORITY TO AUTHORIZE SCHEDULES OF COMPLIANCE IN STATE WATER QUALITY STANDARDS.—
"(i) IN GENERAL.—Nothing in section 301(b)(1)(C) shall preclude a State from authorizing in its water quality standards the issuance of a schedule of compliance to meet water quality-based effluent limitations in permits that incorporate provisions of an integrated plan pursuant to this subsection.
"(ii) TRANSITION RULE.—In any case in which a discharge is subject to a judicial order or consent decree, as of the date of enactment of this subsection, resolving an enforcement action under this Act, any schedule of compliance issued pursuant to an authorization in a State water quality standard shall not revise or otherwise affect a schedule of compliance in that order or decree, unless the order or decree is modified by agreement of the parties and the court.
"(5) INTEGRATED PLAN AND PERMIT DECISIONMAKING.—
"(A) APPROVAL OF INTEGRATED PLANS AND PERMITS.—Integrated plans and permits incorporating such a plan developed under this subsection are subject to the approval of the Administrator (or an authorized State, in the case of a permit program approved under subsection (b)), which shall not be unreasonably withheld.
"(B) RENEWAL OF INTEGRATED PERMIT.—
"(i) IN GENERAL.—At the time of renewal of a municipality's integrated permit issued pursuant to this subsection, the Administrator (or an authorized State, in the case of a permit program approved under subsection (b)) shall review the schedule of compliance and other requirements included in the existing permit to determine whether the requirements should be continued or modified.
"(ii) REVIEW CONSIDERATIONS.—The permit review shall assess whether changed circumstances warrant adjusting the actions to be taken by the municipality, including whether—
"(I) the effluent limitations and other control measures in the current permit are expected to result in the municipality complying with the requirements of this Act within the timeframes provided in the schedule of compliance;
"(II) the effluent limitations and other control measures continue to be technically feasible and economically affordable under paragraphs (6) and (7);
"(III) new innovative treatment approaches are available that provide greater environmental and public health benefits or have fewer adverse environmental impacts for the resources expended;
"(IV) the municipality is subject to additional regulatory requirements;
"(V) the municipality's financial capability has changed; and

"(VI) reasonable progress has been achieved, as provided for under paragraph (4)(C), including meeting interim dates and milestones, and if not, the reasons for such failure to achieve reasonable progress.

"(iii) CONTINUATION OF REQUIREMENTS IN RENEWED PERMIT.—The permit requirements in an existing permit shall be incorporated into the renewed permit, unless the Administrator (or the authorized State, in the case of a permit program approved under subsection (b)) determines that a requirement should be modified or removed to help the municipality comply with the requirements of this Act through the implementation of technically feasible and economically affordable effluent limitations and other control measures.

"(C) TRANSPARENCY OF PERMIT DECISIONS.—Prior to approving a plan developed under this subsection and issuing or renewing a permit incorporating such a plan pursuant to this subsection, or denying a request from a municipality for approval of a plan and issuance or renewal of a permit incorporating such a plan under this subsection, the Administrator (or an authorized State, in the case of a permit program approved under subsection (b)) shall—

"(i) prepare a report explaining the rationale for the proposed decision; and

"(ii) make the report publicly available for review and comment by the municipality and other interested parties.

"(D) ADMINISTRATOR REVIEW OF STATE PERMITTING DECISIONS.—When the Administrator provides his or her views to a State concerning a proposed integrated plan or permit incorporating such a plan that is to be issued by the State pursuant to this subsection, the Administrator shall make those views available in a written document that is publicly available for review and comment by the municipality and other interested parties.

"(6) TECHNICAL FEASIBILITY CRITERIA.—In making a determination of technical feasibility under this subsection, the Administrator (or the State) shall consider—

"(A) naturally occurring pollutant concentrations;

"(B) natural, ephemeral, intermittent, or low flow conditions or water levels;

"(C) human-caused conditions or sources of pollution that cannot be remedied or would cause more environmental damage to correct than to leave in place;

"(D) dams, diversions, or other types of hydrologic modifications that make it not feasible to restore the water body to its original condition or to operate such modification in a way that would comply with the requirements of this Act; and

"(E) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, that may preclude compliance with the requirements of this Act.

"(7) ECONOMIC AFFORDABILITY CRITERIA.—

"(A) IN GENERAL.—In making a determination of economic affordability under this subsection, the Administrator (or the authorized State, in the case of a permit program approved under subsection (b)) shall consider preexisting and potential future costs, including of debt service, to

the municipality for implementing effluent limitations and other control measures necessary to comply with the requirements of this Act would result in substantial and widespread economic and social impact in the service area of the municipality.

''(B) BASIS FOR DETERMINING IMPACTS.— In determining whether the economic and social impacts of preexisting and potential future costs under subparagraph (A) are substantial and widespread, the Administrator (or the State) shall consider the financial condition both of the municipality and of persons in the service area of the municipality, taking into consideration factors including—

''(i) socioeconomic indicators, including income and unemployment data for the service area of the municipality;

''(ii) population trends in the service area of the municipality;

"(iii) impacts on low-income households in the service area, including the ability of such households to pay basic shelter costs;

''(iv) whether there is a local industry that is failing or relocating out of the service area of the municipality, or if a local industry might fail or relocate if higher taxes or fees are imposed on it;

''(v) the municipality's capital improvement plan and whether the municipality would, in order to finance improvements to comply with the requirements of this Act, have to divert resources that would otherwise be used for investment in essential capital projects that provide core public services to the community;

''(vi) the ability of the municipality to incur more debt, including its ability to issue, and find a market for, additional municipal bonds;

''(vii) whether the debt incurred to implement the effluent limitations and other control measures has or will result in a lowering of the municipality's bond rating;

''(viii) whether the municipality has limited legal authority to pass increased costs through to ratepayers and increased costs of water quality programs must be paid from its general fund;

''(ix) the legally adopted rate structure for provision of water- and wastewater-related services in the service area in effect at the time that a determination of economic affordability is made;

''(x) the cumulative costs paid by persons in the service area to an entity for provision of water- and wastewater-related services; and

''(xi) other information determined to be relevant by the Administrator (or the authorized State, in the case of a permit program approved under subsection (b)), including whether the municipality is located in an area eligible for assistance under section 201 or 209 of the Public Works and Development Act of 1965 (42 U.S.C. 3141, 3149), as described in section 301 of that Act (42 U.S.C. 3161).

''(C) CUMULATIVE COSTS FOR WATER AND WASTEWATER-RELATED SERVICES.—

''(i) INCLUSIONS.—Cumulative costs for the provision of water- and wastewater related services to be considered under subparagraph (B)(xi) shall include the municipality's preexisting and

reasonably anticipated future costs paid by a person, including through taxes and fees, for the municipality's cost of—

''(I) compliance with federal and state water- and wastewater-related and other regulatory requirements;

''(II) operation and maintenance of water and wastewater systems;

''(III) asset management; and

''(IV) servicing any debt incurred or to be incurred to finance the other costs referred to in this clause.

''(ii) SUBSTANTIAL IMPACT.—In making a determination of economic impact under subparagraph (B), the Administrator (or the State) shall consider the impact on a person to be substantial if the cumulative costs paid by the person exceeds, or is projected to exceed, 2 percent of the person's annual household income.

''(iii) WIDESPREAD IMPACT.—In making a determination of economic impact under subparagraph (B), the Administrator (or the State) shall consider the impact to be widespread if percent or more of persons in the service area of the municipality face a substantial impact described in clause (ii).

''(D) ADDITIONAL REQUIREMENTS.—In making a determination of economic affordability under this subsection, the Administrator (or the State) shall not base the determination on—

''(i) median household income in the service area of the municipality; or

''(ii) an expected minimum level of expenditure on the provision of water and wastewater services by a municipality.

''(8) FLEXIBILITY.—

''(A) IN GENERAL.—Nothing in this subsection reduces or eliminates any flexibility available under this Act, including the authority of a State to—

''(i) revise a water quality standard after a use attainability analysis under section 131.10(g) of title 40, Code of Federal Regulations (as in effect on the date of enactment of this subsection); or

''(ii) adopt a water quality standards variance under section 131.14 of title 40, Code of Federal Regulations (as in effect on the date of enactment of this subsection).

''(B) APPROVALS.—Such a revision of a standard or adoption of a variance by a State under subparagraph (A)(i) is subject to the approval of the Administrator under section 303(c), which shall not be unreasonably withheld.''.

SEC. 3. UPDATING FINANCIAL CAPABILITY ASSESSMENT GUIDANCE.

(a) IN GENERAL.—

(1) UPDATE.—Not later than 15 months after the date of enactment of this Act, the Administrator shall update the financial capability assessment guidance published by the Administrator entitled ''Combined Sewer Overflows—Guidance for Financial Capability Assessment and Schedule Development'' (EPA 832–B–97–004), dated February 1997.

(2) SCOPE.—In updating the financial capability assessment guidance developed under subparagraph (1), the Administrator shall ensure that the guidance may be used for assessing the financial capability of municipalities to implement effluent limitations and other control measures under the Federal Water Pollution Control Act.
(b) REQUIREMENTS FOR UPDATING.—In updating the financial capability assessment guidance under subsection (a), the Administrator shall—
(1) consult with, and solicit advice and recommendations from, representative municipal and State officials (including their representative regional or national organizations), stakeholders, and other interested parties regarding how to assess the financial capability of municipalities to implement effluent limitations and other control measures under the Federal Water Pollution Control Act;
(2) ensure transparency in the consultation process, including promptly making accessible to the public all communications, records, and other documents of all meetings that are part of the consultation process;
(3) ensure that the updated guidance takes into consideration relevant studies, reports, and other information related to assessing the financial capability of municipalities to implement effluent limitations and other control measures, including—
(A) the reports of recommendations to the Environmental Protection Agency from the Environmental Financial Advisory Board related to financial capability assessments of municipalities; and
B) the memorandum of the Environmental Protection Agency entitled ''Financial Capability Assessment Framework for Municipal Clean Water Act Requirements'', dated November 24, 2014, and the accompanying guidance entitled ''Financial Capability Assessment Framework'', dated November 24, 2014;
(4) ensure the evaluations by the Administrator of financial capability assessment and schedule of compliance development under subsection (s) of section 402 of the Federal Water Pollution Control Act reflect the economic affordability criteria described in subsection (s)(7) of that section;
(5) ensure the updated guidance provides a consistent reference point to aid parties in negotiating reasonable and effective schedules for implementing effluent limitations and other control measures under the Federal Water Pollution Control Act;
(6) publish in the Federal Register proposed updated financial capability assessment guidance under this section, and provide a period for public comment of not less than 60 days;
(7) prepare final updated financial capability assessment guidance, taking into account—
(A) the advice and recommendations obtained from the municipal and State officials (including their representative regional or national organizations), stakeholders, and other interested parties; and
(B) the public comments received during the public comment period; and

(8) publish in the Federal Register, and submit to the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Environment and Public Works of the Senate, the final updated financial capability assessment guidance.

SEC. 4. INTEGRATED PERMIT PILOT PROJECTS.

(a) IN GENERAL.—In the first 5 fiscal years beginning after the date of enactment of this Act, the Administrator, in coordination with appropriate State, local, and regional authorities, shall work cooperatively with, and facilitate the efforts of, not fewer than 15 municipalities to develop and implement integrated plans and permits to meet the requirements of the Federal Water Pollution Control Act (33 U.S.C. 1342) in a manner consistent with section 402(s) of that Act.

(b) SELECTION OF MUNICIPALITIES.—

(1) ELIGIBILITY OF MUNICIPALITIES.—A municipality shall be eligible to participate in the pilot program under subsection (a) if the municipality—

(A) has a permit issued under section 402 of the Federal Water Pollution Control Act; or

(B) is operating under an administrative order, administrative consent agreement, or judicial consent decree to comply with the requirements of that Act.

(2) FACTORS.—In selecting municipalities eligible under paragraph (1), the Administrator shall—

(A) give priority to municipalities—

(i) that are operating under an administrative order, administrative consent agreement, or judicial consent decree to comply with the requirements of the Federal Water Pollution Control Act;

(ii) having difficulties complying with the Federal Water Pollution Control Act, in addition to the municipalities described in clause (i); or

(iii) that are affected by affordability constraints in planning and implementing effluent limitations and other control measures under the Federal Water Pollution Control Act to address wet weather discharges or other water pollution issues from their wastewater and stormwater facilities;

(B) give further priority to those municipalities under subparagraph (A)—

(i) with knowledge and experience in developing integrated and adaptive clean water management practices, without regard to the status of the municipality in the process of planning or implementing such practices; and

(ii) that are seeking to develop and implement an integrated plan that includes adaptive approaches to account for changed or future uncertain circumstances; and

(C) seek to select municipalities—

(i) from different geographical regions of the United States; and

(ii) of various population sizes.

(3) ADDITIONAL AUTHORITY.—In carrying out this section, the Administrator may, with the agreement of and in coordination with a municipality and the applicable State—

(A) modify the implementation terms of an existing administrative order or administrative consent agreement, or seek to modify a judicial consent decree entered into by the municipality with the Administrator pursuant to the Federal Water Pollution Control Act; and
(B) incorporate such modified implementation terms, including the municipality's integrated plan, into an integrated permit issued pursuant to section 402(s) of the Federal Water Pollution Control Act.
(c) REPORT TO CONGRESS.—Not later than 1 year after the date of enactment of this Act, and each year thereafter for 5 years, the Administrator shall prepare and submit to the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Environment and Public Works of the Senate a report on the implementation of this section and issuance of integrated permits pursuant to section 402(s) of the Federal Water Pollution Control Act, including—
(1) identification of the municipalities selected under this section;
(2) an evaluation of the specific outcomes achieved with respect to—
(A) reducing the costs of complying with the requirements of the Federal Water Pollution Control Act for the municipalities selected under this section; and
(B) making reasonable progress towards achieving the applicable water quality and human health objectives of the Federal Water Pollution Control Act; and
(3) recommendations of any proposed legislative or administrative changes to improve the effectiveness and efficiency of the integrated planning and permitting process under section 402(s) of the Federal Water Pollution Control Act.

SEC. 5. DEFINITIONS.

In this Act:
(1) MUNICIPALITY.—The term ''municipality'' has the meaning given that term in section 502(4) of the Federal Water Pollution Control Act (33
15 U.S.C. 1362(4)).
(2) ADMINISTRATOR.—The term ''Administrator'' means the Administrator of the Environmental Protection Agency.

Exhibit 9

EXECUTIVE ORDER/POLICY MEMORANDUM

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DRAFT LANGUAGE FOR CONSISTENT APPLICATION OF PROJECT SELECTION CRITERIA

[White House Letterhead]
January 20, 2017

MEMORANDUM FOR
THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY
THE SECRETARY OF THE ARMY
THE SECRETARY OF AGRICULTURE
THE SECRETARY OF HOUSING AND URBAN DEVELOPMENT
THE SECRETARY OF INTERIOR
THE SECRETARY OF COMMERCE
THE ADMINISTRATOR OF GENERAL SERVICES ADMINISTRATION
THE COMMANDING GENERAL, US ARMY CORPS OF ENGINEERS

Subject: Rebuilding the Nation's Failing Water Infrastructure
As I have emphasized previously, rebuilding our Nation's water and wastewater infrastructure (collectively referred to herein as "water" or "water infrastructure") will be among my Administration's top domestic priorities. Providing safe, clean, and dependable sources of water is fundamental to protecting public health and the environment in addition to creating jobs and supporting local economies.

The Nation's water infrastructure has fallen into grave disrepair and government at all levels must resolve to improve systems and work collaboratively, maximizing private sector participation, to address this serious and growing problem. Federal mandates, combined with local economic conditions, have exacerbated the ability of local governments to access affordable public financing needed to upgrade and maintain their water infrastructure. Reforms in agency planning and financing of water infrastructure are essential to achieve economic efficiency and sustainability.

Subtitle C of Title V of the Water Resources Reform and Development Act of 2014 established the Water Infrastructure Finance and Innovation Act (WIFIA), a program designed to assist a wide array of water infrastructure projects intended to attract private capital, along with state and local public capital, alongside federal investment. WIFIA, and its implementing regulations, sets forth important principles and criteria to improve structured financing and improving the financial, technical and operational capacity of local water systems.

Section 1. Effective Federal Assistance
Federal agencies providing financial assistance for drinking water and wastewater infrastructure serve an important role in promoting sustainable water systems and local capacity building.
I am therefore directing you to review those programs of your agency that provide loans and grants for water infrastructure, and modify those programs to

(a) eliminate bureaucratic red tape and delays in funding high priority projects, including those within disadvantaged communities;

(b) encourage new approaches, including leveraging the use of market-based elements and partnerships; and

(c) adopt eligibility criteria, modeled after Section 3907(b) (2) of the Water Infrastructure Finance and Innovation Act of 2014 (WIFIA) and EPA's proposed interim final rule implementing the new WIFIA program, to promote the use of innovative technology, energy-savings, water and resource conservation, and resilient and sustainable systems and materials.

Section 2. Ecosystem Services

I am directing the Administrator of the Environmental Protection Agency to establish an office of Ecosystem Services, which shall promote market-based approaches to cost-effectively achieve compliance with federal environmental requirements, and coordinate with other Federal agencies to advance such markets.

Section 3. Interagency Coordination

I am assigning lead responsibility to organize and coordinate this initiative to the Presidential Commission on Water Infrastructure Policy Coordination and Security (the "Water Commission) established by Executive Order _____. A final report by each agency on proposed program modifications shall be submitted by July 25, 2017 to the Water Commission, with assistance of the Environmental Protection Agency and the Office of Management and Budget, shall ensure implementation of this directive.

[President's Signature]