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AMERICA'S WATER RESOURCES INFRASTRUCTURE: APPROACHES TO ENHANCED PROJECT DELIVERY

(115–33)

HEARING

BEFORE THE

SUBCOMMITTEE ON
WATER RESOURCES AND ENVIRONMENT

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

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Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington DC 20515

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January 12, 2018

SUMMARY OF SUBJECT MATTER

TO:	Members, Subcommittee on Water Resources and Environment
FROM:	Staff, Subcommittee on Water Resources and Environment
RE:	Subcommittee Hearing on "America's Water Resources Infrastructure: Approaches to Enhanced Project Delivery"

PURPOSE

The Subcommittee on Water Resources and Environment will meet on Thursday, January 18, 2018 at 10:00 a.m. in 2167 Rayburn House Office Building to receive testimony from witnesses representing the Army Corps of Engineers (Corps), a non-governmental organization representing project contractors, a regional governmental flood control agency, a real estate services and management company, and the Congressional Research Service.

BACKGROUND

United States Army Corps of Engineers

The Corps is responsible for overseeing the Nation's largest water resources program and a regulatory and permitting program that often applies to the development and implementation of infrastructure projects.

The Corps' Civil Works Program

The Corps' Civil Works Program responsibilities include navigation, flood control, shoreline protection, hydropower, dam safety, water supply, recreation, environmental restoration and protection, and disaster response and recovery. In addition to oversight of the Corps' programs and projects, the Committee places a high priority on enactment of a Water Resources Development Act (WRDA) every two years. This legislation typically contains project authorizations, modifications and deauthorizations, program revisions and policy initiatives, and related provisions involving Corps activities. The most recent WRDA was enacted as Title I of the *Water Infrastructure Improvements for the Nation Act* (WIIN Act) (P.L. 114-322) in 2016.

Today, the Corps maintains more than 25,000 miles of channels for commercial navigation and operates 241 locks at 195 sites. The Corps also maintains 926 coastal, Great Lakes, and inland harbors. There are 75 hydropower projects at Corps facilities, producing about 25 percent of the Nation's hydropower and three percent of the Nation's total electric capacity. To address flood risks, the Corps manages more than 700 dams and almost 15,000 miles of levees are covered by Corps programs. Corps flood damage reduction projects prevent, on average, more than $50 billion in flood damages annually. Every dollar invested in a Corps flood project prevents $8 in damages.

The Corps, as a water resource agency, must balance competing demands on water resources as it develops and manages navigation, flood damage reduction, aquatic ecosystem restoration, and other project purposes. For example, the Corps has the responsibility to maintain the navigability of the Nation's inland waterways. One way the Corps carries out this mission is to operate dams that control the flow of water on a river. However, the same dam that regulates river flows for navigation may also provide flood protection, provide water supply, generate power, and create recreational opportunities.

The Corps' Regulatory Program

The Corps has regulatory authority relevant to the development and implementation of infrastructure projects pursuant to Section 404 of the *Federal Water Pollution Control Act* (commonly known as the Clean Water Act or CWA) and pursuant to several sections of the *Rivers and Harbors Act of 1899*.

Section 404 of the CWA provides that any person who discharges dredged or fill material into a jurisdictional water of the United States must have a permit from the Secretary of the Army or an approved state authority. Jurisdictional waters of the United States include certain wetlands, such as swamps, marshes, bogs, and similar areas (which may often appear as dry land for part of the year). Characteristics of wetlands are established through regulation and §404 is the primary federal law regulating activities in wetlands. The Environmental Protection Agency (EPA), in conjunction with the Corps, has developed guidelines for the issuance of §404 permits and has authority to review and deny permits where the discharge will have an adverse effect on municipal water supplies, fish and wildlife areas, or recreational areas.

There are two types of permits issued by the Corps: general and individual. A general permit is issued for activities that will result in only minimal adverse effects. There are three types of general permits – Nationwide Permits, Regional General Permits, and Programmatic General Permits. Nationwide Permits are issued by the Corps on a national basis and are designed to accelerate authorization of infrastructure projects such as commercial developments, utility lines, or road improvements that produce minimal impact on the Nation's aquatic environment. The Corps recently reissued 50 existing Nationwide Permits and added two new permits. These took effect on March 19, 2017, and will be in effect for five years. A Regional General Permit is issued for a specific geographic area by an individual Corps District. Each Regional General Permit has

specific terms and conditions, all of which must be met for project-specific actions to be verified. Programmatic General Permits are based on an existing state, local, or other federal program and designed to avoid duplication of that program. An important subset of Programmatic General Permits is the State Programmatic General Permit (SPGP), which is issued by the Corps and designed to eliminate duplication of effort between Corps districts and state regulatory programs that provide similar protection to aquatic resources. In some states, the SPGP replaces some or all of the Corps' nationwide permits, which results in greater efficiency in the overall permitting process. An individual permit is issued when projects may have more than minimal individual or cumulative impacts, and are evaluated using additional environmental criteria and involve a more comprehensive public interest review.

The Corps also issues permits for the alteration of existing Corps projects and alterations to navigable waterways under Section 14 of the *Rivers and Harbors Act of 1899*, as amended, codified in 33 U.S.C. §408 (commonly called "Section 408"). The Corps provides certification authority for proposed alterations to existing Corps projects. The Corps ensures that any proposed alteration will not be injurious to the public interest and will not affect a project's authorized purposes. Further, Section 10 of the *Rivers and Harbors Act of 1899* (33 U.S.C. §403), requires a permit from the Secretary of the Army for any alteration of a navigable waterway, dredging of a navigable waterway, or erection of any structure such as a wharf, pier, or dock in a navigable waterway.

In total under these authorities, the Corps carried out approximately 80,000 final regulatory actions in fiscal year 2017. According to the Corps, the majority of regulatory decisions are pursued under nationwide general permits, regional general permits, or programmatic general permits, with approximately 3,200 permits evaluated under individual permits (or letters of permission).

The Water Resources Infrastructure Challenge

Federally sponsored water resources infrastructure has long been taken for granted despite its aforementioned size and significance. Our inland waterways and seaports system are economic engines serving as gateways to the global marketplace for American businesses, and account for over 25 percent of U.S. Gross Domestic Product.

However, according to the Corps, there is a current backlog of projects valued at $96 billion ($75 billion in project construction and $21 billion for dam safety and operations and maintenance). In comparison, Corps funding between FY2004-FY2018 has only averaged just over $5 billion (in nominal terms) annually. Further, from 1987-2016, Congress has appropriated approximately $33.2 billion to the Corps through various supplemental appropriations in response to natural disasters to fund flood-fighting and other emergency response activities, repairs to existing Corps projects, and construction activities.[1] This figure does not include proposed appropriations for Corps

[1] Nicole T. Carter and Charles V. Stern (2018). *Army Corps Supplemental Appropriations: History, Trends, and Policy Issues* (CRS Report No. R42841). Retrieved from Congressional Research Service website: https://fas.org/sgp/crs/natsec/R42841.pdf

activities associated with response and recovery efforts from Hurricanes Harvey, Irma, and Maria.

On the inland and coastal waterways, the average age of locks is over 60 years and 59 percent of the locks are over 50 years old. Between 2000 and 2014, the average delay per lockage nearly doubled from 54 minutes to 121 minutes.[2] Further, an unscheduled closure of certain locks on the inland waterway system would result in over $1 billion in additional costs to move to the next best available modal alternative.[3]

The Corps estimates that full channels at the Nation's 59 busiest ports are available less than 35 percent of the time. Despite the significant dredging needs at the majority of U.S. ports, the Harbor Maintenance Trust Fund's (HMTF) balance sits at over $9 billion. The *Water Resources Reform and Development Act of 2014* (P.L. 113-121) created discretionary appropriations targets for expenditures from the HMTF, increasing each year, so that by FY2025 and beyond, 100 percent of funds collected for harbor maintenance purposes go towards required operation and maintenance activities.

Several factors, including a lack of sufficient funding and institutional process impediments, have led to few water resources projects being completed in recent years. Modernizing our water resources infrastructure to meet the needs of the Nation and a global economy requires examination of current policy and practice, as well as consideration of new, innovative, and alternative approaches to drive efficient, effective project delivery. Our Nation's navigable waterways system is a key element of local, state, and federal economic development and job-creation efforts, and is essential in maintaining economic competitiveness and national security.

[2] American Society of Civil Engineers, *2017 Infrastructure Report Card: Inland Waterways* (March 2017).
[3] Center for Transportation Research, University of Tennessee and Vanderbilt Engineering Center for Transportation and Operational Resiliency, Vanderbilt University, *The Impacts of Unscheduled Lock Outages*, submitted to the National Waterways Foundation and the U.S. Maritime Administration (October 2017).

X

WITNESS LIST

Major General Donald E. Jackson
Deputy Commanding General for Civil and Emergency Operations
United States Army Corps of Engineers

Mr. James C. Dalton
Director of Civil Works
United States Army Corps of Engineers

Mr. Mike Inamine
Executive Director
Sutter Butte Flood Control Agency

Ms. Leah F. Pilconis
Senior Counsel, Environmental Law and Policy
The Associated General Contractors of America

Ms. Jill Jamieson
Managing Director
Jones Lang LaSalle

Ms. Nicole T. Carter
Specialist in Natural Resources Policy
Congressional Research Service

AMERICA'S WATER RESOURCES INFRASTRUCTURE: APPROACHES TO ENHANCED PROJECT DELIVERY

THURSDAY, JANUARY 18, 2018

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m. in room 2167, Rayburn House Office Building, Hon. Garret Graves (Chairman of the subcommittee) presiding.

Mr. GRAVES OF LOUISIANA. The subcommittee will come to order. Good morning, and thank you all for being here.

I ask unanimous consent that Members not on the subcommittee be permitted to sit with the subcommittee at today's hearing and ask questions. Is there any objection?

Without objection, so ordered.

I want to welcome everyone to our hearing today on America's water resources infrastructure and approaches to enhance project delivery.

The numbers speak for themselves when you look at the challenges that we are facing. Right now we have an estimated $100 billion in Corps of Engineer-authorized projects, a backlog of approximately $100 billion. Yet the appropriations process yields somewhere in the $5 to $6 billion range on an annual basis, with less than $2 billion of that for construction. It doesn't take a mathematician to recognize that you are not ever going to keep up with even inflation on these projects, much less be able to authorize new projects and ever truly yield the benefits or see the true cost-to-benefit of these projects under the current implementation regime.

Right now we have lock systems in the United States that average 60 years old. We have dams and levees in the United States that average approximately 50 years old. In my home State of Louisiana, one of the most important locks we have there is approaching 100 years old, and has been somewhere in the authorization process—in fact, has had an authorization, as I recall, since the 1960s for refurbishment, but has not been updated.

It is also important to keep in mind the role that this infrastructure plays in our Nation. This isn't just some project that may be an option, an alternative, or some type of luxury investment. These projects are integral to our Nation. Ninety-nine percent of our prod-

ucts that are exported and imported into the United States come through our seaports, 99 percent. There is not an alternative.

Certainly you look at what has happened just last year, in the last several months, last few months, with Hurricanes Harvey, Irma, and Maria. There are projects in some of these cases that would have helped to protect, or would have reduced the impact of these awful hurricanes on these communities in Texas and Florida and Puerto Rico, Virgin Islands, and others, in some cases authorized projects. In my home State of Louisiana, in August of 2016, we had a flood that had a project that dates back to 1986 that has had only one small component of construction.

Now, you can look at the implementation process right now, and right now it takes, on average, about 6 years for the Corps of Engineers to go through the environmental impact statement process—6 years. It takes, on average, according to the Council on Environmental Quality, approximately 4.7 years to go through the environmental permitting process.

These statistics are unacceptable when you look at the urgency of these projects that we are trying to build. Whether it is keeping up with trends in the maritime industry related to the post-Panamax vessels, the larger, wider vessels that, in many cases, don't fit in our rivers and our harbors and port systems in the United States, or, once again, the urgency of our hurricane protection, our flood protection, and our ecological restoration projects, some of which have been sitting in authorized posture now for not years, but decades with little to no progress.

It is important to note that you can look at implementation models of local governments, of State governments, and even other Federal agencies and, incredibly, of the Corps of Engineers, when given different authorities or different financial structures. The efficiency of delivering these projects can be much, much greater. And as I think we will hear from some of our witnesses today, we will hear statistics or perhaps examples of where project cost and project timeframes can be reduced by 50 percent or less.

So, recognizing the urgency of the projects that we are trying to build, recognizing the fact that the backlog of projects, the funding stream that we are currently utilizing is not ever going to get us to resolution, or get us to completion of these projects, we are very happy to have representatives from the Corps of Engineers, from local government sponsors, from contractors, and from the Library of Congress, the Congressional Research Service, to share their perspective and expertise with us on alternative project development and implementation processes.

So I look forward to hearing from our expert witnesses today, and turn to our ranking member for an opening statement.

Mrs. NAPOLITANO. Thank you very much, Mr. Chairman, for holding the formal hearing on the development of the new Water Resources Development Act of 2018.

Let me first start by congratulating the chairman of the committee, Mr. Shuster, for his efforts to return to Congress the practice of approving a new water resources development act every 2 years. This, combined with significant project delivery changes within the Corps itself, has started to break the logjam for commu-

nities to benefit from the expertise of our Nation's premier water resource agency, the Army Corps of Engineers.

Yes, many challenges remain. But I am hopeful that we will continue to improve and expand the Corps' ability to address water-related infrastructure challenges faced by each of our communities.

And today's hearing highlights two of the challenges. How can local communities afford to pay for necessary navigation, flood control, water supply, and environmental recreation projects; and who gets to decide what projects are to be funded?

On the latter point I am pleased that the President has opened the discussion on eliminating the moratorium on congressionally directed spending requests. This moratorium did not curtail spending, nor did it increase transparency. It simply transferred decisionmaking authority from locally elected individuals to executive branch employees in Washington, DC. Like you, my constituents elected me to be their voice in Congress, and I know better what my communities need than the head of OMB.

When this committee under former Chairman Oberstar moved a bill and congressionally directed project requests, we did so in the light of day, with Members' names associated with the request. Today, when similar decisions on project funding are made at the Corps, there is no transparency on how those decisions are made. I welcome continued discussions on the point and hope we can restore greater local control and, of course, more transparency into funding decisions than we have today.

On the issue of funding, we know that our communities constantly struggle to afford critical infrastructure investments, including water-related infrastructure, to address their local needs. Yet year after year Congress fails to adequately fund—help our communities with their critical infrastructure investments, in essence telling our communities, "You are on your own." This lack of predictability and sufficient infrastructure funding is the lead reason why projects take so long to complete.

In fact, in December 2016 the U.S. Department of the Treasury released a commissioned report that concluded a lack of public funding—a lack of public funding—is by far the most common factor hindering the completion of transportation and water infrastructure needs, affecting 39 of the 40 projects reviewed. I ask unanimous consent that an executive summary of this report be included in today's hearing record.

Mr. GRAVES OF LOUISIANA. Without objection.

[The executive summary of the report referenced by Congresswoman Napolitano is on pages 182–185.]

Mrs. NAPOLITANO. Today we will discuss alternative project delivery approaches, presumably under the guise that these alternative approaches will result in a great number of projects being constructed without a significant increase in Federal funding.

We will also discuss the option of public-private partnerships, one of these alternative project delivery approaches. I welcome the discussion, because I suspect that P3s will make up a significant portion of the President's forthcoming infrastructure plan.

However, a good starting point for the discussion picks up the work that this committee has already done in a special Panel on

Public-Private Partnerships in 2014. I highlight one of the points of the panel's final report, which concluded that—and I quote—"regardless of the method of delivery or the source of financing, the cost of infrastructure projects are borne by the public—there is no free lunch."

Why is it relevant? Because there appears to be a widespread misperception that public-private partnerships increase access to financing available to local communities. Simply not the case. There is not an infrastructure gap in this country due to lack of access to financing. There is an infrastructure gap because State governments are constrained by the lack of revenue needed to pay for the investment, and public-private partnerships do not alone solve the problem.

Public-private partnerships are indeed a good tool. And again, it is simply a tool like many other financing tools that can be used to help finance infrastructure investment. Some of these tools work for certain types of communities, others do not. Yet it is incumbent that local communities—potential trade-offs in using various methods to finance their local needs.

Similarly, if the President is going to make the use of P3s an integral part of the infrastructure plan, Congress must undertake a similar analysis of potential trade-offs. These may include the consequences of blocking off future appropriation to repay private lenders, or allowing other mechanisms, such as taxing authority to repay the cost of financing provided by the private entity. Again, there is no free lunch.

I welcome our initiation of this broader discussion and look forward to hearing from all our witnesses.

Thank you, Mr. Chairman.

Mr. GRAVES OF LOUISIANA. Thank you. And I want to thank my friend for always working together with us, and looking forward to putting together a good bipartisan proposal.

Mrs. NAPOLITANO. It is my pleasure. Thank you.

Mr. GRAVES OF LOUISIANA. Before I begin introducing our witnesses this morning, allow me to dispense with some of the unanimous consent requests.

I ask unanimous consent that the record remain open for 15 days for additional comments and information submitted by Members or witnesses, and that this material be included in the record of today's hearing.

Without objection, so ordered.

I ask unanimous consent the record of today's hearing remain open for such time as our witnesses provide answers to any questions that may be submitted to them in writing.

Without objection, so ordered.

Thank you. Our first witness today is Major General Ed Jackson, who is Deputy Commanding General for Civil and Emergency Operations at the United States Army Corps of Engineers.

General Jackson, thank you for being here. You are recognized for 5 minutes.

TESTIMONY OF MAJOR GENERAL ED JACKSON, DEPUTY COMMANDING GENERAL FOR CIVIL AND EMERGENCY OPERATIONS, U.S. ARMY CORPS OF ENGINEERS; JAMES C. DALTON, DIRECTOR OF CIVIL WORKS, U.S. ARMY CORPS OF ENGINEERS; MIKE INAMINE, EXECUTIVE DIRECTOR, SUTTER BUTTE FLOOD CONTROL AGENCY; LEAH F. PILCONIS, SENIOR COUNSEL, ENVIRONMENTAL LAW AND POLICY, THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA; JILL JAMIESON, MANAGING DIRECTOR, JONES LANG LASALLE; AND NICOLE T. CARTER, SPECIALIST IN NATURAL RESOURCES POLICY, CONGRESSIONAL RESEARCH SERVICE

General JACKSON. Chairman Graves, Ranking Member Napolitano, and distinguished members of the subcommittee, on behalf of Lieutenant General Semonite and the U.S. Army Corps of Engineers, I thank you for the opportunity to testify today.

Since Congress first authorized our navigation mission in 1824, the Corps has worked hard to develop and implement solutions to our Nation's water resources challenges. We are able to do this because we have a world-class workforce of talented and dedicated professionals who are passionate about what we do.

None of our work is done alone, but with the full participation and hard work of many others. We appreciate, value, and depend upon the support of the administration, the Congress, and our partners at every level to succeed in our mission.

Our most important message to you today is that the Corps is open to thinking and operating differently than we have in the past. We sincerely appreciate the efforts of Chairman Graves in bringing the Corps together with members of this subcommittee over the past 6 months, helping us to see ourselves better as an organization, and offering opportunities to improve the way we deliver solutions for those to whom we all answer: the American people.

The Corps faces a multitude of challenges, some old and some new. Much of our infrastructure is well beyond its design life, yet the requirements have never been greater. The demands on the Federal budget continue to grow. And, as our infrastructure ages, we find more and more of our annual appropriation going to operation and maintenance at the expense of investments in both investigations and construction. This is a challenge we will continue to face together in the years to come.

Today we have $96 billion in construction requirements, calculated in fiscal year 2016 dollars, representing the Federal share on a multitude of projects. These include $15 billion in authorized but unconstructed work, $51 billion in projects that have been given new-start authority and provided with some funding, and $20 billion in high-risk dam safety requirements.

We also have 97 ongoing feasibility studies which, if authorized, will simply add to the Federal budget requirement. As you know, our feasibility studies are formulated with the assumption of efficient funding, and most all projects require multiple years to implement. Yet we budget on an annual basis with no assurances that adequate or consistent funding will be available from year to year. This creates uncertainty for our sponsors, drives up project costs, and delays the realization of benefits. At the current rate, it will

take us over 100 years to address the current construction backlog, and that is simply unacceptable.

Together we must find a way to incentivize and encourage increased State, local, and private investment in our infrastructure portfolio. We must target Federal investments, encourage innovation, streamline project delivery, and help transform the way infrastructure is designed, built, and maintained. We need to optimize the tools currently at our disposal, such as contributed funds, to address project requirements that exceed the Federal Government's ability to pay.

The Corps is now working with the EPA to leverage their established institutional capacity as we explore implementation options for a water infrastructure finance and innovation program authorized by this subcommittee and modeled on the successes they have experienced with their Water Finance Center. We are currently developing a Memorandum of Understanding with the EPA, and crafting policy guidance, in concert with the administration, to support implementation of this program.

Together we must remove barriers to the development and improvement of our water resources infrastructure. We must encourage and incentivize alternative project delivery approaches, streamline Federal procedures for delivering projects, and reduce unnecessary Federal oversight to facilitate timely delivery of projects.

We recognize the Corps' role in the future may be different than it has been in the past, and that our level of involvement in project delivery may vary from project to project, location to location, or sponsor to sponsor. It could include no involvement at all, permitting and/or technical assistance only, or the standard cradle-to-grave Corps delivery model. Whatever works best to deliver worthwhile projects faster and cheaper is the goal.

The Corps is fully engaged in support of multiple administration objectives aimed at streamlining our regulatory processes. Currently, the Corps is addressing topics such as establishing discipline and accountability in the environmental review and permitting process for infrastructure projects. We are reviewing the nationwide permit program to identify modifications that will increase the efficiency and timeliness of decisionmaking, and we are working with the EPA in reviewing the 2015 "waters of the United States" rule.

Our goal is intended to simplify the process for gaining infrastructure permits while protecting the environment in accordance with the law.

The Corps wants to be part of the solution, not part of the problem. We recognize the need to address internal policies, regulations, processes, and cultural impediments in order to remain relevant into the future. We want to be value-added in delivering solutions, whatever role we may have in that endeavor. Our Director of Civil Works, Mr. James Dalton, has championed a number of initiatives which he will address in his remarks. I fully support his efforts, and believe they are already making a difference across our organization.

The Corps is a critical player in the future of water resources development, a very complex mission to which we bring incredible capability, expertise, and experience. We are committed to looking at

old problems in a different way, and remain well-postured to be value-added to the overall effort.

Thank you, Mr. Chairman and members of the subcommittee. This concludes my testimony, and I look forward to answering any questions that you might have. Thank you.

Mr. GRAVES OF LOUISIANA. Thank you very much. Perfect timing. We are next going to go to Mr. James Dalton, who is the Director of Civil Works, and the top career civilian for the Corps of Engineers.

Mr. Dalton, again—I told you privately and I want to say it publicly—I want to thank you for some of the continued efforts to reform the section 408 process. As you know, it is not where I am comfortable, and I think I can speak for a lot of the committee members at the same time in saying that we want to see additional progress there, and concerned about how we believe it has deviated from the 100-plus-year-old law.

But I do appreciate your January 12th memo that does additional reforms on top of the ones that you did last year. So thank you.

Mr. Dalton, you are recognized for 5 minutes.

Mr. DALTON. Thank you, Mr. Chairman and Ranking Member Napolitano, for the opportunity to be here to discuss ways to enhance project delivery by the Corps of Engineers.

I have worked for the Corps of Engineers for a number of years, worked in districts and divisions, and I am extremely proud of the work that the Corps accomplishes. But, as just discussed by General Jackson and mentioned by the chairman, we are equally aware that the organization can improve. And I have been and remain committed to instituting changes in the Corps delivery process to make us more effective and efficient.

And so, I would like to discuss a few of those things that we are undertaking right now to try to make us a better organization.

I think many of you have heard us talk about flattening the organization. Flattening the organization is simply looking at how we actually delegate decisionmaking authority closer to the problem, closer to the project, closer to the issue, rather than have decisions made at the Washington headquarters level. This is an effort that we have a lot of work ongoing. We have identified several authorities that we need to delegate, and we are diligently working to make that happen. So flattening the organization is one.

The second is we are transforming and transitioning to a more risk-informed decisionmaking organization. This is intended to help us to use professional and engineering judgment to make decisions, rather than relying on lengthy analysis and modeling when that might not be needed or necessary. Often our technical experts can make decisions based on their knowledge, experience, and competence in a specific area or a specific project, and they should be free to do that without having to follow rigid processes that dictate more lengthy analysis. Risk-informed decisions, or professional judgment decisions, should be made and documented without having to be subjected to numerous reviews after those decisions are made.

The third thing we are looking at is how we actually put our guidance together. We are recognizing the fact that our guidance

needs to be jointly developed, so that one part of the organization is absolutely aware of what is happening in another part of the organization. For years we have operated in stovepipes, and we are trying to eliminate that in terms of how we produce guidance.

We are also looking at how to best capture total value of our projects. Many communities already have a massive plan or a road map that they are following to try and determine how projects best fit within their community. They consider things like life safety risk, economic value, resilience to the community or other communities, things that we need to make sure we capture in our project reports. I believe, if we capture such factors, one of the things it would help us to do is make those projects better candidates for non-Federal funding because you see the overall massive plan for a community.

We are also reviewing existing authorities that we already have, but have not fully utilized. WRDA 1986 had two sections, section 203 and section 204, very similar, except section 203 is for studies and section 204 is for construction. Specifically, section 203 authorizes a non-Federal interest to undertake a feasibility study without Corps involvement, but allows the Corps to provide technical assistance during the conduct of this study, if requested by the non-Federal interest. Again, section 204 is very similar, except that is for construction.

Another authority we are looking at is section 1043 of WRRDA 2014, which establishes a pilot program that allows a non-Federal sponsor to provide full management control for construction of water resource development projects. Similar to what General Jackson mentioned with WIFIA [Water Infrastructure Finance and Innovation Act]—that is an existing authority that we are looking at to see how can we better utilize it, as well.

One final issue I will mention, and that is the section 408 issue that the chairman mentioned. We recognize that there is a lot of angst about that and a lot of things that we need to do to try to improve. There are a number of actions that we have taken, and I would be glad to discuss that, given time, or if there are questions. We are also trying to finalize the changes that we have in place already and those that we are trying to actually put in place by a formal Engineer Circular within the next several months.

The Corps stands ready to help in addressing water resource challenges of the 21st century, and you certainly have my commitment to continue to look at ways to improve. And thanks again for the opportunity to be here today.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Dalton. And I failed to mention you also did the June 17th project redundancy or expediting memo, as well, and something worth pointing out to committee members, those efforts to continue to reform the process.

Our next witness is Mr. Mike Inamine. No, I didn't get that right. Inamine. And I remember last time I thought we had changed your name to Smith.

[Laughter.]

Mr. GRAVES OF LOUISIANA. He is the executive director of the Sutter Butte Flood Control Agency.

I want to thank you for being back, and look forward to your testimony. You are recognized for 5 minutes.

Mr. INAMINE. Thank you. Good morning, Chairman Graves, Ranking Member Napolitano, and members of the subcommittee. Again, my name is Mike Inamine, executive director of the Sutter Butte Flood Control Agency, or SBFCA, as it is known. Thank you for this opportunity to update this committee on our efforts to manage flood risk on the Feather River, just below Oroville Dam in northern California.

Before beginning my testimony, I wish to acknowledge Congressmen LaMalfa and Garamendi on this committee, true partners who have supported our region's efforts from day one and throughout this remarkable past year. I would also like to thank Chairman Graves for his personal interest in the U.S. Army Corps of Engineers project delivery process.

SBFCA is responsible for local implementation and non-Federal sponsorship for flood projects in the Sutter Butte Basin, located 40 miles north of Sacramento. There are 95,000 residents and $7 billion worth of assets protected by Corps project levees. SBFCA has benefitted from recent changes implemented by the Corps and a locally driven 21st-century financing approach that will hopefully support a new-start construction designation in the forthcoming 2018 Corps workplan.

In 2014 and amended in 2016, Congress authorized the Sutter Basin flood risk management project for construction. In 2016 SBFCA had already completed, or largely completed, a project that improved 36 of the 41 miles of levee improvements authorized by Congress in 2014, all at non-Federal expense.

However, two issues arose in 2016. First, deficiencies were identified in a Yuba City levee previously declared safe. The second issue was that section 408 permission to repair the most critically damaged levee in the basin near Laurel Avenue was delayed due to cultural resource issues.

Against this backdrop our nearly completed Federal project faced the ultimate test in the 2017 flood event. Unimproved levees started to unravel. Oroville Dam spillways started failing. And 188,000 residents from both sides of the Feather River were given, quote, "1 hour to evacuate." A large State-local flood fight ensued.

To end the flood season on a somewhat happier note, all of the recently improved levees performed well. The unimproved levees were held together with flood fights, and the Oroville emergency spillway did not fail. But now we faced a years-long section 408 permission process to improve and repair severely damaged levees in less than 5 months before the next flood season. The pending section 408 permission was finally approved and 1 mile of levee was repaired. The adjoining 5 miles of badly compromised levees await completion through the Federal project.

And then regarding the new section 408 permission for the Yuba City levee, we received section 408 permission in about 5 weeks, a record time for a major repair with a number of complexities. There are three reasons I believe this occurred: Director of Civil Works James Dalton's recent guidance to delegate and streamline certain section 408 permissions; district and division commanders' prioritization of resources; and the simple fact that SBFCA was already on the ground doing the work.

All major construction is complete. This section 408 project has now been fully delivered. This leaves 5 miles of deficient and damaged levees. And this is where our story ties in to a 21st-century Corps partnership sometimes referred to as innovative financing.

Non-Federal interests fund and build 88 percent of the project that was federally authorized in 2014, or 80 percent of the NED project, leaving the Federal Government with an investment of just $49 million to complete a $689 million project authorized in 2014. With 80 percent of the NED project already delivered and in the ground, there is a tremendous opportunity to leverage non-Federal investment, complete the project, and reduce the massive backlog of the Corps' unfunded authorized projects.

Moreover, our economically disadvantaged, largely rural community has taxed itself to capacity and simply has nothing left to spare.

Let me close with a few thoughts on Corps project delivery and the lessons of a remarkable past year. Oroville was a wakeup call for engineers around the world. Just because a structure performs well for 50 years is no indication it will perform tomorrow without ongoing thoughtful investment.

We cannot rely on emergencies to get work done. But when they inevitably occur, emergency section 408 procedures are sorely needed. Local initiative should be leveraged to deliver Corps Civil Works projects. Many Civil Works projects can be delivered sooner and less expensively by non-Federal interests. We look forward to delivery of a 2014 WRRDA pilot project that explores local agency construction, as well as other project delivery proposals outside the existing paradigm.

Public safety has already benefitted from recent direction from Civil Works Director James Dalton to delegate and streamline section 408 authorities. We appreciate this attention to real-world difficulties, and look forward to this guidance being expanded and codified.

And finally, Corps resource allocation should be prioritized based on risk reduction, not who does the work.

Thank you for your continued attention to this most important issue, and I look forward to your questions.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Smith.

[Laughter.]

Mr. GRAVES OF LOUISIANA. I am going to move on to our next witness, Ms. Leah Pilconis, who is the senior environmental counsel for The Associated General Contractors of America.

Thank you very much for being here today, and you are recognized for 5 minutes.

Ms. PILCONIS. Thank you. Chairman Graves, Ranking Member Napolitano, and members of the subcommittee, thank you for providing AGC with the opportunity to offer its recommendations on ways to speed up the completion of America's critical water infrastructure projects.

My name is Leah Pilconis. I am AGC's senior environmental counsel. I have spent the last 17 years establishing and directing AGC's environmental program. I have represented AGC's more than 26,000-member companies in dozens of environmental rulemakings by preparing comments, testifying at hearings, and

sharing the industry's perspective at meetings with the Army Corps of Engineers, U.S. EPA, and other Federal agencies.

I work closely with the in-house environmental managers of many of the Nation's leading construction firms. I also support AGC's efforts to maintain up-to-date free resources on environmental compliance and sustainability that are open to the entire U.S. construction industry. AGC applauds this committee for its environmental streamlining work in WRRDA 2014 and WRDA 2016, as well as the last two long-term transportation reauthorizations, MAP–21 and the FAST Act. We encourage you to build on this groundwork to further enhance efficiencies and tie up loose ends.

Contractors find the Federal permitting process to be cumbersome and uncertain. This uncertainty is driving up project costs because it is being priced into bids, and it is causing construction delays, even after the contract is awarded.

[Slide]

Ms. PILCONIS. AGC's flowchart, seen on the monitors, diagrams the dozens of Federal environmental approvals needed before a construction contractor can break ground on most large infrastructure projects. The chart shows that critical projects are getting caught on a NEPA [National Environmental Policy Act] treadmill. It also shows that time and money is being wasted on redoing various interagency consult studies and analyses.

NEPA is triggered at the outset of major Civil Works projects. Each project normally requires an environmental impact statement that, on average, takes 4.6 to 6 years to complete. Each project also requires a Clean Water Act section 404 permit, a process that carries on after the initial NEPA review. A section 404 permit also triggers a NEPA evaluation. It can take another 2.16 years to obtain an individual section 404 permit. And the list of required approvals goes on from there, as illustrated by AGC's chart.

AGC recommends that Congress require Federal agencies to follow a one-Federal-decision process, so there is just one NEPA review per project that ends with a single record of decision issued by the lead agency. In addition, Congress should require a nationwide merger of the NEPA and Clean Water Act section 404 permit processes. To reduce duplication, the environmental planning work performed during NEPA must satisfy the section 404 permit requirements.

There should not be do-overs of the Endangered Species Act section 7 consults or the National Historic Preservation Act authorizations or the Coastal Zone Management Act consistency determinations, which are already a part of the initial NEPA review process. By realigning and enhancing engagement on the front end, Federal agencies will meet their statutory responsibilities more efficiently in the long run. This will ultimately reduce costs and get projects underway faster.

But Congress also must limit the scope of reevaluations. There must be clear standards for when a previously approved environmental document needs to be redone. Otherwise, projects face a continued threat of shutdown. And overall, Congress should enact a specific deadline for completing the entire approval process.

The construction industry also has great concerns regarding the frivolous and obstructive litigation that is delaying and sometimes defeating proposed projects. AGC urges Congress to consider a reasonable approach to citizen-suit reform to prevent the misuse of environmental laws. It is one thing to have a legitimate environmental legal concern; it is another to oppose a project based on not-in-my-backyard issues.

AGC provides more specifics on all of these opportunities in its written statement, as well as additional recommendations on ways to expedite the section 404 permitting process without sacrificing environmental protections.

Thank you again for the opportunity to testify, and I look forward to answering your questions.

Mr. GRAVES OF LOUISIANA. Thank you. Our next witness is Jill Jamieson, managing director from Jones Lang LaSalle.

Thank you. You are recognized for 5 minutes.

Ms. JAMIESON. Chairman Graves, Ranking Member Napolitano, members of the committee, thank you so much for the opportunity today to address you on approaches to enhanced project delivery for water resources.

My name is Jill Jamieson. Although I am not here today to represent my company, I have over 25 years of experience advising public authorities at the Federal, State, and local level on complicated project implementation. So I am purely in the area of infrastructure delivery, public-private partnerships, and traditional delivery.

Over the past few years I have had the opportunity to advise a number of Federal agencies on the implementation of water resource infrastructure, including our good friends here, the Army Corps of Engineers, the Bureau of Reclamation, and others, as well as many of your own districts from local and non-Federal shareholders. So I advise both the Federal, State, and the local shareholders on a wide variety of projects.

Before diving into the specifics of project delivery, though, I did just want to make one statement. There has been a lot of talk lately about the $1 trillion infrastructure bill, if that comes or not. I just want to put that in context. The McKinsey report just came out and said that we need about $7.7 trillion in infrastructure investment by 2030 in the United States. So really—and excuse the pun—$1 trillion is a drop in the bucket, relative to the needs we have.

A one-time cash infusion is not going to be the solution to America's infrastructure problems. We need a long-term strategy for building and maintaining this great Nation's infrastructure. We must also introduce reforms aimed at ensuring that our infrastructure is delivered and maintained in the timeliest and most cost-effective manner. It is bang for buck that we need to concentrate on in the magnitude of our infrastructure needs.

In this sense allow me to set the record straight, or perhaps just reiterate what was said by the ranking member. Enhanced delivery models such as public-private partnerships are not a funding strategy. They are an infrastructure delivery tool. P3 does not equate to free money. Infrastructure, regardless of the delivery model,

needs to be paid for, one way or the other, through taxes or through user fees or some combination thereof.

But by linking funding to outputs and life-cycle asset performance, instead of to the black hole of "let's feed more money into a project that may or may not be done," infrastructure can be delivered in a timely and more cost-effective manner, maximizing the benefit for taxpayers. As a nation, we can no longer afford business as usual when it comes to our infrastructure. Our present delivery model subsidizes inefficiency, while rewording cost overruns and scheduled delays, and this cannot continue if we hope to address our infrastructure needs.

With regards specifically to water resources, with 25 years of experience in only project delivery, I can assert categorically and without reservation that our current infrastructure delivery system is fundamentally flawed. Even when funding is made available, as you know, protracted appropriations, coupled with uncertainty about timing and the amount of funding, unnecessarily and exponentially escalates the cost of projects. Projects that should be done in 3 to 4 years are taking three to four decades.

Whether it is the Grand Prairie irrigation project, Olmsted Dam, we can talk for hours about examples—it should not take Americans a century to build a ditch, it simply should not. We can do this more efficiently. An estimated 9 out of 10 of our mega-projects, which are estimated at over $1 billion, are delayed, they are over budget, and they fail to deliver the public benefits that they were anticipating, 9 out of 10. Ninety percent, that is not a great track record.

So the value proposition of enhanced delivery models such as public-private partnerships is that they provide greater security in terms of cost and schedule risk, in particular, through performance incentive by putting private capital at risk. You don't get paid until you deliver the infrastructure. That changes behavior. It definitely changes behavior. Things get done on time and on budget more frequently that way.

Moreover, by linking design and construction with operation and maintenance, we build in a life-cycle management approach. Let's build these things to last and figure out how to fund them over the life of the asset, instead of hoping for future funding when we don't have it.

Now I recognize some people, when they hear public-private partnerships, think privatization. That is not the case. This is not privatization. That is a ill-informed opinion. It is—or perhaps other things. But you own the asset. This is simply partnering and reallocating risks so that it can be better allocated.

In my very wordy written submission I suggested a number of very specific legislative fixes. One thing I would say. To enable P3 or any enhanced delivery at the Federal level we need to address two things. One are fully federally owned infrastructure, such as inland waterways. The other are the costs shared.

In 2014, through WRRDA, the Corps was given P3-enabling legislation, but it was a bit of a legislative head fake. It really didn't give them the appropriate authorities they needed to move forward. I think that would be helpful, if that was rectified.

I know I am out of time, so I will cease here, but thank you so much for the opportunity to speak to you today, and I look forward to your questions.

Mr. GRAVES OF LOUISIANA. Thank you. You raised a number of excellent points and I enjoyed your testimony, so thank you. The next witness is Nicole Carter, specialist in natural resources policy from the Congressional Research Service.

And I want to thank you again for your excellent testimony, very informative, and I look forward to your oral testimony. You are recognized for 5 minutes.

Ms. CARTER. Chairman Graves, Ranking Member Napolitano, and members of the subcommittee, my name is Nicole Carter, I am a specialist in natural resources policy at the Congressional Research Service. Thank you for inviting CRS to testify.

I will start by providing context for concerns regarding Army Corps of Engineers project delivery, and then describe existing Corps authorities for alternative project delivery and financing.

Each fiscal year only a subset of authorized Corps activities is federally funded. Ninety-six billion dollars of authorized Corps construction and dam safety projects are eligible for annual Corps construction appropriations, which have averaged $1.8 billion in recent years. The Corps construction account has declined as a percentage of the agency's discretionary appropriations from above 40 percent in the mid-2000s to 31 percent in 2017.

Mr. GRAVES OF LOUISIANA. Ms. Carter, I am sorry, would you mind pulling your microphone a little bit closer?

Ms. CARTER. Under standard project delivery, the Corps functions as a study and construction manager. Corps staff typically are responsible for completing the feasibility study and contracting for the project's construction, rather than non-Federal project sponsors leading these efforts.

The Water Resources Reform and Development Act of 2014 and WRDA 2016 attempted to address frustrations among some stakeholders with the pace of work on Corps projects by allowing non-Federal entities, including private interests, to have greater roles in project development, construction, and financing. Under these authorities, additional non-Federal public and private investments may in the near term achieve progress on water resource projects, thereby potentially making Federal funding available for other projects.

However, achieving these benefits through some of these authorities may commit or create expectations for Federal appropriations which have potential trade-offs for the Federal Government, including reduced future Corps budget flexibility and reduced Federal influence over the studies and construction projects receiving, expecting, and eligible for Federal support.

Non-Federal project sponsors are now able to advance and contribute funds to Corps-led activities and lead authorized studies and projects. The cost of non-Federal-led activities are shared by the Federal Government as if the Corps had led the work. The entity leading the project or advancing the funds typically is eligible for Federal credit or reimbursement, subject to the availability of appropriations, for what would have been the Federal portion of project cost.

GAO, in 2016, identified $4 billion worth of non-Federal-led Corps studies and projects. GAO did not report on the total remaining potential reimbursement amount to cover the Federal share for these studies and projects.

Regarding alternative financing, WRRDA 2014 directed the Corps to establish a pilot program for public-private partnerships, P3s, for 15 authorized Corps projects. In the explanatory statement for appropriations for fiscal year 2017, concerns were raised that the Corps was developing project-specific P3 arrangements. The statement directed the Corps to develop a comprehensive P3 policy. A draft comprehensive P3 policy is reportedly under agency review.

Multiple reports, the Corps, and other observers have noted not only beneficial opportunities for P3s, but also various challenges in establishing a path for direct Corps participation, including Federal commitments to budget-based P3 payments are scored as a capital lease or a lease purchase, which means that the full Federal cost of the agreement is scored when the P3 obligation occurs.

The Corps currently lacks the authority to redirect or assess project-specific user fees to raise the revenues to commit to a long-term P3. It is unclear how many Corps projects could sustain or increase their user base if converted to a P3 that required increased user fees or contributions.

WRRDA 2014 also authorized a program for the Corps to provide direct loans and loan guarantees for navigation, flood risk reduction, and ecosystem restoration, as well as other infrastructure through the Water Infrastructure Finance and Innovation Act, WIFIA. To implement a Corps WIFIA program, an appropriation of funds is needed to cover the program's subsidy cost, which represents the presumed default rate on those loans.

The use of the WIFIA approach by the Corps and for water resource projects faces various challenges, including the Corps has little experience with operating a loan program; project-based revenue streams may be insufficient to repay WIFIA loans; in the past, similar loan programs for water resource-type projects reportedly have been held up due to relatively high subsidy cost requirements.

This concludes my statement.

Mr. GRAVES OF LOUISIANA. Thank you, Ms. Carter. I again appreciate your testimony and appreciate you being here.

I am going to first recognize the leader in water resources, who was the author of the last two WRDA bills and kept us on a good schedule—and I want to thank you very much—the gentleman from Ohio, Mr. Gibbs.

You are recognized for 5 minutes.

Mr. GIBBS. Thank you, Mr. Chairman.

General Jackson, we know the Corps is undergoing economic reevaluation of the Soo locks to build an additional lock in that complex. Due to the lack of alternative transportation modes for moving iron ore and other cargo in the Soo locks area, the Corps is analyzing alternatives. This includes a rail connection from the Minnesota mines to Lake Michigan.

The Corps submitted costs to be less than $2 billion, although earlier estimates of this cost were three to four times higher than

that amount. Could you provide me a description of how the Corps developed the $2 billion cost estimate?

General JACKSON. Sir, first of all, thank you for the question. We recognize the significant strategic importance of Soo locks. A major rehab report and a validation report were required for us to move forward on Soo locks. The major rehabilitation report was signed in December of this past year, so just 30 days ago. So we are on schedule with that.

The validation report is running a little bit behind. That is the economic update that helps us determine what the economic value is, and helps us increase the benefit-cost ratio which will improve the budgetability of the project.

So what we have done—I don't have the specifics of all the different calculations we have used, but I know that what we have tried to do is better understand the uniqueness of the material and the economic value that transits through the Soo locks that may not have been captured in our normal process, and that is why we are working to do subsequent work on the economics side, to make sure we capture that.

We believe that a higher benefit-cost ratio will increase the budgetability, which gives us a better chance of getting the funding we need to do the work required there. And the major rehab report will also allow us to make a good case for what we believe are two of the larger size locks, which is what we want to have as an end state, going forward with Soo locks.

James, do you have anything else you want to add to Soo locks?

Mr. DALTON. No. With regard to the cost estimate, I was there at the site about a month ago. And I asked to get the details on it, which I am waiting to take a look at.

But what we are trying to do is expedite, as General Jackson said, the validation report, which is looking at the economics. I think that we could probably do a little better than what the current schedule——

Mr. GIBBS. When do you expect that to be completed?

Mr. DALTON. Well, right now I think we are looking at next year for that. What I was trying to do is see if we can get that done within the next few months. And so that really is the long pole, if you will, in the tent of moving forward on this.

Mr. GIBBS. Yes, because it has been an issue with me, as you know. And I know the cofferdam was built years ago and, you know, still going through all these studies.

General Jackson, WIFIA, you know, was reauthorized. I have been working with my colleagues from Florida—Representative Mast—on the reauthorization of that. But can you elaborate how the Army Corps put into action goals laid out in WIFIA 2017, you know, so we can get going on that? I know there are some other comments that were made in testimony on this. So can you just elaborate how you are trying to move forward for the Corps to implement WIFIA provisions?

General JACKSON. Congressman, yes, sir. Thank you. We are taking an active role now in trying to develop—we have been working with the EPA on a potential Memorandum of Understanding.

We recognize that the Water Finance Center that they have is tested, it works. They have competencies that we don't have. And

what we want to do is try to figure out a way to use the competencies that they have to jumpstart our program and then help us better shape a program very similar that we can then incorporate into the Army Corps of Engineers and run.

I appreciate the discussion on the extension of the WIFIA authority. I think that is key. I am not sure why it has taken us so long to take advantage of the opportunity that Congress has given us. But certainly in our discussions across the Corps and within the administration there is support for us to move forward on that. We are developing policy guidance right now with the administration, as I mentioned in my remarks, to try to help us administer this and do this right.

So we are working harder than ever to try to get that sorted out, and——

Mr. GIBBS. OK.

General JACKSON [continuing]. We will continue to need help from Congress——

Mr. GIBBS. Quickly, I want to just touch on the project acceleration, you know, section 1005. And I know, with the delays there, the NEPA and then I know Ms. Jamieson, in her testimony, commented about, you know, the delays and the NEPA and working together. And I guess one question is the 3x3x3 program that was supposed to be implemented, has that been helping or not? I mean what is—go ahead. I mean—I had the wrong person, I guess, sorry.

Ms. PILCONIS. Well, I had—I commented on the NEPA delays, but I am not sure I am familiar with the 3x3x3 program.

Mr. GIBBS. OK. The 3x3x3 program was a program instituted by the Corps, where studies would be done in 3 years or less, no more than $3 million, and at different levels, a district level, a regional level, and a DC level would be working in conjunction, not consecutively, but concurrently. And that was supposed to speed up projects——

Ms. PILCONIS. OK, feasibility studies?

Mr. GIBBS [continuing]. By about 50 percent, I believe.

Ms. PILCONIS. Feasibility studies?

Mr. INAMINE. Chairman Gibbs, if I may, I think we could—as a local project implementer, we were the pilot project for what later became 3x3x3—in order to address your question.

Mr. GRAVES OF LOUISIANA. Quickly, please.

Mr. INAMINE. And that is the planning component of the execution of a Civil Works project. We were probably—because we were a pilot project—and this is for the Sutter Butte Basin—we were probably an example of where it did work, where a project, a feasibility study that literally would have taken decades—and in our case, this thing, this feasibility study, was going forwards, it was going backwards, it got stalled for, literally, a decade. When this pilot project came out, which later became 3x3x3, the Corps delivered.

Mr. GIBBS. OK.

Mr. INAMINE. They got it out.

Mr. GIBBS. OK, thank you.

I yield back, Mr. Chairman.

Mr. GRAVES OF LOUISIANA. Thank you. I am going to turn to Mrs. Napolitano. You are recognized for 5 minutes.

Mrs. NAPOLITANO. General Jackson, as you know, in July 2017, Ranking Member DeFazio submitted several questions to the Corps and the Assistant Secretary of the Army in relation to a subcommittee hearing from that month. It is now January of 2018, 6 full months, and after those questions were submitted we haven't gotten an answer. It is not really acceptable.

I understand you—we take our oversight role very seriously. And the lack of a timely response by the Corps and the ASA's office call into question this administration's commitment to transparency and congressional oversight.

Do you agree that 6 months is too long? What steps will you take to ensure that the congressional questions, both of the majority and minority, are answered in a timely basis?

General JACKSON. Congresswoman, I want to tell you that answering questions from this subcommittee and any Member of Congress is of top importance to the Army Corps of Engineers and the administration.

I am not exactly sure what the status of those are, but I will find out and get them moving and get a response back to your staff right after this hearing.

Mrs. NAPOLITANO. Would you, please? I would appreciate it, and I am sure the chairman would appreciate it.

Also, the central theme of today's hearing is alternative project delivery mechanisms, especially pertaining to funding of Corps' projects and studies. As you know, I have made a point of the lack of consistent available appropriations to the Corps, which has resulted in fewer Corps-led projects being undertaken. Communities are struggling.

In response, Congress provided new or revised authorities to allow local sponsors to contribute or accelerate funds to the Corps for projects and studies, or take over planning and construction altogether from the Corps.

And in your current portfolio, what percentage of the Corps projects and studies are being pursued under traditional models of appropriated statutory cost-related Federal funds?

And then, of course, it begs the question: What percentage of projects are being pursued with advanced or contributed funds? We need a breakdown. And what projects are being pursued under section 203 or 204 of WRDA 1986?

We have had concerns using alternative methods for addressing Federal share of Corps projects that can skew the priorities of the Corps, in essence allowing projects from wealthier communities to proceed because contributed funds were made available. How does the Corps safeguard against allowing contributed funds to change the Corps' priorities? That is a mouthful.

General JACKSON. Those are a lot of questions, Congresswoman. I don't have the answers to the specific numbers of section 203, section 204, contributed funds, accelerated, and advanced funds. I can get that, and we will respond to that as quickly as we can to you and your staff, and then the members of the subcommittee.

As both James and I mentioned in our testimony, we believe that those are authorities that need to be used more, and we need to spend more time to execute those and incentivize folks to use those capabilities more than we do today.

So we are committed to moving forward and trying to make it easier for project sponsors to engage with the Corps and use those authorities to get the projects delivered.

Mrs. NAPOLITANO. Thank you.

Ms. Jamieson, some outside groups are being critical of the P3 model because it can entail a potential loss of local control. And it could result in decreased labor standards for long-term maintenance concessions, could result in what might currently be public information being transformed into confidential and proprietary information that would no longer be available.

The committee has also issued a report on P3s that noted that this policy should not be viewed as a new funding stream, but, more realistically, as an alternative financing mechanism paid for, in one way or another, by the taxpayer. Maybe even twice.

Do you agree that these are valid concerns?

Ms. JAMIESON. Thank you for the question. It is very hard to generalize when you talk about P3, because every contract is very different. And so, it would be incumbent on the administration, I think, or the Federal agencies, if they were to engage in P3, to make sure that those concerns are addressed.

So often—and in California, University of California, Merced—it is not a water project—a very large P3 that was recently done, labor concerns were paramount in structuring the deal, using project labor agreements, making sure the unions were engaged in part of the solution. So P3 does not need to come into conflict with labor. And, if done right, it will not. In fact, it will enhance them.

In terms of transparency, again, it is how you write the contract and the arrangement. And in that case you do need to ensure that there is sunshine into what the deal terms are. And again, we use open-book often, which is much more transparent often than other things. It can be done that way.

But you are right to express concern, because if done poorly, these are dangerous instruments. If done well, they can be a surgical tool that can be very useful.

Mrs. NAPOLITANO. Thank you, Mr. Chair. I have another question, but it will wait.

Mr. GRAVES OF LOUISIANA. Thank you. We are going to go to the next Member, but we are actually going to give you five times more time than anyone on the subcommittee had initially agreed to, so we are going to go to the gentleman from Illinois. You are recognized for 5 minutes.

Mr. DAVIS. Five minutes? Does that mean 25 minutes, Mr. Chairman?

Mr. GRAVES OF LOUISIANA. No, because everyone had agreed you initially were going to get 1 minute.

Mr. DAVIS. Well, I would ask unanimous consent to take 25.

Mr. GRAVES OF LOUISIANA. Object.

Mr. DAVIS. I see no objection.

Mr. GRAVES OF LOUISIANA. No, seriously, I want to turn to the gentleman from Illinois——

Mr. DAVIS. I hear no objections. Thank you, Mr. Chairman.

Mr. GRAVES OF LOUISIANA. And you are recognized for 5 minutes.

Mr. DAVIS. Mr. Dalton, I will start with you, since now I am limited to 5 minutes, instead of 25 minutes.

This is an issue I brought up to many at the table and to this committee numerous times, the Navigation and Ecosystem Sustainability Program, NESP. At its confirmation hearing late last year, President Trump's nominee for ASA [Assistant Secretary of the Army] for Civil Works, R.D. James, testified that he would work with Congress to ensure there is a path forward on NESP.

Mr. Dalton, will you make that same commitment today?

Mr. DALTON. Absolutely I will. In fact, we have been looking at that and will do what we can to pursue that with the administration, considering the current BCR [benefit-to-cost ratio].

Mr. DAVIS. And I think all of you at the table are well aware that both the House and the Senate put language in disagreeing with the need to invest, I would think, $7 million in 3 years to restudy the economics on this issue. So I would hope that we can continue to work together to address those concerns that obviously, in a bipartisan way in the House and the Senate, we have. So thank you for that.

I got another question, too, on the ongoing problems many of us on this subcommittee are aware of in regards to section 408. While some on the subcommittee argue that the issues dealing with section 408 are due to a lack of funding, I would argue they have to do with an expansion of the Corps' authority in its implementation of section 408 permissions. And I appreciate the Corps' recognition of the need to address the many concerns with section 408. Evidenced in the recent memo signed by you on January 12th, the memo intends to provide interim guidance on changes to section 408 implementation while a final Engineer Circular is completed.

But after reading it, unfortunately the memo does little to effectively help local flood protection project sponsors who have been impacted by the Corps' implementation of section 408 in recent years. And in my opinion, it is due to that misguided perception of authority by the Corps in applying section 408 to local flood control projects.

In recent years the Corps has sought to change the decision-making role of non-Federal sponsors of local flood protection projects by requiring them to comply with the agency's relatively new section 408 process, instead of the relevant flood control regulations under the Federal flood control regulations in 33 CFR § 208.10.

Can you explain the reasoning behind the Corps' expansion of authority under section 408 over the past decade to include non-Federal sponsors of local flood protection projects?

Mr. DALTON. Thank you, Congressman. First of all, I would like to say that we are also looking at that authority and if we have expanded it or what we need to do to try to have a better process in place.

One of the things that I am trying to do to address all of the section 408 frustrations is get to those individuals that have gone through it to see what we can do, first of all, to improve the process. Recently on a Missouri River levee, there was a complaint about that. A gentleman said that it has taken us 6 years and $6 million to get to the same point. And so my intent there is to conduct an AAR [after action report] with that individual to find out where we went astray with the process.

That just addresses the fact that we are looking at the process to see what can we do to improve the process.

As part of the conversation I had with him was very similar to what you asked, and that: did the Corps extend section 408 beyond navigation into flood risk, et cetera? I committed to him as I commit to you that that is what we will take a look at, just to make sure, and verify that we are within the authority, but more importantly to try to find ways to streamline and get to a decision much faster with less cost.

Mr. DAVIS. Well, thank you, Mr. Dalton. I think all we are asking for at this subcommittee, it is the same thing I have talked to General Jackson about and others within the Corps, and to the ASA nominee, Mr. James: we want consistency. Our local sponsors need consistency out of the Corps of Engineers when it comes to section 408 implementation. And retroactively asking for things to be done when permits had already been issued, I think, is something that the Corps seriously needs to take a look at.

Again, I characterize these changes as misguided. And I would hope that we would continue to be able to work together to make these changes necessary to have that consistency that I think we all want on all sides of the aisle. And frankly, I think it is what the Corps districts want and deserve.

So thank you, Mr. Dalton. Thank you to the panel. And Mr. Chairman, thank you. I now yield back my 4 seconds.

Mr. GRAVES OF LOUISIANA. Thank you. We now go to the gentleman from California, Mr. Garamendi, for 5 minutes.

Mr. GARAMENDI. Thank you, Mr. Chairman.

First, Mr. Inamine, thank you so very much for the exceptional work that your team has accomplished on the Sutter Basin. I see my colleague, Mr. LaMalfa, here. And he and I get to share this 39-mile section of the Feather River.

I would draw the attention of the committee to the map on the back of Mr. Inamine's testimony. And if you will notice, 90 percent of this project has been completed without any Federal money, a project that started in 2014. We have 5 miles remaining, and we need a new start.

Mr. Dalton, we have talked to you about this. General Jackson, we have talked to you about it. And I intend to continue talking about this until we do get a new start, or maybe we will just get ourselves something called an earmark, and we can get things done quickly. That would be very convenient.

I would point out that this project, thus far, 90 percent of it, 100 percent local funding. This is innovative financing to the fullest extent. The remaining 5 miles we need a new start and about 49 million Federal dollars, 25 million local dollars. So we ought to get this thing finished, because we have another 22,000 people at risk. And if it is a really big flood, it may get to 100,000.

Mr. Inamine, thank you so very much for your work on this. If you had a new start in this fiscal year, when would you be able to complete this project?

Mr. INAMINE. Well, this would be a Corps project. We believe it could be completed within 2 Federal fiscal years, by 2019.

Mr. GARAMENDI. One and done. All of it within 5 years?

Mr. INAMINE. This—we believe—we are not the experts on this, but we believe this is a great candidate for a one-and-done project, yes.

Mr. GARAMENDI. Great. Thank you very much. I want to now turn to the disaster supplemental and bring the attention of the full committee to the disaster supplemental. This is the third supplemental—this is a $10 billion Corps of Engineers program in the disaster supplemental. We have just heard what local people are willing to do, at least in California, and I suspect in other parts of the Nation.

However, the disaster supplemental has a very special opportunity for certain parts of the Nation. The bill, as presented, waives cost-sharing requirements for ongoing Corps projects, ongoing Corps studies, and new Corps studies, and ongoing construction projects. That is $10 billion with no local participation.

We just heard about a local participation in California, which will be 90 percent local. What does this mean to other projects around the Nation? I am quite sure that Puerto Rico probably could not provide any local. But I am quite sure that Houston, Texas, could. But the bill does not require any local participation. The question that I am concerned about is what does this mean for the rest of the Corps projects?

So this is a question to General Jackson. If we appropriate the $10 billion for the Corps projects in hurricane-impacted areas, can you explain to me what this impact will have on the Corps' fiscal 2019 budget?

I think all of us ought to be curious about this. So do you have any indication what it would mean as you prepare for the 2019 proposal?

General JACKSON. Specifically, I would say, Congressman, that the projects where we are able to align supplemental dollars against to repair that might be in the fiscal year 2019 budget would therefore not need the funding that was previously contemplated for them in fiscal year 2019, and we can then use those funds for other projects that are not designated for funding in fiscal year 2019.

In my mind, any additional authority or funding that we get from Congress to address Corps projects just means that we can then address significantly more projects that are out there with the extra funding that is provided.

Mr. GARAMENDI. So you anticipate that this supplemental additional $10 billion for the Corps of Engineers, there will be no local participation, funding participation? We will have no impact on the normal and ongoing Corps of Engineers request for funding from the Congress?

General JACKSON. Congressman, I would say that it wouldn't have any negative impact whatsoever. All it does is allow us to address current needs that were impacted by the storm, and then it allows whatever funding we would get under our budget authority to be able to apply that against other projects that didn't qualify for the supplemental appropriation.

Mr. GARAMENDI. Very good. And may I remind you that we are looking for a new start to complete a $689 million Corps-authorized

project and get it done within 2 years—5 years, start to finish? So let me just remind you we are looking for a new start.

General JACKSON. Acknowledge all, sir.

Mr. GARAMENDI. Thank you. I yield back.

Mr. GRAVES OF LOUISIANA. Thank you. I go to the gentleman from Kentucky. Mr. Massie is recognized for 5 minutes.

Mr. MASSIE. Thank you, Mr. Chairman, and thank you for this wide array of witnesses that are very relevant to the topic.

I want to thank Ms. Carter from CRS. I think we should have a witness from CRS at every hearing, because they are a very reliable and consistent source of information for us. The people on the dais here change over the years, but the policy remains consistent a lot of times. And when you try to go and find out what happened before we got here, the CRS report is a great resource. They are also a good reminder of what was in the bills we passed when we were here.

And your testimony actually informs my question, Ms. Carter. And my question is going to be for the Corps, actually. In your testimony, Ms. Carter, you point out that we directed in prior WRDAs that the Corps should revise their section 408 regulations, guidance, and that the existing guidance was set to expire on September 30, 2017, and that the Corps will have further regulations published on section 408 soon. When can we expect the section 408 regulation, the updated versions that implement the things that were prescribed in WRDA 2016?

Mr. DALTON. Thank you, Congressman. We intend to have that Engineer Circular published no later than summer of this year. And I am working to try to get that out sooner.

The memorandum that the chairman referenced was just to lay out and make sure that we knew what we wanted to include in that circular. There are a few pieces that we need to pin down, but the intent is to get it done this year by the summer.

Mr. MASSIE. Ms. Pilconis, I was fascinated by your flowchart here. As an engineer myself, I realize these things can get pretty complicated. But I just want to ask you in general. How do we simplify this flowchart that you showed us? Because hopefully, simplification would mean quicker approvals——

Ms. PILCONIS. Yes, absolutely. Thank you for that question.

We offer several recommendations in our written testimony, but to just cite a few, we are looking for ways to reduce duplication and overlap without sacrificing environmental protection. So one of the main things that we think would really streamline the process would be a nationwide merger of the NEPA and the section 404 permitting processes, because those two processes take the longest time and are the most costliest.

So with a merger of those two processes, when the agency—so the Corps—is engaged in the NEPA process, they would be ensuring that the information that is collected—so the environmental documentation, the studies that are being done, the analyses, the mitigation that is being decided—that it will be sufficient to satisfy the permitting requirements, so that you don't have a lot of what I had said were do-overs with the interagency consults related to ESA [Endangered Species Act], coastal zone determinations, his-

toric and cultural property issues when you go to do the permitting process.

But then, what is very important also is for Congress to determine what is a material change that warrants relooking at approved environmental documents, because there are a lot of reevaluations that are being done for changes that are really very small and not significant changes to the construction project. And that causes a lot of duplication.

Mr. MASSIE. Ms. Jamieson, I appreciate your realistic appraisal of P3s. They are not a panacea, money doesn't magically appear just because you have P3 funding. But their intended purpose, I think, is to align the incentives correctly and in the right timeframes.

So, I am interested in the fact that in WRRDA 2014 we prescribed, as Ms. Carter pointed out, 15 pilot projects. And it doesn't seem like we are getting very far on those pilot projects. To use a river term, I think we hit a snag.

Again, I want to ask the Corps—either General Jackson or Mr. Dalton—where are we on those P3 projects? Was there going to be—I know Congress—I think we are at the point now where Congress is looking for more guidance. And so where are you in that process of providing us guidance?

General JACKSON. Congressman, I will answer that one. We have one P3 project. That is Fargo-Moorhead project up in North Dakota.

Mr. MASSIE. Is that out of 15?

General JACKSON. Pardon me?

Mr. MASSIE. One out of the fifteen?

General JACKSON. It is 1 out of the 15, right.

Mr. MASSIE. OK.

General JACKSON. We have evaluated a number of other projects. And for whatever reason, we are not able to develop a project that would meet all the P3 parameters, didn't have the right funding mechanisms or sponsors that were available to be able to do a project under a P3 construct.

But Congress also came back to us and said, "Hey, look, you need to develop a P3 policy."

The Fargo-Moorhead project has been approved and funded in the workplan. We don't really have any policy guidance that the administration has approved that allows us to really discuss and frame up how we will actually select and then fund in the future P3 projects. That is a work in progress, something we are working with the administration right now, and that is what is left to be done to move forward on P3s.

Mr. MASSIE. All right. We will anxiously await that. I yield back.

Mr. GRAVES OF LOUISIANA. Thank you. The gentlewoman from Texas, Ms. Eddie Bernice Johnson, is recognized for 5 minutes.

Ms. JOHNSON. Thank you, Mr. Chairman. And let me thank the witnesses for being here, and express my appreciation for the work that the Corps does do. And I know that the work is getting further and further behind.

There was a recent U.S. Department of the Treasury commissioned study that found—and I quote—"a lack of public funding is, by far, the most common factor hindering the completion of trans-

portation and water infrastructure projects, affecting 39 of the 40 projects reviewed."

In the beginning of 2017, the Harbor Maintenance Trust Fund had an excess balance of more than $9 billion. I really have a question as to why you have that much money with such massive backlog of water projects. Could you give me some explanation as to why that is?

General JACKSON. Yes, Congresswoman. Let me give you a start. The 2018 President's budget allowed a distribution from the Harbor Maintenance Trust Fund for the Corps of $965 million, which is the highest distribution that we have ever had in history.

As you know, the Harbor Maintenance Trust Fund is a revolving fund. It is managed by the Department of the Treasury. And the administration allows us to use those funds to address the maintenance requirements in our harbors across the Nation.

In fiscal year 2017—just some statistics—receipts went into the Harbor Maintenance Trust Fund of $1.47 billion based upon the taxes that were assessed. We had an end-of-the-year balance in fiscal year 2017 of $9.1 billion. We do have a significant balance that remains. I think the industry has been very emphatic that we use all the money that is collected.

I think, from the Corps' perspective, we have requirements to be met, but there are very difficult parameters that the administration uses to allow the use of Harbor Maintenance Trust Funds, and I don't have all the answers for why that is, and I can't really address what our strategy is to bring that backlog down.

Ms. JOHNSON. Is there anyone else with any comment on that?

Mr. DALTON. No, ma'am. What we will do is provide a explanation back to you with the details of what you are asking for. But I don't have a complete answer to your question right now.

Ms. JOHNSON. OK, thank you. And we have heard a lot about streamlining the Federal processes and tapping into new and creative funding streams as a means of funding public infrastructure projects. I heard the comments about the public-private partnerships. How realistic does that seem to you in this area of these types of projects?

General JACKSON. Congresswoman, I am optimistic. I think there is a lot of opportunity for us to take advantage of different funding sources. I mean this is a math problem. The bottom line is we have more requirements out there in infrastructure than the Federal budget can support today. So we must look at other sources: State, local, private investments. But there are a lot of things that we have to do to incentivize folks that want to do that. And the Corps of Engineers, we have a role in that, and I think one of the things that we are looking at is trying to streamline the way we can deliver projects, streamline the way we can partner with others.

And we are working with the administration and the Congress to develop the incentivisation piece that allows this to be a good business proposition. Because, at the end of the day, the projects that the Nation requires must be paid for, they must be delivered, they don't need to be on the books for decades. They are not doing anybody any good. And we just can't do that with the Federal budget today, there are just too many demands on it. So we have to look outside the Federal appropriation.

Ms. JOHNSON. Do you have a quick example of which you can share where you think it would work?

General JACKSON. Well, I think there are opportunities for specific projects around the country where they—we have sponsors that——

Ms. JOHNSON. Could you just name one? I mean I—be as specific as you can.

General JACKSON. I will take the Charleston Harbor, for instance. Charleston Harbor has already—or Jacksonville Harbor, two harbors on the east coast who have stepped up and recognized that the Federal appropriation is not going to get their projects delivered as fast as they would like, and so they have entered into advanced funds agreement with the Army Corps of Engineers to put forth funding to accelerate the completion of their project.

Under the advanced funds agreement, they are eligible for reimbursement, so the administration will work to do that, and that is the commitment that the administration makes. But that is an example of an alternative funding arrangement that has been executed that today is in the works, and two projects will get done as a result.

Ms. JOHNSON. Thank you. My time is up.

Mr. DALTON. Could I just make a comment to that? One of the things that we are looking at now is to see how we can actually get some of our projects executed without necessarily requiring the Corps of Engineers to be the lead on them, or to be the one that manages the construction or that conducts the studies. We think that will leverage private industry in a different way than just private financing. It actually takes advantage of any difference in execution methods that we may not have considered. And that is under section 203 and 204.

And, for whatever reason, section 203 is one of those authorities out there that we hadn't fully implemented, or really hadn't implemented. We are developing guidance for that right now, so I don't think we have a lot of projects out there. But I can tell you that we have identified a project for section 203, we have several in section 204, and we are looking at an authority of section 1043, which allows a non-Federal entity to manage the construction of projects. So that is one way we think we can leverage private support.

Mr. FERGUSON [presiding]. Thank you. Next the gentleman from Texas, Mr. Farenthold, is recognized for 5 minutes.

Mr. FARENTHOLD. Thank you very much. And, Major General Jackson, along the Texas coast there are dozens, if not more, authorized but unfunded Army Corps projects, like reservoirs, levees, many of which fell within the hurricane disaster area. Had these projects been fully funded and completed in a timely manner, would the amount of property damage and possible loss of life been less?

General JACKSON. I think the answer to that, Congressman, is yes. All these projects are designed, in many cases have life-health-safety components to them. Without going into very specifics, I wouldn't know how to actually quantify that per project. But I think that projects that we recommend to Congress for an investment decision have all the components that you just described.

Mr. FARENTHOLD. And how do you think the current backlog of Corps projects—you know, $96 billion of projects waiting to be done across the country, I mean, that has got to be stuff you guys stay awake and worry about and keep you busy.

Is the fact that there is so much stuff undone in the normal course of business—is that going to interfere with the disaster recovery efforts and emergency repairs made necessary not only by Harvey in Texas, but by Irma and Maria in other parts of the country?

General JACKSON. Congressman, the answer to that is no. We are fully funded under the Stafford Act right now to address the requirements that we have been asked to perform under mission assignments from FEMA in Texas, Florida, the U.S. Virgin Islands, and Puerto Rico. That work will go on, and it goes on with the support of a multitude of Corps of Engineer employees from across the country. We leverage our whole workforce, all——

Mr. FARENTHOLD. All right, but what about availability of assets to do that, be they Corps assets or, in the case of reopening waterways, the availability of dredges?

General JACKSON. Sir, the industry has been very, very responsive on the dredging, specifically. When we have had a natural disaster come up, we have worked with industry using very nimble contracts to be able to get them into the fight and get them where the dredging needs to be.

And so, it is just an opportunity to applaud the industry for their responsiveness, and our ability to work with them and NOAA and the Coast Guard to put them in the places where they need to be.

Mr. FARENTHOLD. And so you all make a lot of funding decisions on what projects to recommend through the OMB and to Congress for funding. I know there is a traditional cost-benefit analysis associated with that. How does safety come in?

For instance, I have a project that is very important to me, the widening and deepening of the Port of Corpus Christi. It is going to have a huge economic impact on the area that I grew up in and live in. But it is probably not going to save anybody's life. Fixing some of the Houston area reservoirs might actually save lives. How does that factor in you all's decision for funding?

General JACKSON. Congressman, I believe that when we make project recommendations or budget recommendations to the administration, it includes due consideration of all the life-health-safety issues. And certainly, even if a project doesn't have a benefit-cost ratio that we believe, based on budget guidance that we receive, makes it a budgetable candidate, we still recommend these projects, based upon the need of the people and the location where they are proposed to be built.

So I think we do consider that, we do make those recommendations as part of our budget submission for the administration to consider with all other factors.

Mr. FARENTHOLD. And then, General, I have got one more for you that I am going to also ask a couple other members of the panel. What effect do you think would repealing the ban on earmarks—how would it affect the Army Corps' effectiveness and efficiency and the timely delivery of projects?

General JACKSON. Well, Congressman, I think the only thing that I am qualified to answer is the timely delivery of projects. So, for instance, if there was an earmark ban lifted and you made an earmark for one of the particular projects that you just mentioned and gave me full funding so that I could finish it, then we would be able to deliver that project, and it would not necessarily compete, as projects do today, across the full spectrum of the portfolio that we manage that is represented in the $96 billion that we reference.

So, in that particular case, you know, for a unique spot on the globe, that is——

Mr. FARENTHOLD. I am running out of time, and I appreciate that, but I did want to get Ms. Pilconis and Ms. Jamieson's answer to that question, as well.

Microphone, please.

Ms. JAMIESON. Sorry about that. In terms of—if full funding were provided earmarks, yes. I mean it certainly—it is earmarked whether it is spread out over many years or upfront. But it can be integrated into a P3 through availability payments and other things. So yes, it could be helpful in delivery.

Mr. FARENTHOLD. Ms. Pilconis, did you have anything you wanted to add?

Ms. PILCONIS. For our members it is just important to see the full use of the trust funds being put for their intended purpose, and that the funds aren't diverted for other uses.

Mr. FARENTHOLD. All right. Thank you very much. I see my time has expired.

Mr. FERGUSON. OK, next we recognize Mr. Lowenthal for 5 minutes.

Dr. LOWENTHAL. Thank you, Mr. Chair, and I thank you, the chair also, for holding this hearing. And I think we can all agree that the Army Corps and Congress should look for better ways to make sure that needed projects are delivered to our communities without added delays and without additional expense, and that we look for ways of creative financing.

But I want to return to one of the focuses of this committee, and that is on the issue of regulatory streamlining. And first I would like to ask permission to enter into the record a recently completed paper by the Center for American Progress entitled "The Benefits of NEPA," if I may enter that into the record.

Mr. FERGUSON. Without——

Dr. LOWENTHAL. Thank you——

Mr. FERGUSON. Without objection.

Dr. LOWENTHAL. Thank you, Mr. Chair.

["The Benefits of NEPA" report referenced by Congressman Lowenthal is on pages 186–195.]

Dr. LOWENTHAL. You know, as we engage in the issue of regulatory streamlining, we must make sure that these efforts do not erode the landmark protections and the processes that ensure that large infrastructure projects are planned and constructed with care for our environment and protection of our local communities.

For example, in my district I hear quite frequently how NEPA and other environmental laws have enabled better decisionmaking,

and how these processes have often saved a project time or money and have helped to find innovative solutions to difficult problems.

So, for example, in the Everport project, which is a port expansion at the Port of Los Angeles, which is just immediately adjacent to my district, during the NEPA review, the EPA expressed concerns about the project's air quality and the human health impacts, particularly on low-income and minority communities that happened to be immediately surrounding the port.

In the final EIS, the Army Corps strengthened an air quality mitigation measure to specify that all the dredging equipment be electric, a provision that reduced the project's construction emissions, while still allowing the project to move forward.

You know, this certainly can't be the only example of how NEPA has produced a win-win for both the economy and the environment. So my question is to Ms. Carter, to General Jackson, or to Mr. Dalton. In your experience, how does the NEPA process work on the ground? If some critics are to believe, worthwhile projects are delayed for years by fringe activists who have no attachment to communities. I would like to know if that is really true or not.

And I want to follow, especially in the answer from Ms. Carter, that a recent review by the Congressional Research Service—this follows up on a question from my colleague from Texas—that said that you have investigated the cause for delay of project development, and you found that of the 40 projects reviewed—or this may have been the Department of the Treasury-commissioned study, both CRS and the Department of the Treasury have commissioned a study—that 39 of the 40 projects that were reviewed, the real delay is funding, not NEPA.

So I would like to ask your—you know, here. What happens on the ground? Is NEPA a major cause of project delay? And what are your experiences on the ground with how NEPA actually works? I would like to hear.

And what recommendations would you make to us about that?

Ms. CARTER. Thank you for the question. As you know, CRS does not take a position or make recommendations. The study that you identify is the AECOM study, the commission for the Build America Investment Initiative. It reviewed 40 projects and identified, through that review, what were some of the principal elements that were affecting the project being able to be delivered. And the first one identified was Federal funding. Consensus was another one. And a fourth one was regulatory issues. But that is relevant to those 40 projects. Additional analysis on a broader set of projects was not available from that study.

Specifically regarding Army Corps of Engineers projects and NEPA, it is an integrated process that the Corps uses for developing the feasibility study with the NEPA analysis. So you can't really parse out how long certain pieces take.

I am not the NEPA expert at CRS. If there are additional questions specifically regarding NEPA writ large, we can take those questions for the record. Thank you.

Dr. LOWENTHAL. Any other comment? I know I just have a minute, very——

Mr. DALTON. Congressman, I would say that, one, we are not looking at NEPA as the bad thing causing bad things to happen

to projects. I think what we are all talking about and looking for when we talk about a regulatory streamlining for looking at our environmental compliance is with the one Federal decision, we are just looking to try and have more collaboration, earlier collaboration, and do everything to identify all the requirements one time and go down that road once, as opposed to doing it in phases.

I think we are trying to do that better within the Corps of Engineers. But certainly there are areas of improvement. But by no means are we looking to eliminate the departmental requirements——

Mr. FERGUSON. Mr. Dalton, the gentleman's time has expired.

Dr. LOWENTHAL. Thank you. Thank you, and I yield back.

Mr. FERGUSON. Thank you. So next I would like to recognize the gentleman from Texas, Mr. Weber.

Mr. WEBER. Thank you, Mr. Chairman. I want to address some comments that were made earlier by our friend across the aisle from California about the recovery of Hurricane Harvey and the Army Corps funding. I think he said $10 billion. He said there was no cost share. Well, I wanted to remind everyone that, you know, there was a lot of lives lost.

Even in Hurricane Ike on the gulf coast of Texas, and we didn't get hardly any FEMA help then, and it is a huge area. We have been asking for, as the gentleman here knows, some barrier protection from the hurricanes. It is not a question of if Texas gets a hurricane, it is only a matter of when that is going to be.

So we would like to be proactive and get what is known as the Ike Dike funded, where we protect lives. There are about 6½ million people that live on the upper Texas gulf coast. We produce—estimates vary—from 60 to 80 percent of the Nation's gasoline, jet fuel. So it is a huge, major economic driver, and there is a lot of lives, families, homes, and, of course, industry there, and jobs associated with that.

So, you know, if we can be proactive, we can keep that from happening again, and that is one of the reasons I am glad we are having this hearing.

Ms. Pilconis—is that how you say it? I want to come to you. I am fascinated with your list of 10 items that you say could make things better. You say in your testimony the 10 main opportunities for Congress to minimize delays during project planning. Have you shared this list with anybody prior to today?

Ms. PILCONIS. We have shared these concepts with others, yes. Not necessarily in that exact form.

Mr. WEBER. Going back how far, how long?

Ms. PILCONIS. We have been talking about these things for about a year now.

Mr. WEBER. About a year. OK. So you had 10 main recommendations, if you will. It is almost like this is the bible, right?

Were there other recommendations that you had that you could share with us in written form later?

Ms. PILCONIS. Yes. And actually, I should add to what I said. More broadly, AGC has been working on the streamlining initiative of trying to expedite project delivery for critical infrastructure projects, dating back to the last three administrations.

Mr. WEBER. OK.

Ms. PILCONIS. But this current effort of trying to really take a close look at the entire environmental approval process——

Mr. WEBER. Sure.

Ms. PILCONIS [continuing]. Before you can break ground on a project.

Mr. WEBER. Right.

Ms. PILCONIS. And, you know, coming up with a list of those 10 items in that document has been circulated for about the past year.

Yes, we would be pleased to provide additional information on it——

Mr. WEBER. Well, I am going to get my staff with you to do that.

I served on the Texas Legislature Environmental Regulation Committee. And regarding Mr. Lowenthal's comments about NEPA, we learned that sue-and-settle, what is known as sue-and-settle, was a detriment to a lot of projects, and it put it off, and it cost the project more money, and often at the taxpayer's expense. So we will discuss that.

And number 5 you say establishing and enforcing an interior deadline for completing the environmental approval process for critical infrastructure projects. Who decides the criticality of those projects?

Ms. PILCONIS. Well——

Mr. WEBER. Have you thought through that?

Ms. PILCONIS. Our focus has been, as of late, on what has been included in a lot of the recent Executive orders.

Mr. WEBER. OK. So criticality from the executive——

Ms. PILCONIS. So projects that are important to public health and welfare, safety——

Mr. WEBER. Sure.

Ms. PILCONIS [continuing]. Providing——

Mr. WEBER. That is the component that the general was talking about.

Ms. PILCONIS. Exactly.

Mr. WEBER. I got you, OK.

Ms. PILCONIS. But also looking at projects that are restoring and rehabilitating the environment, so——

Mr. WEBER. Well, sure, sure. And then, in number 7 you say establishing more certainty upfront regarding the requirements for an availability of suitable compensatory mitigation. Could you elaborate on that?

Ms. PILCONIS. Sure. So that has to do with expediting the permitting process, and how quickly contractors can actually get their permits. So——

Mr. WEBER. Oh, I got you.

Ms. PILCONIS. If the contractor is responsible for securing, say, section 404 permit coverage, and jurisdictional determinations are uncertain, they are not able to determine what their mitigation responsibilities are going to be.

Mr. WEBER. OK.

Ms. PILCONIS. And so this uncertainty is driving up the cost——

Mr. WEBER. I got you.

Ms. PILCONIS [continuing]. Really, of their bids. And they don't know how much they are going to have to pay for mitigation.

Mr. WEBER. So what did you think about Mr. Dalton's comment earlier about maybe it is a fact that the Army Corps wasn't in charge of the study, and they didn't have to manage the project? Would that be an advantage?

Ms. PILCONIS. I don't have an——

Mr. WEBER. Mr. Dalton, in listening——

Ms. PILCONIS. That question—I have to think about that——

Mr. WEBER [continuing]. You can go ahead and level with me.

Ms. PILCONIS [continuing]. And get back to you.

[Laughter.]

Mr. WEBER. OK, OK. And you didn't respond—and I have got about 30 seconds—or nobody asked you, of course. The Harbor Maintenance Trust Fund, you did not list that in your 10 suggestions here. So if we got the Harbor Maintenance Trust Fund to be used for actually what it was designed to be, that would help?

Ms. PILCONIS. Absolutely.

Mr. WEBER. OK.

Ms. PILCONIS. So yes, we would very much like to see the Harbor Trust Fund——

Mr. WEBER. All right.

Ms. PILCONIS. And Inland Waterway Trust Fund, those funds used for their intended purpose, not diverted——

Mr. WEBER. One last question. We have got Sabine-Neches Waterway in our district. It is the second largest waterway in the country—only to the Mississippi River—and it exports 95 percent of the LNG. It is responsible for sending it out across the country, so a huge economic benefit. We would like to see these projects done a lot quicker, a lot more quickly, somebody making decisions as to what that takes.

Representing business contractors, would you agree that any time all of these delays and all this uncertainty is inherently in a project, that it drives the cost up?

Ms. PILCONIS. Oh, absolutely. That is one of our main fundamental points——

Mr. WEBER. OK. Well——

Ms. PILCONIS [continuing]. That uncertainty is driving up the price of the bids, and the delay in getting the project done is also driving up the cost.

Mr. WEBER. Well, we have had that project authorized, we would love to get the Sabine-Neches Waterway dredged. And it is a huge economic benefit, and it would help, you know, get some of the water out of the system when we have another hurricane.

Mr. Chairman, I appreciate your indulgence, I yield back.

Mr. FERGUSON. Thank you. Next we recognize the gentlelady from Illinois, Mrs. Bustos.

Mrs. BUSTOS. Thank you, Mr. Chairman. And I want to thank our witnesses for being here today.

General Jackson and Mr. Dalton, I especially want to thank you and your staff for your commitment to everything you are focusing on that is so beneficial to our locks and dams.

And I know—we have talked about this before, but my congressional district, the entire western border of my district, is the Mississippi River. And the Illinois River runs to the southern part of my congressional district. So this is an issue that is extremely im-

portant. And people from across my district would line up to tell you something that you already know, the usefulness, the lifetime design life has outlived itself. It is at risk of failure at this point.

And just as an example, lock and dam 15 on the Mississippi River on Rock Island—I see the Mississippi River every day I wake up when I am at home, because that is my frontyard. But as you know, it was completed in 1934, it is one of the oldest parts of the Upper Mississippi navigation system. And this summer the Corps began emergency maintenance because the concrete guide wall was literally falling into the river.

And so, this fix-as-fail approach to the locks and dams have put our growers, our manufacturers, and the navigation industry in a guessing game as to whether they will be able to deliver their goods to consumers on time. And so I know we have to do better than that.

Before I get into my question, I also want to—I know Congressman Davis—who I don't see here right now—I know he addressed NESP earlier, and I want to thank you for your commitment to working with us on that. Congressman Davis and I have worked together in a bipartisan way to make sure that we are focusing on that, as well.

So my first question is to General Jackson, also to Mr. Dalton. As we just talked about lock and dam 15, we have a lot of locks and dams that are at risk of literally crumbling into our waterways. A recent study found that an unscheduled closure of one lock and dam on the Illinois River would immediately affect commerce in 18 States and cost the shipping public nearly $1.7 billion annually in additional transportation costs.

So my question is do you believe the current process—that the Corps adequately accounts for the risks of failure on inland waterways? And part two of that is how does that factor in the cost-benefit calculation? And that might also—Ms. Carter might be able to answer that, as well.

Mr. DALTON. Yes. Congresswoman, the answer to that question, I believe, is that we look at each one of the projects that we have and do an assessment of risk associated with that project. And we have combined all of that into what we call our asset management approach or process.

We do our best to identify where we think we need to invest to avoid those failures. We look at components now of locks and dams, rather than just say we need to go out and fix an entire lock and dam. We look at what components we think would affect the performance of that lock and dam. And that is where we try to make the investments.

That is not necessarily to say that we get them all covered, because there is, of course, the limit on funding. But that is our approach, to try and make sure that we address those worst kind of conditions first.

Mrs. BUSTOS. Ms. Carter, if you have anything to add to that.

Ms. CARTER. So, regarding construction of inland waterways, just with other navigation as well, the main factor that is considered is transportation cost savings. So that is usually the main economic driver of whether something is calculated as an economic benefit.

And that is something that was originally established by Congress, to say that it is transportation savings.

Regarding long-term operation and maintenance, the administration has been using ton-miles, as well as criticality of sites or safety, and closure. So those are the budget metrics that are used.

Mrs. BUSTOS. OK. General, anything else to add to what was already spoken?

General JACKSON. Nothing of significance to add, Congresswoman, other than to say that this is something that we look at very closely.

We also work very closely with industry. Marty Hettel, sitting behind me, with the Inland Waterways Users Board, and Mike Toohey from Waterways Council, Inc., and a lot of others are working with us to help us really understand the significance of the impact of the degradation of these locks and dams to industry in general. So we feel pretty well informed that we know.

As we continue to champion these projects for funding and for future repair, rehabilitation, or replacement altogether, we feel very well informed on what the impact to industry is, and the associated economics.

Mrs. BUSTOS. Thank you, General. All right, thank you. My time has expired, and with that, I yield back. Thank you.

Mr. FERGUSON. I will now recognize myself for 5 minutes.

First I want to start by thanking Chairman Graves for hosting this meeting and thank all of you for your time today and your expertise.

One of the things that I have—my experience at the local level as a mayor, really got me involved with water issues. One of the major rivers in the State of Georgia flows through my district. That is the Chattahoochee River. And that is important for the State of Georgia. But there are several important Corps projects that are along that waterway, as well.

One of the most important projects, though, that affects the western side of the State of Georgia, where I am, is actually on the eastern side of the State, and that is the Savannah Harbor deepening project. And we know firsthand how important that project is. And you may say, well, why is a project on the coast of Georgia so important to the opposite side of the State, and it has everything to do with economic development, and making sure that we have a tremendous economic opportunity, not only for Georgia and the Southeast, but the entire Nation.

So, understanding that deepening the Savannah Harbor from 42 feet to 47 feet to be able to accommodate the larger ships for more efficient transport is really, really important, not only to the State of Georgia, but also to the entire Nation.

Currently, this has an extraordinary cost-to-benefit ratio of 7.3 to 1. And when it is completed, it will generate an annual economic benefit to the Nation of more than $282 million a year of ongoing economic success and impact on the Nation. The current project is only about 35 percent complete. And I know that it is vitally important that we go ahead and complete this project, and that we want to see the recurring $282 million a year of economic impact, job creation, and, quite candidly, the most efficient way to move product into the Southeast and through the city of Atlanta into the Mid-

west. And I know that we are going to continue to work diligently on that to make sure that that funding is in place.

I do have a couple of questions after that statement. And, Ms. Jamieson, I was very curious and really want to know a little bit more about the performance-based delivery system that you talked about. Instead of being bogged down in the prescriptive regulation process, can you talk a little bit more about that and the benefits that that would have?

Ms. JAMIESON. Yes. The idea is to realign incentives. The traditional way that we deliver infrastructure is a pay-go basis, where we pay as we go, and we hope against all hope that the project will eventually be finished, which is what has led to a lot of our cost overruns and a lot of our efficiencies.

The cost of mobilizing and demobilizing equipment, the cost of maintaining insurance, that is what starts to escalate the cost of these projects above and beyond.

So when we refer to performance-based infrastructure, there is a whole series of different models out there. There is no one-size-fits-all, which is why you need to be very careful in how you craft this. But as an example, if you can allow a contractor to come in, design, build, finance, just say that, they come in with all of the capital upfront.

You don't begin to pay them until they have completed the Savannah Harbor, or they have completed the project that you are after. Then the taxpayer starts to pay as the benefits are being—accruing back to the taxpayer. It realigns their incentives. They don't get paid until they finish, so they act differently, very differently. They are very aggressive in getting through some of the regulatory structures.

Now, those also need to be addressed. It is not one or the other. You also need to address regulation in line with this. But that is really the premise of it. When you add in operation and maintenance, you also tend to incentivize to build things to last. We have seen this in a number of projects with bridges, where you have two bridges side by side, one done through incentivize-based performance contract and the other not, and they use new paints that are regenerative, so they can lower the maintenance cost over time.

But we lock in, when we are engaging in the infrastructure, the lifetime asset management. And that is really important. But it is used very commonly. It is not a new thing, it is just the Federal Government has been prohibited from using it, which is trying to address our infrastructure crisis with one arm tied behind our back. It makes no sense, from a practical sense, not to allow it. But then you have to be very—you have to use discretion and be careful when you actually implement it.

Mr. FERGUSON. Thank you. We are just about out of time, and I will yield and now call on the gentleman from California, Mr. Huffman, for 5 minutes.

Mr. HUFFMAN. Thank you, Mr. Chairman.

General Jackson, it is good to see you. And I appreciated the testimony earlier about the efforts to move some projects along. We all want to see critical water infrastructure funded and permitted efficiently. But I want to ask you about some things that this com-

mittee and this Congress have done in recent years toward that end, and see if you can give me an update.

I know in section 1046 of WRRDA 2014 we directed the Corps to assess management practices, priorities, and authorize purposes of Corps reservoirs in arid regions. As of May 2016, I know the Corps hadn't still moved forward, hadn't yet moved forward on that assessment. Is there any update on that assessment today?

General JACKSON. Congressman, I think we are still working on that. Let me get back to you with some more detailed information.

Mr. HUFFMAN. All right. And if appropriated funds is still the holdup, I hope you will let us know that, as well.

I know section 1117 of WRDA 2016 also directed the Corps to work with States with drought emergencies to update water control manuals for Corps reservoirs. This is moving toward what many of us want to see forecast-informed reservoir operations incorporating satellite technology and modern science into these age-old manuals that have dictated how Corps dams are operated in the arid West, because we can do a lot better stretching our water supplies and providing flood control.

The GAO issued a report in July 2016 recommending that the Corps needed to address its inconsistent method for reviewing these control manuals. So you have got an act of Congress, you have got a GAO recommendation. Have we seen any action from the Corps since these developments on updating these old manuals?

General JACKSON. Sir, for section 1117 for drought emergencies, was that the implementation for 2016? I want to make sure I got that right.

Mr. HUFFMAN. To update the operating manuals, yes, the water——

General JACKSON. Right, yes, sir. We issued our implementation guidance for that back in July. We are working across the Corps to identify which of the operation manuals are the oldest or in most critical need of being updated.

All the technologies that you have talked about, the new ways of looking at water management, whether it is forecast-informed reservoir operations or the like, I know those new technologies and new ways of thinking about operating projects are being incorporated into our updated operations manuals.

Let me let Mr. Dalton, who was our previous engineering and construction chief and was very much involved in that, talk just a little bit about that, if I can.

Mr. DALTON. Thank you. We have two efforts ongoing to incorporate that new technology into our operating manuals. The first is the forecast-informed reservoir operations that you mentioned, FIRO. We look at that more as an R&D effort. And that takes longer because that mostly is looking at the rivers coming out of the Pineapple Express or atmospheric rivers in California.

But where we are actually making more progress is on what I call forecast-based operations manuals, and that is actually taking the data that we have today of 5-day forecasts, and using that to incorporate into our manuals. And we look at that if we do it today, then we look at it tomorrow, we go back and look at what the accuracy of that fifth day—now we are at the fourth day. So it is kind

of a constant thing to take a look at and adjust, but we are incorporating that into our manual updates.

Mr. HUFFMAN. So we are seeing new updates that reflect that forecast data?

Mr. DALTON. The one that I know of for certain is out at the Folsom project, and we were trying to make sure that we all understood that well enough before incorporating that into other manuals.

Mr. HUFFMAN. Will you prioritize O&M funds to make sure that this actually gets completed?

Mr. DALTON. Without a doubt as funding is available, we have a list of the reservoir or the operations manual that we would need to update. And so we will prioritize that, along with the other requirements—

Mr. HUFFMAN. OK, thank you. I know I am running out of time and I had a bunch more questions for you.

But Ms. Jamieson, your testimony really caught my eye when you said that attempts by Congress to push P3s and even P4s, which I am very interested in, were sort of a legislative head fake because they didn't provide the full authorization and make it happen. Can you explain a little more what you mean by that?

Ms. JAMIESON. Yes, I can. And yes, that is a technical term, "legislative head fake."

So in my written testimony I go into great detail, but in order to be able to—for a Federal agency to be able to engage in a P3, there are two categories. We have fully Federal projects and we have our cost-shared project. Let's talk about fully Federal.

They need one of two things. They need the ability to enter into long-term performance-based contracts. That would be multiyear appropriations for a project to pay it back after it is complete. The primary restriction on that is really more on budget scoring, which is archaic, by accounting standards. And we recommend some solutions to that.

But likewise, for the ability to leverage the trust funds, to raise revenues and then to reinvest them into the same project. Right now all the money goes back to Treasury. Consequently, they are stuck with only budget-based payments, which then they fall into the black hole of OMB scoring. So right now they are effectively prohibited on every level from doing it.

There are also a couple of other tweaks that I will talk about—well, I won't talk about. So I will cede, thank you.

Mr. GRAVES OF LOUISIANA [presiding]. Thank you. Next we have the gentleman from California, Mr. LaMalfa.

Mr. LAMALFA. Thank you, Mr. Chairman, I appreciate it. And thank you, panelists, for your time and travel.

Mr. Inamine—I just pretend that is an Italian name. It gets a lot easier, as I am Italian. But, hey, thanks for being here, too.

Again, great work has been done along the Feather River there. Butte County, my home county, as well as the Yuba, I used to represent in the State legislature. And my colleague, Mr. Garamendi, does now in the House, as—so it has been a good partnership to see to this getting done. We had great success. So—and I think this is really a great example for Mr. Dalton and General Jackson also, as we are talking about these partnerships and these new ways of

doing things, that we are already seeing that happening in the way that the Sutter Butte Flood Control Agency has really taken the bull by the horns with getting so much of this done just since 2014, and in a way that was self-funded for a lot of it.

So now we are down to the last bits, you know, waiting for the Army Corps. So, Mr. Inamine, we are talking about a project split into two different sections, 36 miles of a non-Federal piece, and now we are down to the last bit, the 5-mile Federal piece. How long did it take, really, to get the 36 miles done that——

Mr. INAMINE. We started construction in August of 2013.

Mr. LAMALFA. August 2013. So here we are, OK. And then, again, how long has been the approval process for getting the 5 miles, the very last bit of this project, done?

Mr. INAMINE. Well, right now it is—there is really no "approvals." We just need the new-start designation.

Mr. LAMALFA. I will let—Mr. Garamendi, we need the new start, OK? So we got a bipartisan—opposite ends of the room here asking for that, as well.

So, as was mentioned earlier, the project was authorized by the Federal Government for $689 million back in the day, and the Federal Government portion of that would be the 65 percent?

Mr. INAMINE. Yes.

Mr. LAMALFA. And so the Federal Government, for this first 36 miles has paid how much?

Mr. INAMINE. That would be zero.

Mr. LAMALFA. Zero. And so now, for the last 5-mile portion of it, for a total price of $74 million, $25 million will come from locally, the Federal Government will get, instead of 65 percent of $689 million, they will get off for $49 million to do this project, to finish the whole 41 miles.

Mr. INAMINE. Correct.

Mr. LAMALFA. So that is a tiny percentage. I think the number was used—12 percent instead of 65 percent because of the innovation, because of the ability for Sutter Butte Flood Control Agency and the Federal Government, to that extent, to be able to partner on this thing. So this looks like the type of ground-breaking modernization of the process that we are all looking for and talking about.

So I think, again, if we are looking for new examples of doing things, and the idea of what will be coming up in the new WRDA—let me jump over to Mr. Dalton for a moment.

You talked about earlier the section 408 guidance that might be ready by mid-2018. And that is good, we appreciate your effort on this streamlining, on making this process work a little bit better.

Are we talking also in that, in combining that perhaps with a streamlined NEPA and section 404, as well as the section 408 guidance that—we are talking about an existing levee, an existing project that isn't being changed in much of a way, other than just being upgraded, just being rebuilt, just being—you know, having the slurry wall put in. Isn't there an argument to say that this would be a much more streamlined process? Again, you are not building a new structure, you are not adding to the height of it. Is that part of the thinking on that?

Mr. DALTON. Congressman, it absolutely is part of that. In fact, some of the things that are not necessarily identified that we are looking at is for routine O&M, you don't need a section 408 permission for that.

What you talked about is if the footprint doesn't change, we are going in and we are putting in a slurry wall, certainly that is something we can look at a lot faster to come to a decision than what we have done in the past.

The other thing we are looking at is taking advantage of other NEPA or requirements that have been done, say for a section 404 permit, so that we can take that information and use that for the section 408. So we are looking at as much as we can to try and trim down that process.

Mr. LAMALFA. Right. I appreciate your good effort on that, Mr. Dalton. And as we push forward this year, hopefully in this year's WRDA, we can get the pilot program. And I know that is something you have been driving for. So we appreciate that.

And also some things Ms. Pilconis was talking about too, with the NEPA and the section 404 merger, these are things we need to get done because I know, where I come from—I live in the—at the edge of the inundation zone, where that issue with Lake Oroville and the impending possible failure of the emergency spillway, and so not just for me and my family, but, more importantly, the 188,000 people that were evacuated in that whole zone, and the levee system that still isn't complete at the south end, you know, they want this, they need it, they pay for it, and we need to have a process where we don't have to study the same bug and the same shrub over and over again with the NEPA and a section 404 and ta da ta da and ta dee ta dee. Let's just get it done, because we are wasting the people's money and endangering them.

So, Mr. Chairman, I thank you for the time.

Mr. GRAVES OF LOUISIANA. Thank you. Next we have the gentlewoman, Mrs. Lawrence, for 5 minutes.

Mrs. LAWRENCE. Thank you. To the panel, in September 2016 the U.S. Government Accountability Office released a study on water infrastructure for selected mid-size and large cities with declining population, cities that have the exact same makeup as the city of Flint, Michigan, which you know is a poster child for the lack of investment in water infrastructure.

It is alarming what the GAO found. Many mid-size and large cities throughout the United States, including the Midwest and the State of Michigan have lost a substantial percentage of their population. The loss in population results in declining revenues to address infrastructure needs.

The cities are facing numerous infrastructure barriers. I would like to ask Mr. Dalton and then Ms. Pilconis. Can you comment on what extent do you believe regulations are the reasons we have a crisis in our water infrastructure system? Mr. Dalton first.

Mr. DALTON. Congresswoman, I am not real sure I understand the question.

Mrs. LAWRENCE. My question is that we have repeatedly addressed that regulations is one of the challenges we have in investing in our infrastructure. I want you to articulate——

Mr. DALTON. Yes.

Mrs. LAWRENCE [continuing]. When we look at these mid-size cities, and we are looking at the current crisis we have, what part of that do you believe is on the back of regulations that we have when it comes to investing in our water infrastructure?

Mr. DALTON. One of those things that we need to take a look at with regard to our regulations is that the way we actually justify projects has an impact on how we invest in infrastructure.

One of the things that I said we wanted to look at is how do we expand and consider the total value of a project? And what I mean by that, for instance, related to your question, is that if a community out there has a master plan, and we look at that and we say this is a regional benefit, not a national benefit, I think what we are saying there is that it is national because if people don't have a job locally or regionally, they will move to another location.

But I think what that is doing to us is kind of choking out small and midtown or mid-city areas, because what happens is, when people leave small town U.S.A. or midtown U.S.A. and go to large cities, that creates other problems that we have that we are not really accounting for. I mean you go to a bigger city, you get bigger traffic problems. You go to a bigger city, you get more unemployment, et cetera.

One of the things that we are looking at now that I think will help us, is how do we account for the value that we lose or that we gain by trying to help those smaller communities, rather than just looking at the larger communities?

Ms. PILCONIS. Even if a project is fully funded, it cannot move forward unless it has all of the necessary environmental approvals. So if you look at the American Recovery and Reinvestment Act, effectively all of those projects were even exempt from NEPA through categorical exclusions. And still, none of those funded projects were shovel-ready, because they still needed to go through a whole host of environmental approvals.

And so, a funded project could take a decade or more to break ground because of the regulations and the environmental approval process. And even another important consideration is even after that project breaks ground, it is subject to being stopped throughout the cycle because of reevaluations, or because of citizen suits being brought, because of the very long statute of limitations. Like, for example, with—WRDA projects can go on for 3 years.

Mrs. LAWRENCE. So my question is—no one has brought this up—we continuously talk about regulations. No one has talked about staffing. So when you say the amount of time it takes to get environmental approval on a project, no one has addressed staffing. And I know that there has been a concerted effort to defund these departments that would handle that.

So I would like a truthful statement. Is part of the problem with the regulations the lack of staffing to perform the required analysis?

Mr. DALTON. The answer to that question, I believe, is absolutely it does impact our ability to process and execute the permit actions or the environmental actions. In fact, what we said earlier is that if you shut down one organization, pick one up, or reduce it, the organization such as EPA or others, then that is going to affect our

ability to actually work with that organization to try and have a timely approval of a permit action. So it does affect.

Mrs. LAWRENCE. As I wrap up I just want to be real clear. I understand the impact regulations has, but I am a very firm believer in that, to do it right, it is worth the checks and balances. But if you defund and don't have the staffing to do it, and we don't update as we move through with technology, then the onus is on us to ensure we are staffed, that we are efficient, we are utilizing technology. And P3s are very important. The water infrastructure is critical, as we look at our transportation bill to move forward.

Thank you, I yield back.

Mr. GRAVES OF LOUISIANA. Thank you very much. I yield to myself. We have heard many Members talk about different parochial project priorities and talk about different steps in the process that perhaps add time or other types of delays and expense. I am not sure that we have necessarily fully pivoted to what I hope we can talk about to some degree, and that is what does an efficient process look like?

Ms. Jamieson, you talked a little bit about incentivizing the right type of behavior. I couldn't agree with you more. I think the current process—as you very well-articulated in your testimony, it actually incentivizes inefficiency. And I think it is an incredibly flawed process. But I do want to make note even the Corps of Engineers, under their own devices, have operated in a much more efficient posture than they do in their regular construction general program. And I will give a couple of examples.

Number one is looking at timelines and dollars associated with some of their overseas projects, associated with perhaps rebuilding and other Civil Works efforts in Afghanistan and Iraq and in other countries.

Secondly—and I know that Mr. Garamendi made comment earlier on the hurricane disaster funding through the Corps of Engineers for the aftermath of Hurricane Harvey—but after Hurricane Katrina, where, literally, projects weren't even conceived, weren't even authorized, but you were given an objective and given full funding.

General, Mr. Dalton, could you comment on what you view as comparing and contrasting your existing CG authority, as compared to some of these alternative means of implementation or project delivery that you, your own organization, has carried out?

General JACKSON. Mr. Chairman, I will take the first swing at that, and then I will pass it to Mr. Dalton, who will probably give a much more eloquent response.

All of the examples that you cited all gave us upfront funding. I have been part of the work that we have done in Iraq and Afghanistan. I had all the money that I needed. I had all the permissions and approvals that I needed. All I had to do was to execute the work. So if we had projects that we didn't deliver, that was on the Corps of Engineers, and that was in areas that we internally could look at how we awarded contracts and how we administered those and how we managed quality assurance, and the like.

As I mentioned in my opening statement, with the construction account that we have now, $96 million in requirements, we get funded 1 year at a time. We don't have the ability to forecast out

to know how much we are going to get over any period of time. It makes it very difficult in a construction program that spans multiple years to be able to award contracts in an efficient manner that allows us to get the work done as efficiently as we possibly can at the least cost that we possibly can, because we can award a contract for the full duration of all the work that needs to be done, and we don't play multiple years of mobilization and demobilization costs, as we build projects in increments over the period of time that it takes to build a project. So that is, to me, the biggest change and the biggest difference.

In New Orleans, we did our NEPA process in parallel with the construction. We didn't have to do it sequentially, so we were given the ability to deliver the projects much quicker, because we did all these things as part of a much more holistic, comprehensive schedule. And that allowed us to deliver much, much more quickly than the process that we go through for a normal project, where we have to ask year after year for enough money to do the study this year, the next year, then the following year, then—to get all the new start and the construction authorization that are needed to deliver a project.

James, over to you——

Mr. GRAVES OF LOUISIANA. Before we go to Mr. Dalton, General, just real quick, you did mention the environmental that was done in a parallel process, or largely after the fact. Do you recall, or are you aware of any opposition or litigation that has been filed by environmental groups or others as a result of that alternative NEPA compliance process?

General JACKSON. Mr. Chairman, I am personally not aware that there was significant opposition, or that there has been any significant litigation. I may be wrong, but that is just my personal——

Mr. GRAVES OF LOUISIANA. Well, I got to—I don't, either. And I am not going to sit and defend the current NEPA process, but I do want to make note that I am not aware of any environmental groups, of any activist groups, or anyone who came out and said that this is inappropriate, that it is not properly quantifying impacts.

I will say that I don't like that the way that the Corps ultimately quantified the environmental impacts—I think that you undershot what the true wetlands impacts were, and I have been very clear on that. But that is not a result of the alternative arrangements, it is a result of the way that you quantified the process using the WVA versus the modified Charleston that you later implemented. So a whole other discussion.

But, Mr. Dalton, quickly.

Mr. DALTON. Yes, Mr. Chairman, I don't have a lot more to add to what General Jackson said, because I do think the funding is the key.

I think the other thing that happens in a situation like that is both the contractor and the Government understand and can see the risk out in front of them and they can manage those risks because we have upfront funding. When we don't have that upfront funding, then contractors add in the risk of if I have to shut down or if you slow me down, et cetera, and then the costs of materials and goods go up. So all of that plays into it.

I think the other thing is everybody has an attitude in something like post-Katrina that we have got to get it done. I mean there is a single focus, let's go out, let's get it done. And so risk, something I talked about earlier, I think it is something that everybody recognizes and is willing to take more of to get to that end state.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Dalton. I am going to turn to Ms. Esty.

I recognize you for 5 minutes.

Ms. ESTY. Thank you, Mr. Chairman, and I want to thank our witnesses for enduring with us through a long, but very important hearing.

In addition to being vice ranking member of this committee, I am also part of a bipartisan working group, including a number of members of this committee. And we just released a report last week on rebuilding America's infrastructure. And we focused on both ports and inland waterways, as well as on water infrastructure. And it is, in part, through that lens of 4 months of pretty intense work, including some of the organizations represented at the table and others. And we came to a number of conclusions.

One, there needs to be real funding, and it needs to be sustainable. All of you have talked about how the shortfall in funding has delayed projects, and that ends up costing the taxpayers more. And in some cases, delayed funding and failure to invest actually is harming lives, as it was in Flint. So we have a collective need to do that.

One is streamlining and, in part, what Chairman Graves was talking about right now, that if we can more effectively deliver results for the American people, that will save money and allow us to get more projects done, get them done faster.

Another is innovation.

And another is on the use of funds for which they are dedicated. And of that I am speaking in specific of the Harbor Maintenance Trust Fund, which is supposed to be a dedicated user fee and is not being used to dredge our ports or our inland waterways. Money is sitting in that account and being used for other purposes or not being used at all. And that is harming our economy, and it is actually, I would argue, endangering our national security by forcing more cross-border traffic, particularly with Mexico, that can be a conduit for drugs, guns, and other illegal activity. That is not good for us. And when we make a commitment we need to be accountable and transparent about how those funds are spent.

So, on the innovation front, I would like you to think about it and I will follow up and make sure you have got copies of this report. One of the things we are calling for is the creation of an ARPA–H2O [Advanced Research Projects Agency–Water], to have an advanced research agency within the Federal Government to assist localities such as Flint, trying to figure out how are they going to repair and upgrade their water systems and keep them safe. We now believe that water—we know that water, traditionally drinking water and wastewater, is a local responsibility, funded in part through the State revolving funds.

But we need to empower and support our local governments in making smart decisions, cost-effective decisions, and, frankly, relining of pipes from the inside. Perhaps shrinking the size so that you

can get waterflow could be one of those things. So I would welcome your thoughts and input on supporting that proposal, which we think could be cost-effective and an appropriate role for the Federal Government to take on that research responsibility, which no locality can or should have those water experts doing that.

I would like to follow up a little bit on the—and real funding, I think we can get agreement about the importance of real funding. And that has to happen, because the shortfall, as estimated by the American Society of Civil Engineers, is to be $126 billion by 2020. And even by Washington terms, that is real money. So we need to get collective responsibility here to do that.

I would like to turn with my remaining time to P3s. We expect the White House to be focusing on this as part of its proposal. I have met several times with the White House, and trying to figure out what is an appropriate role for P3s, number one, in the water realm, particularly for Federal projects, existing Federal projects as well as new, and what are things that would need to change in terms of congressional authority.

And, Ms. Jamieson, I know you have written on this and studied this, so I would like to ask you to flag where is it appropriate and not—and what would we need to do differently because, frankly, we are going to need more money than we are going to get directly funded out of this place. And there are local partners and outside groups that need to be at the table, but we understand there need to be things that change. So thank you.

Ms. JAMIESON. So it is a tough question to answer in 40 seconds, but I am going to try. So let me start with what you didn't ask, and that is about the non-Federal infrastructure.

And I would like to point out—and there has been some comments about poor and rural communities—if P3 is to be pursued, you also need to enable those poor and rural communities to leverage the benefits of it. That means we have to create some mechanisms like viability gap funding and other things that will help them make economically advantageous projects financially viable from this point of view. And so, there are tools, and I have mentioned a number of them in my writings to you.

From the Federal side, we have identified—many people have identified the constraints against using P3 for federally owned and operated infrastructure. Primarily it goes back to revenue. You need a source of repayment. So if we are going to the Treasury, then we need the authority to allow the Corps to make long-term budget commitments and have that not scored in a prejudicial manner, or we need the ability for the Corps to assess fees, collect them, and rededicate them back into the project purposes, as you have rightly pointed out, which is the whole purpose of our trust funds. But they need that flexibility to be able to do it.

Additionally, they need long-term contract authority. Many things you have already given to military and to others for military housing, for energy savings, performance contracts, Congress has done this before. I would submit that water resources deserve the same consideration.

Ms. ESTY. I see I am out of time, but I think you have a lot of interest on this committee in pursuing those kinds of innovations that will allow more money and better decisionmaking. Thank you.

Mr. GRAVES OF LOUISIANA. Thank you.

Mr. LaMalfa?

Mr. LAMALFA. Thank you again, Mr. Chairman.

Ms. Pilconis, on the—on your top 10 here that, you know, Mr. Weber had alluded to also, a lot of, I think, really wise thinking on here as far as you—you mentioned merging the section 404 and the NEPA process, concurrent use of the process of section 408 and section 404 permits, giving the Corps greater authority to run the section 404.

Could you elaborate just a little bit on how these can be accomplished with really no detriment to the environmental questions that are being asked and, indeed, how the duplicative process for several agencies or several processes are just harmful to the cost and do cause delay?

Ms. PILCONIS. OK, sure. So with regard to duplication, when the Corps is issuing its section 404 permit, or when it is undergoing the section 408 authorization, it is required to assess impacts to endangered and threatened species, and potentially undergo a section 7 consultation, look at coastal zone impacts, look at impacts to historic and cultural resources. So that is also being assessed during the NEPA process.

So potentially, you could be doing that three times, if you are doing it in NEPA, doing it in section 404, doing it in section 408. We are not suggesting that you are cutting back on your environmental assessment, nor are we saying that any of the environmental agencies should be cutting back on meeting their statutory obligations.

What we are suggesting with our top 10 is that there be a little bit more work put in upfront in realigning the way that the agencies are coming together, the way that they are engaging, the way that they are coordinating in a more productive and cooperative manner, so that during the initial NEPA process, the information is being collected that will satisfy section 404, that will satisfy section 408.

There was another top 10 that you asked me to touch on, and, I am sorry, I forget.

Oh, with regard to EPA. So with the section 404 process, it is really jointly administered in many respects between the Corps and EPA, where EPA has authority over jurisdiction, jurisdictional determinations. EPA has authority to veto a permit decision, even after the fact. EPA has the authority to elevate disputes when the Corps is making decisions on whether or not the section 404(b)(1) guidelines have been met. And so this really does and can slow down the process.

And so we ask that——

Mr. LAMALFA. So we really need one-stop shopping, and we should be able to entrust Army Corps to do that.

Ms. PILCONIS. Correct, thank you.

Mr. LAMALFA. Yes.

Ms. PILCONIS. You just succinctly put together what I was——

Mr. LAMALFA. Well, thank you. I——

Ms. PILCONIS. My mind——

Mr. LAMALFA. I got to have succinct around here. So thank you.

Mr. Inamine, elaborate a little bit on how—on that portion next to Yuba City, where a previously repaired levee some years ago used a different process and different—it wasn't a SBFCA piece. How were you able to get to that 5-week section 408 process?

I mean, obviously, the urgency was there because it was right next to the city, and you had the—how were you able to move that to a 5-week, instead of a—such a long, drawn-out process?

Mr. INAMINE. Well, as I said in my prepared testimony the three reasons. But—including the recent guidance from the Corps of Engineers to delegate all of these processes to division and district. Normally, these kinds of projects go up and down with headquarters, and you get in this endless loop that just takes forever.

In addition, you know——

Mr. LAMALFA. So maybe we entrust the district, where the knowledge is, and the——

Mr. INAMINE. Absolutely.

Mr. LAMALFA. Yes, OK.

Mr. INAMINE. But, you know, like most of these projects—and I concur with Ms. Pilconis's comment about some of the redundant permitting that is often done. We have some projects where we are going through two serial review periods. All of that goes away under the emergency declaration. So we are just taking advantage of an emergency, quite frankly.

But what it really boils down to is you really have to have—like all of these projects, like everything that we are talking about here, there is so much regulation, particularly associated with the old section 408, you really have to have a champion within the Corps, just to shove these projects through, and to run it through, dedicate resources, remove these redundancies.

There is plenty of discretion to remove these redundant or serial processes——

Mr. LAMALFA. Well, let me ask this, then. If—I hear on this committee sometimes it is a matter of funding, not a slow-down of regulatory process. So if we had $49 million or $689 million, a stack of $100 bills here, how long from that until you could actually, you know, start a project? You know, because, you know, Congress authorized this thing years ago, and yet here we still are with part of it not done.

Mr. INAMINE. So if I understand, the question is why are we——

Mr. LAMALFA. Well, we are told it is funding. But really, how much of it is regulatory slow-down?

Mr. INAMINE. Well, all of the regulatory work has been—the really—the time-consuming regulatory work has been done through the authorization process. But it is true that we are going to revisit, as in Ms. Pilconis's testimony, we are going to have to redo some of this work. You have to redo some of these consultations. And there is really—oftentimes there is just no need to do that.

We have a little project, by the way, nothing by anybody's accounting, in the Feather River. And we are doing a section 408 review, 45-day review period. And that is going to be followed by another 45-day review period by FERC. It is going to be sent to the same agencies, same thing, and that is holding things up.

Mr. LAMALFA. Same bug, same shrubs.

Mr. INAMINE. Yes.

Mr. LAMALFA. Yes. All right, thank you.

I appreciate the indulgence, Mr. Chairman.

Mr. GRAVES OF LOUISIANA. I yield to the ranking member, Mrs. Napolitano.

Mrs. NAPOLITANO. Thank you, sir.

General Jackson, in a few weeks we expect the President to send up his fiscal 2019 budget for the Corps. Members of this committee on both sides are frustrated by the lack of transparency by which the administration identifies which projects to fund—and a process that is all the more important, since it is the only way a project can receive funding under the Republican earmark moratorium.

Do you believe the process by which the administration identifies projects for inclusion is fully transparent and predictable to both local sponsors and the public?

General JACKSON. I think the process that is used is about as fair as it can be, given all the different demands on the system. We get very specific guidance on what makes a project eligible for consideration, whether it has a signed sponsorship agreement, whether it has achieved certain milestones that make it eligible for consideration, based on where it is in the project life cycle.

We try as best we can in the Corps to communicate that with sponsors, so they know what the parameters are that make a project eligible for consideration. But at the end of the day the administration has to make tough choices, based upon all the different demands that they have. And until such time that the budget is released, we in the Corps of Engineers don't even know what that is going to be, although we have provided significant amount of input into it. We get a budget back that the administration feels represents the priorities of the administration, the President, and has taken all of our input into consideration in making those tough choices.

Then we work with sponsors after the fact to help them understand what the significance is of what has happened. What does that mean for their project, in terms of do they get enough funding, not enough funding, or no funding at all? And what is our strategy?

We have to continually redevelop the funding strategies with our sponsors, based upon all the different competing demands that go into that budgeting process. That is about the only thing we can do to be more transparent, is just continue to communicate more effectively with sponsors, and help them understand, based upon benefit-cost ratio and all the things that historically have been considered to make projects budgetable, where they stand and where the likelihood of funding will be into the future.

Mrs. NAPOLITANO. Thank you. Yet yesterday the Chief of Engineers, your boss, testified on the process in the Senate and noted that the way to get a project to the top was for the local sponsors to pay more than their statutory cost share. This is very troubling to us, or at least to me, because less affluent communities may be unable to pay for them, yet they have great needs.

Even more troubling is, since the administration again holds all the cards and winners and losers in the budget process, under the current system, OMB can refuse to help a community that can only afford normal statutory cost share, because it is simply not enough. If the administration position is that communities pay for more,

can jump to the front of the line, how are the less affluent, or poorer communities, being able to compete?

General JACKSON. You raise a great question. I know the question that you refer to that General Semonite was asked in the hearing yesterday. I think it kind of goes back to the testimony and to my opening statement, and that the math problem is we don't have enough Federal appropriations. So how do we incentivize and encourage other folks to come forward, whether that is the State, locals, whether it is private investment, how do we rank the relative value of a project?

The benefit-cost ratio has typically been what we have used. But if you are a smaller, less affluent community, where the benefits monetarily are not as great, your benefit-cost ratio might not be as high as one in a more affluent area. I think that is a real challenge that I think we need to work together to figure out how to characterize the relative importance of a project. How do we define what is in the Federal interest? What does the Federal Government need to be more involved in, or less involved in? Where can we bring more funding to bear, based upon availability, or ability to pay?

And at the end of the day, how do we incentivize, as a Federal Government, all of this to be considered, and how do we reduce costs and make project delivery more effective, so it incentivizes locals to want to be more involved in getting projects delivered more quickly? Those are some of the thoughts that I have.

Mrs. NAPOLITANO. Have you started developing any guidelines?

General JACKSON. We have been having a lot of discussions, Congresswoman, about how we might be able to do that. The administration has reached out to us and asked us for some of our technical input into some things that——

Mrs. NAPOLITANO. Would you share that with us?

General JACKSON. We will when we are able to, we will definitely share that with you. Yes, ma'am.

Mrs. NAPOLITANO. Thank you. The administration position is that water resources needs of the wealthy communities are more important than smaller communities and rural communities. That could be a problem, and that is something that—we need to be sure it gets into the equation.

General JACKSON. Congresswoman, that is a discussion that we have had a lot within the administration and also with Congress. We recognize that there must be a fair way of evaluating these projects, and making sure that the right funding is brought to bear to deliver.

We recognize that the risk to smaller or less affluent communities is just as important as the risk to more affluent communities, and we have just got to figure out the right way to be able to assess that and get those projects delivered for all folks who are at risk.

Mrs. NAPOLITANO. Well, I represent several communities with small commercial harbors that are frequently overlooked for maintenance dredging dollars. Is there a reason why the administration chooses not to fund the dredging needs of those communities, despite the fact that $10 billion in Harbor Maintenance Trust Funds currently sit in a trust fund?

General JACKSON. Congresswoman, that is another great question. There are more—as you know, more dredging requirements that are out there. We don't dredge all the harbors that we are responsible for, too. And so we need to reassess and relook at all the forms of funding available, and make good informed decisions on how we can optimize all the funding that is available to get all the harbors that are eligible, open.

Mrs. NAPOLITANO. Thank you.

Mr. GRAVES OF LOUISIANA. Mr. Huffman?

Mr. HUFFMAN. Thank you, Mr. Chairman. So Major General Jackson, continuing the discussion that I was starting earlier on P3s and P4s, we know that 2014 WRRDA put together a framework for a pilot program in this area. I am interested in seeing movement because I think I have a—the poster child of opportunity in my district involving dredging in the Petaluma River, where you have got a lot of local governments and even private-sector partners ready to step up, partner with the Corps in a way that would save the Government money and work for everyone involved in a wonderful way. But we just can't seem to get moving.

Now, Ms. Jamieson is suggesting that the authorities that we have provided in the past to try to move these ideas forward aren't meaningful enough. And I think, if I am understanding her correctly, that unless we fundamentally reform the way the Harbor Maintenance Trust Fund works, for example, so that it is not subject to the annual appropriations shortfalls that—I am very sympathetic of the problem you face there.

Do you agree that, without those kind of big, fundamental reforms, we are really not going to get anywhere with these P3s and P4s? Or do you think there are some things you can do within the current system?

General JACKSON. Congressman, I think there are some things that we need to do. But Congress has been very clear. We need to get an administration policy that helps the P3s that we do develop to be able to be effectively funded and administered through the system.

One of the challenges that I found, personally, with the one P3 that we have, is that we didn't have the policy guidance to support it, we did it just through brute force to get it through, because we wanted to demonstrate that P3s work. And we have had a lot of help from Jill and other folks to help craft that.

But at the end of the day, you know, there is still a Federal obligation at the tail end of that particular P3, and it is a large amount of money still, all things considered. And it is hard to figure out how to assess that with the benefit-cost ratio that it has, in terms of how it competes with other projects in the budget cycle.

I think there is more work that needs to be done. I think that P3s and P4s are definitely part of the arsenal that we need to employ into the future. I think there are some details that we need to work out. I think these are details that we obviously need to work out with the folks that are advising us who have experience in this.

We certainly need to work out with Congress if there is any legislative tweaks that need to occur to address some of the challenges that Ms. Jamieson talked about, and we certainly need to get the

administration on board with a good, solid policy that they support that allows us to consummate these deals into the future, because I think P3s and P4s are part, again, of the arsenal that we have to employ if we are going to move forward on delivering these projects.

Mr. HUFFMAN. Ms. Jamieson, back to you, if I could. So, you know, my interest in this is I have got a shallow draft dredging project that is way behind in the cycle. It was supposed to be dredged. It is starting to shut down commerce and even recreation on the Petaluma River, and I have got a bunch of other shallow draft situations around the North Bay and the San Francisco Bay area, very similar. We would like to come together as a region, partner with the Corps, and find a way to get this done.

They have talked about creative ways to maybe go in on buying some equipment together that would save the Corps a lot of money over time, and the local Corps folks seem really interested in this. But we can just never get it going. What is your opinion of a project like that?

Do we need more changes in the way OMB scores these things, in the way the Harbor Maintenance Trust Fund works, or, you know, if we are stuck with the current framework kind of project like—that would still have a chance without an act of Congress?

Ms. JAMIESON. It is a great question. I think this is a P4 example, right?

Mr. HUFFMAN. Yes.

Ms. JAMIESON. And so the benefit that you have there is that you don't have some of the same Federal constraints, like OMB scoring, if it was a federally owned asset.

Mr. HUFFMAN. Right.

Ms. JAMIESON. California has its own legislation, you have enabling legislation to pursue P3.

The real issue becomes one of the funding stream from the Corps and their commitment to that, and how that would be budgeted. And this goes back to, I think, what the general was just saying. The request from Congress was a budget prioritization, amongst other things. We recommend in our written testimony some ways to address that, and that includes return on Federal investment, which can also take into account the poorer communities, those who need more money.

But ultimately, because Congress does not allow for multiyear appropriations, or to forward commit, your local sponsors will be going at this under the assumption that the Federal Government will be able to stand up when it is time, when they may not.

Mr. HUFFMAN. Yes.

Ms. JAMIESON. And that is what we need—that is the big disconnect——

Mr. HUFFMAN. Well, I think they are—as local governments, they are more willing to do that than a private concessionaire might be, for example.

Ms. JAMIESON. Absolutely. And don't get me wrong, a P3 is not always the right solution. I have actually talked to some of the folks about this particular project, so I am a bit familiar with it.

You know, it ultimately comes down to is there the local capacity to execute the project in the way that you can mitigate against

your own construction risks, and those sorts of things. But it comes down to where the role of the Corps is. And it is not a one-size-fits-all, but I do think that there needs to be some relief and some broader thinking of the strategies to allow for those sorts of projects to go through.

Mr. HUFFMAN. Thank you.

Mr. Chairman, thank you for your indulgence.

Mr. GRAVES OF LOUISIANA. Absolutely. Thank you. All right, I am going to go off on a diatribe. I got a few last questions and just sort of some feelings that have been bottled up here for the last few hours. But I do want to thank you all for your patience and endurance.

Mr. Dalton, a few questions before I do. Number one, I made reference to your section 408 memo, and I do want to piggyback on Mr. Davis's comments. I don't agree with the revision in authority that the Corps has come up with there, and we have discussed this at length, so I am not going to go into detail.

But in your memo you eliminate the 60-percent design threshold. I just want, for the record, that it is your intent that that doesn't mean—because you mentioned giving discretion to the districts—that doesn't mean that they can now come in and do 80 percent, that the intent was you are eliminating that and that gives them the discretion to go down. Could you please clarify?

Mr. DALTON. Mr. Chairman, that is absolutely the intent. The intent is that if we thought before we needed 60 percent design, but because you are working with folks locally, that they understand and know their project well enough to where we can probably make a decision with less than 60 percent design.

And so it may be 30 percent on one project, 20 percent on another. It might be 50 percent on a project, it just depends. But the intent is not to require more than the 60 percent.

Mr. GRAVES OF LOUISIANA. All right, districts, you hear that?

[Laughter.]

Mr. GRAVES OF LOUISIANA. Thank you very much.

Ms. Pilconis, could you clarify something? We have talked about NEPA a good bit here. If you have a project where a non-Federal entity—a State, a county, parish, what have you, a water board—is carrying out a project, and they are using only non-Federal funds, would NEPA apply in that case, in most instances?

Ms. PILCONIS. NEPA is triggered if there is a "Federal action." So it would be Federal funding, on Federal lands, or a Federal permit.

Mr. GRAVES OF LOUISIANA. And so——

Ms. PILCONIS. So if there is no Federal funding, NEPA would be triggered then if the project requires section 404 approval or section 408 approval, section 404 permit. So it is permit, license, or approval by the——

Mr. GRAVES OF LOUISIANA. And——

Ms. PILCONIS [continuing]. Federal Government——

Mr. GRAVES OF LOUISIANA. And so if Federal actions are triggered through the permitting process or through the use of Federal funds, then NEPA is triggered.

Ms. PILCONIS. Or Federal lands.

Mr. GRAVES OF LOUISIANA. But the reality is—and that is another reason why the section 408 guidance, which suddenly triggered NEPA, was additionally problematic. But in any case, the reality is that most projects that are done by non-Federals don't actually trigger a NEPA analysis.

Based on your experience, and Mr. Smith—I am sorry, I—is it—I think that—I serve on this committee, I serve on the Natural Resources Committee. I often hear Members of Congress talk about how, you know, we have got to ensure that NEPA applies, or environmental reviews are applied, because otherwise the environment is going to be trashed.

Look, you run a waterboard. You work with non-Federal clients, I am sure, through your contractors around the United States. Is it your belief that local and State governments just inherently have a desire to trash or pave the environment?

Mr. INAMINE. Absolutely not. No, we live here. And so we are not only motivated by the existential threat of flooding, in our example, but we also live in that same environment that is so assiduously protected by environmental interests. So——

Mr. GRAVES OF LOUISIANA. In an instance where NEPA didn't apply, would you have an alternative environmental review process that you would utilize?

Mr. INAMINE. Yes——

Mr. GRAVES OF LOUISIANA. Or again, even if it is not formal——

Mr. INAMINE. You know, many of our—to sort of cut to the chase, many of our issues are with redundant permissions. And I brought up an example of, frankly, an ecorestoration project. We are partnered with environmental NGOs, and what an awkward partnership that is. Flood control agency and an environmental NGO partner, trying to do an ecorestoration project that also happens to provide flood control. And yet we have to do these two same reviews out of the Federal Register, going to the same resource agencies. There is no point to this.

So it is, just within even existing law, to use a little discretion. Use a little bit of common sense to remove many of these redundancies and serial reviews that are——

Mr. GRAVES OF LOUISIANA. Thank you.

Mr. INAMINE [continuing]. Killing projects.

Mr. GRAVES OF LOUISIANA. Ms. Pilconis, do you have any experience or any thoughts on just, again, the fact that, in many cases, NEPA is not triggered, and some of the non-Federal entities you have worked with or your members have worked with, do you believe that there is an underlying intent to trash the environment?

Or have you seen—I mean I will be honest, I have heard folks come complain to us about California is more stringent. In cases, the CEPA environmental laws——

Ms. PILCONIS. And that is actually true. No, absolutely, of course not. NEPA is just one part of the process, also. And you know, our big flowchart, NEPA is just one part at the top, like one-third. The rest of it is representing the permitting process. And our chart is only representing the Federal permitting process. So you have got State environmental laws, you have got local ordinances. So there is an entire large, large, overlapping framework of environmental protections in place, aside from NEPA.

Mr. GRAVES OF LOUISIANA. Thank you. I am going to move this gavel, because Mrs. Napolitano is about to use it on me.

[Laughter.]

Mr. GRAVES OF LOUISIANA. But let me change gears before I get myself in trouble.

Ms. Jamieson, thank you again for being here. You made a number of comments about P3s, and indicated that they were not the silver bullet solution to everything, which I certainly agree with. I do want to make a point, though, that I think is—where I think P3s may be helpful.

I think there are a number of instances where there are inefficiencies that could be monetized in a way that would actually not cause additional revenue streams or tolls or other things. And I will give you a couple of examples.

Number one, we have dealt with the flood insurance program here, and I think in a flawed way, through the House of Representatives. But if you look at the instance where someone's actuarial rate—and we will make up numbers—is $100 million, cumulatively, in a community, per year, and you could make an investment of $50 million, and cut the actuarial rate in half, it is idiotic that we are continuing to pay $100 million a year in premiums, when we can make such a fractional investment at actually reducing actuarial rates. There is no connectivity between those. And it is incredibly frustrating.

Whether it is the Corps coming in and building something, FEMA, HUD, anyone, or the local community, do you believe that there are situations like that where you are not necessarily coming in and triggering additional tax or revenue stream?

Ms. JAMIESON. Absolutely. Performance-based contracting is——

Mr. GRAVES OF LOUISIANA. Is your mic on?

Ms. JAMIESON. I will get closer. Performance-based contracting—that is what that refers to—is where you capitalize savings in order to pay the contractor. And that is very common. We do that—they did it in New York City with their water utility. It is a very common modality, very similar to energy savings performance contracts, right? It is the exact same concept, but it should be more broadly enabled to allow for——

Mr. GRAVES OF LOUISIANA. And I will give another example, because we have an awful interstate bottleneck problem in my home town of Baton Rouge. You look at the amount of time that cars are sitting in traffic—as I recall, an average of 47 hours a year in Baton Rouge, Louisiana, and I think they spend—I believe, as I recall, it is over $900 in extra gasoline.

So, if you can improve the efficiency of that transportation system, you are reducing gasoline payments, you are reducing emissions into the environment, which, of course, cause health and other adverse consequences—get a little props there—and of course, you are saving time. And so, if you can monetize those efficiencies and examples like the two that I gave—and, of course, there are thousands of others—I think that P3s can play a role in some of our infrastructure solutions. Would you concur?

Ms. JAMIESON. Absolutely, Absolutely. And I would even go so far that even when you are using traditional funding, the ability to monetize and commercialize and find ancillary revenues, whether

it is air rights over existing highways and other things, that is what certain contractors are much better at than the Government, itself. And so that helps buy down the cost.

But savings-based contracts are very common, and we should be capitalizing savings and looking for those innovations.

Mr. GRAVES OF LOUISIANA. All right. Lastly, before I close up, Ms. Carter, thanks again for being here. This committee, in December, I believe it was, passed H.R. 4460. It allowed for, basically, eliminating a policy obstacle whereby FEMA Hazard Mitigation Grant funds are prohibited from being used for a Corps-authorized project. So if you get an authorization through the Corps, you are suddenly prohibited from using these hazard mitigation dollars to advance community resilience in the aftermath of a disaster.

I want to make sure I phrase this question right to where I get an actual answer. Do you believe that there are efficiencies where we could better utilize existing revenue streams to achieve some of these resiliency goals, and perhaps reduce disaster spending over the long term?

Ms. CARTER. So, in terms of opportunities to try to consolidate projects, there may be multiple approaches to flood risk management and resiliency. That would be one area where you might have some benefits of trying to get multiple Federal authorities to essentially work together.

So, for instance, the Corps does not do stormwater management, but yet that can be part of your flood control solution, right? The Corps does not necessarily often do buy-outs, but yet you can do that with HMGP funds. So at times the ability to be able to consolidate authorities and then funding from those authorities within a single, more comprehensive project is an example of how sometimes there may be efficiencies.

Mr. GRAVES OF LOUISIANA. Thank you. And I want to make note that the Corps actually does have authority to do buy-outs in a project, or relocations or nonstructural solutions, because we implement those in Louisiana all the time. And there has been a lot of misinformation related to that.

So I will say it again, thank you very much. I think that, as we move forward, I look forward to working with Mrs. Napolitano and Members on both sides of the aisle on fundamental change. I said at the beginning that these projects that we are talking about today have extraordinary urgency. Whether it is perhaps strangling the economy and some of our trade opportunities through ports and waterways, whether it is significantly increasing the cost of disaster response—and just looking at the hurricane season we had last year.

Folks often say we can't afford to build these projects. I will say we can't afford not to. We are spending exponentially more dollars responding to disasters than we would if we were proactive in moving these projects aggressively forward.

But I don't want to in any way absolve the Corps. I have often been a strong critic of the Corps processes. And General and Mr. Dalton, you both talked about some efficiencies. And certainly it is the right direction, but I can't overstate how much redoubling and tripling of those efforts needs to occur to get to a point to where it resembles anything that is reasonable.

I agree that Congress is somewhat complicit in this, in terms of funding and other things. But I will also say, as Mr. Inamine—I am trying—has noted, if the Corps is going to cost a project at $100 million, and you can turn around and build it for $20 million, we are dealing with inflated cost, we are dealing with, in some cases, prohibitive implementation, because we are never going to appropriate those kinds of dollars.

Or it makes more sense to zipper together with your non-Federal sponsor and figure out how can he or she use their capabilities to move things faster, cheaper, better, what have you, and the Corps come in and do the components that they are better equipped to do. And that doesn't happen today. Those are things that we need to be considering, as we move forward.

I want to make note in Louisiana that, under Executive Order 13807 that was mentioned earlier, we have been frustrated by the lack of this MOU moving forward and getting signed that they are working on. And I also want to urge you, as we move forward on LCA and other large-scale projects, that we look at programmatic-type permitting, as opposed to doing these individual approaches. I think we can see greater efficiencies.

And let's keep in mind these projects are designed to restore the environment, rather than causing environmental harm.

So, with that, I might have gone a minute over, and I just want to see if you have anything——

Mrs. NAPOLITANO. A slight minute. Well, I certainly think you are right, but we also need to look at increasing the funding. There is, without a doubt, that need.

Mr. GRAVES OF LOUISIANA. All right. Well, thank you all very much. And I have no further questions.

The hearing is adjourned.

[Whereupon, at 12:48 p.m., the subcommittee was adjourned.]

DEPARTMENT OF THE ARMY

U.S. ARMY CORPS OF ENGINEERS

COMPLETE STATEMENT OF

MAJOR GENERAL ED JACKSON

DEPUTY COMMANDING GENERAL, CIVIL AND EMERGENCY OPERATIONS

and

MR. JAMES DALTON

DIRECTOR OF CIVIL WORKS

BEFORE

SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

UNITED STATES HOUSE OF REPRESENTATIVES

ON

America's Water Resources Infrastructure: Approaches to Enhanced Project Delivery

January 18, 2018

Mr. Chairman and Members of the Subcommittee:

I am honored to testify before you today on the water infrastructure needs and challenges for the Nation and approaches to enhance project delivery by the U.S. Army Corps of Engineers (Corps). I am joined today by Mr. James Dalton, the Director of Civil Works for the Corps.

The U.S. Army Corps of Engineers has played a significant role in the development of the Nation's water resources. The Civil Works program of the Corps has three main missions: commercial navigation, flood and storm damage reduction, and aquatic ecosystem restoration. In this regard, the Corps works with our Nation's coastal ports to maintain their channels, operates and maintains the inland waterways, supports State and local flood risk management activities, works to restore significant aquatic ecosystems, and operates and maintains multipurpose dams, as well as the reservoirs behind them. There are about 250 million day-visits a year for recreation at Corps lands and reservoirs, making the Corps one of the top Federal recreation providers.

The infrastructure that the Corps maintains includes 13,000 miles of coastal navigation channels (including the channels of the Great Lakes), 12,000 miles of inland waterways, 715 dams, 241 locks at 195 navigation sites, 14,700 miles of levees, and hydropower plants at 75 locations with 353 generating units. These projects help provide risk reduction from flooding in our river valleys and along our coasts, facilitate the movement of approximately two billion tons of waterborne commerce, and provide up to 24 percent of the Nation's hydropower.

The Corps constructed much of this infrastructure in the first half of the twentieth century. The Corps dedicates a significant amount of its resources to maintain the key features of this infrastructure.

The Corps continues to work on policy and administrative changes that can improve infrastructure delivery. More specifically, we are looking internally at our organization, authorities, policies, regulations and procedures in order to identify opportunities for increased efficiency and effectiveness. This will include efforts to reduce redundancy and delegate authority for decision making to the most practical and appropriate level.

For example, Section 14 of the Rivers and Harbors Act of 1899, as amended, and codified in 33 USC 408 (Section 408) provides that the Secretary of the Army may, upon the recommendation of the Chief of Engineers, grant permission to other entities for the permanent or temporary alteration or use of any Corps Civil Works project. The Corps has implemented the following improvements to the Section 408 review process: delegation of Section 408 decisions to the lowest level possible (resulting in more than 95% of Section 408 decisions being made at the Corps district level) and further clarifying when Section 408 permission is required, when Section 408 permission is not required, and when the requirements of Section 408 may be met by another Corps process and/or authority (resulting in the reduction of redundancies).

Similarly, the Corps continues to make significant progress in the Regulatory program. Section 1134 of the WIIN 2016 amended Section 2040 of the Water Resources Development Act of 2007 and directed the Corps to research, develop, and implement an electronic system to allow for the electronic preparation and submission of applications for permits and requests for jurisdictional determinations. Currently the Corps accepts electronic submission of applications or jurisdictional determination requests via email and the application form is a fillable PDF available on Corps District websites. The information received helps the Corps track the number and type of applications, as well as status and completion of reviews. The Corps will continue to explore if additional automation advances could make the process more streamlined.

The Corps focuses on work that provides the highest economic, environmental, and safety returns to the Nation. The Corps also operates and maintains water resources infrastructure that may no longer meet its authorized purposes or for which the needs of the Nation have changed. As such, the Corps is conducting studies – there are currently five ongoing studies - to ascertain the viability of deauthorizing projects and removing them from the Corps inventory. Section 216 of the Flood Control Act of 1970 allows the Corps to study completed projects or their operation when found advisable due to significantly changed physical or economic conditions.

The Corps is working to complete implementation guidance for both WRRDA 2014 and WRDA 2016. For WRRDA 2014, the Corps has issued guidance for 198 provisions, which represents 98% of the 203 provisions that required guidance. Several provisions in WRRDA 2014 were amended in WRDA 2016; the implementation of these provisions has been integrated. For WRDA 2016, the Corps has completed guidance for 176 provisions, which represents 85% of the 207 provisions that required guidance. You have both my commitment and that of Mr. Dalton, to complete implementation guidance for the remaining provisions as soon as possible.

The way that we use our water resources can affect the Nation's economy, its environment, and public safety. The Corps stands ready to help in addressing the water resources challenges of the 21st Century. We look forward to working with this Committee on this very important issue.

Thank you, Mr. Chairman and Members of Subcommittee. This concludes my statement. I look forward to answering any questions you or other Members of the Committee may have.

"America's Water Resources Infrastructure: Approaches to Enhanced Project Delivery"
Subcommittee on Water Resources and Environment Hearing
Thursday, January 18, 2018, 10:00 a.m.
2167 Rayburn House Office Building
Washington, D.C.

Questions for the Record

Submitted on behalf of Chairman Garret Graves (LA-06):

1. The U.S Army Corps of Engineers (Corps) released guidance for Section 1126 of the *Water Infrastructure Improvements for the Nation Act* (WIIN) (P.L. 114-322), Title I of which is the *Water Resources Development Act of 2016* (WRDA 2016), in the spring of 2017. Since that time, interested local sponsors have been working with Corps districts and divisions on MOU's to allow them to enter into a partnership where the Corps provides technical assistance on locally led feasibility studies. However, local sponsors are being told that these MOU's are being put on hold until Corps HQ issues new clarifying guidance. What is the status of this new clarifying guidance?

Answer: No MOU's should be on hold as a result of the development of the implementation guidance. The Corps is developing implementation guidance to provide additional clarity on the provision of technical assistance to a non-federal interest undertaking a feasibility study under section 203 of WRDA 1986, as amended. The updated guidance is intended to clarify the extent of Corps technical assistance available to support such studies and is anticipated to be completed in June 2018.

2. To address concerns regarding the length of Corps studies, Congress made several changes in the *Water Resources Reform and Development Act of 2014* (WRRDA 2014) (P.L. 113-121). Among them was Section 1005, Project Acceleration, regarding environmental review process and preparation of documents to comply with the National Environmental Policy Act (NEPA). The Corps has not published implementation guidance on the Section 1005 provisions on expediting NEPA compliance for studies. What is the delay? When will this be completed?

Answer: The Corps has completed portions of the implementation guidance for Section 1005(a)(1) of WRRDA 2014 and for 1005(b) of WRRDA 2014, and is implementing them. The remaining implementation guidance for Section 1005 involves subsection 1005(a)(1), Project Acceleration. That portion of the implementation guidance is under development.

3. WRRDA 2014 made significant changes to Sections 203 and 204 of WRDA 1986. These sections allow non-federal sponsors the opportunity to study, design, and construct water resources projects using their own funding, and, in accordance with designated Corps criteria, to seek future credit or reimbursement for any non-federal funds expended that are in excess of the non-federal cost share of the project. Has the Corps begun work with any non-federal project sponsors who are taking advantage of the new sections in WRRDA 2014 on

contributed funds? Can you give us examples of the kinds of non-federal interests pursuing this?

Answer: The Corps has seen an increase in non-federal interests offering to contribute funds for the Corps to perform work. In general, the majority of the contributed funds arrangements involve maintenance dredging of navigation projects; however, the Corps also has received contributed funds for study and design efforts, as well as for construction. For example, the Corps recently executed a project partnership agreement for construction of a navigation project, with the non-Federal sponsor agreeing to provide all funds above the Section 902 maximum cost limit. Also, a non-profit entity, with the consent of the local government, will be providing contributed funds to increase the hours of lock operations.

4. Section 2002 of WRRDA 2014 made several project delivery process reforms to navigation projects on the inland and intracoastal waterways. In addition, it made the Corps carry out pilot projects to evaluate the new processes and procedures identified in this Section. To date, the Corps has yet to release implementation guidance on this Section. What is the delay? When can Congress and stakeholders utilizing the inland and intracoastal waterways system expect these important reforms be implemented?

Answer: Our implementation guidance for Section 2002(d) of WRRDA 2014, Project Delivery Process Reforms, Inland Waterways Users Board (IWUB), was finalized earlier today before the hearing. The Corps identified many of these reforms administratively. It began to implement those changes well before the Congress enacted them in WRRDA 2014.

5. As you are aware, many budgetary decisions in the Administration are made by strictly relying on the Benefit-to-Cost Ratio (BCR) of Corps projects. There have been many complaints from Members of Congress around the Nation regarding the current BCR system – many feel that it does not properly judge the benefits a project (such as reducing the risks of floods or seismic events), or fairly take into account contributions from local sponsors. The Corps and the Office of Management and Budget (OMB) have each gone on record as saying that they would work together on reforming the system. Please provide us an update on this initiative.

Answer: As new, reliable, and scientifically supported methods for estimating the benefits and costs of a proposed water resources project are developed, the Corps will consider them. For example, for riverine flooding, the Corps is working on ways to improve project formulation based on an analysis of the alternatives that may be available to reduce a risk to public safety. In some cases, it may be possible to use such metrics alongside the benefit-to-cost ratio to inform investment decisions. We continue to explore other possible options to improve how we evaluate and fund projects from initial authorization through completion of construction.

6. What is the Corps doing to improve their projects' "Value to the Nation" to improve the return on federal investment? Is the Corps considering the difference between the benefits of a project's authorized purpose and its actual operating uses? Does Corps view project benefits as they apply to a system or only on a project-specific basis?

Answer: The Corps operates its projects based on the authority provided by Congress.

7. Section 1134 of WRDA 2016 requires the Corps to research, develop, and implement an electronic system to allow the electronic preparation and submission of applications for permits and requests for jurisdictional determinations. What is the status and expected completion date of this initiative?

Answer: The Corps Regulatory Program currently provides for electronic preparation of and accepts submission of permit applications and jurisdictional determination requests via the Internet. Specifically, applicants can prepare permit applications in a fillable "pdf" form and submit that form electronically, as well as submit additional information via email or secured file transfer. The Corps is on schedule to comply with the timeframes prescribed in Section 1134 for completing the system review by December 2018 and preparing the required report by June 2019. That review and subsequent report will include information on the measures implemented and any barriers faced in carrying out the requirements of the section.

8. Section 1135 of WRDA 2016 requires the Corps to make publicly available, including on the Internet, water resources data in the custody of the Corps on the planning, design, construction, operation, and maintenance of water resources development projects; and water quality and water management of Corps projects. How will enhanced data transparency help proponents and agencies engage in water resources planning and project implementation more efficiently? What is the status and expected completion date of this initiative?

Answer: The direct access and exposure of Corps water control data in near real-time via the Corps Water Management System has facilitated streamlined engagement with other federal agencies and local partners. Proponents and agencies' water resource planning is helped by the efficient availability of Corps water control and water quality data from a single repository, which saves time and money, and increases reliability of the information through a single authoritative source. Secondary benefits include providing a feedback loop for ongoing improvements to Corps public data dissemination. In Fiscal Year 2018, further release of water quality information across additional Corps districts will occur that includes: publishing water quality studies, yearly reports, and enhanced visualizations of reservoir dissolved oxygen and temperature charts and publishing additional parameters, including gate and outlet settings.

The Corps continues to use the Access to Water Resources Data Portal that was launched in October 2015, to enhance data transparency of real-time operational status for all Corps owned and operated reservoir control projects (over 450) and stream gages (over 3,000) across all Corps district and division offices. Public access to these data is available at https://water.usace.army.mil. In addition, water control manuals and drought contingency plans used in the design, construction, operation, and maintenance of Corps projects are now available. Improvements to the web site and additional data sets will be added on an ongoing basis.

9. In Section 1009 of WRRDA 2014, the Corps was required to report on actions taken to implement provisions in 41 U.S.C. 2301, regarding the enhanced use of electronic commerce in federal procurement. How will enhanced use of electronic commerce help federal

procurement and project delivery? What is the status and expected completion date of this initiative?

Answer: The Corps advertises and solicits its requirements using electronic means and methods. The Corps is working with the Army Program Executive Office, Enterprise Information System development of the new Army Contract Writing System. Once developed and implemented, the Army Contract Writing System will allow the Corps to receive proposals electronically. The current schedule is for deployment of the Army Contracting Writing System at the Corps in 2021. The Corps is implementing the provisions in 41 U.S.C. 2301, regarding the enhanced use of electronic commerce in federal procurement. The Corps report of the actions taken to implement provisions of 41 U.S.C. 2301 is expected to be issued with the next 90 days.

10. Section 2102(a) of WRRDA 2014 amended Section 210 of the *Water Resources Development Act of* 1986 (WRDA 1986) (P.L. 99-662) to clarify how the Corps makes expenditures from the Harbor Maintenance Trust Fund (HMTF) to provide a more equitable dispersion of harbor maintenance across the Nation. Additionally, it required the Corps, in conjunction with the President's annual budget submission, to submit to Congress a report on operation and maintenance costs associated with harbors receiving HMTF expenditures and make this report publicly available. To date, we have yet to receive this report. What is the delay? What is the status and expected completion of this report?

Answer: The report is currently under review.

Submitted on behalf of Congressman Mark Sanford (SC-01):

1. Given the Administration's stated goal to encourage local project sponsors to have skin in the game when it comes to project funding, I'm concerned that the BCR formula, which is a major factor in determining if a Corps' project makes it into the President's budget, is out of date and needs to be updated. Are there efforts underway at the Corps or OMB to modernize the BCR to fit today's evolving Corps process? We want to ensure that local entities who are assuming additional risks in order to avoid delays are not going to be discouraged from doing so, as keeping these projects on time lowers overall costs and is in the best interest of American taxpayers.

Answer: As new, reliable, and scientifically supported methods for estimating the benefits and costs of a proposed water resources project are developed, the Corps will consider them. For example, for riverine flooding, the Corps is working on ways to improve project formulation based on an analysis of the alternatives that may be available to reduce a risk to public safety. In some cases, it may be possible to use such metrics alongside the benefit-to-cost ratio to inform investment decisions. We continue to explore other possible options to improve how we evaluate and fund projects from initial authorization through completion of construction.

2. A common-sense approach to updating the BCR formula would be to credit the local sponsor for securing advanced funds and only apply the BCR to the federal share of the project. This would avoid discouraging projects that have skin in the game. Do you agree that this should be considered expeditiously?

Answer: We support the use of the BCR as a performance metric, but use other performance metrics as well. Our objective is to provide the overall best value to the Nation from the civil works program as a whole, for each dollar invested, including from non-Federal sources.

Submitted on behalf of Congressman Mike Bost (IL-12):

1. ER 500-1-1 stipulates that Rehabilitation Assistance is limited to the repair or restoration of a Flood Control Works (FCW) to its pre-disaster level of protection (e.g., the actual elevation of the levee, allowing for normal settlement). The Len Small Levee in Alexander County, Illinois, is at least a five-year (varies from 50 year to five year) agricultural non-federal P.L. 84-99 levee. The Len Small Levee was breached during the Winter Floods of 2015. Unfortunately, the Corps' initial flood prevention rehabilitation survey estimated a less than one-to-one flood prevention BCR to repair the levee to its pre-disaster level of protection. If the levee isn't repaired there could be long-term impacts to navigation. Is it permissible to rehabilitate a FCW to a level of protection that is less than its pre-disaster condition, assuming a positive BCR?

Answer: The Len Small Levee was damaged in the Winter 2015/2016 flood event. The Corps has determined that the costs necessary to restore its pre-flood levee elevation exceeded the benefits. Therefore, this project was not eligible for rehabilitation under P.L. 84-99. However, the Corps is providing technical support to the levee district and the Illinois Department of Natural Resources in their efforts to execute the levee repairs.

House Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment
Complete Statement by Mike Inamine
Sutter Butte Flood Control Agency
January 18, 2018

Good morning Chairman Graves, Ranking Member Napolitano and members of the Committee. My name is Mike Inamine, Executive Director of the Sutter Butte Flood Control Agency (SBFCA). Thank you for the opportunity to update this Committee on our efforts to manage flood risk on the Feather River just below Oroville Dam in northern California. Before beginning my testimony, I wish to acknowledge Congressmen LaMalfa and Garamendi; they are true partners who have supported our region's efforts from day one and throughout this remarkable past year. I would also like to thank the Chairman for his personal interest in the US Army Corps of Engineers' (Corps) project delivery process. As I will share in my testimony, SBFCA has benefitted from recent changes implemented by the Corps and a 21st century financing approach to deliver just-in-time flood protection that will hopefully support a new start construction designation in the forthcoming Corps work plan for fiscal year 2018 (FY18).

Background

I won't revisit the agency background provided during my previous appearance before this committee, but some brief context may be useful.

The Sutter-Butte Basin (Figure 1) covers 300 square miles along the west bank of the Feather River immediately downstream of Lake Oroville, the site of the spillway failure in February 2017. The basin is home to 95,000 residents and encompasses $7 billion of damageable assets. The region has endured numerous floods, including the 1955 levee failure on the Feather River, which resulted in the deaths of at least 38 people. Numerous projects and programs have been implemented in the basin over the years to reduce flood risk, including the 36-mile, SBFCA-led Feather River West Levee Project (FRWLP) that began construction in 2013 and is now largely complete. All recent work has been funded by the State of California and a local assessment. Moreover, all work is consistent with Corps criteria and regulations, leaving just five miles of levee repairs to complete the federally authorized project. In other words, nearly 90 percent of the federal project originally authorized in 2014 has been completed at non-federal expense. If the project is given a new start designation in the 2018 work plan, the entire project can be completed within two federal fiscal years.

Expedited Section 408 Permission

When I appeared before this Committee last March, we were still regrouping in the aftermath of the near-failure of the spillways at Oroville Dam, the single most important flood control structure on the Feather River. For those of you who haven't spent much time in Northern California, it's important to note that the Feather River is the discharge channel of Oroville Spillway. My testimony at that time focused on a project-wide 408 permission that allowed

SBFCA to begin immediate repairs on the levee, again at 100 percent non-federal expense. The permission took almost two years to secure and our frustrations with the process are well documented in my earlier testimony. However, those efforts were immediately repaid, as all levees repaired by SBFCA performed well during this challenging year. Not surprisingly, the unimproved levees awaiting federal assistance--and in one case, federal permission—sustained significant damage and nearly failed.

Despite record rainfall, the Feather River water levels in 2017 were rather modest, yet damage to unimproved levees along the Feather River was significant. Typically a distressed levee undergoes two types of actions during and following a flood event. "Flood fights" consist of rapid and temporary construction that allows a distressed or failing levee to withstand the current flood event, and does not conform to an engineering standard. On the other hand, "Levee repairs," including those performed on an emergency basis, are permanent and meet current engineering standards. Levee repairs quite often require Section 408 permission as administered by the Corps. During the 2017 flood event, SBFCA and the State of California spent approximately $5 million on flood fights and another $28 million on levee repairs. I would like to highlight two locations that required flood fights and subsequent levee repairs.

The first location provides protection for 20,000 residents, as well as the major evacuation route that was used during the evacuation of 188,000 people during the Oroville Dam incident. A flood fight took place over five miles of unimproved levee, including the rapid placement of rock berms to avoid levee failure. Unsurprisingly, this site included the remaining authorized federal project that now awaits a construction new start and federal appropriations. Notably, the most deficient one-mile reach of levee was slated to be repaired by SBFCA prior to the 2017 flood season, but was delayed due to Section 408 procedures. SBFCA has since completed this critical levee repair. This year we experienced the very real public safety and financial risk associated with these types of delays in project delivery.

The second location is directly adjacent to downtown Yuba City and provides flood protection to 75,000 residents. This three-mile stretch of failing levee also required a flood fight during the 2017 flood season, followed by extensive repairs to provide reliable performance for the next flood season. 408 permission for this three-mile-long levee repair would normally take years to acquire. To their great credit, the Corps granted permission in about five weeks, facilitating the completion of a $28 million levee repair just in time for the current flood season. Again, 100 percent of this cost was at non-federal expense. This expedited 408 approval was made possible by regulatory reform underway under the leadership of Corps Civil Works Director James Dalton. Following are some important takeaways from this project that have broader implications:

1) Oroville Dam: Without the national attention paid to Oroville Dam and the declared emergency, Corps 408 permission would not have been granted in time to finish the project before the subsequent flood season.
2) Engineering and Construction: SBFCA already had a deep team of experienced design consultants and construction resources in place and working on the FRWLP, thus the

design and construction spun up rapidly. This is rarely the case for levee emergencies, particularly in rural and/or economically disadvantaged areas of the Central Valley.

3) Funding and Financing: SBFCA financed the repair with bond proceeds intended for other work, and the State of California promptly committed to reimburse SBFCA.
4) Federal Permission: In contrast to Section 404 (Clean Water Act), Section 408 lacks emergency procedures. To access the more practicable 404 process, SBFCA was put in the awkward position of mapping just enough fill areas to create an impact on Waters of the US, while avoiding undue mitigation costs. This permission system doesn't function for emergency projects – only those who "game the system" will construct the necessary repairs.

Routine Section 408 Permission

Local agencies can often execute projects that were formerly the domain of Corps Civil Works faster, cheaper and sometimes even better if only due to the high motivation of those directly protected by these projects. Delivering the large or mega-projects is clearly best left to the Corps, but 408 projects that fulfill or complement most Civil Works projects should not only be accommodated but promoted by the federal government. We were pleased and grateful for the opportunity to comment on the Director of Civil Works', Memorandum for Major Subordinate Commands and District, Subject: *Further Advancing Project Delivery Efficiency and Effectiveness of USACE Civil Works* dated June 21, 2017, as documented in our comments with our fellow California Central Valley flood agencies in the letter dated October 17, 2017. We believe these recommendations not only support the Corps' primary mission for risk reduction but also leverage the efficiencies of local agencies by delivering more project for less money.

21st Century Corps Partnerships

Despite successfully navigating a difficult 408 process and constructing the vast majority of the federally authorized project, SBFCA now struggles to secure federal funding to finish the final five miles. California flood agencies like SBFCA are models for 21st century financing partnerships within the Corps process by bringing higher percentages of non-federal money to the table and delivering timely, Corps-compliant projects. However, SBFCA's efforts are not prioritized by the federal government as the project moves from the study to the budgeting phases of implementation.

As the non-federal sponsor, SBFCA has spent $310 million to improve 36-miles of levee out of the total 41-miles of federal project authorized in 2014. What remains out of the $689 million federally authorized project is just five miles of work at a total estimated cost of $77 million. The federal cost share of the remaining project is $49 million, which essentially leverages $640 million of federal construction by non-federal sponsors—a fantastic deal by any measure. Furthermore, this calculation does not account for the early delivery of project benefits by SBFCA: since project benefits were realized years or perhaps even a decade before federal implementation, the benefit-cost ratio is significantly increased for the project. Our approach has been well received within the Administration and we are hopeful that our request for

funding to complete the federal project will be prioritized in a highly competitive environment. We are close to completing this authorized federal project, but we have exhausted our resources and simply cannot complete it without federal appropriations.

Thoughts on the Oroville Dam Incident

The Oroville spillway incident was a wake-up call for civil engineers around the world. Once again, we are reminded that infrastructure falls apart without ongoing, thoughtful investment. Just because a structure performed well for 50 years (or for levees, 150 years) is no assurance it will perform well tomorrow.

Historically, all major levee failures in our region have occurred before the water reached the top of the levee. Thus, while Oroville captured everyone's attention due to extensive media coverage and the catastrophic consequences of spillway failure, a rigorous risk assessment may well disclose that the biggest potential threat facing our community would be the sudden, unanticipated failure of the Yuba City levee in the middle of the night. This is due to the fact that dams and downstream levees are an integrated system, yet are built to wildly different standards. This disparity needs to be addressed for all public safety infrastructure before we spend limited public monies.

And finally, "stuff happens." Regardless of our preparations and planning, unexpected events will always occur. The importance of building resilience—the capacity to absorb the unexpected—into all of our major public safety structures was highlighted during this event, not only at the Oroville spillway, but throughout our imperfect and aging levee system. Whether for climate change, a spillway gate failure, changes in engineering practice, or a whole host of unknown unknowns, resiliency can and should be built into public safety infrastructure.

Path Forward

There are a number of measures that would greatly improve project delivery of important risk reduction projects, whether performed by local, State, federal or even private entities:

1) Don't rely on emergencies to get work done.
2) Public safety has already benefitted from the recent direction of Corps Civil Works Director James Dalton to delegate 408 authorities to Division and District offices. We applaud his appreciation for real-world difficulties faced by local agencies and hope to see these changes expanded and formally codified.
3) Prioritize Corps resources based on risk reduction delivered by a project. Currently, Corps Civil Works projects are prioritized over 408 projects, despite the fact that many California projects are large and strategic, delivering more public benefits and/or realizing those benefits faster than competing Civil Works projects.
4) Investment decisions would benefit from risk assessments of the entire flood control system that includes dams, levees, appurtenant structures and floodplains. At the

same time, we fully appreciate that years-long risk modeling could result in further delay of urgently needed risk reduction.

5) We look forward to implementation of the WRRDA 2014 pilot project that explores local agency construction of traditional Civil Works projects as well as other proposals to facilitate local or even private construction of these same projects.

Thank you for holding this hearing and your continued attention to these important issues.

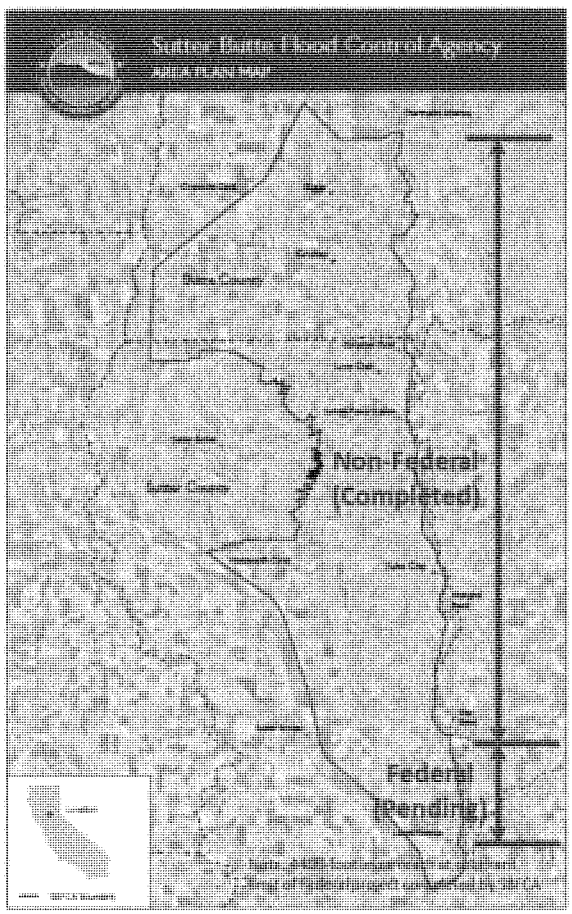

Figure 1. SBFCA Area Map showing limits of Feather River West Levee Project (Non-Federal) and Sutter Basin Flood Risk Management Project (Federal).

Statement of

Leah F. Pilconis
Senior Counsel, Environmental Law & Policy
The Associated General Contractors of America

to the

U.S. House of Representatives

Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment

For a hearing on

"America's Water Resources Infrastructure: Approaches to Enhanced Project Delivery"

January 18, 2018

AGC of America
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
Quality People. Quality Projects.

The Associated General Contractors of America (AGC) is the largest and oldest national construction trade association in the United States. AGC represents more than 26,000 firms, including America's leading general contractors and specialty-contracting firms. Many of the nation's service providers and suppliers are associated with AGC through a nationwide network of chapters. AGC contractors are engaged in the construction of the nation's commercial buildings, shopping centers, factories, warehouses, highways, bridges, tunnels, airports, waterworks facilities, waste treatment facilities, levees, locks, dams, water conservation projects, defense facilities, multi-family housing projects, and more.

2300 Wilson Boulevard, Suite 300 • Arlington, VA 22201 • Phone: (703) 548-3118

Statement of Leah F. Pilconis
The Associated General Contractors of America
Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment
United States House of Representatives
January 18, 2018

Chairman Graves, Ranking Member Napolitano and members of the subcommittee, thank you for providing the Associated General Contractors of America (AGC) with the opportunity to offer its recommendations on ways to speed up completion of America's major water infrastructure. My name is Leah Pilconis, and I am AGC's Senior Counsel on Environmental Law and Policy. One of my core functions for AGC is to monitor, summarize, and regularly comment on federal legislation and regulations that may implicate either the scope or nature of the construction industry's obligations to the environment. On behalf of AGC, I maintain liaison with the U.S. Army Corps of Engineers (USACE or Corps) and other federal agencies that interpret and enforce federal environmental laws.

As a representative of the commercial construction industry, I strive to help the federal government understand the construction process. I work closely with the in-house environmental managers of many of the nation's leading construction firms and often facilitate dialogue between interested construction company professionals and the government staff writing new permits and rules. A central goal is to better align environmental programs (mandatory and voluntary) with the construction industry's needs. Companies want to be in full compliance with environmental requirements, but the permitting process is cumbersome and uncertain. This uncertainty is driving up costs to construction firms and taxpayers in two main ways: (1) it is priced into bids; and (2) it is causing construction delays, even after the contract is awarded. AGC's goal is to build infrastructure in a way that is most efficient and done in an environmentally responsible manner and makes the best use of the taxpayer's dollars.

AGC's membership consists of more than 26,000 construction contractors, suppliers and service providers across the nation. AGC operates through a nationwide network of more than 90 chapters in all 50 states, DC, and Puerto Rico. AGC contractors are involved in all aspects of nonresidential construction and are building the nation's public and private buildings, highways, bridges, water and wastewater facilities, locks, dams, levees and other infrastructure that protects our nation from floods and keeps our waterways open to navigation.

For years, AGC has worked with this subcommittee to ensure the safe and efficient delivery of high-quality facilities and infrastructure for our nation. AGC appreciates and thanks the subcommittee for its continued efforts to help develop our nation's water resources and improve water infrastructure. By taking steps to enact a Water Resources Development Act (WRDA) in the 115th Congress and keeping this critical legislation to a regular two-year reauthorization schedule, this subcommittee is demonstrating its commitment to foster economic growth and stimulate employment.[1]

AGC also commends the subcommittee for the major legislative reforms it enacted in 2014 and 2016[2] to streamline how the federal government approves and completes infrastructure projects, as detailed in

[1] "Overall, Corps projects help to generate $109.83 billion in net annual economic benefits and generate $34.16 billion in revenue to the U.S. Treasury." S. Rept. 114-283 - WRDA 2016.

[2] For example, project acceleration provisions in WRDA 2014 amended the project streamlining requirements in Section 2045 of WRDA 2007 (P.L. 110-114, codified at 33 U.S.C. § 2348; S. 601 and H.R. 3080). Specifically, these streamlining

footnote #2. AGC hopes that its testimony will help the committee build on that progress and develop and pass the next WRDA in 2018.[3]

As my statement will discuss, the scope and breadth of environmental requirements that apply to Corps projects often represent a significant component of the project development and approval process. There is a backlog of more than 1,000 authorized water resources construction projects that will cost more than $90 billion to complete. In my testimony today, I will highlight AGC's list of 10 main opportunities for Congress to minimize delays during project planning and permitting to ensure faster delivery of critical water infrastructure projects. These opportunities include:

1. Establishing and implementing a "One Federal Decision" process for all environmental reviews and authorizations for critical infrastructure projects;
2. Merging the National Environmental Policy Act (NEPA) and Clean Water Act (CWA) Section 404 permitting processes, at the national level;
3. Reducing duplication by using the NEPA documents to satisfy permit requirements (stop re-doing studies and consults);
4. Limiting the scope of re-evaluations – there must be clear standards for determining when a previously approved environmental document needs to be redone;
5. Establishing and enforcing a two-year deadline for completing the environmental approval process for critical infrastructure projects;
6. Ensuring that the regulatory and environmental considerations under the CWA Section 404 permitting process do not create unachievable requirements;
7. Establishing more certainty upfront regarding the requirements for and availability of suitable compensatory mitigation;
8. Requiring the Corps to concurrently process the River and Harbors Act (RHA) Section 408 permission and CWA 404 permit on all infrastructure projects, as applicable;
9. Granting the Corps greater authority to run the 404 permit program; and
10. Reforming citizen suit provisions to prevent the misuse of environmental laws.

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procedures apply to projects that require an EIS: coordination plan and deadlines, dispute resolution procedures, financial penalty provisions, statute of limitations on claims, and categorical exclusions from NEPA in emergencies. The Water Infrastructure Improvements for the Nation (WIIN) Act of 2016 builds on the streamlining provisions in WRDA 2014; it amended Section 14 of the Rivers and Harbors Act (RHA) of 1899 (33 U.S.C. § 408) to provide for concurrent NEPA review along with RHA Section 408 applications. Also, when the Corps is tasked with conducting a RHA Section 408 approval *and* an approval under CWA Section 404 or RHA Section 10, for example, the Corps must carry out those review concurrently, to the maximum extent practicable, and reuse documents that address the same types of impacts in the same geographic area, at the Secretary's discretion. (P.L. 114-322 – Title I, codified at 33 U.S.C. §§ 408, 408(a); the short title of WRDA 2016, S. 2848 / HR 5303).

[3] The consequences of not enacting biennial WRDA legislation prior to 2014, and investing in the renewal of aging infrastructure, has greatly contributed to the degradation of our water resources program. The American Society of Civil Engineers gives our nation's infrastructure a D+. American Society of Civil Engineers, *2017 Report Card for America's Infrastructure* – online at https://www.infrastructurereportcard.org/wp-content/uploads/2017/10/Full-2017-Report-Card-FINAL.pdf (last visited Jan. 10, 2018).

Complexity of Environmental Issues

Dedicated and predicable funding is critical for any federal project. But even fully-funding a federal project does not mean the project can commence.[4] Construction companies cannot legally break ground on the project until all the necessary environmental approvals are granted, which can take up to a decade or more. Work can be brought to a complete stop mid-cycle if a federal regulatory agency forces a re-evaluation of the project's environmental impacts or a citizen lawsuit is filed; sometimes the latter occurs just to further delay the project.

The layering of pre-construction requirements over the decades[5] without adequate consideration of how they work in unison, has led to many projects facing years of delay before actual construction beings. Unfortunately, for large infrastructure projects (including those that are vital to navigation, flood control, aquatic ecosystem restoration and hydroelectric power), the typical environmental approval scenario plays out as follows: extremely lengthy National Environmental Policy Act (NEPA) review process (4.6 years, on average, to complete an Environmental Impact Statement (EIS)[6] and the average cost can be in the tens of millions[7]), followed by protracted federal environmental permitting process (e.g., 2.16 years and $271,596, on average, to *obtain* an individual Clean Water Act (CWA) Section 404 permit[8]) – and the list of "required" approvals goes on from there (see AGC environmental flowchart at page 16). Even after federal agencies grant environmental approvals, projects remain subject to shut down from citizen suits.

AGC has created a flowchart to diagram the dozens of federal environmental approvals needed before a construction contractor can break ground on most large infrastructure projects – see page 16 below. As AGC's chart visually illustrates, the current practice of performing sequential and often duplicative environmental reviews, after the NEPA process, is presenting massive schedule, budget and legal hurdles to project delivery. Project proponents are being forced to repeat: analyses and studies; mitigation and planning; as well as interrelated "authorizations" (i.e., certifications, consultations, consistency determinations, etc.) before commencing with construction.

WRDA-authorized water resource projects are caught on a NEPA[9] treadmill. NEPA requires federal decisionmakers to consider environmental impacts before resources are committed to a project and to

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[4] Projects funded by the American Recovery and Reinvestment Act (stimulus package) were effectively exempt from NEPA (via "categorical exclusions") to speed up project investment *and still* there were no "shovel ready" projects. In addition to the NEPA review process, there are dozens of separate environmental statutes that may apply to any one construction project – spanning many federal government agencies that each required their own permits, permissions, licenses and approvals, as explained in this statement.

[5] Specific statutory protection of the environment began more than a century ago, in 1899, when the United States passed the first federal environmental law, the Rivers and Harbors Act.

[6] U.S. Gov't Accountability Office (GAO), GAO-14-370, National Environmental Policy Act: Little Information Exists on NEPA Analyses, at 14 (2014) (stated that the average completion time for an EIS in 2012 was 4.6 years).

[7] U.S. Gov't Accountability Office (GAO), GAO-14-370, *Natianal Environmental Policy Act: Little Information Exists on NEPA Analyses*, at 14 (2014) – click here.

[8] *Rapanos v. United States*, 547 U.S. 715 (2006).

[9] The NEPA review process applies to an activity or action that: is proposed on federal lands; requires passage across federal lands; will be funded in part or in whole by federal money; or requires a federal permit, license, or other approval. For public-private-partnership (P3) projects, an agency decision to commit federal land or federal funds for development typically constitutes a major federal action sufficient to trigger NEPA. The Act requires the lead agency (e.g., the Corps) to: 1) consider the environmental, social, and economic impacts of their decisions; 2) evaluate all reasonable alternatives; 3) mitigate impacts to the extent practical; and 4) solicit comments from other agencies, stakeholders, and the public. 42 U.S.C. § 4321–4347.

provide the public an opportunity to comment on and shape the interagency review process. Corps' actions such as: the construction of major civil works projects; proposed changes in projects which increase size substantially or add additional purposes; and proposed major changes in the operation and/or maintenance of completed projects are subject to a NEPA review and "normally require an EIS".[10] (The Corps will normally be the lead agency for NEPA reviews on Corps' civil works projects and will generally avoid joint lead agency arrangements.[11]) In addition, the Corps' water resource projects also require federal environmental permits and permissions from its own Regulatory Division[12] before construction can commence. In evaluating those permit applications – under the CWA Section 404[13] or Section 10 of the Rivers and Harbors Act (RHA),[14] for example – the Corps must, once again, undergo a separate NEPA evaluation (subject to the Corps' own NEPA implementation procedures for the regulatory permit program) because the issuance of a federal permit is a "federal action" that triggers the NEPA statute.[15] A decision on a permit application will require the preparation of an EIS if the environmental effects of the permit issuance are deemed to be significant. The District Engineer will prepare a statement of findings (SOF) or, where an EIS has been prepared, a Record of Decision (ROD), on all permit decisions.[16]

What is more, inefficient, bureaucratic processes are forcing the re-evaluation of previously approved NEPA documents and permit decisions on the account of very minor adjustments to the project. For example, environmental planning documents have a limited "shelf-life" and they may need to be re-evaluated if a project is stalled (due to lack of funding, legal challenges, etc.).[17] In addition, even a relatively minor modification to the project design, footprint, or construction "means and methods" may require a NEPA re-evaluation, thus reopening the NEPA approval for another round of challenges by opponents, as further explained below.

Notably, the threat of endless litigation is forcing agencies to try to make their NEPA and Section 404 permit analyses litigation-proof. This invariably leads to excessive paperwork, duplicate consultation procedures and related inter-agency reviews, and inefficient project planning and construction phasing. As

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[10] NEPA requires the preparation of an EIS for all major *federal actions* significantly affecting the quality of the human environment. 42 U.S.C. § 4332(2)(C). *See also* 33 C.F.R. § 230.6 (Corps actions normally requiring an EIS).

[11] Lead agency status for regulatory actions will be determined based on 40 C.F.R. § 1501.5(c). *See also* 33 C.F.R. § 230.16 (Lead and cooperating agencies).

[12] The Corps' regulatory program review process includes the following authorities: Sections 9/10 of the Rivers and Harbors Act of 1899 (RHA), Section 404 the Federal Water Pollution Control Act, as amended in 1972 (commonly known as the Clean Water Act (CWA)), and Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972. Under these authorities, Corps authorization is needed for construction work performed in, over, or under a navigable water of the U.S.; for discharge of dredged or fill material into waters of the U.S., including jurisdictional wetlands; and for transportation of dredged material to the ocean for disposal. In nearly all situations, authority rests with District Commanders for permit decisions.

[13] 33 U.S.C. § 1344.

[14] 33 U.S.C. § 403.

[15] The Corps follows CEQ's NEPA regulations and further promulgated its own NEPA procedures for the Corps' programs, including the CWA Section 404 permit program. 33 C.F.R. Appendix B to Part 325 - NEPA Implementation Procedures for the Regulatory [Permit] Program. *See also* 33 CFR Part 230 – Procedures for Implementing NEPA. The CEQ's regulations require each agency to adopt implementation procedures to "supplement" its NEPA provisions. 40 C.F.R. § 1507.3(a) (2014).

[16] 33 C.F.R. § 325.2(a)(6) - Processing of applications. *See also* 40 C.F.R. § 1505.2 - Record of decision in cases requiring environmental impact statements.

[17] An EIS is prepared in two stages, a draft and final EIS. If considerable time passes after issuance of a final EIS (as may occur if significant time lapses between the time Congress authorizes project construction and appropriates funding for that construction), a supplemental EIS may be required. Typically, natural resource data (e.g., wetland delineations, invasive species surveys) is considered valid for only a few years depending on the responsible agency.

explained above, the cumbersome and uncertain process is driving up costs to construction firms and taxpayers.

AGC's Top 10 Opportunities for Reform

Enclosed with this statement please find AGC's Oct. 18, 2017, 32-page set of recent recommendations to the Corps on ways to improve its environmental review and permitting process for infrastructure projects.[18] In addition, AGC offers directly below its list of the 10 opportunities for Congress to minimize delays during project planning and permitting to ensure faster delivery of civil works projects.

1. **ONE FEDERAL DECISION: Congress should require federal agencies to follow a "One Federal Decision" process for all environmental reviews and authorizations for major infrastructure projects so there is just one NEPA review for a project that ends with a single Record of Decision (ROD) issued by the lead agency.**[19]
    - Separate NEPA reviews for a given project consume significantly more agency resources than a joint NEPA document (see #2 below) because of repeated interagency consults (endangered species, historic properties, coastal zone impacts, state water quality standard certification), repeated public comment/hearing responsibilities and increased opportunity for conflict, for example. Agencies need to stop redoing NEPA at various steps of the project development and permitting process – see the previous section for discussion the Corps NEPA analysis in permitting actions.
2. **MERGE THE PROCESSES: Congress should require a nationwide merger of the NEPA and CWA 404 permitting processes,[20] with the Corps issuing a 404 permit at the end of the NEPA review (or by a defined deadline thereafter – see #5 below), based on the information generated by the NEPA process.** Data show these processes take the longest, are the costliest, and are subject to the most disagreements. Even though WRDA 2014 states that agencies "shall carry out the[ir] obligations ... under other applicable laws concurrently and in conjunction with the required [NEPA] environmental review process" – it is not happening, because the law provides an exception if "doing so would prevent the ... agency from conducting needed analysis or otherwise carrying out those obligations."[21]
    - **Congress should revisit the Corps' NEPA regulations regarding the "scope of review" of the Corps' NEPA analyses.[22] Congress also should also revisit when a project alternative is**

[18] *See* http://newsmanager.commpartners.com/agcfed/downloads/USACE%20Reg%20Reform%20-%20AGC.pdf.

[19] President Trump's Executive Order (EO) 13807: "Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects" (Aug. 15, 2017) calls for "One Federal Decision," unless separate NEPA documents are requested by the project sponsor or a single environmental review is not the best method for the project. The President has tasked the Council for Environmental Quality (CEQ) and the Office of Management and Budget with implementing the "One Federal Decision;" the regulatory process will take years and is subject to litigation. Congress should codify this "One Federal Decision" requirement.

[20] The "2015 (update) Red Book -- Synchronizing Environmental Reviews for Transportation and Other Infrastructure Projects" describes a process that satisfies the NEPA requirements and synchronizes environmental permitting for all agencies involved.

[21] 33 C.F.R. § 2348(e)(8).

[22] 33 C.F.R. § 325, App'x B(7)(b). The Corps' "scope of review" under NEPA has been problematic in two ways: (1) individual districts have required NEPA reviews to address aspects of the project that are far beyond the scope of the activity authorized by the Corps permit; (2) environmental groups have frequently targeted the districts' NEPA decisions in

"practicable"[23] and when a practicable alternative has basis for elimination[24] – and consider repealing the "least environmentally damaging practicable alternative" or LEDPA standard[25] in the CWA § 404(b)(1) Guidelines (guidelines)[26] to allow more flexibility in project decision-making (e.g., the selection of the "preferred alternative" and the Corps' public interest review[27]) and to facilitate a successful NEPA/404 merger process.[28]

Indeed, the LEDPA analysis is too restrictive. While the NEPA alternatives analysis may form the basis of the CWA 404(b)(1) alternatives analysis, the two analyses are different. Under NEPA, the agency is required to identify its environmentally "preferred" alternative, a process which does not involve a practicability analysis. 40 C.F.R. § 1502.14(e). Because NEPA is a procedural statute only, the agency is not required to "choose" the environmentally preferred alternative. Under EPA's 404(b)(1) guidelines, however, if a less environmentally damaging practicable alternative to the proposed discharge is identified, the Corps cannot issue a CWA Section 404 permit for the proposed discharge. 40 C.F.R. § 230.10(a).

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litigation, targeting a lack of precision or clarity as to the scope of NEPA analysis (and basis for that analysis) employed by the Corps in the environmental assessment/statement of findings.

[23] An alternative is "practicable" if it is "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." *Id.* at § 230.10(a)(2). The regulations establish a presumption, for non-water-dependent projects, that practicable alternatives are available to avoid aquatic resources.

[24] In prior correspondence with the White House Council on Environmental Quality, AGC has suggested the followings "reasons" for when alternatives should be eliminated from analyses:

- Eliminate an alternative when constructability, including a significant increase in cost for specific construction methods, is beyond the budget for the proposed action.
- Eliminate an alternative when the length or size of that alternative results in significantly greater impacts than a proposed action or other alternatives.
- Eliminate an alternative when it significantly changes the location of a proposed action.
- Eliminate an alternative that is labeled as "not preferred" by an agency or commenter, and no further comments are provided by the agency or commenter regarding why the alternative would result in fewer impacts than the proposed action.
- Eliminate an alternative when the configuration of the alternative to incorporate into the main system would result in greater impacts (e.g., additional infrastructure required to support the configuration).

[25] Per EPA's "guidelines," the Corps may not issue a CWA Section 404 permit "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." 40 C.F.R. § 230.10(a). Thus, in evaluating whether to issue a Section 404 permit, the Corps must determine that there is not a "less environmentally damaging practicable alternative" to the discharge proposed by the permit.

[26] As directed by the Clean Water Act, the U.S. Environmental Protection Agency (EPA) issued "guidelines" through the notice-and-comment rulemaking process, *see* 45 *Fed. Reg.* 85336 (Dec. 24, 1980), for the placement of dredged and fill materials – *see* 33 U.S.C. § 1341(b); 40 C.F.R. § 230 – that set the environmental standards for the Corps' issuance of 404 permits. While the Guidelines are binding regulations, some flexibility in their application is contemplated and permitted. *See* 40 C.F.R. § 230.6(a). Congress could direct EPA and the Corps to update the 404(b)(1) guidelines as directed.

[27] 33 C.F.R. § 320.4(a) (the Corps' public interest review regulations require an evaluation of: "[T]he probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest." *Id.* Waterways programs foster economic development, facilitate trade and commerce, aid international competitiveness, stimulate employment, provide water recreation opportunities, enhance agricultural and industrial productivity, and augment our national defense.

[28] The substantive standards for Section 404 permits are found in EPA's Section 404(b)(1) guidelines, the Corps' public interest review regulations, and policy memoranda of the two agencies. Permits may be conditioned or denied based on these governing standards. Compliance with NEPA may also result in imposition of additional permit conditions.

- **Congress should require the lead agency on a federal NEPA review to rely on state and local environmental planning products when establishing the proposed project's "Purpose and Need" and "Range of Alternatives."** Major infrastructure projects are commonly located within metropolitan areas under the jurisdiction of state, local and regional planning entities that undertake lengthy processes to determine infrastructure priorities within their jurisdictions. It does not make sense to reopen all the work that has already been done.

3. **REDUCE DUPLICATION: To reduce duplication, the monitoring, mitigation and other environmental planning work performed during the NEPA review must satisfy federal environmental permitting requirements, unless there is a material change in the scope of the project.**[29]

   - Many CWA Section 404 (individual) permit delays stem from delays in other federal environmental permissions, authorizations, certifications, etc., required before a District Engineer will sign off on the permit application.[30] Key examples include delays and repetition with assessments/analyses under the Endangered Species Act (ESA) Section 7 consults, the National Historic Preservation Act (NHPA) authorizations Section 106 authorizations,[31] and the Coastal Zone Management Act (CZMA) consistence determinations, for example, which are a part of the NEPA process. This procedural problem can take many forms: the Corps is not fully participating in the NEPA process; the Corps is requiring a do-over because of minor modifications to project footprint or construction means and methods; the Corps is imposing different requirements to satisfy the same environmental requirements that were looked at during NEPA planning (likely stemming from each agency's unique determination of key benchmark issues such as "purpose and need" of the project or the "alternatives" selection process). **For water infrastructure projects, Congress should require the Corps to always be a cooperating agency in the NEPA process (when it is not serving as the lead agency) and, in that regard, assume the responsibility for ensuring that the above-referenced consultation**

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[29] The Council on Environmental Quality's (CEQ) regulations implementing the procedural aspects of NEPA are found at 40 C.F.R. Sections 1500–1508. The NEPA document is circulated to agencies, organizations and members of the public known to have an interest in the study. Draft and final environmental assessments (EA) and draft and final EISs and supplements are made available to the public as provided in 40 C.F.R. §§ 1502.19 and 1506.6. The final report, final EA or final EIS and the proposed Report of the Chief of Engineers (Chief's Report) is circulated to interested parties for public review and filed with the EPA pursuant to regulations of the President's Council on Environmental Quality for implementing NEPA and 40 C.F.R. §§ 1500-1508. Reviews and consultation requirements, analyses, and status of coordination required by other environmental laws, executive orders and memoranda are summarized in the draft NEPA document.

[30] While the Corps makes the Section 404 permit decision, other federal and state agencies have substantial roles in the permit application process. The result is a process that requires extensive interagency coordination. The Corps must comply with environmental review requirements under various federal laws before issuing a CWA Section 404 permits. These laws include NEPA, ESA at 16 U.S.C. §§ 1531, *et seq.*, NHPA at 16 U.S.C. §§ 470, *et seq.*, CZMA at 16 U.S.C. §§ 1451, *et seq.*, and many others. Each law has different requirements, and the Corps must ensure that all applicable requirements are satisfied before a permit is issued. The Corps' regulations include procedures for NEPA compliance (*see supra* footnote 15) and for Section 106 compliance (33 C.F.R. § 325 App. C). As reflected in those regulations, the Corps has an independent obligation to comply with those laws.

[31] Another suite of laws relates to historic and cultural protection and preservation. These laws have often elevated tribal nations' concerns. More generally, attention to how the project affects an area's cultural heritage (local communities) must be considered. These factors should be part of the EIS analysis (e.g., to identify sites of historic significance, the presence of Native American graves).

requirements are completed during the NEPA review and such consults are sufficient for the 404 federal permit authorizations.

4. **LIMIT THE SCOPE OF RE-EVALUATIONS: Congress should direct federal agencies to develop clear standards for determining what project changes warrant a re-evaluation of previously approved environmental documentation (i.e., what constitutes a material change).** Currently, projects are being delayed because minor changes or adjustments to the project design or location – or even just changes to construction means and methods (e.g., change in how diverting water flow) – will trigger another round of lengthy coordination at the federal and state level, and several more public review periods that restart the statute of limitations and give opponents more time to sue (sometimes just to stop the project). Projects also are held up when environmental field surveys (wildlife, wetlands) become "stale" and agencies require new, updated information.

5. **ESTABLISH FIRM DEADLINES: Congress should enact specific deadlines for completing the environmental permitting process as well as NEPA review deadlines, consistent with President Trump's recent order.** Executive Order 13807[32] aims to reduce environmental review and permitting time, to the extent permitted by law, to "not more than an average of approximately 2 years" following the publication of the notice of intent to prepare an EIS and all federal authorizations are complete within 90 days after the ROD. Similarly, FERC has set expeditious schedules for all federal agencies, and state agencies acting under federal delegated authority, to reach a final decision on requests for federal authorizations necessary for natural gas infrastructure projects (a 90-day deadline for other federal decisions upon the issuance of FERC's final EIS, unless a specific schedule is otherwise formally noticed by FERC).[33] **In addition, Congress should consider:**

   - Requiring the Corps to implement the financial penalty provisions enacted in WRDA 2014 that created a unique system of reprogramming a federal agency's funding if that agency missed its deadline for rendering a decision on a permit, license, or other approval;[34]
   - A broader application of the Title 41 of the Fixing America's Surface Transportation Act (FAST-41)[35] provisions that require agencies to post the schedules for federal environmental reviews on an online "Dashboard" and to update the Dashboard to reflect progress toward each schedule milestone;
   - Limiting text or page length of environmental analyses for activities that are repeated in the same fashion in like environments;
   - Establishing a standard practice wherein environmental reviews adopt material from previously completed environmental reviews from the same geographic area;[36]

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[32] *See* footnote 9.

[33] 18 C.F.R. § 157.22. FERC issued a Final Rule (Order 687) and regulations establishing the process by which it would exercise its responsibilities under Section 313 of EPAct - https://www.ferc.gov/whats-new/comm-meet/101906/C-2.pdf.

[34] 33 USC § 2348(5)(B) (sets the deadline as the later of 180 days after an application for the approval is complete; 180 days after the Corps completes the NEPA process).

[35] 42 U.S.C. § 4370(m); https://www.congress.gov/114/bills/hr22/BILLS-114hr22enr.pdf.

[36] AGC-members have observed that each project, though very similar in type and scope of work (e.g., maintenance dredging), seems to start from the beginning, with no credit given to decisions made for previous permit efforts. There is a lack of uniform standards and guidelines for regulatory agency personnel to follow, spanning all district offices. Congress should instruct the federal environmental agencies build online databases of technical information (e.g., biological opinions,

- Granting agencies specific authority to set spending limits for NEPA documents on critical infrastructure; and
- Providing federal agencies with adequate resources/tools to achieve the two-year goal for all covered projects: namely, mandatory staff training on Corps permit application procedures and protocols (there has been too much inconsistency among districts), as well as construction means and methods to better understand the real-world aspects of construction. Corps Headquarters must assert centralized control over its regulatory program to reduce uncertainties in the permitting process.

6. **PREVENT UNACHIEVABLE PERMIT REQUIREMENTS: Congress should take steps to ensure that the regulatory and environmental considerations under the CWA Section 404 permitting process DO NOT create unachievable requirements.** Depending on the nature and location of the construction project, the Corps may be required by other environmental laws to consult with other federal agencies that have jurisdiction over any affected resource or that have special expertise in determining the project's regulated impacts. Those agencies may specify limits or "conditions" under which the project may proceed and/or recommend methods to mitigate impacts to a protected resource; in accordance with the federal law(s) they administer. The Corps will include the language that results from the consultation process, in its CWA Section 404 permit.[37] Conflicts can arise from the imposition of permit conditions like seasonal work windows (limited time when dredging is allowed, relocation, avoidance) or water quality protections (restrictions or barge overflow or other types discharge limits) to protect "known" endangered species and habitat (fish/shellfish migration and spawning, bird nesting and foraging).[38] Regulatory agency personnel appear to lack perspective on how their decisions will impact a project's schedule, costs or plans and quality. Government staff are too rigidly interpreting statutory provisions without allowing any flexibility for real-world implementation issues and challenges or going above-and beyond the black letter law.[39] In interagency consultations between the Corps and FWS, contractors have observed Corps staff interpreting ESA Section 7 consult requirements even more stringently than FWS staff – at times calling for a re-evaluation of the project's CWA 404 permit conditions due to minor changes or adjustments to the project (see #4 above). This puts the permit

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previous permit conditions or mitigation requirements) so that information does not have to be gathered anew for every project operating in a similar watershed or geographic area.

[37] During the ESA Section 7 consultation projects, the U.S. Fish and Wildlife service may "condition" a 404 permit to ensure agency actions to not jeopardize listed species or destroy or adversely modify critical habitat.[37] Similarly, the Corps/permit applicants have a legal obligation to comply with the Coastal Zone Management Plan in the state where the project is located (if applicable) to the "maximum extent practicable" – or no permit can be issued. In addition, the Clean Water Act includes a process, Section 401 certification, whereby states can veto or impose conditions on a variety of federal permits, including Section 404 permits, to ensure that the permits comply with state water quality standards. *See* 33 U.S.C. § 1341.

[38] *Id.*

[39] For example, for maintenance dredging jobs located at an active Navy base, an AGC member is now required to provide the following environmental controls:

- Full time monitors on the dredge for ESA species (marine mammals, green sea turtles),
- Use of silt curtains (environmental clamshell buckets alone are not acceptable),
- Monitor water quality continuously,
- Conduct visual surveys with underwater cameras of the entire dredge area just prior to dredging to identify any endangered species or habitats (corals, eel grass), and
- Conduct continuous side-scan sonar searches for submerged ESA species.

All of these requirements were for a maintenance water job within an active Navy harbor where ships, submarines and tugboats transit daily, 365 days per year.

back in the queue for review, reopens the consult process with FWS and potentially other resource agencies, stops work on the project. For example, Corps regulatory staff may firmly impose limits on construction work (i.e., time-of-year restrictions) due to species spawning/migration seasons; however, the work window may coincide with extreme cold or when the river is flowing at its highest rate/capacity – thereby making work impossible.

- **Congress should provide clearer guidelines to Corps regulatory staff on how to interpret the ESA Section 7 consult requirements and any recommendations to prevent inconsistent and inflexible application of the environmental regulations; goal being to protect the environment but not place unreasonable restrictions on construction.** For example, Congress should direct the Corps and FWS to coordinate on the criteria for managing construction windows (i.e., timing restrictions) and mitigation requirements for resources (e.g., the Corps' wetlands vs. FWS species concerns).
- **Congress should hold the Corps accountable for how much money it spends to protect the environment, in terms of fiscal responsibility.** This could be a budget for environmental protection and the percentage allocated to each project could be variable depending on the type of work, location and other factors that would determine potential impacts to the environment.
- **If unforeseen, undisclosed listed species or critical habitat are encountered during a water resource construction project, Congress should allow the contractor to manage and resolve the issue quickly through proactive mitigation efforts.** Multi-phase, multi-year infrastructure projects can be brought to a standstill if the environmental studies surveys for ESA-species are "stale" (see #4 above – regarding the re-evaluation of environmental surveys) or protected species are newly discovered, or "listed." *(Scenario 1: Ongoing large, multi-phased infrastructure project ready to perform bridge work and listed species discovered; Section 404 permit conditions re-evaluated to push work window into June 1 to Sept. 30 timeframe, based on species spawning; schedule not possible to meet due to how high and fast river was running and project at a standstill. Scenario 2: Dredging work underway; uncover listed aquatic species not previously known; instructed to stop work for prescribed "wait period" to allow performance of surveys and biological studies.)*
- **Congress should require Corps regulatory staff to receive training on Corps permit application procedures and protocols (there has been too much inconsistency among districts), as well as construction means and methods to better understand the real-world aspects of construction.** Corps Headquarters must assert centralized control over its regulatory program to reduce uncertainties in the permitting process. Generally, AGC-members have experienced that the Corps' regulatory and environmental field staff are untrained and unfamiliar with construction activities. They are making decisions without any knowledge of the impacts to project operations and the costs associated with those impacts.

7. **<u>ADVANCE RELIABLE MITIGATION OPPORTUNITIES</u>: Congress should provide the construction industry with more certainty upfront regarding the requirements for and availability of suitable compensatory mitigation.** AGC members support coordinated mitigation planning and efforts to reduce transaction costs. We recommend greater flexibility for project sponsors to develop advanced mitigation programs (that establishes a programmatic/ standard approach that defines upfront the mitigation requirements for similar activities in similar regions) and then receive credit for this mitigation.

In addition, Congress should consider directing regulatory agencies to:

- Provide a nationwide ratio or mitigation evaluation criteria for permanent impacts at a federal level; (Note: this would require significant cooperation from the Corps and FWS.) For example, the Corps' process and its methods for determining mitigation for stream impacts results in excessive mitigation and inconsistencies across districts.
- Exempt temporary impacts from compensatory mitigation if the resource is restored to preconstruction conditions and functions at the end of the project.
- Include in the ROD conditions for species protection, mitigation plans, approved construction windows that limit the impact on species, and other related requirements – to streamline and provide consistency for permitting; facilitate agency coordination; and ensure that project limitations are realized by the owner and properly addressed by the contractor during bidding and scheduling.
- Address the lack of mitigation banking capacity in many regions of the country, by developing a national in-lieu fee mitigation option whereby sponsors of large projects may contribute funding, at mitigation market rates, to a national account when bank credits are unavailable. The funding from the national account would be apportioned among the districts base on where impacts were taken and applied toward wetlands/habitat preservation and promoting banking opportunities.

8. **CONCURRENTLY PROCESS RHA 408 AND CWA 404: Congress should require the Corps to concurrently process the River and Harbors Act (RHA) Section 408 permission and CWA 404 permit on all infrastructure projects, as applicable.** Construction projects are being delayed because of Section 408 burdens.[40] The Corps will *not even begin* to process many CWA Section 404 Nationwide and individual permits until the 408 permission is granted.[41] This means that delay on the RHA Section 408 side puts off the CWA Section 404 review process and further delays construction. And, many of the reviews required under RHA Section 408 may be reviewed, yet again, under the CWA Section 404 process.

   WRDA 2014 requires the Secretary of the Army to establish benchmark goals for "improving and expediting the planning and environmental review process (including completing Section 408 permits in a timely fashion.)[42] **Congress should set a deadline for the Corps to implement this WRDA 2014 provision.**

   WRDA 2016 states that if a review under NEPA is required, and the Corps is not the lead agency for the review, the Corps should conduct its 408 review concurrently, as a cooperating agency, using the same environmental documents. WRDA 2016 also directs the Corps to ensure coordination of other permit

[40] *See* http://www.nola.com/environment/index.ssf/2017/05/corps_attempting_to_speed_coas.html; http://www.journalscene.com/news/waiting-on-the-final-leg-of-berlin-g-myers-parkway/article_72b28f28-1309-11e7-a986-1f5ecfa794a9.html.

[41] RHA Section 14, codified at 33. U.S. C. 408, provides that the Secretary of the Army may grant permission for the alteration or use of works built by the United States when such occupation or use will not be injurious to the public interest and will not impair the usefulness of such work. As a result, the Corps requires that applicable construction projects are reviewed to determine if any of the proposed activities may affect a federal easement, right of way, property, levee, etc. Construction projects possibly subject to this process may include but are not limited to highways crossing Corps' property, bridges built over Corp's flood control projects, and simply modification of existing Corps' projects—e.g., levees—by state and local entities.

[42] 33 U.S.C. § 2348(n); *see supra* footnote 2.

reviews under RHA Sections 9/10 and CWA 404, for example, with any review under section 408.[43] **Congress should evaluate whether these provisions are being implemented to their fullest extent.**

AGC members report that the Corps has recently undertaken action to more rigorously ensure compliance with Section 408, setting forth nine steps to obtain the 408 permission.[44] Those steps include pre-coordination, written request, required documentation (including environmental compliance, if applicable), district-led Agency Technical Review (ATR), Summary of Findings, division review, HQUSACE review, notification, and post-permission oversight. In addition, the Corps needs to review the relevant project area under the requirements of NEPA (see related discussion and streamlining recommendations in #1-2 above) and other environmental statutes (e.g., the ESA, NHPA, CZMA, Marine Protection, Research and Sanctuaries Act, etc. where applicable) – see related discussion and streamlining recommendations in #3 above. The Corps must also consider factors that may be relevant to the public interest depend upon the type of Corps project being altered and may include, but are not limited to, such things as conservation, economic development, historic properties, cultural resources, environmental impacts, water supply, water quality, flood hazards, floodplains, residual risk, induced damages, navigation, shore erosion or accretion, and recreation. A "public interest" review is also part of the 404 permit issuance process, as described above. And, the evaluation must consider information received from the interested parties, including tribes, agencies, and the public. AGC is concerned that with such rigor has come redundant, administratively burdensome and inefficient 408 permission processes, especially in the broader context of federal environmental review and permitting.

AGC also recommends that Congress:

- Clarify the application of Section 408 to "works," and not undeveloped land or other features of a project, even if owned by the Corps and within the project's boundaries.
- Clarify that the jurisdiction of RHA Section 408 does not extend to alterations or improvements made or allowed by the local sponsor (non-Federal interests) to the flood control projects for which they are responsible for operation and maintenance.

9. **<u>LIMIT JOINT ADMINISTRATION OF 404 PROGRAM</u>: Congress should grant the Corps greater authority to run the 404 permit program – see footnote #45 for a detailed description of the U.S. Environmental Protection Agency's (EPA) role in the 404 program.**[45] This would promote greater consistency and certainty because project proponents would be able to rely on Jurisdictional Determinations (JDs) and Section 404 permits received from the Corps - they would not have to question whether EPA will also get involved in the permit process or disagree with the Corps' decision-making. **Congress should consider the following streamlining reforms:**

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[43] 33 U.S.C. § 408(a); *see supra* footnote 2.

[44] USACE Policy - Engineering Circular 1165-2-216.

[45] The Corps has responsibility for running the day-to-day permitting under Section 404 of the CWA. In its supporting role, EPA develops and interprets environmental criteria for evaluating permit applications; has final authority to determine the scope of geographic jurisdiction; approves and oversees state assumption; identifies activities that are exempt from permitting; reviews and comments on individual permits; has authority to prohibit, deny or restrict the use of any defined area as a disposal site (CWA Section 404(c)); can elevate specific proposed Corps permits (CWA Section 404(q)); and enforces Section 404 provisions. In addition, EPA and the Corps are standing members of the mitigation banking Interagency Review Teams (IRT), an interagency group of federal, tribal, state, and/or local regulatory and resource agency representatives that reviews documentation for, and advises the district engineer on, the establishment and management of a mitigation bank or an in-lieu fee programs.

- Eliminate the 1979 Attorney Civiletti Opinion[46] that gives EPA final authority over CWA JDs, and (by law, regulations, or executive order) give sole authority to the Corps. Also direct the agencies as follows:
  - Corps and EPA should amend the 1989 Memo of Agreement (MOA) that establishes practical divisions of responsibility for JDs.
  - Corps should revise Regulatory Guidance Letter 16-01[47] on the procedures for determining what geographic areas on a project are WOTUS.
  - Corps should accept NEPA planning-level decisions – including "wetlands determination" and "wetlands delineation" – to support advance mitigation strategies that are both more economical and more effective from an environmental stewardship perspective.
- Revisit the use of CWA Section 404(q) to dispute 404 permit decisions and request higher authority review by the Office of the Assistant Secretary of the Army for Civil Works; a re-evaluation is needed to avoid delay in individual permit applications when interagency disagreements arise.
- Remove EPA's authority to veto a final 404 permit decision made by the Corps, pursuant to CWA Section 404(c).
- Eliminate the "Interagency Review Team" for mitigation banks and authorize the Corps to review and approve banks after a simple 30-day review and comment period offered to EPA, USFWS, and NMFS. This will save considerable time, costs, and reduce staff effort which can be re-directed to expediting permit reviews or other work.

10. **REFORM CITIZEN SUIT PROVISIONS: Congress should consider a reasonable and measured approach to citizen suit reform designed to prevent the misuse of environmental laws.** All too often, as suggested throughout this statement, the construction industry is caught up in frivolous and obstructive litigation that is delaying, and sometimes defeating, proposed projects. **AGC recommends that Congress consider the following:**
    - Further shorten and standardize the statute of limitations for challenges to final NEPA decisions or claims seeking judicial review of an environmental permit, license or approval issued by a federal agency for an infrastructure project;[48]
    - Require interested parties to get involved early in a project's review process to maintain standing to sue later;

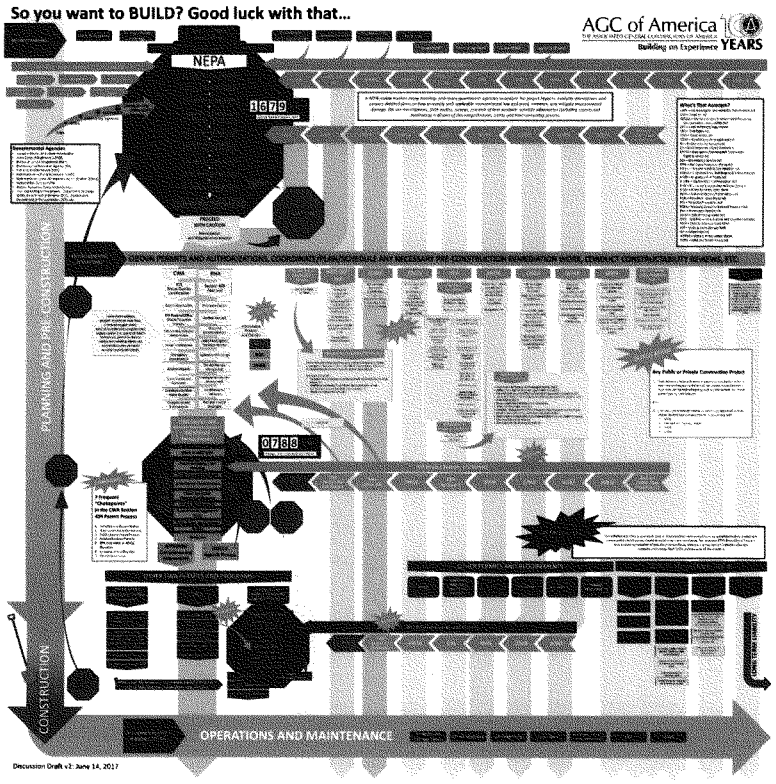
[46] *See* https://www.epa.gov/cwa-404/1979-civiletti-memorandum (last visited, Jan. 12, 2018).
[47] *See* http://www.mvr.usace.army.mil/Portals/48/docs/regulatory/RGL%2016-01%20Files/RGL%2016-01.pdf?ver=2016-11-08-114929-523 (last visited, Jan. 12, 2018).
[48] WRDA 2014 limits judicial review of a permit, license, or other approval issued by a federal agency for a project study to three years after the publication of a notice in the *Federal Register* announcing that approval. 33. U.S.C. § 2348(k). MAP-21 reduced the time limit to 150 days after publication of a notice in the *Federal Register* announcing that a permit, license or approval is final, for parties to file lawsuits that challenge agency environmental decisions regarding surface transportation projects. 23 U.S.C. § 139(l). FAST-41 reduced the statute of limitations for NEPA challenges from six to two years to provide more certainty for applicants; however, most NEPA lawsuits already are filed well within two years. However, the re-issuance of a permit or the preparation and announcement of a "supplemental" EIS, when required, restarts the clock.

- Require bonds[49] to be posted by plaintiffs seeking to block activities to reduce abuse and delay tactics that harm private parties and taxpayers; and
- Require that the enforcement of federal environmental rules on a construction site be enforced only by trained staff of government agencies -or-
    - Limit citizen suit penalties to violations of objective, numeric limitations rather than subjective, narrative standards;
    - Extend the "notice period" beyond the current 60 days (giving regulatory agencies more time to review notice of intent letters and initiate formal actions);
    - Clarify the definition of "diligent prosecution" of alleged violations, thereby allowing federal/state authorities to exercise their primacy in enforcement and preventing unnecessary citizen suit intervention.

AGC members have a considerable interest in the effort to improve the NEPA and environmental permitting processes through legislative (or administrative reform) and applaud this subcommittee for its leadership to this end. Thank you again for inviting AGC to testify before the subcommittee today. I look forward to answering any questions you may have. My contact information is below.

Leah F. Pilconis
Senior Environmental Counsel
Associated General Contractors of America
Direct: (703) 837-5332
Email: pilconisl@agc.org

[49] Possible bonding calculation methods/factors to consider: (i) liquidated damages based on "end user cost," per hour or per day; (ii) daily overhead and engineering costs to maintain project team during delays – this cost could be calculated on a per day basis; (iii) daily rate for the jobsite overhead costs; (iv) costs associated with a state acquiring specific project funding through a public bond; (v) loss of federal funds committed and not used within the determined funding period. These cost factors could be combined, based on the project and the impact of delays.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OPERATIONS AND MAINTENANCE
Discussion Draft v2: June 14, 2017

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ATTACHMENT 1: Associated General Contractors of America's Comments Regarding the U.S. Army Corps of Engineers' Evaluation of Existing Regulations (82 Fed. Reg. 33470; July 20, 2017) in Accordance with Executive Order 13777 ("Enforcing the Regulatory Reform Agenda"), Dated: October 18, 2017.

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DOCKET ID No. COE-2017-0004

Associated General Contractors of America's Comments Regarding the U.S. Army Corps of Engineers' Evaluation of Existing Regulations

(82 Fed. Reg. 33470; July 20, 2017)
in Accordance with Executive Order 13777
("Enforcing the Regulatory Reform Agenda")

Attention:
U.S. Army Corps of Engineers
Attn: CECW–CO–N (Ms. Mary Coulombe)
441 G Street, NW
Washington, DC 20314-1000

Submitted by:
The Associated General Contractors of America
Leah Pilconis, Senior Counsel, Environmental Law and Policy
2300 Wilson Boulevard, Suite 300
Arlington, Virginia 22201
703.837.5332
pilconisl@agc.org

The Associated General Contractors of America
Jordan Howard, Director, Federal and Heavy Construction
2300 Wilson Boulevard, Suite 300
Arlington, Virginia 22201
703.837.5368
jordan.howard@agc.org

Date: October 18, 2017

Associated General Contractors of America
October 18, 2017
Docket ID No. COE-2017-004

INTRODUCTION

AGC is the leading association for the construction industry, representing both union and non-union prime and subcontractor/specialty construction companies. AGC represents more than 26,000 firms including over 6,500 of America's leading general contractors and more than 9,000 specialty-contracting firms. More than 10,500 service providers and suppliers are also associated with AGC, all through a nationwide network of chapters. AGC contractors are engaged in the construction of the nation's commercial buildings, shopping centers, factories, warehouses, highways, bridges, tunnels, airports, waterworks facilities, waste treatment facilities, dams, water conservation projects, defense facilities, multi-family housing projects, site preparation/utilities installation for housing development, and more.

AGC has a unique knowledge of USACE regulations concerning construction and procurement. Based on that experience and this request, AGC puts forth the following comments for your consideration.

PART 1 - RECOMMENDATIONS TO IMPROVE ENVIRONMENTAL REVIEW AND PERMITTING FOR INFRASTRUCTURE PROJECTS

I. Problems During NEPA/Permitting Documentation Preparation and Agency Review: General Comments
II. Common, or Key, Characteristics of Streamlined Projects
III. Potential for New Administrative Actions for USACE and Interagency Partners
   A. NEPA/404 Permit Merger
   B. "Chokepoints" in CWA Section 404 Individual Permit Process
   C. Reforms to Ease "Chokepoints" in 404 Program
   D. Nationwide General Permits: Acreage Limits and Pre-Construction Notification Thresholds
   E. Clarify and Expand Exemption for Work in Roadside Ditches

PART 2 - RECOMMENDATIONS TO IMPROVE CONTRACTING WITH THE CONSTRUCTION INDUSTRY

I. Partnering
II. Improve Processing and Payment of Contract Change Orders
III. Overseas Military Construction
IV. Innovative Project Delivery Methods
V. Safety Officer Accreditations
VI. Quality Control System

CONCLUSION

APPENDIX A: FEDERAL ENVIRONMENTAL REVIEW AND PERMIT FLOWCHART

PART 1: RECOMMENDATIONS TO IMPROVE ENVIRONMENTAL REVIEW AND PERMITTING FOR INFRASTRUCTURE PROJECTS

AGC members know first-hand how to build infrastructure in a safe, effective and efficient manner. Similarly, they know the many challenges to doing just that. The federal environmental review and permitting process is one such challenge, repeatedly echoed by AGC members across the country; it is a process that is circuitous, costly and time-intensive for many infrastructure projects.

Delays in environmental review and permitting decisions, as well as lengthy procurement processes, often derail the efficient delivery of needed infrastructure projects by many years. Such delays deny the public the substantial benefits that come from a construction project: improving our economy, our competitiveness, and our quality of life.

AGC members strongly maintain that improving environmental approval processes alone, while maintaining the integrity of those processes to mitigate environmental impacts, could allow the public to receive and benefit from infrastructure projects in a timelier fashion. In addition, such improvements could generate project cost savings.

Based on significant input from AGC members, **Section I** below points to significant problems that government agencies face during document preparation and interagency reviews that bog down the National Environmental Policy Act (NEPA) process. In **Section II**, AGC points to the common, or key, characteristics of streamlined projects: those that make it through the environmental approval process in "two years, not ten."[1] In **Section III**, AGC points out several ripe, high-level opportunities for USACE and its interagency partners to strengthen existing policy and pursue new administrative actions. AGC is principally focused on a requirement to merge the NEPA and Clean Water Act (CWA) Section 404 permit processes, which would greatly expedite project decision-making and avoid duplication and procedural inefficiencies. AGC also provides a detailed "chokepoints" analysis and comprehensive recommendations that are *specific* to the 404 program.

Finally, AGC is an active member of the Washington, DC-based Waters Advocacy Coalition (WAC); that group has submitted detailed comments on existing regulations that should be considered for repeal, replacement, or modification pursuant to the President's Executive Order 13777.[2] AGC herein incorporates by reference the points raised in WAC's letter submitted to this docket.

I. Problems During NEPA/Permitting Document Preparation and Agency Review: General Comments

NEPA[3] requires the preparation of an Environmental Impact Statement (EIS) for all major *federal actions* significantly affecting the quality of the human environment. NEPA requires the project proponent and the lead agency to 1) consider the environmental, social and economic impacts of their decisions; 2) evaluate all reasonable alternatives; 3) mitigate impacts to the extent practical; and 4) solicit comments from other agencies, stakeholders and the public.[4] The Council on Environmental Quality's (CEQ) regulations implementing the procedural aspects of NEPA are found at 40 C.F.R. Sections 1500–1508.[5]

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[1] Executive Order ("EO") 13807, "Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects" (Aug. 15, 2017), sets a goal of completing the Environmental Impact Statement (EIS) within two years from the Notice of Intent (NOI) to prepare an EIS.
[2] 82 *Fed. Reg.* 33470 (Jul. 20, 2017).
[3] National Environmental Policy Act (NEPA), 42 U.S.C. § 4321–4347.
[4] *See* Federal Highway Administration's (FHWA) Environmental Review Toolkit online at https://www.environment.fhwa.dot.gov/projdev/pd3tdm.asp.
[5] The CEQ's regulations also require each agency to adopt implementation procedures to "supplement" its provisions. 40 C.F.R. § 1507.3(a) (2014).

USACE follows CEQ's NEPA regulations; further, the Corps promulgated its own NEPA procedures for the Corps' programs, including the Section 404 permit program.[6]

USACE actions that "normally require an EIS" include: feasibility reports for authorization and construction of major civil works projects; proposed changes in projects which increase size substantially or add additional purposes; and proposed major changes in the operation and/or maintenance of completed projects.[7] The Corps will normally be the lead agency for Corps' civil works projects and will normally avoid joint lead agency arrangements.[8] In addition, the issuance of a permit under CWA Section 404[9] or Section 10 of the Rivers and Harbors Act (RHA)[10] constitutes a federal action subject to the requirements of NEPA, including the preparation of an EIS if the environmental effects of the permit issuance are deemed to be significant.

AGC members have pointed to a host of technical and procedural problems that government agencies face, in general, during document preparation and interagency reviews: they inevitably lead to inconsistencies in the NEPA approval process, schedule delays and costs overruns. Such uncertainty spurs legal challenges, which can ultimately threaten the viability of the project.

Based on AGC members' first-hand experiences, technical and procedural risks typically stem from:

- Poor interagency communication (leads to missed deadlines and conflicting agency requests and responses);
- Inability of the lead agency to make timely decisions, particularly where projects are "political" or controversial;
- Lack of qualified government staff to conduct reviews (leads to delays in document review/publication and resource-agency comments that are conflicting, redundant, repetitive, or inconsistent);
- Confusion during NEPA reviews with joint lead agencies (federal and state) because not all agencies have the same directives/thresholds;
- Disagreement over the project's "Purpose and Need;"
- Insufficient "Alternative Analysis;"
- Ineffective stakeholder outreach and engagement;
- Uncertainty over the level of analytical scrutiny to apply in reviewing projects (agencies are risk averse and often choose not to pursue streamlined options out of concern that such "short-cuts" will increase litigation); and
- Complex overlay of laws and regulations that apply to infrastructure projects – *in addition to NEPA* – complicates the permitting process (*e.g.*, the number of species listed and the breadth of critical habitat identified under the Endangered Species Act grows every year).

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[6] 33 C.F.R. § 230, 53 *Fed. Reg.* 3127 (1988); 33 C.F.R. Appendix B to Part 325 (NEPA Implementation Procedures for the Regulatory Program).
[7] 33 C.F.R. § 230.6 - Actions normally requiring an EIS.
[8] 33 C.F.R. § 230.16 - Lead and cooperating agencies. Lead agency status for regulatory actions will be determined on the basis of 40 C.F.R. 1501.5(c).
[9] 33 U.S.C. Section 1344.
[10] 33 U.S.C. Section 403.

II. Common, or Key, Characteristics of Streamlined Projects

Some infrastructure projects can, and do, get through the NEPA review and permitting process in a timely and effective manner (*i.e.*, "two years, not ten").[11] What makes these projects different? What do these projects have in common that makes them "successful"? In AGC members' (and their consultants') experiences, streamlined projects possess the following common, or key, characteristics:

- A **designated leader or champion** within the lead agency who is responsible for **defining and maintaining a schedule** and advancing the process, making key decisions in a timely manner, and clearly outlining the requirements and expectations that the participating resource agencies and project sponsor/applicant need to follow;
- Early and effective **public outreach** and stakeholder engagement (potential project opponents need to be identified, engaged, and educated on the project early and regularly throughout the process);
- Effective and positive **communication between the lead agency and the project sponsor/applicant** regarding the review and permitting;
- A **defined end date** upon which all key parties agree;
- Coordinated and **concurrent NEPA review and regulatory/permitting review processes** (the applicable permit applications should be prepared in conjunction with the NEPA review);
    - Cooperating agencies acceptance, in writing, at the end of the Scoping Phase of the lead agency's determination of the project's Purpose and Need, Range of Alternatives to be analyzed, scope of any special studies, and project schedule; and
- Reliance on a **single environmental document** prepared under NEPA to satisfy federal permit requirements and approvals.
- Use **programmatic approaches/agreements** to eliminate repetitive discussions of the same issues.

Under current law, USACE has the authority to carry out many of the above-referenced elements that help to accelerate or "streamline" the delivery of a project. However, there are notable flexibilities, exceptions and qualifications built into nearly every authorized measure that allow the lead agency and participating resource agencies on a project to miss deadlines, defer assessments/analyses, and postpone the bulk of the regulatory/permitting work until after the Record of Decision (ROD).

On Capitol Hill, AGC has presented a compelling case before congressional committees in both the House and Senate for further improving the environmental review and permitting process. Urging Congress to act, AGC also created a chart (see AGC's Federal Environmental Review and Permitting Flowchart[12] in Appendix A) to illustrate the shortcomings in current laws that seek to streamline approvals for energy, transportation, water, and other "infrastructure projects." For example, the Moving Ahead for Progress in the 21st Century Act (MAP-21) and Title 41 of the Fixing America's Surface

[11] EO 13807 *supra* note 1. *See e.g.*, FHWA's "Success in Stewardship" newsletter https://www.environment.fhwa.dot.gov/strmlng/newsletters/feb16nl.pdf; "Eight Case Studies Demonstrating Successful Efforts in Environmental Streamlining." https://www.environment.fhwa.dot.gov/strmlng/casestudies/index.asp.

[12] AGC's flowchart graphically illustrates the dozens of enviro approvals needed before a contractor can break ground on most large infrastructure projects. While the Corps' regulatory program is just one piece of the puzzle, the Section 404 permit program is often one of the costlier and time consuming environmental processes and an area to look at for streamlining environmental approvals.

Transportation (FAST-41) both contain ambiguities and exceptions allowing lengthier – as well as separate and sequential – reviews and permitting.

In the face of this statutory and regulatory reality, the delays add up; and it's clear that Congress and the federal regulatory agencies can do more.

III. Potential for New Administrative Actions for USACE and Interagency Partners

AGC points to the following opportunities for USACE to take near-term action (through policy guidance or rulemaking) to improve our delivery of important infrastructure projects across the nation. In particular, a mandatory merger of the NEPA and Section 404 permitting processes would greatly expedite project decision-making and avoid duplication and procedural inefficiencies. AGC also provides a detailed "chokepoints" analysis and comprehensive recommendations that are *specific* to the 404 program.

A. NEPA/404 Permit Merger

The current process of performing sequential and often duplicative environmental reviews and permits on the same project – performed by all levels of government following the NEPA approval process – is presenting massive legal hurdles to infrastructure approvals (see AGC's Federal Environmental Review and Permitting Flowchart in Appendix A). A builder of infrastructure—whether a contractor or government agency—must seek approval not from "the government," but from a dozen or more different arms of the government. According to bonding companies that finance large public works projects, two environmental approvals are critical in rating a project's risk for bond financing. Those are the NEPA review (1,679 days, on average, to complete an EIS) and CWA Section 404 permit authorization (788 days, on average, to obtain an individual permit).[13] Obtaining these approvals prior to bonding greatly reduces risk and achieves a higher bond rating to the benefit of the project sponsor and taxpayers for public projects.

Due to the inability of project owners (*e.g.*, state departments of transportation or private developers) to obtain Section 404 permits quickly following NEPA approval, 404 permitting risk is often transferred to the construction contractor.

REFORMS: For federal transportation projects, several states have merged their NEPA and CWA Section 404 permitting processes; this should be the national standard and USACE's current regulations already point in this direction but do not go far enough.[14] (Across the nation there is considerable variation in

[13] The average applicant for an individual permit spends 788 days and $271,596 to complete the process. (And if the process is beginning with an EIS, it may take six years (or longer) until the environmental reviews are complete.) *Rapanos v. United States*, 547 U.S. 715 (2006).

[14] *See* 32 C.F.R. § 651.14(e) (2014) ("Several statutes, regulations, and Executive Orders require analyses, consultation, documentation, and coordination, which duplicate various elements and/or analyses required by NEPA and the CEQ regulations; often leading to confusion, duplication of effort, omission, and, ultimately, unnecessary cost and delay. Therefore, Army proponents are encouraged to identify, early in the NEPA process,

the usage and emphasis of merger processes.) In an integrated process, the project sponsor would submit the 404-permit application to USACE simultaneously with the publication of the draft EIS. USACE would be required to issue the 404 permit at the end of the NEPA process based on the information generated by NEPA.

Both the NEPA and Section 404 processes involve the evaluation of alternatives, the assessment of impacts to resources, and the balancing of resource impacts and project need. Conducting two processes simultaneously (or allowing the former to satisfy the latter) would greatly expedite project decision-making and avoid duplication and process inefficiencies.[15] The federal funding agency should assume a lead role in shaping the project "purpose and need" and "range of alternatives" during the NEPA review. To simplify the review process, and reduce the potential for impasses over minor changes, Congress should modify any existing requirements for lead agencies to obtain participating agencies' "concurrence" in project schedules or the adoption/use of "planning products."

More generally, and as AGC recommends below, it should be a requirement for all government agencies involved in the issuance of a federal permit for any given project to complete concurrent reviews (in conjunction with the NEPA review process) within established time periods. From the perspective of the permit applicant, a coordinated concurrent review under all major federal and state authorities avoids duplication and delays and helps to avoid potentially conflicting permit conditions or limitations (*e.g.*, differing mitigation requirements). There must be timelines and deadlines for completing the environmental permitting process as well as NEPA review deadlines.

1. Integrating CWA 404 Permitting into the NEPA Process

AGC urges the Corps to adopt nationwide procedures to ensure that its Division and District Offices always serve as a "cooperating agency" in the NEPA review process (if not already serving as the lead agency) for all projects with water or wetlands impacts. Project proponents who must comply with NEPA and CWA Section 404 permitting can integrate the steps involved in complying with the 404 regulations and permit requirements into the NEPA process. USACE should assume the responsibility for ensuring that the monitoring, wetlands delineation, mitigation planning and other environmental consultation work performed during the NEPA review (and included in the final EIS and Record of Decision documents) is sufficient to meet the 404 permit authorization requirements, without the need to re-do processes, unless there is a material change in the project.

While this will require more focus and involvement on the front end, it will streamline the entire process and ultimately reduce costs and get these important projects underway faster.

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opportunities for integrating those requirements into proposed Army programs, policies, and projects. Environmental analyses required by this part will be integrated as much as practicable with other environmental reviews, laws, and Executive Orders (40 C.F.R. § 1502.25). Incorporation of these processes must ensure that the individual requirements are met, in addition to those required by NEPA.").

[15] The "2015 (update) Red Book -- Synchronizing Environmental Reviews for Transportation and Other Infrastructure Projects" describes a process that satisfies the NEPA requirements and synchronizes environmental permitting for all agencies involved. It includes examples of successful NEPA/404 merger process agreements whereby the documentation and coordination conducted comply with NEPA and any preferred alternative selected under the joint process comply with CWA § 404(b)(1) guidelines.

Integration While Determining Lead Agency and Other Federal Resource Agencies. The practice of integrating 404 permitting into the NEPA process begins by identifying the NEPA lead agency and the permits required to carry out the project. Next, the lead agency must consider the environmental resource information that can be used to satisfy both processes. Early participation and coordination of resource agencies is needed to define the proposed project in ways to avoid hurdles in permitting later in the process:

- If the proposed project affects a water or wetland, the lead agency should contact USACE to determine what information is required for a USACE permit(s).
- The lead agency (or project proponent) should request species lists from the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), and the state department of fish and game. This early stage is also a useful time to elicit input from NMFS and USFWS and to request that they participate on an agency review team. Early and continuing participation by these agencies can reduce or eliminate the need to prepare a Fish and Wildlife Coordination Act report.
- A records search should be conducted by a cultural resources specialist to determine whether any known cultural or historic resources exist on or near the project site. This information can be used to avoid impacts on these sites when the proposed project and alternatives are designed.

Integration While Preparing Statement of Purpose/Need and Alternatives. If the proposed project will require a CWA Section 404 permit, it is important to carefully consider the CWA Section 404(b)(1) guidelines (see discussion below) when preparing a statement of project "purpose and need" and "range of alternatives." At this point in the process, the project proponent can also have the NEPA lead agency contact USFWS to determine whether the preparation of a Fish and Wildlife Coordination Act report will be required for the project.

To the extent possible, alternatives should be developed that avoid adverse impacts on listed species or critical habitat, as well as impacts to cultural resources identified on the project site, and impacts on rivers designated wild and scenic, coastal zones, among other things. If avoidance is not possible, reasonable efforts should be made to design alternatives that reduce/minimize such impacts. (Appropriate conservation measures should be included in the draft EIS to mitigate any impacts.)

Integration When Circulating Draft EIS. If a Section 404 permit application has been prepared, it can be submitted to USACE for review with a request that public review of the application be concurrent with the NEPA review period. Also, for example, if a Determination of Effects report has been prepared under NHPA Section 106, it can be submitted by the NEPA lead agency to the SHPO. If a draft Coastal Zone Management Act Consistency Determination has been prepared, it can be circulated with the EIS.

Successful Merger Examples. Many agencies already have integrated substantive 404 permitting considerations into their NEPA EIS processes. FHWA recently updated its *2015 Red Book: Synchronizing Environmental Reviews for Transportation and Other Infrastructure Projects* – which describes a process that satisfies the NEPA requirements and synchronizes environmental permitting for all agencies involved. (The Red Book is a collaborative effort among USACE, the U.S. Coast Guard, USEPA, USFWS, the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Transportation (DOT).) It includes examples of successful NEPA/404 merger process agreements that

comply with NEPA and CWA Section 404(b)(1) guidelines – see below. Earlier versions of the Red Book included similar language and state DOTs have looked to it to set up "merger agreements" on single projects or broader programmatic agreements (sometimes in the form of MOUs).[16] Such examples show that proponents can save resources they would otherwise have to expend at the permitting stage by demonstrating during the EIS process, for example, that their project is the "least environmentally damaging practicable alternative."[17]

2. Practical Alternatives Restriction in the 404(b)(1) Guidelines

NEPA requires the identification of a proposed action's "purpose and need," which helps to guide the identification of a "reasonable range" of alternatives and the evaluation of how well those alternatives satisfy the project's underlying goals. The 404(b)(1) guidelines[18] of the CWA require the identification of "overall project purpose," which also serves as the basis for an analysis of alternatives, known as the "practicable alternatives test." In the latter case, USACE may not issue a Section 404 permit "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences."[19] An alternative is "practicable" if it is "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."[20] Where special aquatic sites, including wetlands, will be affected, and the activity is not "water dependent," "practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise," and are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.[21]

REFORMS: Additional guidance or revised regulation is needed to reinstate – *and perhaps strengthen* – the Corps' longstanding flexibility in application of USEPA's 404(b)(1) guidelines. In 1993, recognizing that the impacts from discharges of dredged or fill material vary greatly, the Corps and EPA jointly issued guidance that provides that the Guidelines "do not contemplate that the same intensity of analysis will be required for all types of projects but instead envision a correlation between the scope of the evaluation and the potential extent of adverse impacts on the aquatic environment."[22] If the project's purpose is defined sufficiently narrowly, the range of alternatives that will achieve that purpose and be considered "practicable" will be narrowed as well. With respect to actions subject to NEPA, the Section 404(b)(1) guidelines specifically state:

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[16] Following are some successful NEPA/404 merger programs and project examples: California; Colorado; Kentucky; North Carolina; Southwest Light Rail Transit Project (SWLRT) Project; Tappan Zee Bridge Replacement.

[17] The documentation required to satisfy NEPA's alternatives analysis will "generally provide the information necessary for evaluating alternatives under CWA guidelines." John Schutz, *The Steepest Hurdle in Obtaining A Clean Water Act Section 404 Permit: Complying with EPA's 404(b)(1) Guidelines' Least Environmentally Damaging Practicable Alternative Requirement*, 24 UCLA J. Envt'l L. & Pol'y 235,240 n.30 (2006).

[18] The "guidelines" were issued by USEPA through the notice-and-comment rulemaking process, *see* 45 *Fed. Reg.* 85336 (Dec. 24, 1980), and are codified at 40 C.F.R. § 230.

[19] 40 C.F.R. § 230.10(a).

[20] *Id.* at § 230.10(a)(2).

[21] *Id.* at § 230.10(a)(3).

[22] *See* U.S. Army Corps of Engineers, RGL 93-02, *Guidance on Flexibility of the 404(b)(1) Guidelines and Mitigation Banking* (Aug. 23, 1993). This RGL remains valid unless superseded by subsequently issued RGLs or regulations.

> [W]here the Corps of Engineers is the permitting agency, the analysis of alternatives required for NEPA environmental documents . . . will in most cases provide the information for the evaluation of alternatives under these Guidelines. On occasion, these NEPA documents may address a broader range of alternatives than required to be considered under [the Section 404(b)(1) Guidelines] or may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines. In the latter case, it may be necessary to supplement these NEPA documents with this additional information.
>
> 40 C.F.R. § 230.10(1)(4).

Additional guidance may also be needed on when an alternative is "practicable" under 40 CFR 230.10(a)(2) and when a practicable alternative has basis for elimination.[23]

3. Define Scope of USACE's NEPA Review

As stated above, the Corps' NEPA regulations establish the procedures required by the Corps for NEPA review of permit applications. It requires the District Engineer undertaking a NEPA review to establish the scope of the NEPA document to address the impacts of the activity, or those portions of a project that the District Engineer has "sufficient control and responsibility" to require NEPA review.[24] To determine the scope, the regulations set forth several factors for the District Engineer to consider, and afford broad discretion to consider additional relevant factors. The scope of review of the Corps' NEPA analyses has become problematic in two ways. First, individual Districts have abused this discretion and have required NEPA reviews to address irrelevant aspects that are far beyond the scope of the activity authorized by the Corps permit. Second, environmental groups have frequently targeted the Districts' NEPA decisions in litigation, at times capitalizing on a lack of precision or clarity as to the scope of NEPA analysis (and basis for that analysis) employed by the Corps in the environmental assessment/statement of findings.

REFORMS: To correct this, the Corps should clarify and instruct its Districts to limit the scope of their NEPA review documents to addressing the impacts of the permitted discharge of dredge and fill material. In addition, the Corps should instruct the Districts to provide a specific explanation and justification of the NEPA scope of review for each individual permit, based on the four factors outlined in the regulations and other relevant factors. This explanation will provide a solid basis in the administrative record for this frequently litigated issue.

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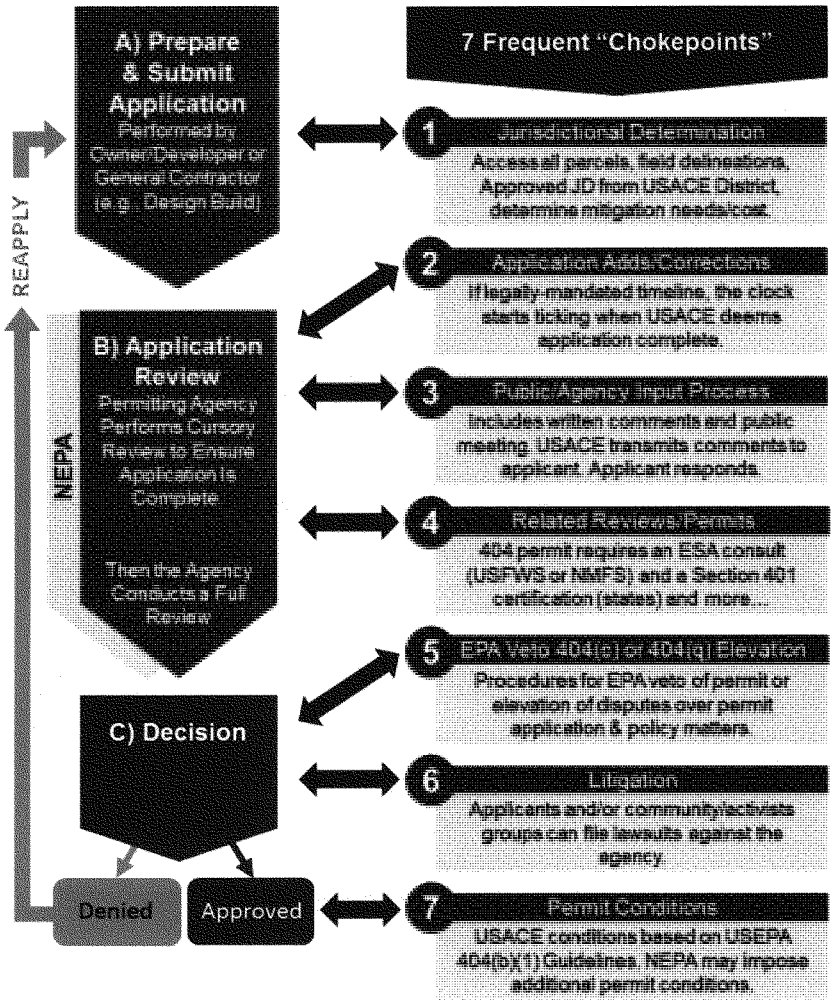
[23] For example, USACE may inquire why a transportation agency would eliminate an alternative that the transportation agency has determined meets the established purpose and need, has similar costs and number of relocations as other alternatives, but has notably fewer impacts to aquatic resources. An alternative like this would initially appear practicable and less environmentally damaging under the Section 404(b)(1) guidelines. However, if the transportation agency is able to explain to USACE how the other screening criteria are defined and weighted, such as the presence of Section 4(f) resources or non-wetland critical habitat, presence of federally listed species and designated critical habitat, system linkages, and safety, the USACE will be able to conduct a more thorough and informed analysis of which alternatives are practicable under CWA 404. 2015 Red Book at pp. 16-17.

[24] 33 C.F.R. § 325, App'x B(7)(b).

B. "Chokepoints" in CWA Section 404 Individual Permit Process



The ability to obtain Section 404 permits required for construction activities in "Waters of the United States (WOTUS)" is critical to the completion of the private and public infrastructure that forms the literal foundation of the nation's economy.[25] Therefore, administration of the Section 404 regulatory program is important not only to AGC members but to the nation as a whole. Following are details of the main chokepoints that project proponents often encounter during the permit issuance process.[26]

1. Jurisdictional Determination

For public design-build (or P3) construction projects – where the government is placing responsibility on the general contractor for environmental permitting – it is increasingly common for USACE to require 100 percent ground surveying and full delineation – along with field verification by a USACE District Engineer – before USACE will issue an Approved JD (jurisdictional determination). (Specifically, AGC members have observed that the Corps is moving away from the use of preliminary JDs in favor of Approved JDs for approving 404 permits.) Moreover, USACE staff will not accept NEPA analysis findings. More and more, USACE will not approve a 404 permit without the Approved JD. The USACE's insistence on better delineation data is holding up the permit issuance process because the general contractor does not have access to the entire project area to perform field studies until well into the construction process (for example, approval of right-of-way acquisitions). As a result, it is impossible to manage cost/risk due to the unknowns regarding project schedule and mitigation responsibilities.

2. Application Adds/Corrections

Applications for major projects requiring 404 permits rarely, if ever, are processed within the time limits set forth in the standard procedures. Agencies can work around strict timelines, including being able to start and stop the clock. If the agency's decision is that an application is incomplete or denied without prejudice, the applicant will need to resubmit it, which starts a new countdown. Added together, these many sequential clocks can create a lengthy process.

USACE's increasingly high standards for field data/delineations before it will issue a decision on an application is bringing the permitting process on some large highway projects to a standstill (see #1). Limited access on design-build projects where the contractor is required to purchase the right of way severely limits a contractor's ability to conduct field delineations in a timely manner – causing excessive delay to the project.

Deadlines also can serve as a negative reinforcement, arguing that some agency staff sit on an application until their allotted time is almost up before looking at it regardless of how minor or simple the task.

3. Public/Agency Input Process

Notice must also be sent to all parties who have specifically requested copies of public notices and to the appropriate officials at the U.S. Environmental Protection Agency (USEPA), the USFWS, the NMFS, and state historic preservation officers. When Section 404, or CWA 401 – see below, applications are

[25] These projects generally do not qualify for efficient general permitting procedures and must obtain extremely costly and time-consuming individual permits, on a project-by-project basis.
[26] The Corps' regulatory program regulations at 33 C.F.R. §§ 320-332 set forth the process for issuing Section 404 permits.

submitted, the agencies generally accept public comments regarding the applications for 30 days.[27] If, during the initial comment period, someone requests a public hearing regarding the applications, the agencies must issue another public notice scheduling a public hearing at least 30 days into the future.[28]

Public notice requirements allow project opponents another opportunity beyond NEPA to challenge and stop projects, for which (generally) no contractor relief is provided. Oftentimes, even individuals who are not directly affected by the project become involved. This is presenting an opportunity to voice tangentially related concerns, or pursue political goals or no-growth agendas, thereby forcing the permitting agencies to spend time and resources processing these concerns that ultimately do not have bearing on their permit decision.

4. Related Reviews/Permits

When a Section 404 permit application is submitted to the USACE, the agency typically routes the application to numerous other agencies for review and comment. Section 404 permit applications are routed to USEPA, the USFWS, the state environmental agency, and the state office of historic preservation. The commenting agencies have vast and varied concerns that must be addressed by the applicant. Each requires a slightly different type of alternatives analysis and demands a somewhat distinct conditions, limitations and mitigation approach.

If the concerns of the commenting agencies are not adequately addressed, one or more of the commenting agencies may recommend denying issuance of the requested permit.

Section 404 is a single permit, but it encompasses several other authorizations in a timeline of review:

- Need CWA 401 certification from state before a federal agency can issue a permit or license for an activity that may result in a discharge to WOTUS; state must certify that activity will not violate the water quality standards, or other applicable authorities, of the state (or waive Section 401 certification). [This process, in effect, allows for state control of dredge and fill activities. A state's review of the proposed construction activity will typically address feasible alternatives to the activity, initial and secondary impacts of the proposed activity, mitigation, compliance with water quality standards, stormwater/wastewater impacts, flood management, protection of rare resources, and other factors that would affect water quality.[29]]
- May need Section 408 authorization (permission from USACE under 33 U.S.C. 408 because project will alter or temporarily or permanently occupy or use a USACE-authorized civil works project).
- USACE consults with the USFWS and/or NMFS (Consultation / Biological Opinion) – Endangered Species Act (ESA) Section 7 consult – if project might affect endangered species. Under the ESA, any project with federal involvement or subject to federal oversight may not adversely affect federally listed species and habitat – otherwise mitigation strategies to minimize the impacts are required. With more than 1,400 species on the list and vast portions of the landscape designated as critical habitat, and many more species and areas of land awaiting listing and

[27] 33 C.F.R. § 325.2(d)(2).
[28] 33 C.F.R. § 327.11.
[29] The level of state responsibility, and autonomy of the state review, vary greatly, from cursory review or waiver of review (with USACE carrying most of the responsibility), to in-office review of draft USACE permits, to a full blown independent technical review by the state, assuming a significant component of program responsibility.

designation decisions, USFWS and NMFS are taking an ever-increasing role in the regulation of infrastructure projects.

- National Historic Preservation Act must account for potential impacts to historical and cultural resources (SHPO Consultation / Antiquities Permits)
- Fishery Conservation and Management Act (Essential Fish Habitat Consultations)
- Depending on location, Coastal Zone Management Act (CZMA Consistency Determination) and Wild Scenic Rivers Act
- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act

5. USEPA Veto 404(c) or 404(q) Elevation

The USEPA has the authority to prohibit, deny, or restrict the use of any defined area as a disposal site under Section 404(c), may elevate specific cases for further evaluation under Section 404(q), and enforces Section 404 provisions.

6. Litigation

Agencies are risk-averse, and sometimes choose not to pursue streamlined options out of concern that such "short-cuts" will increase litigation risk. Agencies/projects that face scrutiny from stakeholder groups want to minimize risk by gathering information, at the least to demonstrate due diligence. However, the burden of providing this political protection means asking information that applicants may not be able to obtain, or may be unwilling to share (in the case of proprietary information). Some Districts fear loss of regulatory program funding for staff as a result of having to pay for litigation. In the event litigation costs are borne out of the regulatory program budget—which also funds regulatory staff positions—such a linkage must be removed. To do otherwise feeds into the regulatory staff's need to create "litigation proof"—or endless reams of—documentation that adds further delay. The fact remains that there is no such thing as "litigation proof" documentation in today's litigious environment.

7. Permit Conditions

CWA Section 404(b) authorizes USEPA to set the environmental standards that must be met by each permit, for the disposal of dredged or fill material; USEPA's Section 404(b)(1) guidelines set out at 40 C.F.R. § 230 establish the environmental criteria for evaluating 404 permit applications. Under the guidelines, permittees must complete an alternatives analysis describing how all the practicable alternatives to the proposed project were studied, weighed, and presumably rejected for the preferred project. The agencies regularly request more data, analyses of more sites, and/or other additional information regarding the proposed project and other (presumably) available business opportunities that the applicant could pursue in lieu of the project for which a permit has been requested. The Section 404(b)(1) guidelines also establish a "mitigation sequence" used by USACE: avoid, minimize and compensate impacts.

USEPA's guidelines often are applied in a rigid one-size-fits-all manner, failing to distinguish between different types of uses or between projects with net habitat gains—despite some damage to existing low-quality habitat—from projects that were simply destructive of habitat. See AGC's recommended reforms in Part I, Section III.A.2 at page 9 of this letter.

C. Reforms to Ease "Chokepoints" in 404 Program

To help alleviate the "chokepoints" described above, AGC offers the following reforms that are *specific* to the Section 404 permit program.

1. Jurisdictional Determinations: Corp's Desire to Be "Litigation Proof" Is Unduly Delaying Permitting Process

Some USACE District Engineers *generally* will not accept wetland delineations that were developed during the NEPA process and will hold up project approvals until they have in-the-field surveys collected from the entire project site. The project may be well underway before the design-build contractor has access to 100 percent of the parcels (*e.g.*, right-of-way acquisition goes well into the project). As such, in the pursuit phase of the project, mitigation costs are unquantifiable because the quantity of WOTUS impacts and the quality of the waters impacted is unresolved. This unknown, combined with the lack of wetland bank capacity (see C.4 below), requires contractors to speculate on mitigation costs – which can reach in the hundreds of thousands of dollars per project.

These uncertainties inhibit efforts to optimize construction phasing and schedules and to minimize cost and delay.[30] What is more, design-build contracts that transfer the obtaining of Section 404 permits to the contractor generally provide no contractor cost or schedule relief for permitting delays or mitigation costs at the outset of a procurement. This forces contractors to add cost contingencies resulting in higher construction costs to the owner and/or responsible contractors dropping out of the procurement due to untenable risk.

REFORMS: USACE should follow Justice Scalia standards (rather than Kennedy standards) in *Rapanos v. United States*[31] for determining jurisdictional status. His simple bright-line rule is based on the specific characteristics of the water (or wetland), such as its physical connection to traditionally covered waters and its relative permanence. This clarity maximizes resource allocation to protect the nation's natural resources, maintains fidelity to the nation's system of federalism, and reinforces confidence in private land use and development.

AGC further recommends the following:

- Eliminate the 1979 Attorney Civiletti Opinion[32] that gives USEPA final authority over CWA jurisdictional determinations, and (by law, regulations, or executive order) give the authority exclusively to the Corps.

[30] Creates access and construction phasing issues because no impacts, temporary or permanent, can be taken until the permit is issued. Temporary crossings are held up until the permit is issued; large areas can be inaccessible due to potential WOTUS. Contractor cannot take permanent impacts to construct drainage including culvert crossings, typically a pre-cursor to other construction, and bridges which are long lead time item.

[31] 547 U.S. 715 (2006).

[32] 43 Op. Att'y Gen. 15 (1979) at https://www.epa.gov/cwa-404/1979-civiletti-memorandum. After USEPA and the Corps disagreed over which agency had authority to define the scope of WOTUS for purposes of the Section 404 program, the Corps requested the U.S. Attorney General to resolve the dispute.

- Amend the 1989 Memorandum of Agreement (MOA) between USACE and USEPA that establishes practical divisions of responsibility for jurisdictional determinations.[33] The 1989 MOA recognizes that the Corps will make most jurisdictional determinations in the course of administering the 404 program; however, USEPA reserves the authority to determine jurisdiction in "special cases" – and JD's by either agency are binding on the government as a whole. In fact, both agencies have posted online separate JD Websites.[34] This has created confusion and controversy. USACE implements the 404 program and district engineers have the experience and expertise of issuing approximately two million jurisdictional determinations; USACE should make all JDs.
- Revise USACE's Regulatory Guidance Letter (RGL) 16-01 on the procedures for determining what geographic areas on a project are WOTUS.

In addition, AGC strongly maintains that USACE and other federal permitting agencies should accept NEPA planning-level decisions – including "wetlands determination" and "wetlands delineation" – to support advance mitigation strategies that are both more economical and more effective from an environmental stewardship perspective. To this end, the use of remote sensing, geographic information systems (GIS) mapping software, and decision support systems for evaluating conservation strategies have made it possible to evaluate areas where WOTUS impacts must be avoided and identify areas for mitigation investments very early in the environmental planning process. USACE should revise its guidance documents to clearly state that the potential permit applicant can obtain a Section 404 individual or Nationwide Permit authorization based on a preliminary JD, or even without a JD, at the project proponent's discretion.[35]

2. 404 Related Reviews/Permits: Excessive Consult Requirements Are Forcing Sequential Reviews by Multiple Agencies and Duplicative Requests for Project-Specific Information

USACE's obligation to consult with other agencies on CWA 404 permit applications arises from several legal sources. USACE's regulations recognize that many additional federal laws are related or applicable to Section 404 permits.[36] For example, USFWS has statutory consultation rights under the FWCA and the ESA.[37] Through consultation, however, the processing of permit applications is often delayed by the need for complete coordination with other federal agencies. Applicants are generally asked to provide additional information, beyond what was originally submitted, to enable the Corps to satisfy or resolve

[33] Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency Concerning the Determination of the Geographic Jurisdiction of the Section 404 Program and the Application of the Exceptions Under Section 404(f) of the Clean Water Act (Jan. 19, 1989) [hereinafter 1989 MOA].
[34] USEPA CWA Approved JD's Website - https://watersgeo.epa.gov/cwa/CWA-JDs/ and USACE Regulatory Programs and Permits Website – Corps JD Public Interface http://corpsmapu.usace.army.mil/cm_apex/f?p=340:11:0::NO.
[35] The Corps, in RGL 16-01, does not specify any circumstances that require the property owner, developer, or affected party to obtain a JD. Nor does it state if there are circumstances when the Section 404 permit applicant can obtain the permit without a JD. (For example, if contractor cannot get 100 percent access to property until right-of-way is purchased, USACE should use wetland delineations done for NEPA to process 404 permit application.)
[36] 33 C.F.R. § 320.3.
[37] 16 U.S.C. §§ 661-666c; 16 U.S.C. §§ 1531-1544.

the views of the consulting agencies. Further, USEPA has the authority under Section 404(c) to review individual permits, further explained in #3 below.[38]

Section 404(q) Memorandum of Agreements (MOA). Pursuant to Section 404(q), the Corps has executed and, from time to time, revised MOAs with USEPA, USFWS, and NOAA within the Department of Commerce. The MOAs establish procedures and time frames for elevating disputes over both specific permit applications and general policy matters.[39]

REFORMS: USACE must revisit how USEPA, USFWS, and NOAA are using Section 404(q) to dispute 404 permit decisions and request higher authority review by the Office of the Assistant Secretary of the Army for Civil Works; a reevaluation is needed to avoid delay in individual permit applications when interagency disagreements arise. Specifically, USACE should revise the series of interagency MOAs executed in 1992 (between the Corps and the other environmental resource agencies involved in 404 permitting) that provide distinct routes for elevation of policy issues and issues involving specific permit applications. (These MOAs are essentially the same in terms of the process and time frames for elevation.) For the most part, 404(q) has had no appreciable value, either to the proposed project/activity or environmental protection, because most elevation requests do not involve aquatic resources of national importance or unacceptable and substantial impacts to those aquatic resources.

In addition, USACE should re-evaluate and update RGL 92-01, *Federal Agencies Roles and Responsibilities* (May 12, 1992), as needed, based on any changes made to the above-referenced MOAs. While the Corps consults with EPA, the USFWS, and NOAA as part of the permit review process, the Corps retains the ultimately authority to decide whether to issue or deny the Section 404 permit.

Historic Properties. Pursuant to Section 106 of the National Historic Preservation Act (NHPA)[40] and the Corps' regulations, 33 C.F.R. Section 325 Appendix C - Procedures for the Protection of Historic Properties the Corps must take into account "the effects, if any, of proposed undertakings on historic properties both within and beyond the waters of the U.S." Further, where the undertaking that is the subject of a permit action may directly and adversely affect any national historic landmark, as defined in the NHPA,[41] the Corps shall, to the maximum extent possible, place conditions in permits to minimize harm to such landmarks.[42] Archaeological sites may also be protected historic properties.

In making these determinations the Corps must consult with the applicable state historic preservation officers and the Federal Advisory Council on Historic Preservation (ACHP or Advisory Council). If there are properties on or eligible for listing on the National Register of Historic Places,[43] and if the permitted activities will have an adverse effect on the places, the parties must attempt to enter into an MOA[44] that contains provisions specifying how the project will be conducted to avoid or mitigate adverse effects on

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[38] 33 U.S.C. § 1344(c).
[39] *See e.g.*, Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army, Concerning Clean Water Act Section 404(q) (Aug. 11, 1992) at https://www.epa.gov/cwa-404/clean-water-act-section-404qmemorandum-agreement.
[40] 16 U.S.C. § 470f (1988).
[41] 36 C.F.R. § 800.2(j).
[42] *Id.*
[43] *See* 36 C.F.R. § 800.4(b).
[44] 36 C.F.R. § 800.5(e)(2).

the properties. If no agreement is reached, the Corps may request comments from the Advisory Council. However, the Corps can proceed with the action without accepting the views of the Advisory Council. The commenting authority is extensive, however, and delays caused by reviewing effects on historic properties may defeat a project. In addition, district engineers may add those permit conditions which they determine are necessary to avoid or reduce effects on historic properties.

REFORMS: By new law, amended regulation, or Executive Order, declare that Appendix C, Historic Properties, the regulation used by the Corps to comply with Section 106 of the NHPA, is an agency "Program Alternative" fully compliant with 36 C.F.R. Section 800, thereby ending confusion and controversy, saving considerable time, costs, and litigation, and avoiding arguments over inappropriately expanded scopes of analysis. [Note: In 1979 the ACHP stated in a letter that they collaborated on drafting Appendix C and that it satisfies 106 requirements.] By law, eliminate the ACHP's independent federal agency status and put them under another federal agency to add discipline and save the costs of significant delays caused by unnecessary and often political controversies that delay projects or involved disputes over expanded permit areas and project scopes (areas of potential effect). In addition, remove the National Trust for Historic Preservation from the Advisory Council on Historic Preservation; they frequently sue federal agencies on Section 106 issues, and therefore, there is a strong perception that they cannot be an objective, fair, and neutral member of the Council.

Endangered Species. The Corps must also consider the effect of permit activities on endangered species. Section 7 of the ESA requires federal agencies to "insure that any action authorized, funded or carried out by such agency ... is not likely to jeopardize ... any endangered or threatened species," or to adversely affect such species' critical habitat.[45] Thus, the Corps must consider how any listed species may be impacted by issuance of a Section 404 permit.

The scope of the analysis of the effects from permit activities on endangered species that is necessary for making Section 404 permit decisions is confusing and controversial. Generally, the Corps assesses permit activity effects only in the permit area. The Corps, however, will assess such effects beyond the immediate permit area in certain situations (*e.g.*, linear projects with multiple 404 permit authorizations).

REFORMS: Establish an expedited review and approval process for ESA review and consultation for Nationwide General Permits by requiring that USFWS and NMFS complete their action in 60-90 days or less under the recognition that activities performed under NWPs would have no more than minimal environmental effects under ESA, absent strong science and data to the contrary.

Section 401 Water Quality Certification. Applicants for Section 404 permits are required to obtain a certification (from the state in which the discharge originates) that the discharge will not violate the state's water quality standards under Section 401.[46] The Corps' regulations provide that "[n]o permit will be granted until required certification has been obtained or waived."[47] A state may waive the water quality certification requirement either expressly or by refusal to act on a certification request within 60 days after receiving the request.[48] The Corps has discretion to determine a longer period of time is

[45] *See* 16 U.S.C. § 1536.
[46] 33 U.S.C. § 1341(a)(1).
[47] 33 C.F.R. § 325.2(b)(1)(ii).
[48] *Id.*

reasonable for the state's review, not to exceed one year.[49] This waiver period begins when the applicant makes a "valid request" to the state certifying agency, but the Corps' regulations do not define the term "valid request." Permit applicants face substantial uncertainty and inconsistent procedures across various states and Districts with respect to when a "valid request" has been made. In some instances, for example, the certifying state agency will not deem a "valid request" to have been made until the applicant has responded to *numerous requests* for additional information.

Furthermore, the Corps' regulations do not provide any procedure for determining when a state is deemed to have waived its certification right. This has caused confusion over how to effectuate a waiver and has resulted in instances of a state denying a certification long after a waiver should have occurred.

REFORMS: AGC urges the Corps to develop a clear process for Section 401 water quality certification that applies consistently nationwide. The Corps should revise Section 325.2(b)(ii) to clarify that a permit applicant makes a "valid request" (and therefore the one-year waiver time limit begins) on the date an applicant submits its request to the state certifying agency. EPA's regulation governing certification of federally-issued National Pollutant Elimination Discharge System (NPDES) permits, 40 C.F.R. § 124.53(a)(3), provides a good example of language the Corps should adopt. It makes clear that the certification request is made, and the clock for waiver begins, "from the date the draft [federal] permit is mailed to the certifying State agency."

In addition, AGC urges the Corps to amend Section 325.2(b)(ii) to specify the process for effectuating a waiver and make it clear that a state will waive certification if it does not act within one year of the date of the request. These changes would provide much needed consistency, certainty, and predictability for permittees, the Corps, and the state certifying agencies.

3. USEPA's Authority to Veto a Duly Issued Permit Casts Uncertainty on Development

Courts have upheld USEPA's authority under the CWA to change, if not revoke, Section 404 "dredge-and-fill" discharge permits that have already been approved and issued by USACE if it determines that the discharge will have an "unacceptable adverse effect" on identified environmental resources. This creates uncertainties for Section 404 permittees, their lenders, and others in business with them, which drives up financing and construction costs. USEPA has adopted regulations setting forth the process for implementing Section 404(c).[50]

REFORM: Eliminate USEPA's authority to veto a final 404 permit decision made by the Corps and let the result of the evaluation process stand without the extensive delays, costs, and controversy associated with either a veto or a threat of a veto by USEPA (uncertainty, inconsistency, delays, added costs). Direct USEPA to revise its "unacceptable adverse effect" regulations.

4. Mitigation Uncertainty and Risk Is Driving Up Construction Costs

Complex procurement strategies, construction scheduling, habitat modification, and competition for potential mitigation sites can encumber the already challenging task of mitigating for "like" value and

[49] *Id.*
[50] *See* 40 C.F.R. § 231.1 *et seq.*

function. These challenges, routinely faced by AGC members, further reinforce the need for project proponents to examine mitigation strategies *as early as possible*. Yet, there is a shortage of wetland and stream mitigation banking credits in some parts of the country, and many USACE Districts are unwilling to accept in-lieu fee arrangements or they are simply unavailable, as further explained below.

If a permittee cannot secure credits, it will negatively impact construction phasing, schedules and cause excessive cost and delay. What is more, design-build contracts that transfer the responsibility to the contractor to obtain Section 404 permits generally do not provide such contractor with cost or schedule relief for permitting delays or unanticipated mitigation costs that may arise at the outset of a procurement. This forces contractors to add-in cost contingencies upfront that ultimately result in higher construction costs to the owner – and/or responsible contractors dropping out of the procurement due to untenable risk.

AGC's recent examination of the RIBITS (Regulatory In-lieu fee and Bank Information Tracking System) database found limited ILF programs in the Western half of the country – see analysis below. The lack of wetland mitigation alternatives may get worse: AGC predicts that President Trump's recent Executive Order 13778 directing the USEPA and USACE to modify or rescind the 2015 WOTUS rule is likely to stall and further depress the establishment of any new mitigation banks because it is likely that the federal government will eventually relinquish control over work in remote streams and isolated waters/wetlands.

RIBITS (Regulatory In-lieu fee and Bank Information Tracking System) - AGC's Review and Analysis. RIBITS was developed by USACE with support from USEPA and USFWS to provide better information on mitigation and conservation banking and ILF programs across the country. AGC closely reviewed RIBITs in June 2017. At that time, there were 1,090 approved or pending ILF sites in RIBITs, of which 422 are approved, 352 are pending and the rest are terminated. The site generated a map of the United States, which clearly showed that the Western one-half of the country is woefully underserved. A very cursory sampling of the individual ILF site data showed many sites with no credits available, although AGC understands that RIBITS can be out of date for these details. Also, many sites were small in area, suggesting they were for a single project or client. Even in the East, where ILF sites are more prevalent, the availability of ILF credits is restricted because, like banks, ILF sites are approved for service in one or two watersheds for which they are located.

REFORMS: Eliminate the "Interagency Review Team" for mitigation banks and authorize the Corps to review and approve banks after a simple 30-day review and comment period offered to USEPA, USFWS, and NMFS. This will save considerable time, costs, and reduce staff effort which can be re-directed to expediting permit reviews or other work.[51] To address the lack of mitigation banking capacity in many regions of the country, USACE should develop a national in-lieu fee (ILF) mitigation option whereby sponsors of projects may contribute funding, at mitigation market rates, to a national account when bank credits are unavailable at the time the USACE/USEPA is in position to issue the permit – see AGC's

[51] In November 2000 the Corps, USEPA, FWS, and NOAA issued interagency guidance on the use of in-lieu fees to offset wetland fill impacts (*Fed. Reg.* 65, Nov. 7). That guidance reiterated the Corps' and USEPA's mitigation MOA preference for on-site, in-kind mitigation but recognized that such mitigation may not always be available, practicable, or environmentally preferable. With respect to compensating for impacts from individual permits, the guidance provides that in-lieu fee arrangements may be used if there is a formal agreement that is developed, reviewed, and approved through the interagency Mitigation Bank Review Team (MBRT) process.

recommended national model, as described below. Per AGC's conversations with USACE regulatory program staff, this would require a change to current law that would allow the Corps to receive funds for this purpose. The funding from the national account would be apportioned among the seven USACE Districts base on where impacts were taken and applied toward habitat preservation and promoting banking opportunities.

In addition, USACE should revise the "2008 Mitigation Rule"[52] at 33 C.F.R. Sections 332.3(b)(2) and (3) to provide greater flexibility to determine appropriate mitigation for wetlands impacts, ILF mitigation banking or alternative processes – thereby allowing for bundling within one agency/applicant.

National Model: In-Lieu Fee Program. The State of North Carolina (NC) operates a state-wide ILF program that may serve as a perfect model for AGC's recommended national program. NC Department of Environmental Quality (DEQ) has operated the state-wide ILF program since the 90's. According to the Website:

> DMS offers four voluntary In-Lieu Fee (ILF) mitigation programs to the public and private sectors to satisfy *compensatory-mitigation* requirements in state and federal laws and regulations.[53] The initiatives offset unavoidable environmental damage from transportation-infrastructure improvements and other economic development, and help to prevent harmful pollutants from endangering water quality in sensitive river basins.

AGC has learned that NC has a statewide banking instrument with USACE that provides advanced mitigation credits for projects anywhere in the state under the condition that the state submit to the USACE a final mitigation plan within a year and then execute the plan. The state charges the customer on a per credit basis. NC initially developed the program to serve the Department of Transportation's needs but since has expanded the program to public and private customers. The state administers the program with DEQ staff and contract out for the mitigation design and construct. AGC understands the program brings stability and predictability to the credit market, which helps everyone, except for possibly the banks, which are generally run by a handful of companies that object to the competition. To address this the NC legislature recently passed a law requiring DEQ's ILF program to be used only if bank capacity was not available.[54]

5. USACE HQ Must Assert Centralized Control and Oversight Over Stream and Wetlands Valuation Metrics

Several USACE Districts have developed a "functions and values" type of assessment to calculate mitigation ratios for stream and wetland impacts (*e.g.*, Fort Worth and Galveston Districts in Texas, the Charleston District in South Carolina and the Huntington District, West Virginia and the four USACE Offices in Ohio – Huntington, Buffalo, Pittsburg and Louisville). AGC members report that the functions

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[52] In 2008, USACE and USEPA published compensatory mitigation rules (2008 Mitigation Rule). *See* 73 *Fed. Reg.* 19,594 (Apr. 10, 2008). While USACE makes the final determination regarding the mitigation conditions included in the permit, USEPA retains the authority to veto the permit if it concludes that the mitigation is not adequate.

[53] https://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/401-wetlands-buffer-permitting/401-certification-isolated-permitting.

[54] The program is authorized under NCGS 143-214.8 and the program rules are codified within 15A NCAC 02R. The program Website's at: https://deq.nc.gov/about/divisions/mitigation-services/about-dms/dms-programs. Four programs are listed - The Statewide Stream/Wetland Program would serve as the model for a national program.

and values methods are inconsistent among Districts and the mitigation ratios calculated by these methods are generally higher using these function/vales methods, than the traditional way of applying a standard mitigation ratio such as 1.5 feet of mitigation for one foot of stream impact (particularly for stream mitigation). The current functions and values methods currently being implemented by many Districts are overestimating stream mitigation credit requirements. As a result, demand for mitigations credits (stream credits in particular) have increased, creating supply shortages in some areas and forcing applicants to delay work on projects waiting for bank credit releases or undertaking permittee-responsible mitigation. (To help alleviate this supply shortage AGC has recommended the USACE implement a national ILF program -- see related discussion in #4 above.)

REFORMS: USACE Headquarters (HQ) should review the methods developed at the District level to determine their reasonableness in calculating mitigation ratios. Instead of each region developing its own method, HQ should develop a standardized method that calculates reasonable mitigation ratios. In the absence of strong oversight and central guidance from Headquarters on important regulatory interpretations, there has been inconsistency among the different Corps Districts in implementing the Corps' CWA Section 404 program. This inconsistency creates uncertainty that makes it difficult for AGC members to navigate the regulatory process, and for the Corps to administer the Section 404 program.

USACE HQ should have clear lines of authority to direct the Districts' implementation of key Corps regulations and policies. Headquarters should not merely make suggestions to be interpreted and implemented by those in the field. Clear guidance and direction from Corps Headquarters is critical for certainty and consistency.

6. Delay on the RHA Section 408 Side Puts Off the CWA Section 404 Review Process and Further Delays Construction

Construction projects are being delayed because of Section 408 burdens.[55] USACE will *not even begin* to process many CWA Section 404 Nationwide and individual permits until the 408 permission is granted. This means that delay on the River and Harbors Act (RHA) Section 408 side puts off the CWA Section 404 review process and further delays construction. And, many of the reviews required under RHA Section 408 may be reviewed, yet again, under the CWA Section 404 process.

RHA Section 14 [56] provides that the Secretary of the Army may grant permission for the alteration or use of works built by the United States when such occupation or use will not be injurious to the public interest and will not impair the usefulness of such work. As a result, USACE requires that applicable construction projects are reviewed to determine if any of the proposed activities may affect a federal easement, right of way, property, levee, etc. Construction projects possibly subject to this process may include but are not limited to highways crossing Corps' property, bridges built over USACE flood control projects, and simply modification of existing Corps' projects—*e.g.*, levees—by state and local entities.

USACE has recently undertaken action to more rigorously ensure compliance with Section 408, setting forth nine steps to obtain the 408 permission.[57] Those steps include pre-coordination, written request,

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[55] *See* http://www.nola.com/environment/index.ssf/2017/05/corps_attempting_to_speed_coas.html; http://www.journalscene.com/news/waiting-on-the-final-leg-of-berlin-g-myers-parkway/article_72b28f28-1309-11e7-a986-1f5ecfa794a9.html.
[56] 33 U.S.C. § 408.
[57] USACE Policy - Engineering Circular 1165-2-216.

required documentation (including environmental compliance, if applicable), district-led Agency Technical Review (ATR), Summary of Findings, division review, USACE Headquarters review, notification, and post-permission oversight.

Not all steps are applicable to every RHA Section 408 request, such as the Division or Headquarters office's review. That stated, the Corps requires the RHA Section 408 requester to provide all information that the district identifies as necessary to satisfy all applicable federal laws, executive orders, regulations, policies, and ordinances. In addition, the Corps needs to review the relevant project area under the requirements of NEPA and other environmental statutes (*e.g.*, the Endangered Species Act) where applicable. USACE must also consider factors that may be relevant to the public interest depend upon the type of USACE project being altered and may include, but are not limited to, such things as conservation, economic development, historic properties, cultural resources, environmental impacts, water supply, water quality, flood hazards, floodplains, residual risk, induced damages, navigation, shore erosion or accretion, and recreation. And, the evaluation must consider information received from the interested parties, including tribes, agencies, and the public. AGC is concerned that such rigor has come to make the 408 permission processes redundant, administratively burdensome, and inefficient—especially in the broader context of federal environmental review and permitting.

REFORMS: AGC recommends that USACE undertake the issuance of a new regulation or guidance allowing for the concurrent processing of the RHA Section 408 permission and CWA 404 permit.

As recommended by the National Waterways Conference, AGC agrees that the Corps should clarify the application of Section 408 to "works," and not undeveloped land or other features of a project, even if owned by the Corps and within the project's boundaries.

- According to the statute, the Corps' permission is required with respect to activities that may affect various "works" that are "built by the United States . . . for the preservation and improvement of any of its navigable waters or to prevent floods." The Circular states that it applies in the case of any "alteration or occupation or use of the *project*"[58] (emphasis added).[59] The language could be and seemingly has been interpreted to suggest 408 applies to any proposal that would alter or occupy any portion of a Corps project, which in turn suggests anything within the project's property boundaries.[60] However, that is not what Section 408 says, nor is it what Congress intended in enacting Section 14 of the RHA.[61]
- A broad reference to a Corps "project" without additional clarification can lead to a District office to require the 408 process for any proposal that involves any real estate within a Corps project.[62] A common example would be a highway or pipeline that crosses Corps' property.[63] To be clear, the Corps has a right to review and approve that proposal as property owner and potentially as a regulator under CWA Section 404 or other authorities.[64] However, if the project

[58] *See* EC 1165-2-216, ¶ 6.a.
[59] https://waterways.org/wordpress2/wp-content/uploads/2014/10/NWC-Comments-WRRDA-Webinar-III.pdf.
[60] *Id.*
[61] *Id.*
[62] *Id.*
[63] *Id.*
[64] *Id.*

> does not touch or affect the "works" regulated under Section 408, then the Corps should not overlay additional 408 requirements beyond whatever other procedure may be required.

Specifically concerning local flood control protections, like levees, AGC agrees with the Section 408 Coalition and the Mississippi Valley Flood Control Association: Congress through legislation and/or the Corps via regulation or guidance should clarify that the jurisdiction of RHA Section 408 does not extend to alterations or improvements made or allowed by the local sponsor (non-Federal interests) to the flood control projects for which they are responsible for operation and maintenance.

D. Nationwide General Permits: Acreage Limits and Pre-Construction Notification Thresholds

In the Corps' own words, "the purpose of the NWP [Nationwide Permit] program is to reduce regulatory delays and burdens on the public, to place greater reliance on state and local controls, and to free our limited resources for more effective regulation of other activities with greater potential to adversely impact the aquatic environment."[65] For nearly four decades, the Corps has managed its workload by issuing general permits.[66] Over time, the Corps has revised the Nationwide Permit (NWP) program to include more, and increasingly stringent, conditions as prerequisites to authorization of general permits. The Corps argues that these additional restrictions and limitations are necessary to ensure authorization of only activities with "minimal impacts." The Corps makes available individual permits to address those activities with greater impacts. In practice, however, the general permits are now more like individual permits, in terms of the large amount information and data required.

For the construction industry, it is important that the Corps maintain a streamlined permit program that avoids duplication with other federal and state regulatory agencies.[67] To remain competitive, contractors must adapt quickly to changes due to fluctuating markets, contract revisions, and geological anomalies. The general permit provides the kind of flexibility required for construction jobsites that are temporary and ever changing. What is more, projects can save significantly in both time and money if their activities are authorized by a general permit.[68]

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[65] *See* 56 *Fed. Reg.* 14,598 at 14,605 (Apr. 10, 1991) (significant proposal to amend the NWP regulations and issue, reissue and modify NWPs).

[66] NWP are designed to provide an efficient and streamlined approach for authorizing activities with minimal impacts on "waters of the U.S." with little or no delay or paperwork. 33 C.F.R. § 330.1.

[67] *See* 33 U.S.C. § 1344 (q) (requiring the Secretary of the Army to enter into agreements with the Departments of Agriculture, Commerce, Interior and Transportation and the heads of other appropriate agencies to minimize duplication, needless paperwork and delays in the issuance of permits).

[68] The average time for processing NWPs in 2010 was 32 days, compared to an average of 221 days for processing individual permit applications. *See* U.S. Army Corps of Engineers, *Reissuance of Nationwide Permits,* 77 *Fed. Reg.* 10184, 10190 (Feb. 21, 2012). Regarding cost, a 2002 study found that the cost of preparing the documentation necessary to undertake activities authorized by a nationwide permit was about 1/10 the cost of preparing the documentation necessary for an individual permit. *See* David Sunding & David Zilberman, *The Economics of Environmental Regulotion by Licensing: An Assessment of Recent Changes to the Wetland Permitting Process*, 42 Nat. Res. J. 59, 74 (2002).

REFORMS: AGC recommends that USACE consider increasing the permissible numeric limit, the PCN threshold, and refrain from imposing a linear-foot cap for NWPs that support public health and welfare and/or environmental protection, such as NWP 3 (Maintenance), NWP 12 (Utility Line Activities), NWP 13 (Bank Stabilization), NWP 14 (Linear Transportation Projects), NWP 35 (Maintenance Dredging Existing Basins), NWP 41 (Reshaping Drainage Ditches) and NWP 43 (Stormwater Management Facilities). These changes would further congressional intent and legal precedent for a streamlined permitting process for projects with minimal adverse environmental effects. The NWPs have strong protections through the District Engineer's prescribed decision process; the agency coordination requirement; general, regional and sometimes *"special-project"* conditions; and a PCN requirement to ensure proper review.

E. Clarify and Expand Exemption for Work in Roadside Ditches

If a ditch is under federal CWA jurisdiction, modifications or disturbance (including certain maintenance) may be subject to CWA Section 404 permitting requirements. CWA Section 404(f)(1)(B) exempts dredge-and-fill activities "for the purpose of maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, and bridge abutments or approaches, and transportation structures." Additionally, the construction or maintenance of irrigation ditches, as well as the maintenance, but not construction, of drainage ditches are exempt activities under CWA 404(f)(1)(C).[69]

REFORMS: Notwithstanding the exceptions noted above, Section 404 permitting requirements can be a significant burden on transportation project development, especially for minor maintenance and construction activities that only impact man-made wetlands or ditches located adjacent to roads. AGC recommends USACE clarify and expand exemptions for activities involving maintenance and/or construction of roadside ditches, emergency activities, impacts on low-quality wetlands within the highway median. This may also require an amendment to 33 C.F.R. Section 325.

PART 2 - RECOMMENDATIONS TO IMPROVE CONTRACTING WITH THE CONSTRUCTION INDUSTRY

I. Partnering

AGC members believe that partnering as committed team members with USACE will improve project execution, staff efficiency (USACE and contractors), safety and trust. During the past five to seven years AGC members have observed a severe reduction in project level partnering. Many have commented that partnering is now the rare exception rather than the rule.

The purpose of partnering is to: (1) keep open the lines of communication and trust between project stakeholders to address issues as they arise; and (2) establish issue resolution procedures among

[69] More information can be found in the USACE Regulatory Guidance Letter (RGL) 07-02: *Exemptions for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches under Section 404 of Clean Water Act.*

stakeholders to help avoid litigation. Partnering helps stakeholders identify potential problems before construction begins, increase project efficiency, reduce project cost and time, and deliver a better project.

The partnering process entails an initial workshop—which could last a day or two, or less, depending upon the size and scope of a project and happen in conjunction with the pre-construction meeting—during which stakeholders discuss the contract terms and identify methods to execute the project in a collaborative manner. This should occur before construction begins. The initial workshop sets the stage for periodic follow-up meetings throughout the life of the project where owner and stakeholders solve ongoing issues and evaluate work performed.

For partnering to be effective, USACE and contractor staffs must be involved. The greatest problem when it comes to partnering is for anyone from the USACE District or Division offices to participate in these meetings on a periodic basis. As a result, there can be a lack of oversight on the project that can lead to problems. Without getting someone with authority to the project or to engage in a proactive manner, problems that could have been addressed often fester until a District of Division office can no longer ignore it. By requiring that USACE engage in proactive, periodic meetings at the District/Division levels, problems can be identified either before they happen or before they become worse.

REFORMS: AGC recommends that USACE leadership encourage partnering at the field level. USACE and contractors should address partnering specifics on a project-by-project approach. The return of investment from partnering is directly proportional to a project's success rate. AGC members are encouraged by USACE issuance of ECB 2017-14[70] that underlines the importance of partnering. USACE should work to enforce compliance with this ECB and issue more similar directives. AGC recommends that USACE engage in a project level partnering process. AGC suggests USACE issue requirements on all projects that include partnering parameters. Lastly, AGC members support the 3x3x3 process[71] for pre-construction project streamlining on the Civil Works side. USACE should take steps to ensure that actual construction happens with such effective and efficient oversight and communication.

II. Improve Processing and Payment of Contract Change Orders

Construction projects are subject to a wide array of variables that may require a USACE to alter their initial plans through a change order.[72] Consequently, reasonable delays and changes may be required to meet conditions on the ground. The concern is not that with reasonable delays and changes to the initial contract. Rather, AGC members' concern rests with USACE failing to execute change orders and make payment to contractors for months—and even years—at a time. Unsurprisingly, this delay causes serious harm to the project schedule and has a deleterious impact upon payment to the prime and subcontractors, especially small businesses which depend upon that cash flow to remain in business.

When a USACE fails to process and pay a change order in a timely manner, the contractor is left with few options. In the interim period, the contractor tries—as best as possible—to work around the issue. Depending on the issue, the contractor can be left in the precarious position of either (1) self-financing

[70] Engineering and Construction Bulletin 2017-14.
[71] Planning Bulletin 2014-01.
[72] 48 C.F.R. § 42.2.

the work to meet project schedule; or (2) stopping work altogether. Either option brings real problems and threats to businesses. When work must be stopped or slowed down because of untimely processing of change orders, overhead costs remain. If demobilization and remobilization are required, that only adds to unnecessary and inefficient costs related to the use of that equipment. Contractors will go to great lengths to keep the project going, but there are times when the agency issued change orders dictate the schedule.

AGC members further note a lack of direction from USACE during the interim period when the change order is being processed. When change order processing takes an extended period of time, project direction from USACE is necessary to maintain on budget and on time delivery of the project as a whole. This lack of direction generally leaves the contractor at risk to either support the owner or having to pay itself for rework. Problems with issuing change orders force contractors to include the risk of delayed payments in their bid, ultimately costing taxpayers more. USACE should centralize and keep data regarding whether the Contracting Officer had informed the Contractor whether unobligated funds were available to pay the costs of any additional work.[73]

REFORMS: AGC recommends USACE empower USACE members to solve problems at the lowest organizational level possible. Empowering lower level USACE representatives increases collaboration, limits cost overruns, and keeps projects on schedule. USACE should increase greater transparency in the USACE decision making process—to help allow for greater accountability—during the construction execution phase of project delivery. Additionally, USACE should reduce the links in the chain of command necessary to obtain timely decisions during construction, and reward USACE employees based on project performance. Lastly, USACE should use metrics and data to track and evaluate USACE District Offices that underperform in the processing of change orders. To the extent USACE HQ can use commercially-off the shelf data systems to collect and review data from its jobsites, AGC would support such an effort to help hold all parties accountable. However, AGC does note that USACE should not create any mandate upon the construction industry to utilize one company's software, thereby creating a monopoly for one vendor and forcing an industry to utilize that single vendor's wares.

In addition, to help ameliorate this issue, we recommend modifying DFARS section 252.236-7000 to hold COs accountable for making timely decisions. Specifically, we recommend the inclusion of a new subsections to the provision, stating:

(e) The Contracting Officer shall provide to the Contractor a written acceptance or denial of a proposal for a contract modification no later than:

> (1) Thirty (30) calendar days from receipt of a qualifying proposal with a cost of less than $250,000;
> (2) Sixty (60) calendar days from receipt of a qualifying proposal with a cost of $250,000 to less than $500,000;
> (3) Ninety (90) calendar days from receipt of a qualifying proposal with a cost of $500,000 to less than $1,000,000; or
> (4) One hundred-twenty (120) calendar days from receipt of a qualifying proposal with a cost $1,000,000 or more.

[73] 48 C.F.R. § 43.105.

(f) A Contracting Officer shall only deny or request the re-submittal of a Contractor's proposal for contract modification for a material reason.

(g) When a Contracting Officer does not provide to the Contractor a written acceptance or denial of a proposal for a contract modification within the applicable deadlines set forth in paragraph (e), the proposal is denied.

(h) The Contracting Officer shall record in the contract file the date on which it receives from the Contractor any proposal for a contract modification.

Such a provision will help provide some level of accountability to COs to make timely decisions. In the event no decision is reached, contractors can still proceed with a level of certainty that does not currently exist. In addition, it will help provide some record of CO receipts of proposals that could be used to help track CO performance and effectiveness. Lastly, the proposal will help prevent COs from re-starting the clock by denying a proposal or requesting a resubmittal of a proposal based on non-material proposal defects, such as a meaningless typo.

III. Overseas Military Construction

DFARS section 252.236–7010, entitled "Overseas Military Construction – Preference for United States Firms," also known as the "American Preference Policy," establishes a federal government bidding preference for United States (U.S.) firms in the award of construction contracts overseas. This provision allows a 20 percent differential between the bids of U.S. contractors and foreign contractors before the foreign contractor's price would be treated favorably.

The American Preference Policy defines a "United States firm" as a firm incorporated in the United States that complies with the following:

- The corporate headquarters are in the United States;
- The firm has filed corporate and employment tax returns in the United States for a minimum of 2 years, has filed State and Federal income tax returns for 2 years, and has paid any taxes due as a result of these filings; and
- The firm employs United States citizens in key management positions.

Offers from firms that do not qualify as U.S. firms will be evaluated by adding 20 percent to the offer. However, the language in the DFARS does not clarify whether joint ventures (JV) between American firms and foreign firms qualify as a "United States firm" for purposes of applying the American Preference Policy to a joint venture proposal.

In a 2008 U.S. Court of Federal Claims case, *Watts-Healy Tibbits a JV vs. The U.S. and IBC/TOA Corporation*,[74] the court stated that "the Government should clarify the policy [as it pertains to JVs]" through "guidelines for the source selection personnel" or "definitive regulation establishing some bright lines after both notice and comment as well as agency assessments of what rules or guidelines will really promote the ability of United States contractors to fairly compete in these contracts."[75] Such guidance or regulations have not been issued and confusion in the marketplace continues.

This provision must be amended to clearly identify the criteria a joint venture must meet in order to qualify for the 20 percent differential between the bids of U.S. contractors and foreign contractors. Clarification of the provision as it applies to joint ventures will eliminate the current agency practice of evaluating the standard on a contract-by-contract basis and provide consistency within and between DOD agencies and to contractors generally. Failure to clarify this provision as such increases costs to taxpayers through less competition, the incurrence of litigation fees, stayed and delayed contracts, and potential re-solicitation of contracts, among others.

In order for a joint venture to qualify as a "United States firm," the provision should be amended as such:

OVERSEAS MILITARY CONSTRUCTION--PREFERENCE FOR
UNITED STATES FIRMS (JAN 1997)

(a) *Definition.* "United States firm," as used in this provision, means a firm incorporated in the United States that complies with the following:

(1) The corporate headquarters are in the United States;
(2) The firm has filed corporate and employment tax returns in the United States for a minimum of 2 years (if required), has filed State and Federal income tax returns (if required) for 2 years, and has paid any taxes due as a result of these filings; and
(3) The firm employs United States citizens in key management positions.

A "United States firm" includes a business entity where:

(1) A United States firm is the majority owner, maintaining at least 51 percent ownership, of the business entity; and
(2) Fifty-one (51) percent of key management positions in the business entity are employed by the majority owner United States firm.

(b) *Evaluation.* Offers from firms that do not qualify as United States firms will be evaluated by adding 20 percent to the offer.

(c) *Status.* The offeror _____ is, _____ is not a United States firm.

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[74] Watts-Healy Tibbits a JV vs. The U.S. and IBC/TOA Corporation, Fed. Cl. (Case No. 08-261C), May 2, 2008, available at:
https://cases.justia.com/federal/districtcourts/federalclaims/cofce/1:2008cv00261/23160/26/0.pdf?ts=1294701842.
[75] *Id.* At 6-7.

IV. Innovative Project Delivery Methods

AGC appreciates that USACE recognizes the value in undertaking the early contractor involvement (ECI) project delivery method. However, AGC is disappointed that USACE does not utilize this tool often or too its full extent. For example, the U.S. General Services Administration has used its version of ECI—Construction Manager as Constructor (CMc)—regularly and with successes for more than a decade. It is AGC's understanding that the DFARS blocks experimentation or effective use of ECI.

REFORM: USACE should undertake regulatory action needed to level the DFARS playing field so that it can undertake ECI as GSA undertakes CMc.

V. Safety Officer Accreditations

AGC members are committed to a safe construction workplace and considers the promotion of construction safety as a part of the association's core mission. Over last several years AGC members, and the construction industry at large, have made credible and tangible improvements to workplace safety. While it is important to help promote a culture of safety in the construction industry, it is important that USACE have reasonable requirements for Site Safety & Health Officers (SSHO).

Currently, USACE requires a SSHO to have a Certified Safety Professional (CSP) certification, ten years construction experience, and five years similar experience in particular to the construction project.[76] For example, if a contractor is building a large office building for USACE, the agency requires SSHO to have five years of experience in supervising safety on other large office building construction projects. The combination of these three requirements can be very difficult for contractors to meet. These requirements will often force the contractor to choose between reassigning a SSHO from one project to another. However, oftentimes contractors are left with little choice but to hire a third-party consultant that can meet USACE's SSHO requirements. Incorporating third-party consultants have the unintended consequence of increased costs while reducing value. While it may be easy for some companies to provide SSHO with experience on certain projects, it can be particularly onerous and burdensome on less common projects and for small business contractors.

REFORMS: USACE should reform the five-year similar experience requirement to allow for greater flexibility for contractors to meet the SSHO requirements. USACE should consider that many SSHO skills are fungible and experienced SSHO are capable of supervising a diverse array of projects. This can be done by creating a threshold number of years of experience in construction safety experience that would waive the five years similar experience requirement. For example, it would make little sense to bar a SSHO of thirty years from a USACE project simply because the SSHO does not have five years' experience in that type of construction project. Lastly, USACE should allow for greater flexibility of SSHO experience for unique, or less common, USACE projects where it would be difficult for contractors to find SSHOs who are experienced in that particular type of project.

[76] EM 385-1-1.

VI. Quality Control System

Currently, USACE uses the Quality Control System Module (QCS Module) on all USACE construction projects. However, AGC members have seen USACE expand the use of QCS Module from its original purpose. USACE now uses QCS Module not only to keep track of quality control functions but most other project management functions, such as payment processing, daily reports, submittals, schedule updates, etc. AGC members report that several hours are required for contractors to input daily reports into the QCS Module. The QCS Module antiquated system is extremely slow and antiquated. Often submission of monthly requisitions requires an overnight upload time.

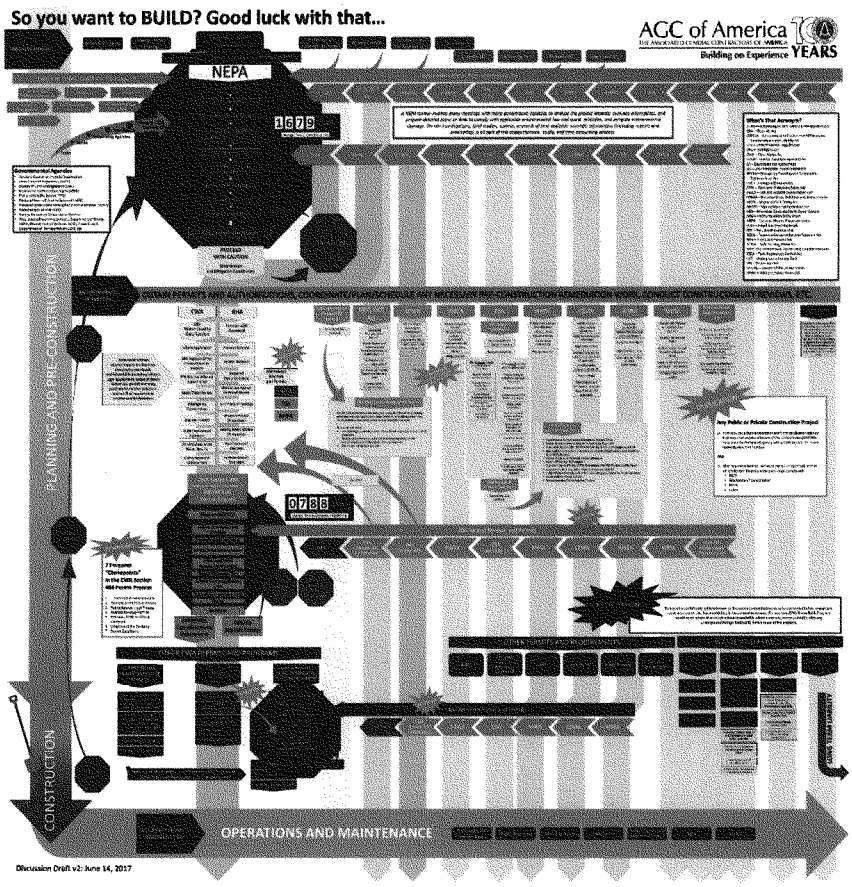
REFORMS: USACE should return to the original function of the QCS Module by only requiring information related to quality control functions, and prohibit the inclusion of other project management functions.

CONCLUSION

AGC appreciates the opportunity to share our insights with you and to help advance our common goals of fair competition and of economic and efficient performance of USACE construction projects. If you would like to discuss this matter with us further, please do not hesitate to contact AGC of America.

Associated General Contractors of America
October 18, 2017
Docket ID No. COE-2017-004

APPENDIX A - FEDERAL ENVIRONMENTAL REVIEW AND PERMITTING FLOWCHART



(Full file version available upon request to AGC's Director of Environmental Services Melinda Tomaino at tomainom@agc.org)

Written Testimony

Jill Jamieson

Managing Director, Jones Lang LaSalle

regarding

America's Water Resources Industry: Approaches to Enhanced Project Delivery

before the

Subcommittee on Water Resources and Environment

Committee on Transportation and Infrastructure

U.S. House of Representatives

January 18, 2018

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Chairman Graves, Ranking Member Napolitano, and Members of the Committee, thank you for the opportunity to address the Subcommittee on this important matter. It is an honor and a privilege to contribute to this Committee's work.

My name is Jill Jamieson and, although I am not here today in representation of my employer, I am a Managing Director at Jones Lang LaSalle. I have over 25 years of professional experience in the specialized area of infrastructure finance and delivery, advising public authorities throughout the United States and around the world on how to execute complex infrastructure projects across a wide range of sectors in the timeliest and most cost-effective manner possible.

Over the past few years I have also had the privilege and opportunity to work closely with a variety of federal agencies responsible for water resource infrastructure, such as the U.S. Army Corps of Engineers (USACE) and the U.S. Bureau of Reclamation (USBR), as well as with non-federal partners and local water authorities. As a result, I have become intimately familiar with the unique challenges and opportunities facing our federally-sponsored water resource infrastructure. Some of these challenges, as well as specific recommendations, were recently incorporated in a report published by the Ash Center at Harvard Kennedy School entitled "Tapping Private Financing and Delivery to Modernize America's Federal Water Resources", which I co-authored with Mr. Stephen Goldsmith. For the benefit of the Committee, I have included this report as an addendum to my written testimony.

I am grateful for the opportunity to discuss these issues directly with the Subcommittee, as it considers measures to address our nation's critical infrastructure needs.

Before diving into water resources, however, I would like to make one general comment regarding infrastructure. While there has been a great deal of talk recently about an infrastructure bill that will provide $1 trillion in investment over 10 years, it is important to note that this is just a drop in the bucket in terms of our nation's infrastructure needs. According to a report recently published by McKinsey Global Institute, supported by data provide by the World Economic Forum/OECD, by 2030, the United States needs to invest over $7 trillion dollars infrastructure, just to keep pace with GDP. This number does not contemplate the impact of disruptive technologies, accelerated economic growth or disaster recovery.

For this reason, even with a trillion dollar infrastructure plan, the United States will still be woefully underinvesting in its critical infrastructure and while money is important, it is only part of the answer. Our nation's infrastructure solution cannot -and should not- be a one-off cash infusion. We need a long-term strategy for building and maintaining our infrastructure assets. We must also introduce reforms aimed at ensuring infrastructure is delivered and maintained in the timeliest and most cost-effective manner possible.

I. The Water Resource Infrastructure Challenge

Federally-sponsored water infrastructure built over the past century—in support of navigation, flood risk management, aquatic ecosystem restoration, hydropower, irrigation, water supply and wastewater treatment, hydropower, and environmental sustainment—provides substantial economic and social benefits to the Nation, fostering economic growth and improving our citizens' safety and quality of life. Despite its criticality and positive impact, however, our nation's water resource infrastructure is currently at risk.

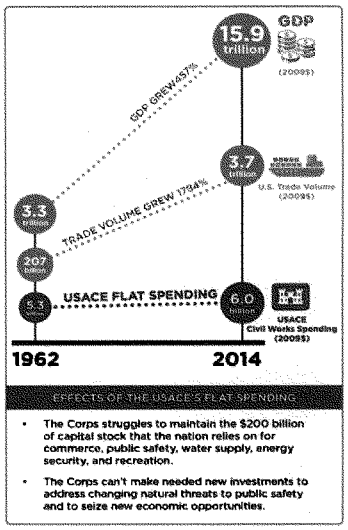


Figure 1: USACE Spending

Decades of inadequate funding have resulted in deferred maintenance and system unreliability that are damaging our economy. Our infrastructure is crumbling as Federal funding for maintenance, modernization and expansion dwindles and agencies such as the U.S. Army Corps of Engineers (USACE) and the U.S. Bureau of Reclamation (USBR) struggle to meet their obligations. USACE spending, for instance, has declined from 0.16% of GDP in 1962 to 0.04% of GDP today, as its budget has remained relatively flat in real terms.

In the face of this budget reality, federal agencies have been forced to direct their limited appropriations to the most critical infrastructure operation and maintenance needs, only being able to make limited new investments in water infrastructure. However, even with the recent emphasis on O&M funding, limited budgets have forced agencies to adopt a "***fix-as-fails***" approach to infrastructure, deferring required maintenance on critical infrastructure until the absolute last minute. In addition to lowering service levels and system reliability, thus negatively impacting national competitiveness, this fix-as-fails approach to asset management is the costliest and least efficient means possible of managing critical infrastructure assets. For every dollar of deferred maintenance, taxpayers will need to invest four to five dollars in capital improvements later on. It is simply bad business to postpone needed improvements, as the associated costs increase exponentially over time. Failure to act today does not simply move the burden to future years, but rather transfers a significantly *larger* burden to future generations of Americans.

While our existing infrastructure deteriorates, we are also unable to keep pace with the need for new and expanded infrastructure. Even when funding is made available for new projects, protracted appropriations, coupled with uncertainty about the timing and amount of funding, unnecessarily and exponentially escalate the cost of delivering infrastructure projects. Projects that reasonably should be completed in a few years often take decades to finalize, deferring public benefits and increasing costs. Indeed a recent study[1] notes that nine out of ten mega-projects overrun their budget, are delayed, and fail to delivery expected public benefits. Funding uncertainty and protracted appropriations contribute significantly to this problem.

[1] Megaprojects and Risk, Bent Flyvbjerg, University of Oxford Saïd Business School

Complicating matters further is that there is little to no consideration of life-cycle asset management. Building new infrastructure is important, but it we also need to identify a strategy for the ongoing funding of its operations and maintenance.

Given fiscal constraints, it seems highly unlikely that federal appropriations for water resource infrastructure will materially increase in the foreseeable future. As such, there is an urgent and pressing need to enhance project delivery in order to better address the Nation's infrastructure needs and maximize the return on federal investment in water resource infrastructure. This involves looking beyond funding to ensure that infrastructure is delivered and maintained in the timeliest and most cost-effective manner possible.

II. Public-Private Partnerships

All of this begs the question of what we can and should do to address this problem in a holistic manner. One obvious approach involves enabling the use of performance-based delivery or public-private partnerships (P3) for federally-sponsored water resource infrastructure.

As illustrated in Figure 2, there is a broad spectrum of options available for delivering infrastructure. The more traditional approach involves public funding and/or financing and traditional procurement mechanisms, such as design-bid-build. In these instances, the public sector (and consequently the taxpayer) assumes most of the risk associated with the project delivery, including cost-overruns and schedule delays.

On the opposite end of the spectrum is "privatization," which refers to instances where public authorities divest themselves of public assets, selling and transferring ownership to one or more private entities. This effectively transfers all risks of ownership to the private sector, although the public sector often retains regulatory oversight of some or all of the public service delivery.

Between these two extremes lies a multitude of other performance-based infrastructure delivery options, sometimes categorized as "public-private-partnerships" or "P3s". In these arrangements, the public sector typically retains ownership of the assets, but the private partner puts its own capital (debt and equity) at risk, investing in public infrastructure for which it only gets compensated after delivery at prescribed service levels and standards. With P3, the public sector retains ownership, as well as control of key elements (such as tolls, quality standards, etc.), while transferring substantial completion and performance risk away from taxpayers and to the private contractor.

Performance-based infrastructure delivery refers to a broad array of medium to long-term contractual arrangements between a public sector contracting authority and a private entity for the design, construction/rehabilitation, financing, operation, and/or maintenance of a publicly-owned infrastructure asset.

Water Resource Infrastructure & Services Delivery Spectrum of Options

Figure 2

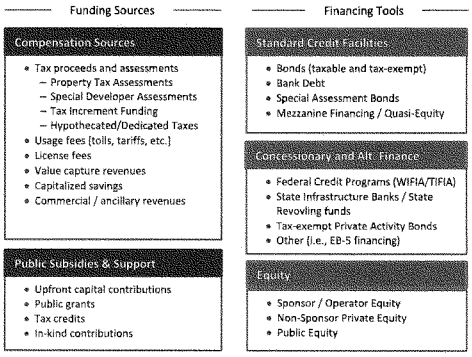
Contractual arrangements vary as to the degree of private contractor responsibility and the extent of project risk transfer. At their core, these contracting modalities differ from the traditional delivery approach in that they typically transfer key delivery risks away from the public sector (taxpayer) and onto the contractor. This risk transfer changes contractor behavior and incentivizes performance, resulting in more efficient infrastructure and service delivery.

Some have expressed concern about P3 and similar forms of contracting, indicating that this is "privatization". This confusion needs to be addressed, as American infrastructure should not be held hostage to misunderstanding or political hyperbole.

Private sector involvement in the delivery of our public infrastructure, including water resources, is not new. Most of our public infrastructure is already designed and constructed with extensive private sector involvement. Likewise, a great deal of the operation and maintenance of public assets is currently outsourced to private contractors. The public sector controls the planning and sets standards for these projects, but does not, has not, and likely will never swing every hammer or flip every switch on the nation's publicly owned infrastructure.

While not suitable for every project, P3s have demonstrated their benefit by accelerating project delivery and generating better value-for-money for taxpayers through innovation, life-cycle asset maintenance, enhanced efficiency, reduced costs, and optimized risk allocation. In most instances, despite the private sector's higher cost of capital, P3s have been able to deliver infrastructure to taxpayers at savings ranging anywhere from 15 to 25 percent when compared to traditional public delivery.

Infrastructure Funding & Financing Sources



Although not a panacea, nor applicable to all projects, performance-based infrastructure is a delivery approach commonly applied across the globe and should be contemplated within any strategy aimed at delivering water resource infrastructure. Given the magnitude of the challenge, the United States needs access to all the possible tools to address its infrastructure needs. P3 represent another tool in the nation's toolbox.

It is imperative to note that P3 is not a funding source and does NOT resolve the underlying water resource funding issue. Performance-based infrastructure and P3 are delivery tools, not a funding strategy. They can help deliver infrastructure in a timelier and more cost-effective manner, with enhanced transparency into how taxpayer dollars are spent, but they are not a means of funding projects.

Funding refers to the source of money to pay for the infrastructure assets, whether taxes or user payments (such as tolls). Financing is about how cash flows are structured, through debt or equity, to deliver that infrastructure. A source of funding must always be there to support financing activities, as the availability of finance or capital does not eliminate the need to fund our infrastructure. For example,

getting a mortgage doesn't mean you can quit your job and stop paying for your home. You still need funds to meet your debt obligations, as is the case with infrastructure finance. Funding and financing are two separate concepts and any legislation aiming to leverage P3 as a funding source would be misguided and ineffective. Funding sources need to be identified independently of any finance and delivery approach.[2]

While leveraging private sector debt and equity to provide full upfront funding for a water resource project could certainly help accelerate delivery and eliminate delivery inefficiencies, this is only a small part of the P3 value proposition. The benefits of P3 to the taxpayer derive from the alignment and integration of financial interests with private-partner performance over the life-cycle of the assets by putting private capital at-risk.

IP3s should only be used when they deliver better value for money over the life-cycle of the asset, as compared with traditional delivery. When compared to the traditional funding and delivery approach for water resources, incremental benefits of P3 may accrue from the following:

(i) **Speedier implementation of infrastructure projects, accelerating public benefits and reducing capital costs:** Under the current water resources delivery structure, protracted appropriations significantly increase costs by unnecessarily delaying project completion, even when federal funding is available. This rise in costs not only reflects inflationary adjustments, but also real growth attributable to additional overhead, mobilization/demobilization, maintenance, insurance, etc. When project completion is delayed, federal and local taxpayers pay interest on debt associated with unfinished projects while they provide no public benefit. This is a bad deal for taxpayers. Under performance-based delivery, full project funding is made available at a project's outset with the help of private financing. Equally important, performance-based delivery transfers schedule and cost risk to the private partner, putting private capital at risk, thereby incentivizing performance. Compensation typically begins only after work is completed so that payments are concurrent with the delivery of public benefits over the life of the asset.

(ii) **Life-cycle focus of service delivery / life-cycle cost efficiencies:** Under a P3 arrangement, the private partner is typically in charge of the financing and delivery of capital improvements, as well as the operation and/or maintenance of the infrastructure asset over the term of the contract. Linking long-term asset performance to design and construction creates powerful incentives for delivering a high quality facility, which optimizes operating performance and minimizes life-cycle costs. Likewise, P3 addresses life-cycle asset maintenance, locking-in funding and ensuring that assets are maintained at prescribed levels over the term of the contract through performance-based payments.

(iii) **Risk Transfer:** With the traditional funding and delivery approach to water resources, the public sector retains almost all risks associated with the construction, operations and maintenance of public infrastructure. Under P3, much of this risk can be transferred to the private partner, who assumes fiduciary responsibility for the delivery and performance of the asset. This risk transfer creates real value for taxpayers: limiting cost overruns, schedule delays, performance shortfalls, and deferred maintenance. While not all risks can be fully transferred in all instances, there is

[2] To this point, there is broad misconception that all P3 involve tolls and fees, but this is simply not the case. P3 are frequently compensated on the basis of budget-based performance payments, without any user fees at all; while conversely, tolls and fees are often imposed by public authorities on government operated infrastructure.

real and quantifiable value to the taxpayer in reducing public sector risk exposure by allocating risk to private partners who are better positioned to manage those risks.

(iv) **Improved service levels and reliability:** Given their use of performance-based incentives and compensation structures, P3s have a proven track record of improving the quality and service levels of public infrastructure. Specialist service providers offer access to expertise and innovation in order to meet or exceed contractually prescribed output-based performance levels for which they are held accountable.

(v) **Improved efficiency and innovation:** Linking long-term asset performance to design and construction creates powerful incentives for efficiency and innovation. Much of the value of P3 derives from allowing the private sector to leverage innovative approaches to meet the output standards prescribed by the public contracting authority.

(vi) **Monetization:** Innovation can incentivize the private partner to identify and develop new and creative sources of revenue from public infrastructure. These new sources of income can be used to offset core infrastructure costs, or alternately, may be shared with the public sector, creating additional sources of revenue for other priorities. Asset monetization is typically not a core competency of public agencies and thus these opportunities to extract value from existing assets often go unexplored under traditional delivery structures.

(vii) **Heightened Accountability**: Detailed contracts between the public authority and private partner regulate P3s. The public authority sets service levels and then verifies and regulates the quality of the service through financial incentives for exceeding targets or punishment for underperformance. This arrangement provides the public with greater insight into targeted performance levels, something that is not always readily available under traditional delivery. Moreover, third party audits undertaken by lenders provides additional transparency and oversight in infrastructure projects.

Opponents of P3 often dismiss these potential benefits, focusing instead on one simple factor: the federal government has a lower cost of borrowing than the private sector. This interest rate differential is cited as evidence as to why P3 must be a bad deal for taxpayers. Nevertheless, this argument fails to understand that financial costs are only a small percentage of total life-cycle asset expenditures. A more important consideration is the whole-life cost of the asset, as well as the additional value to taxpayers in accelerating benefits, ensuring life-cycle asset management and transferring risk.

Case studies abound in which traditional funding and delivery results in delays, cost overruns and other inefficiencies that unnecessarily burden taxpayers. One may reasonably ask whether the transfer of construction risk, coupled with more timely appropriations, might have helped to mitigate some of the skyrocketing cost overruns and schedule delays associated with the Olmsted Dam in Illinois. A quarter century delay and a three-fold cost increase evidence the intrinsic value of optimizing risk allocation. Equally relevant would be to ask about the efficiency and cost-effectiveness of protracted appropriations. Given current federal appropriation levels, the Grand Prairie Irrigation Project in Arkansas, originally authorized in the 1950s, is not expected to be completed for decades. As benefits will not accrue until construction is fully completed, both federal and state taxpayers are paying interest on debt with no benefit. Moreover, delays have resulted in a nearly doubling of project costs, as well as questions about whether some completed components of the project (such as the pump station) will be obsolete by the time the project is ready to deliver water. Under a P3 approach, this project would likely have been completed in three to four years, at a significantly lower cost.

Performance-based delivery can help public authorities to more adeptly address our nation's water resource needs. Although P3s are complex policy tools that cannot be applied to all projects, when done correctly, they can create significant value for the taxpayer and the Nation. P3s will never entirely replace traditional delivery structures, but if the Nation hopes to address its water resource investment needs, it must be included as another tool in the federal water resources toolbox.

III. Constraints and Recommended Solutions

Given the potential benefits of performance-based infrastructure, it is reasonable to ask as to why these arrangements have not been applied more broadly to federally-sponsored water infrastructure. The answer is actually quite simple: there are a number of systemic constraints in place that severely restrict—if not outwardly prohibit—federal agencies from leveraging these modalities for federally-sponsored water resource projects.

The failure to address key constraints to performance-based infrastructure delivery is somewhat perplexing, as extensive federal precedent exists in which many of these same constraints were overcome to allow some federal agencies to leverage P3 and other forms of innovative project delivery for other types of critical infrastructure. Examples include energy savings performance contracts, special purpose vehicles for military housing, power purchase arrangements, and beyond. Similar formulas could be applied to federally-sponsored water resource projects.

When considering constraints and solutions, it is important to distinguish between fully-federal and cost-shared water resource infrastructure. As such, observations have been categorized as follows:

A. Fully Federal Water Resource Infrastructure
B. Cost-Shared Water Resource Infrastructure
C. Enabling Framework

A. Fully-Federal Water Resource Infrastructure

Federally owned and operated water resources are those facilities for which the federal government holds title and has retained operation and maintenance responsibility. Projects that fall into this category include critical federal infrastructure, such as inland waterways, navigation channels, major dams and water supply projects (such as the Hoover Dam), as well as certain flood risk management projects. Federal agencies coordinate with local authorities, but the federal government retains full ownership, as well as operation and maintenance responsibility over the asset life-cycle.

While these assets are often considered critically important, federal agencies are for all effects and purposes prohibited from utilizing performance-based contracting for any aspect of infrastructure or service delivery, even though these structures could create better value for money for taxpayers. There are many reasons for this.

To begin with, performance-based contracting requires a predictable funding stream. This can either come in the form of usage-based payments (like tolls, user fees or facility charges) or budget-based performance fees (such as availability payments, take-or-pay arrangement, etc.). Regardless of the source of funding (usage payments, dedicated taxes or general treasury receipts), the ability to dedicate and pledge a funding stream to compensate the costs and risks associated with delivering an infrastructure asset is a precondition for any performance-based delivery structure.

The problem is that without specific legislative authority, federal agencies lack the ability to assess and commit collected usage payments for specific project purposes. Instead these monies are usually sent back to the Treasury General Fund or dedicated trust funds and subject to future appropriations. Without the ability to commit project-specific revenues to project costs, most federal P3 projects would then be entirely dependent on budget-based performance payments (i.e., availability payments), which – regardless of risk allocation – are generally considered under current budget scoring guidelines as capital leases and scored upfront. This effectively renders performance-based infrastructure impossible.

In other words, lacking the authority to assess and commit usage-fees for specific project purposes, federal authorities are effectively limited to availability or performance-based budget payments. However, with some limited exceptions (such as Energy Savings Performance Contracts and Power Purchase Agreements), this structure is untenable since budget scorekeeping rules under OMB Circular A-11 mandate that the entire federal obligation relating to a project be "scored" upfront in a single year at the time the contract is executed. This process is indistinguishable from a very large appropriation for a project, and it therefore renders the probability of getting such budget approval extremely unlikely. Without the ability to leverage usage payments for P3s, and given the budget scoring treatment of budget-based payments, federal agencies are simply unable to leverage P3 for the delivery of its federally owned and operated water resource infrastructure and services, even when P3 will produce significant benefits for the taxpayer.

To address this situation, a number of measures should be considered:

1. Federal Value-Capture, Revenue Generation and Ring-Fencing

In light of limited budgets, Federal authorities would benefit from the flexibility to create and assess new user fees, particularly when required for cost-recovery on federal water resource projects. This policy would foster self-sustainability of infrastructure and likewise enable private-sector participation in the provision of water resources. While certain checks and balances would need to be established, including consultation with affected user groups, the authorization of any new fees would help facilitate P3 by allowing for full or partial cost-recovery associated with infrastructure and service delivery.

There is ample precedent in which special authority has been granted to assess fees over federal infrastructure. For instance, Title 23 of the United States Code (Highways) includes a general prohibition on the imposition of tolls on Federal-aid highways. However, Title 23 and other statutes have also carved out certain exceptions to this policy. Two mainstream federal tolling programs and several pilot programs offer states the opportunities to use tolling to generate revenue for highway construction activities and to implement managed lanes on federal-aid highways. The most relevant of these is the Section 129 General Tolling Program, which allows tolling on new highways and new lanes added to existing highways, as well as on the reconstruction or replacement of bridges, tunnels and existing toll facilities. A similar pilot authority should be considered for inland waterways.

Likewise, consideration should be given to updating and expanding revenue opportunities for other water resource asset types. For instance, value-additive fees for enhanced service levels could be levied for some project types, such as water supply or inland navigation.

The proceeds of these initiatives, however, should be collected and retained for project-specific purposes, instead of going back to Treasury. In other words, to facilitate performance-based contracting, revenues generated from users of a specific asset should be reinvested back in that same

asset. Although variations and nuances by project type exist, in general, this could be achieved by either depositing funds into one or more revolving trust funds or by authorizing funds to be deposited into an escrow account held by a third party (either the non-federal sponsor or a private partner under a P3).

A revolving fund is a special account into which money is deposited for expenditure without regard to fiscal-year limitations. Federal agencies would need Congressional authorization to establish a revolving fund of this type for individual projects or project types. Although there are many different types of revolving funds exist, federal precedent exists as to their use. The creation of a revolving fund for individual projects or project types could allow revenues to be dedicated to specific purposes. Nevertheless, money in a revolving fund does not otherwise lose its identity as "appropriated funds" and is still subject to the restrictions of the Anti-Deficiency Act, so Congress would also need to grant an agency a limited exemption by giving the agency "contract authority," allowing them to enter into binding contracts even though they do not have sufficient funds available in the revolving fund for obligation. This would enable federal authorities the opportunity, on a limited basis, to enter into contractual arrangements on the basis of future revenues deriving from a specific asset.

As an alternative, the establishment of non-federal revolving funds would likewise enable the use of enhanced delivery. In this sense, there are some precedents that could serve as a model, such as the Bonneville Power Administration (BPA). The BPA region operates under a Direct Funding authority granted by Section 2406 of the Energy Policy Act of 1992.

2. Budget Scoring of Performance Payments

Given the lack of authorization to assess fees and dedicate them to project-specific purposes, federal agencies are essentially restricted to compensating performance-based delivery through budget-based payments. In accordance with OMB Circular A-11, however, these long-term payments are mostly treated for budget scoring purposes as a capital lease or lease-purchase, thereby requiring the entire project cost (an amount equal to the government's total obligations over the life of the contract) to be scored against the legislation in the year in which the budget authority is first made available. In other words, regardless of how and when the work will be accomplished, if the federal government is at some level responsible for financial commitments made in out years, current budget scoring parameters mandate that it account for this commitment the year in which the commitment is first made. This budgetary impact in a single year is thus the total value of the project, effectively precluding federal authorities from utilizing P3s for water resource projects since such a large cost would eliminate sufficient funding for other projects.

The primary purpose of budget scoring is to ensure proper control and disclosure of resources for capital investment and operational expenditures. Federal budgetary scorekeeping rules are implemented primarily through Office of Management and Budget (OMB) Circular No. A-11, which came about in the early 1990s in reaction to perceived abuses during the 1980s, especially in the area of real estate lease purchases where off-balance-sheet financing techniques left many believing that more visibility into the extent of financial commitments was needed. At the time these rules went into effect, OMB elected to use the principles embodied in Financial Accounting Standards Board ("FASB") Statement No. 13 which is a set of accounting rules designed to govern how private-sector companies either expense or capitalize leases. Now that more than 25 years have passed, many see a compelling need to revisit the logic of continuing to apply these same rules blindly to all infrastructure classes, especially because the underlying accounting rules have changed.

Water resources should not be subject to these same rules. Support for this differentiation can be found in standard accounting principles, which distinguish leasing from other forms of public-private partnerships. For example, Government Accounting Standards Board ("GASB") Statement 60 establishes accounting and financial reporting standards for service concession arrangements, distinguishing these from capital purchases. As such, there is a strong argument to be made for OMB to establish budget scoring guidelines for water resource infrastructure, which should be done in accordance with the risk-reward methodology.[3]

This risk-reward approach, which is well regulated and understood on a global level, would eliminate one of the primary constraints to enhanced delivery modalities, thus accelerating infrastructure delivery. These rules would achieve the same purposes as current OMB budget scoring guidelines, ensuring the proper control and disclosure of resources, but they more accurately reflect the underlying risk allocation contemplated in performance-based infrastructure arrangements. Moreover, this treatment would not amend existing rules, but instead create a new category of control. Most consider that this could be achieved by the Executive Branch, without the need for legislative action.

3. Budget Prioritization methodology

Currently, potential investments are prioritized on the basis of their Benefit-Cost-Ratio ("BCR"). While this process is well understood, it relies heavily on historic costing and completion estimates, with no consideration whatsoever of key issues associated with performance-based infrastructure, such as risk allocation, federal return on investment, Value-for-Money, accelerated benefits, etc. These elements are critical factors that should be contemplated within the budget prioritization process; otherwise, there will be systemic discrimination against performance-based infrastructure delivery. Some elements that need to be considered:

(i) **Federal Return on Investment:** Federal return on investment refers to the public benefits deriving from each federal dollar appropriated to a project. It should be calculated on a risk adjusted basis, reflecting estimated costs associated with differing delivery methods.

(ii) **Value-for-Money:** Value-for-Money (VfM) is defined as the optimum combination of life-cycle costs and quality. VfM processes have been designed and utilized, including at the federal level, to help government officials compare the benefits of utilizing a P3 approach to traditional delivery. VfM analyzes the total life-cycle costs of service delivery and evaluating the benefits to the public at large, comparing these to alternative approaches (such as the cost of doing nothing and/or traditional delivery). Where there is true value for money derived from leveraging private sector financing and expertise, this should be considered for purposes of budget prioritization. Notably, in 2015 the VfM analysis was recommended as a best practice tool to be employed by all federal agencies by a Special Panel on Public-Private-Partnerships created by the Committee on Transportation & Infrastructure.[4]

(iii) **Accelerated Benefits and Cost Savings**: In a manner consistent with VfM, consideration should be given in the BCR calculation to the accelerated benefits and life-cycle cost-savings from the use of P3s. Excluding these potential benefits and cost reductions will put enhanced delivery projects at a disadvantage for budgetary consideration.

[3] The risk-reward methodology is commonly applied across the globe for infrastructure P3, as codified, for example, in European System of Accounts ESA10 and ESA95.
[4] Findings and Recommendations of the Special Panel on Public Private Partnerships.

(iv) **Risk Transfer**: Real and quantifiable benefits are associated with the transfer of project risks to a private partner, including completion risk, schedule risk, and constructability risk. When assessing the benefit/cost ratio for projects, risk must be considered. In much the same way the value of an insurance policy is determined, the value of risk transfer can also be calculated. Quantitative risk analyses should be used to evaluate and prioritize projects and project delivery methods. For its part, the Federal Highway Administration, Office of Innovative Program Delivery (OIPD) has been utilizing quantitative risk assessment for years for the evaluation and prioritization of project delivery models, so this is not a new tool or concept for federal authorities. To date, however, it has never been contemplated within the budget prioritization process for water resource projects.

If performance-based infrastructure is to be enabled, a broader budget prioritization framework that reflects the relative costs and benefits of different delivery methodologies is needed. Otherwise, it will be difficult, if not impossible, to secure appropriations for projects being delivered under innovative structures, even though they may be delivering better value for money for tax-payers.

4. Leveraging Non-Federal Interests for Fully Federal Water Resources

Given funding limits, consideration should be given to authorizing non-federal interests to be established for purposes of infrastructure and service delivery on fully federal water resource assets, such as inland waterways, applying the definition of Federal Interest established via section 221 of the Flood Control Act of 1970 (42 U.S.C.1982d-5b). It would also likely need to include the expansion of authorities set forth in WRDA of 1986 with regard to cost-share responsibilities to include inland navigation. This would provide two benefits: first it would allow non-federal sponsors to leverage value-capture and other strategies to help fund inland waterway improvements and second, in the event that federal P3 is not fully enabled, would allow for the delegation of responsibilities to a non-federal partner. That said, it is important to leveraging non-federal interests to address key infrastructure, such as inland waterways, is not a solution in and of itself. In fact, creating additional layers of government and bureaucracy could actually hinder inland waterway development, instead of advance it. The most efficient approach would be to encourage cost-sharing and enable federal agencies to work with existing non-federal entities on funding issues, while providing federal agencies with tools to directly engage in P3 or other forms of enhanced project delivery.

5. Reform Existing Trust Funds

As discussed previously, the establishment of federal trusts or revolving funds for project-specific purposes is a critical factor in creating an enabling framework for the enhanced delivery of federal water resources. At present, a number of similar funds exist, such as the Inland Water Trust Fund (IWTF), Harbor Maintenance Trust Fund (HMTF), and Reclamation Fund, but none of these currently have the legal authorities necessary to be leveraged for project-specific or life-cycle asset management purposes.

Consideration should be given to a structural reform of these Trust Funds to facilitate investment in critical water resource projects. For instance, on a purely pilot basis, Congress could authorize relevant federal authorities to dedicate some portion of the funds deposited in these Trust Funds to create a repayment stream in support of enhanced delivery. The designation of this guaranteed revenue source could be used to back repayment of project-specific bonds.

Significant legislative changes would be required to enable the existing Trust Funds to be leveraged for project-specific purposes, but this would quickly allow the public authorities to employ existing revenue streams to back longer-term investment in federal water resource works.

B. Cost-Shared Water Resource Infrastructure

Cost-shared or transferred works generally include a cooperative or contractual arrangement between the federal agencies and the non-federal sponsors of a project. In general terms, this involves a cost-sharing arrangement for the construction of the works, which is overseen by the federal agency. Upon completion of construction, the non-federal sponsor assumes full or partial responsibility to operate and maintain the asset over its useful life-cycle. These types of arrangements are often called public-public-private partnerships (P4).

Due to this delegation of responsibilities, these projects do not face the same constraints as fully federal water resource projects. Non-federal sponsors generally have greater flexibility than federal authorities with regard to both revenue generation / ring-fencing and budget-based payments. Nevertheless, enabling enhanced delivery for cost-shared projects also faces some important challenges:

1. Technical Assistance to Bolster Local Sponsor Capacity

Leaving aside the issue that not all jurisdictions have P3-enabling legislation for water resource infrastructure, the institutional characteristics and capabilities of non-federal sponsors can vary significantly depending on the project, ranging from state or local governmental agencies to small irrigation districts or specially created joint power authorities. This lack of uniformity in the delivery of water resources, coupled by significant disparities in non-federal sponsors, is a challenge. In many instance, the local water authorities may not be credit-worthy or have the institutional capacity to explore enhanced delivery models, such as P3.

To help address this problems, federal agencies should create a policy framework to assist non-federal sponsors of cost-shared water resource projects to identify, access and leverage value-captures opportunities and explore/implement performance-based infrastructure, where appropriate. This policy framework should also include parameters of federal technical assistance to eligible non-federal sponsors with regard to P3 procurement, contracting and contract governance and oversight. The policy framework should also align with other initiatives to develop federal aid programs and viability gap funding to ensure that poorer and rural communities also have access to private-sector financing and expertise. A relevant model for providing this sort of assistance can be found in the Federal Highway Administration, Office of Innovative Project Delivery.

2. Viability Gap Funding for Rural and Poorer Communities

Many economically justified public infrastructure projects may fall short of financial viability under a user-pay P3 structure, particularly when projects involve long development periods, early-stage demand risk, and/or the inability to immediately increase user charges to commercial levels. Extended revenue ramp-up periods can yield negative cash flows during the early years of a project, breaching debt service coverage ratio requirements, increasing costs and, more generally, impeding financial viability.
If the public sector hopes to leverage private capital for high priority, economically justified projects that lack short term financial viability, it should consider authorizing policy tools aimed at increasing their financial viability.

Viability Gap Funding ("VGF") is a broad term for government fiscal policy aimed at supporting performance-based infrastructure. Generally, the objective of VGF is to enhance the financial viability of the project to enable non-traditional finance and delivery through P3, likewise ensuring the affordability of public infrastructure and services to the community.

VGF mechanisms can take many different forms and are generally only offered after all other practical remedies have been exhausted (such as refinement in the scope or standards of the project). Depending on the needs of the project, VGF can be offered either directly to the private partner or directly to rate paying beneficiaries (users) of the asset. Forms of VGF can include, amongst others, the following:

(i) **Cash Grants**: Federal grants paid to the private partner to off-set a predefined level of project costs, thereby enhancing financial viability;
(ii) **Smart subsidies or usage incentives (to users)**: Federal funding or tax credits provided on a temporary basis to users of an infrastructure facility to off-set part of the user fee and/or to incentivize use of the public asset. This accelerates demand, while likewise enabling commercial pricing, thus improving project viability;
(iii) **Minimum revenue guarantees**: Federal guarantee provided to a private partner or non-federal sponsor to ensure a minimum level of revenues during a specified period. Payments of the guarantee are defined as the difference between predetermined revenue levels and actual revenues, based on tariff and demand levels. This lowers project demand risk and secures debt service coverage ratios, thereby improving a project's financial viability;
(iv) **Federal Credit Programs / Concessionary finance**: Expanded federal credit assistance and/or subsidized (below market) debt financing, thereby lowering financing costs in order to enhance project financial viability and/or lower user fees;
(v) **Other**: A wide range of other policy tools, such as tax abatements or tax credits, work-in-kind contributions, land-use rights, etc., may be considered for eligible projects.

Eligibility criteria for VGF can vary, but would generally reflect the following:

(i) The project is economically feasible but not financially viable in the short term [the expectation is that the project will transition to total cost-recovery and financial viability within a specified period, not exceeding 50% of the term of a P3 agreement];
(ii) Project repayment is primarily based on user payments;
(iii) Private investors are selected through open and competitive bidding process;
(iv) Asset ownership remains with the public sector;
(v) The feasibility study evidences benefits deriving from a P3 finance and delivery structure, including optimal risk allocation, and concludes that the project is economically feasible (including technical, legal, social, and environment aspects) and will become financially viable with VGF support;
(vi) The amount of the VGF is generally a financial bidding parameter.

In order to balance the playing field for rural and poorer communities, federal agencies should develop a VGF program. This should include expansion of the WIFIA credit program, as well as the authorization of expanded grant and revenue guarantee programs for water resource infrastructure. The program could be administered within relevant federal agencies, such as USACE or USBR, or delegated to the EPA Water Infrastructure and Resiliency Finance Center.

3. Federal Funding and Budget Prioritization Criteria

Unless a non-federal sponsor is willing to assume full responsibility for the cost-shared or transferred works, the federal cost-share partner still maintains funding and other obligations under enhanced deliver. The challenge, however, is that the federal appropriations cannot be ensured on an ongoing basis, creating a funding risk for the project. While it is unlikely that the federal agency could be held liable for any failure to deliver funding or other obligations, this is a significant risk that may dissuade non-federal sponsors from pursuing enhanced delivery projects. Federal agencies must be able to commit to their cost-share and other obligations in these instance, otherwise non-federal cost share partners will be discouraged from advancing projects with the use of enhanced delivery.

Federal agencies should establish detailed screening and selection criteria for locally-led P3 projects, including budget prioritization criteria. This would allow for the objective assessment and ranking of eligible P4 projects across jurisdictions and project purpose. While this framework would necessarily align with the budget prioritization parameters proposed for fully federal projects, including consideration of issues such as federal return on investment, Value-for-Money, accelerated benefits and risk transfer, it would also need to include measures to ensure the equitable application of these criteria for poorer or rural communities (such as poverty mapping). The policy framework for funding P4 would also need to include broader consideration of total annual budget allocations for P4 projects.

C. Enabling Legislative Framework

If enhanced project delivery is to be pursued, there is a critical need for a broad-based policy and legislative framework. Although many federal agencies involved in water resources, such as USACE and USBR, have broad authorities to partner with non-federal entities, including non-governmental and private sector entities, the lack of an explicitly created framework to enable performance-based contracting for federally owned and/or operated water resources constitutes a significant constraint. Most successful federal civil works P3 initiatives to date (such as for energy and highways) have benefited from specific enabling legislation and/or special authorities. However, there have been no similar actions undertaken to facilitate P3 for federal water resources.

While WRRDA 2014 set out a framework for USACE to establish a P3 pilot program for authorized water resources development projects, activities related to the program were only authorized to the extent specifically provided for in subsequent appropriations, which have not been granted. Moreover, the legislation does not provide specific authorities necessary to enable P3, but simply sets for the parameters for developing a program and identifying constraints. Other agencies managing water infrastructure, however, have received no specific authorities relating to P3 or alternative finance and delivery, thereby limiting their ability to structure solutions to those provided in existing legislation.

Although many of the specific areas where legislative authorization is needed have been discussed in this testimony, such as the authority to assess fees and commit them to project-specific purposes, etc., other areas where legislation is lacking include, among others, the following:

(i) **Contract Term:** Federal agencies require authorization to enter into long-term contracts to allow for repayment opportunity and to minimize contract risk. Congress has previously provided federal agencies with this authority, such as in the case of §2922a "Contracts for energy or fuel for military installations" or 10 U.S.C. 2922a (DOD Authority), which allows for contracting for up to 30 years for certain activities (energy production facilities on DoD real property or on private property).

(ii) **Expanded use of federal value-capture / savings performance contracts:** This could be achieved by drafting provisions similar to those applied for Energy Savings Performance Contracts, allowing for operations and maintenance savings to be leveraged in performance-based contracting.

Finally, it merits noting that, at present, there is really no incentive for federal agencies to pursue enhanced delivery, even when it results in better value for taxpayers. Monies that would otherwise be obligated to these projects would be need to be taken away from projects that are already being funded, creating a disincentive for their use. This also needs to be addressed in order to enable more efficient infrastructure delivery structures.

In closing, as a nation, we urgently need to invest in our country's water resource infrastructure, but this is not simply an issue of funding. Our current infrastructure delivery system is broken and as such, the U.S. infrastructure solution cannot and should not be a one-off cash infusion. We need a long-term strategy for building and maintaining our infrastructure assets. We also must insist that our federal agencies deliver infrastructure in the timeliest and most cost-efficient manner possible, maximizing value-for-money for our citizens.

Thank you again for the opportunity to address the Committee on these important issues.

HARVARD Kennedy School
ASH CENTER
for Democratic Governance
and Innovation

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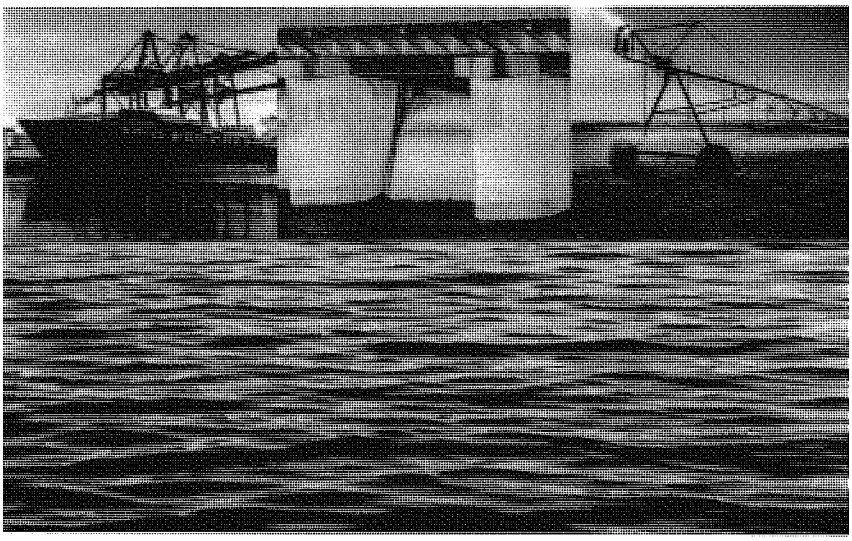
Tapping Private Financing and Delivery to Modernize America's Federal Water Resources

ASH CENTER FOR DEMOCRATIC GOVERNANCE AND INNOVATION
Harvard Kennedy School
79 John F. Kennedy Street, Mailbox 74
Cambridge, MA 02138



This report was developed by the Ash Center for Democratic Governance and Innovation at Harvard University's John F. Kennedy School of Government under the direction of Stephen Goldsmith, Daniel Paul Professor of the Practice of Government, and Director of the Innovations in American Government Program at the Ash Center.

Authors: Stephen Goldsmith, Harvard Kennedy School
Jill Jamieson, Jones Lang LaSalle

Contributors: Wyatt Cross, Harvard Kennedy School
Gerry Galloway, Ph.D, University of Maryland

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About the Ash Center

The Roy and Lila Ash Center for Democratic Governance and Innovation advances excellence in governance and strengthens democratic institutions worldwide. Through its research, education, international programs, and Government Innovations awards, the Center fosters creative and effective government problem solving and serves as a catalyst for addressing many of the most pressing needs of the world's citizens.

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Foreword

Our Nation faces an infrastructure crisis that is rarely discussed in the popular press but is detrimental to our economy and safety.

Federally sponsored water resource infrastructure has long been taken for granted despite its size and significance. Over 12,000 miles long and connecting all but nine States, the U.S. inland waterway system is one of our Nation's most valuable assets, both as a natural resource and as a feat of engineering. One hundred ninety-six locks and two hundred chambers allow boats to reach the deepest interior parts of our Nation to serve our citizens and commerce. Moreover, the United States relies on 475 federally operated dams, 337 federally operated reservoirs, and over 8,116 miles of Federal irrigation canals that provide for 140,000 farmers. When flooding rains come, 40,000 miles of levees protect our citizens. However, today this critical infrastructure is at risk.

Despite the obvious advantages of keeping our water resources healthy, our infrastructure is crumbling as Federal funding for modernization and expansion dwindles and agencies like the U.S. Army Corps of Engineers (USACE) and the U.S. Bureau of Reclamation (USBR) struggle to meet their growing obligations. To understand the severity of this problem, consider for a moment USACE's civil works spending, which has shrunk from 0.16% of the Nation's Gross Domestic Product (GDP) in 1962 to as low as 0.04% today. To put this decline in perspective, between 1962 and 2014, GDP grew from $3.3 trillion to $15.9 trillion (2009$). Over the same period, foreign trade volume grew from $207 billion to $3.7 trillion (2009$), while the Corps' annual spending remained flat in real terms, at approximately $5.9 billion (2009$).

Due to restrictions in funding and the way the Federal Government budgets for capital projects, we wait to fix critical infrastructure assets until they begin to fail rather than maintain and update them when it is most cost effective. This "fix-as-fails" approach is not only much more expensive, but also poses life-safety risks and results in increasingly common incidental delays to our commerce.

As recently as December 13, 2016, the Pittsburgh Tribune Review reported that the New Cumberland lock, 54 miles downstream of Pittsburgh, brought shipping traffic to a halt when the hydraulic valve that operates its gates failed. At the time of the incident, short-term repairs were still days away, and long-term repairs were projected to take months. This malfunction marked the third time the facility faced the same problem, delaying 30 million tons of goods that pass through the New Cumberland lock each year, over half of which is coal vital to heating homes and businesses in the area, as well as construction materials needed to supply blue-collar jobs.

But the New Cumberland lock is just one small example of an increasingly burdened system. In other parts of the country, many States face crisis-level water shortages but fail to deliver crucial irrigation projects. Bigger container vessels, brought on by the expansion of the Panama Canal, imperil U.S. competitiveness since many of our ports lack the funding necessary to deepen their channels. All over the country, critical flood risk management infrastructure requires upgrading, especially in the face of increasingly severe weather patterns. In each of these areas, by delaying investment we are in fact harming both the general public and taxpayers.

Indeed, the current system is broken. Limited funding coupled with protracted appropriations results in the least efficient and most costly infrastructure delivery system imaginable. Projects that should be completed in a few years instead take decades and are rarely, if ever, considered on a life-cycle basis, thereby eliminating incentives across all phases of a project that could produce low-cost, high-quality infrastructure.

This approach to capital projects seems particularly illogical in the context of my 25 years working with alternate investment, particular public-private partnerships (P3s). In my time as mayor of Indianapolis, my team and I took the savings from a private management contract of the city's wastewater system and leveraged that money into hundreds of millions of dollars of new infrastructure investment. Rather than impose new taxes or fees, we instead monetized operational excellence. Around that time, we also saw the Corps invest in aging floodwall repairs along our downtown river in a way that unlocked development opportunities in the surrounding property, ultimately producing new greenspace, museums, and private investment. Later, as an advisor on the private concession of the Port of Baltimore, I witnessed Maryland deepen its port, expand its surrounding economic development areas, and enhance ancillary infrastructure through the concessionaire's improved productivity and the resulting user fees generated by container traffic.

If we hope to modernize and expand our federally sponsored water resources to meet the needs of this Nation, we must consider alternative approaches that eliminate waste and inefficiency and are mutually beneficial to taxpayers, users, and rate payers. To that end, the Ash Center for Democratic Governance and Innovation at Harvard University John F. Kennedy School of Government convened Senior Leader Roundtables on Alternative Infrastructure Investment and Delivery Solutions for federally sponsored water resource projects. With the participation of a broad range of experts and stakeholders, including representatives of the Federal Government (both the executive and legislative branches), State and local Governments, and key infrastructure users, the Roundtables explored the following:

- The need for innovative finance and delivery approaches to modernize and expand federally sponsored water resource infrastructure in support of economic growth, water security, and public safety for the United States
- The role that alternative finance and delivery modalities, such as P3s, can play in the development of federally sponsored water resource infrastructure
- Potential strategies and solutions that can be pursued to overcome existing constraints that currently preclude Federal agencies from using these alternative/innovative mechanisms for water resource infrastructure

The following report summarizes the findings of the Roundtables, detailing how the private sector should be deployed to help deliver and maintain the Nation's crucial water infrastructure in a timelier and more cost-effective manner. To achieve this end, it is imperative to remove deep-seated obstacles and biases at the Federal level that impede the use of private financing modalities, such as P3s. As discussed in this report, policies and legislative barriers need to be thoughtfully modernized and amended in order to enable the Nation to transfer risk, accelerate delivery, and secure life-cycle efficiency in the delivery of critical water resource infrastructure.

Stephen Goldsmith
Daniel Paul Professor of the Practice of Government
Director, Innovations in American Government Program
Harvard Kennedy School

1. The Water Infrastructure Challenge

Federally sponsored water infrastructure built over the past century—in support of navigation, flood risk management, aquatic ecosystem restoration, hydropower, irrigation, water supply and wastewater treatment, hydropower, and environmental sustainment—provides substantial economic and social benefits to the Nation, fostering economic growth and improving our citizens' safety and quality of life. But today that infrastructure is at risk.

Decades of inadequate funding have resulted in deferred maintenance and system unreliability that damage our economy. America's "fix-as-fails" approach to asset management is both inefficient and costly, threatening U.S. global competitiveness. Moreover, funding shortfalls coupled with protracted appropriations thwart our ability to deliver much needed new and expanded infrastructure, as evidenced by the current $60 billion backlog in congressionally authorized but unfunded projects.

Proof of the deteriorating condition of our national assets is everywhere: it is estimated that America averages 850 water main breaks per day,[1] while barges idle 12 or more hours[2] to pass through decaying inland waterway locks, burning fuel, incurring costs and wasting time. The American Society of Civil Engineers (ASCE) has assigned an overall grade of D+ to the condition of the Nation's major infrastructure. Critical water resources—such as inland waterways, dams and levees, wastewater and drinking water—score even worse, receiving the lowest aggregate score, D-, of all the major infrastructure sectors.

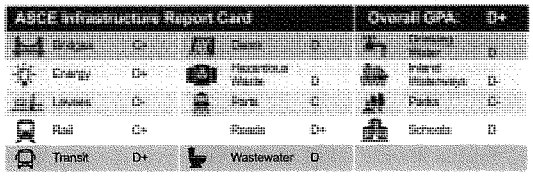


FIGURE 1: ASCE 2013 INFRASTRUCTURE REPORT CARD

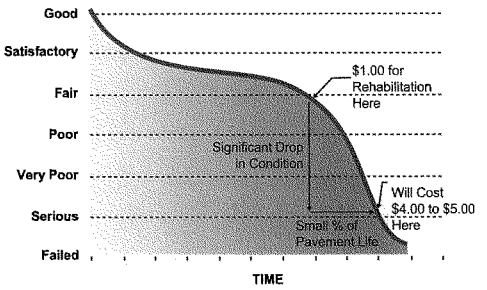
Over the last four decades, Federal appropriations for water infrastructure have dropped in real terms. Appropriations in the 1950s and 1960s primarily supported new construction. Over time, the amount of new construction has materially declined while the need for maintenance, rehabilitation and modernization of aging assets has multiplied. While O&M funding has increased in nominal terms over the years, funding has not kept pace with the rising costs of maintaining our water resource infrastructure. ASCE estimates a gap of $1.6 trillion between expected Government expenditures and identified needs during the 2013-2020 period.[3]

Failure to act in an expeditious and efficient manner to maintain, repair, rehabilitate and update our water resources will yield adverse economic and social consequences for the Nation. America requires expanded and modernized infrastructure to meet the emerging needs of global commerce. Post-Panamax vessels are now passing through the Panama Canal, yet even the largest American ports are unable to accept many of these vessels due to inadequate channel depths and other infrastructure shortfalls. How will America compete if its ports are unable to meet the needs of the larger post-Panamax vessels? Rural communities are increasingly in danger of polluted or depleted water sources. How can our cities and rural communities continue to exist without access to sustainable water supplies? America has been a leader in agricultural development and commerce. How will our farmers continue to feed the world if transporting their goods by barge on inland waterways becomes unreliable, dangerous, and increasingly expensive? Infrastructure failures endanger public

[1] Source: ASCE and www.watermainbreakclock.com
[2] Source: ASCE 2014 Inland Waterways Report Card (http://www.isasce.org/wp-content/uploads/2014/04/2014-Illinois-Navigable-Waterways-Final-Report.pdf)
[3] Source: ASCE 2013 Infrastructure Report Card

safety, bring business activities to a halt, displace families, and shut down national and international commerce. Moving forward with the modernization and expansion of our water resources is not a luxury, it is a necessity, as it ensures public safety and spurs gross domestic product growth, trade, job growth and consumer spending.

If America is to remain a global economic leader, these infrastructure needs must be addressed. The United States must build and expand its water resources while tackling its massive backlog of deferred maintenance. The "fix-as-fails" approach is unsustainable, shortsighted and the least efficient means possible to address our Nation's critical infrastructure. As Figure 2 illustrates, for every dollar of deferred maintenance taxpayers will need to invest four to five dollars in capital improvements later on.[4] It is bad business to postpone needed improvements, as the associated costs increase exponentially over time. Moreover, as interest rates rise, the cost of these investments will increase further. Failure to act today does not simply move the present burden to future years, but rather transfers a significantly larger burden to future generations.



Source: Federal Aviation Administration (FAA) 2010.

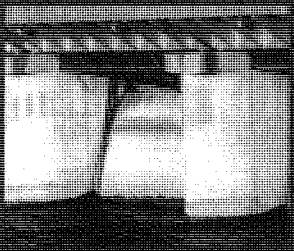
FIGURE 2: DETERIORATION OF INFRASTRUCTURE OVER TIME (FHWA AND KAHN AND LEVINSON)

The current funding and delivery structure for federally sponsored water infrastructure is clearly inadequate to meet the needs of the nation. Protracted appropriations of limited Federal funding delay project completion, defer public benefits and increase unnecessary costs. Construction projects that could reasonably be completed in a few years instead last generations, provoking cost overruns and exasperation, while our existing infrastructure descends further into disrepair.

Enabling alternative financing and delivery strategies to address this growing backlog of needed work is vital to maintaining and modernizing the nation's federally sponsored water infrastructure.

[4] Source: Matthew E. Kahn and David M. Levinson, Fix It First, Expand It Second, Reward It Third: A New Strategy for America's Highways, available at https://www.brookings.edu/wp-content/uploads/2016/07/02_highway_infrastructure_kahn_levinson_paper.pdf

FUNDING AND DELIVERY OF WATER RESOURCE PROJECTS WITH A FEDERAL INTEREST



Currently, most water resource projects in which there is a Federal interest are delivered either entirely as a federal project (owned and operated by the Federal Government) or under a shared-responsibility arrangement between a federal agency and a non-Federal partner (such as a State or local government, or a beneficiary water district). The precise nature of these arrangements varies by agency, as do some of the funding and ownership arrangements. However, federally sponsored water resource projects generally fall into one of these two delivery categories.

The Federal Water Resources Financial Efforts

Federally owned and operated water resources, also sometimes referred to as "Reserved" works, are those facilities for which the Federal Government holds title and has retained O&M responsibility. Projects that fall into this category include critical federal infrastructure, such as inland waterways, navigation channels, major dams and water supply projects (such as the Hoover Dam), as well as certain flood risk management projects. In most instances, Federal appropriations or Federal trust funds pay for these projects. Federal agencies coordinate with local authorities, but the Federal Government retains full ownership, as well as O&M responsibility over the asset life-cycle.

Cost-Shared/Transferred Works

Cost-shared or transferred works generally include a cooperative or contractual arrangement between the Federal Government and the non-Federal sponsors of a project. In general terms, this involves a cost-shared arrangement for the construction of the works, which is overseen by the Federal agency upon completion of construction. The non-Federal sponsor assumes full or partial responsibility to operate and maintain the asset over its useful life-cycle. Transferred works can include flood risk management projects, dams and levees, water delivery and distribution canals and laterals, reservoirs, hydropower facilities, pumping plants, ecosystem restoration projects, and similar facilities.

There is significant variation across both project type and Federal agency as to the details of these cost-shared arrangements. In some cases, such as with USBR, the Federal agency may retain title to the asset after construction, while in others, such as with USACE, it does not. Likewise, even within relevant title, USBR requires that Federal funding be reimbursed by local sponsors for some project types (such as irrigation and power), but not for flood control. USACE does not require reimbursement under its cost-shared arrangements.

These baseline funding and delivery arrangements for federally sponsored water resource projects are important to understand in that they are a critical consideration when exploring potential alternative finance and delivery structures, such as a public-private partnership (3P). Baseline considerations, such as asset ownership/life-cycle responsibility, can materially impact issues such as Office of Management and Budget (OMB) scoring and revenue generation and tax treatment, making alternatives finance and delivery for Federal water resources all the more nuanced and complex.

2. Alternative Finance & Delivery – Another Tool in the Toolbox

As the United States explores options to address its federally sponsored water resource investment needs, it is not alone. In today's global economy, modern and efficient infrastructure is a necessary precondition for competitiveness and growth. Faced with aging and inadequate capital assets, public authorities across the world are racing to repair, expand, and modernize their core infrastructure and service offerings. Public agencies, however, often lack the financial resources and expertise required to meet their investment needs in an efficient manner.

In order to bridge this funding gap, public officials across the Nation and the globe are increasingly turning to public-private partnership. Through an infusion of private capital and management, P3 can ease fiscal restraints and boost efficiency in the provision of public infrastructure and services, shortening delivery times, increasing innovation, addressing maintenance, reducing life-cycle costs, and generating better Value-for-Money (VfM) for taxpayers.

P3 generally refers to a range of contractual agreements between a public sector contracting authority and a private entity for the design, construction, financing, operation and/or maintenance of public infrastructure.

FIGURE 3: INFRASTRUCTURE & SERVICE DELIVERY SPECTRUM OF OPTIONS

Contract modalities vary as to the degree of private sector responsibilities and the extent of project risk transfer to the private party. However, P3 generally differs from more traditional delivery structures in that it typically transfers risks associated with the delivery of the infrastructure and services to the private partner.

While leveraging private sector debt and equity to provide full upfront funding for a water resource project would accelerate delivery and eliminate delivery inefficiencies, this is only a small part of the P3 value proposition. The benefits of P3 to the taxpayer derive from the alignment and integration of financial interests with private-partner performance over the life-cycle of the asset.

VfM is the key driver in P3. VfM is not focused solely on the cost of borrowing, but instead accounts for the best long-term solution for infrastructure and service delivery. VfM analysis evaluates the total life-cycle costs and benefits of service delivery.

When compared to the traditional funding and delivery approach for water resources, incremental benefits of P3 may accrue from, among other factors, the following:

- **Speedier implementation of infrastructure projects, which accelerates public benefits and reduces capital costs:** Under the current structure for water resources delivery, protracted appropriations significantly increase costs by unnecessarily delaying project completion, even when Federal funding is available. This rise in costs reflects not only inflationary adjustments, but also real growth attributable to additional overhead, mobilization/demobilization, asset maintenance, insurance, and other factors. When project completion is delayed, Federal and local taxpayers pay interest on debt associated with unfinished projects while they provide no public benefit. This is a bad deal for taxpayers and the public. Under P3, full funding is made available at a project's outset with the help of private financing. Equally important, P3 transfers schedule and cost risk to the private partner, putting private capital at risk, thereby incentivizing performance. Compensation to the private partner begins only after the work is completed so that the public payment is concurrent with the delivery of public benefits.

- **Life-cycle focus of service delivery/life-cycle cost efficiencies:** Under a P3 arrangement, the private partner is typically in charge of the financing and delivery of capital improvements, as well as the operation and/or maintenance of the infrastructure asset over the term of the contract. Linking long-term asset performance to design and construction creates powerful incentives for delivering a high quality facility, which optimizes operating performance and minimizes life-cycle costs. Likewise, P3 addresses life-cycle asset maintenance, locking-in funding and ensuring through performance-based payments that assets are maintained at prescribed levels over the term of the contract.

- **Risk transfer:** With the traditional funding and delivery approach to water resources, the public sector retains almost all risks associated with the construction, operation, and maintenance of public infrastructure. Under a P3, much of this risk can be transferred to the private partner, who assumes fiduciary responsibility for the delivery and performance of the asset. This risk transfer creates real value for taxpayers, limiting cost overruns, schedule delays, performance shortfalls, and deferred maintenance. While not all risks can be fully transferred in all instances, there is real and quantifiable value to the taxpayer in reducing public sector risk exposure by allocating risk to private partners that are better positioned to manage those risks.

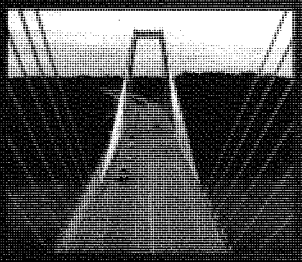
- **Improved service levels and reliability:** Given their use of performance-based incentives and compensation structures, P3s have a proven track record of improving the quality and service levels of public infrastructure. Specialist service providers offer access to expertise and innovation in order to meet or exceed contractually prescribed output-based performance levels for which they are held accountable.

- **Improved efficiency and innovation:** Linking long-term asset performance to design and construction creates powerful incentives for efficiency and innovation. Much of the value of P3 derives from allowing the private sector to leverage innovative approaches to meet the output standards prescribed by the public contracting authority.

- **Monetization:** Innovation, in addition to profit motive and expertise, can incentivize the private partner to identify and develop new, creative sources of revenue from public infrastructure. These new sources of income can be used to offset core infrastructure costs, or alternately, may be shared with the public sector, creating additional sources of revenue for other priorities. Asset monetization is typically not a core competency of public agencies, and thus these opportunities to extract value from existing assets often go unexplored under traditional delivery structures.

- **Heightened accountability:** Detailed contracts between the public authority and private partner regulate P3s. The public authority sets service levels and then verifies and regulates the quality of the service through financial incentives for exceeding targets or punishment for under-performance. This arrangement provides the public with greater insight into targeted performance levels, something that is not always readily available under traditional delivery.

P3 AND LIFE-CYCLE COST EFFICIENCIES: OHIO RIVER BRIDGES EAST END CROSSING



For decades, Indiana and Kentucky have been planning the construction of a new crossing over the Ohio River. The plan, now known as the Ohio River Bridges project, calls for two new bridges. One crossing is in downtown Louisville and the other slightly out of town.

One unique aspect of the Ohio River Bridges project is that the States of Indiana and Kentucky have inadvertently created a natural experiment for testing two delivery methods. The downtown bridge ("Downtown Crossing") is being built by Kentucky under a traditional delivery approach, while the other, known as the "East End Crossing," is being built by Indiana under a Design-Build-Finance-Operate-Maintain (DBFOM) P3.

While it is still too early to compare the delivery methodologies outright, early evidence suggests that significant value was gained by employing the P3 approach. With the completion date shortened by eight months, the private partner also produced a 28% ($225 million) capital cost savings, as compared to Indiana's original delivery estimates. Moreover, as the private partner will also be responsible for operating and maintaining the Bridge, it employed innovative design alternatives, such as LED lighting, more robust pavements, and "weathering steel" that will not need to be repainted, in an effort to optimize life-cycle performance and reduce maintenance costs over the 35-year term of the P3 agreement. This, coupled with guaranteed performance and handback standards, ensures that over the term of the P3 agreement, the East End Crossing will be in optimum condition.

Opponents of P3 often dismiss these potential benefits, focusing instead on one simple factor: the Federal Government has a lower cost of borrowing than the private sector. This interest rate differential alone is cited as evidence as to why P3 must be a bad deal for taxpayers. Nevertheless, this argument fails to understand that financial costs are only a small percentage of total life-cycle asset expenditures. A more important consideration is the whole-life cost of the asset, as well as the additional value to taxpayers in accelerating benefits, ensuring life-cycle asset management and transferring risk.

Case studies abound in which traditional funding and delivery of infrastructure results in delays, cost overruns, and other inefficiencies that unnecessarily burden taxpayers. One may reasonably ask whether the transfer of construction risk, coupled with more timely appropriations, might have helped to mitigate some of the skyrocketing cost overruns and schedule delays associated with the Olmsted Dam. A quarter-century delay and a three-fold cost increase[5] evidence the intrinsic value of optimizing risk allocation, the cornerstone of P3. Equally relevant would be to ask about the efficiency and cost-effectiveness of protracted appropriations. Given current Federal appropriation levels, the Grand Prairie Irrigation Project, originally authorized in the 1950s, is not expected to be completed for decades. This timeline is particularly difficult to accept given the project's relatively basic design. As benefits will not accrue until the construction is fully completed, both Federal and State taxpayers are paying interest on debt issued to fund the project with no benefit. Moreover, delays have resulted in a near doubling of project costs, as well as questions about whether some completed components of the project (such as the pump station) will be obsolete by the time the project is ready to deliver water.[6] Under a P3 approach, this project would likely have been completed in three years, at a significantly lower cost.

P3s and other forms of alternative finance and delivery can help public authorities to better address our Nation's water resource needs. Although P3s are complex policy tools that cannot be applied to all projects, they can create significant value for the taxpayer and the Nation when done correctly. P3s will never entirely replace traditional delivery structures, but if the Nation is to address its water resource investment needs, P3s must be included as another tool in the Federal water resources toolbox.

[5] Authorized in 1988 by Congress at an estimated price tag of $775 million, the most recent congressional authorization reflects a total cost of $3.1 billion. Source: http://thesouthern.com/news/local/years-overdue-billions-overbudget-olmsted-engineers-predict-the-project-will/article_96e07d92-dgcf-5dc3-af7e-1316b1315bd6.html

[6] The original Project Collaboration Agreement executed in 2000 stipulated a total cost of $319 million; however, estimates provided by USACE in 2016 now indicate a total project cost of $551 million.

3. P3 Constraints & Solutions

3.1 INTRODUCTION & OVERVIEW

Given the potential benefits of P3s, it is reasonable to inquire why these innovative structures have not been applied more broadly to federally owned or sponsored water infrastructure. The answer is actually quite simple: there are a number of systemic constraints that severely restrict—if not prohibit—Federal agencies from leveraging P3 for federally sponsored water resource projects. These constraints are relatively well understood by many within the agencies responsible for federally sponsored water resources, but to date, these impediments have not been addressed, thus restricting the use of P3.

Without a capital budget, project finance structures such as P3s are in direct conflict with the Federal pay-as-you-go budget system. Moreover, project financing, whether through public or private means, requires a dedicated funding stream to repay the associated investments, costs, and risks. However, at present, there are direct impediments to creating and dedicating a funding stream for Federal water resources.
There are two primary structures commonly used to compensate investments and risks associated with public infrastructure and services:

(i) **Usage-based payments:** This structure involves investments to be compensated on the basis of the usage of the asset. Payments are often (but not always) made directly by the user of an asset to the private partner, as in the case of tolls, user fees, or facility charges.

(ii) **Budget-based payments:** This structure involves compensation via payments made directly by the public agency. Payments are typically performance-based and tied to the availability of the asset and service levels, as in the case of availability payments, take-or-pay arrangements, and off-take agreements.

Regardless of the source of funding (usage payments, dedicated taxes, or general treasury receipts), the ability to dedicate and pledge a funding stream to be used to compensate investors for their costs and risks is a precondition for any alternative finance and delivery arrangement, such as P3.

Wherein instances where Federal agencies have authority to assess fees or levy taxes related to the use of Federal water resource assets, the monies are usually sent back to the Treasury General Fund or dedicated trust funds and subject to future appropriations. Without the ability to commit project-specific revenues to project costs, most Federal P3 projects are thus entirely dependent on budget-based payments (i.e., availability payments), which—regardless of risk allocation—are generally treated by budget authorities as a capital lease and scored upfront.

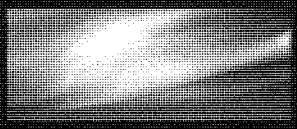
In other words, lacking the authority to assess and commit usage fees for specific project purposes, Federal authorities are effectively limited to availability or performance-based budget payments. However, with some limited exceptions (such as Energy Savings Performance Contracts and Power Purchase Agreements), this structure is untenable since budget scorekeeping rules under OMB Circular A-11 mandate that the entire Federal obligation relating to a project be "scored" upfront in a single year at the time the contract is executed. This process is indistinguishable from a very large appropriation for that project, and it therefore renders the probability of getting such budget approval extremely unlikely. Without the ability to leverage usage payments for P3s, and given the budget scoring treatment of budget-based payments, Federal agencies are simply unable to leverage P3 for the delivery of its federally owned and operated water resource infrastructure and services, even when P3 will produce significant benefits for the taxpayer.

To enable the use of P3 for Federal water resource projects, four critical actions have been identified to address these systemic constraints:

- Enable Revenue Generation and Ring-Fencing
- Enable Budget-Based Compensation Structures
- Further Enable Non-Federal Public-Public-Private Partnerships (P4)
- Create an Appropriate P3 Enabling Framework

Each will be discussed in the following sections.

COMPARING AND CONTRASTING FEDERAL WATER RESOURCES WITH TRANSPORTATION P3



Some point to the use of public-private partnerships for transportation projects as an example of how to leverage P3 for federally sponsored water resource projects. While relevant in certain respects, particularly in terms of the benefits deriving from P3, this comparison often overlooks important differences between surface transportation and water resource sectors, such as the following:

Institutional Delivery Structure

In the delivery of transportation infrastructure, the United States Department of Transportation (USDOT) primarily acts as a Federal grant or aid agency, allocating funding for projects through State or local departments of transportation. These State and local government agencies generally have access to significant resources and brings extensive experience and expertise in project delivery. By contrast, federally sponsored water resources are either delivered directly by Federal agencies, such as USBR or USACE, or they are delivered under a cost-shared arrangement with a designated non-Federal sponsor. In the case of transferred or cost-shared projects, the institutional characteristics and capabilities of the non-Federal sponsor can vary rapidly, depending on the project, ranging from State or local governmental agencies to small irrigation districts or specially created joint power authorities. This lack of uniformity in the delivery of water resources, coupled by significant disparities in non-Federal sponsors, requires that Federal water resources agencies adopt a somewhat different approach to P3 in the development of water resource projects than that applied to transportation. Offering non-Federal sponsors access to Federal credit and similar tools is simply not sufficient in and of itself to facilitate P3 projects for federally sponsored water resource projects.

Federal Water Resources Projects

Federal agencies such as USBR and USACE are solely responsible for Federally owned and operated water resource projects. As such, these agencies need the ability to engage directly in P3 arrangements for the design, construction, financing, and O&M of Federal water resource projects. Due to the grant nature of USDOT and FHWA projects, federal transportation agencies have not engaged directly in P3, but have only provided support and assistance for State and local P3.

While these are only two illustrative examples of the differences between Federal water resources and transportation, they are important in that they underscore the need to carefully tailor authorities to create alternative finance and delivery for federally sponsored water resources. It is not as simple as mirroring the Federal transportation experience with innovative project delivery. Although there are some good lessons to be learned from that experience, the requirements of a Federal water resource P3 program are quite different.

3.2 Federal P3: enabling revenue generation & ring-fencing constraints

There are three challenges facing Federal agencies when it comes to leveraging usage payments for federally owned and operated water resource infrastructure:

(i) Limited ability to assess new fees and generate revenues
(ii) Inability to commit revenues for project-specific purposes (ring-fencing)
(iii) Lack of contract authority to enter into agreements that encumber future revenues

Revenue Generation

At present, Federal authority to assess fees varies significantly depending on the specific asset class of the water resource. In some cases, such as inland waterways, a long legislative history prohibits tolls on federally owned river improvements;[7] in other cases, such as water storage, no legislative barriers exist. Constraints related to revenue generation need to be addressed on an asset-class or project-specific basis.

Although some Federal water resources are revenue generating, these rarely provide for full cost recovery. This runs counter to OMB Circular A-25 (Revised), which specifically calls for both the self-sustainability of public institutions and the need for enabling private sector participation in the provision of these services.

Revenue generation is a politically charged topic, with user groups and other beneficiaries frequently opposing payment for infrastructure and services. However, constraints impeding the ability to generate revenues must be addressed if Federal agencies are to be able to leverage private sector investment for Federal water resource projects.

Ring-Fencing

Currently, most fees and excise taxes assessed over the use of Federal water resource assets are deposited into the Treasury's General Fund or into specialized trust funds (such as the Inland Waterway Trust Fund, Harbor Maintenance Trust Fund, or the Reclamation Fund). These revenues are not available for dedicated project-specific purposes.[8] This inability to commit project-related revenues to specific project purposes represents a significant constraint to P3.

To facilitate alternative finance and delivery structures, Federal agencies must be able to collect and retain certain revenues for project-specific purposes. This is typically done by establishing an escrow account or revolving fund in which the monies are deposited and used for project-specific purposes.

Contract Authority/Anti-Deficiency Act

The ability to assess fees and dedicate them for project-specific purposes is important; however, the capacity to assess fees is of little practical value if the monies cannot be leveraged to finance and deliver infrastructure and services. To create the necessary conditions for a financially viable P3 structure, a Federal entity needs the authority to commit those future revenues in advance of their collection.

[7] Notable among the laws is the Rivers and Harbors Act of 1882.
[8] This refers only to federally owned and operated water resource projects. Many cost-shared or transferred projects do allow for revenues to be held outside of Treasury, but these will be discussed further in section 3.4.

This principle runs counter to the Anti-Deficiency Act. In essence, the Anti-Deficiency Act prohibits an agency from entering into a contract that would obligate more money than the agency has available on hand. In other words, Federal authorities cannot encumber future cash flows generated from user fees, as is typical in project finance, but instead are required to prefund the works (or separate the whole project into increments able to be funded annually). This is because an Anti-Deficiency Act violation would occur if Federal authorities were to enter into a contract valued above the amount of the money available in the revolving fund at the time of executing the contract. For all practical purposes, this circumstance runs counter to the principles of project finance and impedes any possibility of a user-payment-based P3 for a Federal water resource project.

STRATEGIES FOR ADDRESSING CONSTRAINTS

Federal Value Capture and Revenue Potential

Federal authorities would benefit from the flexibility to create and assess new user fees, particularly when required for cost recovery on Federal water resource P3 projects. This policy would be aligned to OMB Circular A-25 (Revised), which specifically calls for both the self-sustainability of public institutions and the need for enabling private sector participation in the provision of these services. While certain checks and balances would need to be established, including consultation with affected user groups, the authorization of any new fees would help facilitate P3 by allowing for full or partial cost recovery associated with infrastructure and service delivery.

There is ample precedent in which special authority has been granted to assess fees over Federal infrastructure. For instance, Title 23 of the United States Code (Highways) includes a general prohibition on the imposition of tolls on Federal-aid highways. However, Title 23 and other statutes have also carved out certain exceptions to this policy. Two mainstream Federal tolling programs and several pilot programs offer States opportunities to use tolling for generating revenue to support highway construction activities and implement managed lanes on Federal-aid highways. The most relevant of these is the Section 129 General Tolling Program, which allows tolling on new highways and new lanes added to existing highways, as well as on the reconstruction or replacement of bridges, tunnels, and existing toll facilities. A similar pilot authority should be considered for inland waterways.

Likewise, consideration should be given to updating and expanding revenue opportunities for other water resource asset types and business lines. For instance, value-additive fees for enhanced service levels could be levied for some project types, such as water supply or inland navigation. It may also be possible to monetize savings or benefits in other asset classes, such as flood risk management and ecosystem restoration. Existing fee-based structures should also be reviewed, such as in the case of hydropower and recreation, to ensure that these are reflective of the true underlying value of the infrastructure.

Moreover, Federal agencies should be granted authority to work with non-Federal sponsors and other beneficiaries to take advantage of value-capture opportunities for fully Federal water resource projects, particularly when used to repay investments under a P3 structure. The funding raised could be committed to project-specific purposes, even for federally owned and operated infrastructure.

Ring-fencing and Anti-Deficiency Considerations

To facilitate alternative finance and delivery structures, such as P3, revenues must be collected and retained for project-specific purposes. Although variations and nuances by project type exist, in general, this could be achieved by either depositing funds into a legally established revolving trust fund or by authorizing funds to be deposited into an escrow account held by a third party. The third party could be either the non-Federal sponsor or the private partner.

A revolving fund is a special account into which money is deposited for expenditure without regard to fiscal-year limitations. An agency has no authority to establish a fund of this type unless specifically authorized by Congress. The establishment of a revolving fund is a special exception to the general rule that Congress appropriates funds for an agency's use on a fiscal-year basis. Accordingly, revolving funds' administration and use are limited strictly to the terms of the act that establishes them.

As a consequence, many differences among revolving funds exist. However, money left in a revolving fund at the end of the year generally remains available for the following year's use. Furthermore, 31 U.S.C. 1516 grants agency heads the authority to exempt revolving funds from the normal rules by which appropriations are apportioned by time periods of less than a year or by activities, functions, projects, or objects.
The creation of a revolving fund for individual projects or project types could allow revenues to be dedicated to specific purposes. Nevertheless, money in a revolving fund does not otherwise lose its identity as "appropriated funds" and is still subject to the restrictions of the Anti-Deficiency Act. Alternatively, allowing revenues generated from Federal water resource assets to be deposited in a non-Federal or privately held escrow account could be a practical solution for some water resource projects.

Nevertheless, occasionally Congress may grant an agency a limited exemption from the Anti-Deficiency Act by giving the agency "contract authority," allowing it to enter into binding contracts even though it does not have sufficient funds available for obligation. All such grants of contract authority are strictly and narrowly construed. If Federal agencies hope to utilize revenues for project-specific purposes, they would need contract authority to allow them to enter into contractual arrangements on the basis of future revenues.

As an alternative, the establishment of non-Federal revolving funds would likewise enable the use of alternative finance and delivery approaches. In this sense, there are some precedents that could serve as a model, particularly in the hydropower sector. The Bonneville Power Administration (BPA) provides a good example. The BPA region operates under a Direct Funding authority granted by Section 2406 of the Energy Policy Act of 1992. This authority allows USACE and BPA to utilize revenue from the sale of hydroelectric power from 21 USACE hydropower plants and make reinvestments directly back into a major rehabilitation capitalization and O&M program for those plants. This ensures the adequacy of annual funding, allowing for more strategic planning and efficient asset life-cycle management. This model of revenue ring-fencing should be applied more broadly to other asset classes in order to enable P3.

Leveraging Trust and Revolving Funds for P3 and Project-Specific Purposes

As discussed above, the establishment of Federal trusts or revolving funds for project-specific purposes is critical in creating an enabling framework for P3s for Federal water resources. At present, a number of similar funds exist, such as the Inland Waterway Trust Fund, Harbor Maintenance Trust Fund, and Reclamation Fund, but none of these currently have the legal authorities necessary to be leveraged for project-specific purposes.

Consideration should be given to a structural reform of these Trust Funds to facilitate investment in critical water resource projects. For instance, on a purely pilot basis, Congress could authorize relevant Federal authorities to dedicate some portion of the funds deposited in these Trust Funds in support of a P3. The designation of this guaranteed revenue source could be used to back repayment of private sector investments or project bonds.

Significant legislative changes would be required to enable the existing trust funds to be leveraged for P3 or other project-specific purposes, but this would quickly allow the public authorities to employ existing revenue streams to back private sector investment in Federal water resource works.

Minimum Revenue Guarantee Commitments to Treasury as a Policy Parameter

One common complaint levied against the concept of allowing revenue ring-fencing is that the U.S. Treasury depends on the revenues generated from these projects as part of its general income. Dedicating these existing revenues to project-specific purposes would create a shortfall in U.S. Treasury receipts, which could negatively impact a wide variety of critical national programs.

To address this issue, consideration should be given to creating a minimum revenue commitment to Treasury for projects that might otherwise negatively impact annual revenues. This means that P3 projects would be funded by the marginal increase in revenues over existing baselines.

Viability Gap Funding to Meet the Challenge of Cost Recovery for Water Resource Projects

Many economically justified Federal water resource projects may fall short of financial viability under a user-pay P3 structure, particularly when projects involve long gestation periods, early-stage demand risk, or the inability to immediately increase user charges to commercial levels due to affordability challenges.[10] Extended revenue ramp-up periods can yield negative cash flows during the early years of a project, breaching ratio requirements for debt service coverage; increasing costs; and, more generally, impeding financial viability. If Federal agencies hope to leverage private capital for high-priority, economically justified projects that lack short-term financial viability, they must consider policy tools aimed at boosting such projects' financial viability.

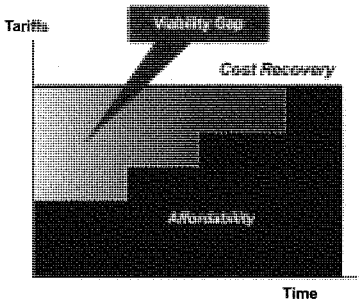


FIGURE 4: VIABILITY GAP FUNDING OVER TIME

Viability Gap Funding (VGF) is a broad term for government fiscal policy aimed at supporting infrastructure provision through the P3/P4 structures. Generally, the objective of VGF is to enhance the financial viability of a project to enable nontraditional finance and delivery through P3, ensuring the affordability of public infrastructure and services to the community. VGF mechanisms are typically offered only after all other practical remedies have been exhausted (such as refinement in the scope or standards of a project).

[10] Affordability may be measured both in terms of household income and by comparison with the price of alternative water sources. For instance, where public authorities are pursuing aquifer conservation, environmentally sustainable irrigated water systems may initially prove more expensive than simply pumping from depleting aquifers. Smart subsidies or other VGF mechanisms can be employed on a temporary basis to augment demand or revenue for policy-preferred water usage.

Depending on the needs of the project, VGF can be offered either directly to the private partner or directly to rate-paying beneficiaries (users) of the asset. Forms of VGF can include, amongst others, the following:

- **Cash grants:** Monies from the Federal agency paid to offset a predefined level of project costs, thereby enhancing financial viability.

- **Smart subsidies or usage incentives (to users):** Federal funding or tax credits provided on a temporary basis to users to offset part of the user fee and/or to incentivize use of the public asset. This accelerates demand while enabling commercial pricing, improving project viability.

- **Minimum revenue guarantees:** Federal agency guarantees to a private partner of minimum revenues during a specified period. Payments of the guarantee are defined as the difference between predetermined revenue levels and actual revenues, based on tariff and demand levels. In practice, whenever a private partner does not reach the predetermined level of income, the public entity will pay the private partner the difference between the predetermined level and actual income. Minimum revenue guarantees lower project demand risk and secure debt service coverage ratios, thereby improving a project's financial viability.

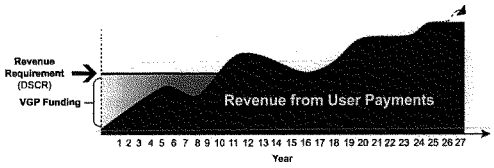


FIGURE 4: VIABILITY GAP FUNDING

- **Concessionary finance:** Federal credit programs, such as the Water Infrastructure Finance and Innovation Act (WIFIA), lower financing costs in order to enhance project financial viability or lower user fees.

- **Other:** A public entity may employ a wide range of other policy tools, such as tax abatements or tax credits, work-in-kind contributions, or land-use rights.

Eligibility criteria for VGF can vary, but generally include the following:

- The project is economically feasible, but not financially viable in the short term (the expectation is that the project will transition to total cost recovery and financial viability within a specified period, not exceeding 50% of the term of the P3 agreement).

- Project repayment is primarily based on user payments.

- Private investors are selected through an open and competitive bidding process.

- Asset ownership remains with the public sector.

- The feasibility study evidences benefits deriving from a P3 finance and delivery structure, including optimal risk allocation, and concludes that the project is economically feasible (including technical, legal, social, and environment aspects) and will become financially viable with VGF support.

- The amount of the VGF is generally a financial bidding parameter during the P3 procurement.

Due to limited affordability by users, full cost recovery may be a challenge for some federally sponsored water resource P3 projects. Consequently, Federal authorities should explore the establishment of a broad-based VGF program for qualified projects executed under a P3 structure. Projects most likely to require VGF support will frequently be in rural and poorer communities, so consideration might be given to leveraging the financial infrastructure already in place at the U.S. Department of Agriculture (USDA) for these purposes.

PROPOSED ACTIONS

Revenue Generation

- Where required, such as in the case of inland waterways, seek legislative authorization to impose tolls on a pilot basis, subject to strict conditions and oversight. Legislation could be modeled on Title 23 exemptions for Federal highways.

- Where legislation is not required, develop policies for the assessment, collection, and regulation of user or value-additive fees for Federal water resource projects. This should also include a broad review of existing fees and tariffs to determine whether these accurately reflect current market values.

Ring-Fencing & Trust Funds

- Seek congressional authorization for a P3 pilot revolving fund, which under 31 U.S.C. 1516 would be exempt from the normal appropriations rules and thus available for project-specific purposes. Moreover, request contract authority with regard to the use of the P3 pilot revolving fund through a limited exemption from the Anti-Deficiency Act. An exemption would allow eligible Federal water resource agencies (such as USBR and USACE) to enter into binding contracts on the basis of future revenues, even though they do not have sufficient funds available for obligation. The scope of this pilot application can be limited to include only a predefined number of projects or specific project types (such as irrigation, water supply, or inland waterways), until Congress has the opportunity to fully assess program benefits.

- Likewise, seek congressional authorization to allow for the establishment of non-Federal revolving funds to enable the use of alternative finance and delivery approaches for federally owned and operated water resource projects. Pursue this authorization in a manner consistent with the Direct Funding authority granted by Section 2406 of the Energy Policy Act of 1992 for BPA, allowing Federal authorities to dedicate and commit project-specific revenue. This model of revenue ring-fencing should be authorized to support and enable P3.

- Initiate actions to assess the viability of reforming existing Federal water resource trust funds, such as IWTF, HMTF, and the Reclamation Fund, to dedicate a portion of associated revenues to be used for project finance purposes. These purposes include repayment of private debt and equity under a P3 or issuance of revenue bonds.

Policy Parameters for Revenue-Neutral P3

- Federal agencies should collaborate with Treasury, OMB, and others to develop a broad-based policy defining the application of P3 for works that currently generate revenues for the General Fund. The policy should articulate considerations for enabling P3 in the event that current revenue levels are guaranteed, with some potential sharing of additional revenues between the project and Treasury.

Viability Gap Funding

- Federal water resource agencies should work with Treasury, USDA, the U.S. Environmental Protection Agency (EPA), and others to develop a broad-based VGF program for federally sponsored water resource projects executed under a P3 structure. Federal aid programs should be coupled with expanded access to Federal credit programs to ensure equitable access to private sector financing by all communities and projects.

3.3 FEDERAL P3: ENABLING BUDGET-BASED COMPENSATION STRUCTURES (E.G., AVAILABLITY PAYMENTS, PERFORMANCE CONTRACTS

CONSTRAINTS

Given the existing policy and legislative constraints relating to revenue generation and ring-fencing, Federal water resource agencies are effectively limited to budget-based compensation structures for P3 projects. Nevertheless, while budget-based P3s are very common both in the United States and across the globe, a number of constraints exist that limit their use with regards to Federal water resource projects.

Budget Scoring

Given the lack of authorization to assess fees and dedicate them to project-specific purposes, Federal authorities are essentially restricted to compensating private sector investments through budget-based payments. In accordance with OMB Circular A-11, however, these long-term payments are mostly— although not always—treated for budget scoring purposes as a capital lease or lease purchase, thereby requiring the entire project cost (an amount equal to the government's total obligations over the life of the P3 contract) to be scored against the legislation in the year in which the budget authority is first made available. In other words, regardless of how and when the work will be accomplished, if the Federal government is at some level responsible for financial commitments made in out-years, it must account for this commitment the year in which the commitment is first made. This budgetary impact in a single year is thus the total value of the project, effectively precluding Federal authorities from utilizing P3 to deliver water resource projects since such a large cost would eliminate sufficient funding for other ongoing projects.

The primary purpose of budget scoring is to ensure proper control and disclosure of resources for capital investment and operational expenditures. Federal budgetary scorekeeping rules are implemented primarily through OMB Circular No. A-11, which came about in the early 1990s in reaction to perceived abuses during the 1980s, especially in the area of real estate lease purchases where off-balance-sheet financing techniques left many believing that more visibility into the extent of financial commitments was needed. At the time these rules went into effect, OMB elected to use the principles embodied in Financial Accounting Standards Board (FASB) Statement No. 13, which is a set of accounting rules designed to govern how private sector companies either expense or capitalize leases.

Current scoring practices set forth in OMB Circular A-11 establish that for most long-term obligations to acquire an infrastructure asset (or to improve an existing asset), the budget authority will be scored against the legislation in the year in which the budget authority is first made available in an amount equal to the government's total potential obligations over the life of the contract. Under current scoring guidelines, projects involving private sector financing are often qualified as a capital lease purchase, thereby requiring that the totality of the government's potential obligations relating to the contract be scored in the year in which the obligation is incurred. Nevertheless, there have been notable exceptions to this at the Federal level, particularly in projects involving energy/utility initiatives and civil works projects.

Continuing Contract Authority

P3 projects involve multi-year obligations and payment streams, therefore, the associated contract must cover the needs or requirements of more than one fiscal year. In other words, performance and obligations extend into multiple fiscal years. Unless Federal authorities have either specific multiyear contracting authority (e.g., 62 Comp. Gen. 569 (1983)); are contracting in compliance with the multiyear contracting provisions of the Federal Acquisition Streamlining Act of 1994; or are operating under a no-year appropriation (e.g., 43 Comp. Gen. 657 (1964)), the Anti-Deficiency Act, together with the bona fide needs rule, prohibits contracts purporting to bind Federal agencies beyond the obligational duration of the appropriation. This is because the current appropriation is not available for future needs, and appropriations for those future needs have not yet been made.

Put another way, a fixed-term appropriation (fiscal year or multiple year) may be obligated only during its period of availability and only for the bona fide needs of that fixed term. The Anti-Deficiency Act prohibits the making of contracts which exceed currently available appropriations or which purport to obligate appropriations not yet made. If an agency does not have specific multiyear contracting authority but enters into a multiyear contract solely under authority of a multiple year or no-year appropriation, then the full contract amount must be obligated at the time of contract award.

To facilitate Federal P3 projects and mitigate contracting and appropriation risk, Federal water resource authorities would benefit from multiyear contracting authority.

Budget Prioritization

Given the accelerated delivery and cost savings associated with P3, as well as the associated risk transfer, traditional budget prioritization methods are not fully reflective of the underlying value of these benefits. Put another way, the current budget prioritization process does not account for or recognize benefits specifically deriving from the use of an alternative finance and delivery approach and may put P3 projects at a disadvantage when seeking Federal funding.

The ability to accelerate the delivery of an infrastructure asset through P3 not only results in efficiency savings, but also accelerates the resulting public benefits of the project. This should be considered when establishing budget priorities. Moreover, the value of risk transfer should also be considered. P3 typically transfers significant risk to the private partner, reducing Federal exposure to cost overruns, schedule delays, deferred maintenance, system performance, technology obsolescence, etc. The value of this risk transfer can and should be quantified and taken into consideration in calculations for budgeting purposes. Likewise, life-cycle efficiencies should be considered, particularly when they result in a higher return on Federal investment.

Value derived from the delivery method itself needs to be assessed and evaluated so that Federal authorities can explore the value of P3 on projects and prioritize accordingly.

STRATEGIES FOR ADDRESSING CONSTRAINTS

Alignment and Application of Budget Scoring Rules for Civil Works Concessions

As mentioned above, the Federal budgetary scorekeeping rules, which are implemented primarily through OMB Circular No. A-11, came about in the early 1990s in reaction to perceived abuses in the area of real estate acquisitions through lease purchases. At the time these rules went into effect, OMB elected to use the principles embodied in FASB Statement No. 13, which is a set of accounting rules designed to govern how private sector companies either expense or capitalize leases. Now that more than 25 years have passed, many see a compelling need to revisit the logic of continuing to apply these same rules blindly to all infrastructure classes, especially because the underlying accounting rules have changed.

The current budget scoring system discourages Federal agencies from looking to the private sector and its considerable resources to aid in addressing Federal water resources. The Federal Government has been unwilling or unable on its own to make direct Federal cash and credit available to fully fund its massive infrastructure needs upfront, as current budgeting rules require. Federal agencies have thereby been doomed to continually worsening infrastructure; or, as an alternative, to short-term expensive remedies to avoid budget scoring constraints. Recognizing the need for full disclosure and transparency in the budget process, consideration must be given to an alternative approach, at least on a pilot basis.

While efforts have been made in the past to revise OMB Circular A-11 and Appendix B, Federal agencies involved in water resources should look more broadly for a solution. They should not be subject to the same rules at all. It makes little sense for private investment in Federal water resources to be subject to the same scorekeeping guidelines as real estate assets, such as public buildings. A lease-versus-own decision for public buildings is important, as the government itself is primary off-taker and beneficiary of the asset. However, water resources, which are civil works, are built to provide public benefits. Water resources should not be qualified or scored in accordance with standards applied to real estate assets, but should be considered separately.

Evidence of this differentiation can now be found in standard accounting principles, which distinguish leasing from other forms of public-private partnership. For example, Government Accounting Standards Board (GASB) Statement 60 establishes accounting and financial reporting standards for service concession arrangements, distinguishing these from capital purchases. In broad strokes, GASB Statement 60 addresses how to account for and report service concession arrangements, a type of P3 commonly leveraged for civil works projects, such as toll roads. Although the details of Statement 60 are not relevant to the discussion, this codified distinction between certain types of civil works P3 and capital leases underscores the need to establish suitable budget scoring criteria for private investment in civil works projects.

Given that there is a need to carve out new scoring parameters for civil works concessions and other forms of P3, the logical question would be how to determine the budgetary scoring treatment for these arrangements. To address this question, it is important to understand that in accordance with global accounting standards, there are essentially two methodologies for determining the budgetary and accounting treatment of P3: the Control Methodology and the Risk-Reward Methodology.

The **Control Methodology** focuses principally on the level of public sector control of services. The logic behind this approach is that if the Government agency initiates construction of an asset, specifies its characteristics, retains ultimate financial responsibility, and is the primary beneficiary, then it "controls" the assets. As such, the assets should be classified as "on balance sheet" and scored as a capital purchase (essentially, as debt), with all obligations associated with the P3 (including future payments) being scored upfront. This implies budget approval in a single year for the totality of the cost of the asset, which for all intents and purposes makes project approval impossible. This is the methodology primarily applied in *OMB Circular A-11,* Appendix B.

Alternatively, the **Risk-Reward Methodology** is based on an economic risk and reward test. The fundamental principle is that the economic ownership of an asset lies with the party that possesses the asset and carries the risks, benefits and burden in connection with the asset. The assessment of whether a P3 asset is to be counted as Governmental is based on a risk transfer test. Where most of the project risk has been transferred to the nongovernment partner, then the assets should be classified as "off balance sheet" and any budget payments would be scored like an operating lease, over the life of the project. If project risk is not transferred, then assets would be classified as "on balance sheet" and scored upfront. This risk-reward methodology is commonly applied across the globe, as codified, for example, in the European System of Accounts ESA10 and ESA95.

The following decision tree illustrates the application of the risk-reward methodology for P3 projects in the UK and Europe, per ESA10 and ESA95:

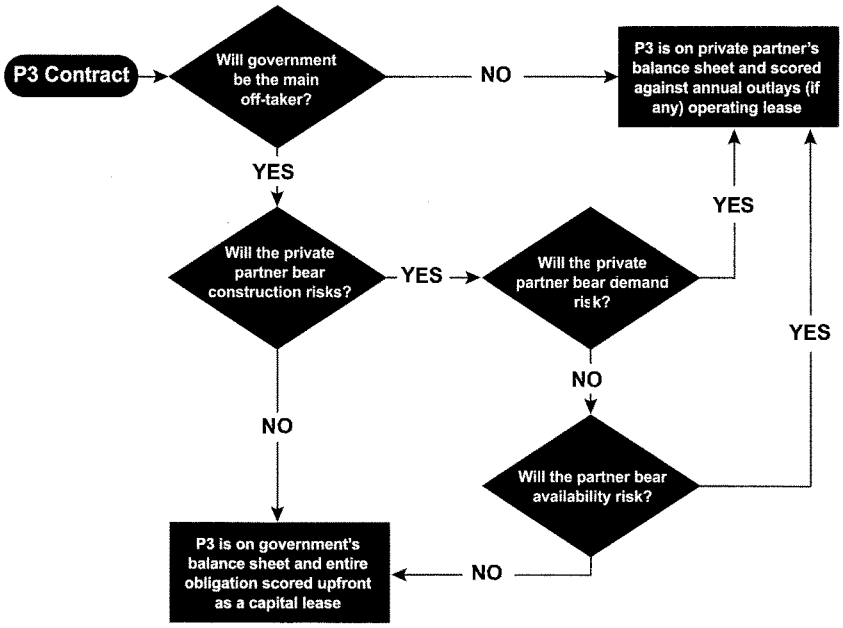


FIGURE 6: ACCOUNTING TREATMENT & BUDGET SCORING: ESA 95 DECISION TREE FOR STANDARD DBFOM P3 ARRANGEMENT

In the absence of clear scorekeeping rules for civil works projects, this risk-reward approach, which is well regulated and understood on a global level, should be applied to water resource projects involving budget-based P3. These rules achieve the same purposes as current OMB budget scoring guidelines, ensuring the proper control and disclosure of resources, but they more accurately reflect the underlying risk allocation contemplated in P3 arrangements. Moreover, this treatment would not amend existing rules, but instead create a new category of control. Accordingly, this treatment should be implementable by the OMB Director via Memorandum, in much the same way that scorekeeping guidelines were created for other priority initiatives, such as those codified in the Raines Memo for the Military Housing Privatization Initiative.

Budget Prioritization for Federal P3 Projects

As mentioned above, in the event that budget-based payments were allowable for P3, another critical hurdle to overcome would relate to budget prioritization for Federal P3 projects. How would a P3 project be compared and contrasted with other candidate projects, whether P3 or not, to determine which should receive Federal funding? Broader prioritization parameters are necessary to ensure that projects are compared on equal footing.

Potential investments are currently prioritized on the basis of their Benefit-Cost Ratio (BCR). While this process is well understood, it relies heavily on historic costing and completion estimates with no consideration whatsoever of issues such as Federal return on investment, Value-for-Money (VfM), accelerated benefits, or risk transfer. These elements are critical factors that should be contemplated within the budget prioritization process.

- **Federal Return on Investment:** Federal return on investment refers to the public benefits deriving from each Federal dollar appropriated to a project. It should be calculated on a risk-adjusted basis, reflecting estimated costs associated with differing delivery methods.

- **Value-for-Money:** VfM is defined as the optimum combination of life-cycle costs and quality. VfM processes have been designed and utilized, including at the Federal level, to help government officials compare the benefits of utilizing a P3 approach to traditional delivery. VfM analyzes the total life-cycle costs of service delivery and evaluates the benefits to the public at large, comparing these to alternative approaches (such as the cost of doing nothing or traditional delivery). Where there is true VfM derived from leveraging private sector financing and expertise, this should be considered for purposes of budget prioritization. Notably, in 2015 the VfM analysis was recommended as a best practice tool to be employed by all Federal agencies by a Special Panel on Public-Private-Partnerships created by the Committee on Transportation & Infrastructure of the House of Representatives.[11]

- **Accelerated Benefits and Cost Savings:** In a manner consistent with VfM, consideration should be given in the BCR calculation to the accelerated benefits and life-cycle cost-savings resulting from a P3. Excluding these potential benefits and cost reductions will put P3 projects at a disadvantage for budgetary considerations, thus hindering the ability to leverage private investment and expertise for Federal water resource projects.

- **Risk Transfer:** Real and quantifiable benefits are associated with the transfer of project risks to a private partner, including completion risk, schedule risk, and constructibility risk. When assessing the BCR for projects, risk must be considered. If two identical cars were being offered at the same price, but one included a lifetime service warranty and the other did not, any rational person would choose the car with the lower risk profile. In much the same way the value of an insurance policy is calculated, the value of risk transfer can also be calculated. Quantitative risk analyses should be used to evaluate and prioritize projects and project delivery methods. For its part, the FHWA Office of Innovative Program Delivery has been utilizing quantitative risk assessment for years for the evaluation and prioritization of project delivery models, so this is not a new tool or concept for Federal authorities. To date, however, it has never been contemplated within the BCR or budget prioritization process for water resource projects. This should change.

If budget-based payments are to be leveraged for P3 projects, a broader budget prioritization framework that reflects the relative costs and benefits of different delivery methodologies is needed. Otherwise, it will be difficult, if not impossible, to secure appropriations for projects being delivered under P3 and other alternative finance structures.

[11] Findings and Recommendations of the Special Panel on Public Private Partnerships {http://transportation.house.gov/uploadedfiles/p3_panel_report.pdf} pages 19-22

Application of Performance-Based Contracting to Water Resources

As mentioned previously, the Nation's Federal water infrastructure has strengthened the American economy, created jobs, reduced risks, enhanced life-safety and standards of living, and bolstered our global competitiveness. Nevertheless, it is aging and in many cases has exceeded its useful life-cycle. Given competing budget requirements, sufficient resources have not been made available to maintain Federal water infrastructure assets in order to meet the requirements of the next 25–50 years. Federal appropriations for water infrastructure have been in a steady decline in real terms over the last four decades; however, a "fix-as-fails" approach is neither viable nor affordable over the long term. Deferred maintenance and repair backlogs represent a massive challenge for America's water resources. Performance contracts are one potential finance and delivery structure that should be considered, particularly to address deferred maintenance and ongoing O&M needs.

Performance contracting can be a means of delivering O&M improvements based on future budgetary savings, as compared with historic O&M expenditures. It enables money that will be saved as a result of the introduction of new technologies, repairs, efficiencies, and other improvements to be used to offset the cost of financing, installing/building, operating, and maintaining those improvements. By definition, the future savings must be greater than the costs of the improvements.

At the Federal level, performance contracting has been used extensively for energy efficiency projects, such as Energy Savings Performance Contracts (ESPCs). More broadly, performance contracts have also been used to pay for measures to reduce O&M costs or implement rehabilitation projects. Federal agencies responsible for water resources should be authorized to utilize performance-based contracting to address O&M and new improvements on existing infrastructure. This could be achieved by expanding application of OMB Memorandum M-98-13 to include improvements in O&M efficiencies for Federal water resources.

Under a performance-based contract, a private partner designs; installs; finances; and, if required, operates and maintains the improvements. The private partner is then paid according to the savings achieved (i.e., its performance).

Performance contracting is used to achieve many different goals. Chiefly, it offers an affordable mechanism for funding renovations and improvements out of already-budgeted resources for ongoing O&M, which means operating under existing operational budgets and not competing with other projects for capital funding. The benefits of a performance contract for the owner of the public asset include:

- Accelerated implementation due to upfront financing and incentivized delivery of the improvements.
- Reduced risk (the contractor takes on the risk of not achieving savings).
- Interest of owner and contractor align over the long-term.
- Turn-key services: the performance contractor provides all required services, reducing need for internal expertise and additional resources by the owner.
- Guaranteed, measured savings.
- Project financing can be "off balance sheet" and not affect debt load.
- Addition of State-of-the-art products and services.

- Higher savings (than if the owner carried out the work itself).
- Savings may be used for additional improvements (capitalizing savings or savings reinvestment).
- Minimal impact on budget scoring (as project relies on savings, not new capital budgets).

There are many ways of structuring a performance contract. The most common is first out or guaranteed savings, in which all the private partner's costs (equipment, installation, mark-up, fees, and so on) are repaid annually out of the savings as they accrue. The length of the contract is usually chosen so that all costs are paid for by the end of the contract period. This method allows the addition of extra measures as the contract progresses, with the increased savings covering the higher costs.

The second type of contract is known as **shared savings**. In this arrangement, the owner and the private partner agree to share the savings over the contract period according to an agreed formula. The actual cost of the measures is not included in the contract, and the owner has no obligation to pay off those costs. In return, the private partner does not guarantee the savings, but is incentivized to maximize system efficiencies in order to recover invested costs and earn profits. Contract terms are usually longer than a guaranteed savings structure because it takes longer for the investment to be recovered, and the risks to the contractor are higher.

A third type is the **chauffage** or **full services** contract whereby the private partner effectively takes over the operation of a customer's facilities, as well as implements upgrades. The owner pays the private partner a regular fee equal to the budget before the project or some other negotiated fee.

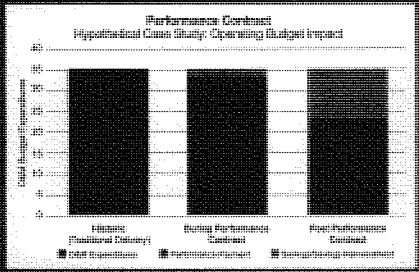
Performance contracts typically run from 10 to 25 years, depending on the complexity of the project, the amount of savings to be achieved, and the types of measures to be implemented.

In some performance contracts, a percentage of cost savings is reinvested in additional improvements, thereby further reducing capital budget allocations. Savings reinvestment can also be used to minimize the impact of future investment on user fees.

Although a wide variety of structures exist, the ability of Federal agencies to lock in long-term savings and infrastructure improvements through performance-based contracting is critically important. This type of structure could be used to address inland waterways and hydropower, among other critical assets. To achieve this end, either the application of Memorandum M-98-13 should be expanded to include improvements in O&M efficiencies for Federal water resources, or special authorities should be pursued.

PERFORMANCE CONTRACTING – A HYPOTHETICAL CASE STUDY

With a median asset age of 50 years, many hydroelectric power plants in a specified region have experienced significant outages that degrade the reliability of the USACE hydroelectric system. The ability of these plants to generate electricity declined from about 95% in 1987 to 85% in 2015 — a trend that is approximated in USACE hydroelectric power plants nationwide. Power outages occur because the plants are aging, and when outages occur, repairs are generally reactive and short term. The USACE budgeting process requires extensive justifications that can take a year or longer to complete, making it difficult to make extensive repairs and rehabilitations when they become essential. Also, USACE's budget has declined in real terms over the past decades, while capital investment needs to maintain and repair the power plants are increasing exponentially.



The O&M budget for these hypothetical hydroelectric systems has been relatively stable over the past decades at $35 million per year. After a competitive procurement, a private contractor has committed to upgrade and modernize the facilities under a performance contract.

The contractor finances and installs approximately $50 million in infrastructure and equipment improvements, offering to recover these investments over a 10-year period (an estimated annual payment of $10 million per year over the contract). As a result of the investments, the real cost of operations reduces from $35 million per year to $25 million per year, a 25% savings, while system reliability is restored to 90%. The following graphic represents the budgetary impact from USACE makes no capital investment, but simply enjoys the investment through operating savings.[1]

The "excess savings" during the term of the performance contract are used for investment in other improvements (savings reinvestment). At the end of the contract, the USACE retains the improvements. As with ESPCs, the contractor would be paid an amount designed to cover its investments through payments that come exclusively from reduced agency costs. There would be full risk transfer to the private contractor with regard to targeted savings. As such, and assuming that OMB were to apply similar criteria to those used for ESPCs, these performance contracts would be scored and paid on a recurring annual basis, not upfront, as in a lease purchase or capital lease. This would be justified under the exceptions set forth in OMB Circular A-11, Appendix B, under Memorandum M-98-13, inasmuch as these performance contracts involve Federal facilities, energy (and other) efficiency improvements, life-cycle cost effectiveness, and improvements in O&M efficiencies."

[1] Under power sale or guarantee, an eligible entity could approximately double its resources, including capacity for facility, generate more power, improvements to O&M efficiency, or both combine.

PROPOSED ACTIONS

Budget Scoring

- In accordance with GASB distinctions, budget scoring rules for federally sponsored water resource and similar civil works P3 arrangements should be distinguished from capital leases. To achieve this end, an inter-agency working group should develop and propose an appropriate scoring framework for civil works concessions and similar arrangements, based on the risk-reward methodology and leveraging best practice guidance established under ESA95 and ESA10.
- In the event that the Administration and Congress reconvene a Commission on Budget Concepts to more broadly review budget scoring for privately-financed infrastructure, Federal water resource agencies should request that they be represented so that civil works projects are given the appropriate consideration.

Continuing Contract Authority

- Secure specific multiyear contracting authority (e.g., 62 Comp. Gen. 569 (1983)), to allow Federal agencies involved in Federal water resource P3s to enter into a multiyear contract without requiring obligations of the full contract amount at the time of contract award.

Budget Prioritization

- Together with OMB, Federal water resource agencies should develop a policy framework for budget prioritization of Federal P3 projects.

Application of Performance-Based Contracting to Water Resources

- Through a legislative initiative, the application of the performance contracting principles set forth in Memorandum M-98-13 should be expanded to include improvements in O&M efficiencies for Federal water resources.

3.4 NON-FEDERAL P3: POLICY FRAMEWORK FOR FEDERAL FUNDING CONTRIBUTIONS FOR COST-SHARED AND TRANSFERRED P3/P4 PROJECTS

Given the limitations impeding P3 for fully Federal water resource projects, attention has been given to facilitating public-public-private partnerships for cost-shared or transferred water resource projects. In this sense, non-Federal sponsors may have greater flexibility than Federal authorities with regard to both revenue generation/ring-fencing and budget-based payments. The ability to leverage private investment through a locally led P4, however, also faces some important challenges.

CONSTRAINTS

P3 Enabling Legislation

Not all jurisdictions have P3 enabling legislation applicable to water resource projects, and as such, not all non-Federal sponsors can leverage P3/P4 for project delivery.

Non-Federal Value Capture

Value capture refers to the ability to monetize local benefits deriving from a water resource project. This is critical for cost-shared or transferred works P3, as the private investment must be repaid, at least in part by the non-Federal sponsor. While some jurisdictions may be able to leverage value-capture tools, such as tax increment financing, special assessments, and dedicated taxes, poorer and less populated communities will struggle to create a reliable or creditworthy revenue source. This limits access to private finance for P4 projects in many jurisdictions. P4 should not be viewed only as a tool for wealthier communities.

Non-Federal Sponsor

It is important to note that when dealing with water resource projects, non-Federal project sponsors are often small, specially established, quasi-public entities, such as irrigation districts, whose sole purpose is the project in question. This is very different from State-level departments of transportation that manage P3 projects for transportation infrastructure. These smaller entities are often not creditworthy, nor do they have the resources necessary to serve as the primary counterpart to a private partner under a P4. This reality limits the scope and application of P4 opportunities, while simultaneously introducing new risks that need to be addressed and mitigated in any P4 arrangement. In many instances, the non-Federal sponsor may require both technical assistance, as well as ongoing support, from State or Federal agencies under a P4.

Federal Funding

Unless a non-Federal sponsor is willing to assume full responsibility for the cost-shared or transferred works, the Federal cost-share partner still maintains funding and other obligations under a P4. The problem, however, is that if Federal funding and other obligations are not provided in accordance with the terms of the P4 agreement, the benefits of the P4 may be reduced or eliminated, creating a potential breach of the P4 agreement. While it is unlikely that the Federal agency could be held liable for any failure to deliver funding or other obligations, this is a significant risk that may dissuade non-Federal sponsors from pursuing P4 projects. Federal agencies must be able to commit to their cost-share and other obligations contemplated under a P4.

Project and Budget Prioritization Criteria

Finally, many cost-shared or transferred works considered for alternative delivery under a P4 may not otherwise meet standard budget prioritization criteria. As such, there is a need for a policy framework to objectively screen, select, and prioritize for budget purposes Federal funding for P4 projects. A project should not automatically receive Federal funding by virtue of the fact that it is being led as a P4, but there are a number of considerations beyond the traditional BCR calculation used for budget prioritization. Criteria must be in place to prioritize these projects in an equitable fashion, recognizing that not all projects or jurisdictions are able to leverage P4 for federally sponsored water resource projects.

STRATEGIES FOR ADDRESSING CONSTRAINTS

P3 Enabling Legislation

States should be encouraged to implement or expand existing State-level P3 legislation to explicitly allow for P3 to be used for water resources projects.

Non-Federal Value-Capture and Non-Federal Sponsors

Federal agencies should create a policy framework to assist non-Federal sponsors of cost-shared water resource projects to identify, access, and leverage value-capture opportunities. This policy framework should also include parameters of Federal technical assistance to eligible non-Federal sponsors with regard to P3 procurement, contracting, and contract governance and oversight. The policy framework should also align with other initiatives to develop Federal aid programs and Viability Gap Funding to ensure that poorer and rural communities also have access to private sector financing and expertise.

Federal Funding and Prioritization Criteria

Federal agencies should establish detailed screening and selection criteria for P4 projects, including budget prioritization criteria. This would allow for the objective assessment and ranking of eligible P4 projects across jurisdictions and project purpose. While this framework would necessarily align with the budget prioritization parameters proposed for fully Federal P3 in section 3.3, including consideration of issues such as Federal return on investment, Value-for-Money, accelerated benefits, and risk transfer, it would also need to include measures to ensure the equitable application of these criteria for poorer or rural communities (such as poverty mapping). The policy framework for funding P4 would also need to include broader consideration of total annual budget allocations for P4 projects.

PROPOSED ACTIONS

P3 Enabling Legislation

- Federal agencies could provide local sponsors with broad-based parameters and best practice toolkits for establishing adequate P3 enabling legislation for Federal water resource projects

Non-Federal Value-Capture and Support for Non-Federal Sponsors

- Establish an assistance framework for non-Federal sponsors of cost-shared or transferred water resource projects

Federal Funding and Prioritization Criteria

- Create a budget prioritization policy for the Federal funding of P4 projects.
- As discussed in section 3.2, Federal water resource agencies should develop a broad-based VGF program that includes Federal aid and subsidies for eligible P3 projects to ensure equitable access to private sector financing by all non-Federal water resource partners.

3.5 P3/P4 ENABLING FRAMEWORK

A broad-based policy framework and P3 program strategy is required to ensure that P3 is leveraged to create successful and sustainable results over the long-term.

CONSTRAINTS

Congressional 302(b) Appropriations Ceilings

At present, alternative finance and delivery approaches, such as P3, are contemplated within Congressional 302(b) appropriations ceilings. This impedes the use of innovative finance, as monies obligated for P3 are taken out of other projects. Even if P3s create greater efficiencies and more opportunities in the long term, Federal authorities are disinclined to pursue P3s if the tradeoff is that funding is reduced for existing programs and priorities.

Enabling Legislation

Although many Federal agencies involved in water resources, such as USACE and USBR, have broad authorities to partner with non-Federal entities, including nongovernmental and private sector entities, the lack of an explicitly created framework to enable P3 for federally owned or operated water resources constitutes a significant constraint. Most Federal P3 initiatives for civil works that have been successful to date (such as for energy and highways) have benefited from specific enabling legislation or special authorities. However, no similar actions have been undertaken to facilitate P3 for Federal water resources.

The Water Resources Reform and Development Act of 2014 (WRRDA 2014) set out a framework for USACE to establish a P3 pilot program for authorized water resource development projects. However, activities related to the program were only authorized to the extent specifically provided for in subsequent appropriations, which have not been granted. Moreover, the legislation does not provide specific authorities necessary to enable P3, but simply sets the parameters for developing a program and identifying constraints. Other agencies, however, have received no specific authorities relating to P3 or alternative finance and delivery, thereby limiting their ability to structure solutions to those provided in existing legislation.

Critical areas where legislation is lacking include the following:

- Authorities to assess fees and commit them for project-specific purposes.
- Contract Authority and exemption from the Anti-Deficiency Act to enable Federal agencies to encumber future revenues in specified revolving funds for P3 project-specific purposes.
- Contract Term: Federal agencies require authorization to enter into long-term contracts to allow for repayment opportunity and to minimize contract risk.
- Authorized P3 Program: Where legislation is in place to support P3 programs (such as Section 5014 of WRRDA 2014), the enabling legislation is only authorized to the extent specifically provided for in subsequent appropriations acts. Nevertheless, to date, there have been no appropriations assigned to Section 5014 of WRRDA, thereby impeding USACE's ability to formally undertake actions to develop a P3 pilot program.

Access to Federal Credit Programs/Infrastructure Banks

In order to lower the cost of privately-financed water resources, additional efforts should be made towards expanding access to concessionary finance, credit enhancements and infrastructure banks for federally sponsored water resource projects. While some facilities exist, such as WIFIA, State Revolving Funds, and State Infrastructure Banks, these have been focused principally on non-Federal water resource projects.

These credit facilities could offer a range of loans and credit assistance enhancement products for eligible water resource projects, accelerating delivery and reducing costs. While these financing tools are important, they do not constitute "free money." Projects would need to generate sufficient revenues to ensure repayment of the financed amounts, whether debt or equity. Either users of infrastructure assets, such as inland waterways, will need to pay tolls, or budget allocations funded by general tax receipts will need to be made available to repay these loans.

Moreover, not every infrastructure project is created equal. In some jurisdictions, concentrated population centers and higher disposable income may enable cost recovery through user payments, while in others, such as rural or poorer communities, cost recovery is simply an impossibility. Regardless of the structure, there will need to be careful attention given to ensuring that these financing tools can be effectively and equitably leveraged by all States, lest an entrenched two-tiered network of Federal water resource "haves" and "have-nots" is created.

STRATEGIES FOR ADDRESSING CONSTRAINTS

Congressional 302(b) Appropriations Ceilings

- On a pilot basis, funding for alternative finance and delivery projects, such as P3, could be excluded from the Budget Committee 302(b) ceilings.

Enabling Legislation

- Work with Congress to address shortfalls in the existing legislative framework. This could be done on a pilot or permanent basis. Examples could include granting specified Federal agencies, such as USACE and USBR, with long-term contracting authority, as was done under the DoD energy initiative.[13]

Federal Credit Programs/Infrastructure Bank

- In the event that a national infrastructure bank is created, a credit window should be made available for federally sponsored water resource projects. Because certain Federal agencies, such as USACE and USBR, own and operate some water resource projects, provisions should also be made to allow private sector participants to access the credit window for fully Federal water resource projects, such as inland waterways, without the entire amount of the credit being scored against the agency's budget in the year of the drawdown.

- Expand the application of WIFIA to allow a private partner to access to the credit facility for fully Federal water resource projects.

PROPOSED ACTIONS

Congressional 302(b) Appropriations Ceilings

- On a pilot basis, Congress should consider exempting funding for alternative finance and delivery projects, such as P3, from 302(b) ceiliugs. New funding could be provided for P3 projects, at least on a pilot basis.

Enabling Legislation

- Federal agencies should work with Congress to address shortfalls in the existing legislative framework. Likewise, appropriations to support existing P3 enabling authorities, such as those contemplated under §5014 of WRRDA 2014, should be provided.

Federal Credit Programs/Infrastructure Bank

- In the event that a national infrastructure bank is created, Congress should ensure that a special loan facility is available for federally sponsored water resource projects.

- Federal authorities should work with Congress and EPA to expand the application of WIFIA to allow a private partner to access to the credit facility for fully Federal water resource projects.

[13] 10 U.S.C. 2922a, "Contracts for energy or fuel for military installations" (DoD Authority), allows for contracting for up to 30 years for certain activities (energy production facilities on DoD real property or on private property). This was a key enabling element for renewable energy P3 under a power purchase agreement.

4. Conclusion

While the Federal Government is not the sole purveyor of our Nation's infrastructure, it has played a critical role in the funding and delivery of water resource projects in support of navigation, flood risk management, aquatic ecosystem restoration, hydropower, irrigation, water supply, hydropower, and environmental sustainment. With an estimated replacement value of over a half trillion dollars, this federally sponsored water resource infrastructure has provided and continues to provide substantial economic and social benefits to the Nation, fostering economic growth, bolstering public safety, and generally enhancing our quality of life. But today this infrastructure is at risk.

Inadequate funding and suboptimal delivery structures have impeded efforts to expand and modernize our federally sponsored water resource infrastructure to meet current and future needs, while authorities likewise struggle to address the growing backlog of deferred maintenance on our existing assets. The current "fix-as-fails" approach is unsustainable and costly, with every dollar of deferred maintenance requiring four to five dollars of capital investment in the future. This is not simply a tragic manifestation of the "pay me now or pay me more later" adage, but likewise involves an accelerating deterioration in the quality and reliability of our existing water resource infrastructure.

Moving forward with the modernization and expansion of our water resources is not an option, but a necessity if the United States is to remain a global economic leader and retain its current standard of living. That said, however, the existing funding and delivery framework for federally sponsored water infrastructure is inadequate to meet the needs of the Nation. Persistent funding shortfalls, protracted appropriations, and ineffective delivery structures impede efficiency, defer public benefits, and exponentially increase costs.

While more funding would certainly help to some degree, competing national priorities make a sustained, long-term increase in Federal funding unlikely. Moreover, funding alone is not the solution. Public authorities need new tools to allow them to finance and deliver water resource projects in a timelier and more cost-effective manner, while likewise enabling them to better address life-cycle asset O&M needs. This is the reason why alternative financing and delivery modalities, such as P3, are so important for the Nation's federally sponsored water infrastructure. They will enable our nation to access new sources of capital in order to transfer risk, accelerate delivery, and lock in life-cycle efficiency in the delivery of critical infrastructure.

The unique nature of the Federal water resource sector means that P3 and other forms of alternative finance and delivery need to be enabled for both full Federal and cost-shared projects. This requires addressing a wide range of systemic constraints that impede Federal authorities from leveraging private finance investment. Policies and legislation need to be crafted to broadly enable the use of P3s for Federal water resource infrastructure, including creating an enabling framework for both user-pay and budget-based payment structures. This commands a host of legislative and policy initiatives, including the following:

(i) Enabling User-pay P3 for Federal Projects

a) **Revenue Generation:** Where required, legislative authorization should be provided to allow for the imposition of user fees on a pilot basis, subject to certain conditions and oversight. Legislation could be modeled on Title 23 exemptions for Federal highways. Where legislation is not required, Federal authorities should develop policy for the assessment, collection and regulation of user and value-additive fees for Federal water resource projects.

b) **Ring-Fencing and Trust Funds:** Consideration should be given to creating a dedicated P3 pilot revolving fund for water resource projects, which under 31 U.S.C. 1516 would be exempted from normal appropriations rules and made available for project-specific purposes. This fund would also require a limited exemption from the Anti-Deficiency Act, allowing eligible Federal water resource agencies to enter into binding contracts on the basis of future revenues. Additionally, congressional authorization should be sought to allow for the establishment of non-Federal revolving funds to enable the use of alternative finance and delivery approaches for federally owned and operated water resource projects. This could be pursued in a manner consistent with the Direct Funding authority granted by Section 2406 of the Energy Policy Act of 1992 for BPA, allowing Federal authorities to dedicate and commit project-specific revenue. Finally, consideration could be given to legislative reforms to existing Federal water resource trust funds, such as such as IWTF, HMTF and Reclamation Fund, to dedicate a portion of associated revenues to be used for project finance purposes.

c) **Viability Gap Funding:** Federal water resource agencies should work with Treasury, USDA, EPA and others to develop a broad-based VGF program for federally sponsored water resource project executed under a P3 structure. Federal aid programs should be coupled with expanded access to Federal credit programs to ensure equitable access to private sector financing.

(ii) Enabling Budget-based P3 for Federal Projects

a) **Budget Scoring:** In accordance with accounting and other standards, distinguish P3 arrangements from capital leases for federally sponsored water resource and similar civil works and institute a new budget scoring regime for civil works projects based on the risk-reward methodology (as per global standards set forth in ESA95).

b) **Continuing Contract Authority:** Secure specific multiyear contracting authority (e.g., 62 Comp. Gen. 569 (1983)), to allow Federal agencies involved in Federal water resource P3s to enter into a multiyear contract without requiring obligations of the full contract amount at the time of contract award.

c) **Budget Prioritization:** Federal water resource agencies should develop a policy framework for budget prioritization of Federal P3 projects, addressing issues not currently considered in traditional BCR calculations, such as Federal return on investment, Value-for-Money, accelerated benefits, and risk transfer.

d) **Application of Performance-Based Contracting to Water Resources:** The application of Memorandum M-98-13 should be expanded to include improvements in O&M efficiencies for Federal water resources. Alternatively, special legislative authority should be pursued to enable the use of performance-based contracting for water resource projects. In either case, scoring criteria similar to those used by OMB for ESPCs should be applied, thus ensuring that these performance contracts are scored and paid on a recurring annual basis, not upfront, as in a lease purchase or capital lease.

(iii) Policy Framework for Non-Federal P3

a) **Enabling Legislation and Technical Assistance:** Federal agencies should provide support and technical assistance to non-Federal sponsors of water resource projects who are seeing to develop or explore alternative finance and delivery structures.

b) **Federal Funding and Prioritization Criteria:** Federal agencies should formalize a policy framework for the budget prioritization of P4 projects. This should also include mechanisms to ensure equitable access by rural and poorer communities to alternative finance and delivery approaches.

(iv) P3/P4 Enabling Framework

a) **Congressional 302(b) appropriations ceilings for P3:** Additional funding should be made available to support a P3 pilot program. Said funding should not be included in the Budget Committee 302(b) ceilings, but should be additive.

b) **Legislative Shortfalls:** Shortfalls and omissions in existing legislation should be addressed to more broadly enable P3.

c) **Federal Credit Programs/Infrastructure Bank:** In the event that a national infrastructure bank is created, a credit window should be made available for federally sponsored water resource projects. Fully Federal water resource projects, such as inland waterways, should also be eligible for credit support. Additionally, WIFIA should be expanded to allow for the financing of fully Federal water resource projects, when executed under a P3 arrangement.

P3 can accelerate the delivery of complex projects by leveraging the resources and expertise of the private sector. Well-structured P3s mitigate taxpayer and public sector construction and operational risk exposure, reduce asset life-cycle costs, and address long-term O&M needs of a public asset, benefiting taxpayers and the Nation by allowing for a most cost-effective and timely delivery of critical infrastructure projects. Innovative finance and delivery structures, such as P3, can be an important tool in the Nation's toolbox. However, to enable these structures, it is first necessary to address the systemic constraints that impede the use of P3s for federally sponsored water infrastructure projects.

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TESTIMONY

Statement of

Nicole T. Carter
Specialist in Natural Resources Policy

Before

Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment
U.S. House of Representatives

Hearing on

"America's Water Resources Infrastructure: Approaches to Enhanced Project Delivery"

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CRS TESTIMONY
Prepared for Congress

Chairman Graves, ranking member Napolitano, and members of the subcommittee, my name is Nicole Carter. I am a Specialist in Natural Resources Policy at the Congressional Research Service (CRS). Thank you for inviting CRS to testify. This CRS statement focuses on the project delivery processes and authorities of the U.S. Army Corps of Engineers (Corps), including related background, context, and recent developments.

In serving the U.S. Congress on a nonpartisan and objective basis, CRS does not take positions on legislation and makes no recommendations to policymakers. CRS remains available to assist the subcommittee in its development and consideration of water resource and other legislation.

I will start by providing context for concerns regarding Corps project delivery, then discuss the standard delivery process for Corps project studies and construction. I will next describe alternative project delivery authorities. Finally, I will provide background on Corps permissions that are in some cases required for projects pursued under alternative delivery authorities.

Concerns Related to Corps Project Delivery

Delayed completion of water resource projects can postpone some or all of a project's anticipated benefits. The impact of these delays varies by the type of project. Delayed completion of flood risk reduction projects may prolong a community's vulnerability to certain coastal and riverine floods, thereby contributing to the potential cost of disaster response and recovery. Delayed investment in navigation projects may result in postponed transportation cost savings from improved efficiency and in greater reliance on road and rail transport. Delayed aquatic ecosystem restoration projects may result in missed opportunities to attenuate wetlands loss and realize related ecosystem benefits, such as those for water quality and fisheries.

Only a subset of authorized Corps construction activities is included in the President's budget request and funded annually by federal appropriations. Consequently, numerous authorized Corps projects or project elements have not received federal funding nor begun construction. Some $75 billion in authorized Corps construction projects and an additional $20 billion in Corps dam safety work are eligible for annual Corps construction appropriations, which have averaged $1.8 billion in recent years. Cost estimates are not available for reinvestment and major rehabilitation for maintaining performance and safety (e.g., levee safety) for the full portfolio of Corps-owned and Corps-constructed water resource infrastructure. The agency operates more than 700 dams; improves and maintains more than 900 coastal, Great Lakes, and inland harbors, 13,000 miles of deep-draft channels, and 12,000 miles of inland waterways; and has built 14,500 miles of levees.

For those Corps projects that receive federal appropriations, there is little available documentation on whether most are fully funded in a fiscal year, referred to as the project's capability level, or funded at a lower level. The Government Accountability Office (GAO) in a 2013 report titled *Cost Increases in Flood Control Projects and Improving Communication with Nonfederal Sponsors* summarized its findings regarding cost growth at Corps flood control projects. GAO's detailed review of eight projects found that a factor contributing to cost increases at these Corps-led flood risk reduction projects was funding below the capability level; other factors included design changes, initial Corps cost estimates being lower than later cost estimates, and differences in contract estimates and actual contract costs.

Data across the portfolio of Corps civil works projects have not been systematically collected and analyzed to document the factors contributing to project cost growth and schedule growth. Some argue that having Corps projects federally funded on an annual basis may contribute to the cost and duration of project delivery. The annual funding approach and other construction contracting restrictions contribute to the Corps entering into multiple contracts for complex and multiyear construction projects. Each individual contract may require mobilization and demobilization actions. While some information on cost

growth and schedule growth for specific contracts is available from Corps databases, these data do not capture information related to the efficiency of dividing up work for a single construction project across multiple contracts over multiple years. When testifying before this subcommittee at a June 5, 2013, hearing titled *A Review of the U.S. Army Corps of Engineers Chief's Reports*, Major General Michael J. Walsh identified that how much funding is put toward a project significantly impacts the duration of project delivery.

Budget requests by the George W. Bush, Obama, and Trump Administrations focused their funding requests on Corps projects near completion and projects with high expected economic returns (as measured principally by a project's ratio of benefits to costs); additionally, recent budget requests proposed initiating few new studies and construction projects. Recent Administrations also focused requested funds on Corps projects within the agency's primary missions of flood and storm damage reduction, navigation, and aquatic ecosystem restoration. Enacted appropriations bills for FY2011 through FY2013 barred funding for new construction starts, whereas enacted appropriations for FY2014 through FY2017 allowed for a limited number of new construction starts. These limits ranged from four each in FY2014 and FY2015 to six each in FY2016 and FY2017. Overall, the agency's construction account has declined as a percentage of the agency's discretionary appropriations since FY2007; it has fallen from above 40% in the mid-2000s to 31% in FY2016 and FY2017. At the same time, the operations and maintenance (O&M) account has increased as a share of the total Corps budget, from 37% in FY2007 to 52% in FY2016 and FY2017. During roughly this same time period, Congress provided the Corps with supplemental appropriations for not only natural disaster response and repairs but also construction projects; this construction funding was concentrated on flood risk reduction projects in areas affected by certain natural disasters and was not available broadly for Corps civil works projects.

Congress has enacted various changes in recent water resource authorization legislation that respond to interest in accelerating the delivery of authorized Corps studies and projects and water resource projects more generally. The 113th Congress enacted the Water Resources Reform and Development Act of 2014 (WRRDA 2014; P.L. 113-121) in June 2014. Among its provisions, the legislation altered the authorities guiding Corps studies, expanded alternative study and project delivery opportunities, and authorized new financing approaches. The 114th Congress enacted the next Water Resources Development Act (WRDA) in December 2016 as a title in the broader Water Infrastructure Improvements for the Nation Act (WIIN Act; P.L. 114-322). Provisions in that legislation further altered how nonfederal project sponsors may work on water resource activities and receive credit or be eligible for federal reimbursement for project-related expenditures.

In a June 21, 2017, memorandum, the agency's Director of Civil Works announced the initiation of a comprehensive review to identify opportunities to enhance project delivery and organizational efficiency and effectiveness. The memorandum also described a multipronged effort for improved project delivery and management that included adoption of a risk-informed decisionmaking approach and delegation of certain decisionmaking authority. It also referenced incorporation of a broader array of social and environmental benefits into project formulation and implementation, as well as replacement of the Civil Works Review Board (which for roughly a decade functioned as a senior-level review panel for projects nearing a final agency report and recommendation for congressional authorization) with a new approach for senior-level engagement in study decisions.

Standard Project Delivery

Standard Corps project delivery consists of the Corps leading the study, design, and construction of authorized civil works projects. Nonfederal project sponsors share in study and construction costs, providing the land and other real estate interests and identifying locally preferred alternatives. Since the 1950s, questions related to how project beneficiaries and sponsors should share in the cost and delivery of

Corps projects have been the subject of debate and negotiation. Much of the basic arrangement for how costs are currently shared was established by Congress in the 1980s, with adjustments in subsequent legislation, including in recent statutes. As nonfederal entities have become more involved in Corps projects and their funding, they have expressed frustration with the time it takes the Corps to complete studies and construction.

Corps Studies

For the Corps to perform a feasibility study for a project, the study must first be authorized by Congress. Once a feasibility study has congressional authorization, the next step is securing the federal appropriations to perform the study. Years may pass between the authorization for the Corps to perform the feasibility study and the study receiving federal appropriations; other authorized studies may never receive funding and eventually may be de-authorized. To expedite ongoing studies, Congress, in recent appropriations cycles, has limited the number of new Corps studies that can be initiated in a particular fiscal year. For example, in FY2015, FY2016, and FY2017, Congress statutorily limited the number of new studies that could be started to 10, 10, and 6, respectively.

The objective of the feasibility study is to formulate, evaluate, and recommend actions to alleviate a water resource problem. Early in the study process, the Corps investigates the nature of the problem and assesses the federal government's interest in addressing the problem. The Corps study team next formulates alternative plans, investigates technical feasibility, conducts benefit-cost analyses, and begins an environmental review under the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. §§4321 et seq.). The evaluation of Corps water resource projects is governed by detailed agency and executive branch guidance documents (including the 1983 *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies*) and provisions established by Congress in statute. Once the final feasibility report is available, the Chief of Engineers reviews whether the project warrants further federal investment and makes a recommendation regarding congressional construction authorization; the Chief's Report is submitted to Congress for its consideration typically as part of an omnibus WRDA bill.

Once a Corps study is initiated, the degree to which specific factors and requirements contribute to the time it takes to complete the feasibility study and Chief's Report has been difficult to determine. For example, activities performed to demonstrate compliance with applicable environmental requirements may occur concurrent to the Corps completing actions required by other laws, such as preparing analyses necessary to determine a project's economic costs and benefits. Often, the larger, more complex, and costly the project being studied, the longer each step takes in the study process. Anecdotal evidence indicates that some individual studies have taken longer due to disagreements with federal resource agencies or state permitting agencies, but there are limited data available to determine whether such delays are systemic or project-specific.

To address concerns regarding the pace of Corps studies, Congress made various changes to the feasibility study process in WRRDA 2014; it

- established requirements that feasibility studies be completed within three years of initiation (unless the Secretary of the Army determines a study is too complex to comply with this requirement), have a maximum federal cost of $3 million, and be concurrently reviewed within the Corps;
- altered the study process, principally by eliminating the reconnaissance phase and requiring reporting on study milestones; and
- enacted provisions in Section 1005—Project Acceleration—regarding the environmental review process and preparation of documents necessary to comply with NEPA.

The Corps has implemented the first two of these requirements and the portion of Section 1005 of WRRDA 2014 regarding NEPA categorical exclusions; however, the agency has not published implementation guidance on the Section 1005 provisions on expediting NEPA compliance for studies of Corps water resource projects.

NEPA requires federal agencies to fully consider a federal action's significant impacts on the quality of the human environment, and to inform the public of those impacts, before making a final decision. The Corps integrates its NEPA compliance process with the development of a feasibility study. That is, during the study process, the Corps identifies impacts of a potential project, any environmental requirements that may apply as a result of those impacts, and takes action necessary to demonstrate compliance with those requirements. To date, the Corps reports that it is continuing to develop the implementation guidance for the majority of the provisions of Section 1005 of WRRDA 2014. Until the guidance has been issued and takes effect in the Corps study process, it is difficult to determine the extent to which the WRRDA 2014 procedural changes may have measurable effects on the agency's existing environmental review process. The Corps published implementation guidance for the categorical exclusion portion of Section 1005 on August 30, 2016; the provision called for the agency to survey its use of categorical exclusions and to identify and publish new categorical exclusion categories that merit establishment. To date, the Corps has not established new categorical exclusion categories pursuant to Section 1005 of WRRDA 2014.

WRRDA 2014 required the Corps to report to Congress annually on missed study milestones. The 2017 report provided milestone information on the agency's 110 active studies as of August 1, 2017; of these, 18 studies had their Chief's Report delivery date extended by more than three months and another 16 either had been terminated or were on hold (i.e., they were identified as being under review with no revised schedule for completion). The reported explanations for the postponed milestones included the need for improved models and simulations (e.g. ship simulations), the incorporation of local-level data, and additional time for environmental review and public input.

Construction Projects

Once a Corps project receives congressional authorization for construction, federal funds for construction may be sought through the annual appropriations process. As previously noted, only a subset of authorized activities are eventually funded by enacted appropriations. Once construction funds are available, the Corps typically functions as the project manager; that is, Corps staff, rather than the nonfederal project sponsor, typically are responsible for preconstruction engineering and design (PED) and contracting for the project's construction. Although some construction may be performed by Corps personnel and equipment, the majority of work typically is contracted out to private engineering and construction firms. Post-construction ownership and operational responsibilities depend on the type of project. When construction is complete, the Corps may own and operate the constructed project (e.g., navigation improvements) or ownership and operations may transfer to the nonfederal sponsor (e.g., most flood damage reduction projects).

WRRDA 2014 and WRDA 2016 attempted to address frustrations among some stakeholders with the pace of construction of Corps projects by allowing interested nonfederal entities, including private interests, to have greater roles in project development, construction, and financing.

Alterative Project Delivery Authorities

Congress has authorized alternative ways to advance and deliver studies and projects for flood risk reduction, aquatic ecosystem restoration, and navigation projects. These authorities include flexibility in the nonfederal funding of Corps-led activities, nonfederal leadership of Corps studies and projects, and public-private partnerships (P3s). WRRDA 2014 also authorized, through the Water Infrastructure

Finance and Innovation Act (WIFIA), a Corps program to provide direct loans and loan guarantees for navigation, flood risk reduction, and ecosystem restoration projects. Each of these alternative project delivery authorities is discussed below in more detail.

Competition for Corps discretionary appropriations has increased interest in alternative project delivery and financing. In addition to expediting project completion, there may be other motivations for pursuing alternative delivery. For example, part of the local value of nonfederal entities leading water resource studies and construction projects may be their ability to combine project elements that fall within the traditional Corps project purposes (e.g., coastal and riverine flood risk reduction) with project elements that fall outside the traditional mission areas of the Corps (e.g., stormwater management, riverfront redevelopment). That is, local leadership may allow for multiple project elements and features to be combined into more comprehensive and integrated local actions.

Additional nonfederal public and private investments may, in the near term, achieve progress on some projects, thereby potentially making federal funding available for other water resource projects or project elements; however, achieving these benefits through some of these authorities may come with potential trade-offs for the federal government, including reduced future Corps budget flexibility (given expectations of nonfederal reimbursements and private sector payments) and reduced federal influence over the set of water resource studies and construction projects receiving and eligible for federal support. A related federal policy question is the balance between providing incentives and opportunities for attracting nonfederal public and private investment in water resource infrastructure and managing the current and future water resource activities that are funded with federal appropriations.

Nonfederal Funding and Leadership of Corps Studies and Projects

Various authorities exist for the Corps to accept funds from nonfederal entities to accelerate, advance, or otherwise contribute to Corps studies, construction activities, and operations and maintenance. Contributed funds are provided by a nonfederal entity with no expectation for reimbursement or credit; WRRDA 2014 expanded the authority for the Corps to accept contributed funds. Accelerated funds are nonfederal funds that exceed the amount required by the level of federal appropriations that have been provided but fall within the overall nonfederal cost share of the study or project. Advanced funds are nonfederal funds that exceed the nonfederal cos share required for the project; nonfederal entities advancing funds for Corps-led construction projects may be eligible to receive reimbursement (without interest) subject to the availability of appropriations. There is no publicly available information documenting the aggregate use of these authorities and the amount of potential reimbursements that remain outstanding across the agency's districts.

As previously noted, nonfederal project sponsors traditionally participate in, but do not lead, project planning and construction for Corps projects. WRRDA 2014 and WRDA 2016 expanded and consolidated the authorities for nonfederal entities to both perform studies and construct projects (or elements of projects) that typically would have been undertaken by the Corps. These statutes also provided that the cost of these nonfederal-led activities are shared by the federal government largely as if the Corps had performed them. These authorities typically require that the nonfederal entity leading the project comply with the same laws and regulations that would apply if the work were being performed by the Corps. Producing a study or construction project that complies with the latter requirement may be a challenge for many nonfederal interests. When a nonfederal entity undertakes construction of a federal project under these authorities, that entity is eligible for reimbursement or, in some cases, credit for what would have been the federal portion of construction costs.

GAO, in a December 2016 report titled *Better Guidance Could Improve Corps' Information on Water Resources Projects Undertaken by Nonfederal Sponsors*, found that the number of federal water resources studies and projects that nonfederal sponsors have undertaken, and the amounts they have been

reimbursed, could not be reliably determined. According to GAO, Corps headquarters does not centrally track this information, and the information that headquarters provided to GAO did not match the information that GAO collected from Corps districts. The information that GAO collected indicated that nonfederal sponsors have led or are leading Corps-related studies and projects with total estimated costs of approximately $4 billion and that the federal government had reimbursed $400 million to cover some of the federal costs related to these projects. GAO did not report what would be the total remaining potential reimbursement amount to cover the federal cost share associated with these studies and projects. The scope of GAO's report did not appear to cover the use of advanced funding authorities or related crediting and reimbursements associated with Corps-led projects. It is not publicly known how the annual level of nonfederal-led study and project agreements and advanced funding agreements for Corps-led studies compares to the $100 million annual cap for credit and reimbursement agreements established in statute pursuant to FY2006 Energy and Water Development Appropriations Act (P.L. 109-103; 33 U.S.C. §2221). GAO reported that Corps headquarters began collecting reimbursement data from district offices in 2006 when Congress enacted the annual reimbursement agreement limit, and as a result reimbursement agreement information prior to 2006 is less reliable.

Financing Authorities

In recent years, there has been increased interest in the potential for alternative financing arrangements, including P3s and related approaches. Private sector access to financing and expertise and experience with complex project management are all seen as potential advantages for the delivery of some types of public infrastructure. Interest has expanded in recent years in allowing private engagement in U.S. water resources projects, which would follow the models used in other U.S. infrastructure sectors, such as transportation, and international examples of private provision of public infrastructure and related services. WRRDA 2014 and WRDA 2016 authorized two alternative means of finance: a public-private sector pilot program for Corps projects, and the Water Infrastructure Finance and Innovation Act program, which provides federal credit support for water infrastructure projects, including public-private partnerships. These authorities are discussed below.

Public-Private Partnerships

WRRDA 2014 directed the Corps to establish pilot programs to evaluate the effectiveness and efficiency of allowing nonfederal applicants to carry out certain authorized projects, including a P3 pilot program in Section 5014 of the bill. Under Section 5014, Congress directed the Secretary of the Army to identify at least 15 authorized Corps construction projects for the P3 pilot program. Nonfederal applicants for these pilot projects may include a range of eligible nonfederal public or private entities—the nonfederal project sponsor, legally constituted public bodies and certain qualifying nonprofit entities (as defined in Section 221 of the Flood Control Act of 1970 (42 U.S.C. §1962d-5b)), or a private entity with consent of local governments. Section 5014 requires an assessment by the Secretary that each project provides enhanced public and financial benefits compared to a similar transaction using public funding or financing. There is no dollar limit for the partnership agreements for individual P3 projects or for the pilot program as a whole; Section 5014 provides that the activities undertaken pursuant to the pilot program authority are authorized only to the extent provided for in subsequent appropriations acts. WRRDA 2014 required a report on implementation of the pilot program to relevant authorizing committees by June 2017. The Corps published preliminary implementation guidance for Section 5014 in September 2015; in that guidance the Corps reported that, until funds are specifically appropriated for Section 5014 activities, no other implementation guidance or project development activity would go forward under the pilot program. In February 2016, the Corps reported to Congress that a number of demonstration projects that spanned the agency's civil works activities were being evaluated. The Corps noted that these projects could be undertaken as "proof of concept" projects that may identify replicable practices. In the

explanatory statement for the FY2017 Consolidated Appropriations Act (H. Committee Print 25-289), concerns were raised that the Corps was developing project-specific P3 arrangements rather than a comprehensive policy. The statement directed that the Corps discontinue all work on project-specific P3s with the exception of the Fargo-Moorhead Project and directed the Corps to develop a comprehensive P3 policy. The Corps reportedly has developed a draft comprehensive P3 policy, which is currently under agency review.

The potential uses of P3 arrangements have been the subject of several reports. The House Transportation and Infrastructure Committee created a Panel on Public-Private Partnerships in January 2014. The panel's report, *Public Private Partnerships: Balancing the needs of the public and private sectors to finance the nation's infrastructure*, made a number of observations regarding the role of P3s in various infrastructure sectors. The report states that

> The Panel found that P3 procurements have the potential to deliver certain high-cost, technically complex projects more quickly or in a different manner than would otherwise occur under traditional procurement and financing mechanisms. However, given the limited number of high-cost, complex projects, P3 projects have the potential to address only a small portion of the Nation's infrastructure needs. One consistent theme throughout the Panel's work was that P3s are not a source of funding and should not be thought of as the solution to overall infrastructure funding challenges.

Other recent reports include a March 2017 report sponsored by the American Society of Civil Engineers titled *Alternative Financing and Delivery of Waterways Infrastructure* and a January 2017 report by Harvard's Kennedy School titled *Tapping Private Financing and Delivery to Modernize America's Federal Water Resource*.

In addition to clarifying that P3s represent a financing mechanism (rather than a funding stream that will ultimately pay for a project), these reports, along with the Corps, stakeholders, and other observers, have cited various challenges in developing guidance and a path forward for Corps participation in P3s for federal water resource projects. Some of the commonly cited challenges to date include the following:

- Contracts and Budget Scoring—The Corps may lack the authority to enter into the type of long-term contracts that would be necessary to commit to a P3. Under current budgeting requirements, federal commitments to budget-based P3 payments are scored as a capital lease or a lease-purchase, which means that the full federal cost of the agreement is scored at the time that the P3 obligation occurs. Thus, anticipated savings from long-term P3 arrangements are not reflected in the current-year budget context.
- Revenue Generation/Availability—The Corps currently lacks the authority to redirect or assess project-specific user fees (or to allow a private entity to do so) to raise the revenues necessary to commit to a long-term P3 arrangement for a fee-based infrastructure project. The agency's ability to dedicate collections to a specific project also is unclear.
- Demand for P3s/Support for Fees—There is some uncertainty regarding the level of demand for Corps P3 projects and how many projects would be financially viable through a Corps P3. For instance, it is unclear how many Corps projects could sustain or increase their user base if they were converted to a P3 arrangement that required increased user fees or contributions. For example, the House Transportation and Infrastructure Committee's Public-Private Partnership Panel stated in its September 2014 report that inland waterways are in need of infrastructure improvements, but the users of the system are opposed to tolls, so pursuing a P3 may be challenging without a revenue source.

As noted above, the Corps-related P3 project that has advanced the furthest to date is the Fargo-Moorhead flood diversion project. The project is often described as a "split delivery." That is, the Corps is expected to be responsible for construction of a segment of the project using the standard Corps project delivery process (i.e., subject to annual appropriations); the nonfederal project sponsor is expected to be responsible for construction of the other project segments. The nonfederal sponsor has been pursuing its portion of project construction and operations and maintenance using a P3. The Corps is not anticipated to be directly engaged in the P3 agreement, which is why the effort is referred to as a public-public-private-partnership (P4). The local flood control authority completed its Request for Qualifications (RFQ) for respondents to design, build, finance, operate, and maintain the flood control project. The Request for Proposals (RFP) process is awaiting the identification of a new project alternative that satisfies state and local laws in North Dakota and Minnesota and provides for equity in project impacts; as of December 2017, the alternatives under consideration consisted principally of refined alignments of various structural components that would stay within the existing congressional construction authorization.

WIFIA

Title V of WRRDA 2014, as amended, authorizes the Corps and the U.S. Environmental Protection Agency (EPA) to provide direct loans and loan guarantees to state infrastructure financing authorities (including state governments, corporations, and joint ventures) for partial funding of certain water projects. The program, known as WIFIA, is similar to an established program within the Department of Transportation—Transportation Infrastructure Finance and Innovation Act (TIFIA, established in 1998).

WRRDA 2014 establishes that to be eligible for Corps WIFIA assistance, the Secretary of the Army must determine that a project is technically sound, economically justified, and environmentally acceptable. The types of projects the Corps is authorized to support through WIFIA include projects that reduce flood damages, restore aquatic ecosystems, improve coastal or inland harbors, and improve the inland and intracoastal waterway navigation system. Projects eligible for EPA assistance include those for drinking water and wastewater treatment; those for desalination and water recycling; and those that prevent, reduce, or mitigate the effects of drought. To be eligible for credit assistance under WIFIA, total project costs must be $20 million or more, except in some rural areas, where costs can be $5 million or more. Additionally, most WIFIA funding cannot exceed 49% of project costs and total federal assistance for a project may not exceed 80% of total project costs. Projects and borrowers also must be judged to be creditworthy by the applicable agency head.

WRRDA 2014 authorized $175 million over five years for the two agencies to carry out this authority, beginning with $20 million for each agency in FY2015 and increasing to $50 million in FY2019. Congress has not provided for an authorization of appropriations beyond FY2019. To implement the WIFIA program, an appropriation of funds is needed to cover the credit support's subsidy costs, which represents the presumed default rate on the loans.

To date, the Administration has not requested and Congress has not appropriated funds for Corps WIFIA implementation. However, since WRRDA 2014 enactment, the Corps reports that it has taken steps to inform implementation of its WIFIA program. In 2015, the agency completed a feasibility analysis evaluating which types of Corps water resource projects and nonfederal project sponsors may be viable targets for WIFIA loans. According to the Corps, the Corps and EPA also are engaging in partnership discussions that may expedite implementation. Efforts at the Corps to evaluate the potential demand among target projects and borrowers are ongoing, and past efforts to draft proposed program eligibility rules represent initial steps toward Corps WIFIA guidelines.

In contrast, EPA has made significant progress in implementing its WIFIA program. It conducted a series of listening sessions in 2014, and in 2016 and 2017 it issued two rules that, among other things, set application and selection guidelines and fee structures under its WIFIA program. As part of FY2015 and

FY2016 enacted appropriations, EPA received $2.2 million in funding to hire staff and design its WIFIA program; in FY2017 enacted appropriations, Congress approved $25 million for subsidy costs and to begin making loans. EPA has stated the combined appropriation will allow it to lend $1.5 billion for projects. In January 2017, EPA issued a notice of funding availability, and it collected 43 letters of interest from prospective borrowers in April 2017. On July 19, 2017, EPA announced the selection of 12 projects that are to continue with the application process. EPA reportedly encountered challenges in implementation of its WIFIA program, including the initial prohibition on WIFIA projects having financing from tax-exempt bonds (which was subsequently repealed in 2015) and concerns related to the project limit for WIFIA credit assistance, which is generally capped at 49%.

A concern for WIFIA implementation by both EPA and the Corps is the pending expiration of WIFIA authorizations of appropriations at the end of FY2019. Overall, challenges for implementation of the Corps WIFIA program appear to be more significant than challenges for EPA's WIFIA program. The use of the WIFIA approach by the Corps and for water resource projects faces various challenges, including the following:

- Lack of Corps Experience with Loan Programs—The Corps has little experience with operating a loan program. Corps personnel (and many traditional Corps nonfederal project sponsors) may be unfamiliar with potential requirements and their application. These requirements include creditworthiness assessments, credit subsidy cost estimation, and transaction and loan servicing, among others.
- Creditworthiness of Projects—For those projects for which a revenue stream can be identified and established, project-based revenue streams may be insufficient (i.e., not creditworthy) to repay WIFIA loans. For example, a nonfederal authority may have the ability to raise user fees for a project, but those fees may be inadequate to repay project costs funded by WIFIA, thus resulting in the project being evaluated as not creditworthy.
- Scoring—Congress must appropriate funding to cover the administrative and subsidy costs of the WIFIA program. In the past, similar loan programs for water resource-type projects reportedly have been held up due to relatively high subsidy cost requirements. It is unclear to what extent this could be a factor for the Corps WIFIA program as a whole or specific types of projects, and how the subsidy costs for a Corps WIFIA program may compare to those required for the TIFIA or EPA WIFIA programs.
- Demand for Corps WIFIA—Although there is a widely acknowledged demand for more funding for Corps projects, it is unclear based on existing information whether the terms of WIFIA (i.e., a nonrefundable processing fee, repayment to the federal government with interest) would be sufficient to attract nonfederal borrowers in a water resource project context.
- Ownership/Revenue Generation—In contrast to EPA WIFIA projects (which are generally for water systems that are nonfederally owned), some projects eligible for Corps WIFIA support are for work at structures or improvements that are federally owned (e.g., inland or intracoastal waterways) or for types of projects for which few direct fees for services historically have been collected (e.g., current navigation user fees are collected at the system level rather than established at the project level). For these types of water resource projects, nonfederal entities may have difficulties committing existing revenues or creating new revenue streams that could be committed to repayment of WIFIA credit assistance. Additionally, for nonfederal WIFIA projects at federally owned structures and improvements, nonfederal entities may require congressional authorization of project-related user fees or charges (or may seek alterations to existing federal trust funds collections or their use).

Section 408 Permissions

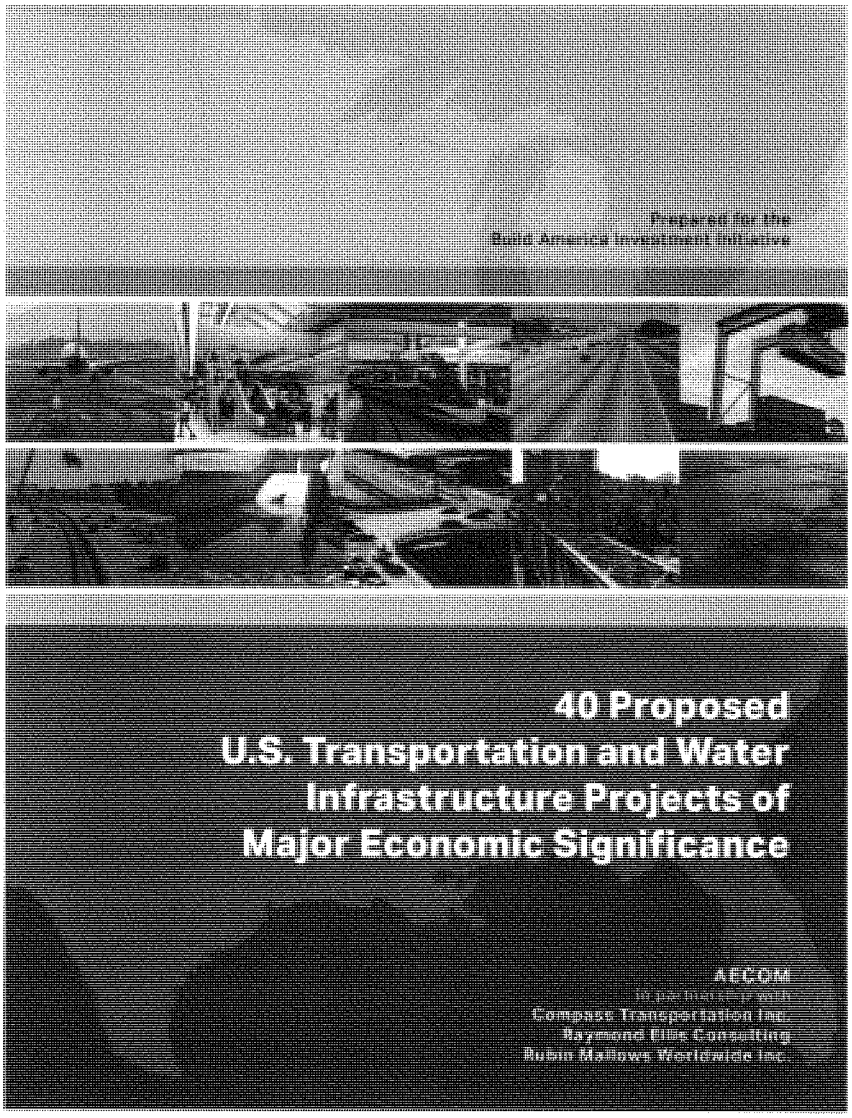
The previously discussed alternative delivery authorities expand the opportunities for nonfederal public and private entities to be able to work on water resource projects. If that nonfederal work may affect or alter an existing U.S. Army Corps of Engineers project (including a project that was constructed by the Corps and operated and maintained by a nonfederal project sponsor), the Corps must grant permission before that work can proceed. The Corps authority to allow alterations to its projects derives from Section 14 of the Rivers and Harbors Act of 1899, also known as Section 408 (based on its codification at 33 U.S.C. §408). This provision states that the Secretary of the Army may "grant permission for the alteration or permanent occupation or use of any of the aforementioned public works when in the judgment of the Secretary such occupation or use will not be injurious to the public interest and will not impair the usefulness of such work." In 2015, the Corps released new regulations for how the agency would process requests for Section 408 permissions—Engineer Circular (EC) 1165-2-216, *Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408*. Pursuant to the regulations, the Corps conducts a technical review of the proposed work's effects on Corps projects. As part of the technical review, the Corps complies with other federal statutes, such as NEPA, and provides public notice of the opportunity for public input. At the end of the Section 408 process, the Corps chooses to approve or deny permission for the alteration to the Corps project; the Corps also can attach conditions to its Section 408 permission. EC 1165-2-216 (as drafted in 2015 and updated in 2016) provided some time frames for specific steps within the agency's review process; it did not specify guidance on or requirements for a timeline for completing the entire permission process. EC 1165-2-216 also did not specify that the Corps needed to identify an application as complete or incomplete. Instead, it indicated that the Corps district would work with the applicant to determine the level of detail necessary to make a decision for a particular request and that the Corps district may request additional information from the applicant during the agency's review.

The 114th Congress addressed the agency's Section 408 permission process in Section 1156 of WRDA 2016; it amended the Section 408 authority to require the Corps to

- indicate whether the application is complete within 30 days of receiving the application,
- decide on the Section 408 permission or provide a schedule of when the decision would be made within 90 days of receiving a complete application, and
- coordinate its NEPA review of an activity requiring a Section 408 permission with other NEPA reviews related to that activity (including any review under the agency's regulatory authorities or led by another agency).

WRDA 2016 also allowed the Corps to accept and expend funds received from nonfederal public and private entities to evaluate an alteration or permanent occupation or use of a work built by the United States. In June 2017, the Corps released its implementation guidance for Section 1156. The guidance indicates that EC 1165-2-216, which was set to expire on September 30, 2017, is in the process of being revised to include lessons learned and to implement the changes made in statute in 2016 and 2014 (Section 1007 of P.L. 113-121). The Corps has not published a revised version of the regulation.

This concludes my statement. I would be happy to answer any questions you may have.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40 Proposed
U.S. Transportation and Water
Infrastructure Projects of
Major Economic Significance
AECOM
in partnership with
Compass Transportation Inc.
Raymond Ellis Consulting
Rubin Mallows Worldwide Inc.

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Authors

Toni Horst, Ph.D	AECOM
Richard Mudge, Ph.D	Compass Transportation Inc.
Raymond Ellis, Ph.D	Raymond Ellis Consulting
Kenneth Rubin, Ph.D	Rubin Mallows Worldwide Inc.

With significant technical contributions from Carey Barr, Andrea Bohmholdt, Dana Jaffe, Barrett Lane, Srividya Santhanam, and Jason Weiss.

Disclaimer

All project costs and benefits are based on assumptions and methodologies established by the authors. All findings, conclusions, and recommendations set forth in this study are those of the authors, and may not reflect those of the U.S. Department of the Treasury or the Build America Investment Initiative. The inclusion of a project in this study is not itself evidence that the project is suitable for federal funding.

AECOM is among the largest architectural and engineering consulting firms in the world and has a market share over 25 percent, as compared to the total market share of the 10 largest firms in the sectors considered in this study. AECOM has been involved in about half of the projects identified in this study. The authors' methodology for identifying these projects is described beginning on page 9.

Executive Summary

In recognition of the important role that public works infrastructure plays in supporting national economic growth, the U.S. Department of the Treasury (Treasury), on behalf of the Build America Investment Initiative, commissioned this study. Its objective is to identify 40 proposed transportation and water infrastructure projects in the United States of major economic significance, but whose completion has slowed or is in jeopardy.[1] This study provides the public with a picture of how, if completed, these proposed infrastructure projects would have a positive impact on national and regional economic activity, such as reducing congestion, improving safety and reliability, decreasing flood hazard, and other benefits.[2]

This study also identifies the primary challenges facing each project, including funding shortfalls, regulatory considerations, and lack of consensus, in an effort to inform federal, state, and local debates over infrastructure policy. This project-focused approach allows the reader to more easily grasp how infrastructure investment can create real and substantial value for businesses, consumers, travelers, and community residents, and helps put a "face" to our nation's infrastructure challenge in various regions of the country.

We were asked to focus on transportation and water projects because such projects are primarily funded by the public sector, and have experienced problems with moving forward. Projects are divided into two groups: 1) those where planning activities are underway and 2) those where planning activities are still underway and some funds have been obligated to permit limited implementation but delivery of the complete project remains pending. Other important infrastructure investments, such as those in the energy and telecommunications sectors, were not considered. These investments are typically funded directly by private investors, and have not experienced the same degree of completion uncertainty.

Different projects offer different types of benefits, and our analytical approach was sufficiently flexible to accommodate this diversity of outcomes. This is important because project sponsors develop these projects to address specific problems in their communities. For example, some projects may deliver substantial travel time savings, but not much savings in users' travel costs. Others improve safety, but do not add capacity. Where studies already had assessed a project, our team evaluated the inputs and methodology, and adjusted the values so that net benefits would be comparable across projects. Where data was available but a study was not completed, our team made an estimate of each project's benefits and costs consistent with federal assessment guidance for that type of asset.

Total Net Economic Benefits

The 40 projects identified in this study would generate an estimated $[illegible] billion (present) of net economic benefits across the nation if they were completed and available for use. This represents a range of $[illegible] billion to $[illegible] billion in total benefits less capital costs over $300 billion in real present value terms.

Our team analyzed individual proposed projects having capital costs greater than $300 million that could be commenced (and, for many, completed) within the next five to ten years if major obstacles to completion – most often a lack of funding – are addressed.[3] This minimum capital cost threshold allowed us to focus on those projects that would generate the largest absolute net economic benefits.

This study highlights a broad, representative sample of projects from across the country covering all the major types of transportation and water infrastructure such as highways, rail, waterway navigation, and dams. Traditional projects, as well as a few that emphasize new technology or the use of pricing to manage capacity, are featured. Several projects are, in fact, part of broader programs, since they include multiple, individual projects. Many promising, early-stage projects were not included because reliable data needed to estimate net economic benefits were unavailable. **Undoubtedly, this study omits many good projects.**

Our team also chose to highlight two important initiatives that represent large-scale programs rather than projects. The enormous size and transformative nature of these programs warrant a deeper discussion around them, separate from that of the 40 projects of major economic significance.

An annex to this report provides in-depth profiles for all 40 projects and the two large-scale programs. Each profile is a two-page illustrated summary that describes the project, why it is an important investment, the market that would use it, considerations in its delivery, and the primary challenges to its completion, while also providing estimates of the project's net economic benefits, capital costs, and benefit-cost ratio.

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[1] We characterize projects as being "economically significant" if they have the potential to generate net economic benefits (benefits in excess of costs) that are large in magnitude.

[2] Certain social welfare benefits, such as quality-of-life improvements, are difficult to meesure, and were not assessed.

[3] Environmental elements of project costs, such as mitigation of environmental impacts or creation of environmental amenities such as wetlands or shoreline protection were included in project costs to the extent that project planning documents included them. In some cases, environmental costs (e.g. some externalities) were not measured by project sponsors, in which case they were not included as project costs.

Exhibit 1: Distribution of Projects by Region and Mode

Region	Highways	Water Resources	Railways	Ports-Waterways	Air	TOTAL
South	4	4	5	4	0	**17**
West	4	3	1	0	0	**8**
Midwest	4	1	1	1	0	**7**
Northeast	0	0	2	1	0	**3**
National	2	1	1	0	1	**5**
TOTAL	**14**	**9**	**10**	**6**	**1**	**40**

Note: Some projects span more than one region; in those instances the project has been assigned to the region with the greatest share of the project.

The first of two major findings from this analysis is the relative scarcity of projects that are truly national in scale, or even cover multiple states. Most projects have a state or metropolitan-area focus. While national projects frequently generate the greatest economic returns because of their larger geographic scope, they are a comparatively small percentage of the 40 projects of major economic significance. This is logical since, with few exceptions, federal programs distribute funds to regional, state, or local infrastructure agencies that make investment decisions on projects that generate benefits at the regional, state, or local levels. However, it also reflects a fragmented national vision for infrastructure. With a few exceptions, our national process for project delivery does not yield a national or regionally coordinated outcome (the Next Generation Air Transportation System, a project that would modernize the air traffic control system nationwide, stands out as a notable exception).

Total Benefit-Cost Ratio

The 40 projects identified for this study vary widely in their size and the magnitude of the net benefits generated. The total benefit-cost ratio across all 40 projects falls between 3.5 and 7.0. This means that if all the projects on the list were constructed, the nation would gain benefits in the range of $3.50 to $7.00 for every $1.00 spent on capital costs.

The second major finding is that a lack of funds is by far the most common challenge to completing these projects (including those that have commenced but since been delayed). Thirty-nine of the 40 projects require increased funding, whether from taxes, user fees, or other sources.

The completion of these projects would deliver significant economic benefits to every region of the nation. In some cases, completing these projects could be transformative, potentially offering businesses and travelers large savings in time or cost that allow them to access larger markets or travel more frequently. The investments encompass freight and passenger modes with the result that the benefits generated by these projects would span the consumer, manufacturing, and service sectors of the national economy. And, as noted earlier, this list is not exhaustive. There are many good projects that have not been included – primarily due to data constraints – which would still benefit the nation's economic performance if they were undertaken. In short, overcoming the barriers to the completion of these projects represents a large economic opportunity for the United States.

Center for American Progress

The Benefits of NEPA

How Environmental Review Empowers Communities and Produces Better Projects

By Kevin DeGood January 16, 2018

Washington is currently considering an increase in federal infrastructure spending, and the word swirling around the debate is "streamlining."[1] Specifically, the Trump administration wants to streamline the environmental review process required under the National Environmental Policy Act (NEPA) for major infrastructure projects.[2]

The Oxford English Dictionary defines streamline as to "make (an organization or system) more efficient and effective by employing faster or simpler working methods."[3] As a matter of political messaging, the administration's use of this word is rather brilliant; few people are likely to oppose bureaucratic streamlining. After all, bureaucracies are not known for being lithe. Yet this messaging turns out to be sophistry.

The president is conjuring up images of red tape, lumbering civil servants, and a Washington leviathan that saps the U.S. economy of dynamism, all to hide his administration's true intent: to eviscerate foundational environmental laws that protect natural habitats, clean air and water, and the quality of life for local communities.[4]

NEPA is fundamentally about community empowerment and democratic decision-making, both of which require people to have access to information. When a state or local government wants to use federal funds to build something, it must first complete an environmental review.[5] This review is intended to discover any significant individual or cumulative environmental impacts that the project would create.[6] These impacts could include anything from habitat fragmentation and species loss to adverse social, economic, health, or cultural effects on low-income individuals or communities of color.[7]

As part of the review process, the public has the right to comment on the proposed project. Before a project can receive federal approval, the state or local government sponsor must address these comments and, where possible, make changes to mitigate community and environmental impacts. In short, NEPA is the sunshine that illuminates governmental planning, allowing the public to understand and shape proposed projects before a single shovel goes into the ground.

Importantly, the federal government did not stumble into requiring environmental review. NEPA is not the result of thoughtless regulatory accretion. The law represents a hard-fought political victory decades in the making. Congress enacted NEPA in 1969 because the status quo of developing projects behind closed doors and without careful study had produced truly dreadful results.[8]

Unfortunately, this victory is under assault like never before. In the place of thoughtful study and robust public participation, NEPA opponents are promising drastic changes in service of one thing: speed. "Better, faster, cheaper" is the prevailing mantra. The problem with this approach to infrastructure development is that shaving a few months off the project review timeline can result in facilities that produce real harm for decades, all at a steep cost to taxpayers.

NEPA helps produce better projects

At its core, NEPA is a procedural statute that requires project sponsors to work through certain steps before construction can begin. Unlike other environmental laws such as the Clean Air Act and the Clean Water Act, which focus public attention on specific outcomes, it can be hard to rally interest around a procedural requirement. Activists rarely hold up placards emblazoned with slogans like "protect the process!" For this reason, it is critical to tell NEPA's story through concrete examples.

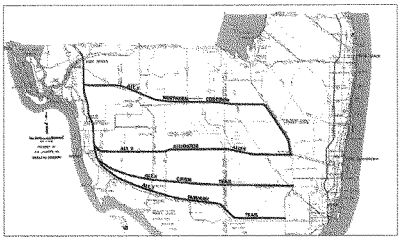
This issue brief highlights two projects—the Everglades Parkway and the Charlotte Blue Line light rail extension—that offer powerful examples of how undertaking an environmental review can produce fundamentally better infrastructure with fewer harmful impacts.

The Everglades Parkway

Following the passage of the Federal-Aid Highway Act of 1956, the United States began a national program of highway construction to facilitate more efficient connections between metropolitan areas and provide farmers with better access to local markets.[9] The act authorized the construction of a 41,000-mile system.[10] In 1968, Congress passed another highway bill to expand the interstate system by an additional 1,500 miles.[11] The legislation included an authorization to extend Interstate 75 (I-75) south and east from Fort Myers on the Gulf Coast to an area west of Fort Lauderdale on the Atlantic Coast.[12] The 114-mile extension would become known as the Everglades Parkway.

In 1969, the Florida Department of Transportation (FDOT) began to study alternative routes. Unlike the planning for earlier interstate segments, FDOT was required to comply with NEPA. As a result of the procedural requirements that NEPA set forth,

the I-75 extension included numerous design elements tailored to minimize impacts on the natural environment. Importantly, none of these design elements undermined the original goal of the project: to construct a limited-access, four-lane, divided highway that would connect Gulf and Atlantic Coast population centers, providing increased travel speeds and reduced travel times.



ALTERNATIVE PARKWAY ROUTES
Photo courtesy of the Florida Department of Transportation.

Large infrastructure projects such as the I-75 extension present states with many technical challenges. Engineers must determine everything from pavement type and interchange design to the sharpness of curves and how to prevent rainwater from forming unsafe pools on the roadway. These challenges share a common thread: They are all related to the design of the roadway. Prior to NEPA, engineers focused narrowly on how to design a facility as opposed to how that facility would affect the surrounding community or natural environment. Part of NEPA's value is that it requires planners and engineers to widen the aperture of concern. Environmental review necessitates that state and local governments solve the engineering puzzle in a way that minimizes the negative spillover that often accompanies major infrastructure projects.

Environmental review minimizes negative ecological impacts

The environmental review produced by FDOT for the Everglades Parkway states clearly—albeit in rather subdued bureaucratic language—the damage that new highway facilities can produce: "Evaluation has revealed that some existing transportation systems, including highways, permit or encourage development in areas ill-suited for it from a regional resource standpoint."[13] In the case of the Everglades Parkway, the problem of this induced development was of particular concern.

In order to connect Fort Myers with Fort Lauderdale, FDOT knew that the I-75 extension would have to cut through highly sensitive areas, including both the Big Cypress and Everglades watersheds. Taken together, these two watersheds cover thousands of square miles and provide vital habitat to many different species. The state described South Florida and its unique watersheds as a "rare and endangered complex."[14] Additionally, FDOT planners noted that these areas were "vital to [the] maintenance of groundwater supplies for areas already urbanized."[15] In short, a poorly designed highway could unleash land development that would threaten critical habitats and essential drinking water supplies.

In response, FDOT developed a design that achieved the goal of an efficient connection between the coasts while reducing the harm to wildlife and clamping down on unwanted development. FDOT states that the goal of the extension was to provide "fast, safe, and efficient transportation across South Florida, not to improve transportation and accessibility for the intermediate land areas."[16]

To reduce the impacts on animal populations, such as roadkill, the final design included 24 wildlife underpasses and fencing along 40 miles of the route.[17] In addition, FDOT purchased local access rights and eliminated frontage roads. To understand why this decision was so important, it helps to step back and look at the role of frontage roads in transportation.

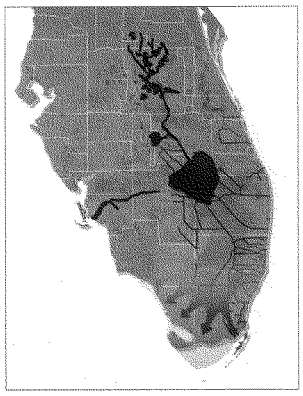
On a basic level, land only has value if it can be used; and land can only be used if it can be accessed. A real estate developer that builds houses on inaccessible land will not be in business for very long. The most common form of land access is provided by roadways, which exist on a design spectrum. On one end of this spectrum are roadways that provide low travel speeds and a high degree of access. For example, local neighborhood streets typically have a driveway that connects each house to the road. Vehicles on these local roads travel slowly to safely accommodate cars pulling in and out of traffic. On the other end of the spectrum, highways provide limited access and high travel speeds. For instance, interstate highways are grade-separate and limited-access, meaning that crossing roadways must pass over or under and that vehicles are only able to enter or exit at interchanges that are spaced far apart.[18] The limited-access design is both highly efficient and safe. On-ramps allow cars to merge safely into the traffic stream in a way that a vehicle pulling out from a driveway onto an interstate could not.

Thus, building an interstate means limiting highway access for landowners who live adjacent to the highway. After all, building an interchange to serve every landowner would be both prohibitively expensive and defeat the entire purpose of an interstate. Depending on state law, however, landowners may have certain access rights. In Florida, the I-75 extension converted the existing State Route 83—also known as Alligator Alley—which provided adjacent land owners with certain access rights. FDOT stated in its review that, "Presently, uncontrolled access along Alligator Alley enhances the saleability of subdivision lots with little else to recommend them."[19]

This left FDOT with a choice to either build a frontage road that would run parallel to the interstate and provide the access to which landowners were entitled or buy out those access rights. By building a frontage road, Florida would be providing landowners with the access necessary for future commercial and residential development. However, in order to limit future growth along the corridor to the greatest extent possible, FDOT chose to purchase local access rights instead of building a frontage road.

Finally, FDOT wanted to improve the flow of fresh water through the Big Cyprus and Everglades wetlands. The ecology of South Florida is based on a large volume of water flowing south from Lake Okeechobee, through the wetlands, and into the Gulf of Mexico. The flow consists of a massive, shallow, slow-moving sheet as opposed to a river contained within a defined channel. Decades of agricultural and urban development—including the construction of the original State Route 83—substantially disrupted this flow. Through the NEPA process, FDOT recognized that the Everglades Parkway project represented an opportunity to improve the natural flow.

Improving flow involved several design modifications. According to FDOT design policy at the time, highways were required to provide at least 100 feet of land between the edge of the roadway and any adjacent body of water.[20] This requirement was intended to reduce the risk of passengers drowning in the event that a driver loses control of a vehicle. In effect, the 100-foot buffer provided a chance for a driver to slow the vehicle and regain control, hopefully avoiding entering the water. In the case of the Everglades Parkway, complying with this requirement would have meant draining additional wetland on either side, further impairing critical habitats and the sheet flow of fresh water. Instead, FDOT chose to waive this policy and add a cable barrier where necessary. The cable barrier would stop wayward vehicles before they reached the water.[21]



IMPROVED EVERGLADES FLOW
Photo courtesy of the US Department of the Interior.

FDOT's final significant modification dealt with the channels running parallel to the highway on either side as well as the connections spaced at regular intervals that connected the channels on the north and south side of the highway. Experience with the channels along the original State Route 83 showed that the state needed to both modify their depth and regularly remove aquatic vegetation that could reduce sheet flows by as much as 90 percent.[22] FDOT also scheduled construction activity to avoid the heaviest seasonal rains. By adjusting the sequence and timing of work, the state was able to significantly reduce sedimentation—rainwater carrying dirt, rocks, and other loose debris from the construction site into the wetlands.[23]

The environmental review process provided FDOT with the information necessary to make smart and effective changes to the design, construction, and maintenance of the Everglades Parkway, all with an eye toward reducing harmful impacts on the surrounding ecosystem. Far from being a burden, NEPA brought forward the technical expertise of scientists across numerous fields to help the state build a fundamentally better, more sustainable facility that continues to provide benefits to this day.

The Charlotte Blue Line light rail extension

In Charlotte, North Carolina, NEPA provided the Charlotte Area Transit System (CATS) with a process to identify the most appropriate route and transit technology combination as well as other design elements and construction practices to meet local mobility needs while minimizing social and ecological impacts.

The environmental review process seeks to minimize negative project impacts on both macro and micro scales. In other words, NEPA requires project sponsors to ask two related questions: First, what should be built? And second, how should it be built? This means that sponsors must focus on mitigating project impacts from the outset rather than simply polishing any rough edges at the end.

BLAND STREET STATION
Photo available under CC BY-SA 3.0 license (credit: Frasit Frizzle).

The NEPA process begins with the requirement that state and local government project sponsors clearly define the transportation challenge that the proposed project will resolve. This is known as the statement of purpose and need. This statement is significant because it serves as the basis for another major element known as an alternatives analysis. Essentially, the sponsor must analyze different options for meeting the defined need, including a no-build option.

The alternatives analysis process is critical because it answers the question of what should be built to meet the defined local need. The truth is that all infrastructure projects produce environmental impacts. Each project alternative involves tradeoffs to both transportation performance and environmental impacts. By considering multiple project options, the state or local government sponsor is able to find a preferred alternative that delivers the optimal combination of performance and mitigation.

For a public transportation project such as the Charlotte Blue Line, the range of alternatives could include different route and transit technology combinations. One alternative could be a light rail line operating within a dedicated right of way. Another alternative could be a rapid bus line operating in mixed traffic. Each transportation technology and route combination would offer a different level of performance and impose a different level of community and ecological impact.

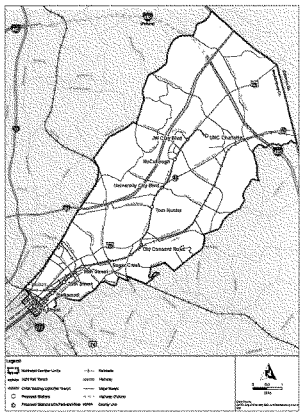
For instance, assembling the light rail right of way could involve substantial eminent domain of historic homes, while the rapid bus could use existing roadways. At the same time, the light rail line would carry more passengers and use clean renewable energy to power its trains, while the rapid bus would carry fewer passengers and would likely rely on diesel or natural gas.

After selecting a preferred alternative, the state or local government sponsor carries out additional engineering and design work. This stage of the process allows the sponsor to revise and refine the design in order to achieve additional mitigation and performance improvements. For instance, a sponsor may decide to grade separate a planned light rail line where it crosses a major arterial roadway. By routing the train above or below the intersection, vehicles would not be forced to sit and idle as trains passed by dozens of times each day in both directions. The Charlotte metropolitan area is one of the fastest-growing and most economically dynamic regions in the United States. Since 1990, the area has grown from 1 million residents to its current population of more than 2.3 million.[24] With growth has come additional congestion. In response, CATS has expanded public transportation service, including the construction of light rail transit.

For local leaders, light rail transit not only provides mobility but also advances regional development goals. In 1994, the city of Charlotte adopted the first of several land use plans that called for focusing growth within the downtown and along five corridors extending out from the city center.[25] Over the years, Charlotte has refined its vision for growth to include a focus on building more mixed-use, pedestrian-friendly neighborhoods around transit stations in order to "minimize motor vehicle trips."[26]

In 2007, after years of planning and building political support, CATS opened its first light rail segment known as the LYNX Blue Line, which extends south 9.6 miles from downtown Charlotte.[27] Within the first year of service, ridership doubled the preconstruction forecast, providing more than 18,000 weekday trips.[28]

Following the success of the first segment, CATS and local elected officials pushed to extend the Blue Line 9.4 miles northeast to the University of North Carolina at Charlotte.[29] Upon completion in 2018, the Blue Line extension will provide more residents with a safe, affordable, and efficient alternative to driving. Additionally, the extension will support increased residential and commercial density along the corridor, as called for in the city's updated land use plan.[30]



BLUE LINE EXTENSION CORRIDOR MAP
Photo courtesy of the Charlotte Area Transit System.

Before deciding to extend the Blue Line, however, CATS conducted a full alternatives analysis as required under NEPA. This included a review of a wide range of options, including rapid bus, light rail, streetcars, and commuter rail. From this broad set of possibilities, CATS narrowed its analysis to those options that were not "fatally flawed from an engineering or environmental perspective or would be unlikely to meet project goals and objectives."[31]

CATS conducted detailed analysis of several rapid bus and light rail alternatives as well as one streetcar option.[32] The analysis determined that "The BRT [bus rapid transit] alternatives would serve existing land use patterns better than the light rail alternatives, but light rail would have more potential to support the desired shape of future development."[33] Thus, CATS used the transportation and land use goals established by the city of Charlotte to inform its NEPA purpose and need statement, which—along with other factors such as cost and ridership—served as the basis for analyzing project alternatives.

Initially, CATS selected a light rail alternative that would have included 13 stations, extending 10.6 miles northeast from downtown. However, due to the severe economic slowdown created by the Great Recession, CATS decided to reduce project costs by cutting two stations, scaling back structured parking, and shortening the line by 1.2 miles.[34] In 2011, CATS adopted the revised light rail design, finding that it caused "the least damage to the biological and physical environment, while best protecting, preserving and enhancing historic, cultural and natural resources."[35]

As intended, the NEPA alternatives analysis process allowed CATS to answer the macro question of what project should be built to advance the defined local purpose and need. Next, CATS used NEPA to answer the micro question of how to deliver the project in a sustainable manner.

As part of the review process, CATS conducted a detailed traffic impact analysis of 55 intersections along the rail route in order to identify where the line should be grade-separated from existing roadways.[36] For urban rail lines, grade separations affect safety, train run times, cost, intersection delays, and traffic spillover to adjacent intersections. The CATS analysis determined that the extension should include grade separations at all major intersections, railroad crossings, and entry and exit points for U.S. Route 29.[37] In total, the Blue Line extension includes 11 new grade separations.[38] For instance, the inclusion of a grade separation of the light rail line with 36th Street will allow intersection performance—known in traffic engineering terms as "intersection level of service"—to remain unchanged at the intersection of 36th and North Davidson.[39]

To understand the importance of including multiple grade separations, one must consider how the Blue Line extension might have looked if CATS engineers had focused narrowly on delivering fast train run times in the most cost-effective manner possible. For starters, grade separations are expensive compared with standard at-grade crossings, which only require the installation of a flashing gate. CATS could have chosen to construct the line at grade, granting trains travel priority and forcing vehicles to wait throughout the day. This approach would have saved the agency money without sacrificing train run times.

However, while at-grade crossings may save the project sponsor money in the short run, they increase roadway delay and air pollution from idling vehicles traveling within the rail corridor. As a result, the Charlotte region would suffer from reduced economic productivity and more polluted air. Fortunately, NEPA requires project sponsors to take into account how new facilities will affect safety, air quality, and roadway conditions, among other measures of community and environmental impact.

Safety is another core community impact under NEPA. This means that project sponsors must consider how a new facility may increase injuries and fatalities. A portion of the Blue Line will travel along roadways with numerous cross streets that are not signalized, meaning that pedestrian and vehicle movements are not controlled by traffic lights but by stop signs and individuals' discretion. For roadways with few pedestrians and low traffic volumes, this approach works well. However, the presence of a new light rail line would increase development, travel demand, and pedestrian use. In response, CATS added traffic lights to fully control vehicle and pedestrian movements along U.S. Route 29, Orr Road, Arrowhead Drive, Owen Boulevard, Orchard Trace Lane, and at the University City Station. CATS notes in the environmental impact statement: "With light rail transit running in the median, safety requires traffic signals at all median openings."[40]

Lastly, NEPA requires project sponsors to look at how a proposed facility will affect low-income communities and communities of color. This mandate stems from a sober and honest recognition that the location, scale, and design of infrastructure facilities have historically affected poor or otherwise disadvantaged neighborhoods at disproportionately high rates.[41] In short, the choice to build an infrastructure project can itself be a form of discrimination. This impact may take the form of increased pollution and noise; increased household costs; reduced transportation access; or the loss of local businesses, housing, religious institutions, and social service providers through eminent domain, among other impacts.

As part of the environmental review process, CATS was required to conduct both a demographic analysis based on census data and an extensive inventory of community assets. The Blue Line extension will run through several neighborhoods in which residents are predominantly people of color with incomes that fall substantially below the area's median household income.[42]

In order to construct the Blue Line, CATS had to acquire 90 acres of land, resulting in the displacement of 14 commercial or industrial businesses but no residential displacement.[43] CATS found that none of the businesses "provide a unique or special service to a community of concern."[44] Therefore, the project's most significant impact would be increased noise and vibrations. Eleven residential homes were expected to face a significant increase in noise or vibration. These impacts are considered adverse "due to the intensity of the impacts and disproportionate as no residential noise impacts would occur outside of minority and low-income communities of concern."[45] In response, CATS made changes to the project design to include the installation of "an automated friction modifier, noise barriers, sound insulation, specially-engineered track work and vibration isolation treatments."[46]

Conclusion

The National Environmental Policy Act provides both the public and elected officials with access to the information necessary for informed decision-making, resulting in a more just, democratic, productive, and sustainable U.S. society. Opponents of NEPA want to curtail the flow of information in the name of expedience. On the surface, the prospect of building needed infrastructure projects more quickly may seem attractive. However, beyond the easy rhetoric of "better, faster, cheaper" lies an ugly reality of poorly conceived projects that produce long-lasting harms and ultimately cost our society and economy far more than any modest upfront savings. In short, the procedural requirements of NEPA yield real benefits. The time has come to recognize the service that environmental review provides and to allow the law to continue empowering local communities.

Kevin DeGood is the director of Infrastructure Policy at the Center for American Progress.

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Statement for the Record
National Association of Clean Water Agencies

Submitted for the House Transportation & Infrastructure Committee, Subcommittee on Water Resources & Environment Hearing – "America's Water Resources Infrastructure: Approaches to Enhanced Project Delivery" – January 18, 2018

On January 18, the House Subcommittee on Water Resources and Environment held an important hearing to discuss ways to modernize water resources infrastructure and provide a more efficient and effective project delivery approach. As part of that approach, the National Association of Clean Water Agencies (NACWA) on behalf of its over 300 public clean water agencies throughout the country, request that as the Committee drafts its 2018 Water Resources Development Act (WRDA) bill it include legislative language that provides enhanced coordination between the Army Corps of Engineers (Corps) and municipalities during the Corps' planning process for flood control projects.

Water resource management is increasingly becoming a more complex challenge for local communities throughout the country as they deal with a wide-array of issues ranging from severe drought to extreme wet weather events and increasing requirements for stormwater management. The Corps' primary purposes are flood risk management, navigation, and aquatic ecosystem restoration. Water supply and water quality are local responsibilities and the Corps does not plan projects for those purposes. However, as the Corps develops flood risk management, ecosystem restoration, and related projects in a watershed, there is the possibility that such plans could impact a community's ability to carry out local plans regarding water quality or water supply. There may also be opportunities to coordinate for the mutual benefit of both the Corps and local entities. For example, a Corps water resources management effort could provide opportunities for water storage, aquifer recharge, or water reuse plans or for addressing local water quality.

Enhanced planning coordination between the Corps and municipalities could identify potential conflicts with local water resource plans and potential opportunities for integrating water resources management that improves water supplies and water quality outcomes. Many communities currently enjoy strong collaborative relationships with the Corps districts which can be a model for close collaboration throughout the country.

NACWA thanks the committee for their consideration of these issues in WRDA 2018, and looks forward to continued collaboration on other issues impacting clean water agencies as the Committee works to advance WRDA and other legislation this Congress.

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