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October 29, 2022

The Honorable Michael L. Connor  
Assistant Secretary of the Army for Civil Works  
108 Army Pentagon  
Washington, D.C. 20310-0108

**Re: Comments on the Proposed Revisions to the Corps Engineer Manual 1110-2-1913 (Evaluation, Design, and Construction of Levees)**

Dear Secretary Connor:

On behalf of the National Waterways Conference (“NWC”), and our partners the Mississippi Valley Flood Control Association (MVFCA), Missouri Levee and Drainage District Association (MLDDA), Fort Bend Economic Development Council Flood Management Committee (FBEDC FMC), Association of Levee Boards of Louisiana (ALBL), and Floodplain Alliance for Insurance Reform (FAIR), we are providing comments on the U.S. Army Corps of Engineers (“Corps”) proposed revisions to Engineer Manual 1110-2-1913 – Evaluation, Design, and Construction of Levees (levee EM). Thank you for giving us a 60-day extension of comments to do so.

**A. ABOUT THE NATIONAL WATERWAYS CONFERENCE AND OUR PARTNERS.**

The NWC was established in 1960 and is dedicated to a greater understanding of the widespread public benefits of our Nation’s water resources infrastructure. Our mission is to effect common sense policies and programs, recognizing the public value of our Nation’s water resources and their contribution to public safety, a competitive economy, national security, environmental quality, and energy conservation. The NWC’s membership is diverse and includes the full spectrum of non-Federal water resources stakeholders, including flood control associations, levee boards, waterways shippers and carriers, industry and regional associations, hydropower producers, port authorities, shipyards, dredging contractors, regional water supply

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districts, engineering consultants, and state and local governments. Many of these members are non-Federal sponsors of Corps civil works projects, and own and maintain water resources infrastructure, including levees and other flood reduction structures, that would be directly impacted by the changes in the draft levee EM.

The MVFCA was created in 1922 to promote the consensus homeowner, flood protection, and inland navigation interests of the seven-state region participating in Mississippi River Valley Flood Control and Navigation projects, including the States of Illinois, Missouri, Kentucky, Tennessee, Arkansas, Mississippi, and Louisiana. Since 1980, MVFCA has expanded to include the watershed states from St. Paul, MN to the Gulf of Mexico. The Association involves over 150 entities, including levee boards, drainage districts, municipalities, port and harbor commissions, state agencies, nonprofits, and businesses from the Mississippi River Watershed, a contiguous region that occupies 41% of the land area of the United States.

The MLDDA was established in the immediate aftermath of the Great Flood of 1993, the worst such U.S. disaster since the Great Mississippi Flood of 1927. Our membership, representing both rural and urban leveed areas, includes levee and drainage districts from areas throughout the Midwest, farming operations, industrial and commercial businesses, and individuals. We support these and other entities by working closely with Federal, state, and local agencies, as well as quasi-public and private organizations, toward improvement of conditions along the Missouri River and its tributaries.

The FBEDC FMC of Sugar Land, Texas, was established in 2021 because of concerns about the long-term systemic effects of the new National Flood Insurance (NFIP) pricing methodology, Risk Rating 2.0. Our organization includes public and private sector leaders who advocate for our regional flood protection network of 19 major levee and drainage systems. Over \$20 billion in property investment and approximately 150,000 residents are protected by nearly 100 miles of levees and drainage infrastructure, nearly 27 percent of the total taxable value of Fort Bend County. Our accredited flood protection systems have been funded using only local dollars and more than \$750 million has been invested for systems planning, design, construction, and upkeep. Exemplary floodplain management practices by the two largest cities in Fort Bend County, Sugar Land and Missouri City, have been recognized by the Federal Emergency Management Agency (FEMA) with class 6 and class 7 Community Rating Service ratings, respectively.

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The ALBL is made up of the State of Louisiana's 23 individual levee boards, and we work closely with Federal and state agencies to contain and manage floodwaters along our major waterways, from the northernmost reaches of Louisiana to the waters of the Gulf of Mexico. More than half of our precious land is in a flood plain, and 41 percent of the continental U.S. drains into the Mississippi River Basin. This creates a unique situation in our state, where flooding is a part of the history we share, and a part of the future we are working hard to control. Thanks to the constant diligence and monitoring by the state's 23 individual levee boards, rains very rarely have the disastrous results they once did for our state's citizens. "Without Flood Control, Nothing Else Matters."

The FAIR is a nonprofit, nonpartisan coalition started in 2009 to advocate for objective flood protection approaches using the best alternatives from multiple means to reduce catastrophic flooding in the United States. We are organized with local levee, drainage, and conservation districts to generate original analysis in furtherance of consensus, fact-based policy supporting public safety, economic development, and natural resource conservation.

Collectively, our organizations include more than 170 levee owner-operator members in 16 states, along with dozens of affiliated state, local, and private organizations.

### **B. BACKGROUND ON THE CORPS' DRAFT REVISIONS TO EM 1110-2-1913.**

The Corps is proposing updates to its guidance for evaluating, designing, and constructing levees, Engineer Manual (EM) 1110-2-1913 – Evaluation, Design, and Construction of Levees. The Corps has informally made the draft updated manual available to the public for review. The Corps originally requested feedback from the public by September 1, 2022, but informally extended the feedback submission period by 60 days, to the end of October 2022.

The NWC and its partners are submitting to the Corps the following written comments in response to the Corps' request for stakeholder feedback on the levee EM. We appreciate this opportunity to share our views with the Corps and look forward to continued involvement in the discussion about reliable flood protection measures that safely facilitate economic activity in areas where that would not otherwise occur. Only by applying fair-minded assessments of the hard evidence, costs, benefits, and available resources, will we improve our ability to make the best possible trade-offs and achieve meaningful reduction of flood-related loss and suffering.

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### **C. COMMENTS ON PROPOSED REVISIONS TO ENGINEER MANUAL 1110-2-1913.**

There are several areas of concern that arose during our review, and we offer the following comments in hopes that these will be addressed as the Corps proceeds with finalizing this update to the levee EM.

Our primary concern and the focus of these comments is the adverse economic and other impacts we expect the proposed levee EM rewrite would have on levee systems and communities all around the Nation, and on flood protection itself by significantly increasing project costs without adding any flood damage reduction benefits to communities, and by undermining reasonable criteria updates for the design, construction, evaluation, and accreditation of levees. As the non-Federal sponsors who fund and maintain these levees, we believe the Corps needs to be more transparent about the development, intended use, and expected impacts of such criteria.

#### **1) The Corps is Proposing, in the Updated Levee EM, Substantial, Untested Changes to the Design, Construction, and Evaluation of Levees that Would Provide Undetermined Reductions in Flood Risk and Increase Costs.**

We have serious concerns with the substantial changes that the updated levee EM is proposing to make to the historical design manual standards and procedures. The goal of the proposed new standards and procedures in the levee EM is to reduce flood risk. The levee EM, which was first published in 1978 and updated in 2000, historically relied largely on traditional “deterministic” engineering approaches for designing and constructing levees. These traditional approaches have been overall very successful in producing acceptable levee performance over many years, sometimes going back many decades.

However, the proposed update to the levee EM appears to lay out a revised process that not only introduces substantial revisions to several of the traditional “deterministic” approaches that have been found to work well for many years, but also proposes to introduce a new second phase of the evaluation to confirm or modify the initial approaches based on uncertainties and the results of a risk evaluation. This latter step would substantially revise the levee design, construction, and evaluation processes by including assessment techniques using largely insufficiently or un-verified “risk-based” concepts that combine various factors such as frequency of levee loading, anticipated performance, and potential consequences of breach.

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This approach will have significant impacts on both the levee systems and the communities they serve.

As already noted, and also acknowledged in the proposed levee EM, the approaches utilized in the levee EM in the past have worked well for many years. (*See, e.g.*, Section 1.6.4.2, Page 1-9, “This manual specifies initial design criteria that have a general history of successful performance”; Sections 1.6.4.1, Pages 1-8 and 1-9, “The criteria for levee design have changed little since the 1978 version of this EM, likely due to a general history of acceptable performance.”)

Nevertheless, the proposed levee EM introduces substantial revisions to several of these traditional deterministic approaches that have been found to work well for many years, including standards and procedures for evaluating factors such as underseepage and slope stability.

It is unclear what is driving these changes. The Corps has done an inadequate job providing information (*e.g.*, any documentation of poor performance using existing criteria) to justify the proposed changes in the levee EM’s design and evaluation standards and approaches. The current standards work so what is the agency trying to fix?

Numerous stakeholders are concerned that many of these changes, as proposed, would unnecessarily make it more difficult to satisfy such standards and procedures, would provide dubious additional benefits, and moreover, could result in many existing (including recently completed) and ongoing levee construction projects no longer meeting the new standards and procedures.

For example, many stakeholders are extremely concerned that new and more complicated criteria and analyses for underseepage (in Chapter 6) and slope stability (in Chapter 7) being proposed in the levee EM are not only unnecessary, but they greatly complicate the evaluations. In some cases, they may be technically inaccurate or overly conservative. Some are also concerned that, not only are the new criteria unnecessary and arbitrary, but some of the new criteria, such as the underseepage criteria, threaten the acceptability and certification of many levees upgraded over the last several years using traditional design criteria. These stakeholders are concerned that such improvements were made at the cost of billions of dollars from mostly state and local funding sources.

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If the levees no longer meet the deterministic standards-based criteria, then they cannot be certified. This has enormous potential for impacting local communities, and many communities would likely consider that the Corps is once again “moving the goal posts.” Stakeholders are concerned that both the Corps and non-Federal entities would lose significant credibility if the new standards and approaches proposed for the levee EM are implemented and recently improved levees are deemed to no longer be acceptable after billions of dollars were spent to make them so.

Recommendations: *The Corps needs to maintain traditional engineering standards and approaches that are effective, in the initial “deterministic” phase of the levee evaluation, and not arbitrarily undermine the acceptability of existing levees. The Corps also needs to seek and reach greater consensus with the engineering and stakeholder community on the standards and approaches to be included in a revised levee EM. As part of this, the Corps needs to thoroughly reevaluate the new approaches being promoted in the proposed levee EM and provide information (e.g., documentation of poor performance using existing criteria) to justify proposed changes in the levee EM’s design and evaluation standards and approaches.*

*Using elevated criteria stricter than what has normally been used successfully in the past as an initial step in the design of a levee may lead to overdesign and evaluations that are above what is needed to meet desired risk reduction levels. Only if the initial deterministic design methods are used and they result in not achieving the risk reduction standards that are desired in a particular circumstance, then more conservative, risk-informed evaluations could be considered and implemented when appropriate in a second step so that the consequences of flooding can be better evaluated to determine whether the additional conservatism is warranted. This would result in the ability to apply more stringent standards in areas where the property damages and threat to life safety warrant additional conservatism to manage residual risk (e.g., in more urbanized areas), while also possibly allowing the application of proven traditional conservative approaches and more modest investment in systems where the damages and risk to life and property are lower (e.g., in some rural areas). Decisions on what constitute acceptable levels of design risk must not be made by the Corps alone in a vacuum, but rather, need to be made jointly and cooperatively with the relevant non-Federal (local) entities.*

*Levels of flood protection should be commensurate with acceptable levels of risk. When risk needs to be reduced, it should be accomplished by designing actual higher levels of flood protection when warranted so there is a corresponding reduction in flood damages and increase*

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*in life safety. Decreasing the risk of levee failure by arbitrarily increasing the stringency of evaluation criteria or margins of safety beyond what has historically been observed to work well based on unrealistic, hypothetical conditions, such as proposed in the levee EM, will likely drive up costs with little or no commensurate benefits. Hence, the Corps needs to encourage investment decisions that decrease risk based on realistic understandings of the levee conditions, not assumptions inconsistent with the conditions that actually exist.*

*Additionally, the Corps should disclose how changes in the levee EM's design criteria would impact the cost of levee construction and maintenance. The Corps needs to justify the changes and their costs.*

*The levee EM should include a section specifying how the Corps would respond to findings foretelling significant levee safety issues, including how the Corps would coordinate this information with protected communities and work with non-Federal sponsors to prepare a report under Section 7001 of the Water Resources Reform and Development Act of 2014 for new or modified project authorizations. The Corps has a responsibility to act and work with non-Federal sponsors to preserve and enhance community protection, and not just comment on it.*

*There should be a requirement for the Corps to notify communities and other relevant officials of any results related to all probabilities of failure or over topping. The Corps should agree to provide advice and assistance on corrective measures and that should be part of any finding under the levee EM. The Corps has an important responsibility for keeping communities safe, and not just telling them they are unsafe. They need to be a part of the solution to the problems they uncover.*

*Lastly, we note that other stakeholders also have expressed substantial concerns with the Corps' proposed revisions to the deterministic standards and risk-based approaches, and have provided more detailed comments on them. We urge the Corps to seriously take such other comments into consideration when evaluating the stakeholder input it has received.*

### **2) The Technical Data and Methodology Underlying Many of the Revisions to the Levee EM Have Not Been Subjected to Rigorous Validation and Data Quality Review.**

The technical data and methodology underlying the revised levee EM have not been subjected to rigorous validation and data quality review. For example, development of the technical data

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and methodology underlying the most significant change to the proposed levee EM, application of a new risk-informed design process, is subject to data quality review under current Office of Management and Budget (OMB) guidelines covering dissemination of “influential” information that “will have or does have a clear and substantial impact on important public policies or important private sector decisions.” (See OMB Memorandum, “Improving Implementation of the Information Quality Act” (Apr. 24, 2019), available at <https://www.whitehouse.gov/wp-content/uploads/2019/04/M-19-15.pdf>.) These OMB guidelines implement the Information Quality Act (also known as the “Data Quality Act”; Section 515 of Public Law 106-554).

However, there is no indication that the data and methods proposed for use either under the levee EM, or under the Corps’ underlying Engineering and Construction Bulletin ECB 2019-15, entitled “Interim Approach for Risk-Informed Designs for Dam and Levee Projects,” have been subjected to a data quality review and validation under the aforementioned OMB guidelines implementing the Information Quality Act, or some similar, equivalent review. (See ECB 2019-15, available at <https://www.wbdg.org/ffc/dod/engineering-and-construction-bulletins-ecb/usace-ecb-2019-15>; it should be noted that this guidance is technically expired.) Hence, it appears that the Corps is using data and methodologies that have not been subjected to a rigorous validation and data quality review, such as Information Quality Act or similar review.

Further, as illustrated below, the Corps is providing to Federal Emergency Management Agency (FEMA), for FEMA’s use, the insufficiently validated data and methodological advice from the new levee EM and from the Corps’ risk-informed approach guidance (ECB 2019-15), together with other related National Levee Safety Program initiatives. This is made clearer by a variety of recent National Levee Safety Program publications, including a June 2022 document entitled, “USACE’s Role in Risk Rating” (see [https://usace-cwbi-prod-il2-nld2-docs.s3-us-gov-west-1.amazonaws.com/a7a52b33-6225-4a02-9d27-8906a11c070e/Connectseries\\_USACEriskrating\\_062722.pdf](https://usace-cwbi-prod-il2-nld2-docs.s3-us-gov-west-1.amazonaws.com/a7a52b33-6225-4a02-9d27-8906a11c070e/Connectseries_USACEriskrating_062722.pdf)), which reveals the following information about integration of the Corps data and methods into FEMA levee risk rating and National Flood Insurance Program (NFIP) assessment of leveed area flood insurance rates used in the new FEMA Risk Rating 2.0 premium computation methodology:

### “USAGE ROLE IN RISK RATING

*U.S. Army Corps of Engineers (USACE) is assisting FEMA by providing data and methodological advice to improve understanding of flood risk reduction provided by levees, both accredited and non-accredited.” (Id.)*



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The same document makes clear that this insufficiently validated technical data and methodological advice, which has not undergone Information Quality Act or similar review, is being disseminated from the Corps to FEMA through the Corps-managed National Levee Database:

### “LEVEE LOCATION DATA

*The National Levee Database, a database managed by USACE for all levees in the Nation, is FEMA’s primary source for the identification of levees and their location for Risk Rating.”*  
(*Id.*)

Finally, there is no known discussion in the proposed levee EM rewrite as to its expected regulatory or economic impacts. There is, likewise, no known available information describing the results of any levee EM analysis to examine approach alternatives or the net benefits of this set of proposed revisions. It is therefore impossible for the public to thoroughly assess the development, intended use, and expected impacts of the proposed levee EM.

Recommendations: *The Corps needs to subject the technical data and methodology underlying many of the revisions to the levee EM to a rigorous validation and data quality review under the Information Quality Act or a similar, equivalent review. Until such time that requisite information demonstrating the net benefits of this proposal are made publicly available and adequately tested, the Corps should postpone the finalization of the proposed revisions to the levee EM.*

*Additionally, in light of the Corps’ support to FEMA programs, the Corps should fully disclose during the review how the levee EM will be applied under FEMA’s programs, including the mapping process specified in the Flood Insurance Act.*

### **3) The Proposed Levee EM Could Substantially Impact Accredited Levee Systems and the Levee Accreditation Process.**

#### **Background on Accredited Versus Non-Accredited Levee Systems.**

The Corps reports that 16.9 million people live or work behind levees registered in the National Levee Database (NLD). Recent agency estimates indicate that levees help protect more than \$2 trillion of property, 4,500 schools that enroll over 2 million students, and 5.3 million buildings.

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Importantly, while levees are everywhere, not all levees are the same in terms of their size, the amount of people and treasure they help protect, or performance. Of the 6,919 levee systems registered in the NLD as of October 19, 2022, the Corps identifies that 1,474 systems are either accredited by FEMA on National Flood Insurance Program (NFIP) flood maps as substantially reducing the flood hazards posed by a 1-percent-annual-chance-flood or provisionally accredited with as yet incomplete documentation demonstrating compliance with FEMA's risk mapping regulations of areas protected by levee systems (at 44 CFR 65.10). By contrast, 5,741 levee systems are shown as not accredited by FEMA. In approximate terms, this means that only one in five levee systems in the National Levee Database (NLD) are accredited or provisionally accredited projects.

The area landward of accredited levee systems, in general, are not subject to mandatory flood insurance purchase. The area landward of non-accredited levees are identified on flood maps as high-risk or Special Flood Hazard Areas (SFHAs) where NFIP floodplain management regulations must be enforced and where a flood insurance purchase mandate applies for residential and commercial properties with mortgages from Federally regulated or insured lenders.

### **Benefits of Accredited Levee Systems.**

Objective analysis of accredited levee system performance over history reveals that diligent levee owner-operators, in partnership with the Corps, local zoning agencies, and FEMA, have reduced the incidence of flood loss in their communities. The Mississippi River and Tributaries Project authorized by the 1928 Flood Control Act (70<sup>th</sup> Cong., Sess. I, Ch.596 (1928)) has prevented \$2.021 trillion in cumulative damages to generate a remarkable 116.8 to 1 return on investment.

During epochal May 2015 rainfall across Texas, accredited Corps flood control projects maintained by local sponsors prevented more than \$13 billion in flood damages. During an unprecedented 279 days of Midwest flooding in 2019, flood control operations prevented \$2.4 billion in damages in Missouri and Kansas. In January of 2022, the German-based global reinsurance company, Munich Re, published a report indicating that Hurricane Ida caused \$65 billion in damage but that the rebuilt levee system in New Orleans "withstood the storm surges, thereby preventing much higher losses... and that the investments there were absolutely worth it." (See E&E News, Climatewire Article, "Rebuilt New Orleans levees saved lives, property"; at

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<https://subscriber.politicopro.com/article/eenews/2022/01/10/rebuilt-new-orleans-levees-saved-lives-property-284962>.) The reality in hundreds of communities is that Federally accredited levees continue to serve both the communities they protect and the Nation and, with a single notable exception, have not failed.

### **Retaining the Levee Accreditation Process.**

The horrific losses and suffering experienced by victims of the 2005 Hurricane Katrina-related failure of a levee system in New Orleans are anomalous for certified and Federally accredited levees in the United States over the last several decades. Even considering the New Orleans tragedy, our Nation has not experienced systemic financial crises or bank failures as the consequence of accredited levee failure. The inspections, surveillance, and use of technological advancements underlying Federal levee accreditation have worked to both increase life safety and secure the same financial protection outcome as that intended by Congress for application of mandatory insurance under the National Flood Insurance Act. With New Orleans as an undeniably tragic exception, the Nation has thankfully not experienced a history of accredited levee failures that threaten the financial system or justify elimination of a disciplined, rigorous levee certification and accreditation process. Our success in areas protected by accredited levees is what the Federal government expected when communities that sacrificed to construct levees and sustain Federal accreditation were given the promise that their sound projects would protect them not only from floods, but also imposition of mandatory insurance and expansive Federal land use regulation.

The extremely low risk to our financial system posed by accredited levees can be put into a larger context. On May 10, 2022, the Senate Banking Committee received testimony from Secretary of Treasury Janet Yellen on the annual report of the Financial Stability Oversight Council. During the hearing Senator Toomey, the Ranking Member of the Committee, asked the Secretary, "Can you name a single financial institution in America that has failed as a result of a severe weather event in the last 50 years?" The Secretary could not name such an event. Senator Toomey went on, "Every single year we have blizzards, we have hurricanes, we have wildfires and sometimes they are horrendous, and some of them have been recent. But we've never had a single financial institution fail much less the entire financial system. So, I think it's pretty clear and actually I think Chairman Powell acknowledged there's no physical risk that's even remotely imminent." Similarly, any risks posed to the Federal interest in our financial

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system (or to life safety) from accredited levees might unfold over time, but at present they are certainly not imminent, nor even apparent.

Levee owner-operators of accredited systems have spent considerable time, effort, and resources over the decades to achieve reliable, economic flood protection for their residents and business owners. Earning and keeping FEMA accreditation of levees on flood maps to avoid SFHA designation and associated mandates and regulations have further incentivized levee owner-operator commitments to levee system operation and investment. There is no known Federal analysis demonstrating that accredited levees pose a substantial risk for protected communities nor is there any known Federal analysis to justify termination of the longstanding exemption from mandatory flood insurance or land use requirements for areas protected by accredited levees.

### **Adverse Impacts of the Levee EM on Accredited Levee Systems.**

The proposed revisions to the levee EM threaten to undermine important distinctions between accredited and non-accredited levee systems and the enduring, overwhelmingly effective accreditation process altogether. Communities that have made the financial sacrifice to plan, build, operate, and maintain world class infrastructure, would be punished under the proposed levee EM. The proposed levee EM will lead to potentially arbitrary and unchallengeable designation of areas behind all levees as SFHA with attendant land use regulations and flood insurance purchase mandates would summarily overturn the decades-long Federal commitment to accommodate diverse local needs and circumstances, incentivize local project funding sufficiency, and foster exemplary local operation and maintenance of projects that contribute optimal, economic flood protection through reliable, high-performance levees. The unsupported approach underlying the levee EM goes counter to the teachings of the prominent American geographer (sometimes referred to as the “father of floodplain management”), Professor Gilbert White, who instructs us to make use of multiple means, including the full array of sound structural and nonstructural approaches, to reduce the incidence of catastrophic flooding.

**Recommendations:** *As already noted, the Corps needs to subject the technical data and methodology underlying many of the revisions to the levee EM to a rigorous validation and data quality review under the Information Quality Act or a similar, equivalent review. Until such time that requisite information demonstrating the net benefits of this proposal are made publicly*

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*available and adequately tested, the Corps should postpone the finalization of the proposed revisions to the levee EM.*

*Additionally, the Corps should disclose how changes in the levee EM's design criteria would impact the cost of levee construction and maintenance. The Corps' justification for the changes and their costs should also be disclosed during the review. Further, the Corps should evaluate and disclose the impacts on levee rehabilitations, including under PL 84-99. The levee EM may make those rehabilitations more expensive.*

#### **4) Non-Federal Sponsors Need a Clear Understanding with the Corps on how the Proposed Levee Standards Would Apply to and Impact Existing Levee Systems.**

We are concerned with how the changes to the levee EM would impact the multitude of levees around the Nation, which have been or are being funded with local, state, and Federal investments in our levee systems over many years. There also are concerns regarding how the changes would impact projects that are currently under design and construction. Application of the new levee standards to the modification or repair of existing levee systems may not be physically or financially feasible due to land constraints or cost impacts to meet current standards.

The new standards, as proposed and without implementation considerations, could significantly impact many local communities because, in many cases, they would bring significant increased costs without either a measured increase in benefits or an overall reduction of flood risk based on historical measured performance.

In addition, it is unclear how existing levee systems would be accommodated under the new standards. It is also unclear whether and how the application of these new standards would apply to the modification or repair of many existing levee systems, since, for example, the application of the levee EM's new standards may not be feasible, either physically or financially, due to land constraints or cost impacts to meet current standards. Nevertheless, an existing levee system may provide essential flood protection for property, people, or productivity.

Recommendations: *The Corps needs to clarify whether and how the application of the new standards would apply to the modification or repair of certain existing levee systems, including which levees could be "grandfathered" under the new standards. This includes clarifying how*

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*existing levee systems would be accommodated under the new standards, including when the new standards would become effective and to which levee systems they would apply. Further, the Corps needs to clarify how to handle projects that are under construction, or recently completed or recently designed (whether advanced by the Corps or others), so that local communities that have expended substantial resources to improve their levee systems are not adversely affected.*

### **5) The New Standards May Impact Benefit-Cost Ratios for Many Communities.**

We are concerned with how the revisions to the levee EM would affect the economics of many flood control projects around the Nation. As proposed, the draft EM would likely increase project costs without adding flood damage reduction benefits, which in turn has the potential to lower benefit to cost ratios. This may make it more difficult for projects to secure necessary authorizations and, importantly, funding to protect communities.

Further, many stakeholders are concerned that the new standards may exacerbate existing benefit cost ratio issues for small, rural, and disadvantaged communities, which often struggle to achieve favorable benefit-cost ratios (for example, because of relatively lower calculated benefits relative to costs as a result of typically lower property values and maybe population densities in such areas).

Recommendations: *The Corps needs to evaluate the economic impacts the proposed levee EM would have on stakeholders, including small entities and small, rural, and disadvantaged communities, and consider how any increases in project costs can be offset by increases in the benefits.*

### **6) Determining Whether a Community Is Deserving of Flood Protection and at What Levels is a Decision Best Made Collaboratively as a Partnership Between Federal Agencies and Non-Federal Sponsors.**

The proposed levee EM, as revised, would create broad latitude for Corps establishment of new design criteria, which may be increased or decreased, depending on the Corps' characterization of levee-related flood risk and required reliability. The levee EM update would effectively have the Corps determining for all levees in its programs those areas that could be levee protected and to what level, using subjective criteria that are not transparent or repeatable. While there

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could be some advantages to properly vetted, reliable risk-informed decision-making, it is wholly inappropriate for any Federal agency to be the sole determiner of whether a community is deserving of flood protection from levees. There must be parity in the Federal and non-Federal decision-making process, including as to whether to increase or decrease the levee design, construction, and evaluation criteria depending on levee related flood risk and reliability.

Recommendations: *The Corps needs to give non-Federal entities an equal role and say in determining whether a community is deserving of flood protection and at what levels. As already noted, decisions on what constitute acceptable levels of risk must not be made by the Corps alone in a vacuum, but rather, need to be made jointly and cooperatively with the relevant non-Federal (local) entities.*

### **7) There Needs to Be Greater Clarity About How the Updated Levee EM Will Be Used—Both Within and Outside of the Corps.**

Many of our members have expressed concerns about the uncertainty of whether and how the updated levee EM will be applied, both within applicable Corps programs and those of other agencies, including FEMA and other Federal and state agencies. Adding an additional layer of duplicative and potentially inconsistent Corps requirements, on top of the other agencies' requirements, would be confusing, costly, time-consuming, and inappropriate.

Further, the levee EM has substantial economic and regulatory implications in other programs, potentially including, among others, levee accreditation programs, FEMA flood insurance, and modification or repair of existing levee systems under authorities such as P.L. 84-99.

Recommendations: *The Corps needs to implement a more robust outreach process, to consider and address the potential regulatory implications of the levee EM. The Corps also needs to be more transparent and clarify how the updated levee EM will be used, both within and outside of the Corps, in other programs.*

### **8) The Corps Must Clarify EM Applicability**

This Engineering Manual draft is a highly complex document, and the changes and significance of changes are difficult to assess. USACE should provide to reviewers a detailed description of

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each change in the manual being made, the applicability of the change (e.g. internal Corps design, PL 84-99, levee certification under the NFIP, Section 408 permitting, etc.), the prospective costs of the change within the area of applicability and who will bear the costs of the change, the prospective benefits of the change and justification that the benefits of the change exceed the costs of the change without further evaluation to specific cases. This is essential administrative practice. Paragraph 4–2. Staffing of Department of the Army administrative publication of Department of the Army Pamphlet 25 – 40, Army Publishing Program Procedures, cites this practice: “A detailed summary of important changes being made should be included with the staffing draft to assist reviewers.” If such a requirement is observed in internal staffing of publications, USACE should recognize that such a practice is even more critical when the public is commenting on a revision of this magnitude. Meaningful review cannot occur in the absence of the detailed identification of changes and their significance.

### **8) The Corps Needs to Ensure Sufficient Transparency and Outreach to Stakeholders to Develop a Consensus Position on Levee Evaluation, Design, and Construction Issues Under the Levee EM.**

We are pleased that the Corps is engaging in stakeholder outreach on the levee EM, through virtual informational Webinars and written email feedback. There is concern, however, that the Corps’ outreach process is neither transparent nor sufficiently justified for the Corps to get the type of specific, detailed feedback needed to develop an informed, consensus guidance document that is justified and will have the support of stakeholders.

This is especially concerning to many stakeholders because the levee EM (as already noted) has substantial economic and regulatory implications in other programs, potentially including, among others, levee accreditation programs, FEMA flood insurance, and modification or repair of existing levee systems under authorities such as P.L. 84-99.

**Recommendations:** *The Corps needs to implement a more robust outreach process, to consider and address the potential regulatory implications of the levee EM. To supplement its current outreach process, the Corps should take what it learned from the Webinars and written email input from stakeholders and conduct a focused stakeholder consultation process with non-Federal stakeholders (particularly with stakeholders that have an interest in the levee program), to solicit advice and recommendations regarding ways to resolve the outstanding issues and*



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*concerns with the proposed levee EM updates. The Corps also should create a publicly available docket where comments submitted by stakeholders are made available for review by the public.*

*We encourage the Corps to follow the requirements of the Administrative Procedure Act (5 U.S.C. § 551 et seq.) and the Information Quality Act (§ 515 of P.L. 106-554) in the further evaluation and proposed revisions to the levee EM. This should include taking into consideration the input, concerns, and recommendations received from non-Federal stakeholders and conducting regulatory and economic impact analyses of the impacts the levee EM would have on stakeholders, including small entities. The Corps should make a table that enumerates its proposed design changes one by one and explains the rationale for the change along with the associated costs and benefits. This ought to be a standard precursor to any review -- what has been proposed for change (by item) and why?*

*Further, as part of this process, the Corps should address the comments that they received and explain how they are addressing those comments. Then the Corps should make available, for public review, a proposed revised levee EM along with the associated regulatory and economic analyses, and a detailed explanation of how the proposed revised levee EM addresses the input, concerns, and recommendations that the Corps received from non-Federal sponsors and stakeholders.*

Thank you for the opportunity to provide comments. There is a clear consensus across our levee owner-operator membership that the Corps is well-suited to help protect communities, design and construct reliable infrastructure, and ensure the protections we have built over the decades remain strong. Over history, the Corps has consistently delivered on these and another critical agency mission underlying our unique intergovernmental partnership -- to work closely with local sponsors in making sure flood projects are safe to begin with, and if they are not, to do something about it. We hope this cooperative partnership will continue. Our commitment to helping protect families, businesses, and local communities from catastrophic flooding is resolute. We similarly value our decades of collaboration and achievement with the Corps.

On behalf of our collective organizations and dozens of registered professional engineers from multiple states around the country, the NWC and its partners look forward to partnering with Corps on this update to the levee EM, including working with the Corps in developing a more

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reasonable, transparent, and technically supported approach for implementing the manual.  
Thank you for the opportunity to share our views.

For more information or questions, please contact me at (202) 203-4795 or by email at [julie@waterways.org](mailto:julie@waterways.org).

If you have any questions, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Julie A. Ufner".

Julie A. Ufner  
President and CEO  
National Waterways Conference

cc: Lieutenant General Scott A. Spellmon  
Chief of Engineers, U.S. Army Corps of Engineers

Edward E. Belk, Jr.  
Interim Director of Civil Works, U.S. Army Corps of Engineers