

May 18, 2023

U.S. Army Corps of Engineers  
ATTN: PMA-C Snake Creek DSMS  
1616 Capitol Avenue  
Omaha, NE 68102-4901

Dear Omaha Corps Staff,

Thank you for the opportunity for the Department of Water Resources (DWR) to provide feedback and comments on the Dam Safety Modification Study (DSMS) for the Snake Creek Embankment (Embankment). We appreciate the opportunity to review the draft DSMS report and the requested extension of the study's comment period. We further appreciate the U.S. Army Corps of Engineers (USACE) responsiveness to some of the DWR requests to access the foundational models, probabilities, and economic assumptions USACE used in their decision-making processes.

On May 4<sup>th</sup>, 2023, Omaha USACE staff, DWR, and Garrison Diversion Conservancy District (GDGD) met to discuss the draft DSMS. In that meeting, USACE staff indicated that a structural fix of the Embankment is unlikely to occur since solely mitigating the life-safety risk is the primary criteria applied when choosing a Tentatively Selected Plan (TSP). This study, under the narrowed scope of authority chosen by the USACE, does not trigger the appropriate authority to pursue a structural fix of the Embankment. USACE disregard of all authorized purposes dependent on the Embankment, as demonstrated by choosing to pursue a dam safety modification study instead of a broader study, ignores congressional intent as described in Section 149 of the Water Resources Development Act (WRDA) of 2020. DWR disagrees with USACE's choice of authority for action, some of the underlying assumptions, and the subsequent analyses since the Embankment is authorized for multiple purposes.

While USACE Engineer Regulations 1110-2-1156, Safety of Dams—Policy and Procedures (ER 1110-2-1156) indicates life-safety is one of the primary selection criteria for Risk Management Plans (RMPs), section 9.5.7 states, "Other considerations, such as economic and environmental **which may be used in selecting a risk management plan** must be fully documented and defensible." Based on this language, the USACE has the authority through the DSMS and granted by ER 1110-2-1156 to choose a structural fix of the Embankment that is justified through economics. Furthermore, Senator Cramer provided directives to USACE in Section 149 of WRDA 2020 to further consider a structural action alternative as opposed to merely an operational alternative in the analysis.

The Embankment was developed through a series of congressionally authorized projects: in the Rivers and Harbors Act of 1935, the Flood Control Act of 1944, and the Garrison Diversion Unit Act of 1965. Specifically, the Embankment was authorized to provide relocation routes for a highway, railroad, and utilities inundated by the creation of Lake Sakakawea and to serve as a sub-impoundment dam for the diversion of Missouri River water to eastern North Dakota as a part of the Garrison Diversion Unit (GDU). The Embankment's reservoir inundates approximately 16,600 acres, with a total shoreline of approximately 152 miles. The diverted water is then used to support the state's largest industry, agriculture, by providing water to the McClusky Canal for irrigation. The diverted water also supports the federally authorized purposes of municipal, rural, and industrial water supplies; fish and wildlife; recreation; augmentation of stream flows; ground water recharge; and other project purposes in accordance with Federal reclamation laws. The Embankment is a critical piece of infrastructure in North Dakota, and the economic analysis of the Embankment needs to fully address all authorizations dependent on its continued stability.

WRDA 2020, directs the USACE to reevaluate the structural and operational alternatives to reduce the risk of Embankment failure; coordinate on the alternatives with state and local entities whose water obligations would be impacted by a drawdown; and, to **properly account for the economic benefits provided by the Embankment**. Failure by USACE to address the range of uncertainty and complete error propagation modeling leaves little confidence in the inputs for developing the economic analysis of any alternative. Neglecting current trends in improved modeling to account for non-stationarity in climate is likely underestimating the frequency of severe and prolonged climate events. In addition, underrepresenting the dependence and planned utilization of water supply systems, dependent on the McClusky Canal authorized points of diversion, have a directly dampening effect on outputs of the economic models. DWR has relayed in both oral and written communication to the USACE that these primary inputs into economic efficiency assessments need to be addressed before there is any reliability afforded to the outputs of benefit-cost models that utilize these questionable input parameters. Overall, a full economic analysis that includes all authorized purposes need to be included, not just those related to dam safety and loss of life.

ER 1110-2-1156 further says that RMPs must be screened through four criteria: completeness, efficiency, effectiveness, and acceptability. After reviewing the DSMS, DWR has concluded that the TSP, RMP 2, meets only the efficiency criteria. The efficiency criteria would be met since updating the Lake Audubon Water Control Manual could be done quickly. However, we believe the other three criteria are not met by RMP 2. Our reasoning on the other criteria is:

**Completeness** – ER 1110-2-1156 states that completeness is, "the extent to which an alternative risk management plan provides and accounts for all necessary investments or other actions to ensure the realization of the DSMS risk management objectives, including actions by other Federal and non-Federal entities." The DSMS risk management objectives include reducing the life-safety, economic, and environmental risks to tolerable levels. RMP 2 will not ensure the realization of the economic risk

management objective over time. This is because RMP 2 does not account for the continued deterioration of the Embankment and its relief wells and has no plan to perform maintenance on the wells. As these wells continue to degrade, the maximum head differential between Lake Sakakawea and Audubon allowed by the USACE will likely decrease over time. This means the probability of drawdown would increase over time, and this poses a significant economic risk to the State of North Dakota.

North Dakota has obligated in excess of \$500 million and has committed to future appropriations of nearly \$2 billion to develop the Eastern North Dakota Alternate Water Supply (ENDAWS), Central North Dakota Water Supply (CNDAWS), Red River Valley Water Supply (RRVWSP), and the Northwest Area Water Supply (NAWS) projects. By choosing RMP 2, USACE is stranding infrastructure assets that were depending on the continued stability and full functionality of the Embankment.

**Effectiveness** – The TSP of RMP 2 presently has an effectiveness like the Future Without Action Condition (FWAC) alternative. Also, as mentioned above, RMP 2 does not remedy the continued deterioration of the Embankment relief wells. The lack of proper design and maintenance of the relief wells, led in part to the dam safety issue in the first place. Consequently, RMP 2 has an effectiveness like the FWAC and will become even less effective over time.

**Acceptability** – USACE Engineering Regulation 1105-2-100 says that “Acceptability is the workability and viability of the alternative plan with respect to acceptance by Federal and non-Federal entities and the public and compatibility with existing laws, regulations, and public policies.” The state agencies have maintained that RMP 2 is not acceptable as it is not in the best interest for the people of North Dakota due to lack of uncertainty for full project utilization to meet multiple authorized purposes. On May 16, 2023, DWR voiced it’s concerns to the Senate Environment and Public Works’ Subcommittee on Transportation and Infrastructure during its hearings to examine perspectives on new and existing US Army Corps of Engineers authorities to respond to water management issues including drought and water conservation.

DWR believes RMP 2 is another attempt by the federal government to stifle the congressionally authorized GDU. The GDU was formed to compensate North Dakota for the inundation of over 300,000 acres of prime farmland by Garrison Dam. North Dakota was originally promised over a million acres of irrigated land as compensation, but that number has decreased considerably through several congressional reformulation acts. As part of the GDU Reformulation Act of 1986, a grant program for Municipal, Rural, and Industrial (MR&I) water supply was authorized for North Dakota. The MR&I program was developed in part to deliver water to the Red River Valley. The Dakota Water Resources Act (DWRA) of 2000 further amended the GDU Reformulation Act of 1986 and outlined a plan to meet North Dakota’s water supply needs, including delivery of Missouri River water to the Red River Valley. Therefore, by not choosing a

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structural measure for the Embankment and preventing it from operating at its designed potential during a drought, the federal government is again walking back what was promised to North Dakota for the inundation caused by the Garrison Dam.

DWR's technical comments on the DSMS, the joint GDCD/DWR comments presented at the May 4<sup>th</sup> meeting, and the DWR comments on the draft Environmental Assessment for the Snake Creek Embankment, sent on March 15, 2023 are included as attachments and should be considered in equal standing with the comments included in this letter.

DWR does not support the Preferred Alternative identified in the draft DSMS due to a variety of technical comments attached below. Our comments and concerns, if sincerely considered, show that a structural fix for the Embankment is documented, defensible, and cost beneficial. ER 1110-2-1156 shows that the USACE has the authority to choose an RMP that is justified by economics. In addition, the directives in WRDA 2020, Section 149 provide further clarity to USACE in developing their analysis. By including an overall economic analysis of the multiple authorized purposes, a structural fix of the Embankment would meet the benefit-cost ratio for project consideration and development.

A structural fix would ensure the people of North Dakota will be able to develop their water resources as intended by Congress and as promised to the residents over the past 80 years. Water supply projects need to be able to operate under all foreseeable climate conditions—especially during significant droughts when water supply is needed most. Without a structural fix of the Embankment, the federal government is not meeting its obligations to the State of North Dakota. The State remains committed to advocating for a full economic analysis that includes all authorized purposes for the project and for the structural fix of the Embankment for the benefit of its residents.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. Travnicek', written in a cursive style.

Andrea Travnicek, Ph.D.

Director

North Dakota Department of Water Resources