

COUNCIL COMMUNICATION

	Number:	25-403	Meeting:	November 3, 2025
	Agenda Item:	7	Roll Call:	25-1466
	Submitted by:	Jonathan A. Gano, P.E., Public Works Director and Steven L. Naber, P.E., City Engineer		

AGENDA HEADING:

Approving amendment to United States Army Corps of Engineers (USACE) agreement for expanded scope of work for Risk-Informed Design evaluation of the Des Moines Levee Alterations Program, estimated at \$139,615.06.

SYNOPSIS:

Recommend approval of amendment with USACE for expanded scope of work for Risk-Informed Design evaluation of the Des Moines Levee Alterations Program, estimated at \$139,615.06.

FISCAL IMPACT:

Amount: \$139,615.06

Funding Source: Fiscal Year (FY) 2025-2026 Capital Improvement Program (CIP), Page 102, Flood Mitigation Improvements, SM087, Being: Storm Water Utility Funds and Sales Tax Increment Fund

ADDITIONAL INFORMATION:

- Following the 2008 Midwest flood, the USACE conducted the Des Moines River Regulated Flow Frequency Study (DMRRFFS) to estimate the frequency and magnitude of future Saylorville Reservoir outflows and downstream river flows. Completed in November 2010 and released in January 2011, the results of the DMRRFFS showed flood flow frequencies have increased over previous USACE estimates and floods similar in magnitude to the 1993 and 2008 events are more likely to occur than previously estimated. In addition to identifying the higher risk of flooding, the DMRRFFS showed that the existing levees in downtown Des Moines did not meet the standards for Federal Emergency Management Agency (FEMA) accreditation of levees provided in Title 44 of the Code of Federal Regulations (44 CFR) Section 65.10 of the National Flood Insurance Program regulations impacting FEMA flood hazard mapping.
- In March 2011, the City initiated professional services to begin responding to the USACE DMRRFFS by working through the USACE Section 408 requirements to improve the levee system to satisfy FEMA accreditation requirements. The USACE Section 408 program allows another party, such as a local government, company, or individual, to alter a USACE Civil Works project which, in this case, is the USACE levee system. The Section 408 program verifies that changes to

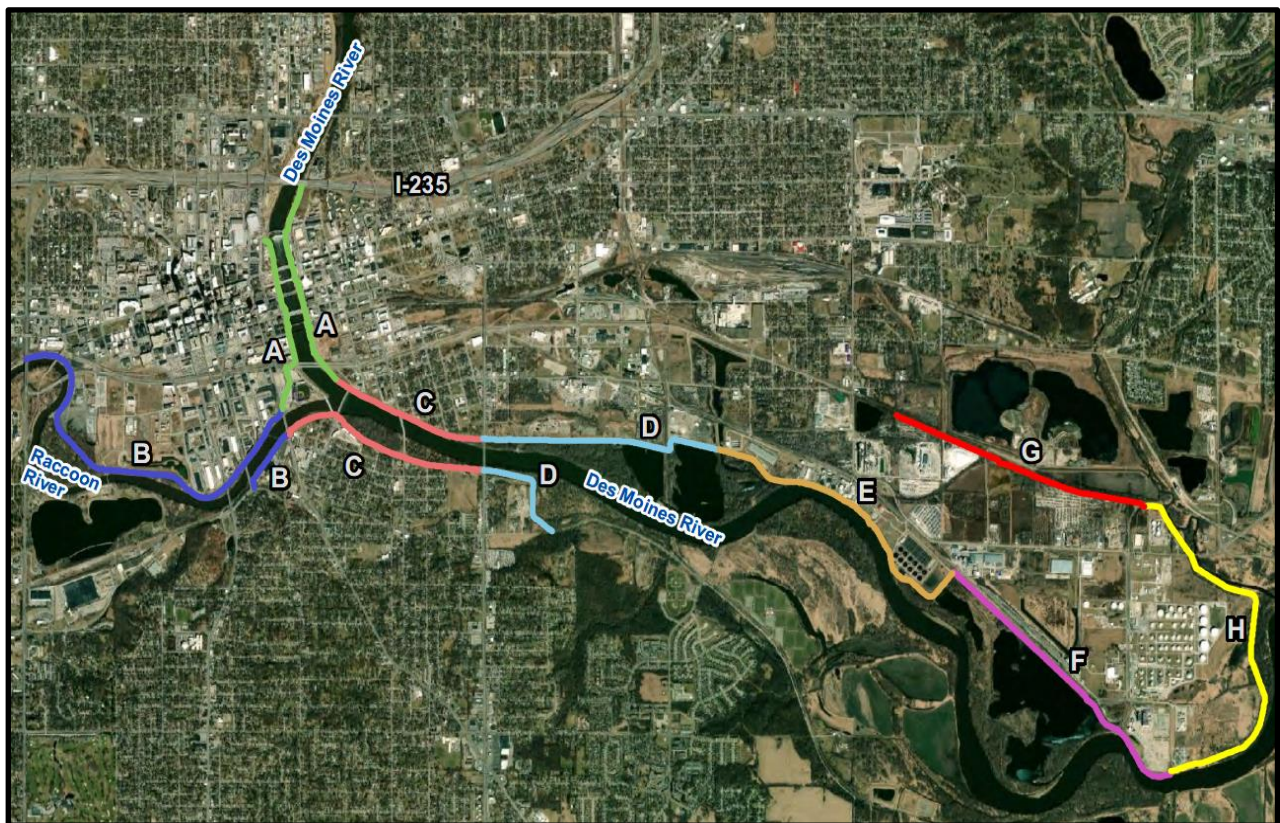
authorized USACE Civil Works projects will not be injurious to the public interest and will not impair the usefulness of the project.

- The City worked closely with the USACE Rock Island District staff to prepare a Section 408 Concept Submittal to improve the levee system to meet accreditation requirements with City and Iowa Flood Mitigation Program funding. The Section 408 Concept Submittal was approved by USACE in 2018. Individual (detailed) Section 408 submittals have been, and will continue to be, required for individual projects.
- Phase 1 Analyses have been conducted and documented to identify deficiencies relative to 44 CFR 65.10 accreditation requirements. The City has been addressing these deficiencies by implementing various projects along the levee systems via a multi-year, phased approach. These projects include levee raises, modification of gatewell and closure structures, pump station modifications, installation of embankment protection, and embankment and foundation stability mitigating features such as cutoff trenches or seepage berms. In accordance with the Flood Mitigation Program Agreement (Roll Call No. 15-1094, dated June 22, 2015), the project completion date was initially set to be December 31, 2024. In an attempt to provide the most cost-efficient design and maintain a high level of overall levee system performance, the City, in coordination with the USACE, elected to contract with the USACE to perform a levee system evaluation of the Des Moines Levee Alterations Program, as detailed in paragraphs below, which pushed the completion date back. As projects move forward, the terms of the agreement will be reconciled to update project schedules and revise the project completion date. The projects are being constructed in multiple phases, generally from upstream to downstream along the system, with the phases being identified as Phases A thru H.
- Levee reaches with the DM (Des Moines) designation are operated and maintained by the City of Des Moines. Levee reaches with the SEDM (Southeast Des Moines) designation are operated and maintained by the USACE.
- Phase A, which incorporated the upstream reaches of the DM-I and DM-II levee systems along the Des Moines River upstream of the confluence with the Raccoon River, was designed by Stantec Consulting Services Inc. The project was awarded to Corell Contractor, Inc. in August 2020 for \$2,606,976.90 and construction was completed in June 2022.
- Phase B, which incorporated the reaches of the DM-II and DM-III levee systems along the Raccoon River upstream of SW 3rd Street, was designed by Stantec Consulting Services Inc. The project was awarded to Peterson Contractors, Inc. in April 2022 for \$12,686,390.85 and construction was completed in May 2025.
- Phase C, which incorporated the downstream reaches of the DM-I and DM-III levee systems along the Des Moines River from approximately the confluence with Raccoon River to just downstream of SE 14th Street, was designed by Barr Engineering Company. The project was awarded to Peterson Contractors, Inc. for \$17,391,129.50 in December 2022 and completion is anticipated in late October 2025.
- Phase D incorporates the downstream reaches of the DM-I and DM-III levee systems along the Des Moines River from approximately SE 14th Street to just upstream of the Des Moines Metropolitan Wastewater Reclamation Authority (WRA) Facility. Phases E, F, G, and H incorporate the Southeast Des Moines levee system (SEDM), which is part of the Lake Red

Rock Remedial Works and is hydraulically connected to the DM-I levee system. SEDM is an eight (8) mile levee system located along the Des Moines River starting just upstream of the WRA Facility and going to the confluence of Fourmile Creek. It then runs along Fourmile Creek to about a quarter mile east of SE 30th Street. Phases F, G, and H are maintained and operated by USACE. USACE is currently responsible for the maintenance and operation of Phase E along the Des Moines Metropolitan Wastewater Reclamation Facility; however, there is an agreement in place for the City to perform general maintenance along Phase E. Recent Federal legislation has provided for Phase E to become part of the DM-I levee, pending real estate transactions between the City, WRA and USACE.

- On May 10, 2021, by Roll Call No. 21-0675, the City and Barr Engineering Company entered into a PSA for design services for Des Moines Levee Alterations – Phases D & E, not to exceed \$3,285,500.
- On May 10, 2021, by Roll Call No. 21-0676, the City and Stantec Consulting Service Inc. entered into a PSA for design services for Des Moines Levee Alterations – Phases F, G, & H, not to exceed \$3,665,100.
- Des Moines Levee Alterations Phases D through H have reached 30% preliminary design.
- Current levee designs have followed a prescriptive approach that USACE guidance has utilized for years. USACE is starting to integrate a “risk-based” design approach process into future designs and design manuals for levee design optimization, although it is currently not mandated.
- On June 26, 2023, by Roll Call No. 23-0881, City Council approved an agreement with the USACE for levee system evaluation of the Des Moines Levee Alterations Program, in an estimated amount of \$572,469.
 - There are two (2) different analyses the USACE has been conducting as part of the agreement. The first analysis is an assessment of the existing levee condition known as the National Flood Insurance Program Semi-Quantitative Risk Analysis (NFIP SQRA Work Plan) and the second is a review that considers proposed improvements to the levees, known as a Risk-Informed Design (RID) SQRA Work Plan.
 - The baseline existing levee condition assessment involves a USACE 50/50 cost share, with the total cost to the City being \$377,605, as authorized by Section 3014(b) of the Water Resources Reform and Development Act of 2014.
 - The “proposed improvements” RID assessment total cost to the City is \$194,864 with no USACE cost share.
 - The goal of levee system evaluation is to identify ways to significantly reduce the cost of improving portions of the levee while keeping overall risk at a low level and yet remaining in conformance with the NFIP requirements.
- Pursuant to Section 2(b) of the Accelerated Levee System Evaluation Agreement approved by City Council on June 26, 2023, between USACE and the City, the USACE Rock Island District is requesting \$139,615.06 for expanded levee system evaluation through Risk-Informed Design (RID) with no USACE cost share.

- Additional funds are required to expand the scope of work to include additional hydraulic modeling, background preparation for assessing probabilities of two (2) semi-quantitative and one (1) quantitative failure modes, and associated report writing and reviews. This includes additional evaluation of potential overtopping location with new levee elevations, evaluating a levee penetration (sewer pipe), and analyzing the new closure at the railroad tracks near Fourmile Creek installed as part of the Southeast Connector project.
- Upon completion of levee system evaluation, USACE will provide recommendations for work to be accomplished and allow the City to advance from 30% preliminary design toward final design and bid letting projects for construction.
- Post construction evaluation by USACE for Des Moines Levee Alterations Phases D through H will allow the City to pursue FEMA accreditation.



PREVIOUS COUNCIL ACTION(S):

Date: June 26, 2023

Roll Call Number: [23-0881](#)

Action: [Approving](#) agreement with the USACE for levee system evaluation of the Des Moines Levee Alterations Program, estimated amount of \$572,469. ([Council Communication No. 23-307](#)) Moved by Gatto to adopt. Second by Voss. Motion Carried 6-1. Absent: Sheumaker.

BOARD/COMMISSION ACTION(S): NONE

ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:

An additional addendum will be required for post construction evaluation of SQRA for FEMA accreditation.

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