



**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS**  
**WASHINGTON, D.C. 20314-1000**

DEC 19 2006

CECW-PC (1105-2-10a)

**SUBJECT: Argentine, East Bottoms, Fairfax-Jersey Creek, and North Kansas City Levee Units, Missouri River and Tributaries at Kansas Cities, Missouri and Kansas**

**THE SECRETARY OF THE ARMY**

1. I submit for transmission to Congress my report on proposed modifications to the Argentine, East Bottoms, Fairfax-Jersey Creek, and North Kansas City levee units of the Missouri River and Tributaries at Kansas Cities, Missouri and Kansas, project. It is accompanied by the reports of the district and division engineers, which address modifying the project authority to improve project capabilities and reliability. The reports also address design and construction deficiency corrections that can be implemented under existing project authority. These reports were prepared under the authority of Section 216 of the 1970 Flood Control Act, which authorizes the Secretary of the Army to review the operation of projects constructed by the Corps of Engineers when found advisable due to significantly changed physical, economic or environmental conditions. The Missouri River and Tributaries at Kansas Cities project was authorized by the Flood Control Act of 1936, and modified by the Flood Control Acts 1944, 1946, and 1954. Project construction of the last levee was completed in 1968. Preconstruction engineering and design activities, if funded, would be continued under the Section 216 authority.

2. The reporting officers recommend authorization of a plan to modify the existing project to reduce flood damages in the vicinity of Kansas City, Missouri and Kansas City, Kansas. The plan includes measures to increase the degree of protection for the Argentine Levee Unit, to improve the reliability of East Bottoms Levee Unit, and to lengthen and reconstruct the Fairfax-Jersey Creek Levee Unit sheetpile wall. The reconstruction measure addresses the long-term degradation of materials, systems and components of the existing project that have exceeded their expected service life. Based on October 2005 price levels, the total first cost of these three measures is estimated at \$63,400,000, all for flood damage reduction. Under cost sharing specified by Section 103 of the Water Resources Development Act (WRDA) of 1986, Public Law 99-662, as amended by Section 202 of WRDA 1996, each measure would be cost shared 65 percent Federal and 35 percent non-Federal, resulting in an estimated Federal share of \$41,200,000 and an estimated non-Federal share of \$22,200,000. The total expected annual costs, based on a discount rate of 5.125 percent and a 50-year period of analysis, are \$4,200,000, including \$41,000 for operation, maintenance, repair, rehabilitation, and replacement (OMRR&R). The expected annual benefits are estimated to be \$33,200,000 with net annual benefits of \$29,000,000. The benefit-cost ratio is approximately 7.9 to 1 for the new work. The

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proposed plan is the national economic development plan. The three measures requiring Congressional authorization include:

a. The recommended plan for increasing the degree of protection for the Argentine Levee Unit on the Kansas River in Kansas includes increasing the height of approximately 29,140 linear feet of levee and floodwall about 5 feet, replacing stoplog structures, modifying drainage structures, replacing or modifying 3 pump stations, relocating 14 utility crossing relocations, and constructing an approximately 0.21-acre emergent wetland as mitigation. The Kaw Valley Drainage District is the non-Federal cost-sharing sponsor for all features. The estimated total first cost of the plan is \$52,900,000. The estimated Federal share is \$34,400,000 and the estimated non-Federal share is \$18,500,000. The cost of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas (LERRD) is estimated at \$3,000,000. The total cost includes \$500,000 for mitigation. The total expected annual costs are \$3,600,000, including \$13,000 for OMRR&R. The selected plan is estimated to be 99 percent reliable in protecting portions of Kansas City, Kansas from a flood which has a one percent chance of occurrence in any year (100-year flood). The selected plan would reduce average annual flood damages by about 81 percent and would leave average annual residual damages estimated at \$4,200,000. The expected annual benefits are estimated to be \$18,200,000 with net annual benefits of \$14,600,000. The benefit-cost ratio is approximately 5.1 to 1. In addition to the above, the Kaw Valley Drainage District would be fully responsible for removing and relocating utilities and discharge pipelines on the project site that are non-compensable, at a cost estimated at approximately \$1,900,000.

b. The recommended plan to increase the reliability of the East Bottoms Levee Unit on the Missouri River in Missouri by controlling underseepage includes installing approximately 17 pressure relief wells and approximately 2,100 linear feet of 30-inch diameter pipeline. The City of Kansas City, Missouri is the non-Federal cost-sharing sponsor for all features. The estimated total first cost of the plan is \$1,700,000. The estimated Federal share is \$1,100,000 and the estimated non-Federal share is \$600,000. The cost of LERRD is estimated at \$10,000. The total expected annual costs are \$120,000, including \$25,000 for OMRR&R. The selected plan is estimated to be 99.8 percent reliable in protecting the Northeast Industrial District, Kansas City, Missouri from a flood which has a one percent chance of occurrence in any year. The selected plan would reduce average annual flood damages by about 59 percent and would leave average annual residual damages estimated at \$3,000,000. The expected annual benefits are estimated to be \$4,400,000 with net annual benefits of \$4,200,000. The benefit-cost ratio is approximately 36 to 1.

c. The recommended plan for modifying the Fairfax-Jersey Creek Levee Unit, Jersey Creek Sheetpile Wall on the Missouri River in Kansas includes reconstructing approximately 868 linear feet of sheetpile wall to reduce the risk of failure and constructing about 590 linear feet of new sheetpile wall to reduce risks of failure. The Kaw Valley Drainage District is the non-Federal

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cost-sharing sponsor for all features. The estimated total first cost of the plan is \$8,800,000. The estimated Federal share is \$5,700,000 and the estimated non-Federal share is \$3,100,000. The cost of LERRD is estimated at \$150,000. The total expected annual costs are \$520,000, including \$3,000 for OMRR&R. The selected plan is estimated to be 99 percent reliable in protecting the Fairfax Industrial District, Kansas City, Kansas from a flood which has a one percent chance of occurrence in any year. The selected plan would reduce average annual flood damages by about 65 percent and would leave average annual residual damages estimated at \$5,800,000. The expected annual benefits are estimated to be \$10,700,000 with net annual benefits of \$10,200,000. The benefit-cost ratio is approximately 16 to 1.

3. In addition to the above plan to increase project capabilities, the reporting officers also recommend approval of a plan to correct design and construction deficiencies in the Fairfax-Jersey Creek and North Kansas City levee units in order to restore the original degree of protection. The three measures can be implemented under existing project authorization when funding is provided. The total first cost of the deficiency correction plan is estimated at \$16,100,000. In accordance with Section 103 of WRDA 1986, as amended, the estimated Federal share is \$10,500,000 and the estimated non-Federal cost share is \$5,600,000. The total expected annual costs are \$990,000, including \$38,000 for OMRR&R. The expected annual benefits are estimated to be \$8,200,000 with net annual benefits of \$7,200,000. The benefit-cost ratio is approximately 8.2 to 1 for the corrections. The proposed plan is the national economic development plan. The three deficiency correction measures include:

a. The recommended plan for correcting design and construction deficiencies for the Fairfax-Jersey Creek Levee Unit, Board of Public Utilities Floodwall on the Missouri River in Kansas includes strengthening approximately 1,446 linear feet of floodwall to reduce the risk of failure. The Fairfax Drainage District is the non-Federal cost-sharing sponsor for all features. The estimated total first cost of the plan is \$7,900,000. The estimated Federal share is \$5,100,000 and the estimated non-Federal share is \$2,800,000. The cost of LERRD is estimated at \$300,000. The total expected annual costs are \$480,000, including \$3,000 for OMRR&R. The selected plan is estimated to be 99 percent reliable in protecting the Fairfax Industrial District, Kansas City, Kansas from a flood which has a one percent chance of occurrence in any year. The selected plan would reduce average annual flood damages by about 82 percent and would leave average annual residual damages estimated at \$4,500,000. The expected annual benefits are estimated to be \$1,300,000 with net annual benefits of \$800,000. The benefit-cost ratio is approximately 2.7 to 1.

b. The recommended plan for correcting design and construction deficiencies for the North Kansas City Levee Unit, Harlem Area on the Missouri River in Missouri includes constructing approximately 2,600 linear feet of 18-inch diameter pipeline with vaults to control underseepage. The North Kansas City Levee District is the non-Federal cost-sharing sponsor for all features. The estimated total first cost of the plan is \$1,600,000. The estimated Federal share is

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\$1,000,000 and the estimated non-Federal share is \$600,000. The cost of LERRD is estimated at \$90,000. The total expected annual costs are \$90,000, including \$2,000 for OMRR&R. The selected plan is estimated to be 98 percent reliable in protecting the North Kansas City, Missouri from a flood which has a one percent chance of occurrence in any year. The selected plan would reduce average annual flood damages by about 33 percent and would leave average annual residual damages estimated at \$7,900,000. The expected annual benefits are estimated to be \$3,900,000 with net annual benefits of \$3,800,000. The benefit-cost ratio is approximately 42 to 1.

c. The recommended plan for correcting design and construction deficiencies for the North Kansas City Levee Unit, National Starch Area on the Missouri River in Missouri includes installing approximately 20 pressure relief wells, approximately 2,000 linear feet of 30-inch diameter pipeline, and a pump station to control underseepage. The North Kansas City Levee District is the non-Federal cost-sharing sponsor for all features. The estimated total first cost of the plan is \$6,600,000. The estimated Federal share is \$4,300,000 and the estimated non-Federal share is \$2,300,000. The cost of LERRD is estimated at \$130,000. The total expected annual costs are \$420,000, including \$33,000 for OMRR&R. The selected plan is estimated to be 98 percent reliable in protecting the North Kansas City, Missouri from a flood which has a one percent chance of occurrence in any year. The selected plan would reduce average annual flood damages by about 25 percent and would leave average annual residual damages estimated at \$4,900,000. The expected annual benefits are estimated to be \$2,800,000 with net annual benefits of \$2,500,000. The benefit-cost ratio is approximately 7.0 to 1.

4. Washington level review indicates that the plan recommended by the reporting officers is technically sound, economically justified, and environmentally and socially acceptable. The plan complies with essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and land Related Resources Implementation Studies and complies with other administration and legislative policies and guidelines. Also, the views of interested parties, including Federal, State, and local agencies have been considered.

5. I concur with the findings, conclusions and recommendation of the reporting officers. Accordingly, I recommend implementation of the proposed improvements to further reduce flood damages for the Missouri River and Tributaries at Kansas Cities project in accordance with the reporting officers' plan be authorized at an estimated total first cost of \$63,400,000 with such modifications as in the discretion of the Chief of Engineers may be advisable. Furthermore, I approve the design and construction deficiency correction measures for the Missouri River and Tributaries at Kansas Cities project in accordance with the reporting officers' plan for implementation under the existing project authorization. My recommendation and approval are subject to cost sharing, financing, and other applicable requirements of Federal and State laws and policies, including Section 103 of WRDA 1986, as amended by Section 202 of WRDA 1996. Federal implementation of the recommended project would be subject to the non-Federal

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sponsors agreeing to comply with applicable Federal laws and policies, including but not limited to:

a. Provide a minimum of 35 percent, but not to exceed 50 percent of total project costs as further specified below:

1. Provide 25 percent of design costs in accordance with the terms of a design agreement entered into prior to commencement of design work for the project;

2. Provide, during the first year of construction, any additional funds necessary to pay the full non-Federal share of design costs;

3. Provide, during construction, a contribution of funds equal to 5 percent of total project costs;

4. Provide all lands, easements, and rights-of-way, including those required for relocations, the borrowing of material, and the disposal of dredged or excavated material; perform or ensure the performance of all relocations; and construct all improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material all as determined by the Government to be required or to be necessary for the construction, operation, and maintenance of the project;

5. Provide, during construction, any additional funds necessary to make its total contribution equal to at least 35 percent of total project costs;

b. Shall not use funds from other Federal programs, including any non-Federal contribution required as a matching share therefor, to meet any of the non-Federal obligations for the project unless the Federal agency providing the Federal portion of such funds verifies in writing that expenditure of such funds for such purpose is authorized;

c. Not less than once each year, inform affected interests of the extent of protection afforded by the project;

d. Agree to participate in and comply with applicable Federal floodplain management and flood insurance programs;

e. Comply with Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), which requires a non-Federal interest to prepare a floodplain management plan within one year after the date of signing a project cooperation agreement, and to implement such plan not later than one year after completion of construction of the project;

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f. Publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their use in adopting regulations, or taking other actions, to prevent unwise future development and to ensure compatibility with protection levels provided by the project;

g. Prevent obstructions or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities which might reduce the level of protection the project affords, hinder operation and maintenance of the project, or interfere with the project's proper function;

h. Comply with all applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended (42 U.S.C. 4601-4655), and the Uniform Regulations contained in 49 CFR Part 24, in acquiring lands, easements, and rights-of-way required for construction, operation, and maintenance of the project, including those necessary for relocations, the borrowing of materials, or the disposal of dredged or excavated material; and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act;

i. For so long as the project remains authorized, operate, maintain, repair, rehabilitate, and replace the project, or functional portions of the project, including any mitigation features, at no cost to the Federal Government, in a manner compatible with the project's authorized purposes and in accordance with applicable Federal and State laws and regulations and any specific directions prescribed by the Federal Government;

j. Give the Federal Government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-Federal sponsor owns or controls for access to the project for the purpose of completing, inspecting, operating, maintaining, repairing, rehabilitating, or replacing the project;

k. Hold and save the United States free from all damages arising from the construction, operation, maintenance, repair, rehabilitation, and replacement of the project and any betterments, except for damages due to the fault or negligence of the United States or its contractors;

l. Keep and maintain books, records, documents, or other evidence pertaining to costs and expenses incurred pursuant to the project, for a minimum of 3 years after completion of the accounting for which such books, records, documents, or other evidence are required, to the extent and in such detail as will properly reflect total project costs, and in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 Code of Federal Regulations (CFR) Section 33.20;

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m. Comply with all applicable Federal and State laws and regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. 3141- 3148 and 40 U.S.C. 3701 – 3708 (revising, codifying and enacting without substantial change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c *et seq.*);

n. Perform, or ensure performance of, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Public Law 96-510, as amended (42 U.S.C. 9601-9675), that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for construction, operation, and maintenance of the project. However, for lands that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigations unless the Federal Government provides the non-Federal sponsor with prior specific written direction, in which case the non-Federal sponsor shall perform such investigations in accordance with such written direction;

o. Assume, as between the Federal Government and the non-Federal sponsor, complete financial responsibility for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for construction, operation, and maintenance of the project;

p. Agree, as between the Federal Government and the non-Federal sponsor, that the non-Federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and to the maximum extent practicable, operate, maintain, repair, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA; and

q. Comply with Section 221 of Public Law 91-611, Flood Control Act of 1970, as amended (42 U.S.C. 1962d-5b), and Section 103(j) of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2213(j)), which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until each non-Federal interest has entered into a written agreement to furnish its required cooperation for the project or separable element.

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6. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program nor the perspective of higher review levels within the executive branch. Consequently, the recommendation may be modified before it is transmitted to Congress as a proposal for authorization and implementation funding. However, prior to transmittal to Congress, the sponsors, the States of Kansas and Missouri, interested Federal agencies, and other parties will be advised of any modifications and will be afforded the opportunity to comment further.

A handwritten signature in black ink, appearing to read 'Carl A. Strock', with a long horizontal flourish extending to the right.

CARL A. STROCK  
Lieutenant General, U.S. Army  
Chief of Engineers