



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314

REPLY TO
ATTENTION OF:

DAEN-CWP-A

4 September 1981

SUBJECT: Fourche Bayou Basin, Little Rock, Arkansas

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on Fourche Bayou Basin, Little Rock, Arkansas. It is accompanied by the reports of the Board of Engineers for Rivers and Harbors and the District and Division Engineers. These reports are in response to a resolution adopted 10 May 1967 by the Committee on Public Works of the United States Senate. The Committee requested the Board to review the report on the Arkansas River and Tributaries, Arkansas and Oklahoma, and other pertinent reports with a view to determining whether any modifications of the recommendations are advisable, with particular reference to providing water resource improvements.
2. The District and Division Engineers recommended authorization of Plan X, providing flood control channel modifications, recreation facilities, and preservation of bottomlands. Their recommended plan consists of 4.5 miles of channel clearing and bridge alterations downstream of Fourche bottomlands, acquisition of 1,750 acres of natural bottomland hardwood forest, and management of the floodplain on upper Fourche Creek and its tributaries upstream from the mouth of Rock Creek. A 20-acre nature appreciation area would be established within the 1,750 acres of natural bottomland hardwoods. Rock Creek modifications would consist of a 5.4-mile trapezoidal channel protected by gabions (rock-filled wire cages). About 4 miles of hiking and biking trails would be constructed that would connect with existing trails in Boyle Park and along Interstate 630. Grassy Flat Creek modifications would consist of a trapezoidal channel protected by gabions and riprap. This modified channel would extend 1.5 miles from the mouth of Grassy Flat Creek to Butler Park. Based on October 1978 prices, the total first cost of the selected plan is estimated at \$28,851,000, of which \$21,533,000 would be Federal and \$7,318,000 would be non-Federal. The total cost includes \$2,310,000 to acquire 1,750 acres of bottomland for environmental preservation. Average annual charges, based on a 100-year period for economic analysis and an interest rate of 6-7/8 percent, are \$2,235,000, including \$44,000 for operation and maintenance. The average annual benefits are \$3,502,000, and the benefit-cost ratio is 1.6.

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3. The Board of Engineers for Rivers and Harbors concurs generally in the views of the reporting officers that construction of flood control measures is justifiable and acquisition of the bottomlands is desirable from a social and environmental standpoint. However, the Board concludes that Plan VII, identified as the "National Economic Development" plan in the District Engineer's report, will provide a degree of flood protection comparable to the reporting officer's recommended plan at a substantial monetary savings. In comparison with Plan X, the flood control elements of Plan VII require 40 feet more right-of-way for channel improvements in Boyle and Kanis Parks, which are municipal park and recreation areas. Health, safety, and esthetic aspects of the two plans are similar in nature. Accordingly, the Board recommends that modifications for flood control and allied purposes in Fourche Bayou Basin, Arkansas, be authorized generally in accordance with the District Engineer's Plan VII, and to include acquisition of 1,750 acres of Fourche bottomlands for environmental preservation. The total first cost of the proposed modifications as recommended by the Board, and based on prices prevailing in October 1980, is estimated at \$20,080,000, of which \$14,861,000 would be Federal and \$5,219,000 would be non-Federal. The non-Federal portion of the cost includes a cash contribution by the State of Arkansas of 5 percent of the project cost. The State of Arkansas supports the proposed project but does not concur in the financial participation requirements required by the President's 1978 proposed cost-sharing policy. Average annual benefits are \$4,053,000 and annual charges are \$1,705,000, including non-Federal operation and maintenance costs. Based on a 7-3/8 percent interest rate and a 100-year period for economic analysis, the benefit-cost ratio is 2.4 to 1.

4. I concur in the findings, conclusions, and recommendations of the Board.


J. K. BRATTON
Lieutenant General, USA
Chief of Engineers