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	Cost of new work	Cost of maintenance
Atchafalaya River levees:		
Rights-of-way.....	\$147,011.87	
Levees.....	853,491.41	
Atchafalaya Basin protection levees:		
Rights-of-way.....	55,267.68	
Levees.....	867,643.91	\$53,633.83
Morganza floodway:		
Rights-of-way.....	612,163.71	
Floodway.....	804,388.69	
West Atchafalaya floodway:		
Rights-of-way.....	580,865.93	
Floodway.....	9,054.21	
Flowage, Atchafalaya Basin below Krotz Springs:		
Rights-of-way.....	6,068.58	
Floodways.....	13,320.30	
Total.....	3,949,276.29	53,633.83

ATCHAFALAYA RIVER AND BASIN IMPROVEMENT, LA.

(a) *Atchafalaya Basin, La.*—Levee construction in the Atchafalaya Basin protection levee system was continued. The west levee line now furnishes protection from Mansura, La., to the head of Wax Lake outlet except for the opening at Grand Avoille Cove and small gaps which can be readily closed in an emergency, whereas the levee from Wax Lake outlet to lower Atchafalaya River is now under contract and is approximately 40 percent complete. The east levee now furnishes complete protection from Morganza, La., to Morgan City, except for the Texas & Pacific Railroad gap near Morganza, a navigation cut below Little Bayou Pigeon and small gaps which can be readily closed in an emergency. Borrow pits for the West Atchafalaya Basin protection levee have been enlarged in locations where they were inadequate for purposes of drainage. The borrow pit for the East Atchafalaya Basin protection levee, from the navigation gap near Bayou Pigeon to Bayou Long, was enlarged to dimensions required for its use as a portion of the Intracoastal Canal (Plaquemine-Morgan City Waterway).

Channel improvement dredging in the Atchafalaya Basin main channel above Grand Lake was continued. Constricted reaches of the Atchafalaya River between the mouth of Red River and Alabama Bayou and the Whiskey Bay pilot channel were enlarged by dredging.

An extensive system of gages has been maintained with correlated discharge observations for the study of results obtained from previous dredging work and in the planning of future work. Roadway traffic interrupted by the construction of the East and West Atchafalaya Basin protection levees and the excavation of their borrow pits has been restored by the construction of secondary bridges across the levee borrow pits, by closure of gaps, and by the provision of ramps for highway crossings. Plans for construction of additional bridges and highway ramp crossings are in preparation.

Surveys are in progress for the extension of flood control below Morgan City.

Abstracts of title have been prepared, appraisals have been made, and negotiations are well under way for acquisition of rights-of-way

for dredged channels and cut-offs in the Atchafalaya Basin. An investigation has been made of certain lands not subject to frequent overflow in the lower Atchafalaya Basin below Krotz Springs. Abstracts of title have been prepared and easements are being obtained to cover approximately 694 acres of this land in the general vicinity of Bayou Chene at a cost of \$22,000.

(b) *Atchafalaya River bridge at Simmesport, La.*—Lengthening of the bridge over the Atchafalaya River at Simmesport, La., by the addition of two 300-foot steel truss spans on the west side of the river was completed on December 18, 1938. This work was done under a tripartite agreement between the United States, the Louisiana & Arkansas Railway, and the Louisiana Highway Commission in pursuance of the program for the improvement of the discharge capacity of the Atchafalaya River. After construction was completed, work of enlarging the river cross section by dredging along the west bank was undertaken. Cut has now been made to project depth and this section no longer constitutes a channel constriction. Further enlargement of the cut to the west to the ultimate project limits will be provided by natural river action and by such dredging as later may be found necessary.

(c) *Missouri Pacific Railroad bridge at Krotz Springs, La.*—In pursuance of the program for the improvement of the discharge capacity of the Atchafalaya River, an enlargement of the river cross section at Krotz Springs is contemplated, by dredging along the west bank to produce a total cross-sectional area of approximately 116,000 square feet, at project flood stage, the present cross-sectional area being approximately 62,000 square feet. Before commencing dredging, it was necessary to provide an extension of 721 feet to the railroad bridge which crosses the river at that point. An agreement for this work was entered into by the United States and the Missouri Pacific Railroad under date of June 3, 1938, whereby the railroad company agreed to perform the actual construction under contract, the actual cost of which would be reimbursed to the railroad company by the United States. The total amount of the low bid for the alteration of the bridge was \$723,779.20. Work under the construction contract was begun on September 20, 1938, and completed April 29, 1940. The construction and placement of a protection mattress which was provided for under the agreement between the Government and the railroad but was not included in the railroad's contract for the extension of the bridge, may be omitted entirely or postponed until its necessity is determined definitely. To date the United States has reimbursed the Missouri Pacific Railroad Co. for the expenditure of \$763,617.09. Dredging to increase the cross section of the river under the bridge was commenced June 21, 1940.

(d) *Berwick Bay bridge.*—The diversion of additional flood waters through the Atchafalaya Basin is considered to endanger the stability of the Southern Pacific Railroad bridge over Berwick Bay between Morgan City and Berwick, La. An agreement has been reached with the railroad company whereby the railroad company will raise the bridge 4 feet, bringing the low steel above expected flood heights, and the United States will reimburse the railroad company for actual expenditures. It is expected that this work, including the raising of the approaches and adjusting undergrade

crossings, etc., will cost the railroad company approximately \$320,000. The only expenditures to date have been for engineering.

During the 12 months ending June 30, 1940, in connection with Atchafalaya River and Basin improvement, costs amounting to \$797,371.67 were incurred by the second New Orleans district under regular funds. The total costs to June 30, 1940, amounted to \$2,222,139.87, of which \$2,209,284.34 was incurred from regular funds and \$12,855.53 from Emergency Relief Administration funds (expenditures for Atchafalaya River levees and rights-of-way and Atchafalaya Basin protection levees and rights-of-way are not included under this heading; such expenditures are included under the heading "Morganza and Atchafalaya floodways"), as follows: Rights-of-way (channel improvements), \$20,319.83; bridges, \$1,753,411.96; and channel improvement (Atchafalaya River), \$448,408.08.

Distribution of fiscal year 1940 costs under various classes of work is as follows:

	<i>Cost of new work</i>
Rights-of-way (channel improvements)-----	\$20, 319. 83
Bridges-----	374, 461. 50
Channel improvement (Atchafalaya River)-----	402, 587. 34
Total-----	797, 371. 67

WAX LAKE OUTLET AND CHARENTON CANAL

(a) *Outlet west of Berwick, La. (Wax Lake outlet and enlargement).*—The excavation of the Wax Lake outlet channel from Six Mile Lake to Wax Lake is now completed with the exception of a 1,200-foot traverse which will be removed upon completion of the highway and railroad bridges. Work on the excavation of the navigation cross-over for the Louisiana-Texas Intracoastal Waterway and the excavation of that portion of the outlet extending from its present terminus in Wax Lake to Atchafalaya Bay is now under way by contract. A total of 7,472,246 cubic yards was excavated from this outlet during the fiscal year.

An agreement dated January 14, 1939, has been entered into with the Louisiana Highway Commission providing for the design and construction of a fixed bridge to carry United States Highway Route No. 90 over the Wax Lake outlet channel. Under that agreement the highway commission has awarded a contract for construction of the bridge, and work is well advanced, the work order being dated January 2, 1940. A similar agreement, dated March 18, 1939, has been entered into with the Texas & New Orleans Railroad Co. (Southern Pacific Lines) for the design and construction of a fixed bridge to carry the main-line tracks of that railroad over the outlet. Under that agreement the railroad company has awarded a contract for construction of the bridge and work is now under way, the work order being dated May 1, 1940. Both agreements with the highway commission and the railroad company provide for reimbursement of those agencies by the United States of the entire actual costs involved in the construction of their bridges. Similar agreements are in effect or will shortly be in effect for the adjustment of telephone, power, and gas lines over the outlet.

Property surveys and mapping have been completed except for minor changes required from time to time as a result of changes in