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McMICKEN DAM

FLOOD CONTROL

CONSTRUCTED IN 1955-56 BY  
CORPS OF ENGINEERS, U. S. ARMY

SPONSORED BY:

CARL HAYDEN, UNITED STATES SENATOR  
MARICOPA COUNTY BOARD OF SUPERVISORS

JAMES T. O'NEIL  
JAMES G. HART SR.  
JAMES E. LINDSAY

AGUA FRIA SOIL CONSERVATION DISTRICT

KENNETH B. McMICKEN  
JESS C. WATT  
H. S. RAYMOND

MARICOPA COUNTY MUNICIPAL WATER  
CONSERVATION DISTRICT NUMBER ONE

SCOTT L. LIBBY  
WAYNE THORNEBURG  
J. C. WETZLER

*Key to McMicken  
Dam*

A202.904

1956

AGUA FRIA SOIL CONSERVATION DISTRICT  
FLOOD CONTROL STRUCTURES

	<u>McMICKEN DAM</u>	<u>#3</u>	<u>#4</u>
Constructed by	Corps of Engineers	SCS	SCS
Completed	July, 1956	May, 1954	May, 1954
Drainage Area	247 Sq. Miles	24 Sq. Miles	10 Sq. Miles
Max. Capacity	30,500 A. F.	2,655 A. F.	1,036 A. F.
Length	9 1/3 miles	1 1/2 miles	1 1/3 miles
Max. Height	34 Feet	30 Feet	20 Feet
Outlets	11' x 20" (ungated) 2 -- 24" pipes (gated)	2 - 48" pipes (gated) 1 - 24" pipe (gated)	1 - 30" pipe (gated) 1 - 36" pipe (gated)
Outlet Channel			
Length	6 miles	None	None
Max. Drainage			
Thru Outlets	4,450 S-F	406 S-F	150 S-F
Spillway			
Capacity	60,000 S-F	16,150 S-F	4,400 S-F
Federal Cost	\$2,000,000.00	-----\$199,088.00-----	
Non Federal Cost	<u>180,000.00</u>	<u>218,287.00</u>	
Total Cost	<u>\$2,180,000.00</u>	<u>\$417,375.00</u>	
Total Cost (Federal) 3 Dams		\$2,199,088.00	
Total Non Federal Cost 3 Dams		<u>398,287.00</u>	
Total Cost 3 Dams		\$2,597,375.00	
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Total Annual Charges		\$115,000.00	
Total Annual Benefits		\$200,000.00	
Benefit Cost Ratio		1.7 to 1	
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Property Protected:	Agricultural		\$64,800,000.00
	Irrigation Works		8,800,000.00
	Transportation Facilities		2,900,000.00
	Military Installations and Defense Plants		42,000,000.00
	Towns		<u>7,000,000.00</u>
	<b>TOTAL</b>		<b>\$125,500,000.00</b>

P.M.A. POOLING AGREEMENT CONTRIBUTORS - (Funds used in construction of  
interim dam in Trilby Wash area,  
1952)

Allen Ranches, Inc.  
H. L. Anderson  
Russell Badley  
B & B Farms  
Verl Brown  
George W. Busey  
John N. Edge  
R. L. Fletcher  
Chester Fuller  
Frank Garcia  
Warren M. Guard  
G. Paige Hiatt, Jr.  
Ralph Hunt  
E. S. & R. T. Justice  
Lynn M. Laney  
Roy M. Lorette  
Marshall E. Manley  
Carl W. Mathis  
L. F. Meyer  
Velma H. Moore  
Myron Mitchell  
Rancho Santa Maria  
Reems Brothers  
Jefferson Z. Rogers  
John Sellars  
Floyd Slaughter  
Dean Stanley  
Tal-Wi-Wi Ranches  
Wayne Thornburg Ranches  
L. A. Warford & Sons  
F. K. Weiss

Agua Fria Farms Co.  
Ralph Ashby  
Gene Baker  
J. G. Boswell Co.  
Joe Bulfer  
J. E. Cooper  
Herman Eaton  
Leon Fort  
Leon Gailey  
Goodyear Farms  
Hargrove Farms, Inc.  
Carlton A. Hinton  
E. L. Jarnagin  
Oliver Kissling  
Manuel M. Leyva  
Albert C. Lueck  
Roger I. Manning  
Clarence B. Mathis  
Miller-Johns Co.  
Oswald P. Monreal  
Bill W. Mullins  
H. S. Raymond  
George Reismann  
Morris Schwartz  
James Sharp  
Percy L. Smith  
Jewel J. Stone  
James B. Taylor  
John C. Truman  
J. C. Watt  
Wigwam Ranch

H. B. Atha  
Raymond F. Austerman  
Wm. & Jack Bennett  
J. P. Brashers  
J. L. Bunger  
Nat Dysart  
Fred Favor  
A. D. Fraley  
Ben G. Garcia  
Frank Gradillas  
Hallam Hestand  
Chester E. Hunt  
Calvin F. Jones  
Wallace L. Kolberg  
Scott L. Libby  
W. D. McElhaney  
Maricopa Ranches, Inc.  
Lee W. Merritt  
Robert W. Moore  
Mud-Lake Livestock Co.  
Nicholas F. Ownes  
Reay Brothers  
John Roach  
Archie Seaver, Jr.  
Roy Shepard  
Spurlock & Wetzler  
Sunset Farms Co.  
T-Bone Ranches  
Waddell Ranch Co.  
Claude R. Welch  
Elmer Woodward

The above together contributed a total of	\$ 34,000.00
M. C. M. W. C. D. # 1 a total of	<u>108,000 00</u>
<b>TOTAL CONTRIBUTIONS AND COST</b>	<b>\$142,000.00</b>

CONTRIBUTORS TO S. C. S. DAMS # 3 and # 4 & McMICKEN DAM  
(Agua Fria Soil Conservation District Cooperators.)

Hallam Hestand	L. F. Coor
Justice Bros.	Chester Fuller
W. J. Williams	Goodyear Tire & Rubber Co.
George Reismann	Ralph Hunt
J. E. Cooper	Tal-Wi-Wi Ranches
H. L. Anderson	Roosevelt Irrigation Dist.
First National Bank	Valley National Bank
John Edge	J. E. Donahoo
J. G. Boswell Co.	Carlton A. Hinton
Nat Dysart	A. T. & S. F. Ry Co.
Calvin F. Jones	Valley Gin Co.

The above together contributed a total of \$59,000.00  
M.C.M.W.C.D.#1 a total of \$131,000.00 and rights-of-way  
and easements.

State Highway - Bridge over outlet channel  
Arizona Public Service - Relocation of Gas & Power Lines  
Mountain States Tel. & Tel. - Relocation of telephone lines  
Maricopa County (Sponson, McMicken Dam) - Rights-of-way  
and easements.

The Trilby Wash Detention Basin and Outlet Channel, now named the McMicken Dam, completes an over-all flood protection plan conceived many years ago by the developers and leaders of this area. Mr. Kenneth McMicken, the late Mr. W. W. Lane, and the late Col. Dale Bumstead recognized in the 1920's and early 1930's the necessity of protecting the newly reclaimed fertile desert lands and the growing communities lying between the Agua Fria River and the White Tank Mountains from the devastating flash floods originating on the watersheds of the adjacent mountains, the Wickenburg, the Hieroglyphic and the White Tanks.

These men, as a means of solving the problem, were instrumental in the formation of the Agua Fria Soil Conservation District in 1945, and served as its Board of Supervisors. In 1949, Col. Bumstead was replaced by Mr. Jess Watt and Mr. H. S. Raymond replaced Mr. W. W. Lane. Mr. McMicken continued as chairman. With the assistance of the Maricopa County Municipal Water Conservation District Number One, an irrigation district lying within the boundaries and comprising about one-half of the 70,000 acres then in the Soil Conservation District, governed by Mr. Scott L. Libby, its President, and Mr. Wayne Thornburg and Mr. J. C. Wetzler, Members of the Board of Directors, the search for a sound solution to the flood problem was intensified. Immediately following World War II, the Soil Conservation Service was requested to prepare detailed plans based on their preliminary engineering previously accomplished for the over-all protection of the area.

The planning and investigations were spurred on by frequent damaging flash floods from heavy rains on the mountainous watersheds. These floods were culminated in the summer of 1951, when two greater than average storms in July were followed by a third in late August that alone resulted in total direct damages of \$3,000,000.00. Rich farm lands and crops were washed away, miles of highways and railroads were washed out, telephone and power lines were swept away. Luke Air Force Base and the roads leading to it were inundated. Severe flood damage was sustained by the homes of people living on the farms, and in the towns of Litchfield Park, Goodyear and Avondale. The Goodyear Aircraft Plant and the Litchfield Naval Air Facility were under water.

Following the August, 1951, flood, it was obvious that the Federal Government with its great investment in Luke Air Force Base and the Litchfield Naval Air Facility and because of the imprudence of attempting to protect its bases with perimeter dikes, should participate in the construction of a flood control project that would effectively protect the entire area. United States Senator Carl Hayden was asked to help set up a program or means whereby a fair share of the costs of flood protection for the entire area could be borne by the Federal Government and a fair share by local interests. He was successful in early 1952, in arranging for funds for the Corps of Engineers, U. S. Army so that they could enter into the investigation and make plans for the control of the flood waters. The Corps undertook, principally the study of the Trilby Wash area, enlarging upon and supplementing the preliminary engineering, hydrological,

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and feasibility surveys made by the Soil Conservation Service. The Soil Conservation Service then concentrated its efforts in the planning of flood control structures along the east toe of the White Tanks Mountains.

Meanwhile, because of the length of time required to complete the detailed plans and to arrange for the financing of the over-all project, and because of law suits arising from the diversion of flood waters by minor dikes and channels in the district's interior, the cooperators within the Agua Fria Soil Conservation District and the Irrigation District pooled their Production and Marketing Administration Payments for soil conservation practices for 1952. Mr. O. M. Lassen was Chairman of the State Production and Marketing Committee at that time and was responsible for making the Pooling Agreement possible. Mr. Carl Teeter and Mr. Tom Beatty of the Department of Agriculture assisted in the program. The payments amounted to \$34,000.00. The Irrigation District contributed \$108,000.00 over and above what its landowners had contributed by pooling their P.M.A. payments, making a total of \$142,000.00. These funds were used to build an interim structure in the Trilby Wash area consisting of an earth-fill dam of 500,000 cubic yards, 23 feet high and 4 miles long with spillways and outlet pipes. Mr. Link Colvin contracted to place the fill. The District's crews wet and compacted the fill and installed the outlet pipes. The dam was completed in the late summer of 1952, and effectively controlled all nine floods occurring in the Trilby Wash area subsequent to that time. The interim dam is now a part of the just recently completed McMicken Dam.

By 1953, the Soil Conservation Service had completed the detailed plans for two dams that would control the flood waters arising in the eastern slope of the White Tanks, and the Corps of Engineers had almost completed the plan for a structure to supplement the interim dam in the Trilby Wash area. In the 83rd Congress, Congressmen Clifford Hope of Kansas and August Andresen of Minnesota were responsible for the inclusion of \$5,000,000.00 in the Annual Agricultural Appropriations Bill, to be used during the fiscal year 1954, for pilot watershed protection work. The White Tanks Project was eligible for funds under this appropriation and the construction plans were ready. The law required that local interest provide the necessary rights-of-way and operate and maintain the project and pay for one-half its cost. Immediately, the cooperators within the Soil Conservation District contributed \$60,000.00. The Irrigation District contributed \$100,000.00, and the watershed protection work already accomplished by the Caterpillar Tractor Company on its proving grounds in the White Tank Mountains was evaluated at \$60,000.00. Total local contribution was \$220,000.00. Total Federal cost for the project was \$200,000.00. A contract for the two dams, referred to as S.C.S. Dams No. 3 and No. 4, was let in early 1954, to Shelton and Betts from Wickenburg, Arizona and Danen & Sons from Milwaukee, Wis. The dams were completed in May 1954. Mr. Robert Boyle was State Soil Conservationist for the Soil Conservation Service, Mr. Julian Turner was State Soil Conservation Engineer, Mr. Lucien Hill was area Conservationist, Mr. W. E. Anderson was engineer in charge of construction and Mr. Gordon Corbin was assistant engineer in charge of construction while the dams were being built. It was the first project in the nation to be completed under that program. No. 3 dam is 1 1/2 miles long,

30 feet high and has a capacity of 2,655 acre-feet. No. 4 dam is 1 1/3 miles long, 20 feet high and has a capacity of 1,036 acre-feet.

While these dams were under construction, Senator Hayden was busy in Washington arranging for the necessary legislation and appropriations required for the construction of a dam to supplement the interim structure in the Trilby Wash area. Sponsorship of the project was required. The Maricopa County Board of Supervisors, James O'Neil, James Hart and James Lindsay, adopted a resolution on August 7, 1953, making that agency the sponsor. During the 83rd Congress, Public Law 209 was passed which included an authorization for the Secretary of the Air Force to construct the Trilby Wash Detention Basin and Outlet Channel. On March 11, 1955, the House Committee on Appropriations approved funds in the amount of \$2,873,000.00 for the construction of the project providing that local interest would; (1) pay for the costs of highway and utility relocations and provide lands, easements, and rights-of-way; (2) maintain and operate the flood control works in accordance with the regulations to be prescribed by the Secretary of the Air Force; (3) hold and save the United States free from all claims for damages arising from the construction and operation of the flood protection works; and (4) adjust all water right claims resulting from the construction, operation and maintenance of the improvements. Senator Hayden at that time advised us that the contract for the construction of the Trilby Wash Dam and Outlet Channel would probably be let in early summer 1955. No time was lost by local interests in arranging for their contribution which was evaluated at \$241,000.00. The Highway Commission of the State of Arizona constructed at its expense the highway bridge over the outlet channel. The Arizona Public Service Company relocated its power and gas lines involved in the Project at its expense. The Mountain States Tel. & Tel. Co. moved its lines where necessary at its expense. The Irrigation District deeded the rights-of-way owned by it upon which the interim dam had been constructed and assigned the flowage easements it had acquired to Maricopa County at no expense to the County and agreed to operate and maintain the flood control works for the County. Maricopa County acquired the remaining rights-of-way and flowage easements.

The contract for the construction of the flood control works was awarded to Fredericksen & Kasler of Sacramento, California, in July, 1955. The job was completed in July, 1956, and was under the direction of Mr. Bill Loy, Superintendent for Fredericksen & Kasler. The project was under the direction of Col. Arthur H. Frye, Jr. District Engineer, Los Angeles District Corps of Engineers, U. S. Army. Mr. Donald G. Putman was Project Engineer at the beginning of the project, Mr. Allinson Madinger was Assistant Engineer at the beginning of the project later becoming Project Engineer. Mr. Elmer Horton represented the Irrigation District while the project was under construction.

McMicken Dam is 9 1/3 miles long, 34 feet high, and has a capacity of 30,500 acre-feet. Its drainage area is 247 square miles. The outlet channel is 6 miles long. The maximum discharge through the outlet works is 4,450 cubic feet per second.

PAGE 4

Now, after many years of planning and construction and because of the participation of so many in the area and the Federal Government, and the untiring efforts of Senator Hayden, Mr. McMicken and many others, a complete over-all flood control project has been built for this area. It may well serve as a pattern and inspiration for others.