MAP OF THE
HAWAIIAN ISLANDS
SHOWING
IRRIGATION PROJECTS
HAWAII IRRIGATION AUTHORITY
TERRITORY OF HAWAII
SCALE 0 10 20 30 40 MILES
1955
We hope you will find this Second Annual Report of HIA both interesting and helpful.

Compliments of the

HAWAII IRRIGATION AUTHORITY
SECOND ANNUAL REPORT

to the Governor

As Provided by Act 245, Session Laws of Hawaii 1953, as Amended

FOR THE YEAR ENDED DECEMBER 31, 1955

HONOLULU, HAWAII
February 1956
Waikolu Valley—source of water for first phase of Molokai Irrigation Project.
COMMISSIONERS OF THE AUTHORITY

BEN E. NUTTER . . . . . . . . . . . . . Chairman
Superintendent of Public Works and
Territorial Highway Engineer
Present term expires July 10, 1958

A. LESTER MARKS . . . . . . . . . . . . . Vice Chairman
Chairman, Board of Trustees
L. L. McCandless Estate
Present term expires July 10, 1957

ARTHUR Y. AKINAKA . . . . . . . . . . . . . Secretary
Professional Engineer
Honolulu, Oahu
Present term expires August 3, 1959

JAMES S. BEATTY . . . . . . . . . . . . . Commissioner
Manager, Hutchinson Sugar Plantation Co.
Naalehu, Hawaii
Present term expires July 10, 1956

E. C. S. CRABBE, JR. . . . . . . . . . . . . . Commissioner
Manager, Niu Pia Farms
Waipouli, Kauai
Present term expires July 9, 1960

L. H. HERSCHLER . . . . . . . . . . . . . Manager-Chief Engineer
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Honorable Samuel Wilder King  
Governor, Territory of Hawaii  
Iolani Palace  
Honolulu, Hawaii

Dear Governor King:

It is with pleasure that we submit herewith the Second Annual Report of the Hawaii Irrigation Authority for the year ending December 31, 1955, in accordance with Section 7, Act 245, Session Laws of Hawaii 1953, as amended.

This Report records the highlights of the Irrigation Authority's program during the past year, discusses the status of the various irrigation projects presently under study, design, construction or operation, and shows the financial status of the Authority.

Eleven meetings were held by the Authority in Honolulu to formulate policies and to guide the Territory’s irrigation program in the development of small scale farming and the over-all production of agricultural products. In July the Commissioners made an inspection trip to the Waimea Irrigation Project.

We wish to note your recognition of the past services of E. C. S. Crabbe, Jr. to the Territory’s irrigation program by his reappointment to a five-year term as a Commissioner of the Authority.

The passage of Act 138, Session Laws of Hawaii 1955, amending the Hawaii Irrigation Act, clarifies the duties and powers of the Authority. We acknowledge this as evidence of the Legislature’s and your sincere desire to fulfill the Territory’s need for the fullest development of its water and land resources.

We wish to express our sincere appreciation for the opportunity to serve the people of Hawaii.

Respectfully submitted,

Chairman

Vice Chairman

Commissioner

Secretary

Commissioner
Report of HIA Activities—1955

Honolulu, Hawaii
January 23, 1956

HAIRMAN AND COMMISSIONERS
HAWAI I IRRIGATION AUTHORITY
Territory of Hawaii
Honolulu, Hawaii

The second full year of the Hawaii Irrigation Authority showed progress in the construction, design and more intensive studies of irrigation projects as part of the Territory's program for furthering the development of its land and water resources.

The construction of the 60 million gallon reservoir with its appurtenant supply pipeline at Waimea, Hawaii reached completion despite adverse climatic and soil conditions. The Waimanalo Irrigation System was maintained and operated by the Authority during the past year—a transitional period of land tenure from governmental to private ownership that resulted in a somewhat disrupted farming situation in the area. Several proposed irrigation projects located on Oahu, Maui, Kauai and Molokai were under study and investigation, and at the end of the year these studies were in various stages of completion.

The Twenty-Eighth Territorial Legislature passed several acts and resolutions which will have a beneficial and helpful effect upon the Territory's program for an increase in the over-all production of agricultural products. The Authority assisted in the preparation of certain of these legislative bills, and its staff provided necessary data and information on irrigation problems in the Territory as required by various committees of the Legislature.

The Authority, in June 1955, entered into a cooperative agreement with the U. S. Bureau of Reclamation whereby the Bureau upon request will act in an advisory and consultative capacity to the Authority and furnish technical assistance in the study, review and design of irrigation projects in Hawaii. This will enable the Territory to receive the benefits of the Bureau's extensive knowledge in planning and constructing irrigation projects gained over a period of some fifty years.

Three representatives from the U. S. Bureau of Reclamation spent about five weeks in Honolulu during the latter part of the year making investigations and studies of the Molokai and Waimea (Hawaii) irrigation projects under the provisions of Public Law 634, 83d Congress. Appropriations for these studies were authorized by Congress. A field investigation of the proposed Kokee, Kauai water development project was also made during this time by the three-man team but carried out under the terms of the cooperative agreement between the Authority and the Bureau with the expenses of this study being paid by the Authority.

During the year several important visitors from Washington inspected the irrigation projects of the Authority. In November, three Congressmen of the House Appropriations Committee, Michael J. Kirwan of Ohio, Louis C. Rabaut of Michigan and John J. Riley of North Carolina, in conjunction with their tour of Federal public works projects, visited the Authority's projects at Kokee, Kauai; Molokai; and Waimea, Hawaii. The Chairman of the Authority and Commissioners Riley, Rabaut and Kirwan at the Kalalau Lookout on Kauai on their visit to the proposed Kokee project.
Commissioners and the Manager-Chief Engineer of the Authority accompanied them on the tour to point out and furnish pertinent information on the various irrigation projects. In December, Douglas McKay, Secretary of the Interior, while on an official trip to Hawaii, also reviewed the Authority's projects at Kokee, Molokai and Waimanalo.

Of interest to the Territory is the proposed Federal legislation dealing with small irrigation projects, if enacted into law, would provide for Federal reimbursable loans on irrigation projects up to $5 million, originally limited to the 17 Reclamation States. Delegate Elizabeth P. Farrington was successful in having this legislation amended to include Hawaii. While controversial and not passed during the first session of the 84th Congress, a compromise bill seems likely to be approved by Congress in 1956.

The U. S. Department of the Interior's program to convert sea and brackish water into fresh water is being followed by the Authority with interest. Processes and techniques for such conversion have made marked advances, and several pilot plants are being built at various points on the Mainland United States. For most processes the principal factor affecting the cost of freshening sea and brackish water is the power cost. It may be conjectured that some time in the future atomic power or solar power will play an important role in the production of electrical power and in turn influence the problem of freshening Hawaii's unlimited supply of sea and brackish water.

Financial Summary

Authority Revolving Fund, Act 245, Session Laws of Hawaii 1953. This special fund was established for purposes of administration, engineering surveys, economic studies, plans, maps and for other purposes of the Authority. It had an initial appropriation of $50,000, on which at the end of the year 1954 had a balance of $384,600. Total receipts of $33,852 and expenditures of $146,025 for the year 1955, left a balance of $272,469 at the end of the year.

Bond Fund, Chapter 317, Revised Laws of Hawaii 1945. With an initial amount of $2,500,000, this fund was appropriated for an irrigation and water utilization project on the Island of Molokai. From a balance of $2,482,388 on December 31, 1954, expenditures of $146,608 left a balance of $2,470,081 at the end of the year.

Bond Fund, Act 240, Session Laws of Hawaii 1953. This fund of an initial appropriation of $1,000,000 was established for the purpose of developing an irrigation and water utilization project at Waimea, Hawaii and had a balance of $712,469, as of December 31, 1954.
onures of $230,419 for 1955 left a balance of $482,050 at
the end of the year.

This fund appropriated $2,500,000 to supplement the
original appropriation of $2,500,000 provided by Chapter
F.36, Revised Laws of Hawaii 1945, for the Molokai Irrigation System and $400,000 to the Waimea Irrigation Project for the extension of this project to the Lalamilo lands. To date, no money from this fund has been expended.

Status of Irrigation Projects

Project No. 1—Waimanalo, Oahu. The Waimanalo irrigation System has been operated by the Authority during the past year on an interim basis pending the establishment of an irrigation project under the Hawaii Irrigation Act. The existing facilities were maintained, but major capital improvements have been held in abeyance until the area to be served can be finally determined and a project formed.

During this transitional period, the transfer of land tenure from governmental to private ownership which is yet incomplete, has been a major factor in the operation of the irrigation system. Water consumption fell considerably below the amount available for distribution due to less intensive farming in the area than anticipated.

This can be attributed to several factors of which the following are most important: (1) new owners of farms concentrating their major efforts on building homes, arm structures, and making permanent improvements on their lands; (2) short-range, and consequently less effective, farming practices by tenant farmers occupying and on revocable permit basis; and (3) a portion of the land not being cultivated pending its subdivision and sale.

The revenues were below those estimated due to the above-mentioned reasons, and the Authority suffered a loss of $18,871, based on revenues derived from the sale of 153,590,639 gallons of water for irrigation purposes. The actual revenues amounted to only 67.08 percent of those anticipated. This situation is not unusual for an irrigation project during the early years while the land is being subdivided, sold and developed into a small scale farm area.

In July a public hearing to clarify the land tenure and water problems was called by Governor King and held at Waimanalo. In attendance were Governor Samuel V. King, HIA and other Territorial officials, Mayor Beal S. Blaisdell and City and County officials, and farmers of Waimanalo. Plans for the subdivision of Waimanalo into farm lots were described, and the requirements to qualify for the purchase of farms were ex-
plained. It was noted that the Authority was incurring losses from the operation of the irrigation system, and it was pointed out that an increase in water rates might be necessary, dependent upon the final plans for subdividing this area.

The Authority is prepared to proceed with a formal public hearing and to fulfill other legal requirements of the Hawaii Irrigation Act in the formation of an irrigation project at Waimanalo as soon as the Territory completes its final subdivision plans for Waimanalo.

**Project No. 2—Waimea, Hawaii.** The construction of the 60 million gallon reservoir to serve the Waimea Irrigation Project is nearing completion despite the adverse climatic and soil conditions. The soil conditions encountered during construction of the reservoir were much different from those anticipated from pre-design borings due primarily to the unusually heavy rainfall at the job site resulting in a soil of high moisture content which became very plastic when handled with equipment. Drs. Ralph B. Peck and Don U. Deere, consulting engineers of the University of Illinois, were engaged to evaluate the design criteria in the light of the changed soil conditions, and upon their recommendations certain modifications in the construction of the reservoir are presently being carried out.

A 24-inch concrete pipe supply line to connect the 60 million gallon reservoir to the Upper Hamakua Ditch is now under construction and is scheduled for completion in the near future.

As the construction phase of the project approaches completion, it has become more apparent that there is a need for a demonstration farm at Waimea to accurately
determine the type of crops and the economics of agricultural production with irrigation in this area. While the legislature, due to limitations of available funds, did not appropriate monies for such a demonstration farm, the Hawaiian Homes Commission with encouragement from the College of Agriculture and the Authority is endeavoring to establish such a demonstration program. The lack of funds, however, may not make this possible.

The Twenty-Eighth Territorial Legislature in its appropriation bill authorized the expenditure of $400,000 for the Authority for the extension of the Waimea Irrigation Project to the adjacent Lalamilo lands of the Territory. Since very little authoritative information on the agricultural potentialities of the Lalamilo area was available, a reconnaissance survey party composed of representatives from the University of Hawaii's College of Agriculture, Territorial Commissioner of Public Lands, Territorial Survey Department and Hawaii Irrigation Authority, made a two-day investigation of the Lalamilo lands extending from Kamuela to the shoreline. A preliminary report by Dr. H. A. Wadsworth, Dean, College of Agriculture, University of Hawaii, to the Territorial Commissioner of Public Lands indicates that this land could have agricultural potentialities under irrigation of many types of crops and points out that the subdivision of this land should be made with due consideration to availability of irrigation water, to adaptable farm practices, and to the economics and productivity of an initial development of a pilot area.

The Bureau of Reclamation's representatives visited the Waimea project area in November and December to
study the project and the possibility of extending the system to the Lalamilo lands. Their findings and recommendations will be submitted to the Authority at a later date.

**Project No. 3—Molokai.** Since there is an existing legal conflict on “free water” between the Hawaiian Homes Commission Act of 1920 and Chapter 317, Revised Laws of Hawaii 1945, the actual construction of the Molokai Irrigation Project has been held in abeyance. With the passage of Joint Resolution 17 by the Twenty-Eighth Territorial Legislature memorializing Congress to rescind the “free water” section in the Hawaiian Homes Commission Act of 1920, the legal conflict seems well on its way toward resolution. Accordingly, the Authority has proceeded with the design of the first unit of the tunnel system to serve irrigation water to the Island of Molokai. A contract was entered into by the Authority with Austin & Towill and R. M. Towill Corporation, Ltd., who are presently conducting the survey work and engineering design of this first unit.

In order to provide access to the proposed portal of the tunnel in Waikolu Valley for the contractors bidding on the project and for emergency ingress and egress during and after construction of the tunnel, the Authority is now constructing a horse trail from the rim of the Valley to the proposed portal in the Valley. The work is being done under the general supervision of the Territorial Department of Public Works.

The representatives of the U. S. Bureau of Reclamation made an extensive investigation of the Molokai project during November and December and will prepare a feasibility report pursuant to the provisions of Law 634, 83d Congress. If this report is favorable, it is anticipated that reimbursable funds will be sought from Congress to supplement Territorial funds for the construction of the Molokai Irrigation Project.

**Project No. 4—Reservoir, Kawaihae II, South Kona, Hawaii.** This project has been placed on an interim status pending future favorable developments.

**Project No. 5—Kula, Maui.** In compliance with Concurrent Resolution 42 of the Twenty-Eighth Legislature, “Respectfully Requesting the Hawaii Irrigation Authority to Proceed Expeditiously to Conduct a Scale Study of the Feasibility of an Irrigation System to Serve the Kula District of Maui from Olinda to Lalamilo.”

Their findings and recommendations will be submitted to the Authority at a later date.

Stream gaging station in Waikolu Valley measuring water destined to be used for Molokai Irrigation Project.
The Authority is presently conducting studies to determine the engineering and economic feasibilities of this project.

In order to complete the water development studies for the report, Dr. Chester K. Wentworth, geologist, was engaged by the Authority to investigate the potentialities of the developable ground water resources of Maui for the proposed Kula project. The balance of the investigation is being carried out by the staff of the Authority, and the report will be completed in the course of the next few months.

**Project No. 6—Kokee, Kauai.** The Twenty-Eighth Legislature passed "Joint Resolution 11, Directing the Hawaii Irrigation Authority to Investigate the Possibilities of Water Storage in the Kawaikoi-Waiakoali Area on the Island of Kauai, Territory of Hawaii, and to Seek Technical Assistance and Financial Aid from the Government Therefor." Pursuant to this directive, the Authority has initiated a feasibility study to ascertain the water storage potential of the area for purposes of irrigation, flood control, soil conservation and the generation of hydroelectric power.

In connection with these studies, the Authority through a cooperative agreement with the U. S. Bureau of Reclamation will be provided with technical assistance by the Bureau—the entire cost of the studies to be borne by the Authority. A preliminary investigation by the representatives of the Bureau was made in December. Further biological and engineering studies of potential sites for dams and reservoirs will be carried out during the coming year.

**Project No. 7—Waianae, Oahu.** Upon the passage of Act 138, Session Laws of Hawaii 1955, which included the broadening of the powers of the Authority to construct irrigation projects anywhere on the Island of Oahu, previously limited to the ahupuaa of Waimanalo, and pursuant to the passage of House Concurrent Resolution 45 by the Twenty-Eighth Territorial Legislature "Respectfully Requesting the Hawaii Irrigation Authority to Proceed Expeditiously to Conduct a Full-Scale Study of the Feasibility of an Irrigation Project to Serve the Waianae District of Oahu," the Authority is presently making an investigation of all possible water sources to serve the area. A feasibility report is currently being prepared and will be concluded during the coming year.

**Territorial Legislation Affecting HIA**

The Twenty-Eighth Legislature of the Territory of Hawaii passed several acts and resolutions affecting the powers, duties and management of the Authority. This legislation is summarized below.

**Acts Passed by Legislature.** *Act 138* (S.B. 556) amends the Hawaii Irrigation Act (Act 245, S.L.H. 1953) to clarify the language and to provide greater flexibility in the operation of the Authority.

*Act 164* (H.B. 1106) amends Chapter 317, Revised Laws of Hawaii 1945, relative to the use and allocation of water from the Molokai Irrigation and Water Utilization Project.

*Act 273* (H.B. 758) deals with appropriations for public improvements, among which are bond issues for Molokai
Irrigation System and extension of Waimea Irrigation Project to Lalamilo lands of $2,500,000 and $100,000, respectively.

**Resolutions Passed by Legislature and Introduced in Congress.** **Joint Resolution 10** (H.J.R. 96) memorializes Congress to permit the Hawaiian Homes Commission to grant the Authority easements and rights of way for pipelines, reservoir sites, etc.

**Joint Resolution 17** (H.J.R. 83) memorializes Congress to rescind the “free water” section in the Hawaiian Homes Commission Act of 1920.

**Joint Resolution 19** (H.J.R. 153) memorializes Congress to amend the Hawaiian Organic Act relative to the inclusion of Territorial land in an irrigation project.

**Resolutions Passed by Legislature.** **Joint Resolution 7** (S.J.R. 89) provides that all citizen employees of the Waimanalo Irrigation System may be included in the Civil Service of the Territory without taking examinations for appointment.

**Joint Resolution 11** (H.J.R. 34) directs the Authority to make studies of an irrigation project for the Kula, Maui area.

**House Concurrent Resolution 42** requests the Authority to make studies of an irrigation project for the Waianae District on Oahu.

The Authority, during the past Legislature, received favorable consideration on most of its legislation, but in certain bills the Authority did not receive sufficient support. Among the latter were the request for demonstration farms for Waimea, Hawaii and Molokai; the request of a 40-year amortization period with a 10-year development period for the Waimea, Hawaii and Molokai irrigation projects; and the request for an appropriation to augment the revolving fund of the Authority.

**Contracts of HIA in Force During 1955**

**Engineering Services.** **Contract No. 4104,** awarded to Belt, Collins and Associates, Ltd. for design of 60 million gallon reservoir, Waimea Irrigation Project; contract amount, $14,000; completion date, pending.

**Contract No. 3-C-2,** awarded to Austin & Towill and R. M. Towill Corporation, Ltd. for survey and design of Molokai Irrigation Tunnel System, Unit I, Kaunakakai Gulch to Waikolu Valley, Molokai Irrigation Project; maximum contract amount, $68,400; completion date, pending.

**Construction.** **Contract No. 2-B-2,** awarded to A. C. Chock and Corps Construction, Ltd. for 60 million gallon reservoir, Waimea Irrigation Project; cost to date, $208,878; completion date, pending.

**Contract No. 2-C-3,** awarded to A. C. Chock and Corps Construction, Ltd. for 24-inch concrete pipe supply for 60 million gallon reservoir, Waimea Irrigation Project; contract amount, $58,196; completion date, pending.

**Miscellaneous.** **Contract No. S-1,** awarded to Territorial Cattlemen’s Council for Cloud Physics Research; contract amount, $23,400; completion date, December 31, 1955.

**Personnel**

The operations of the Authority were hampered by shortage of qualified technical personnel which continue to be critical, particularly, engineers and engineering draftsmen. The Territorial pay schedule for engineers was too low to successfully compete with salaries offered elsewhere, particularly by Federal agencies in the Territory.

By Joint Resolution 7 of the Twenty-Eighth Legislature, the employees of the Waimanalo Irrigation System who were citizens were transferred on May 1 to the Territorial Civil Service without examinations. Prior to May 1, they were on individual employment contracts subject...
By Act 138, S.L.H. 1955, the position of manager-chief engineer was removed from the civil service and classification laws and was required to be filled by a registered professional engineer. Accordingly, in June, L. H. Herschler, the incumbent manager-chief engineer, was appointed by the Commissioners to continue in that capacity.

As of December 31 the Authority had a total of 27 temporary and permanent employees. Of these, 8 were employed in the operation of the Waimanalo Irrigation system, 8 temporary employees were cutting the trail into Kukouki Valley on Molokai, and the balance of 8 engineers and draftsmen and 3 clerical and fiscal employees were assigned to the Honolulu office on engineering planning and design and in the administrative work of the Authority. In addition, the Authority was utilizing the services of several supervisory employees of the Territorial Department of Public Works through agreements with that Department.

Studies by U. S. Bureau of Reclamation

During November and December, three representatives of the Bureau of Reclamation visited Hawaii for the purpose of making studies of various irrigation projects of the Authority. The representatives were: Earl R. Fogarty, chief of the economic resources branch and Frank E. Rippon, chief of the canals branch, both of the Office of the Assistant Commissioner and Chief Engineer of the Bureau of Reclamation, Denver; and James C. Douglass, assistant project development engineer, Region 7, Bureau of Reclamation, Denver.

The studies and investigation covered the Molokai and Waimea, Hawaii projects in accordance with the provisions of Public Law 634 passed by the 83d Congress. These two studies were financed by appropriations authorized by Congress. This visit stems from the recommendations of N. B. Bennett, Jr., Chief, Project Development Division of the Bureau of Reclamation, as a result of his trip to Hawaii in December 1954 in connection with the public hearing held by the Special Committee of the House Committee on Interior and Insular Affairs in Honolulu. The proposed Kokee, Kauai water development project was also investigated at the request of the Hawaii Irrigation Authority under the cooperative agreement between the Authority and the Bureau.

Acknowledgment

Acknowledgment is hereby extended to those who have so earnestly cooperated with the Authority in its endeavor to formulate an effective irrigation program, including Governor Samuel Wilder King and his department heads; the College of Agriculture of the University of Hawaii and other Territorial and County governmental agencies; the various Federal agencies; and the many individuals, private concerns and newspapers.

To the Chairman and Commissioners of the Authority, I wish to extend my appreciation for their guidance and sincere desire to support a constructive irrigation program in the further development of the Territory's water and land resources, and to the members of the staff, my heartiest thanks for their cooperation and faithful service during the year.

Respectfully submitted,

L. H. HERSCHLER
Manager-Chief Engineer
## SUMMARY STATEMENT OF FINANCES

### 1955

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<th>Initial Appropriation</th>
<th>Balance as of 12-31-54</th>
<th>Receipts as of 12-31-55</th>
<th>Expenditures to 12-31-55</th>
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<td>Act 245, SLH 1953</td>
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<td><strong>Waimea Project:</strong></td>
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<td>Act 240, SLH 1951, Bond Fund</td>
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### RECEIPTS AND EXPENDITURES

#### REVOLVING FUND

**Receipts:**
- Appropriation Balance at Beginning of Year
- Revenues:
  - Water Charges
  - Miscellaneous
- Total Receipts

**Expenditures:**
- Personal Services
- Other Personal Services
- Office Supplies
- Other Supplies
- Telephones and Postage
- Travel (including board and lodging)
- Printing and Binding
- Rentals
- Repairs to Building and Equipment
- Maintenance and Repairs to System—Materials
- Motor Vehicle Upkeep
- Purchase of Maunawili Water
- Cloud Physics Research—Contract
- Other Current Expenses
- Buildings
- Equipment Purchases

**Balance as of December 31, 1955**

#### SUMMARY OF EQUIPMENT PURCHASES

**1955**

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<tr>
<th>Equipment Type</th>
<th>Cost</th>
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<td>Motor Vehicles</td>
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<td>Engineering Equipment and Books</td>
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<td><strong>Total</strong></td>
<td><strong>$ 2,400</strong></td>
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RECEIPTS AND EXPENDITURES
MOLOKAI IRRIGATION AND WATER UTILIZATION PROJECT
1955

Receipts:

Appropriation Balance at Beginning of Year .................................................. $2,482,388
Appropriation, Act 273, SLH 1955 ............................................................... 2,500,000

Total Receipts ........................................................................................................ $4,982,388

Expenditures:

Preliminary Studies and Investigations:
Operation of Stream Gaging Stations .......................................................... $2,250
Salaries, Surveys, Maps, Travel, etc .............................................................. 10,057

Total Expenditures .............................................................................................. 12,307

Balance as of December 31, 1955 .................................................................... $4,970,081

RECEIPTS AND EXPENDITURES
WAIMEA IRRIGATION AND WATER UTILIZATION PROJECT
1955

Receipts:

Appropriation Balance at Beginning of Year .................................................. $712,469
Appropriation, Act 273, SLH 1955 ............................................................... 400,000

Total Receipts ...................................................................................................... $1,112,469

Expenditures:

Construction of 60 Million Gallon Reservoir:
Contract Payments ........................................................................................ $149,321
Salaries, Surveys, Plans, etc ........................................................................... 3,740
Engineering Services ....................................................................................... 2,910
Inspection, Travel, Board and Lodging ......................................................... 17,639

Total Expenditures .............................................................................................. $173,610

Construction of 24-Inch Supply Line:
Contract Payments ........................................................................................ $44,937
Salaries, Surveys, Plans, etc ........................................................................... 6,553
Inspection, Travel, Board and Lodging ......................................................... 1,798

Other Expenditures:
Lalamilo Studies and Investigations, etc ......................................................... 3,521

Total Expenditures .............................................................................................. 230,419

Balance as of December 31, 1955 .................................................................... $882,050

MONTHLY BILLINGS, RAINFALL AND TEMPERATURE DATA
WAIMANALO IRRIGATION SYSTEM
1955

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<tr>
<th>Water Sold (Gallons)</th>
<th>Acreage Served</th>
<th>Service Charges</th>
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<th>Pasturage Charges</th>
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Mean Daily Temperature:

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<th>(Mean)</th>
<th>(Mean)</th>
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University of Hawaii Farm at Waimanalo, Koolaupoko, Oahu
Lat. 20° 06' 16" N  Long. 157° 42' 12" W  Elev. 60 Ft.
Appendix

HAWAII IRRIGATION ACT
ACT 245 — S.L. 1953
as amended by ACT 138, S.L. 1955

AN ACT

ESTABLISHING A HAWAII IRRIGATION AUTHORITY; PROVIDING FOR ITS POWERS, DUTIES, FUNCTIONS; PROVIDING FOR THE LEVY AND COLLECTION OF ACREAGE ASSESSMENTS; THE FIXING AND COLLECTION OF WATER TOLLS; TRANSFERRING TO SAID AUTHORITY FUNCTIONS ESTABLISHED AND APPROPRIATIONS MADE BY OTHER ACTS RELATING WATER DEVELOPMENT AND AMENDING SUCH ACTS; PROVIDING FOR THE CREATION, ADMINISTRATION OF IRRIGATION PROJECTS; AUTHORIZING THE ISSUANCE OF REVENUE BONDS; MAKING AN APPROPRIATION; AND AMENDING INCONSISTENT LAWS TO CONFIRM THERETO.

BE IT ENACTED BY THE LEGISLATURE OF THE TERRITORY OF HAWAII:

SECTION 1. Short title. This Act may be cited as the "Hawaii Irrigation Act."

SECTION 2. Findings and declaration of necessity. It is hereby found and determined that small scale farming and the overall production of agricultural products is of major importance to the public welfare of this Territory and of its inhabitants. It is hereby further found and determined that water sources as now developed and existing irrigation facilities within this Territory are inadequate for the fullest and highest development of small scale farming and the overall production of agricultural products. It is, therefore, hereby declared that additional water, either from untapped sources or from existing sources with economic potentialities for the production of a greater supply, and additional irrigation facilities, are necessary for the development of small scale farming and the overall production of agricultural products in the Territory of Hawaii and are of great importance to this Territory and its inhabitants.

SECTION 3. Definitions. The following terms, whenever used and referred to in this Act, shall have the following respective meanings, unless a different meaning clearly appears in the context.

"Authority" or "irrigation authority" shall mean the Hawaii irrigation authority created by this Act.

"Project" or "irrigation project" shall mean an area, contiguous or non-contiguous, established under the provisions of this Act within which water is supplied to the Territory of Hawaii or the Hawaiian homes commission for the development and opening of lands for small scale farming or to land occupiers engaged in small scale farming.

"Irrigation facility" shall include all real and personal property, together with all improvements to the same, acquired or constructed pursuant to a plan or undertaking to provide irrigation within an irrigation project under the terms of this Act.

"Small scale farming" shall mean agricultural pursuits, including the care and production of livestock and poultry, engaged in by a land occupier owning or having a leasehold of land, within any existing or proposed irrigation project, which includes not more than sixty (60) acres of agricultural land or one hundred (100) acres of pasture land. Where any such land occupier owns or has a leasehold or both agricultural and pasture land, the foregoing acreage limits shall be applied by adding the following items: (a) the number of acres of agricultural land multiplied by one and two-thirds (1 2/3), (b) the number of acres of pasture land; and the sum of said (a) and (b) shall not exceed one hundred (100).

"Water tolls" shall mean any charges established by the authority for irrigation water supplied by it to the Territory of Hawaii or the Hawaiian homes commission, and land occupiers.

"Acreage assessments" shall mean any levy imposed pursuant to the provisions of this Act on the agricultural and pasture land, or both, within an irrigation project and any amount charged to the Territory of Hawaii or the Hawaiian homes commission for the purchase, acquiring, establishing or maintaining irrigation facilities in an irrigation project.

"Land occupiers" shall mean the owner, or in the case of land, the lessee of lands lying within an irrigation project or to be organized under the provisions of this Act.

"Leased land," "leasehold" and similar expressions wherever used in this Act shall be deemed to include land subject to an lease or other tenancy, purchase or homestead agreement; "lease" wherever used herein shall be deemed to mean such tenancy, purchase or homestead agreement; "lessor" wherever used herein shall be deemed to include the lessor, landlord, owner, or grantor of the homestead and wherever used herein shall be deemed to include the lessee, purchaser or homesteader under such lease or other agreement the case may be.

"Agricultural land" shall mean that portion of the land of a land occupier as lies within an existing or proposed irrigation project and is of such location and character as may be profitably employed in the growing of crops, pasture land and poultry.

"Government" shall include the Territory and the United States and any political subdivision, agency, or instrumentality, or the State or otherwise, or either of them.

SECTION 4. Hawaii irrigation authority created. An authority to be known as the "Hawaii irrigation authority" is hereby created. Such authority shall be a public body and a body corporate and is of such location and character as may be suitable with the use of water for irrigated pastures and may be profitably employed in the production of livestock and poultry.
be appointed and may be removed by the governor in the manner provided by section 80 of the Hawaiian Organic Act. Not less than three of the commissioners shall be persons with training or experience in the fields of irrigation engineering or agriculture. The governor shall also designate the first chairman. Not more than three of the commissioners shall be members of the same political party. Not more than three commissioners may be officers or employees of the government whose office or employment under the government will not conflict with the duties of such officers or employees as commissioners.

The commissioners who are first appointed shall be designated by the governor to serve for terms of one, two, three and five years respectively from the date of their appointment. Thereafter, the term of office shall be five years. A commissioner shall hold office until his successor has been appointed and has qualified.

Vacancies shall be filled for the unexpired term. Three commissioners shall constitute a quorum. A commissioner shall receive no compensation for his services, but he shall be entitled to the necessary expenses including traveling expenses incurred in the discharge of his duties.

When the office of the first chairman of the authority becomes vacant, the authority shall select a chairman from among its members. The authority shall select from among its members a vice chairman, and it may employ an executive secretary, technical experts and such other officers, agents and employees as it may require, and shall determine their qualifications, duties and compensation, subject to the provisions of chapters 2 and 3 as amended, of the Revised Laws of Hawaii 1945. The authority may call upon the attorney general for such legal services as it may require or it may, in the event of the disqualification of the attorney general, or with the approval of the governor, employ its own counsel and legal staff. The authority may delegate to one or more of its agents or employees such powers or duties as it may deem proper.

SECTION 5. Duty of the authority and of the commissioners. The authority and its commissioners shall be under a statutory duty to comply or to cause compliance strictly with all provisions and the intent of this Act and the applicable laws of the Territory and, in addition thereto, with each and every term, provision and covenant in any contract of the authority on its part to be kept or performed.

SECTION 6. General management. The authority shall appoint a registered professional engineer who shall have such qualifications as the board may deem necessary, and shall have full power to administer the affairs of the authority, subject to the direction and approval of the authority. He shall be known as the manager-chief engineer of the Hawaii irrigation authority, and shall receive such salary as the authority may provide, and shall hold office at the pleasure of the authority.

The manager-chief engineer shall, subject to the approval of the authority, have power to appoint, suspend and discharge such other employees, subordinates and assistants as may be necessary for the proper conduct of the business of the authority. All such appointees, suspensions or removals shall be made, and the qualifications, duties and compensation of such employees, subordinates and assistants shall be determined, in accordance with the provisions of Chapters 2 and 3, Revised Laws of Hawaii 1945, as amended. The duties, civil service and classification laws shall not, however, be applicable to the manager-chief engineer.

SECTION 7. Reports. The authority shall at least once a year, not later than February 15, file with the governor a report of its activities for the preceding year, and shall make any recommendations with reference to any additional legislation or other action that may be necessary in order to carry out the purposes of this Act.

SECTION 8. Interested commissioners or employees. No commissioner or employee of the authority shall acquire any interest, direct or indirect, in any irrigation facility or project or in any property included or planned to be included in any facility or project, nor shall he have any interest, direct or indirect, in any contract or proposed contract, for materials or services to be furnished or used in connection with any irrigation facility or project. If any commissioner or employee of the authority owns or controls an interest, direct or indirect, in any property included or planned to be included in any irrigation facility or project, he shall immediately disclose the same in writing to the authority and such disclosure shall be entered upon the minutes of the authority. Such commissioner or employee shall be immediately disqualified from taking any part in the action of the authority relative to such irrigation facility or project. Failure to so disclose such interest shall constitute misconduct in office.

SECTION 9. Powers. The authority shall have all powers necessary or convenient to carry out and effectuate the purposes and provisions of this Act, including the following powers in addition to others herein granted.

To sue and be sued; to have a seal and to alter the same at pleasure; to make and execute contracts and other instruments necessary or convenient to the exercise of the powers of the authority, including, without prejudice to the generality of the foregoing, contracts and other instruments for the purchase or sale of water and for the purchase or lease of irrigation facilities, including the land on which such facilities are located, and for securing to the owners and occupiers of already irrigated land in a project a priority right to so much water from those of their sources and facilities which are taken over for the project as is required for the purposes or needs of such land, whether agricultural or nonagricultural in nature, as such purposes or needs exist at the inception of the project or are then contemplated in the immediate future; to make and from time to time, amend and repeal, by laws, rules and regulations, not inconsistent with this Act, which upon compliance with section 466, as amended, of the Revised Laws of Hawaii 1945, shall have the force and effect of law, to carry into effect the powers and purposes of the authority; and

To make surveys for the purpose of determining the engineering and economic feasibility of each project; to conduct or have prepared comprehensive studies of the crops, livestock and poultry which may be profitably grown or produced within each project and the probable market for such crops, livestock and poultry; to determine the probable costs and value of providing irrigation water in any proposed project; to investigate and make surveys of water resources, including the possibility and feasibility of inducing rain by artificial or other means; to define and redefine the boundaries of projects and to consolidate or separate projects, existing or proposed pursuant to this Act, provided, however, that in the event the redefinition of the boundaries of or the consolidation or separation of any existing project or projects will of itself or in conjunction with any redefinition, consolidation or separation previously effected, increase the total amount required to be derived from acreage assessments upon lands within the existing project or projects by more than five per centum (5%) or will require an increase in the tolls charged for water supplied to such lands or will reduce the amount of water normally available for distribution to such lands, then such redefinition, consolidation or separation may be accomplished only after notice has been published and a public hearing held as required for the formation of a project upon the initiative of the authority. At such hearing rights to protest and the procedure relative to protest shall be the same as specified in section 22 concerning the formation of projects, and
the proposed redefinition of boundaries, consolidation or separation of projects shall not be accomplished if protests, such as would be sufficient to prevent such action if it were the formation of a project, are filed by owners and lessees of lands within the existing project or projects affected thereby.

The authority is empowered, upon petition of land occupiers as provided by section 18 herein, or upon petition of the Hawaiian homes commission or the Territory of Hawaii through its commissioner of public lands, or upon its own initiative, to prepare detailed plans for the acquisition or construction of irrigation facilities which in its opinion are economically feasible; to prepare estimates of the probable cost of each; and to prepare estimates of the water tolls and acreage assessments required for the cost of operation and the amortization of the investment of each project, so that the project shall be self-supporting.

The authority shall also have power to establish the total amount of acreage assessments to be levied annually within each project; to set and from time to time revise tolls which it shall charge for the water provided by its facilities subject to the rate policies established hereunder; to establish priorities between the several lands included in a project according to the use to which said lands are put or other reasonable basis for classification, to govern the furnishing of water in the event of a shortage of supply and to correlate water tolls with such priorities; to charge and collect such tolls, fees and other charges established in connection herewith; to sell, exchange, transfer, assign or pledge any property, real or personal, or any interest therein to any person, firm, corporation or government, except as prohibited by the Organic Act; to own, hold, clear and improve property; to borrow money for any of the purposes hereunder; to insur or provide for the insurance of the property or operations of the authority against such risks as the authority may deem advisable; to include in any construction contract let in connection with a project stipulations requiring that the contractor and any subcontractors comply with requirements as to minimum wages and maximum hours of labor, and comply with any conditions which the federal government may have attached to its financial aid of the project.

The authority shall also have the power to enter into any re-payment or other contracts with the United States for the construction, operation and maintenance of any project as may be required or provided for by the federal reclamation laws, or acts amendatory thereof or supplementary thereto, or other federal laws, and further to borrow money or accept grants or assistance from the federal government, or any department, bureau or agency thereof, and to enter into contracts and agreements with the United States or any department, bureau or agency thereof with respect to the engineering, construction, operation and financing of any project hereunder. It shall be the duty of the authority to make every effort to obtain all federal aid possible for the purposes of this Act.

In making surveys, studies and investigations, in planning and designing and in constructing irrigation projects and facilities, the authority shall also have power to include therein surveys, studies and investigations of, plans and designs for and construction of facilities for flood control and the utilization of water for the production of hydroelectric power, where the same may be practicable in conjunction with the formation and operation of an irrigation project or projects.

SECTION 10. Issuance of revenue bonds. The authority shall have the power, with the approval of the governor, to issue revenue bonds, as provided by part IV of chapter 115, Revised Laws of Hawaii 1945, as enacted by Act 74, Session Laws of Hawaii 1947, to finance in whole or in part, the cost of construction, acquisition, or maintenance of any facility or project hereunder, and, in connection therewith, to pledge for the punctual payment of such bonds and interest thereon, any and all revenues derived from the sale or projects for the construction and/or acquisition and/or operation of which the bonds were issued, and the revenue of all projects, in an amount sufficient to pay the principal and interest of such bonds as the same shall become due, and to create, maintain reasonable reserves or sinking funds therefor. Further, the authority, not otherwise required, may be advanced with necessary expenses incurred in making preparation for the issuance of bonds under this Act, and to take any other necessary or proper in connection therewith. Any project authority by this Act shall be designated as “undertaking” within the meaning of said part IV of said chapter 115 and shall be the public body taking, the revenues of which are hereby charged with the payment of the principal and interest of said bonds.

SECTION 11. Investment of funds; other laws inapplicable. The authority may invest any funds in or loans to, any bank or other financial institution operating under the laws of the United States, or any territory or other political or public corporation, or any federal or other financial institution operating under the laws of the Territory, or upon petition of the Hawaiian Homes Commission, to invest funds subject to their control. No provisions with respect to the acquisition, operation or disposition of property by other bodies shall be applicable to the authority unless the legislature shall specifically so state.

SECTION 12. Security for funds deposited by authority. The authority may by resolution provide that all moneys deposited by the treasurer of the Territory may be legally secured, as provided in section 5853 of the Revised Laws of Hawaii 1945; or by an undertaking with such sureties as shall be approved by the authority faithfully to keep and pay over upon the order of the authority any such deposits and agreed interest thereon, to banks and trust companies are authorized to give any such deposits.

SECTION 13. Eligibility of revenue bonds for investment. The authorities shall be legal for the Territory and any of its political divisions, or any political or public corporation, including the employees’ retirement system of the Territory, or any insurance company, or association, or any savings bank or trust company, or any other financial institution operating under the laws of the Territory, or for any executor, administrator, guardian, trustee or fiduciary, or any educational, charitable, or eleemosynary institution to invest their funds or moneys in their custody in the revenue bonds issued hereunder; provided, however, that the foregoing shall not be deemed to obviate or otherwise affect any statutory requirement with respect to the use of judgment and care in investing any such funds. No holder of any revenue bonds hereunder, however, shall have the right to compel any expenditure of the taxing power of the Territory to pay such bonds or any interest thereon.

SECTION 14. Exemption from taxation and assessments. The authority and its property shall be exempt from any and all taxation and assessments of whatsoever nature.

SECTION 15. Exemption of property from execution. Real property of the authority shall be exempt from execution; materialsmen’s liens and also from levy and sale by virtue of execution, and no execution of other judicial process shall be returned against the same nor shall any judgment against the authority be a charge or lien upon its real property; provided, however, that the provisions of this section shall not apply to or limit the
SECTION 16. Rate policy; sale of excess water. It is hereby declared to be the policy of the Territory that the authority shall construct and operate irrigation facilities in an efficient manner so as to enable it to fix the lowest possible rates for water supplied by it. The authority shall not construct or operate any such facility for profit, but as a source of revenue to the Territory.

Nothing in this Act shall be construed to prevent the authority from selling water to persons other than land occupiers and other consumers within an irrigation project in the event and to the extent that water in excess of the needs of such land occupiers and other consumers which may from time to time be available.

SECTION 17. Lands included within irrigation projects. Except as otherwise expressly permitted in this chapter, lands to be included within an irrigation project shall be only those used to be used in small scale farming. The number of acres of agricultural and pasture land of each land occupier within the project shall be determined by the authority and shall not be increased or decreased, nor shall any such land included within a project thereafter be withdrawn, after final determination to construct the project except in the manner and with the limitations specified in this Act for redefining the boundaries of a project. The project shall include only such lands as can be adequately irrigated by the quantity of water and irrigation facilities to be provided under normal conditions of supply. No land which at the time of formation of the project is irrigated, or is devoted to the cultivation of commercial purposes of sugar, pineapples, coffee, bananas, citrus, sugarcane, macadamia nuts, or other horticultural crops, whether or not such land so devoted is irrigated, or is being devoted to an agricultural or townsite or other use of greater economic value than agriculture, shall be included in such project if the owner of such land (or the land occupier thereof if other than the owner, in the event that such land occupier is legally chargeable with the acreage assessments) shall object in writing to such inclusion. The foregoing provisions of this paragraph shall be applicable to all irrigation projects.

Notwithstanding the limitation expressed in the foregoing paragraph, lands of the Territory of Hawaii used by the university of Hawaii for experimental farms may be included in irrigation projects, provided the board of regents undertakes the payment of tolls and acreage assessments and for the purposes of such inclusion the university of Hawaii shall be deemed a land occupier within the meaning of this Act. Lands within such farms shall be assessed accordingly as the same are of the character for use as agricultural or pasture lands, as defined in this chapter, although they are used for experimental purposes. Such assessments shall, however, become a lien upon said lands.

SECTION 18. Petition of land occupiers for formation of irrigation project. Land occupiers, including the Territory of Hawaii and the Hawaiian homes commission, comprising at least sixty percent (60%) of the acreage of lands lying within an area proposed to be organized into an irrigation project may file a petition with the authority requesting that such project be organized. Where any of the lands of such petitioners in the proposed area are leased lands, it shall be necessary for the lessor and lessee to join in such petition. The petition shall contain a general description and the acreage of the area proposed to be organized into an irrigation project and shall state the acreage owned or leased by each of the petitioners within that area. Before the authority shall commence any irrigation project involving homesteaded lands of the Hawaiian homes commission, it shall require the commission to assure the payment of any acreage assessment thereon, in pursuance of section 208(5) of the Hawaiian Homes Commission Act, 1920.

SECTION 19. Petition of Hawaiian homes commission for formation of irrigated project, community pastures. The Hawaiian homes commission may petition the authority to organize irrigation projects for any of the lands designated as "available lands" in the Hawaiian Homes Commission Act, 1920, whether or not such lands are occupied in whole or in part. If the lands for which the proposed project is to be organized are not occupied or are occupied by persons whose rights to occupancy will expire before the project water will be supplied to said lands, no notice need be published nor public hearing held as in section 21 required. Project water may be supplied to community pastures established by the Hawaiian homes commission within any project even though such pastures exceed one hundred (100) acres in area. Before the authority shall commence any irrigation project involving community pastures it shall require agreement from the Hawaiian homes commission that tolls for water supplied to and acreage assessments upon such pastures shall be paid by the commission. Before the authority shall commence any irrigation project involving available lands which the Hawaiian homes commission desires to develop and open for small scale farming it shall require agreement from the Hawaiian homes commission that in the event the development and opening of said lands does not enable the making of acreage assessments sufficient to repay the costs of construction of the project that the same will be paid by the commission. The payments referred to in this section may be made by the Hawaiian homes commission from any of its funds designated or created by Congress for that purpose.

SECTION 20. Petition by Territory of Hawaii for formation of irrigation project. The Territory of Hawaii, through its commissioner of public lands, may petition the authority to organize irrigation projects for lands under its control, whether or not such lands are occupied in whole or in part. If the lands for which the proposed project is to be organized are not occupied or are occupied by persons whose rights to occupancy will expire before the project water will be supplied to said lands, no notice need be published nor public hearing held as in section 21 required. Before the authority shall commence any irrigation project involving lands of the Territory of Hawaii, it shall require agreement from the commissioner of public lands that the costs of construction of the project, if the same is organized for the development and opening of lands of the Territory of Hawaii for small scale farming, shall be paid by the commissioner in the event and to the extent that the development and opening of said lands does not enable the making of acreage assessments sufficient to repay such construction costs. The authority shall also require agreement from the commissioner, before commencing any irrigation project involving lands of the Territory of Hawaii, that any acreage assessment on such lands within the project shall be paid by the commissioner in the event the person in possession of such land fails to pay the assessments. The payments referred to in this section may be made by the commissioner from any funds in the territorial treasury derived from the lease or License of public lands or waters, which funds are hereby made available for such purposes. An agreement by the commissioner of public lands to make such payments shall constitute a charge upon such funds.

* Not effective until Congress enacts legislation.
SECTION 21. Consideration of petitions; notice and hearing. Where more than one petition is filed covering portions of the same territory, the authority may consolidate the petitions. Having received such petitions, on the basis of such evidence as may be submitted to it by the petitioners and on the findings of investigations or surveys made by or for it, or by other governmental agencies, the authority shall establish such irrigation projects as it deems necessary to carry out the purposes of this Act. Before making a final determination to establish a project or projects, the authority shall hold a hearing, notice of which shall be duly advertised in the same manner and form, as nearly as may be, as in the following section provided.

SECTION 22. Formation of irrigation project on initiative of authority; notice and hearing; protests. The authority may organize irrigation projects upon its own initiative. In such event, it shall fix a date for public hearing upon the proposed project, which date shall be not less than sixty (60) days after the first publication of notice thereof in a newspaper of general circulation in the county in which the project is proposed. Such notice shall be published once in each of four successive weeks, giving notice of the area to be included in and general details of the proposed project, stating the time and place of the public hearing. If the owners of fifty-five per centum (55%) of the acreage of agricultural and pasture lands proposed to be organized into an irrigation project shall at the hearing or prior thereto file written protest against the proposed project, the project shall not be made and proceedings shall not be renewed within twelve (12) months from the date of closing the public hearing, unless each and every owner protesting shall withdraw his protest; provided, however, that any lessee of any agricultural or pasture lands included within the proposed project, who, by the express terms of his lease must pay the assessment contemplated hereunder shall be subrogated to all the rights of such owner to protest by filing at the hearing or prior thereto written protest against the proposed project, such written protest to be accompanied by a certified copy of the lease; provided, further, that any lessor may, at any time before the closing of the public hearing, make void the protest of his lessee on consideration of the filing with the authority a duly acknowledged waiver of the provision in the lease which requires the lessee to pay the assessment, and a written undertaking of the lessor to pay the assessment to be made on account of the proposed project; and further provided that a project may be instituted without further advertisement for a smaller acreage within the advertised acreage in the event the authority shall determine such smaller project to be economically feasible, if written protests by the owners, or lessees subrogated to the right to protest, of fifty-five per centum (55%) of such smaller acreage shall not be filed.

SECTION 23. Approval of legislature, appropriations. Funds for acquisition or construction of irrigation facilities for each project, established by the authority under the provisions of sections 18, 19, 20 and 22 hereinafore, may be requested from the legislature, as an appropriation to be repaid without interest to the general funds of the Territory by the authority from water tolls, acreage assessments and other receipts of the authority, within such period as may be specified in the Act making said appropriation.

SECTION 24. Administration of irrigation project; acreage assessments; liens. All irrigation projects established pursuant to the provisions of this Act shall be administered by the authority. In making the final determination to establish a project, the authority shall determine the proportion of acreage assessments to be borne by the agricultural land and pasture land within the project. The proportion to be borne by pasture land may, in the discretion of the authority, be less but not more than the proportion to be borne by agricultural land, in which event the agricultural liens shall be first served with water in times of drought or shortage of supply.

The proportions to be borne by agricultural and pasture lands be certified to the tax commissioner and shall not be changed after the final determination to establish the project, except in cases of reclassification of the boundaries of or consolidation of sections or the project and then only in the manner and with the limitations specified in conjunction therewith. The authority shall determine and certify to the tax commissioner on or before January 31 of each year the amount of acreage assessments necessary to cover the calendar year for acquisitions, construction and maintenance of irrigation facilities for each project, and (b) the acreage of agricultural and pasture land of each land occupier within said project.

Upon such certification the tax commissioner, or his authorized deputies or other assistants, shall determine the proportion of acreage assessments to be levied against the property of each land occupier in the following manner: (a) by determining the amount of acreage assessments to be borne by the agricultural land and the pasture land within the project according to the proportion provided for in the Hawaiian Homes Commission Act, 1920, acreage assessment to be borne by the agricultural land by the number of acres of agricultural land within the project, and (c) by dividing the acreage assessment to be borne by the pasture land by the number of acres of pasture land within the project and multiplying the quotient by the number of acres of pasture land of each land occupier within the project. Such acreage assessments shall be a special lien on the real property in the same manner and form, as nearly as may be, as in the following sections 5167 and 5168, as amended, of the Revised Laws of 1915.

In case of any delinquent acreage assessment the tax commissioner shall do the following: (a) By the Hawaiian Homes Commission Act, 1920, acreage assessment to be borne by the pasture land of a particular land occupier shall be a lien against the entire tract, including improvements, of the land occupier of which the assessed agricultural and pasture land of each land occupier within said project was a part. Said lien may be foreclosed in the same manner as is applicable for real property taxes and in accordance with the provisions of sections 5167 and 5168, as amended, of the Revised Laws of 1915. In case of the foreclosure of any homestead land upon which a project may be proposed to be organized into an irrigation project shall at the time of the proposal be served with notice of the making of the final determination to establish a project, the proposed to be organized into an irrigation project shall at the time and place of the public hearing. Notice of which shall be duly advertised in a newspaper of general circulation in the county in which the project is proposed.

The acreage assessments shall be deemed revenues within the meaning of the Hawaiian Homes Commission Act, 1920, which may be applied in payment of the principal and interest of any revenue bonds which may be issued thereon. Water tolls fixed by the authority for each project shall be paid to the authority by the lessee of the land to be served by the water services of the project. If any lessee of any delinquent acreage assessment shall be served upon the tax commissioner of public lands and the Hawaiian homes commission the case may be, for payment. All water tolls, acreage assessments and receipts from said shall be realized by the authority and sold by way of foreclosure for failure to pay to the authority, in the discretion of the authority, be less but not more than the proportion to be borne by agricultural land, in which event the agricultural liens shall be first served with water in times of drought or shortage of supply.

SECTION 25. Administration of Wailua Irrigation Utilization project, Act 240 (Series E-261), Session Laws of 1951, is hereby amended by substituting for the words
of public works" and "superintendent" and equivalent expressions therein, the words "Hawaii irrigation authority"; and any sums appropriated by said Act 240 which are unexpended upon the effective date of this Act are hereby reappropriated to the authority for the purposes of said Act 240. The special fund created by said Act 240 is hereby transferred to and shall constitute a special account in the authority revolving fund created by section 31 of this Act to be administered as provided by said Act 240.

SECTION 28. Administration of Molokai irrigation and water treatment project. Chapter 317 of the Revised Laws of Hawaii 1945 is hereby amended in the following respects:

1. By amending section 12951 thereof to read as follows:

"Sec. 12951. Administration of chapter by Hawaii irrigation authority. The powers, duties, rights, obligations and functions of the Molokai water board are transferred to the Hawaii irrigation authority (hereinafter referred to as the 'authority'), which is charged with the administration of this chapter, and the word 'chairman' as used in this chapter shall mean the chairman of the authority.

2. By amending said chapter by substituting for the word "board" and equivalent expression wherever the same appears therein, the word "authority".

3. By amending the first sentence of the second paragraph of section 12955 thereof to read as follows:

"The proceeds of the sale of such bonds shall constitute a special account in the 'authority revolving fund' of the Hawaii irrigation authority to be known as 'Molokai irrigation system account'".

4. By substituting for the word "fund" in the proviso at the end of said second paragraph of section 12955, the word "account".

5. By amending section 12960 to read as follows:

"Sec. 12960. Effective date. This chapter shall take effect upon the approval as to any bonds, the total of which shall not exceed the limitation provided by section 55 of the Hawaiian Organic Act or of any Act extending the amount of bonds which may be issued by the Territory and as to any such bonds in excess of the limitation provided in section 55 of the Hawaiian Organic Act or of any Act extending such amount, this Act shall become effective if and when the Congress of the United States shall enact legislation ratifying this Act and authorizing such bond issue, notwithstanding the limitation of said section 55 of the Hawaiian Organic Act or of any other law to the contrary."

SECTION 27. Budget. The authority shall submit to the director of the bureau of the budget, biennially, the budget estimates and financial statement required by chapter 25, Revised Laws of Hawaii 1945, and shall include therein estimates of appropriations required by this Act.

SECTION 28. Limitation of authority. No irrigation projects shall be organized or established in the city and county of Honolulu without the authority first consulting the board of water supply of the city and county of Honolulu and the suburban water system of the city and county of Honolulu.

SECTION 29. Furnishing domestic water. In conjunction with any irrigation project which it has established, and subject to the provisions of law governing such supply, the authority is authorized to establish a system for and to supply water for domestic purposes to residents within and in close proximity to the irrigation project. Such system shall be established only if (a) the authority determines that it would be advisable and in the public interest to provide such domestic supply; (b) its construction and operation by the authority has been consented to by the board of water supply of the county in which the project is situated, or if situated in the city and county of Honolulu by the board of water supply or the suburban water system of said city and county, as appropriate, and by a majority of the land occupiers within the irrigation project; and (c) if under normal conditions of water availability, the operation of said system will not prejudice or interfere with the supply of irrigation water to the land occupiers within the project. Upon the establishment of any such system for the supply of domestic water, the authority shall charge such rates for the water supplied from such system as will fully cover the cost of the water supplied and operation and maintenance of said system, said rates in any event to be not less than the tolls charged for irrigation water supplied to agricultural and pasture lands within the project, and the authority may make such other charges against the consumers of domestic water as may be necessary to cover the capital cost of such system or other costs incurred in connection with such system. The authority is also authorized, subject to the limitations previously set forth in this section, to take over, improve and operate any existing system for the supply of domestic water if requested so to do by the owners and operators of such system.

SECTION 30. Accounts. The authority shall maintain proper accounts in such manner as to show the true and complete financial status and the results of management and operation, both as to all activities of the authority and as to the management and operation of each project established under the provisions of this Act.

SECTION 31. Appropriation. The sum of five hundred thousand dollars ($500,000.00) is hereby appropriated from the general revenues of the Territory of Hawaii not otherwise appropriated for the purposes of the Hawaii irrigation authority, such amount to be deposited in a special fund to be known as the "authority revolving fund". Moneys in said revolving fund shall be expended for administrative costs, engineering surveys, economic studies, plans, maps and for other purposes of the authority, including irrigation projects. In the event any moneys are expended therefrom for engineering surveys, economic studies, plans and other expenses directly attributable to any irrigation project, the amount of such expenditures shall be reimbursed to said revolving fund from any funds received by the authority for and on account of such project. Any moneys expended for the establishment of irrigation projects shall be reimbursed to said revolving fund from any funds received by the authority for and on account of said project.

SECTION 32. Other inconsistent laws amended; severability. All laws or parts of laws inconsistent with this Act are amended to conform to this Act. The provisions of this Act are declared to be severable, and if any portion of this Act, or the application thereof to any person, circumstance or property is held invalid for any reason, the validity of the remainder of this Act, or the application of such portion to other persons, circumstances or property shall not be affected.

SECTION 33. This Act shall take effect upon its approval.

(Act 245)

APPROVED this 12th day of June, A.D. 1953.

AMENDMENT (Act 138)

APPROVED this 17th day of May, A.D. 1955.
WATER is the Life of the Land

or as the Hawaiians say

Ka Wai Oia Ke Ola O Ka Aina

Inset on Back Cover: Ancient head found on Kauai which was used to guard the embankment of an irrigation ditch.