

CITY ENGINEER OUTLINES PLANS FOR MORE WATER

Scheme Explained to Increase Nuuanu Supply at Moderate Cost

City Engineer Whitehouse has a definite plan for materially increasing Honolulu's water supply without the purchase of any additional water rights. He has outlined his plans which deal with the Nuuanu situation in the following report to the supervisors:

I hand you herewith report on the matter of improving the Nuuanu water system so as to make available for consumption the millions of gallons of water which now go to waste without even generating electric power.

At the present time this system consists of four earth reservoirs with connecting pipe lines:

No. 1 capacity 21,000,000 gals; elev. high water 395 ft.

No. 2 capacity 7,000,000 gals; elev. high water 739 ft.

No. 3 capacity 10,000,000 gals; elev. high water 846 ft.

No. 4 capacity 625,000,000 gals; elev. high water 1028 ft.

No. 1 is a distributing reservoir only and receives water from Nos. 2, 3 and 4. It receives no drainage from the surrounding country.

It is connected to Nos. 2 and 3 by a 15 in. C. I. main and to No. 4 by a 30 in. steel and 30 in. wood stave pipe line.

The 15 in. also connects with the weir at Luakaha.

It has been determined that the Nuuanu watershed is good for 7,800,000 gals. a day throughout the year.

At the present time conditions are such that an average of 3,500,000 gals. per day goes to waste out of No. 2 spillway.

The trouble in the valley is not lack of storage capacity, as No. 4 has a capacity of 625,000,000 gals., but is due to the topography which delivers the bulk of the water to Nos. 2 and 3 which are of very small capacity.

There are two wheels at this station, one run by the low head from No. 2 and 3, and the other by the water from No. 4. With this arrangement it is impossible to conserve water in No. 4 because it is continuously drawn on for power even when water is wasting out of No. 2.

The difficulty is not entirely in the valley because even without using the water for power purposes it is not possible to get it down to consumers with the present distributory system.

The problem resolves itself into two parts, the first of which is to improve the water so as to save every drop of the runoff from the watersheds of the various reservoirs.

The second problem is to get the water to the consumers by means of proper pipe lines.

In our case, however, there is the additional problem of making use of the water for the generation of electricity.

The first problem may be solved in several ways:

(a) By intercepting ditches and pipe lines on both sides of the valley, water which now goes into Nos. 2 and 3 may be diverted into No. 4.

(b) By excavating Nos. 2 and 3 and enlarging them to double their capacity.

(c) A compromise of "a" and "b"—that is, a partial development of No. 1 watershed and the enlargement of Nos. 2 and 3 to take care of the balance of the runoff.

The second problem is much more simple and can be solved by the laying of additional mains from No. 1 down into the city.

The additional problem is in connection with the use of the water for generating electric current.

One thing to be remembered is that a pipe may be large enough to furnish the required amount of water for domestic use but for power purposes a pipe several times the capacity is necessary.

This is true at the present time in Nuuanu. The 15 in. connecting Nos. 2 and 3 to No. 1 is amply large to supply No. 1, but as a power line it is insufficient. The point I wish to make is that the cost of developing water power should not be charged against the water works except under the condition that the electric light department pay a rate high enough to pay interest on the investment and provide a sinking fund.

As it stands the 30 in. from reservoir No. 4 is sufficiently large to develop over 1,000 h. p. but the water is lacking (in the reservoir). So that to get the benefit of the water from

TO THE GALLANT MEN OF THE F-4

[The following poem on the F-4 is by Detective M. C. Swift of the Honolulu police department.]

Sleeping, gently sleeping,
Close to our coral shore,
While their loved ones they are weeping
For on earth they'll meet no more.

Duty called and they responded
As they oft had done before,
Ever ready to serve the nation,
Gallant men of the F-4.

They are gone but not forgotten
And their spirit still lives on,
They've been tried and found "not wanting,"
What a victory they have won!

Sleep in peace, you brave young heroes,
For your day of toil is o'er,
You shall never be forgotten,
Gallant men of the F-4.

—M. C. SWIFT,
Honolulu, T. H.,
April 6, 1915.

The Nuuanu watershed for domestic and manufacturing purposes as well as develop additional power, one of the three schemes may be followed:

1st. Get more water into No. 4 by means of intercepting ditches and pipe lines.

2nd. Enlarge reservoirs No. 2 and 3 and put in another pipe line from No. 2 to No. 1.

3rd. A compromise—partially develop the supply above No. 4 and enlarge Nos. 2 and 3.

I have estimates of the cost of these three schemes.

First Scheme.

850' Tunnel at \$10.00	\$ 8,500.00
3100'-16" Pipe @ \$2.60	8,100.00
35x200' Reinforced Concrete	
Dam 030 cu. yds. @ \$25.00	15,750.00
800' of 8" pipe with dam	\$32,300.00
@ \$1.50	1,200.00
3000' Ditch & Flume @ \$2.00	6,000.00
Plus 10%	3,950.00
	\$39,500.00
	\$43,450.00

Second Scheme.

74,000 Cu. Yd. Excavation	@ \$0.50	\$37,000.00
6,000 Ft. 36" Steel Pipe @ \$7.50		45,000.00
		\$82,000.00
Plus 10%		8,000.00
		\$90,000.00

Third Scheme.

74,000 Cu. Yd. Excav. @ \$0.50	\$37,000.00
3,000' Ft. Ditch & Flume @ \$2.00	6,000.00
	\$43,000.00

All things considered, the first scheme is the best not only from the standpoint of cost but from the fact that the water will be stored at a high elevation thus having an increased value for power purposes. I have not gone into any detail as this report is merely preliminary and is intended to show in a general way the situation and the solution.

Pipe Lines Through Private Tracts.

The question of whether or not this department should lay mains or pipe lines through private tracts or newly opened tracts to supply the purchasers of lots in these tracts with water comes up repeatedly and should be decided definitely.

Water mains should be laid by the department to tap the tract; all mains, service pipes, sewer, etc., within the boundaries of the tract should be laid by the owner or owners of the tract prior to the placing of the property on the market for sale.

This is the practice on the mainland and should be adopted here by the passage of an act by the legislature, protecting both the purchaser of lots and the government.

Receipts and Operating Expenses, Water Department.

The receipts of the Honolulu water department for the six months ending December 31, 1914, were approximately \$80,000.00.

Taking these figures as an estimate of receipts for the next six months, the total receipts for a year from all sources for the water department will approximate \$180,000.00.

Using the figures shown in the report filed by the then City and County Engineer Wall as an approximate amount necessary for actual operating expenses we have, salaries, material and supplies, estimated for one year, amounting to \$94,606.58. The interest and sinking fund account against the water works department in payment of the bond issue amounts to \$87,866.67 additional; making the total expenses of the department for one year \$182,473.25, or a deficit of approximately \$2,000.00.

The reckoning of the privileges of this department will realize a sum sufficient to take care of the deficit. To place the department on a basis where necessary improvements may be made will require an increase of rates, or an appropriation from the general fund of the city and county, or the passage of an act by the legislature, extending the time for the payment of the sinking fund on the bonds against the department for a period of five (5) years, or until the year 1920. The county to pay during the next five (5) years the interest only due on the bonds.

This will mean that instead of paying out of its revenues yearly \$87,000.00 the department will pay (interest only) \$45,000.00 per year leaving the sum of \$42,000.00 (sinking fund) yearly for five (5) years or \$210,000.00 to be put into improvements.

Another way would be to have the territory issue loan fund bonds for water works improvements, the interest and sinking fund to be paid out of the general fund of the county.

STAR-BULLETIN GIVES YOU TODAY'S NEWS TODAY

DIVER AGRAZ IN 170 FEET THINKS F-4 IS LOCATED

Observation Continues—"Accident Stories" Widely Discussed—Flotilla Officers Understood to Have Known Nothing of Serious Blow-out

Swinging to a racing current 170 feet below the surface of the ocean, Jack Agraz, chief gunner's mate and master diver, strained his eyes this morning for a sight of the sunken submarine F-4 as it rested on the sea floor. With the sun almost directly overhead and conditions for submarine observation specially favorable the diver believed that the position of the F-4 had been definitely located and that a line was fast to bow and stern of the sunken craft.

This bears out the under-water observations taken yesterday afternoon by Agraz and Evans, who dived to about 175 feet at the spot where the F-4 is lying, and thought that they could make out her dim outline on the bottom. The current was too strong for diving this morning, and the deep-sea explorers came up with the intention of making another descent shortly after 1 o'clock at slack water.

With the exception of the diving operations of the dredge Gaylord, most of the salvage work on the sunken submarine is being conducted from the shore end. Yesterday one of the 60-ton scows that are to be used as lifting pontoons arrived from Pearl Harbor, where the preliminary fitting was done, and all this morning navy mechanics and men from the Honolulu Iron Works were busy fitting the hoisting machinery on which the latter concern has been working for almost a week past. Within a day or so the other scow will be towed to this port and when it is fitted up work of actually raising the submarine can be commenced.

No direct wireless word has been received from the cruiser Maryland, which is speeding toward Honolulu with five expert naval divers and improved gear, which will enable the men to combat the enormous pressure of the water at more than the 200-foot depth. Last night the local station intercepted a message to the commander-in-chief of the Pacific fleet, giving the ship's position. It is figured here that the Maryland will arrive tomorrow, but that if she has slowed down for any reason she will probably not round Diamond Head until daylight Monday morning. There is nothing to gain, and a big chance to take, in entering port after dark. The raising of the F-4 is a work of salvage and investigation only now, and there is no reason why the Maryland should try to break records between San Francisco and Honolulu.

An Associated Press despatch from Los Angeles, quoting a letter from Lieut. Alfred L. Ede, commander of the lost submarine, to his brother, in which the former, after detailing a number of minor accidents to the F-4, says: "As a matter of fact, if the whole boat should vanish in smoke, I don't think I would be terribly astonished," was widely commented on by naval men yesterday.

The gist of the criticism is that if there was anything radically wrong with the F-4, only the crew and officers of the vessel knew of it. Lieut. C. E. Smith, commander of the submarine division, had no knowledge of anything wrong with the boat, which had just come from the Pearl Harbor yard after a thorough overhaul, and the substitution of a damaged motor. It is believed by some, however, that Lieut. Ede may have had some misgivings about the general condition of the boat, and still refrained from reporting them to superior authority, putting them aside as unimportant in the interests of his men. Submarine crews get \$1 a dive per man for the enlisted personnel, for every dive up to 15 per month. This money is a snug pick-up for the men, and commanders always try to get in the maximum number. Lieut. Ede might have felt that his fears were groundless, and that it would be an injustice to his crew to further hold up his boat. It is generally agreed that if the F-4 was unseaworthy the state of affairs was kept close by officers and crew.

Says Mrs. Nelson Was Unstrung.

Mrs. M. D. Black, who was quoted yesterday as confirming the statement attributed to Mrs. W. S. Nelson in Los Angeles concerning the accident to the motors, today told the Star-Bulletin that Mrs. Nelson was in a state of hysterical collapse and hardly knew what she was saying. Mrs. Nelson says she heard several of the boys on various occasions discussing the accident seriously, but they did not express any fear of diving after the repairs had been made.

"I wish it understood that I myself never dared give a cause for the accident," says Mrs. Black. "I did not wish to be quoted in any way yesterday."

Memorial Services Postponed.

Memorial services for the lost crew of the F-4, which were planned by the Chamber of Commerce for Sunday, April 18, have been postponed at the request of Rear-admiral Moore, until after official announcement is made of the fate of those who went down in the submarine.

MARRIAGE LICENSES.

Peter Garcia, Honolulu, 25
Lizzie Souza, Honolulu, 25
John A. Vidal, Schofield, 21
Mrs. Mary Hoapili, Schofield, 21
Ching Kam Yuen, Honolulu, 22
Fong Shun Lin, Honolulu, 22

WILL APPEAR IN BENEFIT FOR F-4



Lucile and Adeline Aflague of Honolulu, who will be on the program at the benefit entertainment to be given at the National Guard armory on Monday night under the auspices of the Hui Au Kai.

AD CLUB RELIEF FUND ROLLS UP; SOON BE \$2000

The Ad Club's F-4 relief fund is growing steadily. Treasurer Lovenson reported at noon today that there was \$1442 in the fund with many lists to be heard from.

The Ad Club fund now stands:

Previous balance reported, \$1307.00

Miss E. Blanchard	1.00
Miss C. Shields	1.00
Baseball	1.30
John Nell	1.00
G. K. Lau	1.00
Chang Chan, Lela	1.00
"Kentucky"	5.00
John A. Scott, Waikolu, Hilo	25.00
S. S. August, Honolulu	2.00
Col. Sam Johnson, Phoenix	100.00
Employees Hawaiian Hardware Co., Pahoa	30.00
Employees Bank of Hawaii Ltd	40.00
Total	\$1442.00

The Ad Club F-4 subscription list will close Wednesday morning, April 14.

From the Tokiwa.

From an unexpected source a contribution was received today by Admiral Moore for the Navy Relief Society. The vice-admiral of the Japanese cruiser Tokiwa, which arrived today from the Lower California coast, made an official call on Admiral Moore this morning, expressed his deep sympathy and that of the officers and men of the Tokiwa at the F-4 disaster and left a substantial contribution for the fund.

Contributions are coming in from many sources. The "Sweet Shop girls" gave \$4 today, which will go through the Ad Club for the relief of wives and families of the F-4's men.

THEATER CONTENTS SOLD.

The contents of the Hawaii moving picture theater on Hotel street were sold at auction at noon today by J. F. Morgan Company. The transaction was for the purpose of satisfying a mortgage made by I. Scharlin and Mae McKay under the firm name of Hawaii Motion Picture Company, to Arthur Coyne, who assigned it to A. R. Oberle, the latter buying the contents of the theater for \$3500. There was a considerable crowd present, and the bidding was spirited.

ARMY AND NAVY NOTES

Uncle Sam may pay for the dental work on the teeth of navy men, but cannot pay the dentist bills of coast-guard officers, according to rulings of Controller of the Treasury Downey.

In the case of Ensign J. D. Hill, U. S. N., whose tooth was broken by the premature discharge of a shell September 8, 1914, the officer was attended by a private dental surgeon because he could not reach a navy dentist. Controller Downey ruled that inasmuch as the law provides a dental service for the navy, Ensign Hill's claim that he should be reimbursed for the work on his tooth is a just one.

At the same time the controller had to rule on a somewhat similar matter in the coast-guard service, for which the government maintains no dental surgeons, and ruled that the government should not pay bills of that character.

President Wilson and Secretary of War Garrison reviewed the closing drills of the season at Fort Myer on March 26 and 27. The exhibitions were given as a benefit for the enlisted men's branch of the Y. M. C. A., which maintains a branch at Fort Myer, and also for the benefit of the

Personal Mention

CAPTAIN R. F. BENNETT, formerly harbor pilot, was a passenger to the Coast in the Oceanic steamer Sierra.

MR. AND MRS. W. E. SHAW of Kaimuki leave on the S. S. Sierra today for an extended stay in California. They expect to be away three months.

OWEN WILLIAMS of Wells Fargo Express Company has returned from an inspection of the Hilo branch. He was a passenger in the steamer Mauna Kea.

R. L. HALSEY, inspector in charge of the federal immigration station, is back from an official tour of Maui.

OLIVER C. SCOTT, passenger representative for the Inter-Island Steam Navigation Company, left for the Coast in the Oceanic liner Sierra today. Mr. Scott will visit his old home at Fresno, Cal.

MAYOR LANE and Supervisor Ahia accompanied the legislators to Molokai to inspect the fever colony as representatives of the municipal government. They will return tonight.

JUDGE SANFORD B. DOLE, who with Mrs. Dole has been visiting on Hawaii for the past three weeks, will return to Honolulu Tuesday morning. Judge Clemens will preside when the grand jury convenes Monday morning.

CHARLES G. HEISER, JR., of the Trent Trust Company was suddenly called to San Francisco on business today and left on the Sierra, on which he will make the round trip. During his absence Mr. Trent will give his personal attention to all matters connected with the handling of stocks and bonds.

MRS. R. G. MOORE, Y. W. C. A. director, will represent the local association at the fifth national convention of Y. W. C. A. to be held in Los Angeles, May 2-11. The convention will be one of the largest gatherings of women ever held. Each association is allowed one delegate for every hundred members. Lack of funds prevents the Honolulu Y. W. C. A. from furnishing its quota.

Honolulu Cargo Had Close Call.

Several hundred tons of European merchandise has reached this port in the Matson steamer Lurline that is said to have had a close call from destruction by German submarines.

The freight was transhipped from the Harrison Direct steamer Spectator, which reached San Francisco from Liverpool dressed in war paint. All marks that might serve to identify the vessel or declare its nationality were carefully removed, and the entire hull was painted lead color, in order to make it blend more closely with the seascape, in order to deceive prowling German war vessels and submarines in the vicinity of the English and French coasts.

The Spectator made the trip from Liverpool via the Panama Canal and San Pedro in 36 days 30 hours. The holds of the vessel contained 1,000 tons of general freight including that for Honolulu.

In addition to the drills there was boxing and croquet riding, wrestling by men on horse-back, and bare-back riding.

Gen. E. C. Woodruff, judge advocate general of the army, is at the Walter Reed hospital near Brightwood, receiving treatment for a severe case of tonsillitis and his friends are anxious for his recovery.

City Transfer Co.,

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Finest Sweet Cookies in the land, always fresh. Sold at all Stores.
Love's Biscuit and Bread Co.

A. G. CURTIS IN OPEN LETTER ASKS POINTED QUESTION OF OLAA PEOPLE

Wants to Know Whether Plantations Aren't Making Big Profits and Driving Out Small White Planters

Pointed questions regarding sugar plantation methods and finances in Hawaii are asked by A. G. Curtis in an open letter sent to the Star-Bulletin from his home at Kurtistown, Isl. and of Hawaii. Curtis was one of the principal witnesses at the hearing held by the house committee on agriculture upon the proposed investigation of the relations between the sugar plantations and the small cane planters.

Curtis' letter is as follows:

Kurtistown, Hawaii, April 9, 1915.
To A. W. T. Bottomley, Esq., Treasurer Olaa Sugar Company, and the Public.

Under date of April 2 the Advertiser quoted Mr. Bottomley as testifying before the agricultural committee of the legislature, "that when a farmer cannot raise cane for \$2.25 per ton he should go out of business." If the Olaa Sugar Company has grown cane for this, it figures out \$18.855 per ton of sugar, leaving a balance of \$61.15. This is on the basis of 4-cent sugar which practically covers the period since Olaa Sugar Company was organized. It would be interesting reading matter, especially to the stockholders, how this \$61.15 was spent, under the Eckart contract a deduction of 75 cents for "harvesting" is made, another deduction is made in the field for "tare," then the chemist generally winds up with his deduction for water? Under the most favorable circumstances this totals \$1, generally more, so that instead of getting \$3.50 for a ton of cane the grower only gets

\$2.50. This is getting pretty close to what you say came ought to be grown for and the writer claims, year in and year out, it is impossible.

Here are some more figures from the contract. When sugar is selling for \$80 to \$81.99 per ton grower gets \$32. Mill \$18 to \$49.99. Sugar selling for \$100 to \$101.99 grower gets \$33.99; mill \$66.10 to \$68.99. These figures are under the most favorable circumstances to the grower. Mr. Bottomley, the "burden" of the Olaa company carries for the Olaa planter wouldn't worry a moment to pack.

Is it not true that House Bill No. 148, making it compulsory for our boys to enter military service, would not be necessary if these islands had citizen farmers?

Is it not true that Hawaii grows much larger crops to the acre and cheaper than most countries, especially Queensland?

Is it not true that most plantations have paid enormous profits during the past 20 years, managers, plantation agencies and steamship companies have become very wealthy from sugar, and the white farmer very successfully discouraged from his experiences in growing sugar-cane and selling it to the larger corporate interests?

Is it not true that from this discouragement that each governor since these islands have been made a part of the United States has struggled in vain to get bona fide homesteaders to stay on government lands and farm them?

That slowly and surely these homesteads are being bought by subsidiary concerns formed for this purpose by the large sugar corporations?

Is it not true that this condition of affairs on Hawaii is known at Washington and for this reason the administration stands firm in its determination to give the people sugar free of duty?

If this is not so, how much easier would it be for the sugar interests to present their case to President Wilson with 6000 white cane growers behind them as they have in Queensland today.

Mr. Ivers of Brewer & Co. has said "that cane growing is not attractive to white farmers." Divide the pie a little more evenly. Mr. Ivers, and you'll get plenty of white farmers and they won't cost the territory a thousand dollars apiece, either.

(Signed) A. G. CURTIS.

SPECIAL SHIPPING HARBOR NOTES

To take sugar after leaving a general cargo, the schooner Muriel is reported by officers in the steamer Mauna Kea to have arrived at Mahukona on last Wednesday.

H. Hackfeld & Company are advising the Pacific Mail liner Persia, with a few lay-over passengers and a later mail for Honolulu, left San Francisco for the Coast of Asia this afternoon.

The barkentine M. Winkelman, supplied with a cargo of lumber, sailed yesterday from Mukiteo to Mahukona. The vessel is expected to take a return cargo of sugar.

The Pacific Mail liner China, with several hundred tons of Oriental cargo for delivery at Honolulu, left Yokohama today, one day behind regular schedule.

The Japanese cruiser Tokiwa is expected to leave for Japan at 8 o'clock tonight.

Smith Brings Hyades Into Port.

Captain Troel Smith brought his command, the aMton freighter Hyades into port early this morning. No time will be lost in discharging the vessel that it may depart for island ports to take on sugar for delivery at California refineries. The Hyades from Francisco and Seattle. It met with brought general cargo supplied at San favorable weather after leaving the Sound.

VESSELS TO AND FROM THE ISLANDS

(Special Wireless to Merchants' Exchange.)

Saturday, April 10.

MAHUKONA—Arrived, April 7, schooner Muriel from San Francisco; SAN FRANCISCO—Sailed, April 9, 12 p. m., S. S. Persia for Honolulu.

Sailed, April 10, noon, S. S. Enterprise for Honolulu.

YOKOHAMA—Arrived, April 7, S. S. Nippon Maru, hence March 26.

MUKITEO—Sailed, April 9, barkentine M. Winkelman for Mahukona.

VANCOUVER—Arrived, April 10, S. S. Niagara, hence April 4.

SYDNEY—Arrived, April 8, S. S. Mauna Kea, hence March 21.

SEES DESIRABLE ADVERTISING IN MILITARY BILL

To use the proposed law providing for the military training of Hawaii's young men as good advertising for the territory was the plan put before the Promotion Committee by Ed Towse yesterday. Mr. Towse said that since Hawaii was the first to take up the matter of military education it would attract great publicity if thousands of copies of the bill were sent throughout the United States. No step was taken, however.

Chairman Berndt urged the committee to condemn any unjust criticism of Hawaii's exhibit at the exposition. Some "knocking" of the exposition in general has been heard around Honolulu, but the committee is going to stop it if possible. A protest is to be sent to President Moore of the exposition, asking that the immoral imitation of the Hawaiian hula in the amusement zone be put out of business.

It was also suggested that the committee get in touch with the British home office to secure a copy of the crest of Lord Sandwich, in whose honor the islands were first named by Captain Cook. The crest, if obtained, will be used on Hawaiian promotion literature.

The resignation of Miss Margaret Omsted as stenographer and book-keeper was accepted. Miss Omsted leaves the Promotion Committee employ April 15, having been offered a better position.

Notice was received by Acting Secretary Taylor that the University of California Glee Club intends to leave the coast for Honolulu, June 2.

The plans for broadening the scope of the committee were considered again yesterday. The definite suggestions will be submitted to the Chairman of Commerce soon.

China for Honolulu, one day late.

Diaete.

SAN FRANCISCO—April 10, S. S. Na-noa slightly damaged in collision; no details.

Radiograms.

S. S. WILHELMINA arrives from San Francisco Tuesday morning with 113 cabin and 12 steerage passengers; 258 bags mail, 78 packages express matter, 13 autos, 257 tons cargo; for this 241 tons cargo for Port of Honolulu.

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N. W. cor. Post & Stockton Sts.
Facing the Plaza of Union Sq.
Open February 20, 1915.
In the heart of the shopping and theater districts.
Situated on a corner opposite a beautiful park and having the largest interior hotel court in the city, insures sunlight and ventilation in all rooms.
Cuisine and service of the best. Stockton street cars direct to the Exposition in eight minutes.
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Formerly Co-Proprietor Hotel Stewart.
ROBERT J. ROBINSON,
Assistant Manager.