

WATER UTILITY FUND BUDGET

The City of Anchorage, Alaska  
1962

WATER UTILITY BUDGET

ESTIMATED REVENUE

1962

<u>Code</u>		<u>Estimated 1961</u>	<u>Estimated 1962</u>
	<u>OPERATING REVENUES</u>		
4602	Flat Rate Sales	\$ 860,800	\$ 982,850
4605	Public Fire Protection	28,450	30,000
4607	Intra-Fund Sales	8,450	8,000
4613	Miscellaneous	<u>13,000</u>	<u>14,000</u>
	Total Operating Revenue	\$ 910,700	\$1,034,850
	<u>NON-OPERATING REVENUES</u>		
4251	Contributions in Aid of Construction	\$ 120,000	\$ 170,000
4241	Depreciation Reserve	200,000	206,400
	Surplus Appropriation	<u>200,000</u>	<u>55,000</u>
	Total Non-Operating Revenue	\$ 520,000	\$ 431,400
	TOTAL BUDGET RESOURCES	\$ 1,430,700	\$ 1,466,250

WATER UTILITY OPERATING REVENUE ESTIMATES

Operating revenues for the water utility for the year 1962 will increase slightly over the revenue estimates for 1961. 1961 revenues for flat rate sales were adjusted due to the fact that revenues were predicated on a 30% rate increase which was planned to be applied on January 1, 1961. The rate increase did not become effective, however, until September 1, 1961, and a 15% increase was applied across the board instead of 30%. Consequently, flat rate sales were adjusted downward for that year. Increase in flat rate sales over the adjusted amount will reflect the application of the 15% increase throughout 1962, together with the increased sales as a result of the addition of approximately 650 new connections made during 1961 and an anticipated addition of 250 connections during 1962.

It is anticipated that 1962 will not see as many new customers added to the system due to the fact that many of the new lines constructed during the 1961 work program had connections completed during the fall of 1961. It is not felt that there will be as many new lines constructed during 1962 and new customer connections should level off. It is expected that as of January 1, 1962, there will be approximately 8,750 customers being served on the system and by the end of 1962 it is estimated that this number will be increased to approximately 9,000 customers.

Following the operating experience when the new filter plant goes into operation and a re-evaluation of the total number of customers together with the development of the coming work program, it is quite possible that a further increase in revenues will be necessary through a percentage increase in rates. Careful analysis will have to be made of the obligations of debt service against revenue prior to consideration of any additional bond sales for capital improvements. During 1961 the City Council adopted the policy of creating assessment districts for water main extensions within the City limits and this procedure should have a positive effect on justifying the economic feasibility of these extensions since collection of connection charges is guaranteed through property assessment without having to wait until voluntary application for service is made. This procedure will also recognize the secondary benefits such as increased fire protection and development of new areas prior to the time the connections are actually made.

At the present time there are a total of 801 fire hydrants throughout the system, 670 of which are inside the City limits. No charge is made directly for fire hydrant maintenance on the areas outside the City other than through flat rate sales and the bulk of this burden is carried by the general fund fire protection budget. An operating revenue factor of \$30,000 for public fire protection is included by a charge of approximately \$46.00 per hydrant for those hydrants within the City limits which are utilized by the City Fire Department. This charge is approximately equivalent to the total maintenance cost of all fire hydrants.

#### ESTIMATED NON-OPERATING REVENUES

Contributions in aid of construction will include service connection fees collected as payments in lieu of assessments for connections to lines constructed in areas prior to the adoption of the assessment district policy. Charges will be made at the rate of four cents (\$.04) per square foot of area served as established by the City Council on September 1, 1961. Based on prior years' experience, it is estimated that approximately \$210,000 will be billed as payments in lieu of assessment which are collectible in three annual installments. One-third of this total, or \$70,000, has been included for this type of connection as a contribution in aid of construction

for 1962. It is estimated that approximately \$400,000 will be assessed against properties for water line extensions in assessment district areas and that the length of time for collection will approximate that which has been used for sewer assessments in the past, in other words over a four-year period. Therefore, one-fourth of this amount has been applied to this account as being receivable during 1962. It is anticipated that the Engineering Department will prepare the assessment rolls during the winter of 1961-62 and that first installments for assessments will be due approximately the end of the summer of 1962 and will total approximately \$170,000.

Depreciation reserve has been increased slightly to cover improvements through the system, however the bulk of this fund is being applied against the retirement of bonds which have been sold for recent capital improvements to the system. The increase is anticipating only a minor amount of additional extensions to the system during 1962.

During 1961 approximately 10 miles of water mains were constructed and in order to finance these extensions and balance the budget appropriation of \$200,000 in surplus funds was applied as an adjustment to the budget during 1961. Appropriation of \$55,000 in surplus funds is applied on the 1962 budget in order to finance a limited amount of future extensions without additional bond sales for the improvements. A total of approximately \$161,000 in capital improvements will be possible within the proposed budget. These funds will be available from the residue of prior bond sales and by utilizing a portion of the depreciation reserve, however any construction beyond this amount would have to be financed by additional bond sales which are not provided for within the budget. Any consideration of the sale of additional bonds should be carefully analyzed and additional revenue provided in order to offset the increased debt service which would be incurred.

WATER UTILITY FUND EXPENDITURES

<u>Code</u>		<u>Estimated 1961</u>	<u>Estimated 1962</u>
	<u>SOURCE OF SUPPLY</u>		
4701	Operation and Maintenance	\$ 17,460	\$ 11,280
4702	Supplies	2,400	1,150
4703	Repairs	2,600	1,400
	Total	\$ 22,460	\$ 13,830
	<u>PUMPING EXPENSE</u>		
4717	Operation and Maintenance	\$ 2,340	\$ 1,860
4718	Power Purchased	21,000	21,000
4719	Supplies	2,350	2,350
4720	Repairs	400	400
	Total	\$ 26,090	\$ 25,610

<u>Code</u>		<u>Estimated 1961</u>	<u>Estimated 1962</u>
	<u>PURIFICATION EXPENSE</u>		
4731	Operation and Maintenance	\$ 13,740	\$ 32,380
4732	Supplies	8,300	4,500
4733	Repairs	800	2,000
4734	Fluoridation	2,200	1,800
4735	Chlorination		6,400
4736	Treatment Chemicals		26,000
4737	Power Purchase		7,400
4738	Heating		4,200
	Total	\$ 25,040	\$ 84,680
	<u>TRANSMISSION &amp; DISTRIBUTION</u>		
4741	Operation and Maintenance	\$ 63,500	\$ 51,800
4742	Supplies	2,400	1,800
4743	Repairs	13,550	13,550
4744	Hydrants	28,450	32,650
	Total	\$ 107,900	\$ 99,800
	<u>GENERAL EXPENSE</u>		
4751	Accounting and Collection	\$ 69,090	\$ 77,900
4752	Uncollectible Expense	2,000	2,000
4764	Other General Expense	49,220	57,090
4796	Legal Expense	6,680	7,000
	Total	\$ 126,990	\$ 143,990
	<u>OTHER EXPENSES</u>		
4241	Depreciation	\$ 200,000	\$ 206,400
4505	Payment in lieu of taxes	159,090	159,070
4521	Interest on long term debt	185,780	191,100
4210	Bond Retirement	312,000	365,000
4113.12	Bond Retirement Reserve	12,000	12,000
4232	Long term Contracts Payable	9,280	3,340
4126.1	Contribution to General Fund	77,050	81,430
	Total	\$ 955,200	\$1,018,340
4100.3	Capital Expenditures	\$ 167,020	\$ 80,000
	TOTAL BUDGET	\$1,430,700	\$1,466,250
	Personnel Authorized (See Account 1230)	12	12

## 1962 WORK PROGRAM - WATER UTILITY

### Source of Supply:

At the present time the City obtains water from two basic sources to supply the distribution system. The primary source is a surface supply from Ship Creek which has a capability of delivery at the control station of twelve million gallons per day. The secondary source is the deep well system which is supplied from the four basic wells constructed by the City and supplemented by three additional wells purchased from the Spenard Utility System. The seven wells have a total combined capacity estimated to be ten million gallons per day, however it is somewhat questionable whether or not the full supply could be obtained due to the effect on the underground water table with all seven wells in operation simultaneously.

It is intended to continue to utilize the Ship Creek surface supply as the primary source of water and the water treatment plant has been designed for operation on that basis. The main use of the well system is to supplement the primary source when necessary at periods of high demand or the event of a break in the main supply line. An additional beneficial effect is obtained through the continued use on a supplementary basis of the well system during the winter months at periods when the surface supply is extremely cold. It has been found through past experience that the effect of introducing the slightly warmer underground water in the distribution system has prevented many freeze-ups both in mains and services and at least one major deep well is operated during the winter months. The wells are operated on a rotating basis with the exception of the well located at 30th and Arctic which is kept on the line and is operated automatically through the use of a hydropneumatic system at the well house. The remaining wells are operated basically on a manual control and are cut in to the system as required.

Construction of the water treatment plant is pretty much on schedule, and it is hoped to have the plant on the line prior to break-up in the spring of 1962. Operation of the filter plant will enable us to supply an extremely high quality of water to the system and should eliminate the periodic introduction of silt and debris, especially during periods of break-up and freeze-up. Unfortunately, due to the large amount of material which has already been deposited throughout the distribution system, we will still be bothered occasionally by complaints of dirty water, at such times as we experience periods of high demand or reversed flow in the lines which will stir up the sediment deposited therein.

The expenditure for labor in this account has been reduced by \$6,000 over 1961 which represents the transfer of one man from this account to the purification account as he will be assigned to the water treatment plant. This man will still cover the gravity line and well patrol on the days when the regular water man operator is off. The reduction in the repairs and supplies

account reflects the increasing stability of the wood stave line which is the primary supply line from the treatment plant to the distribution system.

Pumping Expense:

Funds are provided in this account for the operation of the seven wells on the system. No change is contemplated during 1962, however there might be some variation in the power costs once the treatment plant is in operation. It will be necessary to obtain an operating history, however, before making any change recommendations for this account.

Purification Expense:

At the present time the Water Department both chlorinates and fluoridates the City water supply. The fluoridation and chlorination equipment are installed at the control station and the chemicals introduced at that point for the gravity supply. Chlorination equipment is in operation at the four wells constructed by the City and a contract for installation of chlorination equipment was included in the water treatment plant construction contract for installation at the three wells in the Spenard area. This account provides for the cost of operating the existing chlorinating station on the gravity line for a period of three months and for the operation of the new water treatment plant for a period of nine months during 1962. It is anticipated that it will take five men for a period of sixty days and three men for the remaining seven months in order to staff the treatment plant. It will be necessary to train the men in the operation of the new plant and there may be some overlap on labor expense in order for all personnel to have the advantage of being trained by the design engineer and contractor during the initial stages of plant operation. The accounts numbered 4734, 4735 and 4736 represent the estimated cost of chemicals during plant operation, however some adjustment will have to be made after some experience is gained in the plant operation. This same factor will hold true for the heating and power accounts for the treatment plant which still remain as unknown factors.

Transmission and Distribution:

All work of operating and maintaining the distribution system is carried under this account. At the present time the system consists of approximately 126 miles of water mains of which 10 miles were constructed during 1961.

This account has been reduced by \$8,000 since it was found that the Spenard Utility System acquired during 1960 did not require the amount of maintenance which had been anticipated.

The supplies account is assigned primarily to carry expendable supplies such as fuel oil and repair parts to mechanical equipment. The total cost of labor, equipment and supplies such as pipe and fittings are charged to the appropriate operation or repair accounts. This method has been used primarily to segregate the total cost of repairs and maintenance on the system.

Regular maintenance is performed on all fire hydrants within the system. At the present time there are a total of 801 fire hydrants throughout the system, 670 of which are inside the City limits. 9 additional hydrants will be added to the system inside the City upon completion of the 1961 contracts which will give a total of 810 hydrants on the system, 679 of which are inside the City. Regular maintenance on the fire hydrants will be performed as in previous years. Steam sets will be made on all hydrants where steam lines are provided. On all hydrants in areas where there is a high ground water table the drain lines are plugged and the barrels must be pumped dry following each use during the winter months. The City does not follow the practice of filling with anti-freeze as was done by the Spenard Utility System since this method is prohibited by the State Health Department. Cost of annual maintenance is approximately \$40 per hydrant for the entire system and the general fund, through the Fire Department account, is charged for this cost of maintenance on hydrants within the City limits, however no revenue is derived for hydrant maintenance from the areas outside the City. During 1961 it was found that hydrant maintenance was increased somewhat during the winter months due to major repairs to nine hydrants that were broken as a result of frost heaving.

General Expense:

Account 4751. The accounting and collection expense is the pro-rated share of the billing and collection charges from the Controller and City Clerk offices, and are broken down as follows:

Controller's Office	\$ 48,000
City Clerk's Office	20,000
Rate man and investigator from Public Works Department	9,900
Total	\$ 77,900

Account 4752. Uncollectible expense is estimated at about one quarter of one percent of total revenues.

Account 4764. Other general expense includes a portion of the cost of Engineering and Public Works Administration which is calculated at approximately twenty percent of that budget. Other City Hall expenses are included in this account and are broken down as follows:

City Manager	\$ 3,336
Council and Mayor	2,005
City Hall rental	2,160
Social Security	8,750
Workmen's Compensation	3,000
Liability Insurance	1,048
Fire Insurance	364
	\$ 20,663
Share of General Public Works	36,427
	\$ 57,090



Account 4796. Legal expense is a pro-rated share of the cost of the City Attorney's office.

Capital Expenditures:

An allowance has been made of \$80,000 to be applied for capital expenditures during 1962. It should be pointed out that in order to balance the budget, the funds available for capital expenditures are considerably less than the depreciation reserve. The balance of the depreciation reserve is being applied to debt service for principal and interest on various bond issues previously sold for water main and treatment plant construction. It is estimated that there will be approximately 250 water service connections at \$80 per connection and \$20,000 has been allotted for this purpose. This amount represents the cost of the work performed by City forces in tapping the main and extending the service line and key box to the property line. The balance of the connection fee collected from the customer will represent the contract price for excavation and backfill which will be determined next spring by competitive bid. Any variation in the actual number of connections will be offset by the increase or decrease in revenue as the applications are received. The balance available for construction will be applied to projects assigned on a priority basis. There is a total of \$81,535 remaining from previous bond sales which allows a total available for new construction in addition to the service connections of \$141,535. In addition, there are a total of \$1,500,000 in authorized but unsold bonds which are not anticipated at the present time for construction use since the budget does not provide for debt service on additional bond sales. Assignment of funds to specific contracts will have to be made by the City Council at such time as the priority list is submitted for consideration.