San Francisco
Takes Over Its Water System

BY
H. A. MASON

T was more than fifty years ago that the first suggestion was made that San Francisco should acquire its own water supply, and on March 3, 1930, the deed was accomplished when a check for $39,962.60 was handed over to Samuel Eastman, president of the Spring Valley water system, who gave Mayor James Rolph in return the deed to the company’s properties.

In 1874 the city employed an engineer to plan a proper system and he recommended the purchase of certain water rights and reservoir sites in Alameda and Santa Clara counties. However, before the city could act, the Spring Valley Company got busy and bought them for its own use. The company was then asked if it would sell its property to the city and the answer was that it would—for the sum of $14,000,000. This was considered extravagant and the deal fell through.

The new constitution of 1879 authorized the legislative bodies of cities to fix rates for supply water and apparently the city officials found this to be a more enticing game than that of municipal ownership, so the

Spring Valley water pouring through Pulgas tunnel into Crystal Springs reservoir. Tunnel will also deliver Hetch Hetchy water
\textit{Infiltration galleries beneath floor of Sunol Valley gather percolating waters of gravel beds and deliver them to Water Temple.}

\$45,000,000 to acquire a supply from the Hetch Hetchy Valley. The last stated proposition secured the approval of the electors, but the Spring Valley purchase was defeated by about a thousand votes.

Four other elections were held at which purchase propositions were submitted in 1915, 1921, 1927 and May 1, 1928. The last election resulted in the authorization of a bonded debt of \$41,000,000 for the acquisition of the properties of the private company.

The property conveyed comprises five storage reservoirs. Four of these are in San Mateo County and have a capacity of twenty billion gallons and a water shed of thirty-six square miles. The Calaveras reservoir is located in Santa Clara county, has a capacity of thirty-two billion gallons and a water shed of one hundred square miles. There are eight distributing reservoirs within the city limits at elevations ranging from 18 to 614 feet.

In addition to the surface storage there are two underground sources of supply known as the Livermore and Sunol Valleys. These are located at the upper entrance of the Niles canyon through which flows the drainage of over six hundred square miles. The water from this source is conveyed to the Crystal Springs reservoir by a pipe line which crosses the San Francisco bay.

The distribution system covers the entire city and includes several pumping stations which are necessary to fill the local reservoirs that are situated at high levels.

The water consumption of the city approximates 45,000,000 gallons a day, and while it is claimed that the system is capable of furnishing more than this quantity in seasons of normal rainfall, the lack of such rainfall during the past few years has

\textit{Lake Merced, in midst of a great rancho, supplies a minor part of San Francisco's needs and is carefully safeguarded by Spring Valley.}
reduced the amount held in reserve to a considerable extent.

The revenue produced by the system amounts to about $7,000,000 a year, of which $1,200,000 is profit, after paying all operating expenses and interest and principal due.

In addition to the tangible property acquired the city takes over the entire personnel of the company with the exception of its president, chief engineer and publicity man. All of the employees, to the number of about four hundred, who have been such for more than one year will become members of the city's civil service system.

An ordinance has been adopted providing for the administration of the newly-acquired system. Under its provisions the administration of the system is vested in the Board of Public Works which will create a department of water works. The chief executive of the department will be City Engineer M. M. O'Shaughnessy, with his chief assistant, Nelson A. Eckert in immediate charge of the system as superintendent. All new construction work will be under the supervision of the city engineer. A budget system regulating expenditures and accounting is made mandatory. Taxes formerly paid by the company will be offset by the charges for water paid by the city. The water department will pay $250,000 a year to the Hetch Hetchy operating fund for the use of the trans-bay conduit, which was constructed with Hetch Hetchy funds.

Charges for depreciation, bond interest and redemption are to be met from the revenues and the rates must be sufficient to provide for these payments in addition to the operating expenses. Rates will remain as at present for one year and can be changed only on the recommendation of the city engineer. The employees taken over will receive the

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BRIDGE STREETS WIDENED IN PORTLAND PROGRAM
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walk their old haunt to look at modern show windows filled with the latest creations from Paris. The streets where once the high-hatted, long-coated financiers of the seventies, talked of thousands, would be filled with the hurrying throngs of bearded boys in soft shirts talking millions and golf in the same breath.

The street once illuminated with candles to celebrate the coming of the iron horse which meant the end of the river's importance to the city would blaze with neon, telling of the latest model of the auto which has taken the place of the carriage and pair of those old days and has pushed the horse into the limbo of discarded things.

SALT LAKE CITY'S WATER SYSTEM NEEDS
(Continued from Page 39)
line to the industrial district is regarded next of importance.

The cost of the cross town feed line, two new equalization reservoirs and the repair and enlargement of a third equalization reservoir is expected to equal the remainder of the bond issue not consumed in building Argena storage reservoir.

It is planned to build a 10,000,000-gallon tank to form an important link in the chain of equalization reservoirs so necessary to properly transfer the water from the large storage reservoirs into the distributing system.

The second equalizing reservoir it is proposed to build will be located near City Creek Canyon, where the city already maintains a string of small tanks for the same purpose.

Sunnyside Reservoir, which has been in a state of unrepair for the past two years, so that it has been only about one-third efficient, will be enlarged and made whole again.

While the details of the immediate water expansion program are being perfected and made ready to lay before the people in the form of a bond issue, investigation by water department officials of outside sources of water supply is being continued with a view to adopting and putting into practical use the water advisory board's recommendation to utilize water from the proposed United States Reclamation Department project at Deer Creek in Provo Canyon.

The principal activities of the Water Department for the year 1929, other than regular maintenance service work, were the construction of a 12-inch main from the Capitol Hill Reservoir along East Capitol Street to Second North Street, the construction of a 12-inch and 8-inch main from the Emigration Tunnel main to the Sunnyside Reservoir, the completion July 1 of the metering program making the department 100 per cent metered, and the construction of fire trails on the City Creek watershed.

A total of 36,043 feet of new mains were laid, ranging in size from 2-inch to 12-inch.

METER DEPARTMENT
New meters installed ................... 1,078
Meters taken out ...................... 288
Meters repaired in service ............ 45
Meters repaired in shop ............. 2,379
Meters changed ...................... 1,385

VALVE AND HYDRANT DEPARTMENT
New hydrants set ...................... 25
Hydrants repaired .................... 571
Hydrants flushed ...................... 4,379
Hydrants inspected .................. 3,312
New valves set ....................... 83
Valves repaired ....................... 330
Valves cleaned ....................... 20
Valves run .................. 14,216
Mains repaired ....................... 73

IN SERVICE DECEMBER 31, 1929
Distribution mains ................... 345,804 miles
Hydrants ................ 2,657
Line valves ................ 4,759
Meters ................ 28,202

CITY PLANNING — SOME PERSPECTIVES
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or the promotion of peace. Would it therefore be amiss to suggest that a similar scientific institute with ample endowment be created in the interest of enlightened community planning and building?

The history, geography, psychology, sociology, and economics of urban life represent so many aspects of scientific investigation and research and have so profoundly a bearing upon the civilization of the western portion of this country that there should be no hesitancy in endowing such an institute under the leadership of the best qualified minds of this country to show us the way to the city of the future. Let us leave the East to solve its problems in its own way and let us solve our own problems according to our own needs and possibilities.

May I hope that the city planners will not take my statements as a discounting of their efforts. Where a desperate condition exists the remedy at hand is the best. I do feel, however, that for a far-reaching conception of the city of the future and the interest of their creative skill they need the guiding facts which will only be made available by detached scientific investigation which no individual city or individual city planner can afford to undertake.

We are in a fair way to mastering the technic of planning, let us now master the science of planning.

OAKLAND PLANS FOR NEW EXHIBITION BUILDING
(Continued from Page 36)
This Exhibition Building would have a floor area 200 by 400 feet, or four times the size of the Auditorium Arena, and with the combined facilities of the Auditorium and the Exhibition Building, Oakland would be able to accommodate conventions and exhibitions of a national character that could not be housed in any other public-ly owned building on the Pacific Coast. Further, it would do away with the need for the very expensive and unsightly tents, wooden stables, etc., of the Dairy and Horse Shows, which of necessity obstruct Tenth street and the driveways about the Auditorium for a considerable time each year.

SAN FRANCISCO TAKES OVER ITS WATER SYSTEM
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same salaries as other city employees with similar duties. This will result in most of the subordinates receiving an increase which will aggregate about $200,000 a year.

So, with appropriate ceremonies there was witnessed the passing of the largest privately-owned water system in the country and the last of the big cities in the United States now owns its own water supply.

SAVING AND MAKING MONEY BY ACCURATE METERING
(Continued from Page 14)
ance crews the following reductions in operating cost have been effected since 1926-27:

<table>
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<tr>
<th>Year</th>
<th>Salaries</th>
<th>Fuel</th>
<th>Electric Power</th>
<th>Outside Labor</th>
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<tr>
<td>1926-27</td>
<td>$17,261.98</td>
<td>7,000.00</td>
<td>11,813.62</td>
<td>37,251.90</td>
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<tr>
<td>1927-28</td>
<td>$17,303.55</td>
<td>10,588.94</td>
<td>10,214.25</td>
<td>37,451.38</td>
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<tr>
<td>1928-29</td>
<td>$14,541.25</td>
<td>6,806.88</td>
<td>8,936.56</td>
<td>26,407.45</td>
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The department now has 130 miles of cast iron mains, from four to 20 inches in size, and 48 miles of two and three-inch old wrought iron pipe, this latter serving more or less isolated areas. This is to be replaced in a program of replacement over a period of five years.

EXPERT METER REPAIR
man desires position. Location immaterial. Can furnish references. Write Box 1000, Western City, 1031 So. Broadway, Los Angeles, Cal.
From Twin Peaks looking down Market Street, San Francisco, with Oakland, Berkeley and Alameda across the bay. The city's splendid growth will be further stimulated by the Golden Gate bridge project, and its expanding water system, both described in articles in this issue.