

See Squythes History of SD

P. 387 - regarding Pueblo lines

P. 442 - 446 - story of  
use of City Water uses

P. 450.

TABULATION OF AVAILABLE DATA

AS TO THE WATER SUPPLIED TO CITY OF SAN DIEGO

| <u>Year</u> | <u>Old<br/>Town<br/>Pumps</u> | <u>San Diego<br/>Flume<br/>Divert.<br/>Dam water</u> | <u>Monte<br/>Pump<br/>Plant</u> | <u>Southern Cal.<br/>Mountain<br/>Water Co.<br/>System</u> | <u>Total</u>  |
|-------------|-------------------------------|--|---------------------------------|--|---------------|
| 1886        |                               |  |                                 |  |               |
| 1887        |                               |  |                                 |  |               |
| 1888        |                               |  |                                 |  |               |
| 1889        |                               |  |                                 |  |               |
| 1890        |                               |  |                                 |  |               |
| 1891        |                               |  |                                 |  |               |
| 1892        |                               |  |                                 |  |               |
| 1893        |                               |  |                                 |  |               |
| 1894        |                               | 227,803,405  |                                 |  |               |
| 1895        |                               | 420,965,298  |                                 |  |               |
| 1896        |                               | 451,765,500  |                                 |  |               |
| 1897        | 314,009,100                   | 430,796,250  |                                 |  |               |
| 1898        | 533,581,500                   | 319,076,250  | 5,330,000                       |  | 853,037,750   |
| 1899        | 693,493,005                   | 46,218,000   | 238,478,250                     |  | 978,189,255   |
| 1900        | No record                     | 208,673,250  |                                 |  | No record     |
| 1901        | 563,880,572                   | 202,806,750  |                                 |  | " "           |
| 1902        | 1,235,037,092                 | 115,954,250  |                                 |  | " "           |
| 1903        | 379,630,800                   | 354,774,750  |                                 |  | 734,405,550   |
| 1904        | 686,774,350                   | 84,215,250   |                                 |  | 770,989,600   |
| 1905        | 360,801,575                   | 398,760,000  |                                 |  | 759,561,575   |
| 1906        | 128,155,800                   | 398,169,750  |                                 | 416,060,000  | 942,405,550   |
| 1907        |                               | None   |                                 | 1,211,830,000  | 1,222,030,225 |
| 1908        |                               | "  |                                 | 1,337,710,000  | 1,337,710,000 |
| 1909        |                               | "  |                                 | 1,412,720,000  | 1,412,720,000 |
| 1910        |                               | "  |                                 | 1,653,920,000  | 1,653,920,000 |
| 1911        |                               | "  |                                 | 1,916,370,000  | 1,916,370,000 |
| 1912        |                               | "  |                                 | 2,141,120,000  | 2,141,120,000 |
| 1913        |                               | "  |                                 | 2,501,660,000  | 2,501,660,000 |
| 1914        | 20,758,750                    | 171,000,000  |                                 | 2,639,233,250  | 2,639,233,250 |
|             |                               |  |                                 | 2,447,310,000  |               |



|   |                  |
|---|------------------|
| Commission's Value \$3,500,000, at 6% -----     | \$210,000        |
| Spent since above, \$738,981, at 6% -----       | 44,338           |
| Commission Depreciation -----                   | 27,398           |
| Maintenance & Operation, 1915, Commission ----- | 27,500           |
|   | <u>\$309,236</u> |

$$\frac{309,000}{2,084,787} = .148$$

|  |                  |
|--|------------------|
| Original Cost 4,000,000, 4 1/2% -----                        | \$180,000        |
| Spent since 738,981, at 4 1/2% -----                         | 33,254           |
| Commission's depreciation and allowance for<br>738,981 ----- | 33,200           |
| Maintenance and Operation for 1915 -----                     | 50,992           |
|  | <u>\$297,446</u> |

$$\frac{297,446}{2,084,787} = .143$$

*Cosby*  
*Mayor*  
*So far*

COST TO CITY OF WATER SYSTEM  
OUTSIDE CITY LIMITS.

|                                    |                     |              |
|------------------------------------|---------------------|--------------|
| Barrett Dam Site                   | 337,045.36          |              |
| Dulzura Conduit                    | 575,977.65          |              |
| Upper Otay Dam                     | 86,577.29           |              |
| Lower Otay Dam                     | 756,065.39          |              |
| Otay-San Diego Pipe Line           | 605,037.85          |              |
| Chollas Heights Dam & Filter Plant | 130,824.81          |              |
| Misc. Real Estate                  | 8,471.65            |              |
| Morena Dam Properties              | <u>1,500,000.00</u> | 4,000,000.00 |

IMPROVEMENTS MADE BY CITY SINCE DATE OF PURCHASE.

|   |                 |                   |
|---|-----------------|-------------------|
| Cottonwood Conduit  | 171,642.63      |                   |
| Pine Creek Intake   | 46,044.83       |                   |
| Tunnels Dulzura Conduit   | 9,575.99        |                   |
| Bonita Pipe Line  | 221,516.33      |                   |
| Lower Otay Seepage Pump Plant   | 5,587.81        |                   |
| Filtration Plant  | 65,828.48       |                   |
| Dulzura Conduit   | 75,609.19       |                   |
| Wood Stave Pipe Line Upper Otay )<br>Reservoir to Filtration Plant )                    | 41,685.26       |                   |
| Harvey Ranch Dam and Wood Stave )<br>Pipe Line to Upper Otay Reservoir )<br>Pipe Line ) | 93,073.69       |                   |
| Reconstruction Bonita Pipe Line   | 6,697.14        |                   |
| " Chollas " "   | <u>1,719.37</u> | <u>738,980.72</u> |

Total 4,738,980.72

COST OF MAINTENANCE & OPERATION SYSTEM OUTSIDE CITY.

|      | <u>MAINTENANCE</u> | <u>OPERATION</u> | <u>TOTAL</u>          |
|------|--------------------|------------------|-----------------------|
| 1915 | 29,760.03          | 21,232.06        | 50,992.09             |
| 1916 | 19,224.10          | 50,933.01        | 70,157.11 (11 months) |
|      | <u>48,984.13</u>   | <u>72,165.07</u> | <u>121,149.20</u>     |

THE increased cost of operating the Water System outside of the City, during the year 1916, was due to the storms during the fore part of the year which destroyed the Dulzura Conduit in a great many places, breaking of the Lower Otay Dam holding fifteen billion gallons of water and the washing away of the Bonita and Otay Pipe Lines crossing the Sweet-water River.

Three items causing the increased operating expenses for 1916



|  |           |           |
|--|-----------|-----------|
| due to the storms were Aluminum Sulphate & Chlorine- | 21,009.71 |           |
| Power for Pumping -----                              | 12,388.26 |           |
| Guarding Reservoirs -----                            | 1,650.30  |           |
|  |           | 35,048.27 |

Bonds issued for purchase of Water System outside of City limits,  
4,000,000.00

|                               |            |            |
|-------------------------------|------------|------------|
| Interest at 4½% for year 1916 | 171,281.25 |            |
| Annual Redemption             | 100,000.00 |            |
| Total                         | 271,281.25 | 271,281.25 |

Bonds issued for improvements to Water System outside of City  
limits 705,000.00

|                              |           |           |
|------------------------------|-----------|-----------|
| Interest at 5% for year 1916 | 33,928.13 |           |
| Annual Redemption            | 17,625.00 |           |
| Total                        | 51,553.13 | 51,553.13 |

Total Annual Interest and Redemption 382,834.38

Interest on above bonds decrease 5381.25 annually.

office of the  
CITY ENGINEER  
City of San Diego, California

Jan. 5, 1917.

Mr. F. M. Lockwood,  
Manager of Operation,  
San Diego, California.

Dear Sir:-

Relative to our conversation of recent date in regard to the probable cost of maintaining the Otay- San Diego Pipe Line in first class condition and also the estimated cost of raising Morena Dam, I beg to state that the data at hand for an estimate of cost for the proper repair of the Otay- San Diego Pipe Line is not sufficient to enable me to enter into a detailed estimate but the following is a rough estimate of the cost of this work.

The present pipe line as it stands today can be kept in repair for a period of five or six years yet by the expenditure of approximately \$10,000.00 per year in replacements and repairs in addition to the usual cost of patrol work which is provided for in the yearly budget for the impounding system.

The tunnels on this line have been recently repaired and are in better condition now than at any other time since the line was first constructed. However, I feel that eventually within the next six or seven years, this pipe line will have to be entirely replaced with a more permanent type of construction in the shape of cast iron or reinforced concrete conduit not less than 36 inches in diameter for its entire length.

The present line is composed of several sections of different sized pipes ranging in diameter from 40 inches at the Lower Otay to 24 inches from Chollas Heights Reservoir to University Heights Reservoir.

The first cost for this permanent type of construction will be very great compared with the original cost of the present structure, but



I feel that it is the proper method to use in eventually replacing this pipe line. It not only insures an uninterrupted supply but it is also cheaper for maintenance and operation and is a better investment.

The following is a rough estimate of cost for this permanent type of construction for the replacement of the Otay- San Diego Pipe Line:

|   |                  |
|---|------------------|
| Press. Tunnels Reinforced Concrete lined, 6735.1 ft., at \$15.00, | \$101,026.00     |
| 36" Cast Iron Pipe (in place) 96,668.2 ft., at \$8.00,            | 773,345.00       |
| Engineering and Contingencies,                                    | <u>25,629.00</u> |
| Total Estimated Cost, -----                                       | \$900,000.00     |

In connection with the raising of Morena Dam I wish to state that I estimate this work to cost \$15,000.00.

Very respectfully submitted,

George Cromwell.

City Engineer.

**Ed Fletcher Papers**

**1870-1955**

**MSS.81**

**Box: 56 Folder: 16**

**Business Records - Water Companies - Cuyamaca Water  
Company - City of San Diego - Water, miscellaneous**



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