

Medford's Public Improvements Total \$2,000,000

MUNICIPAL IMPROVEMENTS IN MEDFORD JANUARY, 1912.

General Summary.		
	Miles.	Cost.
Pavement	16.77	\$ 824,307.20
Sanitary sewers	24.95	193,764.61
Storm sewers	1.59	21,090.06
Water mains	27.40	244,558.99
Concrete walks	24.68	91,214.55
Miscellaneous		1,328.21
Gravity water system	23.00	275,000.00
City Hall		25,000.00
Cluster lights		22,054.00
Fire department		10,000.00
Board walks	5.00	5,280.00
Macadam roads	.32	1,596.50
Total		\$1,715,193.62

Totals for Season of 1911.		
	Miles.	Cost.
Pavement	2.17	\$434,536.23
Sanitary sewers	5.54	52,560.17
Storm sewers	0.44	2,717.75
Water mains	7.34	77,399.86
Concrete walks	4.38	16,187.15
Miscellaneous		1,528.21
Total		\$584,829.37

Paving Statistics of the City.		
	Sq. Yds.	Cost.
Bituminous pavement prior to 1911	52,475.41	\$142,316.08
Asphalt pavement prior to 1911	104,549.24	246,854.89
Total prior to 1911	157,024.65	\$389,170.97
Asphalt pavement during 1911	175,419.05	\$425,911.23
Brickpaved pavement during 1911	3,834.00	8,625.00
Total during 1911	179,253.15	\$434,536.23
Grand total January, 1912	336,277.80	\$824,307.20

Water Main Statistics of City.		
	Miles.	Cost.
Mains built prior to 1911	20.06	\$167,159.13
Mains built during 1911	7.34	77,399.86
Total January, 1912	27.40	\$244,558.99

Sanitary Sewer Statistics of City.		
	Miles.	Cost.
Sewers built prior to 1911	19.11	\$141,104.44
Sewers built during 1911	5.84	52,560.17
Total January, 1912	24.95	\$193,764.61

Sidewalk Statistics of City.		
	Miles.	Cost.
Concrete walks prior to 1911	20.30	\$75,027.40
Concrete walks during 1911	4.38	16,187.15
Total January, 1912	24.68	\$91,214.55

Medford Best Paved City in World

(Continued from Page 1.)

that the work need not be delayed. Two large concrete mixers, each capable of turning out 1800 square yards of concrete base a day were in use.

The monthly payroll exceeded \$30,000. Twelve hundred barrels of crude oil were burned daily.

Three hundred and fifty barrels of asphalt were used each day.

One hundred and eighty cubic yards of sand and gravel passed through the plant daily.

400,000 Sacks Cement.

So great was the amount of cement used in the city that Mr. Clark estimated that the sacks, which he returned and on which he is allowed 10 cents each, will amount to \$40,000. In other words, 400,000 sacks of cement were used on Medford's streets.

Twenty thousand dollars was paid monthly to the Southern Pacific for freight charges. The company lays an asphalt pavement which is shown to be very successful wherever it has been laid. First they lay a concrete base some five inches in thickness, then a binder course an inch thick, and on top of this is laid the wearing surface two inches in thickness. The new contract calls for the laying of an asphalt concrete base, the pavement being lighter. It was adopted owing to the splendid showing it has made

in California cities. Medford is well satisfied with the pavement being laid in the city, for she feels that she is getting a "square deal." And after all, that is the one big essential.

The following letter speaks for itself:

December 26, 1911.

Mr. O. Arnsperger,
City Engineer,
Medford, Oregon.

Dear Sir—Your letter of December 21st at hand requesting a complete report of tests made on paving samples taken from work laid in your city.

In the past two years, during which time we understand the greater part of your sheet asphalt pavement has been laid, 86 samples of wearing surface mixture have been analyzed, regarding the making of over 500 separate determinations. In the main these tests have indicated the use of the best quality of materials available for this purpose, this being further checked by analysis and tests made on samples of raw materials furnished from time to time.

A short time ago while in your city, through your courtesy I had the opportunity of inspecting the finished work as well as the plant from which it was laid, and your local concrete sewer pipe plant in which it is understood much of the sewer pipe used in your city and neighboring cities is manufactured. The general excellent appearance of your

pavement compares favorably with the best work done anywhere. Such work as has here been accomplished shows a thorough appreciation of modern engineering methods of construction as well as an efficient control through the use of office checking and field inspection. The importance of such a control should become more plain as the increased value of the pavements become more apparent through their possession of qualities not found in pavements in which control has not been exercised. This being accomplished at a cost per yard of pavement laid as low as found in any city where work of equal quality has been put down. Samples taken from the factory of your local concrete sewer pipe on which tests

have been made show this to be the best quality of concrete sewer pipe that has been submitted to this laboratory for testing. This is due to the use of materials well adapted to the purpose in connection with a thorough understanding of the principles of good concrete construction. The result of the use of crushed rock in the aggregate and the wet method of mixing is a finished product of great density and consequent low porosity and elimination of leakage in the finished line. This product is superior to the inferior grades of clay pipe found on this market and will compare favorably in strength and general quality with much of the better grades obtainable.

From the above mentioned tests of materials and mixtures entering into, and of the completed work itself, it is apparent to anyone conversant with such matters that any comparisons made can result only favorably to the work accomplished in your city. Yours respectfully,
F. C. FIELD,
Chemist,
Engineering Department, Testing Laboratory.

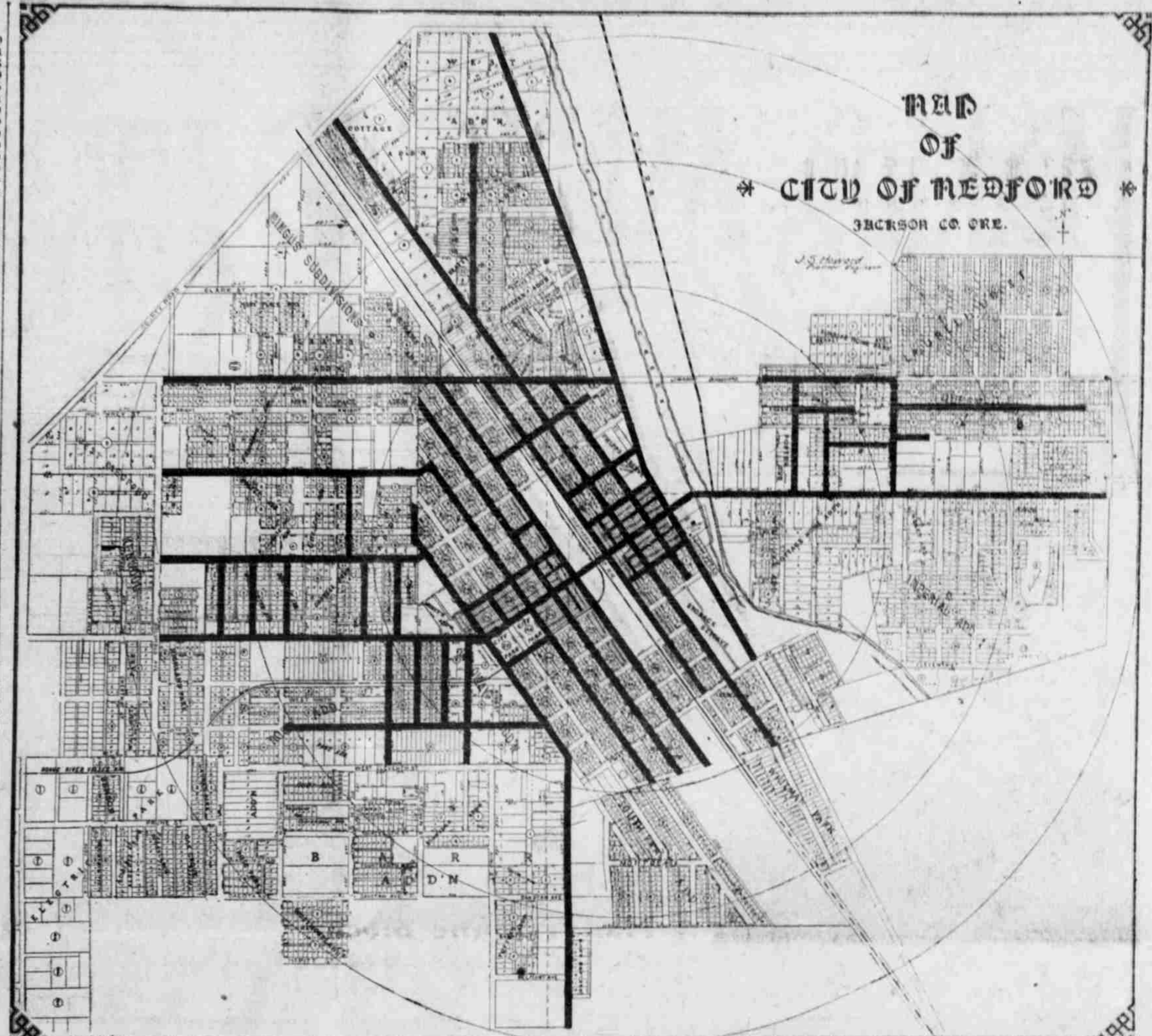
Medford Homes

Medford is rapidly becoming a city of beautiful homes. With the growth

of the city has come a great improvement in architectural design and finish. As the new water system has been completed, insuring an abundance of life-giving moisture, green lawns, shade trees and shrubbery are replacing the parched yards of the village era. Stately mansions, picturesque bungalows and cozy cottages are going up as if by magic in all parts of the city.

Medford is a home city, where the majority of residents own their home. Flats and tenements—those demoralizers of the home—are as yet unknown. Numerous new additions that have been placed on the market at easy terms have gone like hotcakes, rendering it cheaper to buy and build than to pay rent.

The finest of sewer systems, the best of sewer systems, the miles of paved streets, electric lights and all modern conveniences, her progressive, cultured people, the metropolitan and cosmopolitan character of the place, combined with a most delightful climate and the most picturesque scenery, make Medford sought among cities as an ideal place for a home. The residents of Medford have not been content with the ordinary in their dwelling houses. They have builded in accord with the natural building sites found on every hand, and the modern residences—some of a stately colonial style, some the modern and convenient bungalow—house an energetic, money-spending people.



Map of City of Medford Showing Streets Paved on January 1, 1912.

Medford's Costly Gravity System of Pure Mountain Water Best in World

 + MEDFORD WATER SYSTEM +
 + Water right—daily flow, +
 + 4,860,000 gallons. +
 + Diverting dam on Butte +
 + creek. +
 + 23 miles 16-inch pipe line. +
 + 3,000,000-gallon reservoir, +
 + 210 feet above city. +
 + 127.4 miles cast-iron dis- +
 + tributing system. +

(By W. J. ROBERTS, C. E.)

There are three points in the game of municipal water supply: Quantity, quality and cost. Medford won on all three points.

The quantity delivered at the city reservoir exceeds the original estimate by a third; the quality is better than was originally proposed, and finally, the total cost of the gravity portion was \$32,000 less than the \$300,000 allowed.

An issue of \$365,000 of bonds was authorized in May, 1908, of which \$65,000 was to be used for cast-iron pipe within the city proper for distribution, hydrants and accessories, and \$300,000 was allowed for the gravity supply and reservoir.

The report which was the basis of

the bond issue estimated the supply at 3,000,000 gallons daily, diverting the supply from the north fork of Little Butte Above the Fish Lake company's intake to their canal. As carried out, the supply was actually diverted at a point three miles farther up the creek, assuring better water for having gone above the large stock ranches of Hanley and Slinger, and more water for the added 400 feet of elevation. By this betterment the "gradient" becomes 23 feet fall per mile, against 13 feet per mile proposed.

The expenditures on the gravity water system are as follows:
 The net proceeds of the sale of \$355,000 gravity bonds amounted to \$337,498.20. Ten thousand dollars were never issued, the bonding company refusing that much as necessary to cover interest during the time of construction.

Expenditures.

The expenditures on the gravity water system are as follows:	
Water rights	\$ 15,000.00
Right of way	2,369.85
Telephone line	2,939.45
Reservoir site (5 acres)	250.00
Litigation (right of way)	1,529.73
Hamilton construction contract	239,800.00
Extras	415.72
Engineering, surveys, etc.	9,585.25
Investigations, Applegate, etc.	122.60

Inspection	1,861.00
Administration	536.60
Miscellaneous, printing, etc.	307.90
Total	\$274,718.20
Deduct	5,200.00
Cost of gravity system	\$269,518.20

The distributing system paid for out of the so-called gravity water bonds

amounted to \$68,979.93; gravity system, as above, \$269,518.27; total, \$337,498.20—proceeds of the bonds. What did Medford get for the \$355,000?

Water right—A perpetual water right to a daily flow of 4,860,000 gallons from a pure mountain stream whose minimum flow is at least ten times this amount, and further guaranteed by the stored waters in Fish

lake and Four Mile lake, on the summit of the Cascades.

Pipe line—23 miles of 16-inch pipe line, constructed of machine-banded wooden stave pipe having a carrying capacity of 4,100,000 gallons daily.

Distributing reservoir—A reservoir about a mile east of town having a capacity of 2,000,000 gallons at an elevation 210 feet above the

business center of Medford.

Reservoir site and park—Five acres of ground for future enlargement of reservoir or for city park.

Distribution—Pipe: 3124 feet 12-inch pipe, 1462 feet 10-inch pipe, 2040 feet 8-inch pipe, 23,915 feet 6-inch pipe, 8236 feet 4-inch pipe; total, 37,877 feet, including hydrants, gates, blowoffs and other fittings, and 6.83 miles of cast-iron mains.

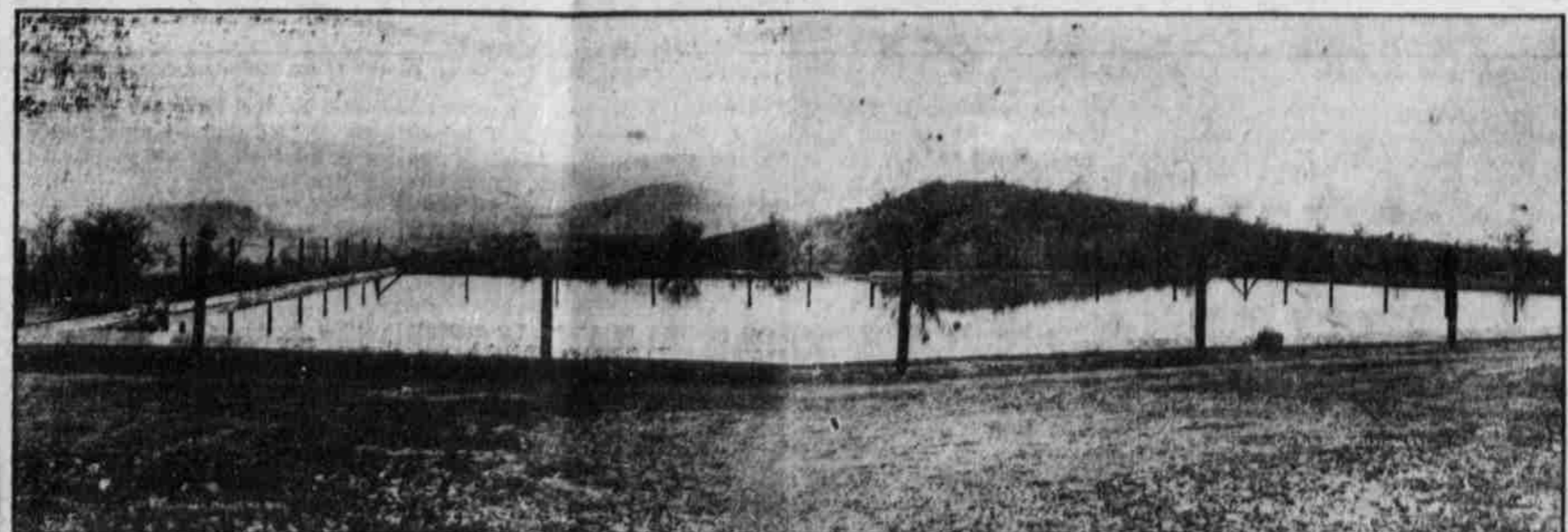
During 1910 13.24 miles of additional mains were laid and in 1911 7.34 miles, making a total of 27.4 miles of cast-iron mains actually laid.

To the \$68,979.93 from the gravity water fund expended for distribution was added the amount rebated on freight by the Southern Pacific company, a total of \$73,717.88. Thus there was actually received and expended out of gravity water bonds for "distribution" \$76,351.81.

The citizens of Medford may well be proud of their water supply. No better water is furnished any city in the state.

The supply is adequate for 20,000 people without restrictions, and figured upon such averages as apply in the middle west, the quantity daily delivered to the distributing reservoir is sufficient for 25,000 to 30,000 people.

In this connection it may be interesting to note that the average cost of a municipal water supply for cities of this class is not far from \$50 per capita. Pumping systems go a little lower, and gravity systems a little higher. Medford's gravity supply has cost less than \$50 per capita of present population, and when it is known that the supply is sufficient for thrice the present population the indebtedness per capita is among the lowest of the towns having a system as good as ours.



Reservoir, Holding 2,000,000 Gallons, Two Hundred Feet Above City