Decision No. 1

Decision No. 1534

BEFORE THE RAILROAD COMMISSION
OF THE STATE OF CALIFORNIA.

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ORIGINAL

THOMAS MONAHAN, as Mayor of the City of San Jose, a Municipal Corporation of the State of California,

Complainant,

-vs.-

SAN JOSE WATER COMPANY, a corporation,

Defendant.

Case No. 476.

J. W. Sullivan for complainant.
S. F. Leib for defendant.

ESELEMAN, Commissioner.

O P I N I O N.

The complaint herein was filed on October 8, 1913, alleging that the rates for water delivered to the inhabitants of the City of San Jose were excessive and unreasonable; that the minimum rate charged consumers was excessive; that the charge for service connections other than on the property of the consumers was excessive; that the charge for installation of meters was unfair and unreasonable; that the charge for installation and furnishing of hydrants and fire plugs was unfair and unreasonable; and that the practices of the company concerning extensions within the City were oppressive and unreasonable. Thereafter on the 25th day of October, 1913, the defendant filed its answer denying most of the material allegations of the complaint.

Considerable time was asked for and granted to the defendant in order to enable it to make a complete valuation of its property, which had not therefofore been done, and after the evidence was finally in on the 7th day of April, 1914, additional time was

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asked for and granted, for the filing of briefs which have now come in and the case is ready for decision.

A very comprehensive and careful valuation of the properties of the San Jose Water Company was made by F. G. Herrmann and G. A. Elliott, engineers employed by the defendant. Inasmuch as the appraisal and description of the property made by these engineers has furnished the basis for both their valuation and the valuation of the engineers of this Commission, I shall take the liberty to refer to their description of the property for the purposes of this opinion.

The San Jose Water Company was incorporated November 21, 1866, with a capital of $100,000. Up to that date San Jose had been supplied with water pumped from a well located at the corner of First and San Antonio Streets, owned by one Donald McKenzie. The San Jose Water Company took over the McKenzie plant and extended the service to include the suburbs of San Jose, the town of Los Gatos and vicinity, and the town of Santa Clara. With the exception of Santa Clara, where a municipal water works was installed in 1895, and the towns of Saratoga and Alma, this is the field covered today.

The capital stock of the company has from time to time been increased and is now $1,250,000.

The physical property of the company consists of:

4047 acres of land on Los Gatos Creek.
30 acres of land on Coyote Creek.
8.5 acres of land on Saratoga Creek.

Miscellaneous water rights, rights of way, city lots, etc.

11 reservoirs of a total capacity of 3,000,000 gallons.

Miscellaneous diverting dams, flumes and conduits for the collection of water.

9 pumping stations.

San Jose distributing system.

Los Gatos distributing system.

Saratoga distributing system.

Wells, office buildings, property yards, etc.

Chronologically the properties of the San Jose Water Company were acquired or constructed as follows:

1869 Agreement made with the Los Gatos Manufacturing Company to use the water of Los Gatos Creek. Water rights on Los Gatos Creek north of Los Gatos purchased in this year and in 1870.

1870-71. Three Mile and Seven Mile Reservoirs constructed and used as regulators.

1871. Tisdale Reservoir near Los Gatos built in conjunction with the Los Gatos Manufacturing Company. Jones Dam and Flume constructed.

1872. Seven Mile Reservoir enlarged and flume built to Los Gatos.

1874-76. Lake Ranch Reservoir built.

1877. Land acquired and construction commenced on Upper Howell Reservoir. Water Rights of Rundell Creek purchased. Part of present office building location purchased.

1878. Upper Howell Reservoir completed.

1881. Lower Howell Reservoir constructed.

1882. Seven Mile Reservoir enlarged and wood flume replaced in part by concrete.

1886. Additional land purchased at site of present office building and a pumping station erected.

1887. Law suit with Los Gatos Manufacturing Company affecting method of diverting water compromised.

Water rights and lands of the Saratoga and Licks Mill Paper Company at Saratoga purchased.

Howell Reservoir enlarged.

Water Rights on Saratoga Creek purchased.

1888. Flume from Jones Dam to Tisdale Reservoir reconstructed.

1889. Dam at Lake Ranch Reservoir raised. Additional waters of Saratoga Creek filed upon for use of Saratoga Site of Cambrian Reservoir purchased. One-half interest in "Los Gatos Waterworks" purchased from the Los Gatos Manufacturing Company.

1890. Cambrian Reservoir built.

1892. Land purchased on Los Gatos Creek for protection of its waters. Ousley Reservoir site purchased. Williams Reservoir site purchased.

1893. Additional land purchased at Howell Reservoir. More land secured on Los Gatos and Cavanaugh Creeks to insure purity of the supply.

1894. Site of Saratoga Reservoir purchased and construction commenced.

1895. Santa Clara supply discontinued owing to construction of Municipal Waterworks. Holly Pumps installed at Main Station. Additional land for protection of waters of Los Gatos and Cavanaugh Creeks purchased. Construction of concrete dam at Williams Reservoir commenced.

1896. Construction of Main Pump building finished and wells bored in yard. Coyote Creek land purchased.

1897. Buena Vista Pump Station land purchased.

1898. Roberts Springs Pump Station land was purchased and station constructed. Ousley Reservoir built.

1899. Properties of Mt. Spring Water Company of Los Gatos purchased.

1901-02. Williams Reservoir concrete dam raised. Additional land on Los Gatos Creek purchased.

1903. Wells bored on Coyote land.

1906. Williams Reservoir Concrete dam raised. Los Gatos consumers services metered. Buena Vista Steam station built.

1908. Seventeenth Street Pump station lot purchased, and one well bored.

1909. Pipe line laid from Main Pump Station to central business district of San Jose for fire protection. Another well bored at Seventeenth Street Pump Station.

1910. Three wells bored at Seventeenth Street Pump Station.

1911. Seventeenth Street Pump Station constructed. Well "A" bored at Main Pump Station.

1912. Steel bridge constructed over Guadalupe Creek to carry fire line pipe.

1913. Electric Pumping Station built at Buena Vista Station. Three wells bored at Buena Vista. Electric Pumping Station built at Main Station and Well "N" bored. Water rights of Pacific Gas and Electric Company on Los Gatos Creek purchased. Tisdale Electric Booster Pump built. Three Mile Pumping Station built.

The sources of supply utilized by the San Jose Water Company may be divided into two classes, surface and subterranean; these in turn being subdivided into storage and run-off yields and yields from infiltration galleries and deep or artesian wells. The yield from one or more of the pumping supplies is frequently used to augment the gravity supply.

The use of stored water is resorted to only when conditions

are such that the yield from other sources is insufficient to meet the consumption, it being held in reserve at other times against such a contingency.

Water is impounded in the following reservoirs:

Williams Reservoir, situate near the head waters of Los Gatos Creek and having a storage capacity of.....	51,173,000	gallons
Upper and Lower Howell Reservoirs located at the head waters of Rundell Gulch; the Upper Reservoir having a capacity of	71,938,500	"
the Lower Reservoir having a capacity of	46,477,000	"
Lake Ranch Reservoir situate at the head waters of Beardsley Gulch, having a capacity of.....	110,700,000	"

The other reservoirs are much smaller and are as follows:

Ousley Reservoir.....	2,428,680	gallons
Mt. Spring Reservoir.....	4,353,500	"
Tisdale Reservoir.....	1,868,950	"
Seven Mile Reservoir.....	5,629,800	"
Cambrian Reservoir.....	3,385,820	"
Three Mile Reservoir.....	3,123,350	"

In the operation of the system storage water from the Williams Reservoir is discharged at Los Gatos Creek, the channel of which is used as a conduit until the Jones dam is reached. Jones dam diverts this flow together with the discharge from Rundell Gulch into a conduit leading to the Tisdale Reservoir in Los Gatos. This conduit consists in part of a flume 24" x 28", cross-section, a portion of which is constructed of wood and a portion of concrete; the balance of the conduit being a pipe 28" in diameter.

Storage water from the Howell Reservoirs reaches this conduit by means of the channel of Rundell Gulch to its confluence with Los Gatos Creek whence it is diverted by the Jones dam. Lake Ranch Reservoir storage is also conveyed to this conduit by means of the channel of Beardsley Gulch to the lower Beardsley dam, where it is diverted and conveyed in a 12" pipe line to the overflow line from the Ousley Reservoir thence to the conduit under consideration.

Besides conveying these storage waters this conduit performs the function of conveying the run-off, directly and indirectly of Cavanaugh and Trout Gulches, as well as of such tributaries of Los Gatos Creek as empty into it above the Jones dam. The total capacity of this conduit is about seven and a half million gallons.

Run-off water is collected in Cavanaugh Gulch by means of two diversion dams, one leading directly into a flume tributary to the conduit above referred to, and the other diverting into a 6" and 8" conduit leading to the Ousley Reservoir; the overflow from this Reservoir being conveyed in a 12" conduit to the above mentioned conduit to the Tisdale Reservoir. Trout Gulch run-off also reaches this conduit by means of a diversion dam and 10" and 12" conduit.

The run-off from Los Gatos Creek and such of its tributaries as empty into it below the Jones dam, is diverted at the Forbes dam near Los Gatos and conveyed through a pipe to the main conduit from the Tisdale Reservoir.

Water from the Ousley Reservoir is gravitated directly into the distributing system of the City of Los Gatos, though in times of low water this gravity pressure is augmented by pumping. It can also be used to gravitate water to supply the town of Alma and its vicinity and to increase the supply in the Mt. Spring Reservoir which it feeds by gravity.

The Town of Alma derives its supply from the Upper Cavanaugh dam and the Ousley Reservoir supply is resorted to only when the run-off from Cavanaugh Gulch is insufficient for this purpose.

The Mt. Springs Reservoir derives its supply from Beckwith Springs as a principal source, this being increased by the auxiliary supply from the Ousley Reservoir when necessary. Water from this Reservoir is gravitated to the Los Gatos distribution system and contiguous county pipe lines, pressure on all of which can be increased by the Almond Grove, Tisdale and Hill well pumping stations acting as boosters.

Tisdale Reservoir is the final distributor of the surface supply. Its outlet works are so arranged that water can be delivered directly into the Los Gatos distributing system and into the conduit leading to San Jose. In the latter case the supply gravitates to Seven Mile Reservoir which serves as a regulator. After leaving the Seven Mile Reservoir the water passes by gravity to the Cambrian Reservoir, it being arranged, however, to by-pass this Reservoir when desired. From the Cambrian Reservoir water is carried in two lines, one of which gravitates to the Three Mile Reservoir and the other gravitates directly into the San Jose distributing system by way of Hamilton Avenue and Willow Street. From the Three Mile Reservoir water is pumped into San Jose by way of Johnson Avenue and Stevens Creek Road.

Correlated with the supply reservoirs and conduits are pumping plants which furnish additional water from wells tapping extensive water bearing gravels of the Santa Clara Valley.

The Tisdale Pumping Station is operated by electric power and has a capacity of 600 gallons per minute. This station pumps from Tisdale Reservoir into the Los Gatos system, and it may also be used to pump into the Mt. Springs Reservoir, using the Los Gatos system as a conduit for this purpose.

The Almond Grove Pump Station is operated by steam and has a capacity of 350 gallons per minute, and pumps from wells directly into the Los Gatos system.

The Hill Wells Pump Station, a steam plant with a capacity of 350 gallons per minute, pumps water from wells either into the Los Gatos system or into the main supply conduit leading from the Tisdale Reservoir to San Jose. It is also arranged to pump water from this conduit directly into the Los Gatos system and from either of the above sources through the Los Gatos system into the Mt. Spring Reservoir.

The Roberts Pump Station is operated by steam and has a capacity of 300 gallons per minute. It pumps into the San Jose supply conduit.

The Three Mile Pump Station is electrically operated and has a capacity of 1200 gallons per minute against a pressure of 60 pounds, the working pressure of the San Jose system. It pumps from the Three Mile Reservoir into the main supply conduit, the water passing to San Jose either by way of Johnson Avenue or Hamilton Avenue as required.

The Buena Vista Pump Station is equipped with both steam and electrically operated pumps and has a capacity of 9,000 gallons per minute. Water is drawn from deep wells by means of small multiple stage turbine pumps placed in the well casing and discharging into a concrete tank from which it is pumped directly into the Tisdale Reservoir-San Jose conduit.

The Main Pump Station, located at Santa Clara Avenue and River Street, is a steam and electric plant in separate units having a total capacity of 12,000,000 gallons in twenty-four hours. Its supply is drawn from a cistern fed by deep artesian wells at the plant, and is pumped directly into the San Jose distribution system.

The Seventeenth Street Pump Station is electrically operated and has a capacity of 3000 gallons per minute. It pumps from deep artesian wells directly into the San Jose distributing system. Water is supplied to the pumps by small units in the wells, as at Buena Vista.

The Saratoga Reservoir receives it supply by gravity through a conduit leading from the diversion dam in Quito Creek, in Campbell, and this supply is in turn gravitated to the Town of Saratoga and to contiguous county pipe lines. This reservoir with its conduits is a system in itself, it having no physical connection with either the San Jose or Los Gatos systems.

The Company submits the following financial data for the last six years:

RECEIPTS

Year	Water Sales	Miscellaneous	Total
1908	$153,277.11	$7,562.95	$160,840.06
1909	159,900.70	6,890.86	166,791.56
1910	169,442.55	6,856.25	176,298.80
1911	172,400.64	5,504.05	177,904.69
1912	180,676.87	6,256.30	186,833.17
1913	204,283.27	6,992.01	211,275.28

OPERATING EXPENDITURES

Year	Taxes	Operation	Depreciation	Dividends	Total
1908	$12,537.89	$76,186.37	----------	$67,965.00	$156,689.26
1909	14,229.79	55,459.49	$24,038.46	69,759.50	163,487.24
1910	15,363.19	63,158.85	25,484.20	72,163.50	176,169.74
1911	16,445.28	59,330.78	25,648.73	74,096.50	175,521.29
1912	16,492.96	70,403.14	24,343.81	75,000.00	186,239.91
1913	17,429.66	95,681.38	27,914.54	75,000.00	216,025.58

COMPARISON

Year	Receipts	Expenditures	Surplus	Deficit
1908	$160,840.06	$156,689.26	$4,150.80	
1909	166,791.56	163,487.24	3,304.32	
1910	176,298.80	176,169.74	129.06	
1911	177,904.69	175,521.29	2,383.40	
1912	186,833.17	186,239.91	593.16	
1913	211,275.28	216,025.58		$4,750.30

It will be noted herein that in the year 1913 this Company shows an apparent loss, after taking care of $75,000 of dividends and $27,914.50 of depreciation, of $4,750.30. This loss is, as has been said, only apparent and does not indicate that this company is not getting all that it should from the public, unless either the amount of depreciation or the amount of dividend or both are less than/to that which it is entitled.

An analysis of the financial affairs of this Company for the six years in question shows that its operating expenses were in 1913, 45 % of its gross revenue; in 1912 38 % of its gross revenue; in 1911, 33% of its gross revenue; in 1910 36% of its gross revenue; and in 1909, 33% of its gross revenue. In 1908, apparently its operating expenses were 44% of its gross revenue, but nothing is taken into consideration in this year for depreciation, and it may well be that the comparatively large expenditure for operation in that year is due to the mixing of [illegible] and proper operation

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expenditures.

The evidence in the case shows that ~~xhx~~ in the year 1913 extraordinary pumping had to be resorted to by reason of that year being a dry year succeeding several other dry years. Certainly the jump of 7% in operating ratio cannot be considered as a normal advance. While it is urged by the company that the drought likewise added to its gross revenue by reason of the furnishing to it of additional consumers, still the history of this Company since does not bear out this contention, as will be noted later in this opinion. I am constrained to believe that the percentage of operation expense to gross revenue in the year 1913, which is admittedly, from the evidence, higher than the average, is considerably higher than may be expected in the future. If this percentage were 40, which is in excess of the percentage that has existed in any year in the past by a considerable amount, there would have been a deduction of considerable over $10,000 from its cost of operation. The average per cent for the five years during which depreciation has been computed was 37%, and if this average should be maintained in the future a considerable amount more than the apparent deficit shown could be expected to be earned normally.

As appears from the outline of the property heretofore given, this Company serves considerable territory in addition to the City of San Jose itself. However, the conditions are such that if this Commission considers the entire property, the entire expense and the entire revenue of this Company within the entire territory served and deduces a rate therefrom, such rate certainly will not be too low for the City of San Jose, and if anything will be too high, due to the well known principle that ordinarily the cost of operation bears a larger percentage to gross revenue where there is a small amount of service in scattered territory than where there is a large amount of service in a populous district.

Messrs. Herrmann and Elliott have presented a valuation on the reproduction less depreciation theory, and have not resorted to the historical method of reproduction. They have used the sinking

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fund for depreciation.

In determining the water rights of the company they have valued the real estate and the water rights separately. To determine the value of the real estate they have had appraisers who have placed a value upon this property which, in their opinion, would be given by purchasers who desire to use the same for residence purposes. In determining the value of water rights they applied the following rule:

> "Apply the water for which the right has been developed to the highest use to which it can be put wherein it competes in open market, and capitalize its estimated net earnings in this use."

They reach a conclusion that the fair value of all the property of the San Jose Water Company is $2,719,934.59, segregated as follows:

Structures	$1,539,699.34
Lands	493,218.25
Rights of way	24,917.00
Development expense	212,100.00
Water rights	450,000.00

They place a value of $224,000 on the subterranean waters which are pumped from the gravel beds in the Santa Clara Valley and the remainder upon the surface water of Los Gatos and Saratoga Creeks.

They accept the valuation given by John A. Hicks, W. L. Atkinson and Edward G. Angel of the lands of this Company. These gentlemen appraise the land at the price for which they think the same could be sold in the market for residences and summer home purposes.

It has always been my opinion that water rights held by a public service water company should be considered by a rate fixing body when it could be shown that such water rights had cost such public service water company something to acquire. However, since the decision of the Supreme Court of the United States in the case of San Joaquin and Kings River Canal and Irrigation Company vs. County of Stanislaus, just recently decided, it apparently becomes necessary for the Commission to allow value for the water rights of these companies regardless of the method of acquisition of such rights.

The engineers for this Company have found a value of $450,000 for these water rights independent of the valuation of the lands in the water shed owned by this Company. While it does not seem necessary to judge the correctness of this sum of $450,000, for reasons which will hereafter be given, some apparent errors in calculations may be pointed out.

For the irrigation system using the gravity water from the Los Gatos Canyon, Messrs. Herrmann and Elliott find a water right value of $213,000 based upon an estimated capital cost per acre of less than $10.00 with annual maintenance, operation and depreciation charges of 80¢ per acre. For a system of this kind these charges seem entirely too low. The average building cost per acre of a large number of irrigation projects is not far from $40, while the United States Reclamation service has built none at so low a cost as $25.00 per acre. There are no similar or comparable projects in this State which have not cost $25.00 or more per acre.

A study of this question shows that the average cost of maintenance, operation and depreciation on the same systems as outlined above seldom runs as low as $1.50 per acre, and I know of no like case where a sum less than this amount is required. If the building cost per acre on this proposed irrigation system, as outlined by these engineers, is to be taken at $25.00 per acre with annual maintenance, operation and depreciation charges at $1.50 per acre, the net revenue from 4000 acres at the rate assumed by the engineers here is $4,000, which capitalized at 6% gives a water right value of $66,667 as compared with $213,000 urged by Messrs. Herrmann and Elliott.

It may also be noted that these engineers place the same value upon underground water in wells as upon gravity water, without regard to the additional cost of pumping, which, of course, under the method here pursued, would have to be capitalized and deducted from the value of the land.

However, I do not believe that this method is fundamentally sound in computing a water right value, if any such sound method exists.

I reach this conclusion for the following reasons:

The present users of this water may not be deprived of it in order to put it to another use, and it is not possible to devote it to two uses at the same time. Therefore, we cannot presume a return from this water in an irrigation use, capitalize its return, add it to the present investment and demand a greater return from the present and entirely different use than that which this present use is providing or should provide.

The method used here seems to be based largely upon the belief that a monopoly value exists in a regulated public utility, which belief in itself is contradictory. The fundamental principle underlying regulation requires that we do not permit the agency regulated to secure all that it can for its commodity. Regulation is justified on the ground that the agency regulated shall not be permitted to take advantage of the necessities of its patrons. The difference between a rate and the value of the property in this regard is only seeming. The same reason which prohibits a monopoly from imposing the highest rate it can secure from its consumers prevents it from fixing the highest price it can secure upon the elements of its property when they are not sold in competition, because if an agency which is a natural monopoly may be permitted to place a monopoly value upon the elements of its property, then it may legally take the same rate which regulation says it must not take, namely, all the necessities of its patrons will permit it to secure.

Mr. J. R. Ryland, president of the Company, estimates the cost of these water rights, independent of the cost of the lands, at $97,571.60, divided as follows:

San Jose and Los Gatos systems.....$85,496.60
Saratoga system..... 12,075.00.

If 10% is added to this estimate to cover the cost of abstracts, examination of titles, recording, etc., the results are as follows:

San Jose and Los Gatos systems.....$94,046.30
Saratoga system..... 13,282.50

Total.....$107,328.80

While it is impossible from the evidence to determine with exactness the original costs of the lands which are appraised by the Company's engineers at $493,218.25, and the rights of way which are appraised at $24,912.00, still from the statement furnished by Mr. Ryland a general comparison may be made.

Twenty-seven parcels of land aggregating 3,554.32 acres acquired from 1895 to 1913, cost the Company $75,634.55, while these same lands are appraised at $322,820.75. The total land holdings of this Company amount to 4,085.5 acres, and hence it will be seen that the lands listed, the cost of which can be ascertained, represented more than 80% of all of the lands of this Company, and they will serve to indicate the wide discrepancy between the appraised present value and the cost of these lands. Likewise, reservoir sites costing $8,475.00, representing 143.26 acres, are appraised at $25,078.00; and pumping plant sites costing $4,338.65 are appraised at $10,568.00.

From this it appears that lands bought between 1895 and 1913 must have increased 427% in value in order to equal the appraisement put upon these same lands by the Company.

This Company owns 4,045 acres of land in the Los Gatos watershed. Of this 4,045 acres it has purchased 3,554.32 acres for $75,634.55, and if we can assume that the remaining lands were bought at the same average price, the entire 4,045 acres would have cost this Company about $86,077.00.

The Company urges that these lands are necessary to protect the watershed of Los Gatos Creek. This Commission should not, under any circumstances, discourage investment for the purpose of safeguarding the purity of water used for domestic purposes, and any comment I shall make must not be construed as an endeavor on the part of this Commission to induce water companies to be too economical in this regard. However, it would appear that if there are two methods whereby a water company may maintain the purity of its supply, that one which is more economical, provided it is equally effective, should be preferred. And there is another aspect of this question which must not be lost sight of. The engineers of this Company estimate the value of the water rights on Los Gatos Creek at something over $225,000, and they estimate the lands at more than $450,000, making a total valuation attributable to this water supply from Los Gatos Creek of over $675,000. It would appear that if we are to follow the method here suggested by the engineers in determining the value of a water right, namely, the amount for which the water will sell in another use, we must assume that the amount for which the water sells represents its entire value, and that in such value will be included all of the elements and all of the instrumentalities that are necessary to produce the water. In other words, if the water is worth $225,000 and the land in the Los Gatos watershed is necessary to this water supply, then the value of the land is included in the value of the water, and when we value the water and the land separately we have a duplication. The engineers for the defendant, realizing this difficulty seek to meet it by stating that if this water were to be used for irrigation purposes, in which use they say it is worth $225,000, and not for domestic purposes, the purity of the water would not have to be considered and they could sell off all their lands in the Los Gatos watershed and still have the same supply of water which they now have which might be devoted to irrigation purposes even though not protected by the watershed.

The testimony, however, shows clearly, and a knowledge of this subject likewise demonstrates, that the ownership of the protection of the watershed is necessary as well to protect the supply as the purity of the water. Most of the value of the land in question, according to the testimony of the experts, is in its timber and its vegetation, and admittedly it is not very valuable for agricultural purposes. If such land be denuded of its timber and vegetation experts all agree that not only the purity of the water will be effected but its supply substantially decreased.

In my opinion it is impossible to determine what part any of the elements plays in producing a supply of water. Admittedly the water right originally had to be purchased away from this land or this Company could not own it. And when by purchasing the land the Company secures the water, it has by this one act of purchase secured both the water right and the land itself. Not only do I consider there is very substantial duplication produced when we value this land and these water rights separately, but I likewise believe that if the lands were sold off with the right to use the water reserved to the owners of this water system, that a very substantial effect would inevitably result upon the market value of the lands themselves. My opinion is that when you buy land which is riparian or otherwise water-bearing, the price which you pay for the land itself as much covers the water as it does the timber or anything else annexed to the realty. This is well known and recognized everywhere, in that land with water has an enhanced value over land without water, and I very much doubt if the summer home owner in the Santa Cruz Mountains would give a very substantial price for a site for a summer home in Los Gatos Canyon if the land in such site were denuded entirely of all water rights.

All of the water rights of this Company, with 10% allowed in addition for incidentals, cost this Company $107,328.80, while we are safe in assuming that all of its real estate cost it much less than $100,000. So that $200,000 represents a liberal allowance for the original cost of all of the land and water rights of this Company

which it now urges should be valued at $968,135.25 for the purpose of valuation.

While I do not question the integrity or the ability of the engineers in this case, and have a large respect for them both personally and professionally, still I can not for a moment admit the correctness of engineering theories which produce results such as the one here indicated. And while I am not disposed to criticize the gentlemen who made the land appraisals, still on examination they testified that they did not have any record of individual sales of land in this vicinity, and at most their appraisals represent what they thought could be gotten for this land from individual purchasers who desire such land and do not consider the large expense of marketing such lands which, as real estate men familiar with conditions know, represents often a considerable percentage of the price given by the purchasers. While I do not question that individuals might be found who for individual tracts in this watershed would pay the amounts suggested, still I do not for a moment believe that the possibility of such occasional sales should be held as conclusive or even persuasive as to the price which could be secured for this entire watershed, particularly when it be recalled that the prices paid by people desiring summer homes in the Santa Cruz Mountains include a right to use water, which right could not be conveyed unless the San Jose Water Company divested itself of a part of its rights to a part of its supply of water.

Assuming that these lands do have a value for the purpose of protecting the purity of the water, it is well to point out that inasmuch as the entire flow is not protected by ownership of lands that the value of the protection will thereby be minimized. Besides, in other localities it has been found possible to protect the supply of water by filtering, and it is interesting to compare the conditions that exist where unprotected water is rendered pure by filtration so as to estimate the real value of protection based upon the cost of an alternative method for such protection.

The City of San Diego has in use a filter plant with a capacity of seven million gallons daily, which represents an investment of $53,000. The average daily consumption of the entire system at San Jose during a period of years from 1909 to 1914, does not exceed eight million gallons per day, while the maximum daily consumption has not exceeded during that period fifteen million gallons per day. To augment the gravity supply, the pumping plants are stated to have a capacity of twenty-nine million gallons per day limited by a pumping right of 5.6 million gallons per day. From this data it can be seen that filter plants to handle the Los Gatos Canyon water would cost, compared with the San Diego plant, about $72,000. If $28,000 is allowed in addition to this sum for roads, rights of way, miscellaneous structures and land for future reservoir sites, a total sum of $100,000 would represent the investment necessary to conserve the purity of this water. This sum of $100,000 allows a considerable amount for appreciation over the $86,000, which is about the sum these lands cost. If we assume the cost of these lands to be $100,000, and the value for the purpose of purifying the water $100,000, and then double this sum and add this to the $107,329 which represents the additional amount which has been expended for water rights secured independent of and in addition to these lands, we will have the sum of $307,329 representing the value of the lands and the water rights of this Company.

I have given careful consideration to the defendant's claim to the right to pump subterranean water. There can be no doubt, under the decisions, that the right to pump such water can be acquired by adverse possession, but just what this right is worth is very hard to determine in any particular case. On the reproduction theory of the defendant if, as is urged by the complainant, there is an abundance of water underlying the entire territory here, much more in fact than is necessary to the use of the City of San Jose or the land owners in this vicinity, then an alternative supply could be secured equal to the supply here which is pumped, merely by acquiring other lands and sinking wells. As the engineers have allowed full value for the lands of this Company from which the water is pumped and likewise full value

for the wells of the Company, it would seem on the reproduction theory, either used historically or as used by the engineers for the defendant, the value of this right to pump is fully covered and would be represented by the cost of acquiring the right to pump elsewhere. It certainly is not possible for this Commission to determine any right to the use of water. And the evidence does not at all show that any rights which this Company has acquired have in anywise interfered with or subtracted from the rights of land owners both in the City of San Jose and elsewhere. Therefore, while we do not disagree with the contention of counsel for defendant that rights to subterranean water may be acquired by adverse possession nor that consideration should be given to the true value of any property owned by this Company in fixing rates, yet from a consideration of all the evidence we can not see that it is at all shown that these rights are worth any more to the defendant company than what it has cost to develop them, and this has been fully allowed in the valuations here considered.

The engineers for the defendant have estimated a "going concern cost" or "development expense" for this system amounting to $212,100. The computation by which this is derived assumes building an identical plant and is derived by the following method, as set out in the engineers' report:

> "The sum of the annual excess in net returns of the existing plant over the comparative plant in the period of years, from the taking to the time when the earnings of the comparative plant are assumed to become identical with those of the existing plant, represents the development expense of the existing plant."

If applied to a fair period and based on accurate data this method becomes an approximate measure of the amount of losses sustained in bringing the plant to a paying basis. However, it appears that the use of this method by the engineers here does not determine either the actual original amount of such losses or the

cost of reproducing the business at this time. A period of six years, beginning with the year 1914, is used as necessary to reproduce the business. The period should properly end with the year 1914, and not begin there, in order to determine the reproduction cost of reproducing the business at the present time.

I am firmly of the opinion that necessary development cost which is interest on the idle money in a plant during a reasonable time in which it may reasonably be expected not to be fully productive is as much a part of the cost of the plant as an expenditure for pipe or right of way. What I mean definitely is this: There is presented a field for the operation of a public utility. It is known that this utility after it is constructed and ready to begin operation cannot from the beginning earn a reasonable amount on the investment. A fair degree of wise foresight prepares the business man for these losses in the early days of his business, and if such losses are not to be recouped from earnings after the plant has reached maturity, then the investor cannot be expected to make such investments. But this principle does not justify the investment of money in an enterprise that does not give promise of reaching a paying basis within a reasonable time. If the business is well conceived there will be a uniform approach from the very beginning of the operation of the completed enterprise to a fully paying basis. During the development period, therefore, there will be yearly a decreasing amount of the capital investment which is not returning a reasonable amount, and the interest upon this decreasing amount of idle capital is a part of the cost of the property which must be foreseen and prepared for by the investor and must be allowed by the rate-fixing body.

Estimates of such initial losses during the development period in justice only can be taken in lieu of actual losses which cannot be discovered. In other words, the primary evidence in the case of any property is the amount lost during the develop-

ment period. In the absence of such primary evidence secondary evidence of necessity must be resorted to. This kind of value is ethical and represents what the public ought to allow and not necessarily what the public must allow. Therefore, in each particular case which confronts a rate-fixing body resort should be had to the history of the institution involved with a view to determining just what the agency in question has actually sacrificed for the public benefit during the early and lean years, and that amount should be considered as proper to be added to the initial capital account, which capital account thus determined at the very moment of maturity of the agency should thereafter be augmented or subtracted from in accordance with the accretions to or the depletions of the capital account subsequently.

By this statement we should not be understood as passing upon the amount of development cost in any particular case, or as saying that any such development cost shall not be off-set by subsequent excessive earnings. It must be understood that each case must be decided on its own facts and what is said here must be taken in contemplation of the facts that here exist.

Therefore, when,as here, we assume a condition such as now exists and assume the building of a water plant to serve the great and prosperous community served by this water company, we assume a condition that cannot be; and just as Justice Hughes in the Minnesota

Rate Case called attention to the fact that it was impossible to presume the railroad in question out of existence for the purpose of determining its present value , so it is impossible here to assume San Jose out of existence and during the six years assumed here to be the development period to have a water system constructed to serve this great municipality. Such assumptions lead us to a reductio ad absurdum of any reproduction theory which forgets history.

Values may not be created nor subtracted from by the fiat of the engineer or by the caprice of a commission. Values, such as we here consider, namely, bases upon which in justice an earning should be allowed, have small realtion to the theoretical reproduction so often urged by engineers of the highest talent and the most scrupulous integrity. Their whole fault is that they have lost sight of the problem in the method and they have become so emmeshed in the web of their own spinning that they lead us, if we will follow them, into conclusions which are both absurd and unjust.

I never write an opinion unless I presumptuously give advice to engineers, which advice, however, it seems to me they need, to the effect that they clear their conception as to what they mean by value and that they understand that the thing they are seeking to arrive at is not value at all in either economic sense of that term, and that value from one point of view urged by one school results before the engineer appraises and utterly independent of his appraisal, while the other conception of value most often urged, namely market value, must, in a regulated industry, result after not only they have made their appraisals but the rate-fixing body has fixed the rates, and that it is a thing which is the result of rate-fixing and not an element in it.

I would like to give the San Jose Water Company the legitimate development cost which in justice and economy should be recognized, but I cannot give it, and I am presented no evidence upon it from the learned dissertations persented to me in this case.

As a matter of fact there may not have been any losses, or the legitimate losses during the development period might have been great, but certainly such losses historically considered could not be applied to an agency serving a municipality of the size of San Jose when they occurred, if they occurred at all, when San Jose was little more than a village. The development expense here urged is much greater in all probability than all of the expenditures of this Company for every purpose made up to the time it had reached what we may call maturity and was able from its own earnings to thrive and from its own strength to stand alone. All that I am certain of is that the item of $212,000 is exorbitant and tremendously excessive. And it is my opinion from the history which has been presented by the President of this Company that this development cost was so small as to be practically negligible.

Right here, before I overlook it, I desire to express my entire appreciation of the attitude of this Company and particularly of the fair and impartial evidence presented by Mr. Ryland, its president. Seldom have I investigated the affairs of a utility in this State where I have been met with a more ready response in my endeavor to get at the real facts than in this case. And to the counsel for this Company, and particularly to Mr. Ryland, its president, this Commission and the citizens of San Jose are indebted for their earnest endeavor to present and not distort the facts.

The history of this Company shows that most if its property has been acquired from the rates either by the voluntary foregoing on the part of the stockholders of dividends to which they might have been entitled or from amounts in excess of such legitimate dividends. However, it does appear that in 1869, three years after the beginning of the operation of this Company, it paid a dividend amounting to 4% on the cash investment which, at that time, was in the neighborhood of $100,000, which shows that the youngster was at least well on the road toward maturity at this time, and assuming in that year it was entitled to 8%, it only lost $4,000. Assuming that it had secured

nothing during the other three years, it had only lost $24,000, making in all a loss during the development period up to that time of $28,000. Apparently from the records, the Company has never paid more than 6%, and that is the prevailing dividend at the present time, although the records clearly show that from an investment of $100,000 in 1866 it now has stock outstanding of $1,250,000 in 1914 upon which it is able to pay 6% after taking care of depreciation.

As was said early in this opinion, the quantities found by the engineers of the Company have been assumed to be correct by the engineers of this Commission. I have proceeded thus for two reasons; first, it has taken months for the engineers of the Company to make these appraisals; and, second, our engineers of necessity cannot make the x surveys and measurements in all of these large utilities that are necessary to determine the quantities. It is easy, however, by checking at random important items to detect any dishonesty on the part of any engineers, and between honest engineers there is seldom, if ever, any substantial difference of opinion as to the actual amount of the property. In this case I not only had no reason to suspect the engineers of the Company of being desirous of exaggarating the quantities, but I had every reason from personal knowledge to believe that they were making every endeavor to reach correct results in this regard.

The main difference which we find here, and which we usually find when we are dealing with competent and responsible engineers, as here, is in the theory and in the methods of arriving at valuations or rather basic amounts upon which earnings may be allowed after the inventory of the actual property is secured.

Messrs. Hawley and Armstrong of the Hydraulic Department of this Commission, have carefully checked the valuations presented by Messrs. Herrmann and Elliott, assuming, as I have said, their quantities to be correct, and while a substantial difference in the result finally obtained has resulted, about 50% of these differences both in present value and reproduction cost are accounted for prin-

cipally in two items, namely, paving and services.

In computing paving the engineers for the Company have allowed for all paving now existing over mains, while the engineers for this Commission have computed only such paving as was actually moved in laying pipe. The Commission has already discussed this question of paving over mains in several cases, and I would have the same to say here as I have already said with reference to development cost. We have uniformly rejected the item for pavement over mains when pavement has been laid down after the mains were put in. It is interesting to note here that the Committee of the American Society of Civil Engineers appointed to report on this question of valuation, has taken the same view on this subject as the Commission has heretofore followed.

In the matter of the service connections, the engineers for the Company have computed one unit cost and applied it to all services regardless of their size or manner of installation. It was found possible from the evidence to determine the exact number of each size of services. Computing on this basis and eliminating from the unit cost the estimated cost of corporation cocks (these being included elsewhere) the reproduction cost arrived at by the engineers of the Commission for services is much lower than that computed by the engineers for the Company.

The difference existing in the cost of distributing pipes both inside and outside of San Jose is about 13% of the total difference as regards reproduction cost and 15% as regards present value.

A slightly lower average unit cost and a slightly lower overhead charge has been used generally by the engineers of the Commission.

The difference in the steam plant values is caused largely by what seems an error in the determination of the engineers for the Company that the age of the large Holly pump in the main steam plant is 7½ years, while, as a matter of fact, its age is 17½ years.

Original costs were used by both the engineers for the Commission and the engineers for the Company where obtainable and

these costs, of course, therefore, uniformly agree.

Certain improper items, not substantially changing the result however, were found to be included by the engineers for the Company in original cost, and on these being brought to their attention they agreed that such items should be eliminated.

Practically all of the difference in present value between the engineers of the Commission and the engineers for the Company is caused by the primary difference in reproduction cost, and while different methods of depreciation have been adopted, the difference in present value resulting from the use of the different methods is practically negligible.

From data furnished by the San Jose Water Company and the city authorities of San Jose/the exact amount of paving which was actually removed and replaced in laying mains was found to be 43,633 square feet. Practically all of the mains under this paving are of large size cast iron which were estimated in the reproduction cost to have an estimated useful life of 100 years, consequently 1% per annum has been allowed and laid aside as the annual depreciation allowance on the sum invested in this paving. The average age of the mains laid under this paving is 5.3 years.

The data collected tabulates as follows:

Removing and replacing 43,633 square feet of paving at 33¢ per square foot.....$14,399.00

Adding 20% for overhead the results are as follows:

Reproduction cost	$17,279.00
Average age	5.3 years
Probable useful life	100 years
Annual depreciation	$173.00
Total accrued depreciation	$917.00
Present value	$16,362.00

I have now discussed most of the controverted items in the valuation presented of the properties of this Company. The following table shows in juxtaposition the valuations presented by the engineers of the Company and the engineers of this Commission:

	Reproduction Cost		Present Value	
I t e m	Commission	Company	Commission	Company
Paving Allowance	$17,279	$77,110	$16,362	$53,977
All services except on County pipes	67,910	142,428	44,678	125,107
Distribut. pipes, inside & outside San Jose	614,576	650,670	473,697	510,635
Transmission Lines Los Gatos to San Jose	168,807	184,751	95,059	121,309
Both Steam Plants in San Jose	111,567	114,355	74,024	89,183
All Electric Plants in San Jose	77,608	90,471	75,396	89,137
	1,057,747	1,259,785	779,216	989,348
Difference		202,038		210,132

The total valuation of $2,719,934.59 segregated into the various items was presented, as has already been referred to, by the Company's engineers. The engineers for this Commission present a valuation of the ~~xxxx~~ physical properties of $1,292,198, as against a valuation of the same properties of $1,539,699.34 by the Company's engineers. I have already indicated where the principal differences arise.

The Company urges a valuation of $493,218.25 for its lands; $450,000 for its water rights; $24,917 for its rights of way and $212,100 for its development expenses. I have already discussed these elements in detail and have outlined my disagreement with the conclusion of these engineers.

The engineers of this Commission have estimated the value of the lands, real estate and rights of way at $240,000 and water rights in addition thereto of $107,329. I have already indicated wherein it appears to me that a considerably less amount for these items could legitimately be found, but taking into consideration the fact that the engineers of this Commission have recommended a valuation on the inventories made by the engineers of the Company over $1,000,000 less than the company's valuation, I do not believe it incumbent upon me further to reduce this amount. It should not be the desire of this Commission, as has often been said, to endeavor to scale down the properties of public utilities to the last dollar. Rather the valuations should be liberal when proper economic

theories are followed, and always this Commission should endeavor to bring about a result where any agency serving the public should have liberal payment for the sacrifices such agency has made. Neither should the Commission feel that it is its duty when it is dealing with a particularly prosperous utility to reduce it to such an extremity that it can not properly perform its duty to the public. Prosperity on the part of the utilities is desirable from every standpoint and a rate that will bring about such prosperity should always be imposed upon the public; and it is better to have a few cents more on the rate and produce a utility which is able to give good service to the public than to have the lowest rate which may possibly be justified and produce a utility which is continually striving to make both ends meet. This Company has no bonded debt and in every way is prosperous and the people of San Jose and this Commission alike should be pleased at this condition.

The engineers for the Commission estimate that the annual charge for depreciation amounting to $33,519 for the entire system should be allowed or $29,505 to the City of San Jose; that a maintenance and operation charge of $80,105 should be permitted for the entire area served by this Company or $72,896 for the San Jose area. Our engineers estimate that it will cost somewhat more to carry on this property annually hereafter than is estimated by Mr. Ryland for the Company. Mr. Ryland estimated that for the entire system to pay 6% on the capital stock it would be necessary to earn $195,318; while our engineers' estimate is $211,996, which is more than $16,000 in excess of that which Mr. Ryland urges the Company should earn.

The Auditing Department of the Commission made a careful check of the books of the Company and found that in the year 1909 maintenance and operation proper cost the Company $38,741.69, while the taxes amounted to $14,341.02. In 1912 maintenance and operation cost $51,665.87 and taxes $15,374.12. It is also found that the increase in maintenance and operation charges in three years from 1909 to 1912, was 27.7%, or 9.2% per annum. In 1912, the entire maintenance and operation, as has already been said, was $51,665.87

and if this is segregated in proportion to the business done, $44,036.04 would have to be charged to San Jose only. Applying the annual percentage of increase to this amount would give the necessary amount for 1914 for maintenance and operation in San Jose alone of $52,200. If we add to this sum $18,000 for taxes, which is probably more than the taxes will be, the total amount becomes $70,200; and if to this sum is added the cost of the recent appraisal work of about $10,000 distributed over a period of five years, we will have a grand total for 1914 of $72,200.

From an analysis of the rates of this Company it is my opinion that it is not securing from the public an amount in anywise substantially more than that to which it is now entitled, if we take the last several years as properly indicative of its income and expenses. However, as pointed out earlier herein, the last few years have been years of excessive cost by reason of the drought and the consequent excessive pumping costs.

However, as it is impossible to determine accurately the effect of rates in advance and it is likewise impossible to determine just what losses of revenue will be occasioned by years of greater rainfall than those in the immediate past, it may be well not to disturb the rate adjustment here substantially. It is my belief, however,-and the records of this office up to the present time bear this out-that the loss in income due to the use of a smaller amount of water by the consumers, if it occurs at all, will be more than compensated for by the saving in cost of operation.

If the valuations contended for by this Company were correct, unquestionably the rates would have to be increased, but I believe the values found here by the engineers of this Commission are not only just but liberal; and I think the values found by the engineers for the Company, due to their theories, are as they always must be when such theories are indulged, excessive and exorbitant.

It has appeared to me, however, that the municipality itself is not paying enough for the water which it secures

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while the people of the City, particularly the small consumers, are paying too much. The result of this mal-arrangement is that the large taxpayers are relieved from a burden at the expense of the small householders.

In figuring the rates, which in my opinion are just and reasonable, we have imposed a proper rate upon the City and have reduced substantially the minimum, and to some degree the charge per thousand gallons for metered consumers. In applying these rates we have been somewhat hampered by the failure of the Company to give absolutely correct statements of the water served.

The Company has been installing meters quite rapidly in recent years, and we believe that as fast as it may be done all of the consumers should be metered. An unmetered rate usually is a burden upon the metered consumer. The metering, however, should be charged to capital account, and neither the cost of the meter nor the labor of putting it in should be charged to operation.

I submit the following order:

O R D E R .

THOMAS MONAHAN, as Mayor of San Jose, having complained against the San Jose Water Company alleging that the rates of said Company are excessive and unreasonable; that the minimum rate charged consumers is excessive; that thecharge for service connections is excessive; that the charge for installation of meters is unfair and unreasonable; that the charge for the installation and furnishing of hydrants and fire plugs is unfair and unreasonable; and that the practices of the Company concerning extensions within the City are oppressive and unreasonable; and a hearing having been held and being fully apprised in the premises,

THE COMMISSION HEREBY FINDS AS A FACT that the rates and practices of this Company in lieu of which rates are established and

practices approved in this order, are unjust, unreasonable or insufficient.

THE COMMISSION FURTHER FINDS AS A FACT that the following rates are just and reasonable rates to be charged by the San Jose Water Company within the City of San Jose:

Commercial

Monthly minimum for 4,000 gallons or less 90¢.
Between 4,000 and 10,000 gallons 20¢ for each thousand gallons.
Between 10,000 and 100,000 " 15¢ for each " "
Above 100,000 gallons 12¢ for each " "

Municipal and County

Schools, city hall and other governmental department buildings at commercial rates.

Fire hydrants, owned by the City, per month	$1.75
" " , owned by company, " "	2.25
Parks and lawns, each meter minimum monthly	.90
All water used 12¢ per thousand gallons.	
Sprinkling - measured by tanks and record by city, 12¢ per thousand gallons.	
Sewer Flushing - each meter minimum monthly	.90
All water used 12¢ per thousand gallons.	

THE COMMISSION FURTHER FINDS AS A FACT that the following practices are just and reasonable practices to be followed by this Company:

All meters to be paid for and set up at the expense of the Company.

All extensions to property line to be made at the expense of the Company.

And basing this order on the foregoing findings of fact,

IT IS HEREBY ORDERED that the following rates are just and reasonable rates to be charged by the San Jose Water Company within the City of San Jose until the further order of this Commission and the same are hereby established:

Commercial

Monthly minimum for 4,000 gallons or less, ninety (90) cents.
Between 4,000 and 10,000 gallons twenty (20) cents for each thousand gallons.
Between 10,000 and 100,000 gallons fifteen (15) cents for each thousand gallons.
Above 100,000 gallons twelve (12) cents for each thousand gallons.

Municipal and County

Schools, City Hall and other governmental department buildings at commercial rates.

Fire hydrants,	owned by the City, per month	$1.25
	owned by Company, per month	2.25
Parks and lawns, each meter minimum monthly		.90
All water used twelve (12) cents per thousand gallons.		
Sprinkling- measured by tanks and record by city, twelve (12) cents per thousand gallons.		
Sewer flushing - each meter minimum monthly		.90
All water used twelve (12) cents per thousand gallons.		

IT IS FURTHER ORDERED that the following practices be followed by the San Jose Water Company within the City of San Jose:

All meters to be paid for and set up at the expense of the Company.

All extensions to property line to be made at the expense of the Company.

IT IS FURTHER ORDERED that the San Jose Water Company shall make all extensions within the City of San Jose, as required, at its own expense on application by any prospective consumer. If in any event the Company feels that such extension is not justified by reason of excessive expenditure and small revenue, the Company may apply to this Commission, and the Commission will determine whether or not such extensions will be made at the expense of the Company or of the prospective consumer or divided between the Company and such prospective consumer.

The foregoing opinion and order are hereby approved and ordered filed as the opinion and order of the Railroad Commission of the State of California.

Dated at San Francisco, California, this 22nd day of May, 1914.

John M Eshleman

A B Leonard

Max Thelen

Edwin O Edgerton

Commissioners.